THE BROOKINGS INSTITUTION

FALK AUDITORIUM

HOW TO MAKE FINTECH WORK FOR ALL AMERICANS

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PARTICIPANTS:

Welcoming Remarks:

AARON KLEIN
Senior Fellow and Policy Director, IBPP
The Brookings Institution

One-on-One Conversation:

THE HONORABLE MARK WARNER (D-VA)
United States Senate

Panel 1: Industry Leaders:

RACHEL WITKOWSKI, Moderator
Financial Regulations Reporter
Wall Street Journal

QUINTEN FARMER
Chief Executive Officer, Even

NAT HOOPES
Executive Director
The Marketplace Lending Association

DAVID REILING
Chief Executive Officer, Sunrise Banks

NADIM R. HOMSANY
Co-Founder and Chief Executive Officer
EarnUp

Panel 2: Government Officials:

AARON KLEIN, Moderator
Senior Fellow and Policy Director, IBPP
The Brookings Institution

PARTICIPANTS (CONT'D):

JONATHAN MILLER
Deputy Director, Policy and Research
FDIC

ADRIENNE HARRIS
Special Assistant to the President
National Economic Council at the White House

Closing Remarks:

AARON KLEIN
Senior Fellow and Policy Director, IBPP
The Brookings Institution

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P R O C E E D I N G S

MR. KLEIN: Hi I'm Aaron Klein, a fellow and policy director here at Brookings at the Institute of Business and Public Policy and it is my pleasure to welcome you here today. We're hosting an event here to talk about how to make financial technology or FinTech as it has become work for working people. It is my hope that through this conversation here we're going to be able to really delve into some of the substance about this new technology which has exciting promise to transform the way that all of us in this room conduct our life, our basic financial services. If we would have had this conversation 15 years ago, perhaps the panel would be talking about these new concepts like online banking. And if anybody said 15 years ago that you'd be able to deposit a check from your bedroom you probably would have laughed at them. I know we never thought of that when I was in Congress and we did the Check 21 Act enabling legislation to do that less than 12 years ago. So here we are now opening a conversation on financial technology and we're going to do things a little bit differently than we thought. For those of you who worked in the United States Senate like myself you appreciate the fact that members schedule can be a little unpredictable. And so I think what we're going to do here now is start with the first panel which is a group of actual business entrepreneurs and people who are in the space right now talking about financial technology then hopefully we'll be joined by Senator Warner to hear his thoughts and then we're going to close with a panel of government and regulator expertise who are in the trenches trying to figure out how this new coming world of financial technology interacts with our existing world of financial regulation. I think getting that answer right if we can do that we're going to allow the entrepreneurs on this panel to innovate and make our lives a lot better and we're going to allow the regulatory world to make sure that our financial system is safe and sound and that the regulations and the implementation that the products that these folks create work for working American's.

So with that as the backdrop it is my great pleasure to introduce Rachel Witkowski. You read Rachel all the time in the *Wall Street Journal* and before that many of us here read her in the *American Banker*. She is an expert on the questions of bank regulation and financial technology. It is my understanding doing the FinTech conference circuit quite a bit. So it is our great pleasure to get somebody who really understands these details on an in-depth basis both from a Washington perspective and a business perspective. So Rachel, please take it away.

MS. WITKOWSKI: Thanks Aaron. Good afternoon, welcome everybody. I am honored to be here. I might have been oversold there but I appreciate that. It is my pleasure to introduce the panel to you. What I'm going to have them do is each give a brief overview of what they do, who they work for and then we'll launch into a Q&A and then an audience Q&A. So I'll start from my left.

MR. HOOPES: Sure Nat Hoopes. I run the Marketplace Lending Association launched earlier this year by Lending Club, Proper and Funding Circle, three of the leading lenders that used to be known as Peer to Peer and now are more commonly known as marketplace lenders. We're looking to grow the group to invite all tech enabled platforms that meet borrower friendly criteria. So we're in growth mode and focused on advocacy and public relations here in Washington.

MR. HOMSANY: Nadim Homsany, I'm the co-founder CEO at EarnUp. We're a startup in San Francisco. Before I talk about what we do let me talk just for a second about the problem. There is 200 million Americans with debt and that debt amounts to $20 trillion. That is pretty incredible so let's pause there and $20 trillion dollars and think about that for a second. That certainly feels like it is insurmountable but we believe it is surmountable and that's where EarnUp comes in. EarnUp intelligently automates the way people pay their loans and gives them a savings and gets them out of debt faster.

MR. FARMER: Quinten Farmer one of the co-founders of Even. We're based in Oakland, California. So we're looking at income volatility. Specifically, folks that have substantial paycheck to paycheck income volatility. So just as one group that we serve 70 million Americans work for an hourly wage. Those folks often have a substantial change each paycheck to paycheck. The way it even works is we are Smartphone App that connects to people's existing DDA or prepaid card. We analyze that account for historical income, use that information to predict what we call an even pay, basically the amount that you'll take home each paycheck. When you earn more than that amount in a given pay period we automatically save money for you so it is a type of surplus income. When you earn less than that amount in a given pay period we send you an advance, a way to make sure that that income is smoothed out and you're able to meet your obligations. So we're still a small team, 12 of us in Oakland but we're currently working with employers to serve their employees as a benefit. So that is our business model. Employers pay us a flat fee. There is no cost at all to the individuals that use us through their employer.

MR. REILING: My name is David Reiling. I'm the token bank on the panel. I'm the CEO and chairman and owner of Sunrise Banks in Minneapolis. Sunrise is about an $800 million financial institution. It is also a certified community development financial institution by the U.S. Treasury. We are also a B corp as well as a member of the Global Alliance of Banking on Values. So very much a mission driven organization. I would say if you think of us in this FinTech space, really the reason the why that we have at Sunrise is we really believe that we provide greater access to more convenient, transparent and affordably priced financial products and services. We do that in really two ways. We do what we call hand to hand combat, person to person relationships like you might think a community bank does but we also do it through business partnerships like with the FinTech organizations that are here. So that puts us into a very interesting strategic realm. There are really two halves to our business. One is what you might think of from a traditional or place based type of community bank. We serve the urban core of Minneapolis and St. Paul. A lot of commercial lending for jobs, affordable housing for shelters and a lot of non-profit organizations bank with us because we're mission aligned. The other half of our business is really in the payment space. We're in the prepaid card business. We leverage that platform. It has really helped underserved populations access the payment system as well as we have a small dollar loan product that is responsibly structured that we deliver through employers to employees. If I had to kind of give you the ethos of Sunrise Banks it is about mission and innovation. We have a unique innovation process to navigate through the regulatory process as well as do business with financial technology companies. In our space it is a relentless cultivation of new ideas and opportunities and we filter those or what we call propel them up or down quick. Then they go into a quick governance process in which we're going to develop how to put them into place in the marketplace. Then like all new things in life they need a little nurturing or check and balance. So for Sunrise on average we do about two and half new product services a year and have since 1997. So it is in our DNA to do this type of thing. So love financial technology. Companies have a blast talking to them because of the fact that everything is possible.

MS. WITKOWSKI: Thank you. So my first question to all of the panelists are what are the real challenges, the financial challenges that the everyday working American faces and how can FinTech be a solution to that?

MR. HOOPES: I'll jump in on one product that I think most people in this room probably have and that is the credit card. The credit card market is really dominated by some of the largest banking institutions in the country and that has meant that even as interest rates have gone to zero due to federal reserve policy credit card rates really haven't budged. And that's created an opportunity for lenders like my three members the Marketplace Lenders and others to jump in with a product that is more affordable for American's in terms of the rate and also more affordable because of the structure because it is a term loan rather than a revolving credit product. And so I think the opportunity to kind of disrupt a core enormous consumer lending and credit cards are an enormous sector and I think we just touched the beginning of what is possible here in this base in terms of helping Americans not just getting access to credit because again if you're in a revolving credit card at 24 percent you're not necessarily in a product that is most cost efficient way that you can access credit. You have an opportunity now because of financial technology go refinance or choose a product that is much more affordable. So that I think it is not just access to credit in the United States which I think is pretty wide spread, it is access to affordable credit and that is one of the biggest things that FinTech is bringing to the sector.

MR. REILING: I'll take a shot. One of things that we see for your everyday American in this space and this doesn't really have anything to do whether somebody is low income, middle or high income. Not everybody speaks bank like not everybody speaks government or speaks healthcare. So the fact is some of in my opinion one of the important things that FinTech can do is simplify that almost like a Google translate and the fact that for example my daughter who is 17 she has a prepaid card. That prepaid card automatically puts together a budget for her. I had never gone through budgeting with her, now she can see a sample of it. Now she doesn't speak bank either but now she knows what budgeting looks like and she didn't have to do a thing. She understands the awareness of her account because the texts come to her automatically. So it simplifies a very complicated process in a lot of ways and I think if we think about this for the average American is that not everybody speaks the language. Even if English is considered your first language you still have to speak the business language no matter what sector you're going into.

MR. FARMER: I think I'm practically like contractually obligated to say volatility in answer to this question and I think this is an issue that is just now starting to get the attention it deserves especially here in the States. So when we started even two years ago there is all of these stories and research that had been done in the developing world on volatility and how it impacted especially low income individuals. My co-founder when we started the company actually wanted us to go abroad and work on this problem and my answer was no we can do this here just no one else is talking about it which is you're a founder that's actually a good thing because that means you're a little bit ahead of the curve. Since then I think it has started to get more of the attention that it deserves. JPMorgan Chase has done some good research on the topic, U.S. Financial Diaries is a fantastic project that has informed a lot of what we do. Obviously I spend more of my time talking about income volatility but it is not just income, it is not just paychecks it is benefits and the volatility that those might bring into your life. It is your expenses and how those change throughout the year. So I think in general whether it is at the financial institution level or other FinTech companies recognizing and really speaking the language of the consumer which is that volatility is their language right and we need to be meeting them where they are in building products and services.

MR. HOMSANY: I'll go next. We'll start with a little bit of data; I tend to be data driven. 75 percent of American's live paycheck to paycheck, that is one of the problems. Another problem is that the majority of American's can't survive a $400 unexpected expense without going to family or some other source of funding. So the problem is a bad problem to have. So where does FinTech step in. Well for us nobody budgets anymore. I'm not sure anybody budgeted before anyway and society is particularly fast paced now so where EarnUp comes in is we do the budgeting for the consumer. Not only do we help them set the budget we actually do it for them. So perfect example of this is you're one of the 75 percent of American's that live paycheck to paycheck and you owe a thousand-dollar loan liability, let's say it is an auto loan, student loan and maybe a mortgage debt, what we'll do is we'll take that thousand dollars and split into -- and you get paid every Friday, we'll take that thousand dollars and we'll split it into four equal pieces so that $250 is coming out of your bank account every Friday. And we take to consumer completely out of the budgeting game so that they don't have to worry about it. There is some really interesting behavioral psychology affects that happen as a result of that. So consumers tend to be quite irrational or said differently quite emotional about the way that they spend their money. So one way to approach that is try to use logic to convince them to do otherwise but we found that doesn't work. We've all been trying to do that for a long time so what we use is try to play on their emotional level which is use behavioral psychology. So there is a couple of interesting behavioral psychology things that happen as result of doing what we do. One is because you're taking the money out along with their paychecks or the way that they're earning their money, what ends up happening is they spend even though the money is out there getting ready to be paid for their loan they have less money in their bank account. They feel like they have less money in their bank account. So as a result they spend less than they otherwise would. The second behavioral psychology component is called the concept of relativity. While $250 on that Friday that I talked about $250 x 4 equals $1000, nobody is going to disagree about that. The $250 once a week feels a lot less than that $250 x 4. So as a result what we're able to do is get consumers to add just a little bit of extra money onto each one of those payments, so in this case let's say it is $25 once a week that $25 once a week feels like a lot less than $100 at the end of the month and thereby what we do is we accelerate the loan, reduce the amount of interest that people pay.

MS. WITKOWSKI: Obviously there is a lot of solutions in FinTech. On the flip side of this where does FinTech miss the mark in meeting the everyday needs of a consumer?

MR. HOMSANY: I can go first here. FinTech does a great job on focusing on particular products. A lot of particular areas, a lot of FinTech solutions are very niche. They tend to be focused on particular niche areas. In fact, niche areas that are focused on urban environments. In fact, many of those FinTech products are created by individuals who work in those urban environments. That is all well and good but on average FinTech companies tend not to focus on the middle of America from an income basis, the lower middle income group of people. I think that is a real challenge for FinTech entrepreneurs is to focus on the average American, the hardworking American that is working a full time job just to make ends meet or working multiple part time jobs and is facing a lot of the typical challenge that the average American faces.

MR. REILING: I would chime in and I think where FinTech may miss the mark is Fintech is usually geared directly at a specific consumer with a specific need of some kind. If you're that consumer with that need it fits very well. If your needs are something different that might not fit, you and you may have keep searching for the right product or service. In addition to that some of the missing the mark is product individual where some of the instability comes in in a person's financial wellness may have to do with the community that they live in. They may live in a more volatile community. That could be a household, that could be a neighborhood so as a result of that that adds instability. In some cases, there is exploitations in a financial technology realm. So we can see that there are not all good players in the space so as a result of that one needs to be cautious. I would say the last kind of aspect where FinTech we're having the conversation today around is how does FinTech fit into that political and regulatory space to make it really work for the consumer as well as work for the regulations that need to be complied with.

MR. HOOPES: I think one thing where it is serving people really well though is as connectivity online just increases even further and further down the income threshold and even into some of our most remote rural areas. You have people who might not live near a bank branch but can come across a highly competitive and at least on the consumer side very well regulated market online and potentially access the best possible priced product for them that they might be able to access that they just they wouldn't be able to physically come across without being in a FinTech, pursuing a FinTech product. So I think it is also important that while there is definitely room for all products and services to continue to improve and try to serve all American's it is also important to remember what we're comparing it to even in the area of algorithmic lending we've seen a lot of problems in non-algorithmic lending in terms of people who are coming from protected classes at car dealerships who are not being offered the most affordable product for them. And algorithms that are based on basic information that everybody is consistent across everyone offer kind of a level playing field that might not exist in someone's community depending on where they come from.

MS. WITKOWSKI: I wanted to spin off of the issue of budgeting. This is an everyday issue of overspending, bouncing the account, there is a lot of technology out there that does stop gaps in preventing people from overspending in their account. How do you balance providing that and guiding them into better financial decisions versus making the decision for them and forcing them into a certain direction within your own products and services?

MR. HOMSANY: Yeah it is always that challenge between paternalistic versus letting the consumer make the decision. There has been a lot of interesting research that has come out of the common sense lab at Duke University with behavioral psychology concepts. What they have been able to prove through a study among 300 other studies is that the only thing that works in terms of consumer finance education is Just in Time education. So there are a number a states I think nine or maybe twelve states as part of the curriculum requirements have required students in high school to receive personal finance management training and they found that the half-life of that training is anywhere from three to six months. That is incredible they spend three years in class and in six months they only remember half of it and within two years it is all completely gone. They have some hypotheses as to why that his true, mostly because a lot of people learn how to do financial management through their parents or through their family environment. So the only thing that works is Just in Time education. So what you need to do when people are making those decisions you need to make is crystal clear, you need to take the time to explain to them how those decisions impact them. And then you can provide them options. At the end of the day it is a consumer's option as to what to do but you can direct them through that education, you can direct them with that Just in Time information to make better decisions. The final piece of that is just notifications. Letting people know that they're in a particular situation and allowing them to make those decisions is critically important. And then automation associated with that is really important too.

MR. REILING: If I could dove tail off that a little on the financial education side I think in a lot of different panels and things that I sit in we have I'll use the term middle class. The middle class answer to this all is we just need more financial education. Well if in fact you didn't do very well in school, it wasn't a pleasurable experience how do you think you're going to get somebody to come back and sit in a classroom and learn about something in a future state where your problem is of the moment or just in time. So it is not the silver bullet of everything. I can give you an experience, you're citing case study which I think is really good. We have a partnership with Lutheran Social Services in our east side financial center where we actually we have people that just come in and talk about financial budgeting and counseling. While their primary goal is to deal with the financial issue what really ends up happening is they may have a daughter who is pregnant and is a teenager and the fact is now they need to navigate the county health system in order to get benefits to make this thing work. So the budgeting and counseling aspect is the reason they came in but the real problem is some fundamental underlying issue whether it is health or whether it is emotional. Those things are harder to deal with. It is a lot less straightforward as to debits and credits if you will. It is dealing with humans and emotion. The one thing that I would say when we're working with people every day is don't have pity. The people we work with are incredibly resilient and smart. They just have a tendency that they're living in a planning phase which is right now as opposed to a lot of it in some cases is paycheck to paycheck where maybe most people in this room it's well we think of budgeting and planning for the long term and retirement. So as a result of that decisions get made differently because there are different criteria but it doesn't mean that this person is any less intelligent they're just dealing in a different set of circumstances.

MR. FARMER: To play of that this is one of my biggest frustrations with one of our fellow FinTech companies. You just talked about meeting the individuals that you serve in a really personal way and in a very intimate way, really understanding what is going on in their life. In Silicon Valley we have this mantra of talk to customers, talk to customers, talk to customers. It seems like FinTech firms just completely forget that and it doesn't make any sense to me. Because of more of just any other sub industry of technology that's where we should be doing it the most. The very first hire we made at Even was a user researcher. It was not a popular choice with our investors, they wanted us to hire an engineer. But she has ended up being an incredibly foundational part of how our product has come together. Every day when our team rides the bar into our office they're listening to a podcast that she put together which is interviews with the people we serve talking about the features that we're working on building that day. And so that kind of connection I think a lot of companies miss out on and that means you end up with these questions on panels like this of like well why is FinTech paternalistic. Well it is like because you're not talking to people you serve. And so I think that is something that the industry as a whole could come a long way on. I see some progress; I see people starting to think about this more. I see people copying us and hiring user researchers early on which I'm totally fine with but I'd like to see more of that, I'd like to see more of that type of engagement.

MS. WITKOWSKI: So between FinTech firms and traditional banks who do you think will ultimately provide better financial solutions for consumers?

MR. HOOPES: I'll take a whack at it. I think FinTech will. And the reason I say that is we've got to move the model. I can't honestly sit here and tell you that a checking account will save somebodies life, it doesn't. Because they have a certain financial product it means that they are somehow banked or they are somehow saved or something like that and that is completely a myth. We need better design products that serve people where they are, when they want it, how they want it and it needs to be in a form that they can understand. I would say one other thing that impacts this greatly is now Rachel had a caveat to this whole thing that she didn't want any fluff answers. So I'm going a little beyond my skis in terms of honesty here. The fact is we work in a bit of baby boomer mindset in terms of how we look at the world. The fact is when I have a conversation with my kids they look at the world completely different. So I think there is a place for banks, I really do. And good community banks but the fact is we need new financial services and products that really help the health and the financial wellness of consumer and customer.

MR. HOMSANY: So when I think about the products that I use every day all of them were at some point financial products, all of them were at some point FinTech, right, like when I swipe my credit card that is technology, when I check online banking that is technology. So I think that looking at a point in time, sure there may be some things that FinTech is doing that incumbents are not and vice versa. But when you look at over a longer time horizon, when you look at the evolution of the industry I think what you'll see is that the best ideas are going to get incorporated into the incumbents that have the ability to reach the largest number of people. Even can only reach right now a very limited number of people compared to the number that you can serve. So I don't think there is an either or question quite so much, the question is one of timing, of trajectories and really how the two parties work together throughout that time.

MR. FARMER: A lot of partnerships as well between banks and FinTech companies that I think are really promising. For instance, Citigroup uses Lending Club to help fulfill its community reinvestment act, mandate in part because again Lending Club is really good at reaching people in all areas and places that their branches may not reach. So I think those types of partnerships that you see emerging are I think helping drive more innovation and probably better services for borrowers and for investors.

MR. REILING: So I think the jury is still out and maybe the jury will be out for a long time. Banks have a very special place in society. They are critically important to society and they are large institutions that take some time to move to different areas. As I was saying before FinTech companies tend to focus on niche products for in niche areas. The one advantage and reach as Quinten was saying is super important so for our product today it is very difficult for a small start up to get their product into every single bank in the United States let alone just the larger ones. So that reach, the incumbents definitely have an advantage with. I think the banks have I guess I would call it an escape valve so to speak in that at the end of the day if a product is particularly attractive they can do something really neat which is go buy that company or they can go invest and build that product themselves. A lot of the larger banks talk openly about that which is that hey this is really an important product in this changing society, we'll just go acquire it or we'll just go do it ourselves. If they miss that or if a lot of them miss it then FinTech wins. If they don't then the banks will likely win.

MS. WITKOWSKI: So to ping off of the partnership how do you know who to partner with and on the flip side what keeps you from partnering from whether it is a bank or FinTech?

MR. HOOPES: I'm happy to go, we do this a lot. So who to partner with is always a huge question and we've made more mistakes then I'd love to admit. The fact is the first thing that we really have to do is make sure that there is a values alignment. If we don't share the same values, if there is a company who is looking to rape and pillage, that's not us. We are for shared success. We want the FinTech company to do well, we want the consumer to do well and we want the bank to do well in a relationship like that all in a regulatory compliant way. So part of that process is the value around compliance. In the products that we've had over our history we generally find that compliance wins the long term game. If you're going to short change that you're going to get caught, you're going to have issues and mistakes. So from there after the values alignment obviously we do the due diligence like any bank would in terms of all the compliance that we have to meet. And from there it is a push forward to trying to make sure that that thing gets done and quite frankly I disagree a little bit down when I hear that big banks are going to go buy FinTech. I think the entrepreneurial spirit in the FinTech gets crushed and lost and it gets muttered in a huge bureaucratic type and I think the energy and the beauty of the product dies. And maybe I'm just promoting myself in a weird way to say deal with the more entrepreneurial bank because we want you to do really well and be here for the long term and have that success. It may not be the immediate exit that you need but when we're looking for partners we're looking for people who have a little bit more long term trajectory.

MR. REILING: From the FinTech company's perspective is we look to partner with banks. Our perception is that the first thing and this is a little bit about what the panel is about and the day is about. The first thing that banks look at and think about are compliance. Everything is driven by compliance. It is about compliance risk, it is about your particular policies around compliance, your vendor compliance, it just goes on and on and on. I think that is part of the question here which is should that be the way that it is. I think we're talking about a little bit here is should the bank be focused on whether this really helps people, whether it is a good product for the bank, it is a good product for its consumers or just consumers in whatever particular area that they're working in. So I definitely believe that the banks have an upper hand so to speak in that there is a lot of FinTech companies that want to work with banks and if compliance is ruling the day then they get to pick or they get to figure out who's got the best compliance programs or work with those companies to improve their compliance programs and that makes it really difficult for small startups who have limited resources to be able to build those compliance programs up.

MR. HOMSANY: This is the number one question that I get from founders of other companies that are maybe like a little bit earlier stage than we are. I think the reason that this always gets asked, the reason we talk about it up here is that a lot of FinTech companies don't view partnering with the bank as the same as any other type of partnership or sales process. You spoke to a little bit of the compliance and things you need to think about. We did not see this as a big challenge because quite frankly we just approached it the same way we do pitching investors or pitching new partners. We set up a process, we figured out what the needs in the market were, we figured out who were good kind of candidates to work with and then we went out and worked with them. That involved putting together the compliance documentation they needed. That involved making them comfortable with the fact that we were going to be a good partner for their bank. But I think and this gets into a disconnect between the technology companies and the incumbent banks FinTech companies often have this expectation that their bank is going to be like a utility for them. It is like turning on the water or turning on the internet in your office. That's not how it works. It is a partner just like anybody else. So I think that kind of rigor and that approach to really thinking through how you want to partner with the bank is what is missing and why this is a topic of conversation.

MS. WITKOWSKI: So compliance is obviously one of the most challenging topics that I always here at FinTech and banking conferences. I want to dive a little bit deeper. What has been the most challenging, rule, regulation, requirement that you've faced in the last year? What specifically has been the hardest to comply with?

MR. FARMER: The single biggest challenge for us is not any particular rule or anything like that or even in one organization, it is uncertainty. Each time that you are taking a step forward as a startup you kind of think about activation energy. So you're like the chemical reaction and it is like what do we need to get to the point where we can raise money. Where do we get to the point where we can have that first enterprise customer so on and so forth. And the uncertainty that the current regulatory environment injects into each one of those stages just makes that activation energy requirement just a little bit higher. We have a group of us up here on stage who have largely surpassed that at least a couple of the first steps but the people that don't ever get over that first hurdle are not up here talking about what they're doing because they're not doing anything, they are probably working for Google or Facebook or God knows where. And do I think that's what gets lost and that's what gets missed is this idea that it is the unknowns and the fact that as a founder who does not come from a financial services background you really often don't know who you can sit down with to get these questions answered. The titles of the people that ended up being most helpful to me early on were like totally opaque and like I would have had no idea that they would have been that useful. So I think that transparency is something that is really missing and causing us to have fewer innovations especially if you were consumer friendly innovations then we would otherwise have.

MR. HOOPES: I'll reference something that is not regulatory but it is government and it is really I think holding back the sector at least in the lending space a little bit and that is the IRS. So the IRS has a great amount of every taxpayers information and taxpayers empower the IRS to share that information with third parties all the time. Unfortunately, so far the IRS has not modernized its process to be able to share the key piece of information which is a form called the 4506-T which is which is your sort of summary of your tax information with a third party instantaneously. So even if they made that one change which would be basically cost free the people that are online who are trying to verify somebody's income as reported is actually what their income is and that they didn't create a false filing in order to apply for a loan, they would be able to do that verification instantaneously and that would again help improve both the accuracy of the information that lenders are trying to use to improve borrowers and then if that information were more accurate they would be able to offer people better rates. So I think that built into online lending unfortunately is a bit of a fudge factor around the possibility that people are committing fraud. If the IRS could modernize its processes that would make an instantaneous boost for the sector and it is applicable in student loans as well. So people are now eligible for income based repayment in student loans but every year they have to go back and prove that they have low incomes by filling out reams and reams of paperwork and waiting for days and days and days to get the IRS to release information that the IRS already has and is empowered to share. They just simply don't use the technology that would allow it to be instant. I think there are regulatory issues that are at play in lending as all lending is but those kinds of issues with the government would really help foster innovation and that's some of the work we're going to be doing at the association.

MR. HOMSANY: I think one of the big dilemmas that a lot of FinTech firms in Silicon Valley talk about not just FinTech firms but a number of other startups in a bunch of different industries is do you embrace compliance or do you act down and beg forgiveness later. And there are a number of companies that have taken both routes. My advice in what we chose to do is to embrace the compliance aspects of the industry. It becomes a competitive and comparative advantage. I think the challenge for all of us to figure out is how do we ensure that those companies that are making the right decisions aren't getting penalized for that. I'll give you an example. I have a friend who before they got funded and that's always a challenge you've got a get a product market fit and in a FinTech space it is difficult to product market fit if you chose to embrace the compliance components of it because then you need resources to that. The only way to get resource is to actually test a product out but you're not allowed to test a product out until you get the compliance aspects done. So it is a chicken and egg kind of problem. So I had a friend who tried to start up a new age mortgage servicer company and when ended up happening as they looked into the regulations is that every single state has their own set of compliance and regulatory requirements. They had to apply for a license in every single state. The geographical boundaries that once existed in the United States with the internet economy are virtually gone. So if you're going to start a business like that just focusing on California and applying for a license in just California doesn't work. You need to be able to be in the majority of states and if you have to go to every single state, spend six months and hundreds of thousands of dollars if not millions of dollars on legal fees and licensing fees it is (inaudible).

MS. WITKOWSKI: So with that being said where would you guys like to see the regulators head in terms of FinTech and fostering financial innovation without creating more risk but at the same hand where do you fear they would head?

MR. REILING: So again not to fluff the answer but the talk has been around a FinTech charter. Personally, I think that is a bad idea. And again it is coming from I don't quite understand the intent of the regulators as to where they are going with that concept. If that concept is coming from a place of we want to see better products for consumers and small businesses or if it is coming from the standpoint of we want a direct pipe and control over more FinTech companies and we're not only going to do it directly through them but the banks that they go through. Ultimately I think that hurts the innovation at the FinTech level. You just have more layers of compliance now you have multiple regulators. Your bank has this pseudo one and maybe one or two depending on the size of the organization as to who the potential regulator is. In my opinion let FinTechs be innovative and creative, let the banks do compliance and if they can't do compliance don't let them be in that space. The fact is all the regs are set up there today but I think there does have to be a bit of a sandbox in order to facilitate innovation. And the regulators are looking at that. I again think that is a challenging place for regulators to go. They can say they're going to have a little space and a little group that does innovation but if you think about it in my world culture eats strategy for breakfast. If you have strategy and innovation in a sea of risk adverse people it is not going last or it is not going to grow or foster or have any power. The fact is that it needs some independence, it needs some space and there are times when products and services are just getting launched where you really need to test them. In my world we test them on our employees. So we'll roll them out to the employees, even then that is a test environment we might get criticized for even though it is very controlled.

MR. HOOPES: I would say that there is kind of a stark divide in regulation between do you have FDIC insured deposits or do you not. I think if you do and the taxpayer ultimately potentially stands behind guaranteeing your account then there is a significant interest on the part of the government to impose prudential and compliance standards on that entity. If on the other hand you're in the business of enabling some other financial activity that doesn't again put the taxpayer on the hook, then I think there is an opportunity for regulators to potentially foster innovation either through a charter or through another means. But again I think that that's sort of if the regulators will look at it through that lens of is the taxpayer ultimately on the hook that that can help drive I think a lot of the way they can make sure it is a potential promising avenue.

MR. FARMER: So there is a lot of good conversations about sand box and charter and things like that. At least from my perspective I think of those as very long term conversations and it is going to be a lot of work to get to that point and that's okay it should be. I think there is something that is much more immediate and much more pressing that we haven't talked about here but is definitely an issue I think about from a policy and regulatory standpoint. Protecting consumer's ability to have access to their data and have portability with their data that they have with their financial institution I think is one of the best ways available to us in the short term medium term to improve financial access and improve financial outcomes. So when I think about my relationship with my financial institution they love offering products and services. I am exactly who they want as their customer. They want to give me a credit card, they'll probably want to give me a mortgage, although not if I live in San Francisco so on and so forth. The people that we serve though don't have that luxury. Their bank is not trying to offer them a credit card. The only way that they can access the same types of services that I have the privilege of accessing in my institution is by bringing their data and going elsewhere. It is something that there is already the ability for the CFPB to encourage and support, that's already on the books and that is something that I don't think is being discussed enough and I think it is the best way to protect the consumers who are currently least well served by their existing institutions.

MS. WITKOWSKI: Well I wanted to leave some time for the audience to ask questions to the panelists. Does anybody have a question?

QUESTIONER: Hey thank you all for being here. I was just interested in how you each feel about Blockchain technology and how you are or are not looking to take advantage of that. Is it security reasons? I mean there is ease of transaction issues, what do you see as the advantages and disadvantages and how are you looking to tap them?

MR. REILING: We've looked at it in a couple of different venues and types of different products. I think it is really cool quite frankly, I love the transparency in. And again let's not confuse the Blockchain with Bitcoin, let's put that aside. The core technology underneath I think has fantastic applications particularly in contracts and as a result I think there is a lot to be done there. I do and I'm not quite clear as to how Blockchain when you put it into financial privacy comes out in the end because it is all apparent, it is all out there. So I don't know how to try to get our head around the regs between privacy of information and the publicness of the transparency of the data.

MR. FARMER: So I am an engineer like first and foremost, my education and things like that and I love the cool new technology and I've spent plenty of my own personal time like messing around with Bitcoin and Blockchain and things like that. But going back to the stuff about I said earlier about being very consumer centric and we design our product and build our product as the kind of current state of Blockchain exists there is no real reason for us to incorporate it into anything we do. We need to be more closely aligned with the way consumers are currently banking and currently using services. So right now it is not something that is really on our radar, maybe one day. Obviously banks are thinking about it but I think we would be more likely to follow on that rather than lead the way.

MS. WITKOWSKI: Next question.

MS. ADAMS: Hi Stella Adams with the National Communion Reinvestment Coalition. There was a couple of comments about FinTechs partnering with banks around CRA compliance. Who is doing it and how is that working? Also, I'm the Chief of Civil Rights and what are you all doing to ensure fair lending compliance is built in and locked in to your products and services?

MR. HOOPES: I just take quickly just the partnerships that Lending Club as a nationwide platform takes applications from all sorts or borrowers and that means for a big bank that has branches in various locations but may not have sufficient volume of applications for CRA compliant products they can build a partnership with a nationwide platform in order to achieve those goals. So I think any further details you'd have to go into the company but that's broadly the parameters of how it works. I think the promise of again online lending is that all of the same laws and all the same regulations that apply to all loans apply to online loans. That is the beauty that we have nationwide access but the same fair lending standards and all of that applies and so I think that all the firms that did all the best platforms like you mentioned they embrace compliance so they are very, very focused on embracing compliance and it actually seeing how the growing connectivity of people up and down the income levels can be utilized to help expand access to credit and expand access to affordable credit.

MR. REILING: From my standpoint so we've had an outstanding NCRA for two and a half decades so we live in that space. So from a CRA and a fair lending standpoint that's an everyday thing for us. We have a multicultural company so the fact is we speak seven, eight languages and they are just in the urban core of Minneapolis and St. Paul and so as we do our lending we're looking for more ways to access communities that have been left behind then the opposite. So particularly in our mortgage division we target on, look for customers of color and low and moderate means and we basically have banks that come to us looking for CRA loans. Day in and day out that is who we are and what we do.

MS. WITKOWSKI: Just as a clarification though the FinTech firms who aren't insured deposits they're no graded on CRA they don't necessarily have to comply with it so to speak right?

MR. HOOPES: If you don't have insured deposits in branches then some of those requirements wouldn't apply because again that is all tied to a geographic footprint, the entire statute is tied to a geographic footprint. I think what we're saying is that financial technology companies and marketplace lenders especially are actually finding that they're doing such a good job of finding and reaching those borrowers and reaching them with affordable credit that traditional financial institutions that do have branches are coming to them seeking the actual access to those borrowers.

MR. REILING: To your point on the policy of CRA desperately needs to be overhauled in my opinion. We should throw it away and start over because there are some things, not from a concept standpoint but for example one of the antiquated things of CRA is you have to have a paper file at your main branch. Well why not just put it online so someone can see it 24/7 anywhere they are and look at it on their phone. So there are some things about it, the core of CRA I think is valid and critical and I think from that standpoint the geographic aspect of it is starting to break down as well.

SPEAKER: We want to make sure that they're reaching the right people with the right products. We have horror stories about marketplace lenders who are raping and pillaging women entrepreneurs like me. When you talk about the average American was I your face, an African American small business woman. If I wasn't I can tell you that the marketplace lenders are charging ridiculous prices and I don't have access to affordable credit through a financial institution. But I'm in place now.

MS. WITKOWSKI: Thank you very much we have one more question in the back, one-minute left.

QUESTIONER: This is mostly for lenders directly but I noticed for the marketplace lenders association you said that banks are coming to you a lot to seek out customers that they wouldn't otherwise. I look at the data and you look at the big players there you look at SoFi, Great Loans for Great People or some of the other guys and they're trying to single out people with higher earnings potential because of underwriting that is education heavy or something like that. But when you look at the originations by credit score they are about the same as traditional finance companies. So what do you guys think needs to happen in order to provide credit to the underserved who are highly reliant on alternative financial services because the traditional consumer loan, a product of one to five-year maturity, $5 to 35,000 that simply is not a good product for a large proportion of the population. As the woman who just asked a question mentioned there are a lot of folks who just simply access credit and when I look at a community bank like your institution you're better at serving those unique customer needs and how do we sort of commoditize that relationship lending? Do you see any obstacles to doing so currently there and do you see any companies that are really making that leap?

MR. HOOPES: I mean I guess I would say I think the marketplace lending space as we define it is all sub 36 percent APR tech enabled lending. So some of the high rate products and payday loan products we don't consider to be marketplace loans. So that's first. So we're focused all in the prime and near prime space at affordable rates that are helping people save money compared to the traditional alternative. So if you think about a minority owned small business that might have a credit card from a bank the typical rate if they can't pay the full balance might be 24%. If you go on our member's sites you're going to be refinancing that somewhere in the mid-teens often. So not only are you not continuing to pay interest on a revolving balance you're actually getting an installment rate product and reducing your rate by a third according to a recent large survey. So to us I think the way we see the promise of marketplace loans is again expanding access to affordable credit. I completely agree with you that there are a ton of people out there who deserve and qualify for better rate products and they're ending up in very high rate products and that is a market failure that we think technology is well primed to serve and solve.

MR. REILING: I'll give you a five second answer and that is so we partner with a FinTech out of San Diego called Employee Loan Solutions. They basically offer a small dollar loan product through employers as an employee benefit so they can access credit that is unsecured as opposed to entering and building their credit history in a secured environment. So we think the employer channel for example is a place that you can do that in a safe space.

MR. FARMER: Stop trying to shrink the existing products down to the right size for a lower income consumer. Design new products that actually fit their life. That's my mantra, I'll keep saying, I've been saying it but that's what needs to happen.

MS. WITKOWSKI: Please join me in thanking the panelists.

MR. KLEIN: It is my great pleasure here to introduce Senator Mark Warner. Senator Warner really embodies in a way that I think few public servants do kind of the full panoply of this conversation. Prior to entering public life Senator Warner was a venture capitalist who founded one of the largest telecommunications companies in America. After succeeding in the private sector turned to join the public sector. Served as Governor of the Commonwealth of Virginia and is now in his second term as Senior Senator from the State of Virginia. So if you could join me in welcoming Senator Mark Warner.

I want to start by asking you, you've been a leader in this thinking about the gig economy, FinTech, all these different worlds melting together. I think few people appreciate the breadth of what you're in charge of in the United States Senate. You sit on the banking committee, the finance committee, the commerce, the intelligence committee.

MR. WARNER: Actually that makes me in charge of anything.

MR. KLEIN: Dealing with the entire panoply of issues in the United States and the world. You have the same number of hours in the day as every single person in this audience. What made you choose to spend so much of your time focusing on this issue?

MR. WARNER: Well first of all thank you for having me here and my apologies for being late. I had the day from you know where when you have a one-hour dental appointment that turns into a three-hour dental appointment so if I'm a little cotton mouthed excuse my presentation.

I'm a big believer that a lot of politics should be more defined future versus past rather than left versus right. I was lucky enough back in the early eighties to get involved in the wireless industry. I went to school at Harvard and all my law school classmates were all at big fancy law firms. I kept trying to say we ought to get involved in the whole cell phone business. Every one of them said to me, Warner, you are so crazy go get a real job, who is going to want a cell phone. They are still practicing law and I got rich off of that because I co-founded Nextel. At that moment in time people anticipated it would take 30 years to build out a wireless network and at the end of those 30 years it would be 5 percent penetration. Obviously, conventional wisdom was wrong.

So after the 2014 cycle I started thinking let's take a look at this changing nature of the economy. I got initially interested in the gig and on demand platforms but relatively speaking that is still a fairly small share of our workforce. We are still kind of in the hockey stick stage where it is going up but what it led me to is something I think is much more profound and frankly that I didn't fully appreciate that most large corporate starting in the nineties if you were not core to that corporates function you got outsourced. Whether it was literally abroad or figuratively at a firm here at home. We see that with people like cafeteria workers, janitors what have you. What has happened over the last 25 years is we now have a third, at least a third of the workforce that is in some level of contingent work. 1099 independent contractor, two-part time jobs, short term W-2 but the problem with that and there are some great opportunities their flexibility and other things, the challenge comes is that we're the only industrial nation in the world that built it social contract based upon the work status. You only get unemployment, workman's comp, disability, health, retirement if you are a full time employee. That to me is a fundamental problem. We've got to create I believe a social insurance network that meets workers where they're at and that in my mind means a portable benefits system. Who runs that system how is it composed that is a subject of debate who manages these individual accounts. But I think from the first dollar earned a portion of that dollar ought to attach to you and be broken into some of these categories.

What particularly interested me in FinTech is because of this change in the workforce what we had now is enormous income volatility. JPMorgan (inaudible) about 60 percent of the workforce having a 40 percent volatility over a quarterly basis. We've all seen the Federal Reserve data that said 47 percent of Americans couldn't absorb an unexpected $400 bill without defaulting into one of the less than savory credit access. So what got me excited about FinTech was could FinTech be this bridge. Because even if your income top line number looks good if you're contingent and you have no ability to predict could some of these tools accessed by your phone be a way to help folks manage through this changing nature of work and the changing nature of our economy. I do not believe we're going back to an economy where people are going to work for the same firm for 40 years the way my dad did. So I think we have to be willing to kind of lean forward and meet workers where they're working, that means a portable benefits system it also means FinTech while there are enormous challenges with it has an opportunity to bridge part of that new social contract.

Last point and then we'll get to questions. If you are thinking about a social contract from the 21st century I would argue that one of the most essential components of that social contract ought to be that emergency $400 or 500 fund that you can draw down say once a year. Because with the level of income volatility stuff happens and in the old economy you might not make much but you at least had predictability, you don't have that predictability in FinTech, could be one of the tools to bridge that.

MR. KLEIN: I think you're right and I think that's what Quinten was talking about with Even about the need to bring new products to address that the problem and it is often misunderstood in small dollars is often the problem is income volatility not expense volatility. The story that we're told about your transmission breaking down and that's why you need small dollar is true about one out of six times and the other five out of six times it is an income variance.

I want to pick up on a point that Dave made from Sunrise Bank which was just stunning to me to hear a banker say a checking account isn't going to save your life and he's right. I'll tell you a story life imitates are. So on Saturday morning I went to my local bank branch in Silver Spring Maryland to deposit a check with my three-year-old daughter and bank equals lollipop equals good which is the equation that I've impressed into her. But what struck me was there was a woman, African American actually, the teller next to me comes up and says here is a check, I need this too clear when will it clear. The teller said this is going to clear on Wednesday. This was Saturday morning; Monday was Columbus Day the check is going to clear Wednesday. She said well I have some credits coming up, some credits on my debit card that are automatically going to come up between now and Wednesday, I need this check to cover them. The teller said well I'm sorry it's not going to clear. She said what's going to happen and she said well you're going to be charged an overdraft fee. Well how much is that? That's $36. Was that only going to be once she asked or for each one because I have a couple of these? The teller said each one. She said what am I going to do? The teller looks at her, checking account isn't going to save her life. The woman behind me in line goes to her and goes why don't you go to the check casher around the corner, they're only $20 and you can come back here with cash. The woman looks at the teller and goes will that work and the teller goes yeah the cash will clear in your account today. So she walked out of the bank. This is a banks person being sent to a check casher because our payment system can't deposit a check from Saturday morning until Wednesday.

MR. WARNER: That's crazy. And that's one of the and again the previous panel were in a debate between financial institutions and FinTech. Who is going to shrink that gap and do it with as little friction as possible. It is one of the reasons why I am very intrigued on the whole question around Blockchain. Now obviously there are transparency issues and we held one of the first hearings on Bitcoin. It took me a long time to kind of wrap my head around that and how that gets implemented but it is crazy in the 21st century that it takes four days for a check to clear. You are both creating a business opportunity and you're also putting an enormous burden on a wide segment of Americans who just don't have that flexibility to go that extra week.

MR. KLEIN: That has no impact to me. The check clearing time doesn't matter to me; it doesn't matter to a lot of people in the audience. But to the 75 percent of Americans living paycheck to paycheck that's real money out of their pocket. What is governments role to fix this problem?

MR. WARNER: Well I think the government's role is to one, encourage innovation, two it would be when we think about all of the particularly for that low income person the number of bills due to governmental type entities whether it is the water company, the power company, other kind of necessities of life, your taxes, I think we really need to work with the incumbents on having a more flexible payment schedule in terms of what time of the month those bills are due. I think one of the interesting things that have attracted people to the gig economy is the fact that often times that results in immediate payment. So it was a notional idea of do people really need to be paid two weeks, should they be paid every week or every day? These are all things I think we should sort through. If government at least starts with a more flexible basis on when it expects its payments to come in that would at least be a step in the right direction.

MR. KLEIN: I think that will be right and I'd add I think the Federal Reserve is the check processing, clearing center of the country ought to get with the times and either force that or have industry force it. I think one of the nice aspects of Blockchain and these other technologies that are coming out is they're motivating the incumbent banking network to move faster. You see things like real time settlement from the Clearing House. And the banking industry I think is seeing this threat of FinTech and an opportunity.

MR. WARNER: They're seeing a threat but remember for a long time it has been a great profit center. Having these delays allows you to charge that overdraft fee. So this is a very, this is why we need to encourage our FinTech partners to kind of get out there to put pressure on trying to close down some of these inefficiencies.

MR. KLEIN: So that kind of gets to the question about Fin versus Tech and I've been thinking more about this word. It is a little bit of this awkward area where you have the financial folks thinking I'm going to improve my tech platform, I'm going to go online, I'm going to have an app, I'm going to improve my tech platform. Then you have tech folk thinking you know what there is a giant opportunity for me in finance and you're kind of existing in two different words. The common hashtag up here has kind of blurred them together into one FinTech. How do you see this with your experience from technology, your experience as a senior member on the banking committee, understanding finance where do you see the world define Fin and Tech?

MR. WARNER: It may also as we think more and more about mobile payments you may have large other entities coming into the enterprise. Will the Telco's suddenly be a bank? Will some of the social media companies you've provayed so much in terms of how we get our information. Will Google be a bank? So I think this is a kind of a wild west space. The challenge is how we allow innovation, I'm not there on the fact of a complete safe harbor because you can see bad products arise very quickly and how do you roll those back? I am intrigued with what is happening in the UK where they kind of the Bank of England as I understand is doing a kind of FinTech accelerator. This is a space as somebody who is interested in this I need your input on how we get this right. We've got, I see my friend Jonathan Miller here. We worked long and hard on pieces of Dodd Frank. Some parts we got right some parts probably need some revision. But you've got consumer protection, you've got safety and soundness, where does all of this fit within a FinTech new product world? I just think some of the comments about if you've got FDIC insurance there is obviously going to be a higher bar on prudential. But there also has to be a consumer protection piece on the front end because we have seen some of these products be almost advertised as too good to be true and they have been too good to be true, they have actually ripped off folks. So I'm anxious to have input on how we balance this.

MR. KLEIN: That is incredibly important because traditionally my marker for is a product predatory is it marketed on yes and fast. If something says you're preapproved immediately beware. That is usually a tell-tale sign. And there are reasons behavioral psychology reasons as Dean pointed out that people have been denied credit that is a huge psychological cost and their desire to avoid the potential for denial again will motivate them even if the terms of that product are less than stellar. But on the flip side one of the beauties of FinTech is offering both a decision and immediacy whereas the delays in the existing system. I want to kind of think a little bit about the future. You saw cellphones when folks didn't. When I was in (inaudible) we did this check 21 it was all about being able to deposit checks in an ATM and nobody saw the smartphone thing as anywhere you want to deposit a check let alone Apple Pay and all these other new and innovative forms. If we are back here in five years and you have the beauty of thinking in six year increments giving one person in Washington a longer perspective.

MR. WARNER: In terms of our record of output even in six year increments has been a little mixed.

MR. KLEIN: What are going to be these innovations that you think if all the keys are turned right, if government is a constructive partner, if innovations work. What are the things you're looking for that could change the FinTech landscape if we're back here gain in four or five years' time?

MR. WARNER: Well I think if we see the FinTech entities at large improve access to credit, improve transparency, if we think gig and the changing nature of the social contract is not big enough I also am increasingly worried that modern American capitalism is not working for enough people. That is partially driven by enormous focus on short termism over long term value creation which I think is a cancer eating at our system. One of our areas that troubles me the most is because people are not going to work for the same firm for a long time, it used to be if you went and worked for the same firm and you got hired on the factory floor that firm would invest in you in upscaling you over a period of time because chances are you're going to work there for 20 years. Now there is virtually no rational incentive for any firm to invest in the upscaling and training of people that make below $65,000 or $75,000. So when you've got globalization, when you've got technology, when you've got artificial intelligence that wide swath of Americans are understandably pretty upset. You see that from both ends of the political spectrum.

I don't think it is an over statement to think that FinTech could be morphed into not only better economic training but there could be a whole series of other training delivery through your mobile device that might allow people to become up scaled. So I'm thinking how do we get those incentives right? One I would argue that we need to think about incentives but I believe business generally does a better job of workforce training than government but potentially even looking at incentives that might go from a deduction to a credit and have that credit worth more than a dollar so that the company receives the benefit even if the person moves on. We've got to recognize, we've got to have a much more aggressive way to upscale people in the workforce particularly low and moderate income folks. There will be an enormous number of intersection points. One of those intersection points might be your relationship with that FinTech provider.

MR. KLEIN: So I have one more question and then we'll turn to the audience. It gets back a little bit to the role of government and Nad said something about how pinpointing the IRS and modernizing this specific form would be just a great way to unleash innovation and I think about what President Clinton did with opening up GPS. Every time I am lost I in the back of my mind thank President Clinton for opening up GPS. I don't think people fully appreciate that that innovation was brought to you by forward thinking government. Now I also had the opportunity to serve for Senator Sarbanes who served on the budget committee as did you and I remember budget committee markups which are kind of wild west moments in the Senate where amendments are putting out on the fly in their real time votes. One of the great offsets when you wanted to increase whatever it was that was your favorite increase was to slash the IRS technology budget. And so do you want more education or more IRS technology? Do you want more clean water or IRS technology right? Real tough votes. So I remember at one budget hearing the clerk had to interrupt and say the budget is now negative. Don't worry we'll fix that. And here we are realizing that the result of that is a lack of innovation because ironically we've kind of starved the parts of government that are necessary to unlock the private sector innovation. My question to you is where can government lead, where can government follow and where does government need to get out of the way to unlock FinTech?

MR. WARNER: One thing and we've seen this looking for example at just the extent of the gig work force. (Inaudible) had not done a survey of contingent workers for more than a decade plus. That means that survey is about as valuable as if it had been done in the 1890's rather than the early 2000's. We've tried to get the IRS to change some of the form in terms of retirement accounts so you can do it in a more simplified way. I am relentlessly bipartisan sometimes to the determine among some of the folks that I serve with. But you cannot continue to have the starve the beast mentality about your general revenue collector. If you want that entity to be flexible and meet people where their needs are you can't default to that being the whipping post and right now you've got an enterprise that is not able to deal with even late 20th century innovation let alone 21st century innovation. So that's an area where a more efficient, effective government I think would be needed. I think there is one of the debates that we're going to have who owns your data? Is it the social media is it your telecom? Can we allow the actual consumer to have access to full ownership of their financial data that is a whole lot more transparent? That's an area where I think government needs to push that along. I think that getting the balance right between innovation and consumer protection is a hard one to walk particularly when you've got products that come out so quickly and be here for a while and wreak great havoc very quickly if we're not careful. So I'm again open for business on how we try to balance that right. I think we can't go back. One thing we can't do is and I think about this more kind of where I was a year and a half ago looking at the gig economy and the changes of the workforce. We are not going to fix the changing nature of our economy by going back to a binary choice in employment status between W-2 and 1099. It is going to need to be a much more robust and must more flexible. I think that same kind of approach of not backwards looking but forward looking is going to have to apply as we look at this subject.

MR. KLEIN: Great. Well I think we have time for a couple of brief questions from the audience. If you have a question, state who you are, where you're from and please ask a question. In the back row right there.

FEMALE SPEAKER 3: Good afternoon and thank you for a wonderful discussion. You talk about leaning forward and the IRS. Can we accelerate B corp becoming the standard corporate structure so that we move away from the 501(c)3, 501(c)3(d) that whatever non-profit for profit juxtaposition so that corporations can invest beyond what is in it for them. You see the direction of SASBY, the Sustainable Accounting Standard Bureau locking in on working with the SEC directly on reporting that's about valuation of assets. And if we're going to have a different social contract we need to stop having chameleonized on non-profit versus for profit. B Corp is here, let's make if federal and truly get over the wave of our history.

MR. WARNER: Let me try to address a couple of points. One, I do think there needs to be an examination of fiduciary duty that meets the qualification of long term value creation not simply how much you can bring to the bottom line over the next two quarters because frankly a lot of stock owners now are not owners they're renters and something is fundamentally different. I grew up in the free enterprise system but something is fundamentally different when you see the last quarter 95 percent of all corporate profits spent on share buy backs and dividends and not in terms of reinvestment in enterprises work force and training. What gives me optimism in a place that is not always very optimistic is millennials. I think millennials will vote with their dollars and where they want to work in terms of working for and working with more responsible companies. I think this will be the case in FinTech and your comment about B Corp I'm not sure that we're going to see a federally legislative B Corp. But I do think with B Corp, with SASBY, Paul Tutor Jones is trying to create a corporate ranking called Just Capital. I just came from a session this week in New York on a group that is called Inclusive Capitalism. There are a series of business around conscientious capitalism. What we need I would argue is these are all nascent efforts that have really kind of grown up post great recession but I have a lot of hope for this area. What I would hope though is that some of the funders and foundations could actually encourage these groups to work more collaboratively and come up with a single brand that consumers and others would recognize. Because right now we've got lots of furor going on but to an average consumer, average millennial they don't know where to turn to get that kind of metric driven notions that an investor and a consumer could look to.

MR. KLEIN: All right so question, woman in the back and then if it's brief we'll have time for one more.

MS. TECLIZOW: Thanks for coming in today. Lillie Teclizow with American Banker. So you mentioned that the government should encourage innovation in finance. I was wondering if you have any specific ideas of what the banking regulators can do today to encourage FinTech innovation.

MR. WARNER: I think as the earlier panel said the banking regulator always starts with prudential safety and soundness, that's just their mindset. Candidly we probably want them to keep that focus. I think one of the most important things that could happen is within the regulators a lot more exchange between where FinTech is at more kind of back and forth discussion regulators bringing on more people that are versed in technology. I think this is less a single regulatory change then a recognition that the world is going to change and it is going to change a lot faster than the regulators recognize. They're going to have to get up to speed on the tech space to get that right. Not a very satisfactory answer but I don't know what the silver regulatory change that's going to get it right.

MR. KLEIN: Great. Time for one last question.

MS. AVERY: My name is Melanie Avery. I work with an organization called Veterans on the Rise. It is a 501(c)3 that serves homeless veterans and veteran families. My question relates to the banking fees. The scenario that you brought up at the beginning of the panel what will it take to convince the banking institutions to make adjustments in terms of how quickly and how efficiently they process those payments when they are making millions and billions of dollars of fees every year on that segment of the population that is living paycheck to paycheck?

MR. WARNER: Well I would argue one, people like me need to push the fed to speed up the process. And two some of our previous panel and others need to come up with products that will undercut the incumbent. One of the opportunities around FinTech as well as you can actually make it worthwhile to deal with much smaller amounts of capital and the friction costs should go down dramatically. This should be a great business opportunity but we've seen some well-intentioned but we've also seen some overreach even within FinTech in the last few years and we have to be careful about and I think that's again why transparency and being willing to call out the bad actors. I would argue the notion of individual to individual lending was a lot healthier space before all the hedge funds got in. So we have to just stay vigilant.

MR. KLEIN: Well, Senator Warner, I hope this chair was more pleasant than the dentist.

MR. WARNER: I was definitely a step up.

MR. KLEIN: Thank you very much. Mike I'll introduce them but this is actually certainly conscious for those of you who have been to a lot of different panels and events in Washington and around the country particularly in Washington I think we also have the regulators go first and industry go second. A little hidden gem in here was the idea that we'd have the industry go first so that we could then have the government and regulators respond.

I'm going to start by introducing folks as they get mic'd up. My good friend and former colleague Jonathan Miller is to my left. Jonathan is Deputy Director of Consumer Protection in Data and Research at the FDIC. Previously he served as a senior staff member on the Senate Banking Housing and Urban Affairs Committee where he served Senator Dodd's, Sarbanes, Kerry, many others. A graduate of Georgetown and Harvard. We are really pleased to have Jonathan with us today.

To Jonathan's left is Adrienne Harris. Adrienne has one of the coolest jobs in Washington. She is the special assistant to the President of the United States. She serves at the NEC where she serves our country and has been the leader on FinTech, helped host a White House FinTech event for those of you who were there. Prior to joining the White House, she worked at Sullivan and Cromwell. She clerked for the southern District of New York and has a distinguished legal career and also a public service career having worked for governors in New York, politicians in New Jersey and now we're blessed to have her working for all of us in the White House.

Last but certainly not least is Anjan Mukherjee. Anjan is Deputy Assistant Secretary of the Treasury and Counselor to the Secretary. Prior to joining that he served at Blackstone where he was a Senior Investment banker. Then you had a stint in the Clinton Department in Education in the Clinton administration. So really models of public service going in and out of government and the private sector.

So with this distinguished panel I thought we'd start off and the great thing about having regulators on the panel is that they're data driven and have resources to actually get data and information. So I thought we'd kind of go down and let everybody talk a little bit about the data and what they've seen from their actual time studying this issue. Jonathan we'll start with you.

MR. MILLER: Aaron, thank you very much for the kind introduction and to Brookings for putting on a really interesting panel, I enjoyed it. I learn something every time I do this. So I'm going to talk to you today about MFS for the little guy so to speak to make it work for all working American's. I'm going to talk to you today a little bit about our qualitative research the focus groups we did with underserved consumers, exactly the kinds of folks you heard discussed quite a bit.

So the FDIC has as one of its core missions the goal of expanding economic inclusion for the underserved. When we say expand economic inclusion we really mean bringing them into the banking system. May be a little old fashioned from the previous panel but that to us is where we really want our American consumers to be. So this is a key focus for the FDIC. We do a lot of our work in conjunction with a federal advisory committee called the Committee on Economic Inclusion a very diverse and interesting group. It is the focus of a lot of our consumer research, this is one piece. Another piece will be released next week, a week from today as a matter of fact is our biennial household survey on the under bank which is really a treasure trove of quantitative data. We also have offered a series of practical demonstration programs. For example, we've done a safe transaction account template which I think we heard the question about the veterans and the fees they suffer in the banking system in effort to create a transaction account that helps people avoid those kinds of fees. In fact, that template has now been adopted by a large number or very large institution is widely available.

So the focus of this particular qualitative research we did by hypothesis is that really we think mobile financial services MFS are uniquely positioned to address some of the needs that underserved consumers have in the financial system and thereby will be able to contribute meaningfully to more sustainable banking relationships. This is just a little bit of the research methodology. This is all available on economicinclusion.gov. All our data is on economicinclsion.gov. All the specific census data and the qualitative research data et cetera so I'll skip over the methods slide. This is really briefly what we found. What we heard from our consumers is they think of their needs in that first column along seven dimensions. You can read them out there. You can see long term financial management through access to money and the second column then is their perceptions as to how they see banks meeting those needs. And you can see on some of the key areas, control, convenience, affordability and access to money banks are seen as very weak in meeting those needs for consumers. And then the last column you see the same sets of consumers views of how mobile financial services compare as a channel for meeting those needs compared to the other options they have and you can see on those crucial needs consumer control, convenience and affordability and particularly they see that as really as superior. I'm going to talk a little bit more about that.

So what you see here in slide four is that mobile financial services really have a positive impact on three of the most important functions that underserved consumers, low and moderate consumers have and the needs they have from the financial system. Affordability, control and convenience. So control. They recognize that MFS can help them increase their sense of control through greater access to account information, we've talked about this through mechanisms such as automated balance alerts and up to date transaction histories. Convenience, low and moderate income consumers living paycheck to paycheck put a premium on their time and effort and anything that can save them the time, save them effort is really value added to them, it is really meaningful to them and they see MFS and in fact MFS is an effective way of saving time and effort. Finally, affordability the kind of transparency the kind of access to account information can really help consumers avoid fees that we've been discussing.

Now just to back up for a quick second there are other areas where banks are seen as strong. I'll talk a little bit more about that but an area we heard Aaron get a little passionate about access to money. This continues to be a real frustration for low and moderate income consumers. Consumers who are living paycheck to paycheck. A part of it is and to a certain extent the MFS is helpful but not sufficiently so. So this is an area where I think we all need to do a little bit of work and I think the effort to make the payment system much more responsive would be very important. MFS can deliver the information timely to the consumers and I'll talk about that in a second but the information, the data is not yet timely and that is what an improvement in the payment system will get to. So strategies to improve economic inclusion through MFS. This is really the core of the work that we do. So one, increase consumer control over finances by improving access to timely account information. So it is not just the timeliness of the information particularly until the payment system gets fixed it is the ease of understanding the accuracy of the information. So this woman decides to put her check in because she can afford to wait until Wednesday. It will show up on her account, she looks at her phone she sees what it is well does it tell her exactly the day that the cash, that the money is available to her or does it make it look like she's got money in her account that she then uses to write a check or she swipes and it turns out not to be there. So it is make it easy to understand as well as timely.

Expedite access to money, we talked about that. I can't underscore the importance of that enough. Again, paycheck to paycheck they put a paycheck or another credit into their account, they need access to that money. And they're willing by the way to see their money go out faster as well as long as they know what is in and what is out.

Third, making banking more affordable through better account management, alerts, low balance alerts, very important, very useful, actionable in real time. That's really important to them. They want to know while they're online at Target, can I afford to buy this. It informs their spot decisions and it can be incredibly useful to them.

Address real and perceived security shortfalls. They hear about hacking; they get very concerned about this. A lot of their concerns may not be accurate but that's part of the educational process that banks have to do. Many, many institutions have these tools available, unfortunately some of their account holders don't know what is available to them. So increased awareness of mobile tools, setting up mobile accounts when you open the account with somebody is probably a way to expedite that.

And finally, encourage long term financial management. This is an area where banks already have a competitive advantage. This segment of the population sees banks as very strong in this area delivering longer term tools to help people manage their finances into the future. For example, encourage savings, we heard some about that. Just real time, Just in Time education decisions that help set them up in the future.

Those are the kinds of strategies that we think banks can follow and the end result of this we hope is far more sustainable relationships between this group paycheck to paycheck consumers which I didn't realize was 75 percent of the households and their financial institutions.

MR. KLEIN: Great, thank you Jonathan. Adrienne.

MS. HARRIS: Well there is so many good things that Jonathan hit on that I want to build on as well and thanks for having me. It is good to see lots of familiar faces in the audience although the one drawback to this community and how tight it is that when I see people who I owe emails to it makes me want to turn my head. So I think there has been a lot of things I think that Senator Warner hit on and Jonathan hit and the first panel hit on and I just want to talk about two of those.

The first is it is very expensive to be poor. You hit on it in your story, some of my friends in the audience who have probably heard me say this too many times have heard me tell the story of a woman named Jane and take the audience through the first 15 days of her month and how much Jane will spend just to have access to her own money and it is a significant portion of her income. Some of that is just that financial services are not meeting the needs of consumers and some of it is just an old financial architecture I think all of which now we have the tools to remedy and improve.

The other thing, some of Jonathan's remarks and others is we talk a lot about financial literacy and education and protecting consumers from predatory products which are all good things but I often like to remind people nobody understands money better than poor people. To your point it doesn't matter to you if your check hits on Wednesday or Monday, there is money there. But for people who are paycheck to paycheck or very low income often they know when their check is going to hit and when the withdraw they made is going to hit their account and they know that cashing a check at Wal-Mart costs

$3 versus the check casher on the corner that is $5. These are all insights I think we would do well to incorporate into our policy making, into product development and whatever it is. And the insights that Jonathan brought up and others I think inform that very well.

So all of this talk that we have about FinTech I think whether it is from consumer facing innovations or systemic innovations I think should really keep those things in mind. It is very much what Quinten was saying. You sort of start with the end in mind, start with the consumer in mind. Even if you're thinking about an institutional innovation it should really be about the ultimate consumer and how is what you're doing is you're a regulator or a policy maker, private sector entity, how is it serving those ends. It was so funny to me when the Senator mentioned the social conduct it made me actually think about my law school application which I wrote all about the social contract and how going to law school for me was about learning the social contract from a government point of view but also thinking about because I've always had an interest in business and financial services what is the social contract mean in a business sense. And financial services are such an interesting place to think about the social contract from a social point of view and from a government point of view as well as from a business point of view. It is such a great place to think about the intersection of those things and how financial services and for profit entities and financial services serve these broader, social ends.

A lot of what we talked about at the FinTech summit in June was just that. What does FinTech mean for these broader social policy goals that we care about. What does FinTech mean for access to credit for small businesses. What does FinTech mean for income smoothing. What does FinTech mean for financial inclusion and financial health. Maybe you are actually pretty well off from a sense that your income may far exceeds your expenses but it doesn't mean you are necessarily financially healthy. How can FinTech help with that. We talked about FinTech and economic competitiveness for the country. So all these other things we care about and financial services in a lot of ways is at the foundation of that and as we think about FinTech and the evolution of financial services more broadly these are all the things that we should be thinking about whether we're regulators or policy makers or people in industry. So I thought that was so interesting that he brought up the social contractor really warmed my heart.

The other thing I just want to hit on a little bit is Jonathan mentioned spot decisions. As we think about all these innovations in financial services and there is any number of products now that have made it easier for people to save or manage their money but there are lots of products that make it easier for people to spend. It used to be that you would take cash and coin out of your wallet or out of your pocket and you had a very tangible sense of the money that you were spending and if the thing that you were getting in return was worth the number of bills you were counting out the same was true when you would be at a cash register writing checks. It became slightly less true when it was just a card that you were swiping, less true still when you're tapping your phone. And now as people sort of talk about geo location in payments, my phone knows that I'm in a place and I pick up an item and I can walk out the door and pay for it with literally without touching anything all like the Uber sort of experience. How are we helping people think about money and the way they are spending money? We are making it so much easier to engage in transactions but we haven't much changed the way we teach people about money in this environment where it is just so much easier to move money and manage money. So the spot decision to me is something that is really important. Regardless of your income or your socioeconomic status I sort of dream about the day where there is a product where I would walk into a store and my phone would say Adrienne you typically spend $200 in the grocery store. If you spend $150 and for me that probably means no Oreos and no tortilla chips or the horrible things I eat all the time like if you save $50 and take $30 and put it in this 529 and $20 and put it towards your credit card with all the appropriate disclosures and protections if you would go ahead and put the Oreos back but contribute to your 529 and put your thumbprint on the phone I mean that sort of education and innovation I think getting consumers at the point where they're making a decision. Again, regardless of your place on the income spectrum are kind of things I think are really exciting to me in the context of all the things that you've talked about before, consumer protection, systemic protections and the like.

So I think as we watch this space evolve again for me it just goes back to who is the consumer for any given sort of product or service, what sort of ends do we want them to be able to meet or objectives do we want to serve for them and then taking it up a little bit what are sort of the social ends that we want to be able to serve through helping these consumers reach their financial goals. As I think about my job as a policy maker and how we think about FinTech and how we engage with stakeholders in the eco system those are always sort of the questions that inform my dialogues with people.

MR. KLEIN: I think I just saw Nadim start thinking through what the app is to get the Oreos into paying down your student loans.

MS. HARRIS: Exactly.

MR. KLEIN: Anjan.

MR. MUKHERJEE: I was just going to say that was a pretty good elevator pitch so you start working on that business plan I'll help you. Well thank you Aaron for having me here as well as part of the obviously very important discussion that you are organizing here today. I wanted to hit on a lot of the themes that Jonathan and

Adrienne just mentioned. Through the lens, maybe a narrow lens segment of the FinTech world that we at Treasury have been doing a deeper dive in, namely on online marketplace lending. And then I'd love after that as we get into the conversation I brought up we at Treasury are doing a lot of work on financial inclusion on literacy, we're finding ways to expand access to credit. I hope we get a chance to talk about all of that.

I wanted to use my opening time here as maybe a little commercial for the work we've been doing on marketplace lending. We put out a White Paper, a paper recently here and hopefully we have copies here, hopefully you will all take one home with you and take a look at it. At Treasury as you've heard some of our other agencies describing we're essentially interested in ways to foster the growth of innovation, safe and responsible innovation and find ways to expand access to credit. We found that marketplace lending was potentially an emerging area of interest in that regard and so we decided to do a little bit of work on this. We issued a request for information in July of last year and received a tremendous amount of comment on the growth of the industry from a whole variety of stakeholders, borrowers and lenders, investors and policy makers and we have sort of compiled that work in the form of this report which we published just a few months ago in May. And I thought what I could do is touch on a few of the themes that emerged from this report as well as a few of the recommendations and some of the themes and recommendations we'll hit on the broader themes I think we're talking about here in FinTech today around data, access to credit, some of the risks et cetera.

So just to very quickly go through the themes and this is laid out in the report. The first thing I wanted to mention is that commenters really remarked that the use of data and modeling techniques for underwriting represents both an innovation and a risk. So that the emerging data algorithms that many platform lenders are utilizing could well actually expedite credit assessments and make credit available faster which is a good thing and reduce costs and pass those reduced costs on to the borrower in the form of lower rates which is also a good thing but also carry risks. So algorithms just because a result spits out an algorithm it doesn't mean it is perfect, it could result in unintended correlations or desperate impacts or fair lending type concerns. So that was one observation that commenters had.

Second, that there is clearly an opportunity to expand access to credit. We see that more on the small business side than on the consumer side. At the moment, most of the activity in platform lending on the consumer side is focused on the prime part of the credit spectrum and is really more about debt consolidation. But on the small business side there really is an opportunity to expand credit there. As most of you are aware coming out of the crisis small business lending has not picked up in the same way as lending to larger businesses has. In fact, if you look at commercial and industrial loans issued under a million dollars they have essentially been flight, slightly down since their peak level in 2008 where as CNI loans above a million have grown about 10 or 11 percent over that period of time. So there are structural issues affecting the small business lending market and marketplace lending offers an opportunity to address that to some extent.

The third theme that emerged was that these new credit models remained untested. A lot of these businesses obviously have emerged in relatively benign credit environments and should really be tested through a credit cycle and as delinquency rates or charge off rates start to increase obviously bears monitoring.

Fourth, commenters remarked that small business borrowers would likely require enhanced safeguards. So a suite of consumer protections that exist the CFPB has done a great job in really promulgating those. Those analogous protections don't necessarily all exist for small business borrowers. So for the need of greater transparency in that area was observed. Transparency in general was an observation that many commenters made. The need for greater pricing transparency, the need for greater transparency around standardization of pricing and rates. And then the last two themes one was that the secondary market for loans is relatively undeveloped. The back end markets for a lot of this activity while growing is still relatively nascent.

And finally commenters remarked that regulatory clarity could really benefit the market and that the government could play a very important role in helping drive the growth year but that there could be additional clarity provided around the rolls and requirements for the various market participants. I just wanted to make very clear, we received over 100 comments and we kind of bucketed them in those themes.

Now to turn to some of the recommendations that we did a lot of outreach and thinking on our posture in this space and so I just wanted to hit on a few of the key recommendations that we made in the context of marketplace lending. First is that again these all come right out of the themes I just talked about. First is that we support more robust small business borrower protections and would frankly support legislation to achieve that end. Second that marketplace lenders really should provide strong customer service across the entire value chain from origination all the way to the back end of repayment or even collections if that becomes relevant and that appropriate contractual or other mechanisms should really be put in place to align the interest of borrowers and investors better. Third on the theme of transparency we really like the idea and would promote the idea of creating a sort of private sector driven registry for tracking data in this area and this could be broadened out too other FinTech products in marketplace lending in particular and transactions on issuances, securization volumes on loan level performance, data, all of that I think would benefit the industry and benefit the public borrowers. Fourth recommendation was that for this technology really to have quickly expand access on the consumer side which as I remarked earlier is at the moment primarily focused on the prime side of the credit spectrum. It is important to somehow get to those consumers who are not as easily scorable under traditional credit scoring models, the thin file or no file type consumers. One way to do this is for marketplace lending or online platforms to partner with for example community development financial institution CDFI’s which for decades have been serving these populations and you can imagine a partnership between these two types of organizations where the algorithms and the efficiencies that a marketplace lender could bring is married up with the intimate sort of knowledge of the communities that the CDFI’s serve in a way that distress community credit consumers can open up. Fifth, as was discussed around the IRS in other context we’re very supportive of exploring innovative ways of accessing the data that the government has. Obviously this administration has been a huge proponent through the open government initiative of this type of effort to make data more accessible to entrepreneurs and innovators and others to really develop new products and services and in the context of this particular industry it could be very important and helpful to help drive the borrower experience and create safer and more accurate loan products.

And then finally parallel to the last theme I talked about what we’re doing at Treasury is facilitating inner agency coordination and marketplace lending through the creation of a standing inner agency working group for the sector. The purpose of this group is initially really just information sharing and sharing best practices but it also enables the member agencies of this group to identify areas where additional regulatory clarity may be warranted. So I just wanted to take a moment to kind of give you the lay of the land of the kind of work we’ve been doing in marketplace lending. We’ve obviously continue to very carefully monitor the industry and happy to expand the conversation beyond that.

MR. KLEIN: I thank you Anjan and from my time in government and then my time outside looking at coordinating the various regulators is a yeoman's task that often seeds great work that is fully underappreciated because nothing drives me angrier then when regulators go in opposite directions creating the kind of under certainty that the first panel said slows down innovation. So everybody, each of you brought up some really, really good points and I kind of want to put you on the spot a little bit to think across these different streams and topics to answer the question of where do you see the single greatest promise for FinTech to improve the lives for working Americans and why, how and how will it happen. The things I've heard discussed are real time payments, more and better access to capital for small businesses, lowering rates through improved underwriting, broader availability of credit and that kind of low file, real time information to allow decision making on the spot and probably a couple other have been brought up more appropriate information. So what is the single greatest promise for FinTech to actually affect working Americans?

MR. MILLER: So I would say from the point of view of the focus groups that we did is real time payments. It is an enormous frustration for working people who are living paycheck to paycheck not to know exactly what amount of money is in their account at any particular point in time. And again like I said they're willing to pay for example, mobile RCD again the picture version of your check deposit capture, they are willing to pay a modest fee to have immediate access to the funds. So again just because these folks time and effort is crucial and the effort of trying to figure out all right this check doesn't clear until Wednesday so I'm going to pay this bill so if I pay this bill tomorrow I'll probably be okay et cetera. So I would say real time payments which I think is coming but the faster that gets here I think the better service to the people we're talking about.

MS. HARRIS: Yeah I would say I think it is hard to pick a silver bullet but I think that one is such a good one. The faster payments are such a good one because you have people who I think you pointed out their income exceeds their expenses but it is these timing facts that send them to the predatory service providers or maybe not predatory but expensive service providers. And that I think the real time payments has the ability to solve for so many things and it is not necessarily a flashy new product it is just improving infrastructure.

MR. MUKHERJEE: I think we can all be in agreement on this one but you asked us to pick two right. I agree with them wholeheartedly on the faster payments and the value there. You think about things like real time payroll, products that are emerging which can be so valuable to the consumer in having access to that cash on a real time basis and not having to go out and make a two-week short term installment loan or something to tie them over. But I think that, you know, I touched upon access to small business but look I think, Aaron, the other high impact areas just expanding access to the consumer base if we can get there through notwithstanding the risks that I talked about. But the theory of the case is that more data, better data analytics will be able to drive lower class better credit decisions and therefore be able to maybe get at some of these thin or no file customers. Again it is aspirational to some extent now but again it is an aspiration that we hope we can support and I think could have real impact so that would be the other area.

There is one that you didn't mention which I think is also important which is security because from a wholesale financial services perspective that is very important but just from the consumer lens that we're talking about today we read about in the papers all the time breaches of people's credit card information stolen or some of the health insurers have been breached and PII in terms of health records which is really sensitive stuff gets out there. If you think about the way the internet was developed it was developed to focus on connectivity and inner operability. Those are features that were embedded into the design of the internet, security was not. Technology has the ability to change that. As we think about re-architecting these systems to embed security in a way that consumers valuable and sensitive information is protected.

MR. KLEIN: Let me pick up on that security point because I think there are a couple of things. First when you think about there is this kind of unique moment where we've moved from this -- security is cultural in a way. In American we give away our credit card. We don't allow a line of sight. We put it in the bill and the waitress takes it away. In Europe, that never happens. In Europe they have hard core, you've got to hold your credit card at all time, they have chip and PIN and in the U.S. we managed to in my opinion land in the worst of all situations which is chip no PIN. So it is no more secure, it is twice as long and it is just a horrible change of which I see very little value at. At the same time, you have phones with thumbprint technology which has to be far more valuable. I've signed all sorts of crazy stuff in the credit card line, that doesn't seem to matter what you sign. The thumbprint I don't quite understand sometimes with Apple Pay you still have sign. I've never been turned down because my signature didn't match the back of my card. The question about where is our legal and regulatory system ready for FinTech is where I'm going with this with security. Because there are aspects of the security system in FinTech where you go back in the history of Magstripe which is the technology that underlines credit, debit and prepaid. When you really do a deep dive you come down in a Seminole bill called the Electronic Funds Transfer Act passed in the 1970's with this new questionable technology about debit card that had this great liability question. Since (inaudible) in the home of economic studies I'll start with the Coats

Theorem, a famous Nobel lawyer Ronald Coats from the University of Chicago said the role of government is to assign property rights and then get out of the way. I think of EFTA as this great example of that where the government assigned the property right of liability that is what happens if your card is hacked or stolen, assign a very limited amount to the consumer $500 and all the rest to the banking industry and said banks if you want to have this new technology of debit cards and ATM's you fix the liability because we've clearly assigned it to you. And low and behold consumers adopted the technology because they knew it was secure, banks figured out the solution. I mean I think if we didn't have EFTA today and we proposed it we'd be laughed out of the room for putting all that liability on industry yet it has worked wonderfully. I think the bureau did a fantastic job in their prepaid rule fundamentally not only extending the EFTA regulatory structure of the seventies to prepaid cards which is kind of a huge innovation but fundamentally the same technology but then applied it to PayPal and applied it previously your PayPal balance if you got fingered an email was totally unprotected. If it went through a debit or credit card it was protected through this regulation. But PayPal to PayPal totally out there. This is an example to me how government regulation can modernize existing structure without going back to Congress to extend it. What I guess I want to ask Anjan is kind of like where you think first off do you kind of agree with that framework and secondly through the inner agency working group, through Treasury where is it that you think you guys can start looking at that legal regulatory structure, apply it to marketplace lending to let that space flourish or other areas within the existing legal authority.

MR. MUKHERJEE: Well that is a great question. Obviously, we live in a world where we have in the U.S. a relatively fragmented regulatory environment for the financial sector with independent regulatory agencies. I underscore the word independent. So what we do at Treasury is serve a convening and facilitating function.

So the idea would be as I mentioned at the very outset we are trying ways, I think our role is to find ways to foster innovation in a way that supports our policy objects around expanding access to credit, supporting privacy rights and so on and so forth relative to this discussion and cracking down on it when that innovation is actually running afoul of those objectives or law. Through this inner agency working group again as I mentioned if we do this right we will find ways to make clear to industry as some of the comments we've heard earlier what exactly where the obligations are and where we can to streamline or to encourage streamlining. Just to broaden the answer out a little bit I think government can play I think a really important role as a facilitator or an initiator and in some cases also plays a role as sort of a product producer to prime the pump so let me give you a few examples.

On the facilitation side we all said that faster payments are more important. So the fed has stood up this faster payments task force which is everyone should look this up, they have a great website, fedimprovedpayments.org I think it is called. So there is a faster payments task force and a secure payments task force both on the themes that we're hitting on here which is security as well as speed. This is a very broad public/private partnership. The fast frame taskforce has something like 300 participants, public sector, private sector, large institutions, small institutions, well represented. They have come up with a series of criteria 36 different criteria and what they're trying to do is literally re-architect and revamp the payment system. The fed sits on our critical payment infrastructure manages it and so they are very focused on these issues that we're talking about today. In fact, last week they took in about 20 proposals from the private sector that are meant to hit all those criteria such as they haven't been fully public on all of this but the things they have been public on they've said when the payment recipient received funds they will have 30 minutes to access it. The system has got to be open 24 hours a day. The amount of information that goes along with sending a payment should be minimal, shouldn't have to like show up with my birth certificate, so on and so forth right? So how do we make things more efficient, same on the security side. So there is an important convening function that I think will ultimately drive one of the other criteria is starting implementation by 2019 so this is not decades away. So that is one example of facilitating.

In terms of originating if you look at Treasury we oversee the direct express program where there are disbursements of benefits, social security and veteran's benefits that are put directly onto a prepaid card and there are 5 million people that have this card and many of them are unbanked or underbanked. So this is providing a real service. We just actually rolled out a mobile app that allows for real time account balances in that program and roughly half of that 5 million from what I understand actually have the mobile app and use it. So in that way the government can actually serve as an example in the kinds of products that they would also be promoting. So there are many other examples we can talk about but to broaden it out beyond regulatory clarity there is a facilitating function and also sort of an originating function that could be played.

MS. HARRIS: Yes I would underscore what Anjan said and I think there is convening in two senses which he has touched on. A lot of folks in this room know that they'll come to events like the financial inclusion forum that Treasury had or the FinTech forum at the White House. There is that physical convening but the marketplace lending White Paper is another sort of convening and facilitating that government can do. It is hard to find another entity that can solicit input from a broad eco system or digest it, package it and put it back up for the eco system in an authoritative and clear way. I think it is an incredibly important function. Similarly, on the operational side which Anjan also touched on I think whatever your feelings about chip and PIN or chip and signature are the government was able to that with its cards. As a private sector we're still and it set the example.

MR. MILLER: I'll address the EFTA example which I agree with you is a terrific example. So I think it is important to distinguish the method of delivery of a product from the product itself. So what the CFPB I think concluded was whether your prepaid account is on a card or on your phone it doesn't really matter. It still subject to the modality by which it is delivered isn't so important it is the nature of the product itself. Likewise, with online lending. All the same requirements apply to online lending even though it may be delivered purely electronically you're not sitting in a bank filling out an application and so forth. So I think I'm not sure we've yet been really confronted with a product that is a lot different than the kinds of products we've had. Mostly it is the way those products have been delivered that has changed and so I think you have to look reasonably at whatever the governing regulation is and seeing how it applies in those situations.

MR. KLEIN: I think you're right in that space. And then having the courage and go and actually implement the regs so the rest of the world sees it. We keep touching about real time payment system and the story that I started us off with about the woman and Jonathan pointed out depositing her check it got me angry because I remember starting in government. When our goal was to get the unbanked into banks, if you could only get people low cost bank accounts you would transform their life and here you are seeing a person with exactly that account being sent around the corner to cash her check to meet the real time nature. Something that both of you said about real time payment something else the bureau has done that I think is fantastic is this consumer complaint portal with the data. And when they did their deep dive in banks one of the big findings from the bureau was people were very upset about the email you get back saying your check has been approved for deposit because you get that back in real time. Do you guys all do that where you get that email? People think that means that's where their money is, the money is there when you see your check has been approved. And no matter where in the fine print of the email it says subject to two to three days of delivery blah, blah, blah, you read approved and you say got you. And in fact, that's created a lot of complaints in the database. My core question is as Jonathan pointed out I got a little bit passionate about this because it does anger me do you guys share the anger at the state of our real time payment system. I mean 2019 we're going to have an iPhone 10 before we have a payment system 2? Do you think banks are going to be able to fix this alone without waiting for the fed and the government? Will government fix it or will there be a group of FinTech entrepreneurs on our panel or out in San Francisco and the Bay area who are going to fix it where we wake up one day and payments have been uberized. Do you think it is going to be FinTech, banks or government or none or are we going to be stuck in this slow payment world for a while to come?

MR. MILLER: I don't think we're going to be stuck in the slow payment world for too much longer because there is this process ongoing. The Senator was talking about how long it took him to get his brain around the idea of Blockchain. I'm still struggling with that, it is complicated and you think about what essentially the payment system really means. It means that every actor in the economy is tied into this system and it is a medium of exchange for all the banks, all the merchants, it is a mess. So I think you're going to see a people come at it from a lot of different ways. It may not help you at all for example. So there is one group of large banks that is doing immediate funds availability and that is great if you're in that and have an account at one of those banks and the person you're paying has an account at one of those banks. It works, you're there. But it has got to be for everybody. So it is just, I think this is a place where probably government has a central role to play even if it is only as a referee but I do think you're going to have to have rules of the road that give access on a fair basis to all of the players.

MS. HARRIS: So I've been trying to stay away from predictions lately because I was convinced that the Red Sox were going to the World Series but I think it is probably an all of the above answer. We're not obviously decades away from the feds reaching conclusion with its work, I think they've done a great job pulling together lots of stakeholders and dealing with a fairly complex issue. In the meantime, there are products that have developed that have helped solve for that both on the banking side as you think about the banks that have been developing products and services to help you move money between banks a little bit faster, a little bit easier and then you have the FinTech's working on this as well with sort of work arounds or other products that get to the same end. So I think it is going to be sort of a combination but hopefully we'll get there sooner rather than later.

MR. MUKHERJEE: I think one of the fundamental issues is I guess we have incumbent payment rails and that's the world we live in and to rip all that infrastructure out of the ground and recreate it is prohibitively challenging I think. So we have to work around the confines and constraints that we have which is why I think, Aaron, it is very hard to snap a finger and come up with a solution and why no single type of entity can come up with a solution. Because as Jonathan said there are so many actors that are interconnected here. But I think there are pockets of really encouraging activity in each of these dimensions. So we talked about the government initiatives, the feds initiatives, the Clearing House which runs the chip system I think is the single largest private provider on the HCH system is working very hard on real time payments and settlement system. In fact, they're going to pilot in the first quarter of 2017 they say and that is very promising. That is real time settlements and payment. Now again, the reason why they can do that is they control that part of the infrastructure so they have the ability to on their system to innovate. So I do think there are pockets of activity here but obviously we share your concern. I would say that to make a little bit of a technical point there is law that covers your scenario on the books. The Expedited Funds Availability Act which is enforced through reg CC is a whole set of criteria there. But generally it is overnight settlement and when you don't have overnight settlement which is based on a whole set of criteria, are you a habitual overdraft person, is it over $5,000 whatever there is all this stuff then it will take longer for your check to clear. In that case you still get a minimum, if it is over $5,000 you get $200 the next day and so on and so forth.

MR. KLEIN: It is a fair point yet the check was good, the woman could have been given the full amount or near to that almost in real time in my opinion certainly with less exposure to the bank. Now the profit incentive is mixed in terms of their overdraft earnings if they deny her that and in point in reg Z the fed could also reduce the amount of time it has taken checks too clear. The only reason check clearing time has been reduced is because the number of check processing plants that the fed ran shrunk from 33 to 1 so now we all clear in one central zone but that is still two days. They could have shrunk that. I guess to predict on my end I think banks either through the Clearing House or otherwise or FinTech will innovate before government. I think one of those two will get there first, we'll see. The sooner the better for everybody. In this role let's bang it out a bit about where you think governments role is as a partner for FinTech? I mean three of you sit in three core positions leading kind of thinking through deeply government's interaction, is government going to be a partner for FinTech, are they going to lead are they going to follow are they going to be a service provider? What is going to be that kind of future of the government FinTech partnership?

MR. MUKHERJEE: I think I tried to hit this a little earlier. I think government can facilitate and it can also be a provider. At Treasury, we have set up what we call an innovation fund, it is actually called a Financial Empowerment Innovation Fund. And we have an appropriated amount of money through which we can actually fund really interesting research products that are meant to foster innovation in payments and savings. And so that's one example where government can get involved. There is a really interesting case in this area there is one grant that was given to an organization called Banking Up which we'll talk about more, I think Treasury will sort of roll out a little bit at some point in the future but it is a research project and it is a pilot project and it is really about low income consumers that have a very solid history of responsible spending and savings using prepaid debit cards will then be issues credit cards. A mobile app will be given to them to help them manage their debit and credit cards and also to push out useful financial management suggestions. So this is the kind of thing that we are funding. It is small scale; it is a pilot but the idea is to find innovative ways to actually get at some of the issues that we've been talking about today.

MS. HARRIS: One way I think about this is the facilitation point but one of the things I really enjoy about my job is I can think about all these questions as it relates to FinTech but because the breadth of what we do is so expansive. If you think about what the President has done for innovation at large whether it is the Open Data initiative, whether it is Visa's for entrepreneurs, demo day at the White House which is all about inclusive entrepreneurship and brining underrepresented groups into the fold. My favorite was a group of little six-year-old girl scouts who invented a page turner for those who had disabilities and it was made with Legos it was very cute. But there are all these things that we don't necessarily think about as fostering innovation in a FinTech space per se but if you can set the stage for innovation more broadly through immigration policy, through opening the vast stores of government data and all these things that will ultimately help the FinTech eco system among others. And so when you touch as many things as Treasury does or the White house does being able to see the interaction between these different areas and making sure it is all sort of rowing in the same direction I think is an incredibly powerful function.

MR. MILLER: I would just say the FDIC is a bank regulator and bank supervisor. So we have a little bit of a different function I think than Treasury and the White House. We really think about this in terms of the standards of the interaction between the FinTech industry and FDIC insured, FDIC supervised banks.

MR. KLEIN: I think Adrienne made the key kind of observation about the social contract and in that I always think that a bank is a charter from the state or the federal government it is not a license. And the social contract of a charter is somewhat different intellectually than that of a license. The license is a permission, a charter, it is fundamentally a state sponsored thing. You probably know the legal history better than I do about where it goes back to the king or queen who could grant a charter. I think the news that dropped on political pro or somebody dropped that one or your fellow regulators actually does give charters is going to be putting out in November the idea or some White Paper there have been conversations about FinTech charters so I think we're going to get back to this conversation both from the social contract space the kind of roll of the regulator and the charter giver that Jonathan points out and fundamental as Anjan points out the whole point of this is to grow the economy. The reason that we have FinTech is so that people can use their money better, faster, smarter, gain access to credit, cheaper, wider so that we can have this entrepreneurial area. So I promised that we would be able to get out by 4:30 for everybody who wants to get to or home to watch the Nats game. I will not give predictions on game five but I want to thank you all and everybody in the audience for this wonderful conversation.

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