FHFA Listening Session:
Finance Technology in Housing Finance
October 6, 2022

Jason Cave: Well thanks for joining the listening session today. My name is Jason Cave, and I'm a Deputy Director at FHFA, heading up our FinTech strategy work for the Agency. I am pleased to welcome you all to what I'm sure will be the first of many productive discussions on the current and future state of financial technology and housing finance, as well as other important areas that touch upon the mission of the Agency, the Enterprises and the Banks.

Like many of the FinTech firms our office is covering, you were all here at the beginning, the seed round, so to speak, as we start to build a foundation to better understand collectively how technology has been used to improve efficiencies in housing finance, and where there is scope and scale to do more.

Since we launched our new office back in July, and issued the request for information on FinTech and housing finance, we've met with over 50 market participants. Some people asked me point blank, why is the FHFA getting into the FinTech business? What do you expect to achieve and add to a process that has already been discussed, debated and decided for many years now?

And then there were other people, many of you who are on this call today, who asked not why we are engaging in the FinTech space, but rather, why did it take us so long?

While crypto and stable coin loom large in the Washington policy circles, judging by the number of participants joining us in this virtual audience today, I believe we have over 400, give or take, and about 25 who are coming to share their views with us today; I think it's fair to say that the current future state of mortgage tech is very timely and relevant.

Now my team, who did an amazing job pulling all of this and many other initiatives together since July, and I'm going to quickly mention them all, Anne Marie Pippin, you'll hear from her in a little bit, Liang Jensen, Rebecca Cohen, Jonathan Coppage, and Anu Rambaran. They told me that today was a listening session, and that my job was to do the listening.

So with that in mind, let me introduce Chris Dickerson, who is a Senior Adviser to the Director, long serving executive at FHFA. And a great colleague and thought leader on the issues we'll be discussing today. So take it away, Chris.

Christopher Dickerson: Well thank you, Jason for that generous introduction. Director Thompson sends her regrets that she cannot be here to kick off today's listening session due to a scheduling conflict. But on her behalf, I want to start by thanking all the speakers who are here today to share their thoughts on FHFA's recently issued RFI on FinTech and housing finance. Your feedback will serve as the foundation on which we will collectively and responsibly foster innovation and financial technology in the mortgage process.

I say collectively, because you are all key stakeholders in mortgage process, and all have a vested interest in working with us to safely reduce the cost and complexity of that process.

The agency lost -- launched the Office of Financial Technology in July to better understand uses of financial technology in the mortgage sector. We expect that the thoughtful use of technology will support the development of sound policy and risk management at our regulated entities.

Since its launch, the FinTech office has been gathering mortgage finance data, and reaching out to stakeholders for their thoughts and ideas. We've received some interesting views on the role FinTech can play to make the mortgage process faster, cheaper and more equitable in a safe and sustainable manner.

The mortgage process is paper heavy, labor intensive, and time consuming. From application to closing, the processing time remains largely unchanged from a decade ago, and origination costs have only gotten worse. We believe technology can greatly improve the situation.

In addition, financial technology and innovation are making an impact in the secondary market such in securitization, trading, capital markets, and in making compliance and regulatory processes more efficient and less time intensive.

Lastly, we recognize that technology can be used in different ways to make credit more accessible and make mortgages more equitable for underserved communities. But we need to be aware of any obstacles that may stand in the way of our FinTech goals.

As mentioned in our RFI, we are looking to identify any barriers to, or challenges in implementing FinTech in the housing finance

system, while also focusing on supporting equity in the finance landscape for both homeowners and renters.

FHFA’s FinTech office is open to talking with market participants and stakeholders to understand the opportunities, risk, challenges of applying FinTech in the mortgage finance space. We encourage you to respond to our RFI, which remains open through October 16th.

This listening session is just the first in a series of stakeholder engagement activities planned by the FinTech office. We look forward to hearing your views on ways in which we can better advance and adopt technology to provide borrowers with better value, and improve affordability and access, particularly given the challenges the mortgage market is now facing.

I know that Director Thompson is eager to hear what comes out of this session. Thank you again for your participation.

Anne Marie Pippin: All right. Thank you, Chris. Hello and welcome everyone. I'm Anne Marie Pippin, I’m an Associate Director in our Office of Financial Technology and the Office of Governance and Strategic Initiatives in our Conservatorship Division. And I'll be emceeing the rest of the event.

And so as you've heard from Jason and Chris, we've invited you to meet with us today in order for us to listen to your input on the use of FinTech and innovation in housing finance. Anyone who participates in these discussions is also welcome to submit written feedback, as Chris and Jason mentioned in response to the request for information posted on our website. And the deadline once again for responding to the RFI is October 16th. So you got about another week or so there.

Before we move forward with the agenda for today, I have a few important housekeeping items. The listening session is not to be construed as an advisory group or body. However, we do plan to summarize the feedback gathered at today's meeting, and post a transcript on the FHFA website, along with today's materials.

During today's session, FHFA will not discuss the status or timing of any potential rulemakings, and we're not currently considering a rulemaking related to this topic. If FHFA does decide to engage in rulemaking on any matters discussed at this meeting, this meeting would not take the place of a public comments process.

FHFA may summarize the feedback gathered at today's meeting, and a future rulemaking document, if we determine that a summary would be useful to explain the basis of a rulemaking.

Also, please keep in mind that nothing said in this meeting should be construed as binding on, or a final decision by the FHFA director or FHFA staff. All feedback offered in today's session should be directed to FHFA, without reference to the remarks of any other participants.

Finally, we are recording this session and will also prepare a transcript of the meeting, including your names and organizations that you represent.

As I mentioned, we will post the recording and the transcript on the FHFA website along with any materials that our presenters use today. And now to the logistics.

We have a great lineup of speakers today. Each speaker will have six minutes to speak. Midway through we'll have a short 15 minute break. This event is all virtual. So speakers, when it's your turn, please turn on your cameras and unmute yourself.

We ask that when you're not speaking, please mute and turn your video off. I will remind you at the five minute mark that you have one minute remaining. If someone does go over their time, unfortunately, I will have to interrupt in order to keep us on schedule. I do want to be mindful of other people's time.

If that does happen, speakers are welcome to submit written remarks and their full comments will be included in the public comments record.

For those that sent us presentations to be displayed, my colleagues will be sharing their screen in Zoom to display the presentation. Please let us know verbally when to advance to the next slide.

The way I will proceed is by queuing up the first speaker and I'll also give the next speaker a heads up that they will follow right after. My sincere apologies in advance if I mispronounce any names, I'll certainly try to do my best.

Okay, so let's get started. And thank you again. We really look forward to the insightful input from you all. With that said, I'd like to turn it over to our first speakers, Hansel Dobbs and Jillian White from Aloft Appraisal, who will be followed by Howard Lin from Cielway. So Hansel and Jillian, please unmute yourself, and you may begin.

Hansel Dobbs: Hello, my name is Hansel Dobbs. I'm the Chief Appraiser of Aloft, a property technology company. I'll be focusing my comments on Prop Tech, the appraisal industry and comparable adjustments.

An appraisal adjustment is a positive or negative line item on the appraisal form and is required in most cases to form a value opinion. Inaccurate adjustments oftentimes means an inaccurate valuation. It also speaks to the inconsistency we are seeing from one appraiser to another that is often cited in the context of bias and appraising.

Real estate valuation is at the core of Mortgage Tech, Prop Tech, Reg Tech. Yet we don't standardize how adjustments are derived. If there's no standardization in how appraisers make adjustments or how appraisals are rated for adjustment accuracy, we can't fully grasp how real estate is being valued across our country, nor can we achieve the consistency and fairness FHFA wants.

Many of the methods that appraisers use today to derive their adjustments are the same ones we've used for decades. Property Technology has made performing those methods easier. But I think we can do better.

For this reason I propose the FHFA pay particular attention to adjustments and appraising and what we can do better regarding this topic up and down the mortgage transaction lifecycle, to ensure a higher quality and more fair valuation. And now I'd like to turn it over to my colleague Jillian White.

Jillian White: Hello, my name is Jillian White, and I'm on the Executive Team at Aloft Appraisal as the Head of Growth, and I'm also an appraiser of 19 years. And so my comments are going to focus specifically on question F2 In the RFI, which states, *What are some topics for a tech sprint?*.

So to piggyback off of what my colleague Hansel was talking about, Aloft would like to recommend that one of FHFA's tech sprints be centered around comp adjustments. And there are three main reasons why we think this would be incredibly beneficial.

The first one, if adjustments are handled properly it will help reduce the overall cycle time of the mortgage lending transaction. There are many touch points between the borrower and the salesperson and when there is a value dispute, a disproportionate number of that back and forth correspondence is due to the appraisal.

Within appraisals, whether it be a reconsideration of value or just revision requests, the most common reason centers around the comps and the adjustments being made. So if some of this back and forth can be eliminated, the mortgage lending process is able to floor -- flow more quickly than it is currently.

The second reason is, it's an opportunity to really intensify the competition within Prop Tech. So if there's a prop tech company that is focused on the appraisal space, oftentimes the competition is really focused on price and on turn time. However, there's a very limited focus on the actual accuracy of the valuation products that are being put out, and how the adjustments are being derived.

And so I think it's arguable that the accuracy of the valuation products being put out by the prop tech companies are of the greatest importance. And so we believe a tech sprint would help refocus the attention on that versus just price and turn time.

And the third reason is that a tech sprint centering around comp adjustments, would also help greatly in supporting equity to underserved markets, and underserved populations. A lot of the conversation around appraisal bias has gained traction because within appraisals, we live within the domain of opinions. Anything that can be done to move us away from opinions and towards standardization, data driven information that can be applied in the same way from appraisal report to appraisal report, and from appraiser to appraiser would help tremendously in solving for this problem.

So once again, my name is Jillian White with Aloft Appraisal, and we hope that the FHFA will take into consideration doing a tech sprint surrounding comp adjustments. Thank you.

Anne Marie Pippin: Wonderful. Thank you, Jillian and Hansel. Next up, we have Howard Lin from Cielway, then after Howard will be Kenon Chen, from Clear Capital. Howard, over to you.

Howard Lin: Hello everyone. I would like to thank FHFA to give us this opportunity to share our knowledge on the innovation technology. I like to work with every members in this community to advance the -- this industries while embracing the challenges in the market.

So it's my pleasure to present to you the Cielway's comments on the innovative technology that we share -- want to share with our community. So next slide, please.

So for Cielway, we have our, you know, innovative technology platform built on the foundation of Big Data, Data Science, coupled with Machine Learning and Risk Management for mortgage-related products.

So when we talk about data we have, you know, vendors and GSE help us curate it more than 20 years of historical data. We also, for valuation purposes, we need to do another, you know, potentially

30 years of forecasting of records. So in speaking of data, obviously you have huge amount of data.

And when we talk about the mortgage, I always joke with my friends that, you know, we treat mortgage loans as wines, because we put them into vintages, we label them with appellations. For us, in order to fully taste the flavors of these loans, we need to understand the microclimate of these loans, such as the socio-economic demographic information.

We also combine this information with many other more -- a ton of the data such as the health data, pandemic data, and, you know, for example, the real climate data.

So for us, we have so many different data in terms of the volumes, we have probably 30 plus millions of loans in this our country, and billions of records. So the next question is how can we handle this data properly? And for us though, Cielway has invested heavily into designing the advanced algorithm to handle this billions of records at scales and very efficiently.

So most of the jobs can be done in minutes. So the idea is to let the algorithm to do the heavy lifting of data transformation and normalization, so that institutions can have good quality data to begin with. And once we have that, then we can have all the intelligent and interesting predictive analytics built on top of that. Next slide, please.

So our message to the industry is that we need the first to get the data right. So in reality we have, you know, often come across with messy data, corrupted data, missing data, we have data with different format, different schema, different symbols. So our solution is to really help the community -- to practitioner to have a good -- properly handle this data with validation and corrections. To obtain a good quality control and maintain data consistency.

So in practice we have, you know, hundreds of business rules to -- built in to handle these obstacles. And in practice, we have institutions that buy and sell, you know, a large number of loans and in order to transfer this different data tape between different institutions, we also have cases like, you know, the institution need to upgrade their systems. They have data scattered around in different places, for example, different legacy systems.

They then need to be put together and be transformed into the newly upgraded one. So eventually, we look forward to industrial standardizations that can help us to resolve this issue. So anyway, so

the -- by tackling this data issue, we help minimize the compliance risk and operational risk in a day to day transactions. Next slide, please.

So once we have good quality data, then we can help institution with the portfolio analytics. So and in the heart of which is that we are doing the data aggregation and stratifications. So we put data into different groups, cohorts. Once we have that, then we can monitor and analyze the performance metrics.

So for origination, so we are trying to monitor the APR and origination costs of the loans between different race and ethnicity groups. So the quantification of information can help the industry to understand the fair lending better -- practice better for servicing. So we can look at the cohorts of the data, monitor the default rates, prepayment speed and loss severities by different groups.

So for secondary markets, we also need to add another layers of information such as macroeconomic information, pricing, rates of movements. So the essence is that to help institutions to the better their execution performance. So we try to come up with a good behavior model to understand the loan performance under different circumstances. Next slide, please.

So I want to conclude with a very simple case study. So two weeks ago, we have Hurricane Ian that landed in Florida. On that same day, I put to -- quickly put together the GSE portfolios loan level data with the alternative data, hurricane information from our National Oceanic and Atmospheric Administration --

Anne Marie Pippin: Howard, you have one minute.

Howard Lin: Okay. So within minutes, I can narrow down to the number of loans in this impacted areas. So I can imagine that if I hand over this data to our Enterprises, they can quickly inform the servicer of these loans to reach out to the borrowers for any loss mitigation process. So this is a very simple but impactful way of using big data. Next slide, please.

So our motto is that we want to do more with less, less time so we can free up the human resource to be more productive and add more value and benefits to our homeowners in this country. Thank you.

Anne Marie Pippin: Thank you, Howard. Okay. Up next we have Kenon Chen from Clear Capital, then after Kenon will be Scott Olson from Community Home Lenders of America. Kenon, the floor is yours.

Kenon Chen: Well hello, my name is Kenon Chen, I'm with Clear Capital. I want to thank Director Thompson, Deputy Director Cave and the FHFA team for the opportunity to speak today. Clear Capital is a global real estate valuation technology company providing property centered insights to clients across the entire real estate and mortgage industry ecosystem.

And I want to reframe a little bit the definition of FinTech. FinTech is yes, the intersection of technology innovation and financial services together. But more importantly, I think it creates a powerful tool to make a positive equitable impact on people sooner, and sooner is the -- is really the key word there.

For the past few years, the speed of innovation and depth of investment in the housing finance space has accelerated, driven by FinTech and especially real estate related FinTech. Likewise, the FHFA is in an extraordinary position to drive -- driving finance. And we are absolutely in support of this healthy collaboration between the FinTech industry and the FHFA to drive positive change sooner.

The recent events over the past couple years, and leading to things like the creation of flexible policies during the height of COVID, have provided unique knowledge that we believe that FHFA should act on as soon as possible. By partnering with FinTech, the FHFA can help make those flexibilities more mainstream and enable more people to benefit from adoption of now proven models.

At Clear Capital our mission is to build confidence in real estate decisions to strengthen communities and improve lives. And that's why we're committed to specifically digitizing, modernizing and streamlining the appraisal process so that decisions can be made closer to real time with greater certainty and accuracy.

The traditional appraisal processes lagged behind recent digital mortgage movement and innovation. And it's time now to facilitate a more moderate valuation process that is consistent, less subjective, unbiased and transparent for every homeowner, and in every community.

So I want to highlight three specific areas that I think would be great to focus on and develop workstreams around. Number one, property data standards need to be applied earlier in the process. Right at the decision point where homeowners, home shoppers are trying to understand a property, they deserve an accurate understanding of that property's characteristics and what drives value for the most important purchase that most of us make in our lives.

Real estate listing data, which is relied upon by appraisal should be created digitally using consistent standards that can be relied upon by the lender community, by investors and by homeowners. This is paramount to a fair system. In fact, just today in Evaluation Review, an Arizona appraiser who was concerned about MLS data accuracy was quoted to say, “If we did not have credible data this of course affects the credibility of the appraisal report, which in turn affects the public.”

So appraisal standards that include requiring things like digital property data, this could be floor plans, other types of digital creative data, this will help to influence this change upstream of the mortgage process in real estate where it really needs to start.

Focus area number two is appraisal modernization, which should be accelerated. This terminology, modernization, I understand it's kind of loose, it can mean a lot of different things to different people. But the way that we define it is that, number one, this is about moving away from a traditional one size fits all process to a risk based spectrum of options.

It's also about leveraging technology to convert the appraisal inspection from an analog process, clipboards tape measures, to a digital capture process. And it's also about creating a scalable, diverse appraiser workforce that pairs the right human expertise with the right tech at the right time.

So that's why we fully support the roadmaps and vision that both GSEs have laid out within their equitable housing finance plans at the direction of the FHFA, including appraisal modernization. Because to us, the demographics of the occupants of the home should never be a factor in the valuation of the home.

So I appreciate even yesterday, hearing Director Thompson speak about the need for things like hybrid appraisals, and for us as an organization after completing over 230,000 GSE hybrid and desktop appraisals, and after we've digitized over a million properties, we can confidently say that hybrid appraisals are ready to become widespread policy and are able to be supported by the FinTech ecosystem.

And right now is the best time to do it. The current market conditions have created the capacity we need to make this transition.

The third area of focus is really about automated models. And we believe that automated models can be employed with confidence.

We have to ensure that Automated Valuation Models are transparent and understandable without stifling innovation. And that's a key next step to providing more tools to the lending community.

AVMs used the right way, at the right time, have been proven to increase consistency and reduce the risk of human subjectivity.

Anne Marie Pippin: Kenon, you have one minute.

Kenon Chen: They also can be utilized to provide a benchmark to reduce human error when it comes to things like automated appraisal review and underwriting. With the advent of computer vision, interpreting photos, automated underwriting has advanced to the point where we can understand if a property is undervalued or overvalued, at scale, and more importantly, why.

So in conclusion, we propose that technology products and solutions are not really successful until they make a truly positive and lasting equitable impact on people. It's time to bring the appraisal process fully into the digital mortgage world. And the FHFA can help by accelerating policy innovations that are production ready and battle tested, such as appraisal -- such as hybrid appraisals, and stronger data standards.

We believe that this is going to allow us to tackle one of the greatest opportunities left in mortgage to create a more accessible lending process that works in every community. I think -- thank you so much for the opportunity to speak.

Anne Marie Pippin: Thank you, Kenon. Okay, up next we have Scott Olson from Community Home Lenders of America, and after Scott will be Chris Karlsson from Figure and DART. Scott, over to you.

Scott Olson: Good afternoon. I'm Scott Olson, the Executive Director of the Community Home Lenders of America also known as CHLA. We appreciate this opportunity to speak today. It's a great opportunity to listen and to learn and so we salute Director Thompson and her team for setting up this process.

I'm here today to discuss the important FinTech issue of mortgage software and related services which are essential to the mortgage loan origination process.

Specifically, I want to discuss why on June 8th, CHLA sent a letter to the Department of Justice and the Federal Trade Commission, asking them to disapprove the proposed purchase by Intercontinental Exchange, also known as ICE of Black Knight.

Our letter copied FHFA Director Sandra Thompson and FHA Commissioner Julia Gordon, because the services are integrally related to the mortgage loan manufacturing process.

CHLA only represents small and to some extent mid-sized lenders, predominantly independent mortgage banks. That's why this issue is critical to us. Our members don't have the economies of scale to develop their own proprietary products in this area. So we're dependent on third party providers like ICE and Black Knight.

So why should FHFA, Fannie Mae and Freddie Mac care? Well the answer in our minds is simple, because it directly affects GSE borrowers. These software and related services are integral and necessary to the process of originating loans. So in a competitive market, which we have, these costs will generally be passed along directly to borrowers.

I want to be clear, we think ICE and Black Knight provide great products. The problem is if this transaction takes place, the combined entities would then control around 75% of the market for third party software services for lenders that don't use their own proprietary systems. And that's all but the very largest lenders.

Additionally, the dominant market provider of services for loan origination, ICE, would be combined with the dominant provider of services for servicing, Black Knight.

Let me try to quantify this. The average current contract for a basic LOS service offered by ICE is around $125 plus per loan. On top of that, there's other optional services that can add as much as $100 a loan. And then there are these toll or access or click fees. We actually characterize them as junk fees which are another $50 a loan.

Basically, when you add all these up, you can easily exceed $300 a loan. And this is of course going to get passed along directly to the consumer.

Additionally, this can be magnified if you have different parts of the process. If you have a mortgage broker that incurs these fees, then sells the loan to a mortgage banker, and then they might sell the loan to the aggregator investor, and then they might bring in a sub-servicer. So you can have -- you could go through this process with each of the players in the process.

Specifically, I mention these toll fees, I mean really, it's kind of interesting, it's something that is charged for our vendors, our lenders vendors in a transaction to get access to our own data. And

this can add about $50 a fee. And these get -- you get hits for this every time you have like an appraisal, a credit report, title insurance, flood certification. And we think these are excessive, we think they're sort of tantamount to what CFPB characterize as junk fee. So we've asked CFPB to look at that.

Another concern in this whole process is the potential practice of tying, which we mention in our letter. And tying is where service providers pressure or force lenders to use optional services that the lender doesn't want or need. But effectively, the lender kind of had no option except to accept them because they need the basic loan origination services.

And we do have some anecdotal examples of this happening and in a more concentrated and monopolistic environment we think these concerns would be exacerbated.

But I want to get to the heart of our concern, which is basically the vulnerability of our members when they go for renewal in a system, in a situation where these software services are absolutely integral to them executing loan transactions.

These contracts vary from three to five years. And so we're sort of at the mercy of what the vendors want to charge when they renew the contracts. And if we don't want it -- if a lender doesn't want to stay with an existing system, like ICE, they have very limited options. They could try to develop their proprietary system, but this takes -- is complex and takes $5 to $10 million to build out.

They could use a proprietary system of a large bank, or IMB, which is a competitor. And this doesn't make a lot of sense. Or they can transition to a different service or prop -- service provider.

Anne Marie Pippin: Scott, you have one minute.

Scott Olson: Unfortunately, the pro -- it takes time to make that transition. And for our lenders, we can't afford to be down for even a few days. And so that presents this situation of vulnerability. And so we're concerned in a more monopolistic environment, we'll have to sort of take a, you know, take very large price increases if they're forced upon us.

So in conclusion, we hope the merger won't be approved, but if it does, we've identified some suggestions that could ameliorate the damage. One is getting rid of these toll fees or junk fees. Two is requiring some sort of transition when a contract expires so the lender can move on to a different service provider. Three, we think these providers like ICE and Black Knight -- ICE and Black Knight

should be barred from ever owning or investing in a mortgage lender or getting loan referrals from that.

And there should be some limitations on the data privacy, barring them from selling this consumer data. So again, these are important services --

Anne Marie Pippin: Scott, you're at time.

Scott Olson: Thank you. We hope you'll take a look at this. Thanks.

Anne Marie Pippin: Thank you, Scott. Okay, Chris Karlsson is up next with Figure Technologies and DART, and after Chris will be Brent Chandler from FormFree. Chris, you're up.

Chris Karlsson: Thank you. And that was great Scott. And thanks, Anne Marie and team for setting this up. I will send you all some extra hoodies for the next iteration so we can all be a little more FinTech start-uppy.

So we at Figure and DART are really excited about FHFA's engagement with all this cool emerging tech. And our little corner of that world is building blockchain based applications that speed up and flatten markets.

So five and a half minutes is pretty tight. The major thing I wanted to hit on was the importance of considering secondary market when evaluating the case for FinTech in the mortgage ecosystem, primarily increased efficiency of the market, but also expansion of that marketplace.

A lot of the studies have shown that innovation these areas have direct and measurable impacts on credit supply, particularly for underserved markets. But also on the primary origination costs as well.

And on that first point of increased efficiency, a lot of the mortgage tech innovation we've seen is around making the customer acquisition and origination processes more efficient. Once that customer is ready to sign docs, you're really just refocused on to the next and don't look to beyond origination and initial delivery to how can we improve the rest of the asset's life.

But the major stakeholders of the secondary market definitely need to be based investigating and investing in technology that makes the rest of the asset lifecycle more effective and efficient. eNotes are the first and most obvious play here, but the slow adoption, it really isn't as mind boggling as it might seem when you consider the fact that on the one hand, the bulk of the first order benefits of

electronic transactions are realized in the secondary market. While on the other hand, the cost of switching to eNotes is often estimated up in five and six figures and formed solely by the originator.

And so that misalignment of incentives is a significant problem to correct on the way to a more efficient secondary market. Beyond that, there's significant efficiency to be gained through cheaper transaction costs, elimination of price and settlement risks, serious reduction of intermediaries from delivery all the way past securitization, really streamlining cash movement, limiting trustees roles, eliminated custodians, paying agents, multiple clearing houses.

And ultimately I think leveraging digital assets both eNotes and tokenized mortgage backed securities, on a financial services oriented blockchain offers an elegant end to end solution to the connectivity, friction problems that this current siloed legacy system dominated secondary market.

And finally, there's a significant data integrity gap for this holistic mortgage asset. So when you think about your asset, you really think about your eNote which might be in a vault. But your proof of ownership, your origination docs, or servicing records, all of that asset information, which is critically important is spread out across five to ten different systems, that aren't talking to each other, not up to date. And you're not tracking audit update history, like you do with the eNote.

Ultimately, you're not valuing the entirety and the integrity of your data asset, but you're really paying for it explicitly to various registries, custodians, e-vaults, doc storage vendors, LOS transaction management systems, etc.

And implicitly, you're paying for that via slower and riskier transactions, repetitive diligence, service or onboarding data transfer lag, extended enforcement times, and unnecessarily high litigation success and settlement rates. All of which drive worse MBS and borrower pricing.

The second point about expanding the marketplace, I know the time is short, so I just want to hit on it for a second. There's a bunch of fascinating use cases for blockchain based eNote assets that can tap nontraditional liquidity sources and institutional investment, insurance, crypto in real estate, or real retail investment markets.

And again, all of that expansion is to the borrower's benefit ultimately impacted -- they'll be less impacted by the cyclicality of the mortgage markets. Appreciate FHFA being so engaged in this topic, we look forward to working with them some more. We're really excited to engage with you on some of the more exciting emerging technologies to improve the overall mortgage marketplace.

Anne Marie Pippin: Thank you, Chris. Okay. Up next, we have Brent Chandler from FormFree, and after Brent, we'll have Rick Lang from Gateless. Brent, over to you.

Brent Chandler: Okay, great. Thank you so much. It looks like my camera has stalled. So I'll start without it.

Anne Marie Pippin: We can hear you okay.

Brent Chandler:* First, I would like to thank the FHFA and the team. Director Thompson really directing a (inaudible) focus on empowering consumers. (Inaudible) I had the pleasure of listening to Director Thompson yesterday as she shared at the Housing Wire.

What I would like to say is FormFree is a leading fintech innovator focused on the partnership and mission aligned with the FHFA to empower consumers with their own data.

We believe that everybody borrows money and everybody has the ability to pay some amount. And we are charged with helping satisfy and collect that information to make the data intelligent. Its our mission to make lending more inclusive by capturing that holistic view of the consumer and making that available both to the consumer as well as to the lenders as a non-fungible token.

Our vision is to leverage source data and data driven intelligence to usher in a new era of transparent, fair, and liquid credit markets.

There are many challenges that we face in this current environment today. As I mentioned, the wealth gap is certainly one that we focus on, how we can use technology to help narrow or close that wealth gap. There are ways that we can work together in offering financial technology solutions around a seamless experience with that consumer. We also understand we need better and more inclusive lending models. This is, again, looking at the credit box. We believe that the credit box is narrow and leaves a significant amount of people underserved, socioeconomically, out of homeownership opportunities.

Financial technology can provide a solution to address these issues. We see that data plus the intelligence based with analytics assessing a person's ability to pay can truly drive a better understanding of risk, both transparent to the lender as well as a deep understanding of the consumer. As a consumer is empowered with their own data, they can make decisions and choices prior to entering a loan and

** Remarks as prepared*

truly understand affordability, propensity, and sustainability of staying in that home.

Consumer permission data is the key. The data has to be understood and trusted. It must be source data. We see a model where truth overrides trust and that access to that information can be dynamically accessed, assessed, intelligence using natural language processing machine learning and non-bias AI will assess that individual's ability to enter into a loan, provide propensity, and willingness attributes looking forward to create more sustainable homeownership

And working with GSEs, other regulatory agencies, consumer advocacy groups to bring new innovation into the market to help solve these challenges that consumer's face is mission aligned with FormFree. We look forward to developing new innovation to calculate that consumer's ability to pay.

Some of our recent attributes we've recently launched, Guild has announced using the Residual Income Knowledge Index to look at consumers with FICO, without strong credit, and enter into homeownership based on a residual income calculation that can assess on a prior look what their affordability is and what their residual income can carry going forward.

We believe that these are some of the just the touch of the iceberg to which we can provide as fintech, in enabling consumers, empowering consumers prior to entering that loan with their own data. Financial intelligence of their own information and understanding the burden that this new loan will carry providing sustainability and wellness while in that particular loan. Tools that help budget, tools that help provide financial literacy around education are all bundled in with this understanding of what they can afford. So, it truly helps a know before you show to a realtor, a know before you go into a loan.

I want to say that the credit invisible and those that have been left behind its time to address their needs.

Anne Marie Pippin: Brent, you have one minute.

Brent Chandler: There are too many that have missed opportunities of low interest rate environments, and this just needs to be a mission-oriented approach that all fintech providers that are going to be discussing their solutions today can merge together and create better solutions.

I want to thank you for your time, your commitment to these very serious and needed solutions and we appreciate it.

Anne Marie Pippin: Okay, thank you, Brent. And Brent, you were cutting in and out just a little bit, at least from what I can hear. So we'll do some follow up with you to make sure we captured all of your comments.

Brent Chandler: Thank you.

Anne Marie Pippin: Thank you. Okay, up next, we have Rick Lang from Gateless, and after Rick will be Mike Gill from the Housing Policy Council. Rick, over to you.

Rick Lang: Great. Good afternoon everyone and FHFA thanks for having me this afternoon. As stated, my name’s Rick Lang. I'm the Chief Operating Officer of Gateless. I'm really going to focus today on kind of responding to the spirit of some of the questions asked in the -- in the RFI. Particularly the introductory section, which asked about defining FinTech in this space, what can FHFA do to help facilitate innovation in this space? What are the barriers we can face?

Just to give you a little bit of context, from my perspective, while it's not my intent at all today to, you know, try to hawk my product, but just from a context perspective, Gateless is focused in Intelligent Automation, particularly in the processing and underwriting space. So with that said, if we can jump in, and to the next slide, please.

You know, big picture from my perspective anyway, when I think about how we define this, this is really about technical service delivery and automation. And if you've heard many folks talk about today, it's about the aggregation interpretation or exchange of data documents. The automation of processes or decisions that are historically made by a lot of human operators. And many others are focused on the user experience of the borrower or, or other parties involved in a mortgage and real estate transaction.

You know, as we think about what we hope, hope to gain from these innovations, and I think this was even a lot of these points were touched on by the FHFA kickoff of this meeting. But you know, we're focused on operational efficiency gains, reduction in cycle

times, cost reduction, risk management, the consumer experience, and in many cases, revenue growth. Please go to the next.

But to answer a really the question about, you know, FHFA's potential role in facilitating adoption of responsible innovation. First of all, you know, I applaud FHFA for getting involved. You know, when I listened to Jason Cave's initial introduction, I would be on the back end of the statement where others said, stay the heck out of here, I'm on the, hey where have you guys been? So I'm glad to see an active interest in participating going forward.

When I think about the role we can play is to the extent that you can help facilitate or bring parties together within the industry, to drive further standardization of data working with a number of bodies that are out there, I'm not going to list them off. The lending community itself through an organization like MDA, or MBA, you know, perhaps a newly formed body representing this very FinTech community, that would be huge.

Any support around the development of a common API integration framework, and I'm going to speak to that in a minute. But the inverse of that creates adoption barriers. And establishing standards for certification of new solutions. You know, making sure that folks have things like SOC2 certification that they, you know, their data security, their privacy, control standards, are intact.

And I would also suggest FHFA, that you really lean on the GSEs. There is an incredible amount of talent. And I can speak for myself of being an ex-Freddie executive, numbers on the call -- members on the call who've already, you know, referenced them. They've been great partners working with us and throughout the these organizations over the last few years and have been on the forefront.

You know, you've got people like Jennifer Parker and Steve P, and at Fannie, and Kevin Kaufman's team and -- who manages strategic relationships and partnerships with the FinTech community or, you know, Terry Marine -- Molina who runs risk there. Or some, you know, somebody like Michael Bradley, who's a data science genius. There's really great talent kind of under your thumb at FHFA that can really help advance our collective objectives. Next slide, please.

So a lot of this then, you know, when we talk about what inhibits adoption, it's really the inverse of some of the statements I just made. The need for the standardization or common way to communicate is critical, right. Poor integration between the lenders platform, and many of the solutions that some of the folks on the

calls today may, may offer out there in the industry, is probably one of the biggest impediments for -- to adoption, or actually realizing the intended value proposition of a -- of one of these solutions.

You know, there's a lot we can all do. On the consumer side, there's still reluctance to take advantage of digital solutions. You know, somebody like Brent, who can just, you know, can talk about this, and he's got tremendous ideas on how to better engage the consumer, consumer to take advantage of some of his services that he offers to lenders.

You know, one of the things I think FHFA could definitely control is there are gaps and in that -- in investor policies, particularly, you know, specifically Freddie and Fannie. They create confusion and leave areas for interpretation. So again, in my space, where I'm looking at automating underwriting, right, I -- we make --

Anne Marie Pippin: Rick, you one minute.

Rick Long: Great thank you. We need policy, we need guide and if there's gray area and there's things open to interpretation, now all of a sudden, that interpretation becomes every lender becoming a snowflake, and it starts diluting the effectiveness of capabilities.

And frankly, anybody who knows me in the industry, I'm pretty direct, FHA itself has been an impediment in the past, right, prior regime. As an ex Freddie guy, there was focused on, hey, you guys need to get out of conservatorship, don't be focused on helping lenders improve process and efficiency. But ultimately, in doing so, right, we're helping ultimately the consumer, the consumer, the borrower, who's actually bearing that gigantic increase in the cost to originate a loan over the last several years.

So if we just were to -- go to the last slide, please. You know, you've already heard Brent's speech, so I'm not going to talk about the first bullet point here. But like these are the types of things that the FHFA can gain relative to its mission. It's some things Brent just talked about. The fact that what I just said, right, we can lower the cost of originating a loan, and the customer bearing --

Anne Marie Pippin: Rick --

Rick Lang: -- yeah.

Anne Marie Pippin: -- Rick we are at time.

Rick Lang: I'm done, thank you. And then. So again, I applaud you guys getting into this space. So thank you so much.

Anne Marie Pippin: Thank you. We appreciate your time. Okay, up next we have Mike Gill from the Housing Policy Council. And after Mike speaks, we'll have Bryan Young from Home Lending Pal. Mike, the floor is yours.

Mike Gill: Thanks Anne Marie, and good afternoon. As Anne Marie said, my name's Mike Gill, and I'm the Senior Vice President of Capital Markets for the Housing Policy Council, the trade association representing the nation's leading firms in housing finance. And if you want to go to the next slide, and I only have three.

So (a) you know, we appreciate this opportunity for feedback. And it's often said that this is a critical time for financial services. But it's true. I had the opportunity in a former life as Chief of Staff for the Commodity Futures Trading Commission, to bring forth that agency's Office of Innovation, which we called Lab CFTC. And some of the experiences, you know, the many, many benefits of placing that office in the agency, as well as some of the lessons that we learned through that will come through in our eventual written remarks on this.

What we saw at the CFTC, and what motivated us was that the world's financial markets are undergoing an evolution from analog to digital, from human to algorithmic analysis, and from standalone centers to interconnected cloud based webs. Emerging digital technologies that are designed to enhance borrower engagement and improve the efficiency and transparency of the entire financial landscape have far reaching implications for the primary and secondary mortgage markets.

HPC members are critical stakeholders, where companies that drive innovation, influence the design, production and deployment of innovative new technologies and technology upgrades, with the objective to improve the customer experience, operational efficiency, and risk management effectiveness. Therefore, the scope and activities of FHFA's new office are a significant interest to HPC.

Now our written comments will be on the structure, scope and activities of the office, as well as the four areas of interest as outlined in the RFI. But today, my presentation is just going to focus on the structure, the scope of the office itself, and some of our thoughts and observations on that.

Now given the extensive work across the mortgage industry to investigate and invest in new technologies, the new office will provide the agency an opportunity to hire as well as retain dedicated staff with knowledge and/or experience with financial innovation, that in itself is a great benefit. And we believe that the

office should seek FinTech talent that can support the agency's existing regulatory compliance and examination skills.

To this point, the off -- the agency's efforts to foster innovation must be clearly demarcated to avoid overreach. Positioning the office within an existing division will moderate the tendency for a new team to exceed, expand or supersede the agency's regulatory jurisdiction.

Now we note the office is currently operating as a part of the division of conservatorship, oversight and readiness. And the staff and leadership of this division should be commended for shepherding this process. The RFI itself is a well researched document, raising important points.

In our written comments will talk about this as well as rationales for potentially other places to house it, including OGC, or the division of enterprise regulation. To be clear, we believe regardless of the placement of the office within the agency, the GSEs must continue to serve as the decision makers to manage their business operations, which includes basic responsibility to design and oversee any pilot initiatives. And for both pilot efforts and standard program administration, the GSEs must remain responsible for the selection of and engagement with vendors.

Regarding the scope of work for this office, we think FHFA could commit resources to tracking and monitoring pilot and trial programs, including the distribution of activity and performance information collected and bring more transparency to the process.

Another role for this office could be the identification of barriers to adoption of new technologies. As we all know, innovation in the mortgage markets is burdened not just by legacy technology, it's also hampered by conflicting rules and requirements at the state and federal level. While FHFA has no authority to address these conflicts directly, the office could help highlight these barriers to FinTech adoption to other regulators.

Further in addition to conflicting federal and state rules, the Enterprises themselves may sometimes impede the evolution to new technologies. HPC will recommend that the office monitor, and when necessary, work with the appropriate FHFA staff to prevent the development of needlessly bespoke and/or conflicting technologies for the seller servicer communities.

The office should also coordinate with technology specialists from other segments of the mortgage market. We believe new

technologies developed with the GSEs should be as consistent as possible with MBS securitized by Ginnie Mae and the PLS market.

Finally, HPC believes that this office should engage -- should engage in stakeholder dialogue. Some topics the agencies -- the agency could consider include, leveraging sources of market data, standards development, the practical steps towards the digitization of the mortgage process, and as mentioned, identifying technologies that are inhibited by conflicts among state and federal rules.

Anne Marie Pippin: Mike, you have one minute.

Mike Gill: Next slide. And I will say with the interest of time on this next slide, what I'm highlighting are some areas we'll discuss further and -- further in our written comments. But we'll be talking to the four areas Primary, Secondary FinTech and the RegTech. Most of, you know, and in all these, you know, I think our greatest concern is the primary markets remain the domain of the private sector. And we are always concerned about overreach of the GSEs into this primary mortgage markets. With that, I want to thank everyone again for this opportunity to share our thoughts. Thanks Anne Marie.

Anne Marie Pippin: Wonderful. Thank you, Mike. Okay, up next we have Bryan Young, from Home Lending Pal. And after Brian will be Dmitry Shkipin, from HomeOpenly. Brian, over to you.

Bryan Young: Thank you. Thank you for having me today. My name is Bryan Young. I'm the CEO and Co-Founder of Home Lending Pal. We are building a marketplace that is intended to help low to moderate income consumers understand the opportunities to become homeowners.

And our goal for today's conversation is really to, to give more insights -- or to leverage more insight into allowing lenders to have CRA qualifying credits or activity credits by partnering with FinTechs to do community outreach to the low and moderate income communities, particularly black and brown people of color.

We know that these communities are not necessarily ready to apply when it comes to homeownership. There's usually six to eight months curation period that has to happen with these groups. But it makes it harder for financial institutions to do outreach with these communities just because of numerous past transgressions. But also the lack of trust within financial institutions.

We've found that there are really five cultural barriers that must be addressed with these individuals that range from cultural to economic, to psychological, personal, and even social thoughts

about opportunities to, not only become homeowners but to also build wealth within their communities. And for us it should not just be getting these individuals into homes, but then keeping them there.

As others have mentioned, you know, the, the process of data democratization or the access to data definitely allows us to do more. But it makes it a lot difficult when we look at the risk and the opportunities from those risks that financial institutions take to ensure that they're protecting themselves but also their consumers and their databases.

And so one of the things that we're asking is that, you know, as you look at creating these policies, try to understand that, you know, from a community perspective, particularly with the black and brown communities, African Americans, Latinos, those individuals are a lot harder to engage and to get comfortable with just having a conversation with the financial institution.

However, within the next three years there's expected to be at least 3.3 million African Americans and about 4.8 million Latinos that technically are mortgage ready or qualified, if you include thin files, credit files that are also included within the new Equitable Housing Financial Plan.

And so one of the things that we're asking is that give these consumers the ability to not necessarily have to go to start the conversation with the lender, we know that currently a lot of this data, a lot of this information is contained within Desktop Underwriter in terms of the ability to determine whether rental history or a down payment assistance program through special purpose credit programs, will make these individuals qualify for homeownership.

But we think there has to be another layer or step ahead of that, where a consumer can go to an online marketplace and really, truly understand how their current financial and credit status would allow them to become a homeowner. And if they are not qualified, really push them down a path of guidance, before, during and after the application to ensure that they are making the proper financial decisions. But then also rewarding them or incentivizing them to build better financial habits. And to do that you allow those lenders or those financial institutions to access or to gain credit, CRA credits for doing so within this process, is kind of our big look, or big push on kind of what we're building.

And I think that by doing that, not only are you creating a win-win-win scenario where you're rewarding a financial -- a financial institution for better service in their community, but you're also teaching better financial habits to a low to moderate income borrower to, again, assure that they not only buy homes, but stay in those homes as well.

So that's all I have for today. But thank you for your time, and we look forward to staying in touch with FHFA. Thank you.

Anne Marie Pippin: Thank you, Bryan. Okay, up next we have Dmitry Shkipin, apologies if I mispronounced your last name there, from HomeOpenly. And after Dmitry will be Daniel Smith from Keepingly. Dmitry, over to you.

Dmitry Shkipin: Thank you so much FHFA for having me today. I'd like to discuss something else as far as the housing technology concerned to the sort of other side of it. I'd prefer to call it something else. But what it really is, is unaffordable housing technology. My company HomeOpenly is an open marketplace. We allow real estate agents to compete for consumers in the open environment. And I'd like to talk to you about what is essentially broker to broker collusion and wire enabled kickbacks that utilize technology to transmit something other than savings. Next slide, please.

Generally, as most of you know, RESPA Section 8, prohibits giving or receiving any sort of kickbacks when it comes to federally related mortgage loans. However, a broker to broker referral networks, or sometimes called referral services, attempt to bypass this federal laws by establishing what is really sham real estate entities that did not provide tangible real estate services, and instead use massive networks of third party partner agents.

Those kickbacks and broker to broker collusion schemes actually cost consumers about $15 billion of overinflated real estate commissions annually. Next slide, please.

A handful of sham real estate entities organize these third party real estate agents into what really is a hub and spoke conspiracy. And these hub and spoke conspiracies, the kickbacks range sometimes between 25 to over 40% of colluding real estate agents' gross commissions. But at the same time, referral services often advertise themselves as 100% free, unbiased, no catch, to trick consumers.

In this type of setting instead of competing for consumers with savings, partner agents charge their clients higher commissions

because they have to pay these massive kickbacks. Next slide, please.

There are safe harbor provisions in RESPA that essentially allow real estate brokers to make cooperative brokerage and referral agreements between another. But they do not apply to agreements that restrain trade. What these networks actually do is they violate Sherman Antitrust Act, Section One, that prohibits agreements that restrain trade.

Generally under US laws, real estate agents cannot organize themselves into any sort of networks. Therefore, a host of different federal regulations in this case is violated, including RESPA Regulation Act, FTC Act, Sherman Act, etc., in order to, you know, for this networks to bypass RESPA prohibitions, designed for what really is genuine referral agreements between bonafide real estate entities. Next slide, please.

The problem with this is the fact that it is actually uses -- utilizes technology and specifically the Internet. The kickbacks today are largely scaled by wire. For example, Home Light is a California real estate brokerage that has collected kickbacks from what is now over a million real estate transactions since the inception in 2012. Homelight further admits, in their own materials, that it's not a broker that provides genuine brokerage services. All broker referral services effectively disengage from actual genuine competition and allocate consumers to partner agents.

This becomes a real challenge when it comes to mortgage lenders, massive mortgage lenders such as Rocket Homes, Better Loan Depot, Redfin and Open Door, utilizing this type of strategy. And they essentially establishing real estate entities to collect kickbacks, and in effect bypass their entire RESPA prohibition. Next slide, please.

Nine out of ten VC dollars in the last several years have actually been funneled into these types of schemes. iBuyers is a very good example. iBuyers systematically costs consumers over sometimes 20% of their net equity when transferring homeownership, and of course, those kickbacks cost consumers tens of thousands of dollars per transaction.

Where unfortunately, these fees are often hidden so they wouldn't even know they exists. There are now dozens of VC backed referral schemes across the United States. That includes some of the largest corporations that all of you probably know, including Zillow, Open Door, Redfin and many others. Next slide please.

The difference in the kickbacks and savings is that's really the same money. It's either gained by consumers, or its gained by this referral fee networks. So we may either enjoy competitive real estate commission savings in the market or we will be subjected to these kickbacks. Unfortunately, it's --

Ann Marie Pippin: Dmitry, you have one minute.

Dmitry Shkipin: Okay. Unfortunately, it's not a one or the other. Next slide, please. Consumer education is critical to this. Consumer Federation of America has established a process -- a report that outlines this issue. Next slide, please.

I'll also touch on the fact that there is rebate bans currently provided -- prohibited in ten states. But that's a slightly different issue. Next slide, please.

And of course, I just wanted to end with an appeal to FHA to actually enforce your mission, and to address this problem on a bigger scale. We can either -- we can build better technology, but our cost -- our federal laws must be enforced. And of course, federal agencies must support those laws. Thank you very much for your time today. And I thank you very much for setting it up.

Anne Marie Pippin: Thank you, Dmitry. Okay, up next we have Daniel Smith from Keepingly. And after Daniel will be Seth Appleton from MISMO and MBA. Daniel, the floor is yours.

Daniel Smith: Hi, good afternoon. Thank you to FHA, FHFA for this opportunity, and for this forum to really talk about technology and housing -- technology and housing. What we're focused on at Keepingly really is about helping the homeowner experience, which is end to end how we translate that experience for the homeowner to make sure that the process is less confusing once they step into that home. And once they sign the closing documents. And really focusing on ensuring that the homeowner has the tools to be able to make better and relevant decisions.

We found that ensuring that the post-closing ecosystem provides the homeowner with the tools that they need to be able to have, the best experiences one of the things that is currently lacking in the market, is a focus on the homeowner ensuring that through the lifecycle, you know, when should we change things in our house? What should we do? How do we know that we're getting the highest valuation on our houses?

What we've realized is that with many of the issues that have happened in the market and with disparities in aspects of the

homeowner, things like homeowner valuations, etc., the FHFA has the opportunity to help technology -- help to use technology to create better experiences and to ensure our greater housing sustainability.

First, one of the issues really is housing sustainability and our opportunity that we have to basically create, not for the current -- not only for the current generation, but, but for generations to come whereby we are able to really utilize technology.

What our position at Keepingly is about housing sustainability must be a component of all new programs, especially those special purpose credit programs, you know, offering products to homebuyers to make sure that they protect the interests of the homeowners, while provide -- homebuyers while providing the tools to help these new homeowners to manage, maintain and grow the value of their homes.

Each of these new programs offer an opportunity to give renewed hope in the homeownership experience and provide these communities with the opportunity to experience the American dream.

What we've realized in the market right now is that minority communities really don't necessarily, especially first time homeowners, don't have the tools to be able to understand. And so even with some of these new programs that have been unleashed in the market, we have realizations that communities feel inhibited because of their past experiences. If relate to 2008 and to the subprime credit crisis. What we realize now is an opportunity to make sure that housing sustainability is built into these programs.

What we have found is that these programs, without sustainability requirements, does not give accountability and fails communities which they actually aim to impact, and thus ultimately not achieving the intended goal.

For us at Keepingly our focus is ensuring that sustainability with a toolkit built to ensure that end to end homeowner journey ensures that homeowners have the tools from the day that closing occurs, and throughout the homeownership journey. Our platform means objective is really about giving homeowners the tools to be able to ensure that that experience evolves and grows, and so that at the end of the day, when homeowners want to either sell their asset or be able to pass it on to the next generation, they have all the documentation, they have all the tools, and they have a foundation which they can grow on.

We are bullish in terms of what the sustainability of homeownership can be. And we want to ensure that this is protected and able to help homeowners to make decisions that with all the relevant details and facts around their property. We do believe that these new programs must be structured to serve minority communities who are putting their faith, their trust, their lives, and those of future generations into the hands of these programs.

Sustainability must be a minimum requirement that we build into programs that focus on minority and LMI communities. Homeownership should really provide a peace of mind, and we must advocate and ensure that these new homeowners are able to feel fully confident in their homes and in their largest asset.

We would like the FHFA to ensure -- or to continue its trust in -- with a focus on technology to ensure that the homeowner needs are ultimately met and that we can be able to ensure that we build sustainable communities in homeownership. Thank you.

Anne Marie Pippin: Thank you, Daniel. Okay, up next we have Seth Appleton from MISMO and MBA, and after Seth we'll have Ian Ferreira from Liquid Mortgage. Seth, over to you.

Seth Appleton: Thanks so much for the opportunity to speak today. On behalf of the Mortgage Bankers Association, which represents all elements of real estate finance, as well as MISMO, which is the MBA subsidiary that is the industry standards development body.

As was referenced by a couple of previous presentations today, MISMO’s standards are integral to the market and are used in the manufacturing of nearly every single family mortgage today. They're also increasingly being used to support a variety of activities in commercial real estate lending.

Market participants of all sizes and business models today are looking for solutions, including through technology, to increase efficiency and reduce costs in the everyday course of originating selling and servicing loans. According to research that has been done by the MBA, in the second quarter of 2022 independent mortgage banks on average lost $82 per loan, while the average cost to originate exceeded $10,000 per loan.

As FHFA considers its role in enabling technological innovation, the agency should ensure that it listens to many diverse voices as it is today, as it contemplates influencing the direction of the technology ecosystem. And it should ensure that any actions it takes does not hinder the market's ability to innovate.

I'll provide a few comments in specific areas, but more detail will be provided in the form of MBA's written response to the request for information.

First, it's important to understand the industry's recent experience with respect to technology adoption and innovation for both single family and multifamily lenders. MBA surveys indicate that single family lenders have increased technology spending in the last decade to primarily support regulatory compliance with Dodd Frank, GSE reporting mandates, information security updates and customer facing application technology.

So as others mentioned, the technology investment has not yet delivered a seamless end to end efficient digital experience across the market because the investments have not been focused on all aspects of the transaction.

Multifamily lenders are actively building out activity centered solutions, which must support mortgage lending across a variety of property types and capital sources. Some of these are focused on reducing time and labor intensive activities like document management, while others are more focused around newer considerations like housing affordability and climate risks.

Secondly, the GSEs have an important role to play with respect to the direction of technology within the mortgage industry. But they need to work collaboratively with the industry to ensure that solutions work beyond GSE specific use cases.

At present, there are significant technological differences in how mortgages are originated based on their destination in the secondary market. The benefits of innovation should be broadly available to all market participants, regardless of the investor type or lender size or business model.

Some participants are reticent to invest financial and human capital into technology today, because that technology can only generate benefits when a loan is sold to either Fannie Mae or Freddie Mac, rather than broadly benefiting their entire portfolio or operation.

Third, standards can accelerate innovation in myriad and unexpected ways. FHA and the GSEs should avoid proprietary solutions and utilize MISMO to develop collaborative standards based approaches to the issues affecting the mortgage ecosystem today.

Data standards certainly can be powerful tools for improving efficiency, but they have to be adopted and interpreted widely and

consistently by all market participants, including the GSEs. At their core, standards should promote interoperability, which is the ability of systems and organizations to communicate with each other in the same language, think about Bluetooth but for mortgage.

Even with the advent of API's, custom integrations are still the norm today for most functions. In addition, the regulated entities should consider leveraging technology certifications that evaluate whether vendor's products and processes conform with industry standards and requirements. For example, the existing MISMO eMortgage Technology Certification Program for RON and eClosing Platforms, respectively.

Fourth, FHFA should endeavor to open up access to more data to spur innovation. The GSEs collect significant information, for example, appraisal data provided through the Uniform Collateral Data Portal. These data informed important policy decisions around appraisal waivers and desktop appraisals, yet they're not publicly available. We believe FHFA should consider a formal process to assess the circumstances under which data should be made public with the goal of releasing more data, more rapidly in support of further innovation in the market.

Lastly, FHFA does not need to solve FinTech. Helping to identify issues, the root causes and collaborating on solutions that work for the entire mortgage ecosystem will be a successful outcome of this initiative.

One example, in the area of --

Anne Marie Pippin: You have one minute.

Seth Appleton: -- for collaboration -- one area for collaboration is solving for the unrelenting trend of data and documents constantly being rekeyed, revalidated and reconciled, also known as checkers checking the checkers, it should be explored whether forms should be converted to leverage the new MISMO verifiable profile Smart Doc, which allows data and documents to be programmatically validated and transmitted in a trusted package.

Another area for collaboration is working to increase the adoption of data aggregation services for verification of income, assets and employment, an area in which MBA research indicates there has not been as much consumer adoption to date.

This is just one example of an area in the broader market that would benefit from solutions that serve all executions and not just GSE specific use cases. Thanks again for your attention to this important

topic and for the invitation to speak today. We look forward to a strong partnership and collaboration with the agency in this new office, as it explores how technology may address many of the issues facing housing finance today.

Anne Marie Pippin: Wonderful. Thank you, Seth. Okay, up next, we have Ian Ferreira from Liquid Mortgage, and after Ian, we'll be taking a short break. Ian, the floor is yours.

Ian Ferreira: Awesome. Great. Thank you all for your time. And thank you for the invitation to speak. And really thank you for reaching out to the FinTech community. You know, we're -- what we think at Liquid Mortgage is we won't be successful unless we all work together on this to really put forth new initiatives and, and really collaborate on, on a better infrastructure, which is mainly what we're focused on.

So I'm the CEO of Liquid Mortgage, started the company in 2018. What we do for those of you who, who do not know us, is we create one to one backed digital assets for every loan that we onboard. And so that digital asset has the outstanding balance, we have the ability to attach data and documentation in a very secure and anonymous way, to that digital asset. And then we also track payment history and do various other tasks with a digital asset over the life of the loan.

And really, our focus is on increasing transparency for the broader market. We are focused on post close, the post close market. However, we think we can partner with originators and more of the front end partners to, to create better products, and specifically on the -- on the data and documentation side.

And really, our goal for increasing transparency is to fix the underlying plumbing in secondary markets. And our thought process beyond secondary markets is we, we think that better infrastructure eventually leads to more available credit for borrowers. And we think by, by making these processes more efficient, and, and transparent, it will also eventually lead to lower borrower costs.

And so the one thing we wanted to say to FHFA directly was, we really appreciate you reaching out and asking about how you can be involved in responsible innovation per the RFI.

And we have, we have two ideas that we'd like to float out there, one being a high level guideline, essentially for, for FinTechs that are building in the space. So whether that has, has to do with data documentation, storage, security, you know, what really works best for FHFA and the GSEs.

High level guidelines allow people, like our firm, to, to really start to develop technology in a regulatory forward approach from the start. And, and that's obviously our goal to try to make this market more efficient.

Second, to that I would say one of our suggestions is potentially opening up a FinTech sandbox, so that we can work with FHFA, other regulators, but also industry partners. So industry partners in, in the sandbox type of environment, would, would have knowledge of what, of what we're doing and what others similar to us are doing.

And we really think that helps move innovation forward faster, because others become aware of, of what others are working on, and other ways to collaborate. And, and really, people like us can bring products to market faster, with an understanding that from, from the regulators that we -- that we're doing the right things essentially, which, which obviously we want to do.

And I'll just give you one example of that is we have a product called Liquid Archive, which is essentially an archive of all data and documents for a loan over the life of that loan. We then take this archive and we attach it to the digital assets. So we can, we can confirm and verify certain documentation or changes over the life of that loan.

This would be a perfect product for a FinTech sandbox, where we could come in with doc storage providers and come in with regulators and say, let's, let's build this in a regulatory forward approach that really works for everybody, or at least works for the majority of people.

So those are some of our ideas. We look forward to working with you all and, and look forward to the next steps. Thank you.

Anne Marie Pippin: Thank you, Ian. Okay, we've got a little bit of extra time here, but we're going to take a short break and reconvene back right around 4:13 p.m.

All right, everybody. Welcome back. We're in the homestretch here. Up next, we have Matthew Windsor from Point Digital Finance, and after Matthew will be Aminah Moore from the National Association of Federally Insured Credit Unions. Matthew, over to you.

Matthew Windsor: All right, thank you. Hi, I'm Matt Windsor, Associate General Counsel at Point. I appreciate the chance to provide input on the role of financial technology and housing finance and its opportunities for

beneficial innovations. Point strongly supports these efforts by the FHFA to learn more about FinTech.

Just a little bit about us, Point provides an alternative to traditional home equity financing. We make what we call home equity investments, providing homeowners with a lump sum cash payment today with no monthly payments for up to 30 years. In exchange, Point shares in the home's future appreciation up to a predetermined limit.

As a result of the future appreciation based structure of our HEI, homeowners have no monthly payments or interest obligations. And as a result, we are able to offer HEIs to a wider range of homeowners than are served by traditional home equity products.

We do not have a monthly income requirement, nor do we limit our product to prime credit scores. As a result, more homeowners are simply able to access the equity in their homes.

Point is an example of how financial technology firms have the opportunity to provide resources that are outside the traditional mortgage financing structure, and aid in filling gaps and access to homeownership. Point already provides access to home equity to a larger segment of homeowners than traditional products.

And in addition, we're in the process of establishing a new home equity investment product, called Seed, that also assists homebuyers. Seed would allow eligible homebuyers access to up to 15% of the down payment on a new home, in exchange for sharing a percentage of the long term increase or decrease in the home's value.

This product will allow customers to reduce their overall mortgage, avoid private mortgage insurance payments, make a competitive home offer, save more for repairs and upgrades, or buy a home sooner, or in a more expensive market.

In addition to providing tools to expand access to homeownership, FinTech firms, like Point, have established techniques that better facilitate compliance with fair lending laws. For example, programmatic decision making and moving away from discretionary pricing models has allowed a more standardized approach towards fair lending compliance.

Enhanced certainty around the accuracy of decisions focuses the risk on front end engineering design and overall underwriting and pricing guidelines. The continued expansion of technology to analyze portfolio performance against publicly available data, offers

FinTechs an opportunity to determine how their policies are performing compared against peer data, and also potentially better address underserved populations.

Understanding algorithmic decision making requires knowledge of what the decisioning policy says and what the underwriting system is performing against. Similar to how traditional fair lending reviews focus on policy, underwriting guidelines and exceptions FinTech oversight requires treating the underlying code as the underwriter. Depending on the scope of automation, this would involve mapping out the universe of inputs and what the origination system is looking at in order to see if the information is being considered accurately.

Point and other FinTechs are able to identify and reduce the risk of discrimination through a variety of techniques. In general, understanding the risk you are trying to address with an underwriting policy is key to reducing risk in algorithmic decisions. Any exclusionary criteria should be supported by evidence based rationale that focuses on achieving a desired result.

This is the kind of innovation we believe that the FHFA should support. The agency must play a vital role in ensuring the forms -- firms adopt technological solutions in a responsible manner. Towards that goal of facilitating responsible innovation, the FHFA could take additional -- additionally take the following steps.

We recommend establishing a formal sandbox program for GSE credit experimentation with FinTechs, with a focus on allowing testing to see whether alternative FinTech products create an equivalent or better borrower experience and/or credit profile.

We would also recommend allowing Fannie Mae and Freddie Mac to purchase and guarantee more shared equity financial products, as well as traditional mortgages on properties with such products. Create an accelerated path for GSE support for proven new home finance solutions, including shared equity products, and incorporate shared equity programs into the GSE loss mitigation waterfall.

The other potential ways FHFA can facilitate responsible innovation there are a number of challenges that FinTech firms face in the housing sector. Specifically, federal regulatory uncertainty and mismatch state by state regulatory framework, uneven application of industry standards and best practices by some market participants, and existing GSE credit policies that do not support the origination of for profit shared equity seconds.

Finally, I'd like to talk briefly about identifying and mitigating FinTech risk. Like any business regulated at the state level, FinTech businesses may pose risks to their consumers and counterparties if they do not operate responsibly. FinTechs do not inherently present more or less risk than other established firms. However, the scale with which digitally enabled businesses engage with customers, and the speed with which they can deploy updates, shift many of the risks from operational oversight to upfront design and deployment decisions.

Many FinTech lenders are asset light when compared with banks. Many services they provide they originate, ensuring continuity in customer service, as well as a financial tie to the quality of the products and used for that consumer.

Many FinTech venders embed themselves in a common -- in complex points in the origination value chain. Indeed, this complexity and nuance often forms the basis of their business model. However, these are often places requiring integrations with other parties, creating complexity, and the adoption of a new tool, can create -- can increase the number of outside parties that receive or have access to the crucial data and the origination process.

Anne Marie Pippin: Matt, you have about one minute.

Matthew Windsor: The increase -- great. The increase in the number of parties exposed to the data [inaudible] opportunities for cyber-attacks. Companies with proprietary solutions may be less vulnerable due to reduced complexity. However, they may also miss out on the opportunity to benefit from engagement with the agency teams validation, compared against the agency standards, or best practices.

For instance, the agency's inability to purchase loans originated with down payments provided by shared appreciation providers eliminates the possibility to test prepayment and credit experiences in real world scenarios, resulting in a catch 22 that inhibits broader adoption and customer choice. That's all for me. Thank you.

Anne Marie Pippin: Thank you, Matt. Okay, up next we have Aminah Moore from the National Association of Federally Insured Credit Unions. After Aminah, we will go to Luke Tomaszewski from ProxyPics, and apologies if I mispronounced either of your names there. Aminah, over to you.

Aminah Moore: Thank you. Good afternoon. I'm Aminah Moore, Senior Regulatory Affairs counsel at the National Association of Federally Insured Credit Unions. NAFCU advocates for all federally insured not, not for

profit credit unions that in turn serve 133 million consumers with personal and small business financial services products.

NAFCU applauds the FHFA for joining other financial regulators in establishing an Office of Financial Technology and facilitating responsible innovation in the housing finance system. NAFCU supports innovation, but recommends that the FHFA remain consistent in the integration of FinTech for all of its regulated entities, and coordinate with other federal and state financial regulators as appropriate.

NAFCU defines FinTech in the housing finance sector as the integration of technology in the home buying process. This integration can happen at any and all stages from beginning to end.

The key factors that FHFA should consider are the benefits and risks of FinTechs and housing finance, as well as all parties' willingness to accept financial innovation, especially underserved low income borrowers.

The FHFA could facilitate the adoption of responsible financial innovation by working with the NCUA and, and the other federal and state financial regulators to understand the FinTech industry, how lenders are using it, and its impact on the GSEs.

Additionally, the FHFA can continue to allow the GSEs to partner with FinTechs to improve their existing suite of tools to address equitable and sustainable access to housing finance. NAFCU's members have expressed that risk management becomes a big compliance burden that could have higher costs than benefits. Many of the FinTechs that provide technology for different aspects of the mortgage process are new and do not have the maturity that will allow credit unions to perform their vendor due diligence.

Credit unions would like to use the products that FinTech vendors have to offer and are willing to teach them about the financial services industry, if needed. To the extent that any part of the mortgage process is outdated and can benefit from FinTech integration, NAFCU supports its innovation and technological advancement.

Credit unions' collaboration with FinTechs can make processing mortgage loans much faster than traditional methods, which can provide a huge advantage for borrowers who may be racing the clock, especially in times of lower interest rates and competitive housing sales.

Conversely, FinTech innovation within housing finance has limits and may not be accepted by all borrowers. Fintech is invaluable for certain steps in the mortgage origination process, such as completing an online application, or through an app, uploading documents electronically and automating the risk assessment process.

Buying a home is, for most borrowers, the most expensive purchase they will ever make, and is also a complicated process. So higher levels of customer service and human interaction are necessary throughout the process.

NAFCU's members have expressed that they have experienced difficulty getting borrowers to willingly adopt FinTech in their mortgage process. Most borrowers prefer to come in and speak to a loan officer in person or over the phone at some point throughout the mortgage process.

Additionally, interest rates for mortgages originated by non-bank FinTechs are, on average, 14 to 16 basis points higher than rates charged by traditional financial institutions. This is particularly problematic because the unbanked and underserved populations are cost and time burdened the most due to historical and ongoing structural and systemic barriers.

So while FinTech lenders may be serving more of these populations, they are doing so at higher interest rates and taking advantage of these structural and systemic barriers to entice borrowers to purchase a loan instead of relying on their community financial institution, which is subject to more stringent regulation and oversight, offers a safer and more reliable source for financial services, and provides tailored relationship based community focused customer service.

The emergence of FinTechs in the housing finance system can also present new risks and threats to the safety and soundness of the housing finance system, as entities can be unregulated or underregulated.

The amount of online non depository mortgage lenders has quadrupled over the past six years. Unlike credit unions and traditional banks, large and complex FinTech mortgage lenders are not subject to uniform stress testing at the federal level. So it is unknown how these entities might fare in a severe economic downturn.

Historically, innovation and rapid growth have, at times, been associated with increased risk to the safety and soundness of financial institutions, and in this case, the housing finance system. Relatively little is known about the effects of FinTech on the performance of the housing finance system or the wellbeing of consumers due to the newness of these FinTech companies.

FinTech and housing finance can also create data security concerns with consumer financial data. Because the integration of various data and computing resources is a key feature of FinTech, cyber risk can be harder to manage in a complex software environment. Unfortunately, security breaches are becoming more common as innovation to FinTech grows in popularity. Accordingly, it is critically important that non-depository FinTech lenders undergo the same regular cybersecurity examinations that have long been part of the prudential supervision of credit unions and banks.

Anne Marie Pippin: Aminah, you have about one minute.

Aminah Moore: Thank you. So thank you to the FHFA for hosting this listening session and trying to integrate FinTech and housing finance. And that concludes my remarks.

Anne Marie Pippin: Thank you very much Aminah. Up next we have Luke Tomaszewski from ProxyPics. And then after Luke will be Brian Zitin from Reggora. But Luke, over to you.

Luke Tomaszewski: Great, thank you and good afternoon everybody. My name’s Luke Tomaszewski, I'm the CEO of ProxyPics, and I've been an appraiser for the last 18 years.

ProxyPics is a patented technology designed to collect photos and data of any subject in under 24 hours nationwide. We've created a network of over 65,000 proxies, which are our data collectors that are ready to collect data on any property nationwide. In addition to that, ProxyPics was the first to build the Freddie Mac PDR and we’re completing the PDRs as of today. So that's just some background on the company.

One thing that I do want to share that I think that timing is definitely right for modernization within the appraisal segment. What I can share is in the last 18 years that I've been an appraiser, I've really only experienced one significant change and that’s going from, you know, measuring properties with a tape measure to now using a laser. So saying that that's been the only significant change in the last 18 years isn't a good thing. So that definitely needs to change.

So I'm excited that you know, FHFA has taken an interest in, you know, what we're doing and is opening the door to, you know, more technologies to be leveraged within this space.

When we go to the, you know, data collection process about eight, nine years ago, maybe more now, we've developed something called the UAV data standard. So we've standardized, you know, some of the data within the 1004, or the appraisal forms, which is great. But the physical data collection process when the appraiser or a data collector is actually on site, that hasn't changed at all for a number of decades now.

So we definitely see where the GSEs and FHFA is going with the data collection process with the PDRs the PDC processes. So we definitely support that. We see the benefits of that, especially in certain rural markets where appraisers may not be available. If they are available, that's why we see, you know, very extended turn times in those markets.

So leveraging a data collection company like ours to solve, you know, some of those needs. I know in the RFI, there are questions for, you know, new emerging technologies that not only save cost, but time in addition to that. So if we allow it to, you know, take some of the strain off the existing appraisers and allow a company like ours to take on the data collection, not only will it streamline that method, it'll standardize it and reduce costs at the same time.

In addition to that, we're able to provide that data directly back to the GSEs so they can analyze the physical inspection data, or we can provide that back to the client or appraisers so they can continue with the evaluation process. And again, it is standardized data that we're collecting. We then have the ability to eliminate, you know, any bias within that inspection process, if we need to blur out specific photos, those capabilities are there and present.

The last thing that I really want to touch on is when we are collecting that data, and if it's an appraiser analyzing that data, there needs to be an easier way for them to collect and input that data into the software providers forms. So we've talked about MISMO, so that's a great way to standardize the data from the inspection side or we could collect that and push it back into the vendors' software or straight back into the GSEs.

So we definitely thank FHFA for taking an interest in this topic and we look forward to, you know, the changes that are going to start taking place within our industry. That's all for me. Thanks Anne.

Anne Marie Pippin: Luke, thanks so much. Okay, Brian Zitin from Reggora is up next, and then following Brian will be Bhavini Amin from Roostify. Brian, over to you.

Brian Zitin: Thank you. Hey everyone, so thanks to the folks at the FHFA for hosting this public session, allowing me to speak today. My name is Brian Zitin. I'm the CEO and Co-Founder of a FinTech called Reggora, where we focus on providing workflow software to streamline and automate the appraisal process.

I thought it was interesting that of the 25 different companies presenting here today, five, around 20% of us, are all in the property valuation space. It makes sense because the appraisal industry is one that responsible innovation isn't just desired, but is literally needed in order to maintain the long term feasibility of not just the appraisal industry, but the mortgage industry at large.

With the population of appraisers consistently dwindling in number every single year, if we don't figure out a sustainable path forward, we'll be looking at appraisals that take months to complete and cost thousands of dollars due to the lack of supply. So for us innovation that brings in new talent and makes things more efficient, is existentially important.

At the same time, the accurate valuation of the underlying collateral is also extremely important in order to maintain proper systemic balance and prevent another housing crisis. Therefore, we can't just throw the newest and coolest technology at a problem without a lot of thoughtfulness.

So that's why today I want to focus on three specific questions outlined in the RFI. Number one, what factors are currently inhibiting the adoption of FinTech and innovation in the housing finance sector? Number two, how can the FHFA facilitate responsible innovation? And number three, what forms of stakeholder engagement are most effective in facilitating this?

And I'll talk generally with some, you know, examples and appraisal obviously. So number one, what are the factors contributing to currently inhibiting FinTechs and adoption in the space? In my opinion, the largest factor here is a lack of transparency and collaboration from the regulators. Which is why I'm so excited about this RFI. And let me explain.

So FinTech in the mortgage space is unique compared to a lot of other industries, because it is extremely capital intensive to build products. Due to both the highly regulated and intensely

competitive nature of the industry, there's very little room for error when it comes to loan production. Therefore, to successfully launch a mission critical product at scale that impacts the loan process, you have to invest millions, if not tens of millions of dollars just to sign your first customers.

For example, my company, Reggora, we've raised around $55 million in venture capital in total, and it took us $4 million just to get our product to a place where we could sign our first national lender to adopt it.

So since there are high switchover costs for lenders to migrate to new systems, your product has to be amazing compared to the current process. However, a lot of potential entrepreneurs can't get the funding to build something amazing if it doesn't accord with the current regulations. So we have this unfortunate cycle where lenders don't have as much new technology to adopt, because entrepreneurs won't make it, because lenders won't use it, because it doesn't accommodate existing regulations.

So innovation only works in practice as much as it is feasibly compliant. So it's very difficult for entrepreneurs and investors to risk millions of dollars in advance for something that wouldn't be compliant today, and they have no idea if it ever will be.

So how can the FHFA invest in responsible innovation? By being extremely transparent about specific targets and outcomes and collaborating with FinTechs on them with open data. So let me give you an example in the appraisal space.

Everyone wants to improve turn times on valuations while maintaining proper risk management. Well what is risk management? The primary market will do whatever the secondary market tells it to do. And the secondary market will do what it's regulated to do to maintain a certain level of risk.

Those parameters that determine and expose risks though, aren't necessarily publicly available. So if you want to design new valuation methodologies and technology that are better, but also don't increase foreclosure risk, for example, we have no visibility into, you know, which specific properties are foreclosed on, why -- how did valuation impact that, what were the patterns associated with those properties. Right now, much of that data is privately held by the GSEs, servicers and other participants.

So if regulators put specific targets on these risk metrics, and made them required to be reported on an open in a, you know, the data in

a public way, now downstream FinTech providers can help come up with ideas on ways to improve them and be more certain around the feasibility of adoption.

Aspiring entrepreneurs could point to open problems with defined targets, pitch investors how to tackle them and build a product they know that would get used and would be feasibly compliant, versus relying on the mystery of regulatory change.

So if, for example, desktop appraisals had shown increased risk on properties with particular types of characteristics, we could develop technology to address that, and it can be tested in an open way with defined guidelines, instead of behind closed doors with just a few parties.

So to summarize how the FHFA can remove roadblocks and help facilitate responsible innovation, step one, clearly define the minimum targets and goals when it comes to the risk metrics associated with specific regulations holding innovation back. Step two, make the data around these issues and targets publicly available to help inspire prospective entrepreneurs and add certainty to the capital investments required to tackle these issues.

Step three, engage with these innovators in an open and transparent way with defined guidelines in order to cast the broadest net possible while maintaining proper risk management. And step four, identify the solutions and processes that improve the targets the most and adopt new policies around them. Entrepreneurs will always deliver --

Anne Marie Pippin: Brian, you have a little under a minute.

Brian Zitin: Thank you. Just wrapping up here. Entrepreneurs will always deliver amazing innovation if given the proper environment to flourish. And that's no different in the housing finance industry. So thank you so much for your time today. I look forward to continuing the conversation.

Anne Marie Pippin: Thank you, Brian. Okay, Bhavini Amin from Roostify, you're up next and then after Bhavini will be Stacey Tutt from the National Housing Law Project. Bhavini, over to you.

Bhavini Amin: Great. Thank you. Thanks FHFA for the opportunity today. Hi, everyone, good afternoon. I'm Bhavini Amin and I lead Revenue Operations and Marketing for Roostify. Roostify is a FinTech SaaS company founded in 2012, powering the digital mortgage experience for both borrowers, lenders for some of the largest banks and IMBs across the country.

Roostify's mission is to accelerate and simplify the home lending experience for lending institutions and their customers. Let's face it, the home buying experience is opaque, unpredictable and frustrating for consumers, and inefficient and costly for lenders.

While a lot of advancements in technology have enabled the consumer journey, we collectively as an industry still have a ways to go. As the consumer journey hasn't improved much since Roostify was founded in 2012.

There's still a lot of back and forth for the borrower and a lot of checking and rechecking on the lender side. And I think we can all agree it still takes a long time to get a mortgage.

So the fact is, a digital mortgage experience is also no longer enough. Borrowers and lenders are also demanding more. However, lenders have challenges on the path to true digital transformation. The path to digitization is slow with legacy IT systems and competition for internal funds and prioritization within their organizations.

Lenders often have siloed operations across lending groups. Purchase -- lending for purchase and home equity are often siloed across the organization, and often utilizing different tech.

And lastly, there's often a lack of focus on customer centric needs, enabling a true digital experience from application to close, requires deeper customer centricity across the lending shops. And simultaneously demanding borrower needs are also increasing. There are several challenges all around from the loan officer side as well as the borrower side.

With the ever changing market, lenders have to support and be able to quickly move from a purchase to refi to home equity market. Borrowers are often confused and overwhelmed by the many lending products available to them. Sometimes home lending LOs are losing leads to consumer lending LOs when borrowers were searching for home equity loans.

The true opportunity for the next chapter of digitization is truly harnessing the power of data with MI, AL -- sorry, artificial intelligence and machine learning. So what can we do? Some key areas to continue advancements are the use of AI and ML for digital experiences, mobility as well as language translation.

Firstly, digital experiences, "e" experiences are slowly growing as lenders and borrowers accept eSignature and remote notary technologies. AI and ML has the potential to reduce costs for both

lenders and borrowers by automating labor intensive tasks, such as verification and analysis of credit, income and assets.

Enabling digital lending platforms from application to close enables faster time to close and reduces cost of loan origination. Ultimately allowing lenders to pass along savings to borrowers.

Secondly, mobile access -- technology continues to advance enabling a mobile phone to be the device of choice by many consumers. And consumers now have the ability to start the borrower application, take a picture, upload documents for the application, but can't really complete the entire end to end process on their phone.

And lastly, language translation. The United States demographics continues to diversify with more language variations. Advancements in language translation support will improve access to lending products. Enabling the ability for a borrower to select a preferred language and translating the experience accordingly would vastly improve the borrower experience. And potentially open the doors to make lending available to new demographics, to truly enable housing for all.

In closing, and then on behalf of Roostify, we applaud the FHFA taking a proactive approach and getting involved in the lending FinTech space. There is ample opportunity to improve the lending experience for both borrowers and lenders, while reducing the overall cost ultimately of how much it takes to cost -- to take out a loan. And we look forward to working with the FHFA on this important initiative. Thank you.

Anne Marie Pippin: Bhavini, thank you very much. Okay, Stacey Tutt, you are up, from the National Housing Law Project, and after Stacey will be Dominick Marchetti from Guaranteed Rate. Stacey, over to you.

Stacey Tutt: Thank you. And thank you for the opportunity to speak here today and comment on the role of technology and housing financing. My name is Stacey Tutt and I'm with the National Housing Law Project. My comments today will focus upon the lessons learned from the Property Assessed Clean Energy Program, as it illustrates the problems that can occur when innovation happens without implementation of necessary consumer protections.

The residential PACE programs provided a unique type of financing that allowed homeowners to finance energy efficient improvements, water saving, or other environmentally beneficial improvements through their property taxes. Homeowners who

wanted to install energy efficient home improvements could apply for PACE loans from private finance companies or PACE administrators, which had been authorized to act on behalf of local municipalities.

The local municipalities then securitized the assets as collateral for base -- PACE bonds that were then sold to Wall Street investors. The loans required no money down but are secured by the equity in the homeowner's property, much like traditional mortgages. The payment amount is added on to the homeowner's annual property tax bill as a special line item assessment.

When the program first launched in California, there was little to no regulatory oversight. Eligibility was based upon the equity of the home and there was no ability to pay assessment. The program utilized home improvement contractors going door to door to solicit homeowners for the financing. With all financing applications, disclosures and contract execution being done electronically, the program quickly took off with originations in California peaking in 2016.

As the program expanded, more and more homeowner complaints of fraud and misrepresentation came to light. Ultimately Renovate America, the largest originator of PACE assessments in California had to file for bankruptcy in 2021, because of the 56 lawsuits and three class actions filed against it for consumer fraud and abuse.

Sadly, the homeowners harmed by the program will never be made whole, as the program administrators lacks sufficient assets and insurance to cover the damages.

The lessons learned from this experiment extend well beyond this financing model and should be considered if we are to continue innovating responsibly. These lessons include the need for a careful review of the business model before authorizing it.

The PACE business model incentivized fraud by using a sales force that had an interest in the financing being approved. Home improvement contractors would go door to door encouraging homeowners to make improvements. The program administrators would even identify properties with home equity and provide them as leads to the home improvement contractors.

The home improvement contractor would then inform the homeowners of the PACE program and have them apply online. Not surprisingly, many of the proposed home improvements costs equal

the amount of available equity the program administrator had identified.

Ultimately, California passed consumer protections to prohibit this practice, but it still allows home improvement contractors to be involved in the financing application and verification of homeowner eligibility, which has been problematic.

Another lesson learned is the need for greater protections and monitoring of electronic transactions. Most PACE finding transactions were handled electronically. When the homeowner did not have an email address or did not understand the technology, the home improvement contractor would set up email accounts for them or utilize temporary accounts, such as NotatYourOwnFinancing.com, to submit their applications and have the homeowners DocuSign their assessment contracts.

Homeowners were told to scroll and click. They were given no time for review. For example, DocuSign audit trails showed homeowners reviewing and signing 57 page documents in just one minute. The audit trails also showed that transactions had no security measures in place to verify the homeowner signatures.

Yet in spite of audit trails that showed these false email addresses in over 6,500 transactions, no one questioned the validity of the assessment contracts.

Another lesson learned is the fear of predatory inclusion of non-English speaking or English as a second language homeowners and older adults. The PACE program was marketed as a way to expand credit access to underserved communities. Instead, it jeopardized the housing stability of vulnerable populations, in particular homeowners in which English is a second language.

The PACE electronic contracts and disclosures were only provided in English in spite of the solicitation taking place in another language. Older adults were also targeted due to the equity in their home. Their inability to navigate technology allowed home improvement contractors to misrepresent the terms of the contract and execute the financing contracts without their knowledge.

The PACE program also demonstrates the need for regulation and regulatory oversight from the launch of a new product. In California, the PACE program was first authorized in 2014. But it was not until April of 2018 that program administrators were required to assess the homeowner's ability to pay. It took even longer for the

Department of Financial Protection and Innovation to begin licensing program administrators and regulating their industry.

The DFPI's supervision over the last year has uncovered significant issues with program administrators' application of the ability to pay requirements, problems they have identified even before the consumers had started to complain, which shows the necessity of having those regulations and supervision in place at the start or launch of these new innovative products.

Anne Marie Pippin: Stacey, you have one minute.

Stacey Tutt: The other and last lesson that I would like to highlight in my minute is the need for government oversight of their private partners. Though the PACE program required a governmental entity to authorize the transactions and sign off on the assessment contracts, most municipalities contracted with private financing companies to administer the programs turning over all underwriting responsibility and customer service to the private entities.

Even though the governmental entities were obligated to their bondholders, they provided little to no oversight of the program administrators and instead relied upon the liability waivers in their administration contracts to protect them.

And as these private PACE financing companies have gone bankrupt, the governmental entities are unwilling to unwind the final transactions due to their bond obligations, leaving the homeowners with little to no recourse.

We hope you will take these consider -- these lessons learned in consideration as you continue to innovate and offer new opportunities in housing financing. Thank you.

Anne Marie Pippin: Thank you, Stacey. Okay, up next we have Dominick Marchetti from Guaranteed Rate, then after Dominick will be Angel Hernandez from Stavvy. Dominick, over to you.

Dominick Marchetti: Good afternoon, everyone. I'm happy to be one of the few lenders represented today and be involved in the listening session. But thanks to Director Thompson and also to Jason Cave and his team. It's been super refreshing to have such proactive, you know, involvement from the FHFA.

I wanted to start by, by just kind of outlining how we're thinking about the industry overall. Some of this has been said, some is included in the RFI, and some not.

You know, first as I think it's been pointed out, you know, what's, what's, you know, surprising, but not is that there's increasing operational costs across the industry, you know, in excess of $10,000 a loan by recent numbers. And increasing technology costs, those are supposed to have an inverse relationship. They don't.

There's a very limited number of core platforms. So everyone's using for the most part, you know, a few key platforms, including, you know, LMS providers such as Encompass, EmPower, and MSP, on the servicing side.

And there are very high switching costs, right, if you were to want to change out those platforms. Everyone's using kind of the same underlying systems.

There's a vast number of third parties, so as you walk the exhibit halls and see people on this call, there's, there's lots of technology, pretty limited adoption, and it takes multiple cycles to drive adoption.

And, you know, as we saw on this call, the industry is really flush with, with bright people, you know, good solutions, many of which on this call we partner with at Guaranteed Rate. You know, the process is largely unchanged since I've been in the industry, you know, since the mid-'90s, and it's still largely -- it's, it's the same kind of serial process that we've seen.

There's a large number of counterparties to, to originate and close a single transaction in the, you know, in excess of 100, if not more. And super highly fractured in the lending community with 4,200 plus lenders, you know, at current count, you know, very, very fractured, right.

We have -- as, as an industry, we've, we've been very successful at solving for transaction volume fluctuations. You know, people have pointed out 30 million plus, you know, loans have been closed historically in servicing. You know, last year over $4.4 trillion. You know, not great at serving customers outside of the individual transaction. But pretty good to deal with cyclicality in the market.

That cyclicality has had a really large impact, right, and first on people. So we hire and fire in this industry to account for, you know, fluctuations in the market. You know, very negative impact on people, ultimately consumers as well. That drives up the cost and, you know, decreases kind of the knowledge in the space.

You know, to frame GR and, and how Guaranteed Rate is positioned, you know, we're a top retail lender, we dominate some of the

leaderboards for top originators. We developed the industry's first digital mortgage. I mention those things because these attributes really have given us the, the ability, one of few to really maintain and attract and hire a large technology team.

We lean into security as a differentiator to increase consumer confidence, and to continue to drive adoption of, of digital tools. And we really embrace the idea of, you know, digital tools and, and embracing technology and FinTech as a whole.

Our goal is to reduce cost and complexity for the consumer, providing them timely, relevant, predicted off -- predictive offers across multiple different business lines, starting, of course, with mortgage, HELOC, consumer loans, and adjacent businesses such as title and insurance, and things like that.

You know, we provide our originators great insight into customers with data. And the idea is to remove all mundane functions to allow them to really focus on what they do best is to advise the consumers, you know, be a consultant direct them, and, you know, again what remains a very large -- maybe it’s the largest financial decision of their lives.

What I would also say is that, that, you know, despite the very large budget, you know, the responsibility of that large budget, we spend a huge percentage of our time, more than half of our time on what I refer to as plumbing. So we're evaluating and integrating really what should be commodities at this point, and how to intersect those and integrate them with, with all of our different systems and counterparties.

And then the other thing is educating those counterparties in terms of how and why data could be used, and why it will have a positive impact on consumers.

So again, you know, for FHFA, to be driving this listening session, it's key to, you know, kind of sharing that information. And we can share, you know, real information and real statistics, and real financials around how we've been able to, to really pass through a direct benefit to consumers.

That brings me to the ask. So FHFA enablers to drive FinTech adoption and innovation include, first, you know, focusing on enabling key tech homeownership, right, technology, enabling homeownership, not for parity of GSEs.

You know, last year, the -- or I’m sorry, a couple of years ago now in the previous administration, really limited innovation by restricting

the use of tools that, you know, Freddie offered, such as [inaudible], you know, the pre-check API, which evaluated sort of a property and the ability for, you know, the requirement around collateral for that property.

You know, outside of an individual transaction. You know, ultimately, you know, it increased the cost for, for consumers, and we couldn't serve all the consumers that, you know, we would have been able to otherwise.

More information allows us to better serve the market. So we'd ask the FHFA to continue to support, you know, new data sources, driving down costs, reducing friction to the consumers, and ultimately, ultimately streamlining the processes, which will have a huge impact on adoption and, and how consumers are able to use some of these tools.

Anne Marie Pippin: Dominick, you have a little under a minute.

Dominick Marchetti: Great. Interoperability, as has been mentioned, focused on data standards, again, with a focus on reducing cost, complexity. And to leverage all of the sources and platforms and people, you know, on this call and otherwise, is critically important. Once we have a common language, you know, we're able to move faster and ultimately. Again, focus on really the outcomes we're looking for in differentiation in terms of how we interact with consumers.

Second to last is ensuring appropriate security standards. So this is critical to the increased consumer confidence, and again, to streamline adoption. So the more data we have, the more critically it is we lead with, you know, different tools and, and security standards to really drive confidence.

And lastly, thank you for, for, for scheduling this. And I'd ask you to continue to interact directly with industry leaders, GSEs, vendors, and lenders, you know, we'll give you the best and most direct feedback. Thank you very much.

Anne Marie Pippin: Thank you, Dominick. Okay, up next is Angel Hernandez from Stavvy, and then after Angel will be John Liss, from True Footage. Angel, over to you.

Angel Hernandez: Thank you, Anne. Good afternoon. My name is Angel Hernandez. I serve as Vice President of Industry and Regulatory Affairs for Stavvy. At Stavvy, our mission is to build and provide technology that transforms fragmented mortgage lending processes into trusted and seamless experiences.

We aim to enable mortgage market participants to focus on what matters. That is, advancing sustainable homeownership, and providing high quality services to homeowners across all business cycles.

I'd like to say that both the Request For Information addressing FinTech in housing finance, as well as today's public listening session on this topic, evidence the Federal Housing Finance agency's commitment to understand technology driven developments, and also to facilitate responsible innovation.

So before anything else, we would like to just say thank you for this commitment. I believe without reservation that it is only through collaboration and the adoption of new tools that we can truly address the fragmentation, complexity and inefficiencies in the mortgage ecosystem that contribute to inequitable outcomes.

You know, likewise again before going further, let me thank you ahead of time in advance for taking on the efforts that will surely ensue for the Office of Financial Technology from the public input that you receive.

Now at Stavvy, we believe that a fully digital end to end mortgage ecosystem is necessary to minimize compliance risk and to optimize the production models as to really unlock the, you know, degree of product innovation, and the degree of liquidity that is essential to advance the best interest of all consumers. But particularly consumers in underserved communities.

Likewise, we believe that the critical path to such an ecosystem must, by necessity, cross the bridge that separates manual and, and paper based processes from a truly paperless world. Right. So for that reason, our technology aims to eliminate the use of, and need for paper documentation from any and all mortgage transactions.

Now we are proud to have led the way in deploying an engine that enables lenders and servicers to identify the extent to which any transaction across the mortgage lifecycle can be executed, notarized, recorded and transferred electronically.

Similarly, at, at the height of the pandemic, we deployed proprietary technology to ensure that servicers could execute recordable and electronic loan mods remotely and safely to meet the needs of distressed homeowners, you know, at, at a time of particular sensitivity.

Now I say this because our efforts would meet -- were made possible, largely in part due to the guidelines and standards that

were circulated previously by the government sponsored enterprises and Ginnie Mae, in promoting the adoption of electronic closings.

So you know, this experience really leads us to our first point of consideration for the Office of Technology and Innovation. And that is the universal need to promote and maintain standardization for the use of new and emerging technologies. Right.

I think interoperability is a key concept that we all need to keep top of mind. So and I would like to just speak to the role that the office can serve from four perspectives.

So one, for stakeholder engagement, you know, we would encourage the Office of Technology and Innovation to be active participants, you know, across the various industry, standard setting bodies that exist, their working groups and committees.

We believe that participation of this office in those working groups and committees would be again probably one of the most effective ways we have for facilitating open, timely, and continuous discussion of the challenges and opportunities that are presented by the application of FinTech to housing finance.

Two, we also ask that you consider the development of a framework that balances on one side, the need for and desirability of pilot programs within the GSEs. And on the other, the risk for entrenchment of a particular, a particular tool, technology or service provider.

We believe that, that pilots or trial programs launched within the GSEs are effective -- an effective tool for assessing the value proposition of new technology and to identify the associated relevant -- relevance performance metrics.

Again, that one, as a technology provider to be clear, we welcome and encourage more pilots, you know, but at the same time, we recognize that the right level of program maturity at the right level, you know, these programs should lead to the development and publication of standards that does support competition as well as far as further innovation.

Three, we would encourage the Office of Technology and Innovation to play a key role in promoting alignment and the technology adoption initiatives across government federal housing agencies. Any situation where market participants have to adopt bifurcated processes based on loan type or specific investor requirements,

represent a significant barrier to adoption -- to widespread adoption.

In my previous role at Ginnie Mae, you know, I had the privilege of spearheading the eNote and digital collateral program for the agency. And I can recall the end of the FHA --

Anne Marie Pippin: Angel, you have about one minute.

Angel Hernandez: -- played a crucial role in facilitating discussion. So again, we would encourage that the new office continue providing the space and opportunity for those conversations to continue as, you know, modernization efforts are launched across the various housing programs.

Four, we believe that similar to what FHFA has done for capital and liquidity standards, engagement between its office and other federal and state regulatory bodies, will be crucial to establish and maintaining a degree of standardization, particularly as the roles of mortgage and digital assets begin to converge.

So again, I just want to close today by, by thanking you again for this opportunity, and by expressing our commitment to engage and assist the office in the task ahead. Thank you.

Anne Marie Pippin: Wonderful, thank you, Angel. Okay, up next is John Liss, from True Footage, and then after John will be our last speaker, Steve Majerus from One Lending. John, you have the floor.

John Liss: Thank you. Thank you to the FHFA for putting this event together. I'm John Liss, and I'm the CEO of True Footage, a residential appraisal technology company with hundreds of appraisers operating in 39 states.

I'm here to talk about adjustments, and I know Hansel and Jillian also discussed this earlier. So I hope this underscores how important this is for our industry.

The housing finance sector would be in a much stronger position if there were a more objective and rigorous appraisal process that all appraisers follow. Fortunately, the technology needed to produce human led appraisals that are data driven is already on the market. And after comp selection, the adjustment process has the highest impact on the appraiser’s final opinion of value.

So I first want to quickly go through what the problem is and then kind of come through with what the recommendation is. So the problem is that many appraisers don't base their adjustments on a

rigorous analysis of the market or don't make the necessary adjustments at all.

We've seen the data from both Fannie and Freddie. At Freddie, according to Scott Reuter, appraisers adjust for market conditions or even try to develop market conditions or time adjustment only 20 to 25% of the time. Meanwhile, from Lyle Radke at Fannie Mae, his data shows that appraisers tend to make a $45 per foot adjustment for GLA across the country, despite the fact that the median price per square foot varies dramatically. So that means that appraisers are making the same $45 adjustment in Michigan that they might in New York or California.

Adjustments are clearly too subjective. The result of that means much more risk in our system and significantly increased chances of inequity. However, some adjustments are not viable to be fully automated. View is a good example of that and condition is another. And it's important to note, we keep focusing on the comps. But comps are inherently redlined and present a much larger problem that is much more difficult to solve. Adjustment controls is really low hanging fruit that would have major impact on helping our industry clean a lot of the reputational risks up and make sure that our collateral is way more accurate.

So I'm recommending the following. The GSEs should require appraisers to provide quantitative support for a core set of adjustments. Doing so would significantly eliminate a portion of the issues seen with appraisals and strengthen the safety and soundness of the collateral portions of the GSEs' positions, excuse me. And the last thing is obviously, it would substantially reduce allegations and instances of bias.

So there are several softwares, including ours, on the market that are already providing the service, but it's critically important that we fix adjustments today. Thanks.

Anne Marie Pippin: Thanks, John. Okay, we have our last speaker of the day, Steve Majerus from Synergy One Lending. Steve --

Steve Majerus: Yeah, thank you for --

Anne Marie Pippin: The floor is yours.

Steve Majerus: -- thank you for sticking it out with me to the end here. I want to thank the FHFA and Jason Cave personally for reaching out to me and including me in the, in the panel today.

It -- it's fantastic for me to observe some of our partners who were prior speakers today, in bringing some of the topics to light that they have and in a very thorough and eloquent fashion, which I, I certainly can't outdo, but maybe I could add some additional color.

We're a mid -- a small to midsize mortgage originator. So our perspective is bringing a lot of the FinTech solutions that are both exist today and imagined to real life. And we like to think of ourselves as one of the industry incubators for such ideas, having participated and being an early adopter on many FinTech solutions that are commonplace today at some companies.

My perspective, I think is a little unique among this group, as I was at a company called eLoan during the dot com boom. And really the beginning stages of commercializing consumer lending and mortgage lending specifically on the internet.

And so I have seen from leadership positions at several companies over the last 20 to 25 years, the ups and downs of not only the mortgage business and the mortgage originations itself, but the industry swings on prioritizing adoption of what was -- what is now FinTech solutions. Versus several years of absolutely no adoption or interest for various reasons. And now, obviously, very much an innovative environment and a fertile environment for those things.

We like to think that as, as the modern -- building the modern mortgage experience, which is what we do, is taking and utilizing data in consumer permission data, maximizing the use of real time decision engines, reducing the friction and ultimately the embedded costs in the originations structure today that I think Dominick illuminated in his comments so, so well earlier.

I think the way -- because a lot of larger companies -- more well capitalized companies get sometimes earlier access to some technology from the -- that has been blessed or piloted by the GSEs, we think that we're a great incubator because we have a -- probably among the highest adoption rate among our salesforce, and our fulfillment teams in putting some of these things to real life.

I think that the, the point has been made by several, that certainty -- providing a certainty backdrop around some of these things by regulators would certainly encourage more adoption for companies like ours. Because that is -- it is the adoption of those tools and features and benefits, it's very difficult at the company level, in undoing or morphing or evolving some habits and mindsets of our own employees, who have been longtime industry veterans, been doing things one way for a long period of time.

And getting them to embrace the adoption of new, a new -- new client experiences they can introduce, becoming a black belt and introducing those experiences, and differentiating themselves from other companies is a key part of that.

Our success in adopting positive pay history and creating an ecosystem for financial savviness among consumers in our partnership with another FinTech provider called FinLocker, has given us a lot of encouragement and real time examples about how to do this as a company.

A couple of areas, I think I would like to highlight before I wrap up, that I think are ripe for some of the opportunity. And it's just covering ground that I think largely has been covered today. But I would add my voice.

In the appraisal space certainly is ripe, I think it's seen several examples. ProxyPics, is a great example of something that is a real life example of creating an improvement to the appraisal process. And using data effectively in reducing the friction and ultimately as well, producing a positive outcome that is more accurate over time.

Income automation, of course, we're proud of our partnership with both Finicity and soon -- and with FormFree in providing income automation solutions for consumers during the application process, not after the fact like most companies adopt this. Just for our processors and underwriters to go back and forth, and, and try and use some of the income automation tools available.

We, we think that mainstreaming these, these processes and workflows is critical to the success, not only of the adoption, but the success long term of some of these tools as well.

Anne Marie Pippin: Steve, you have a minute left.

Steve Majerus: Thank you. I obviously I think all of us would agree, or most of us probably, that FICO is an antiquated tool as a, as a credit model. And while not everything is -- not all methodology is dependent on FICO, it -- a lot of pricing is still FICO based and that needs to be completely dismantled and, and reconstructed.

Obviously incorporating alternative credit to -- for credit assessment and creating additional opportunities for homeownership is, is fertile ground as well for the industry. And while again, we've been talking, in my career for over 20 years about eSign adoption, certainly there -- we've made progress there. But, you know, but the amount of, of closings that still take place by either through or at a title company today is completely absurd.

And, and I think the, the title of -- the title costs on a refinance for consumers in America is, is absolutely a consumer rip off. And should be -- other alternatives like insurance policies and things like that for people that have been in their homes for long periods of times, doing -- providing alternative solutions like that would not introduce risk to the system at all, either to consumers or the regulatory environment. So I --

Anne Marie Pippin: Steve, we are at time.

Steve Majerus: Right, I'm glad I, I used it all. I appreciate your time and, and great job moderating the team and keeping us all in check. And I know, I heard so many great things from some of my colleagues in the industry today. I look forward to continued discussions and participating with all of you in the future.

Anne Marie Pippin: We do as well. Thanks so much, Steve. So I just have a few closing remarks here. We've made it all the way through all of the speakers. Thank you all again for all of your thoughtful feedback and all of the informative presentations. I thought these were great and I can say, I certainly learned a lot.

I also would like to thank Natalie Krings, Phuong Short, Liang Jensen and Rebecca Cohen and all the other FHFA colleagues that helped behind the scenes to make today's listening sessions such a success.

As we've heard from several speakers today, the opportunity has never been greater to explore and facilitate where innovation can most effectively and efficiently transform mortgage lending.

We're turning our attention to understand the potential opportunities for these emerging innovations to help improve efficiency in the costly mortgage loan manufacturing process and improve equity in the housing finance space.

We also recognize there are risks that come along with innovation and we want to be proactive in the way we handle these emerging financial technologies and mortgage FinTech companies. We want to be able to anticipate changes, manage emerging risks and foster responsible innovation at our regulated entities.

I'm so impressed and encouraged by the participation on this call. I think we reached just about 200 participants on the -- on the call, and we had 24 speakers. And when I look at the list of speakers and the list of attendees for today's listening session, it really underscores how critically important it is to bring together and work together with stakeholders with varying perspectives. And with different focuses in the housing finance and FinTech sectors.

I can't emphasize enough that we're open to hearing and would like to hear from as many different stakeholders as possible. So as a reminder, again that our RFI can be found on our website. And the comment period is open for a little over a week now through October 16th.

Let me close by thanking you all again. Thank you for taking the time out of your day today to discuss such a critical issue with us and we certainly hope you have a good evening. Take care.