

— PARTICIPANTS**Corporate Participants**

Richard G. Thornberry – Chief Executive Officer & Director, Radian Group Inc.
J. Franklin Hall – Chief Financial Officer & Senior Executive Vice President, Radian Group Inc.
Bill Tomljanovic – Senior Vice President, Chief Investment Officer & Treasurer, Radian Group Inc.
Daniel Kobell – Senior Vice President, Financial Planning & Analysis, Radian Group Inc.
Robert J. Quigley – Chief Accounting Officer, Senior VP & Controller, Radian Group Inc.
Emily Riley – Senior Vice President-Corporate Communications & Investor Relations, Radian Group Inc.
Derek V. Brummer – Senior Executive Vice President, Mortgage Insurance and Risk Services, Radian Group Inc.
Meghan Bartholomew – Senior Vice President-Credit and Counterparty Risk Management, Radian Group Inc.
Marshall G. Gayden – Senior Vice President-Account Management, Radian Guaranty, Inc.
Ted Cubbin – SVP, Chief Analytics Officer, Radian Group Inc.
Steve Keleher – SVP, Portfolio Management, Radian Group Inc.
Edward J. Hoffman – Secretary, Senior Executive VP & General Counsel, Radian Group Inc.
Eric R. Ray – Senior Executive VP-Technology, Radian Group Inc.
Brien J. McMahon – Chief Franchise Officer & Senior Executive VP, Radian Group Inc.
Michael Dziuba – Senior Vice President, Enterprise and Real Estate Services Management, Radian Guaranty, Inc.
Dave McCormick – SVP, Enhanced Sales, Radian Group Inc.
Katie Brewer – Chief Operating Officer, Green River Capital LLC
Jill Cadwell – Senior Vice President-Settlement Services Operations, Radian Group Inc.

Other Participants

Geoffrey Murray Dunn – Analyst, Dowling & Partners Securities LLC
Chris Gamaitoni – Analyst, Compass Point Research & Trading LLC
Bose George – Analyst, Keefe, Bruyette & Woods, Inc.
Douglas Harter – Analyst, Credit Suisse Securities (USA) LLC
Mark C. DeVries – Analyst, Barclays Capital, Inc.
Mihir Bhatia – Analyst, Bank of America Merrill Lynch
Jack Micenko – Analyst, Susquehanna International Group, LLP (SIG)
Mackenzie Aron – Vice President, Zelman & Associates

— MANAGEMENT DISCUSSION SECTION**Richard G. Thornberry, Chief Executive Officer & Director, Radian Group Inc.**

Good morning and welcome to our Investor Day. I appreciate everybody making the journey down to our little town here in Philadelphia. Many of you all have traveled and we appreciate it. We're pleased to welcome you to this beautiful venue that Emily and Terri and the team identified about six months ago and it's come together I think quite beautifully today. But for those of you who are also listening in on the webcast, we appreciate you taking the time today to participate.

We appreciate your interest in Radian. And today, I want to really take a moment just to thank our team for all the work, a few of you all have commented to me that, hey, this is quite a deck. Well, there's a lot of work that went into it, not just for the sake of doing work but really to try to display our business to you in a new and different way, so you can have a better understanding of how

we're thinking of approaching the business. And I also like to thank the team. I think we just reported our first quarter earnings last week and I think we're very proud of the progress that we're making.

As Emily mentioned, today we're going to have time for lots of questions. Feel free. We want this to be very interactive. We want you all to participate in however that you want, okay. So, we look forward to it.

So, let's begin. I guess I'm in charge of the slides. All right. So, today you're here to discover the new Radian. And so you can see what we see. And I think I'm going to leave you with that thought as we go through the business and as we go through the overview, this is an evolving company, and we'll talk about where we are today and where we're going.

But I think in our last Investor Day, back at the New York Stock Exchange in 2017, in November 2017, I was pretty new then, and we rolled out kind of a new One Radian vision, if you will. We talked about how we were bringing this company together. And since then, we've been busy executing the plan, and it's – I'm pleased today to report on many of those aspects of how it's coming together.

But today we're going to share with you some pretty important strategic insights across our business. So, clearly, we all know this business as a market-leading mortgage insurance company. But you're going to gain a greater understanding about how that business is evolving and how we're evolving across other aspects of the mortgage and real estate spectrum. So, I hope you find that helpful to better understand kind of the value of the business today and in the future and how we are competitively differentiated.

So, before we start, one of the things I wanted to do was just talk about a few key takeaways from today. And so, as you think about our business, we're developing an innovative, high-value mortgage and real estate enterprise; we're leveraging our core competencies to develop next-generation, disruptive business models; and we are focused on enabling better ways for – ways to do business, not only for market participants but also to build value for our shareholders.

So, some of the messaging that you're going to hear today that I just want to – you to think about, because you're probably going to hear these things throughout the day, whether we're talking about mortgage insurance or real estate services, or whether we're talking about the mortgage market or the real estate market. But today, we have significant future earnings potential and growing from our highly valuable, off-balance sheet mortgage insurance portfolio.

We have a broad customer relationship franchise across the key mortgage and real estate market segments. We're building a more durable, less volatile business model, really reducing cyclical exposure and improving shareholder returns through risk distribution and that's a trend obviously many of us have observed over the last year or so. It works.

We're executing the capital management strategy that enhances shareholder returns. It provides financial strength and strategic flexibility. And so, as Frank talks about our capital plan, you're going to hear him talk about what we've done and kind of how we think about the future.

So, a couple of other takeaways, so our enterprise core competency around aggregating, managing and distributing residential mortgage credit risk is becoming increasingly valuable as the market shifts. The credit risk market shifts from the government to private capital. So, our platform is highly valuable, not only today but going forward.

We have a competitive advantage to our diversification strategy that we believe will deliver enhanced returns and also value over the long-term. We're building our business through a digital transformation, leveraging unique data, proprietary analytics and innovative technologies. You're

going to hear that theme throughout, we call it the Radian Digital Core. And most importantly, we have an experienced and talented team, many of which are here today, which I hope you have the opportunity to meet.

So, let's get started. Couple of quick things. Today, Radian is a leading mortgage insurance company. I don't think there's any doubt about that. We're delivering strong financial results and we're strategically positioned for growth. We are building a market-leading residential mortgage and real estate enterprise, delivering a diversified set of high-value risk and transaction management products and services. And we do this through innovative next-generation digital business models that are powered by data, analytics and technology and are delivered to participants across the value chain, driving strong growth and value creation and shareholder return.

And we are driven by a corporate purpose, so I think when you kind of look at how we approach our business, we also are mindful of many things from the past, but also how we want to be, how we want to behave and act in the future. And so, when we think about it, we're in the business whether it's from our mortgage or real estate business, and ensuring the American dream. You've heard us talk about that, but the keywords are responsibly and sustainably.

That's not only good for our business to be responsible and sustainable in the credit risk that we take and how we structure our products, it's good for the consumer, it's good for the economy and so, through our products and services that span the mortgage and real estate markets.

[Video Presentation] (00:06:41-00:07:33)

There you go. That was a video that we shared at the MBA Convention in October of last year, as we rolled out our new brand. And I think not only has the brand rollout gone very well and been very well-received, it's also kind of defining kind of who we are as a company coming together, truly as One Radian. So, we want to share that with you a little bit as we get going through the day.

All right. So, we're building from a position of strength. And I want to walk through some of those elements of our business that really provide us a strong business foundation. First and foremost is our financial strength, if you look at the demonstrated financial results that we've had, the attractive returns that we've generated, the \$224 billion portfolio, which you're going to hear throughout the day how valuable that is not only in current value, but also future earnings potential and also, just a strong capital base. And you've seen as we've gone through the last several months, our capital actions really further strengthening that.

So, the second one I want to talk about is mortgage credit risk expertise. And so, as you understand Radian from a mortgage credit point of – mortgage credit risk management point of view, we have many years of experience. We've invested in best in class mortgage risk analytics. That's not only about the loan, it's about the customer including the originator and servicer. And we have loan underwriting and loan due diligence platforms that create a unique opportunity for us around the mortgage credit risk expertise category.

We have broad customer franchise. And so, Brien is going to cover this in a little bit more detail – actually, quite a bit more detail later on today. But when you think about our customer franchise, it goes beyond just the lenders. And I'll provide some numbers here in a second, okay. We have lenders, we have real estate and mortgage investors, not just mortgage investors, but real estate investors like SFR investors and we have a broad relationship framework with realtors across the country. Again, kind of pulls together our broad customer franchise and so, again, I'll give you some numbers here shortly.

Our diversified business models are broad and cover the mortgage and real estate spectrum. They're innovative, and yes, many of them are kind of still in the development stage or early stage from a profitability and contribution point of view. But fundamentally, they're driven by data and

analytics and technology, which kind of go towards how we're building the digital business across Radian.

So, across Radian, from a digital perspective, we leverage data, we leverage our proprietary analytics powered by technology and that goes across everything. So, when you think about the data that we have from a mortgage origination data, mortgage servicing data, securitization data, a broad base of real estate data, that's a strong foundation for us to build from. Truly, today, we're a Big Data business, we are leveraging our own proprietary analytics and powering our products and services through some innovative technologies. So, I think, again, from a foundation point of view that broad data and analytics framework works very well for us.

And again, I'll just emphasize the fact, I think since I've been here for a little over two years now, one of the great surprises and that I found when I got here was an extremely strong team. And we continue to focus on attracting and retaining world-class talent around a consistent set of values that drive our enterprise every day. But the thing I'm most proud of from a business point of view is that we are actually working as one team in One Radian. And so, it's very interesting. It's been very rewarding to see that come together.

Also, many of you are familiar with our strong financial performance. We took a little shot here over a three-year period of 2016 to 2018, and you can see earnings per share, returns on equity and book value per share growing nicely, delivering attractive results. Our insurance in force is growing 10% year-over-year. Now that's – that – sometimes, comparably, that sounds like more a loss, but when you think about the absolute size of our portfolio, the amount of high-quality NIW and the growth of that high-quality asset that sits off our balance sheet, it's extremely valuable. So, we've seen NIW grow year-over-year and I think that you can see the trends.

And obviously, something that we've all paid attention to in the past has been our primary default rate and you can see that dropping, even in the last two years – three years, dropping materially from – of course, it was much higher before this, right. But dropping from 3% to just above 2%. So, I think we're proud of the results, and I think our first quarter results that we just walked through last week, I think, are an indication of continued strong financial performance.

So, I mentioned our customer franchise, and again, Brien will cover more of this, but today those relationships provide a tremendous amount of strategic insight across the variety of markets. So, you might say, why does a mortgage insurance company care about insights from a real estate perspective? Or a real estate market, why would we care about insights from a mortgage market perspective?

So, we're able to aggregate and kind of curate all that insight we get from our customers to understand how the mortgage and real estate market is evolving, and that becomes very important. So, today, we do business with 1,200 or more mortgage lenders pretty much every day. We do business with 300 mortgage and real estate investors, and when I say real estate investors, primarily around the single family residential. And then every day we're doing business with realtors around the country, about 18,000 of them. So, it's not just a matter of actually just giving them some information or them buying a service, they're actually doing work for us whether it's BPOs, selling our REO properties.

So, we have strong financial relationships with these realtors who see us as a business partner, so very unique kind of franchise. The breadth and depth of our market relationships is unique and it serves as a really strong foundation for us to distribute our products. But probably more importantly, to really connect the ecosystems across the mortgage and real estate spectrum and we're seeing more and more opportunity around that.

So, we have valuable scale and I'll just click through these real quick. We've insured nearly 7 million loans and we've done \$240 billion of new insurance covering 983,000 loans in the last five

years. That's a huge number, right. So, scale matters. We developed a high value, high quality insurance and force portfolio of \$224 billion, representing over \$1 million loans. And the scale of our business goes well beyond our mortgage insurance business.

We've reviewed through our due diligence business over 17 million loans and maintain a database of \$2 trillion of original loan balance transactions. We've aggregated 130 million – over 130 million property records into our proprietary database. We have \$1.4 billion of (sic) [1.4 billion] photos in that database. So, when you hear Eric talk about how we're beginning to use that data and information in the photographs from an artificial intelligence perspective to really identify trends in real estate, it is truly game-changing.

But the other fun fact I'd like to point out whenever we talk about photographs is every month – and Jeff Jonas is in the room here somewhere – every month, we take in 20 million to 25 million photos of properties across the U.S. So, the data is very rich. We've done over 40 million valuations, 40 million, and we've sold over 200,000 properties through our REO business. So, scale is important.

And I think when you combine all of that together and you think about the data that we're aggregating from a data and analytics platform perspective, we gather data from a variety of both internal sources across our businesses. As I mentioned, we're grabbing mortgage underwriting, and securitization and all the different aspects, we also blend in public data or other third-party data to really build the strength and reliability of our data that we're using to power products and services.

And so, when you look at it, we take that data from a Radian perspective and we're beginning to get very good at this. It is at our core of how we think about the business. But we're using it to manage our customers, we're using it to manage our risks, we're using it to manage pricing and we're using it to design and improve processes. We're using it to design and improve products and services. And the thing that I think is most exciting about the future is how this data and analytics platform differentiates us and our ability to also create a disruptive business model. So, it's an important part of our foundation.

So, I think, as we think about our business, I also think it's important to kind of give you some insight into how we think and what we believe about the macroeconomic factors that affects our business. So, I'll go through a few of these, we put a nice slide together here with each of the eight items or six items. So, I want to talk about each one.

The mortgage market, so when you think about the mortgage market today, it is a purchase market. We expect in 2019, the overall market to increase slightly with purchases growing and refinances declining. This is really a first-time homebuyer market, I think we've used the statistic around 30% of all purchases are first-time homebuyers. But if you look at the Ys and Zs that are earlier in the market today as first-time homebuyers, that is a large force that's starting to come into this market, driving the purchase market.

So, we continue to see modest growth in our purchase market going forward and we believe that that strongly positions the mortgage insurance product going forward through the cycles as we can see going forward, because generally first-time homebuyers require a less than 20% down payment mortgage. So, as you know, purchase loans are 3 times to 5 times more likely to be use MI than are refinance loans, so we like the mortgage market.

The mortgage credit environment remains strong. We continue to see the loan attributes of loans coming through as being very strong. We see originators and servicers performing very well from a defect and from a quality point of view. So, origination and servicing quality is strong. And so, we know the mortgage environment is going to go through credit cycles from time to time, but the strength of the underwriting, the strength of the asset and the loan attributes continue to create a positive environment to be writing mortgage insurance.

And I think as we go through these cycles, our disciplined credit risk management, expertise, our risk distribution, our strong analytics, the regulatory safeguards that are in the business today create a – significantly mitigate the financial risk, but also create a less volatile business kind of through the cycle, so we again we like the environment that we serve.

The MI competitive environment, so you all have actually written about this and have curiosity about it. This clearly evolved from past practices, and we were well prepared for that. There's no doubt about it. The transition to risk-based and granular pricing models is expanding rapidly. Yeah, we talked about it last week in terms of how our RADAR Rates have accelerated in terms of representing the mix of our business and Derek will talk about that more.

But lenders require flexible MI structures, right. One size does not fit all, and we hear that from our lenders every day, large and small. Some were able to adopt different methodology. Some have different [indiscernible] (00:20:00). So, we try to remain flexible. We think the PMIERS capital requirements provide a strong framework to mitigate irrational competitive behavior. They ultimately were all measured different than prior to the financial crisis, but similar – important today, we're all measured by the same capital standard.

But we also believe that knowing the customer, the originator and the servicer matters a lot in this competitive environment. And I think – so, we believe today based upon how we see the market that our core competencies around risk management and analytics and most importantly, around the ability to price and underwrite and then aggregate, manage and distribute that risk effectively, put us in a great position to both compete and grow the value of our mortgage insurance portfolio.

So, again, the competitive environment, when I think about it, [indiscernible] (00:20:56) we saw this on the call the other day. But inside – kind of a little inside baseball here, inside the walls of Radian, we view this environment as playing to our strengths and we're in a great position to compete and grow the value of our portfolio.

Housing finance reform, despite an awful lot of well-intentioned efforts over the past few years, it appears to be no clear legislative path for any solution. Yeah, that could change any day. But when you look at the dynamics of the House and Senate unlikely, Ted and Kara will have a healthy discussion about that over lunch. I think you all will find both entertaining and interesting, because Ted and Kara are both entertaining and interesting people.

But we're closely following what's happening in D.C. And I think we saw the President's the various administrative reform options from the White House, the Treasury, FHFA and HUD, we'll have to see how they play out. But today, we believe ultimately because of the shift of credit risk from the government to private capital, the role of private mortgage insurance to provide low down payment, credit insurance if you will to borrowers continues to be an important component through almost any scenario that we can imagine. And so, we think we're prepared for the multitude. We think it was kind of like a Monte Carlo model, all the different scenarios that could play out, how does that ultimately end and ultimately private capital matters and that's really where we're positioned.

So, I think as an experienced and sophisticated private capital mortgage credit risk investor, we're well positioned for the outcomes of the different scenarios it could play out. So, again, Ted and Kara will deal with that a little bit more for the people that are here in Philadelphia over lunch.

Mortgage securitization, I'll do this real quick. It's developing slowly. It's developing slowly although we see some – it's still low volumes based on historical perspective, but we're starting to see growth come back, right. We're starting to see this market come back. There are some factors that are being addressed, but there are leaders in the marketplace specifically Chase, specifically Redwood, a number of others who are really kind of starting to set the standard around the PLS market going forward and how it should operate. And so, I think we're watching it. We believe it is

going to come back. We believe the expansion of the non-agency market kind of increase in liquidity. And we think it's going to provide opportunities for both our mortgage risk and our transaction services business.

And finally, last comment around digitalization. The digitalization of the mortgage and real estate market is well underway, right. We hear a lot of discussion. There's a lot of investment, a lot of venture capital going into it, a lot of mature companies like ours investing in digitalization of our business and our products. And so, we believe that the emerging Y and Z generations aren't going to accept traditional business models that we want to be in a position to evolve ourselves to meet those needs.

And I think when you look at the origination market and how the profitability is being driven by lower margins and increasing cost, I know some of the analysts in the audience they cover the mortgage origination space as well. It's pretty difficult situation in the mortgage world, the guy who was a mortgage banker before became a mortgage insurance person, we're – this is a difficult environment and the industry has kind of done it to itself by not necessarily addressing the fundamental cost structure of the business.

The digitalization is going to drive – the winners the losers are going to be defined by who can successfully invest in technology, transform their businesses to increase transparency, improve service and reduce cost. So, we believe our set of services are well positioned for that and we look to be a leader in that digitalization of the mortgage and real estate markets.

Okay. Now, I've mentioned this a couple of times and again you heard it in the takeaways. I want to talk about the value of our private capital platform, okay. So, when you think about our mortgage insurance business, we call it a mortgage insurance business. But really what we are is we're very sophisticated, very experienced investor in mortgage credit risk, right. And so, we believe today the world is evolving and it's evolving – it's been evolving but we think the pace is going to continue to accelerate and we're at the front end of an epic shift of mortgage credit risk from the government to private capital.

We have the strategic ability to aggregate high quality mortgage credit risk to our strong customer relationships that we talked about a minute ago. We can manage the risk with our highly experienced credit risk management platform. And we can distribute all or a portion of the risk to the capital markets and reinsurance markets.

We're very, very compelling, very well-positioned conduit to aggregate, manage and distribute risk. So therefore, in the new mortgage world, okay, our ability to aggregate, manage and distribute high quality mortgage credit risk across our private capital platform, combined with our financial strength. And remember, you're going to hear me say this in a minute, having capital matters, I think leveraging the businesses up in a way that you're living on the marginal capital dollar is not the right strategy; having capital strength during the cycle matters.

So with our combined financial strength is a valuable asset and I say to many people, as I think about this business, these "mortgage insurance franchises" are very valuable businesses if they're managed well towards the future. If we manage towards the past, it's – the game is changing too fast. So, we're managing towards the future. So, as I think about net-net, we're a highly sophisticated, well-capitalized residential mortgage credit investor.

Based on the strength of our relationships with our customers and with the capital or reinsurance market investors, we are positioned to play a larger role in the market shift from government to private capital by aggregating, managing and distributing high quality mortgage credit risk. We're no longer in originate-and-hold model, although we have the capital to do that. We are in an aggregate, manage and distribute model with a strong capital base to support the market, specifically our customers through the various economic cycles.

The combination of our entity-based capital with demonstrated access to the capital markets and reinsurance markets – when you think about its \$300 billion reinsurance market, a much bigger capital markets, we're well-positioned to be an important player in this market today. We also understand – and this is something that I learned very early in my career. We understand that credit quality drives liquidity, okay. So, we can't just originate and distribute. That did not work out well for mortgage bankers if you remember back pre-financial crisis, okay.

Credit quality drives liquidity in the capital and reinsurance market, as such we're early but we believe the rating agencies and investors will distinguish via execution levels for issuers who demonstrate transparency and quality related to the risk that's distributed. So, not only at a low level – so if you think about how the PLS (sic) [MI] market is developing where everybody who's in the program has kind of displayed from a disclosure point of view. So, when we think about the distributed risk, it's not only about the loan attributes, it's who originated the risk and who is servicing the risk.

So, we think – we believe our data and analytics are across all these different elements, put us in a very strong position. And Meghan and Marshall and the risk and sales team work every day across our customer base to improve the performance of our customers, by the way, to their benefit. It benefits us, and it benefits them. We have many customers who we talk to them about their business, and they're surprised to learn some of our observations. So, we leverage those analytics. And I think Derek will talk about how that's driving improved economic value to our portfolio. So we're careful not to assume that the capital and reinsurance markets will always exist at an attractive economic execution through all cycles.

So we all know spreads can widen and tighten, and we've seen how that movie played out in previous cycle. I've probably seen three or four of them, the worst more recently. But we've seen how that plays out. So this is why a strong capital base is important in times of market dislocation so that we can truly lean in to the market opportunistically or strategically with our strong capital base drive value for our shareholders.

As I said previously, we see the combination of our capabilities from a credit risk management point of view, our relationships in the marketplace both from an investor and a customer point of view, and the capital as a highly valuable franchise, going forward, in a rapidly evolving mortgage market. So we like where we sit. We feel like we're in a position of strength. Again, the evolution of the market plays to our strength, and we're happy about where we're at.

I want to take just a couple minutes and talk about the value-added of our services business. I know from a relative financial contribution, the results today are small, and we can talk about that. But I want to kind of shed some light as to how we think about these businesses.

And so, today, they add important value, and that really comes in two forms. First, the competitive differentiation that it provides us from an MI customer relationship is extremely valuable. I can tell you the first hand. I can tell you second hand. I can tell you a third hand. But in my own conversations with many of folks in this room who talk to our customers about our ability to sit in a room with the CEO of a mortgage company or the head of a bank mortgage company and talk about other ways we can help them transform their business in the context of, we already have a great MI relationship, how can we help you build your business and change the profile. Remember, they're struggling and we have capabilities that are extremely valuable to them across our different services including structured risk services. So, that competitive differentiation puts us in a position to have a different relationship with the customer. And I think Brien will share some examples with you.

The other thing that is important today and we benefited from it every day, and part of the reason why we did the Five Bridges acquisition late last year was the data and analytics that we derive

from these businesses are extremely valuable. So when you think about it today the combination of customer differ – the ability to be competitively differentiated and the ability to leverage the data and analytics across a broader platform puts us in a great position.

So in the future, we see the opportunity for these businesses to truly be strategically differentiated, but also Radian to have a broader platform in terms of – from a business diversification point of view. We also see the financial contribution opportunity from each of these businesses. And so, we also believe that these businesses build value. And I would highlight specifically our real estate services business and our title business, which again Eric and Brien can talk a little bit about the difference of our title business versus some of the large title players. We are actually very positioned and very disruptive players in those markets, not tied to any legacy models from a historical context, and we have data and analytics and technology to power our business. So, we're excited about the valuation opportunities.

As I put here on the slide, we believe enterprise value actually grows and I think we see that and believe that ahead of actual financial contributions. These are businesses that are much more – especially our real estate services business, are much more like the proptech world and the fintech world today. And so, we're making the investments to make these very unique and disruptive businesses.

So, let's go through a little bit about kind of how we're going forward. So, today, Radian is – and you all are familiar with this because this was in our earnings report, similar slide. But today, we have the core building blocks in place to build this entity that is strong in terms of a market-leading, next-generation, but diversified mortgage and real estate enterprise. So, our mortgage insurance, our mortgage risk services, and then our mortgage services, real estate services, and title services really come together. And with our customer franchise, our capital, combined with this diversified sale services and analytics, informing the data that we gather, really strongly positions us for the future.

So, as we think about it, today, we have a really simple model, okay? Sometimes it sounds complex because we talk about MI, we talk services, talk about all these different things, but the picture I'm going to show you next will kind of pull it together. But when you really think about what we're doing today, I mean, we are very market-focused. We're focused on building our brand. We're focused on the customer relationships and how do we grow and expand and deepen those relationships. And so when we think about customers, we can think about across multiple products. And Brien will share some information about the progress we made on that front.

We have a diversified set of products. We believe that's important. It's not going to be a one-trick pony. And I think in terms of our products and services, we are driving innovative approaches to these products and services, on MI side and the risk services side across our different services business. We're focused on operational excellence. We focus on service and quality and efficiency and effectiveness. We focus on enterprise risk, not just credit risk, right, but our enterprise risk management platform across this company, I would put against anybody in terms of how we manage the disciplines of risk across the business, and how this entire team participates in that.

Our data and analytics framework are part of our operational framework. As I showed earlier, we use it to inform a lot of different activities. We have digital platforms that we have in place that we're building. And so, this is how we drive our operational excellence. From financial management point of view, Frank makes us focus on financial performance. But I think we've demonstrated a consistent track record. Insurance portfolio is extremely valuable both in terms of future earnings and the current value of that from a off-balance sheet value perspective.

We think risk distribution as both a risk management tool and, in some ways, a capital management tool is extremely important. But, again, remember I said we're going to hold strong capital relative to being able to look through the cycle. So we think capital management and capital strength matters.

And I think the other part of our business model just have a great team, great team, might have heard of that before.

So today this looks like a really complicated chart. I'm going to make it simple for you. And I think the easiest way to think about it is there's really – we think of our business kind of across three core things. So when I was here – when I guess we're at the New York Stock Exchange in November of 2017, we talked about One Radian. At that point in time, the company was dispersed. We've done a number of acquisitions. We needed to bring those in and integrate not only strategically but also some of the kind of the corporate activities, accounting, legal, HR, all the things that need to come together so that we can leverage the core strength of our business.

So think about from an enterprise, integrated enterprise management structure, around corporate services and how we allocate capital, the next thing we really think about is digital core. We think about the combination of data and analytics and technology, and we think about that and how it powers our business, how it provides insights into our activities, again how does it influence our products and services, how does it help us manage our business. And so we think about feeding our products and services, informing our sales and marketing efforts.

If you think about sales and marketing going forward, models are evolving very quickly to rely upon data and analytics just as much as personal relationship. And so, all those things drive towards the customer. So we think of the world as kind of how do we develop products around the mortgage base and how do we develop products around real estate space. And I'll kind of walk through those things.

I think if you think about all of this being kind of a diversified business and informed by data and analytics and powered by technology. We were really in a very unique position to kind of drive strong businesses going forward. So I'm going to flip through these relatively quickly.

In the mortgage market, all of our services are relevant, but the value we generate is in our ability to underwrite mortgage credit risk from a borrower, property, compliance, servicing, and then invest in that credit risk. You can read this chart at your leisure, but we listed products and the customers. And if you think about it, we really cover a broad range. And so, if you look at the right-hand side of the chart, the mortgage insurance – typical mortgage insurance will cover a few categories. But again, we cover a broader set of categories which make us relevant to our mortgage customers every day as they are thinking about, at the highest levels, how to improve their businesses.

From a real estate point of view, really our real estate services and title cover the real estate market. And you can see that the customers from a consumer, a realtor, investor, lender, GSCs, we have a unique set of assets. But we really think those assets position us well to be a very disruptive proptech player going forward, and I'll talk about that in a little bit. So you can see that our products cover again across the real estate space. We're in a strong position to kind of enhance transparency and reduce transaction friction across all the real estate markets.

So, again, you may not be used to thinking about this, but think about us going into a customer and having all these capabilities to talk to about. So we're in a position today to really kind of evolve our business and our blueprint through some strategic phases. And we think today that we're kind of evolving our products and services, transforming our strategic products and services. So as we go forward, we see these businesses evolving into highly disruptive business models. And again some of this is very proprietary, but when you start to take and you start to think about the data and analytics technology and capabilities that we have and how that can play in the future mortgage and real estate world, I think we're in a very good position.

So, I just want to quickly talk about how we're focused on building value across Radian, I think how we think about it. So, no surprise. We continue to focus on building the value of our mortgage insurance portfolio. By the way we do that through absolute growth. We do that through risk

distribution. We do that through all different forms of enhancement of the value that we think about every day. We're focused on growing the distribution – the contribution from our structured mortgage solutions. And I think as the mortgage market's evolving, that's going to become an increasing and more interesting aspect of our business. We continue to distribute credit risk for the capital reinsurance markets; that builds value where we're growing and expanding the financial contribution of our services business. We're leveraging digital platforms to drive growth across our businesses.

And so, capital management which Frank is going to spend just a few minutes on, we have evolved our capital structure in the last 12 months to 18 months materially, right? And it's material from a point of strength to a point of greater strength tonight; there's a great deal of strategic flexibility and financial flexibility. So capital management we think drives and enhances return to shareholders. We're going to continue to drive earnings growth through operating leverage and we're focused on the key value drivers across our business.

So ultimately in our business there are strategic catalyst for value and each of the things we do, we look at them in aggregate, we look at them in the parts. With the other catalysts I think it's very, very important to our growth and increasing our returns are the extremely talented Radian team.

So, that concludes my comments. I'm going to be – so I'm going to not take questions now as Emily mentioned, I'll be back up at the end to take questions but we've got a busy day and I want to turn over the podium to the guys who have a lot of information to go through. So I want to introduce Mr. Frank Hall, who is our Chief Financial Officer to come and take the podium next.

J. Franklin Hall, Chief Financial Officer & Senior Executive Vice President, Radian Group Inc.

Thank you, Rick, and good morning, everyone. Welcome to our 2019 Investor Day. It's beautiful facility here. What I'm going to talk about today in a little more detail are the value drivers of our business. And what makes Radian uniquely positioned to deliver value to its shareholders. I will also cover how we manage the current and future value of Radian.

And when we talk about value, we're talking about the whole, let's say, concept of value. Both what is here today and what will come in the future. Value after all is both an absolute and a relative concept. I'll provide an overview of value from a consolidated and an equity market perspective. Then speak to our largest balance sheet line item, our investment portfolio then move to the value of our in-force portfolio and new insurance written. I'll share some further detail on the impact of rising rates on our business and what I'm sure will be a crowd favorite, our capital strategy, and finally provide a brief overview of our comprehensive enterprise risk management process.

Shown here on this slide is the history of our tangible book value per share growth, our annualized total shareholder return and our three-year average operating ROE. Our tangible book value per share has grown at an impressive 15.8% compound annual growth rate since 2015.

This represents a real tangible value on our balance sheet. Annualized total shareholder return compared to the S&P Financial Index over the past three years, Radian has delivered an annualized total shareholder return of 18.9% relative to the broader S&P Financial Index total shareholder return of only 13.7%. We are starting to see some of our value translate into market returns. So we would suggest we are still undervalued relative to the market view of other financial services company.

And finally on the right side of this slide, you will see our three year average operating return on equity of 15% compared to the average of other mortgage insurance companies, property and casualty insurance companies and banks. We have delivered superior returns compared to this group of financial services companies overall.

On this slide, we've illustrated Radian's price relative to book value and price over the next 12 months earnings per share. And despite with superior performance that I noted on the previous slide, our price to book value remains relatively low at only 1.37 times book value. Most notable is the relative comparison to property and casualty insurers who have less than half of our return on equity but still trade at a premium to our current multiple of book value.

And continuing the theme, the chart on the right illustrates our price to consensus next 12 months earnings per share, a full 20% less than our MI peers. And, again, somewhat inexplicably property and casualty insurers traded 67% higher price to the expected earnings than Radian.

Based on these market comparisons alone, we feel that there is a compelling value opportunity for current and future shareholders of Radian. But what Rick has previewed with you and what will be shared with you throughout the day today should help provide further evidence of the current and future value opportunities that lies within Radian.

I'll speak now to some of the specific financial drivers of this value. It may surprise some of you that I'm leading with our investment portfolio as it doesn't usually get much air time. It is however our largest earning asset on our balance sheet at over \$5.5 billion of our total \$6.6 billion in total consolidated asset. This on balance sheet asset is carefully managed to achieve several objectives.

From an asset allocation perspective, we already have substantial exposure to residential real estate asset. So from a risk management perspective, we don't take material positions in this asset class in our investment portfolio. And if we want to receive full credit as an available asset under PMIERS, we are further limited to only high quality liquid assets. Securities that don't meet this criteria are subject to value discounts or haircuts under PMIERS.

Not all of our legal entities are subject to PMIERS, however. So we do have some flexibility to broaden the asset classes we invest in at the holding company. So we may have other practical constraints such as duration matching to the expected use of funds and understanding what the overall expected needs of the business will be.

On this slide, we have illustrated in these charts some highlights of why this asset is so significant for us. The operating cash flows we receive are significant, \$218 million last quarter, an additive to the financial flexibility that we've developed. Market conditions have also allowed us to enjoy the flexibility of a shortened duration, while increasing the yield and investment income of the portfolio overall.

We've provided for you on this slide our process for investment portfolio construction which begins by taking into account the operational and environmental aspects of the landscape, including asset liability management, with our insurance in force portfolio utilizing our radar model to incorporate stress scenarios. This is critical because the investment portfolio is the primary source of funding for claims payment along with our strong flow of recurring premiums.

Next, we construct the portfolio, keeping in mind our own risk appetite and the asset class constraints from GSEs, state insurance regulators and rating agencies. We provide this benchmark portfolio to our investment management partners and then evaluate their performance relative to these benchmarks.

We are fortunate to have Goldman Sachs Asset Management, BlackRock, and Fort Washington Investment Advisors contributing to the successful management of our portfolio, along with our own very strong team. This approach has been utilized for the past several years and has generated fantastic results, as indicated on the previous slide.

Illustrated on this slide is our investment portfolio holdings by rating, which as you would expect, based on the analytics and regulatory framework that I just described, has a weighted average rating of eight slots. Some other metrics of our portfolio include the duration of 3.55 years, convexity of 0.2, and a book yield of 3.36%. We've also provided some additional information on the tenor and type of securities in the portfolio, which includes some detail on both floating-rate securities and those maturing within one year, which combined total 32% of our portfolio.

As I mentioned in our earnings call last week, some of our portfolio positioning recently is designed to support our intended use of funds to redeem our 2019 debt maturity and share repurchase authorization.

And lastly on this slide is some additional detail on maturity by asset type. I've included a brief update on rating agencies as Radian does continue to believe that an upgrade for Radian Group to investment-grade ratings provides us with more strategic and financial flexibility. Currently, being the one notch below investment-grade for S&P and two notches below for Moody's does not, however, limit our ability to successfully execute on our strategy. Based on the commentary we've received and noted here, combined with the ever-improving financial profile of the company, we believe we can achieve our goal and ultimately drive even greater values for our shareholders.

Now, moving to our insurance in force portfolio, our insurance in-force portfolio is the largest earnings contributor for Radian. But as you know, it does not appear on our balance sheet. Our \$224 billion portfolio is one of the largest portfolios in the industry and drives our primary source of revenue, earned premiums. One of the items I want to spend some time on today, is exploring deeper a concept which we mentioned consistently on our earnings calls, which is that our financial results don't fully reflect the value embedded in our in force portfolio. We will shed some additional light on this for you today.

As a reminder, our business is a portfolio business that has a typical duration of roughly five to six years. What this means is that the new insurance we write each quarter has some impact on the portfolio, but it is the compounding effect of multiple years' worth of NIW that will build the future portfolio. As an example, our current portfolio contains less than 4% of business written prior to 2009, excluding HARP volume as this business has largely rolled off. The two key concepts that I want to discuss in greater detail today are the future earnings and the economic value, as defined by Radian.

We define our future earnings as the estimated undiscounted GAAP earnings yet to be recognized from the in-force portfolio including the most recent period NIW. We also use a concept of Radian economic value which is the discounted future earnings, less an estimated cost of capital of the required PMIERS capital needed to support the business. Illustrated on this slide is a simplified example of the future earnings of a hypothetical \$50 billion vintage of NIW using the following hypothetical assumption of 50 basis point premium yield, six-year average life, 20% loss ratio, 25% expense ratio, 21% effective tax rate.

We have noted on the left hand side of the slide that the calculation is the premiums plus investment income, less expenses, less losses and less taxes. This NIW should be \$60 million in the year of origination but adds \$665 million over the expected six-year life for a total of \$725 million of lifetime GAAP net income from a single \$50 billion advantage of NIW.

The future earnings is calculated for Radian's NIW and portfolio, so as of the end of the first quarter 2019, for 2018 actual NIW, we estimate approximately \$800 million for \$3.70 per share of future earnings. And for our in-force portfolio, we estimate approximately \$2.5 billion or \$11.80 per share in future earnings. The specific assumptions we use for this calculation differ from our illustrative example on the previous slide, as we consider some of these to be proprietary. But I would also note that these values are under a baseline economic scenario. We will cover stress scenarios in a moment.

Radian Economic Value is an economic concept used at Radian to help us manage our business with an eye on the relative economics. Similar concepts are used in other insurance industries, such as life insurance with the value of enforced concept. But what we use for Radian is developed with the unique aspects of mortgage insurance in mind. This lifetime, discounted value concept is useful for multiyear cash flows.

You will also hear Derek speak more on this concept later in the day as it relates to the details of how we use this in our daily management. We will both use the terms, Radian Economic Value or EV or Economic Value interchangeably, but what we are referencing is our own Radian Economic Value. The economic value has different applications for management than those future earnings, though they are related.

Continuing with our hypothetical example from earlier, with the \$50 billion vintage of new insurance written, we assume PMIERS capital levels to support the business at 25% of the risk, a 7.5% gross PMIERS minimum required asset factor, and a 4% net PMIERS minimum required asset factor, after considering risk distribution. That translates to \$500 million of capital held against the full \$50 billion of NIW. In our example, over the full life of the NIW, we have assumed a total lifetime cost of capital of \$300 million, using a hypothetical assumed cost of capital of 10%.

So after those lengthy and detailed assumptions about this hypothetical \$50 billion NIW vintage, we bring it all together to calculate the economic value using the Radian methodology. And as noted here on this slide, the economic value is simply the future earnings of the portfolio, less the cost of capital we just walked through discounted to the current period. Using the assumptions discussed for both the future earnings and cost of capital, the economic value for Radian on this hypothetical vintage after discounting would be approximately \$450 million, slightly higher than the difference in the nominal values due to the cash flow timing assumptions associated with premiums and losses. And so the next logical question is, why does this matter?

So let's take a look at the actual economic value for Radian's 2018 vintage of NIW and the total in force portfolio to answer that question. The economic value for our 2018 NIW vintage is estimated to be \$500 million. What this means is that for the EV to be positive, we have already earned our hurdle rate of return and this represents the discounted value beyond that level of return. This helps us maintain a pricing discipline that ensures we are mindful of delivering value beyond an already healthy hurdle rate. We are also mindful of the absolute level of premium we earn as well, so we balance the risk return and financial statement impact of the pricing decisions we made. Derek will get into much greater detail on our pricing discipline later today.

Secondly, we use the Radian economic value calculation to help us gauge the portfolio enhancements and the strategies we may use to enhance the value of our portfolio through such things as risk distribution. Other things within our control that may enhance this value include loss management, investment income, and expense management. So as you can see, this is a very helpful management tool that helps guide our tactical decisions and inform our overall strategy. I would encourage our audience, however, to focus more on the future earnings calculation as the economic value calculation involves many assumptions and is used primarily as an internal reference point to evaluate our pricing and portfolio management decisions. The future earnings calculation, however, has greater predictive value for our financial statements overall.

And lastly in the section is the impact of economic stress on both our future earnings and economic value. We've illustrated on the slide the unemployment and the home price index paths assumed in both a CCAR Adverse and CCAR Severely Adverse scenario. In an extremely adverse scenario, we see and assume the 26% decline in home prices and a 10% unemployment rate. What is impressive to note here is that under this extreme stress, we still have positive future earnings in excess of \$1 billion and our Radian economic value calculation results are positive as well, which means that even after experiencing this extreme level of stress, the value we receive on our

portfolio is in excess of our hurdle rate of return. Remember too, that the hurdle rate or return is at an attractive level already and we are expected to deliver returns in excess of that.

Our next two slides are focused on the impact of rising rates. We've used these slides before and explaining the impact of rates on our business. And while preparing this presentation, someone asked what rising rates? A fair question, but invariably, we will find ourselves in this environment again someday. And while lower interest rates can, at times, attract more new business volume, including a higher proportion of refinance transaction, a rising interest rate environment typically results in a market with lower refinance activity that generally translates into higher persistency, which is the percentage of MI policies that remain in force after a 12-month period. Essentially, this higher persistency means that current insurance in force stays in force longer, which extends the amount of time we collect premium on most of our existing portfolio.

The example on this slide illustrates the difference in insurance in force growth between 77% persistency and 82% where, after five years, this difference in persistency rate would add up to an additional \$36 billion of insurance in force. Rising interest rates also extend the time period that it takes for newly-originated borrower paid loans to reach 78% LTV, a trigger for automatic cancellation under the Homeowners Protection Act, which in turn extends the earning power of this new business. Our next slide here depicts the result of this higher interest rate environment on Radian. Due to record levels of new business and higher persistency, Radian insurance in force has grown over \$48 billion over the past 12 quarters with growth rate that have accelerated to 10% annually as of the first quarter of 2019.

In addition to helping drive higher levels of insurance in force, rising interest rates also benefit investment yields which are expected to produce higher investment income. As previously discussed, Radian's investment portfolio was an excess of \$5.5 as of the first quarter of 2019.

And now for the fun part, Capital Planning. As you would expect with a business such as ours that has transformed and thrived since the financial crisis with significant growth in our in force portfolio, enhanced risk distribution channel, a strong and consistent risk-based capital framework and steady-state regulatory underpinning, we have been afforded the ability to position capital for maximum flexibility. We are in an enviable position of having significant optionality regarding uses of capital. All that said, however, it is important to understand in this new landscape exactly what levers to pull and what the long term downstream implications might be. After all, the industry paid very expensive tuition to learn the lessons of the great financial crisis, and we don't want to see the mistakes of that time repeated.

So when we evaluate our capital, it is in the context of the act that we're planning and not the static now in plan, so it's to position ourselves to be responsive to potential environmental changes. And on this slide, to further that thought, illustrated here are some famous thoughts on plans from Dwight Eisenhower. Plans are useless, but planning is indispensable. From Winston Churchill, one of my favorites, plans are of little importance but planning is essential. From Colin Powell, no battle plan survives the first contact with the enemy. And a similar and perhaps more appropriate quote for the boxing town of Philadelphia and our General Counsel's favorite, a quote that didn't make our list here from the famous heavyweight fighter, Mike Tyson, when he was asked by a reporter whether he was worried about Evander Holyfield and his plan for the fight, he answered, everyone has a plan until they get punched in the mouth.

So with that as a backdrop, let's talk about what we contemplate when planning our capital sources and uses and why we need to maintain flexibility. We manage our capital position within certain prescribed guardrails. Some set by us based on our risk appetite and some given to us by the GSEs through PMIERS or those provided by our primary insurance regulators at Pennsylvania Insurance Department. These provide the primary guardrails for our capital planning overall, and we want to be certain we understand short-term and long-term implications of our actions across these dimensions.

For illustration purposes, I've listed the three primary guardrails and listed some recent capital actions we have taken and how they flow through these dimensions. First up is the risk distribution activities we've undertaken recently utilizing both the capital markets and their traditional reinsurance markets with both quota share and excess of loss reinsurance. For simplicity's sake, I will reference future risk distribution only as ILN or Insurance Length Notes, though our actual execution may vary.

ILNs only have a material impact on our PMIERS cushion. There are no actual cash proceeds received from these transactions to Radian, so the only benefit shown here is the reduction of our minimum required assets under PMIERS. The recent returns of capital from Radian Guaranty to Radian Group improve our holding company liquidity, but have negative implications for our PMIERS cushion and our statutory surplus.

And lastly, ongoing earnings, as our primary earnings engine is Radian Guaranty, the earnings generated improved both our PMIERS capital position and our statutory surplus, as we have positive earnings contributing to our equity position, building our capital over time. As long as these earnings stay within Radian Guaranty, they have no impact on holding company liquidity, but do have a positive impact on PMIERS cushion and statutory capital.

Illustrated on this slide is the recent history of our holding company cash position, excluding our \$267.5 million revolving credit facility. You can see the relatively flat nature of the chart, except for significant events such as our two recent returns of capital, one in the fourth quarter of 2018 of \$450 million, and our most recent return of capital of \$375 million, which just happened in the second quarter of 2019. As noted on the slide, excess capital and liquidity are best positioned at the holding company to provide maximum flexibility for future use.

The potential uses under a stress environment may include downstreaming capital back to the operating company. But based on what you have seen and heard thus far and will hear later today, the likelihood of that is not expected to be high. We have provided no future view on this metric as we are uncertain at this time the amount and timing of future activities other than the repayment of the \$159 million outstanding senior note later this year and the over \$100 million we have remaining on our latest share repurchase authorization.

Turning now to the PMIERS cushion, we have provided both a historic view and a future view, assuming that the only action we take in the future is further risk distribution through ILN. You can see that our cushion continues to grow and you will see why that occurs in our next slide.

Our statutory surplus is shown here on a current pro forma basis after consolidation of our most – excuse me, after consideration of our most recent ILN and the return of capital to Radian Group stands at roughly \$490 million. While I won't provide a specific target number that we've managed to for this particular metric, suffice it to say, that the pace of any future capital returns should be expected to moderate, to accommodate the pace of expected growth in this number, which I'll speak to further in a moment.

So, the noteworthy item on this slide compared to the previous slides is that even though we enhance our PMIERS capital substantially through risk distribution, it does not provide the statutory capital release required to generate a similar growth trajectory. For the near-term, the only material contributor to the statutory surplus number is earnings. And while strong, the impact net of contingency reserve additions is somewhat muted. I have noted here, however, that a significant contributor to statutory capital increases in the future will be the releases of our contingency reserves.

As you may recall, we are required to set aside 50% of our premiums earned for a period of 10 years as an extra risk management measure that stayed insurance regulators supply specifically to

mortgage insurers. This is a longstanding practice with interesting implications. As you can see on the graph, these contingency reserve releases which are expected go being in 2024 add substantially through our statutory surplus provision in the future. Given the relative size of in force portfolios and related earned premiums, the magnitude of contingency reserves is a differentiator for longstanding MI players relative to new MI companies.

Further on the statutory surplus topic, illustrated in this slide are the details of the components of statutory capital. The three components of statutory surplus that we were just discussing are common stock and paid in capital, surplus notes and unassigned funds, which for us, are currently negative. You will note the contingency reserve line item and can see that it is still building. Looking forward to 2024, as contingency reserves will plateau, the released reserves will flow into our unassigned funds thus enhancing the statutory surplus.

The key takeaway on this slide is that while total statutory capital is expected to continue to increase in the future due to earnings, in the near-term, the statutory surplus component is expected to be the most restrictive variable in our capital planning framework until we are able to begin release contingency reserves.

And to bring all of these topics together, we've illustrated on this chart the path from pricing to capital or how the capital flows. We start in the left with a walk of our returns. First, clearing the hurdle rate; then adding our pricing margin, which Derek will discuss; adding investment income and risk distribution to enhance the EV and protect our future earnings; taking us to our total MI returns of mid-teens or higher, depending on the risk distribution path we take.

We then factor in the excess capital held at either the OpCo, which includes PMIERS cushion, and at the holding company any excess capital we hold has a dilutive impact on our financial statements, return on equity. I further illustrated the capital available to deploy at the holding company and the ranges of potential use.

First and most importantly is our organic growth. The more capital we can deploy at high returns, the better. Also included in growth planning is inorganic growth through M&A transactions, which depending on size, can be financed in a variety of ways. Next is to hold some excess to account for unknown risk. But as you have seen and will continue to see today, we are continuing to insulate ourselves from the most likely economic risks through greater risk distribution.

Next is de-levering. We've shared that this will be primary driven – primarily driven by our discussions with the rating agencies and the goal of returning to investment grade ratings. And finally, returning the capital to shareholders, which is at the forefront of our planning. Historically, we have returned capital through share repurchases and in a meaningful and opportunistic way over the past several years. This could also expand in a more significant common shareholder dividend as well. We look forward to keeping you apprised of our actions in the future.

And our final topic in this section today relates to our enterprise risk management, which is an integrated process across the entire company inclusive of MI, services, operations and all corporate functions. This comprehensive and integrated process begins with risk identification, moves through quantification, prioritization, risk mitigation and monitoring. We have leveraged best-in-class processes from both inside and outside the MI industry to help develop a methodology that's right for us here at Radian and it is strong. Managing different businesses makes it even more important that there's a central enterprise function in place to help ensure that we are thinking of all risks facing the company holistically.

Here, we've provided an overview of our ERM governance structure, which is designed to be both nimble at the operating level and transparent to ensure that risk elevation can occur with speed and efficiency to the highest level of the organization. Radian has a deep history of risk management,

and this next-generation of enterprise risk management will ensure that we grow and profit in a responsible and well-managed fashion.

Okay. So before we open things up for questions, I will ask three key members of my team to join me on the stage. First is Dan Kobell, who heads up our Financial Planning & Analysis team. Next is Bill Tomljanovic or Bill T as many of you know him, our Chief Investment Officer and Treasurer, and our special guest star today is Rob Quigley, our Chief Accounting Officer and Corporate Controller. Guys, you want to join me on stage.

QUESTION AND ANSWER SECTION

<A – Frank Hall – Radian Group Inc.>: All right. So before we open it up to the audience for questions, I thought we would just hit each of the guys up with one quick one and get their thoughts on it, covering some of the additional topics that we had there.

So, I'll start with Bill T. Bill, the investment portfolio is about \$5.5 billion. What do you see as significant opportunities and challenges in the current investment environment?

<A – Bill T – Radian Group Inc.>: [indiscernible] (01:18:49) I think some of the challenges we have right now is around the constraints we operate under the PMIERS regulatory environment and rating agencies, because we have to satisfy all those constraints when we're using our investment portfolio. But that also creates opportunities, because I think what we have some insight into our mortgage insurance liabilities, our corporate liabilities [indiscernible] (01:19:17) very efficient with how we invest in our cash balances.

So, we've been able to look at those and really be invested very efficiently. In addition to that, I think some of the other insurance companies have used in their investment portfolio to subsidize underwriting – less underwriting profitability. Given our strength of our mortgage insurance profits, we don't have to take undue risk in our investment portfolio. So, we've been able to effectively de-risk, shorten the portfolio and take advantage of the current [indiscernible] (01:19:26) rate environment around that. In addition to that, we have a holding company liquidity through our credit facility and also access to the federal loan banking system, which actually provide additional resources in the event to help us manage our investment portfolio around that.

<A – Frank Hall – Radian Group Inc.>: Great. Thank you, Bill. Appreciate that. Dan, why do we need to look at EV or economic value? Isn't it enough to focus on earnings and returns?

<A – Dan Kobell – Radian Group Inc.>: Thanks, Frank. So, obviously, earnings and returns, those are critically important financial measures for us. We've spent a lot of time talking about both internally and externally and for good reasons. When we talk about economic value, it's important to remember that we have opportunities to deploy our capital in a number of different ways. That could be across different products, different loan risk attributes, even across different customers. And so, it's critical for us to have a framework to evaluate those opportunities in a consistent and comprehensive way. And that's really what the economic value framework provides for us.

It's a holistic measure, it takes into account all of the key operating drivers of our results, down to our loan level. So, expected earned premiums, expected losses, operating expenses, investment income, but also importantly from a capital perspective, it includes the amount, costs, and really the efficiency of our capital through time. And so, by having a framework that takes all of those factors into consideration, it allows us to really truly evaluate all the different opportunities available to us and ensure that we're optimizing our decision-making to maximize shareholder value.

<A – Frank Hall – Radian Group Inc.>: Great. Thank you, Dan. Appreciate that. And Rob, given the renewed importance of statutory surplus requirements as I just talked about, maybe do you want to comment on what the impact might be for the potential new NAIC Model Act for mortgage insurers?

<A – Rob Quigley – Radian Group Inc.>: Sure. First, let me – there we go. And let me preface by saying that probably no one in the room that gets more excited when statutory surplus and contingency reserves get mentioned in the presentation than I do. The day is already off to a good start.

<A – Frank Hall – Radian Group Inc.>: That is a true statement, Rob.

<A – Rob Quigley – Radian Group Inc.>: Yeah. I mean, there's fairly low bar to clear, I think, because I might be the only one in the room that gets excited. But I think maybe that will start to change given the capital planning consideration that Frank mentioned particularly after the \$825 million that we've returned in surplus recently to Radian Group and the importance that surplus will take on going forward in our planning consideration.

And I think it also illustrates why the NAIC Model Act, which the NAIC and state regulators have been working on for a number of years now is still relevant even in the age of PMIERS. But we have knowledge upfront they have been working on it for a number of years, there's still uncertainty about when it will go into effect or what the final form will take. But there are a couple encouraging signs I think from the work they've released so far.

One, being on the capital requirements standpoint, the current rules for statutory purposes are rather simplistic. The 25:1 risk to capital ratio, which doesn't really differentiate either risk written or risk seated based on the characteristics of the risk. It's a rather blunt instrument. The new model should be more truly risk-weighted and at the loan level that can only be a positive I think from a regulatory standpoint.

The other interesting aspect in the exposure draft relates to the contingency reserves, which Frank referenced were currently required to set aside 50% of earned premiums for a period of 10 years. Currently, the only time we can release those early is when loss ratios exceed 35%. In the exposure draft that the NAIC Working Group released for the new Model Act, there's another path that would allow for earlier release and that's when the amount of contingency reserve exceed the minimum risk-based capital requirements by a certain margin.

And I think going forward, given how Radian and others in the industry are moving to be a more of a recurring distributor of risk, that could become a more interesting aspect of the new Act. So, even though it's unclear when the final rules will go into effect and even though we still expect PMIERS to be binding from a total capital requirement, I think it's still worthwhile to keep an eye on the developments that the NAIC is working on and maybe even to be a little excited about it.

<A – Frank Hall – Radian Group Inc.>: Great. Thanks, Rob. So, I think we're going to open it up to the floor for questions. And before you ask your question, make sure Terri just handed you a microphone. And I think I see one up here with Geoff Dunn.

<Q – Geoff Dunn – Dowling & Partners Securities LLC>: Geoff Dunn with Dowling & Company. Just a simple question, when you're doing your economic value analysis what's the discount rate assumption that you're using to derive that value and measure against the other opportunities for capital deployment?

<A – Frank Hall – Radian Group Inc.>: Sure. So, what I mentioned in the prepared remarks is that for the actual calculation, we won't be as specific as we were in the example illustration that we gave you, but it is the cost of capital. Dan, I don't know if you want to provide any more general color around it?

<A – Dan Kobell – Radian Group Inc.>: No, I think that's right. So, in the example of the 10% cost of capital would also be the discount rate. As Frank mentioned, we don't give out – we did not provide our specific rate that we're using, but it would be the same as the cost of capital.

<Q – Geoff Dunn – Dowling & Partners Securities LLC>: Okay. And just because of that, obviously the cost of capital in the industry has changed a lot with [indiscernible] (01:25:41). So, are you using true cost of capital or adjusting for the fact that that market can come and go over the future?

<A – Frank Hall – Radian Group Inc.>: Yeah. So, we certainly take all of those factors into consideration when we're evaluating the right cost of capital to use there. So, Geoff, I think one other point that I made in the presentation that's important is that the EV calculation for us helps us gauge the internal decisions and some of the strategic decisions that we're making. The point that we're trying to make by taking that forward view on earnings content, if you will, on the portfolio is why we introduced the metric of future earnings to help people orient themselves around something that is a little bit more visible, if you will.

<Q – Geoff Dunn – Dowling & Partners Securities LLC>: Thank you.

<Q – Chris Gamaitoni – Compass Point Research & Trading LLC>: Chris Gamaitoni from Compass Point.

<A – Frank Hall – Radian Group Inc.>: Hey, Chris.

<Q – Chris Gamaitoni – Compass Point Research & Trading LLC>: Hi. If we weren't in the situation, no benefits from NAIC Model Act, and you have significant excess PMIERS, but you went to a statutory constraint. Is expanding risk in the investment portfolio an option? Why or why not?

<A – Frank Hall – Radian Group Inc.>: Yeah. That's a great question. I think expanding risk in the investment portfolio and Bill T can comment on this a little bit further. It's a tricky one and so, we want to be careful in taking additional risk in that particular asset. Other things like taking on more risk which is sort of the core of our business is certainly something that has some appeal to us, either through some of the CRT transactions and things like that from the GFC. But in the investment portfolio, I would say, we try to keep a pretty tall fence around that.

Bill, I don't know if you'd add anything else?

<A – Bill T – Radian Group Inc.>: I think also to just regulatory requirements we have, that we have to also not just PMIERS but some of the hurdles around New York State and California around their regulatory requirements around investment portfolio. We would have the ability to do a little bit more. One of the things we've done recently is we have borrowed from the Federal Loan Bank at very attractive rates and lots of product around that and we track that against some of our PMIERS capital requirement. But that's when we were able to add a little bit more value to the investment portfolio.

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: Bose George, KBW. The capital that currently at the holding company, how much of that is available for capital return given your other uses you mentioned.

<A – Rick Thornberry – Radian Group Inc.>: Sure. So, on an adjusted pro forma basis to take into account our most recent action that have taken place since quarter-end. We have \$1.2 billion I guess is the approximate number there. We've identified what's remaining in the share repurchase program, the 2019 potentially the 2020 to be add up all three of those as potential uses. That's over \$0.5 billion. So while I certainly love seeing the number of commas in the billion dollars number at the holding company liquidity line item. There are some expected and potential uses that we have earmarked for that. So it would be an amount less than that, roughly \$0.5 billion-or-so.

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: A follow up on that. What do you guys think about dividend?

<A – Rick Thornberry – Radian Group Inc.>: It's certainly something that we consider in our capital planning, and we consider it as one of those potential returns of capital to shareholders. Traditionally, we use share buyback in the past at value prices historically, and that served us very well. But I think as you see some of the forward projections and setting expectations around how

capital will flow into businesses and potentially up to the holding company, that's certainly I think is a very real possibility for consideration. And again certainly something that is to get discussed in a range of options.

<Q – Doug Harter – Credit Suisse Securities (USA) LLC>: Doug Harter from Credit Suisse. You mentioned the 2020s and the potential uses of the holding company liquidity. Can you just talk about how you think about debt to capital going forward as you think about kind of refinance versus paying off bad debt?

<A – Rick Thornberry – Radian Group Inc.>: Sure. So I'll start and then ask Bill to [indiscernible] (01:30:07) line as well. When we look at our debt to total capital, we've calibrated it to what we believe the rating agencies would need to see from us to return to investment grade. Historically, we've said that would be in the low 20% range. Obviously, if we were to take out both the 2019 and the 2020, that would take us in sort of the mid-teen range from a debt to cap perspective. So that's really what we're calibrated to as far as what our motivation is to manage it to a particular level. Beyond that we certainly have an abundance of capital. We've got great cash flow and businesses. So it's primarily oriented around just returning to investment grade status because we think that give us more strategic flexibility as we look at different debt structures, and also as we think about different strategic possibilities [indiscernible] (01:31:02).

<A – Bill T – Radian Group Inc.>: think the only thing I'd add is that once we get investment grade rating at holdco, we'll have the opportunity to go longer on the maturity schedule too, which we think would be prudent to deal with the issue of – through the cycle and not have to worry about maturities. But right now as you've seen we've been able to shorten our stack in the coming maturities to push it out to 2024. We're always looking for ways to optimize our debt structure.

<Q – Mark DeVries – Barclays Capital, Inc.>: Mark DeVries from Barclays. Follow-up question on the last comment, can you talk a little bit more about some of the strategic flexibility that an IG rating would give you in addition to going out longer on the maturity? And talk about how you balance that about what you might have to give up in terms of managing those ratings.

<A – Rick Thornberry – Radian Group Inc.>: Sure. Great question. And I would say we're in early days of – sort of the comprehensive analysis around that. But I would say that as you think about it just from a counterparty standpoint of Radian as a counterparty to other people that we do business with, having that investment grade rating is certainly, I think, a feel of approval that many people take comfort with.

<A – Bill T – Radian Group Inc.>: I think the other strong thing is not so much – is the addition of investment grace at holdco, but it means earning companies are in the A category, which provides much more efficient collateralization requirements for our CRT participation. So, there's some real benefit there that we don't advertise much collateral as we underwrite those risk.

<Q – Mark DeVries – Barclays Capital, Inc.>: And then a separate question. How should we think about capacity to take additional dividend out of the writing company going forward?

<A – Rick Thornberry – Radian Group Inc.>: Sure. Great question, Mark. I will point you back to the illustration that we had around our statutory surplus. And over the next several years that's sort of having a muted growth rate. But then up to the 2024 time horizon, after those contingency reserves will be released, just to give you some sense of magnitude around what the value of that jump-up is, it's over \$300 million. So for the near term, relatively muted but still growing. But then in those outer years after the contingency reserves will be released, they are much, much more meaningful.

<Q – Mark DeVries – Barclays Capital, Inc.>: So just to clarify, we should think about it being something close to the earnings on the MI side less something needed to retain for growth in risk

on an annual basis until you start releasing the contingency reserves [indiscernible] (01:33:39) step-up. Is that fair?

<A – Rick Thornberry – Radian Group Inc.>: Earnings will be the primary driver, but, Rob, maybe want to cover it with some more detail.

<A – Rob Quigley – Radian Group Inc.>: Yeah. So earnings, we are required to set aside new contingency reserves each year. So the earnings less the contingency reserves set up that we'd be doing each year between now and 2024. That's roughly – it's 50% of earned premium.

<Q – Geoff Dunn – Dowling & Partners Securities LLC>: Geoff Dunn with Dowling. Just to follow up on the 2020, I hadn't really thought about a need to refinance that debt leverage being in the upper teens, which is really in line with the AA model of old or having there over pretty quickly. Do you think getting to an investment-grade would take getting down to a mid-teens leverage point?

<A – Rick Thornberry – Radian Group Inc.>: It's hard to give you a clear answer on that because, again, the rating agencies don't give us a point to manage to. It's something that's under consideration, and I would say we're glad to have the strength and the financial flexibility to actually consider that. But I'm certainly not signaling that that is a foregone conclusion that we can do that.

<Q – Mihir Bhatia – Bank of America Merrill Lynch>: Mihir Bhatia with Bank of America. Wondering on the real estate services side from just a capital perspective, as you'll develop new products, as Rick talked about the digitization and disruptive, right, how much capital does that take up? Does it take up any, or is it just self-generating? And how does that impact the overall capital planning? And can you do stuff from MI within the MI subsidiary maybe where you can put something in there? Just wondering about if you could talk more about that.

<A – Frank Hall – Radian Group Inc.>: Yeah, great question. So the way to think about the investments that we make within our services business and technology overall, as Rick said – and you'll hear Derek and Eric and Brien speak more about different ways that we're leveraging technology across the entire enterprise – without getting into details on the accounting, which buckets things get placed in, know that there are investments that we make that benefit different parts of our business, but it's all intended to benefit different points of our business but it's all intended to benefit the enterprise overall.

What we have said and I want to make sure that we're clear on this, the things that we're talking about as it relates to technology investments are already in the plans that we've made. So any financial guidance that we've given especially around the services segment contemplate all of those investments. So we have the financial wherewithal and the operating performance bandwidth, if you will, to be able to absorb those investments.

Emily Riley, Senior Vice President-Corporate Communications & Investor Relations, Radian Group Inc.

Okay. All right. I think that does it for our questions. Thank you, everyone, for participating. And guys, thank you very much.

So now, I would like to turn the podium over to Derek Brummer, Senior Executive Vice President.

**Derek V. Brummer, Senior Executive Vice President, Mortgage Insurance and Risk Services,
Radian Group Inc.**

All right. Good morning, everyone. My presentation actually had a lot of detail in it. It's meant to be read. So I would say just you can take that offline and read at your leisure. I'm going to highlight a variety of things in it as I go along. But again, it's pretty packed in terms of detail, so I'll try to get through as much of it as possible in the time allotted here.

I'm going to cover a variety of things. So one thing I'm going to cover is the evolving MI landscape and Radian's role in that and where we see it playing to our strength. I'm going to also focus on our strategy in the importance of data and analytics. And so I'm going to probably bore you with a lot of conversation on data and analytics. I mean, Rob Quigley might find that of interest, somebody who gets that excited about statutory accounting might actually find this pretty interesting. But it's important because data and analytics serve the foundation in terms of what we're doing from a strategic perspective and also it's very important from a pricing perspective. So, I'll talk a lot about that.

After I go through that as a backdrop, I'm going to talk about pricing and the competitive landscape and our use of EV or Radian Economic Value to really guide our decision making and the way we manage the business. I'm going to wrap up by talking about risk distribution and importantly, talk about the portfolio and its impact, risk distribution's impact on the portfolio. And I think what you're going to see in terms of the business we're writing in our portfolio, it's much more resilient to economic stress scenarios. Frank talked a bit about that and I'll talk about that in more detail.

And I think what you're going to see at the end of this is it's really a transformed company. So if you think about our Investor Day, it's the last couple, significantly different companies, significantly, I think, different industry as well. But I'm not going to be discussing, as I'm not going to be discussing portfolio characteristics, and I'm not going to be discussing performance trends. We talk about that every quarter. I do have some detail back in the appendix. So if you're interested in that and also when we're in the panel and taking Q&A, feel free to jump in with any questions you have about the portfolio or performance trends. Obviously, I'm more than happy to discuss that as well.

All right. So, let's get started. I won't spend much [indiscernible] (01:39:45) in me. This is basically the areas that fall within my responsibilities in the Mortgage and Risk Services businesses. What I really want to do is take some time to focus on the overall mortgage insurance industry and its significant evolution. Rick pointed out significantly about the industry and also that evolution really does play to our strength. You're obviously familiar with a lot of these, I think, trends and kind of the differences between the past and the present. I'm just going to highlight a few of these on the screen.

So certainly, one of the most significant changes we've seen over the last several years is just risk-based capital, right? So traditionally and I think Rob touched upon the statutory capital framework is an exposure of base framework.

And so kind of looking at historically when we price in that way, obviously, a very different business, so now when we look at the business the way we manage it, the way we price is all driven by risk-based capital framework and that's important because that provides discipline to the industry, it also provides a common framework when company's look at slicing the business in the market, but that's an important thing. The other thing we've seen more recently is much more granular risk-based pricing and also more dynamic price and I'm going to talk a lot about that later on in terms of the pricing strategy that we've implemented, also a greater ability to just manage risk through price which makes us a much more kind of dynamic portfolio manager as opposed to what, I think the industry has traditionally been its more of my and whole, sorry -- anyway more about buy and hold risk taker. We've really transformed the industry much more into an aggregator, a distributor and manager of risk and that's really the way we kind of see the future of the company.

So, what I'm going to focus a little bit is on the economic value. Frank talked a lot about that, talked about in the context of the overall portfolio. The important thing to keep in mind, when we look at EV that's the way we determine all of our capital allocation, capital deployment decisions, also our risk distribution decisions. So any time we're looking at making a decision, we're really driven by what is the economic value that it adds to the portfolio. And looking at a high level, economic value is pretty simple, right? So basically what we're looking at is the projected lifetime returns that have been in the business over its life and really to the extent that's an excess of our cost of capital.

Frank pointed out, once we kind of have positive economic value that already reached our hurdle rate. So when you think that we earn is on top of that. I have listed here the principal components of EV, again pretty straightforward. It's a combination of volume, looking at required capital, duration, return on capital and the cost of capital. What I have outlined here on this slide are the levers that we utilize to increase the EV. So, any time we are doing business, trying to increase the economic value, what we're trying to do is optimize one of these levers. I would point out these levers and [indiscernible] (01:42:10) against this depending upon which way they're moving. And so, if you think about it strategically, what we're really trying to do is basically target what we see is the most EV-accretive loans, customers and products as well. And you will see that in our decision-making. So, some of the moves we made strategically have some of these listed here on the [indiscernible] (01:42:32). I just have some of these. [indiscernible] (01:42:35) you know how to go back? All right.

So, in any case, when we kind of look at it from a strategic perspective, one of the things that we made a shift really in the last couple of years is the shift from lender-paid singles to borrower-paid singles. And one of the reasons we [Technical Difficulty] (01:42:57) perfect, thank you. So one of the things we have listed here, any time we're making a decision – all right. Eventually, I'll get this working. All right. So, any time we're making decision from an economic value perspective, we're looking at that. So, whether that's looking at products or that's looking at customers, that's what's really driving that.

So, one of the decisions we made strategically was to really move our business from lender-paid singles to borrower-paid singles over time. And the reason we did that is borrower-paid singles, one, requires less capital and also have shorter duration, and that's important when we're kind of managing the business. So, when you look at that, the lender-paid singles we decreased that over the last year. At a year ago, that was 16% of the business. That's down to 4% of the business. And again, that's really pulling one of those levers. The other thing we look at is from customer perspective. So when we're looking at it customer by customer, what we're trying to do is really move the business to that kind of most EV-accretive customers within the portfolio.

Okay. So one of the things that I mentioned I wanted to focus on was our analytics. Data and analytics are more important than ever in terms of how we're managing the business. And so what we have outlined here is an overview of our data and analytics platform which we refer to as RADAR. So RADAR is our proprietary credit modeling suite and that's our pricing engine. So RADAR drives all of our – on kind of a decision making and also our risk return calculations when we're looking at doing business. Two principal components of RADAR which I'll talk about in more detail. One is the economic scenario generator and the other one is loan performance model. So I'll be discussing both of those in a moment as well. Okay. So this is a bit of a busy slide in terms of -- this provides an overview of the analytics platform that we refer to as RADAR. And so you'll see kind of a variety of things here. So what you'll see is obviously data inputs. So you have loan level data, you have historical economic data. That's going into our loan performance models, our economic scenario generator.

An important component of that economic scenario generator is what we refer to as a Mortgage Risk Barometer. So that's the tool we utilize to project fundamental housing values, important component especially when you think about geographic-based pricing. So we take all of those components in. Obviously one of the things that this provides, it requires a lot of processing power,

a lot of data. So basically what we're doing running the entire portfolio through this, running it through thousands of scenarios. We have the ability to model the entire portfolio and millions of loans in several hours. We've run that through thousands of economic scenarios. So, obviously, we rely heavily upon distributed computing and cloud computing to make all that work.

Okay. So when we look at RADAR, obviously, one of the things I touched upon the previous slide was data being the foundation to that. So we do think that the optimal usage of data and analytics is going to be what's going to determine winners and losers in the future. And we do think that Radian's unique position with respect to data. So not only as a long-standing mortgage insurance player, but in addition to that, the services segment. So we do have a lot of data. So compared to most mortgage insurance companies, we obviously have a lot of proprietary data also on the services side which is of value when we're a modeling credit risk in the mortgage insurance portfolio as well.

So, this provides a bit of detail on the economic scenario generator. The economic scenario generator is what we utilize to forecast and stimulate interest rates, house prices, and unemployment rates over time and in different regions. So, again, when we run the portfolio through, we're running it through and stimulating millions of geographic specific scenarios, we run that through the SG and this is also what's driving our geographic base pricing which I'll talk more about as well.

So, here what we have is just some of the output from our ESG. And so, a couple of things to know. If you look at this line and you look at the left, one of the things when we run that through and look at it from mortgage risk parameter perspective when we look at that top 100 MSAs, we look at most of these MSAs currently as add-value. We do see about 30% of those as overvalued. So the question is, what do we do when we see that MSAs that overvalued? What do we do when we see kind of a home price cap going down?

And so what we have here as an example on this particular slide is we look at one of our riskiest MSAs. And so when we look at this and what you can see kind of at the bottom here are the different simulation scenarios and that's what you're seeing there. The [ph] run line (01:47:54) is kind of our mean path for simulation. And so when we look at this particular MSA, we see it as about 18% overvalue. Now, when we're modeling that out, that's an important input in terms of our modeling. But in addition to that, what we're looking at are a variety of things like historical volatility around that MSA. And so when we look at this, we do project that this particular MSA is actually going to have a home pricing draw. And so what we do when we price for that is, this is actually we apply a price [ph] other to that (01:48:24). So essentially, we increase the price to get back to essentially a risk mutual return factoring that in.

We're going to move from that over to our loan level models. So, in terms of our loan level model, it's not a single model. So when you look at RADAR, it actually has 24 different sub-models. And so when we look at the modeling from a loan perspective, what we're doing is remodeling each loan through kind of a different transition say payment date. And so, we build these models out and what we're doing is, if you look at this graphic here, each one of this little green box represent a probability. So, we look at each individual loan, the probability it moves to delinquency, the probability it moves back or moves into a greater stage of delinquency. So, this is basically how we build up into the model projections for the entire portfolio. We do that on a loan-by-loan basis.

So, we talked a little bit about testing and controls around RADAR. So, we have a rigorous testing and strong controls around RADAR. So, this provides on why some of the testing looking at projections that RADAR makes and then looking at what we saw actually from historical perspective. And what we see when we look at this is, RADAR test very well historically through the crisis, post crisis, going into the crisis. Other thing is we compare RADAR to third-party models. So we spent a lot of time testing that against third-party models, challenger models. And what we find

when we compare RADAR to some of the industry-leading models, we find that RADAR outperforms and that's one of the reason we continue to use RADAR as our primary credit model.

So, the next thing is just focusing on economic forecasting and, in particular, focusing a bit more on home price forecasting. So what we did on this slide was we do this for every region that we've modeled out is we compare kind of RADAR'S modeling and then look at what's happened historically. And so we provide as an example here, Los Angeles. And so when you look at this, this is kind of a busy chart but I'll try to break it down a bit. So if you look at this chart, what you'll see in the green line or the actual home price path – home price appreciation. If you look in the blue dots, that's mortgage risk parameters view of the relative value of home prices in LA. And then the red is our home price path, so what RADAR would have projected home prices would do in LA at a certain point in time.

And so what you'll see when you look at this is in the early 90s, you can see RADAR essentially looking at home prices being undervalued and, over time, you can see home prices eventually going up. And then what you see in around 2004, 2005, RADAR becomes pessimistic with respect to home prices. We see home prices are significantly overvalued. And RADAR starts predicting home prices are going to drop. And then as we transition and you go a few years forward, you can see RADAR is predicting a significant drop in home prices. And then eventually, you'll see a projection in terms of recovery post-crisis. So as we kind of look at this, you can see its efficacy in terms of projecting where home prices are going to go. This is the tool used when we model up the portfolio and when we price at a geographic – on a geographic basis.

This provides quite a bit of detail and I think the point in this slide is just the amount of detail we look at the testing in RADAR. So we look at it on multiple dimensions. It's very important that the testing works on multiple dimensions because it's very important from a risk layering perspective. So when you look at RADAR in the back testing, we tested on a very granular basis loan characteristic by loan characteristic and here just provide some of that testing that you can see.

One of the things I wanted to do was [ph] to pulled out (01:52:36) and talk in more detail about one particular characteristic and that's debt-to-income ratio. The reason we're focused on this is one of the significant shifts we've seen in the industry from a credit perspective has been increasing greater than 45 DTI. And so we saw that really pick up in mid-2007. So this provides an outline in terms of what we did in response to that. So certainly, one of the things we did when we saw that increase was really kicking the tires on RADAR and seeing how it did from a prediction perspective. You can see it does a good job predicting in terms of the incremental risk as you've increased DTI on the loans through underwriting.

The other thing we did is we [ph] reviewed (01:53:21) third-party models, and looked at those to see what sort of sensitivity they had. And interestingly, what we found in looking at a lot of third-party models is many of the third-party models don't actually use DTIs and explanatory variable. After that, what we did factoring that in, we reached out to significant stakeholders in the industry, pointed out the concerns that we had with kind of the increasing trends. And then eventually, we made credit policy changes as well as pricing changes to respond to that. And over time, what we've seen is that a portion of greater than 45 DTI within our portfolio, the business we're writing decrease in response to those changes.

So pricing strategy, this is obviously a big area of focus. So, from Radian's perspective, when we look at pricing, our focus – and Rick talked earlier about this was, looking at multiple lender-customized approaches to pricing. So, certainly one of the things we use is so-called Black Box pricing. We provided the definition of that here. I think there's a lot of confusion and differing views as to what Black Box pricing means, so we kind of [ph] wanted to (01:54:29) level set that for everyone in terms of what it meant. But when we look at pricing, what we are trying to do is customize it for particular lenders and their business needs.

So, this slide provides basically an overview. As we had indicated, our strategy is to provide a spectrum of pricing options for our customers, and this provides a bit of an overview for that. And what you can see as we go from left to right on this particular slide, on the left, you have what are called bulk bids or so-called forward commitments. And then on the right, you have RADAR rates. And as you move from left to right on this chart, what you actually see is kind of an increasing level of granularity and flexibility but decreasing transparency as you move across.

But one thing I will say on bulk bid pricing, this is an area that we have traditionally not played a significant role in in terms of bidding on this business. And when you look at this business, what we actually find is, it's actually oftentimes less granular from a pricing perspective than what you see on that standard rate card. We've also found that the pricing levels required to win these bids are very aggressive. And so that's one reason. Also, you don't see significant market share movement in our books. So when you see our market share [ph] pretty steady (01:55:47) over the last several years and a lot of that is driven by the fact that we're not playing in this kind of bulk bids where we see a lot that volume being traded back and forth amongst some of our competitors.

When you go across and look at this, you also see on the custom part is an area where we played more significantly. This allows us to leverage our customer segmentation and framework, really focus on the customers we want to do business with and find solutions that work for them as well as that work for us in terms of managing our portfolio.

The one thing I wanted to focus on a bit here was just what pricing means – what risk-based pricing means and what it doesn't mean. So, some of this we found looking at it or wanted to point out is risk-based pricing is not a new concept. We've seen risk-based pricing increase over time in terms of the standard rate card, the granularity around the standard rate card, the dimensions from a risk perspective and incorporates has increased over time. We gave a few examples of that. The other thing I would point out with respect to that is while the standard rate card has increased granularity over time and dealt with I would say some of the limitation several years ago, there are still continuing limitations with the standard rate cards. We point some of those out here. I mean, some of these is what's driven by – driven the industry and driven us to kind of more risk based pricing approaches as you'll see here. So some of the limitations we've pointed out is just the inability to react quickly to market changes. Also the difficulty dealing with layering the risk is something that's a significant limitation in terms of the standard rate card as well.

So, as a result, what we've been doing from a strategic perspective is shifting more of our volume away from the standard card and on to a more risk-based pricing approach, more granular approaches. So, when you look at our pricing right now, less than 25% of the business we're pricing to spice up the standard rate card. And more than 50% is actually utilizing RADAR rates at this point. So, again, that transition to RADAR rates has been quick and it's been a seamless transition as well.

So, this slide provides an outline in terms of some of the significant implications. When you look at the shift from RADAR rates to Black Box pricing, I won't go into any detail in terms of this. But, again, some of these, you're pretty familiar with in terms of the increased flexibility, the ability to – at more dynamically priced. Something I would point out with respect to this, as you see more, the industry move to these Black Box pricing approaches. What you do see is I think more of a probability of increased volatility from a market share perspective and also from a credit mix and a volume. So when you go and you look at results, I think you're going to see more volatility as we go from MI to MI, and look at the results.

This slide provides a bit more detail in terms of our capital allocation strategy. So, Frank talked a lot about economic value. And so, when we look at it, economic value guide were really going to over-allocate and under-allocate our capital. And so, when we kind of look at it from a capital management perspective, we're not going to bet the farm on any kind of particular segment, but we are going to over or relatively under allocate our capital based upon where we see the greatest

value. The other thing I would say is we're going to shift where we over and under allocate our capital on relative basis based upon where we see that economic value transitioning over time.

This provides a bit more detail in terms of that – provide a pricing example, and what you'll see on this particular slide is kind of illustrative example from pricing perspective. You see an example here in terms of – on this chart Competitor 5 really chasing volume. When we look at that, that's obviously volume we're not going to chase and go after. When we look at that volume, we're very disciplined about where we set our price. So, even if we saw economic value, for instance, in this example, pricing down where Competitor 5 is on this chart, we wouldn't do that. What we'd do is put our pricing a little closer to where some of our competitors are to win that business. So, I would say we see kind of a variety of pricing approaches, but we remained very disciplined from that perspective.

The next several slides really focus on our lender and servicer segmentation framework. When we look at lenders, what we do is we use a variety of quantitative and qualitative metrics to rank order all of our customers both on a servicing and lender origination side. And so, I'm going to go through and look at some examples. So, when we look at our lenders, what we're doing is we're using these metrics to rank order our lenders. So, we're doing that on a return on capital basis and the lender risk rank basis. We combine those into an overall rank for the lenders.

And so, when you look at this chart, what you'll see is – what we're trying to do – in the upper right, these are the lowest kind of rank lenders from both a risk and return on capital perspective. So, what we're constantly trying to do is move them down to the lower left and really increase the ranking from a return on capital and also from a risk perspective.

And so, we have a few examples here we're going to focus on in terms of successes that we've had over the last year, focusing on a few lenders where a year ago, their risk rank was much higher, and kind of what we did [audio gap] (02:02:11). So, this first example of the lender is a lender where – a lender that historically very price-sensitive, also kind of a risky mix of business. We worked with that lender, we put in place pricing changes, we worked in terms of correcting the risk mix and what you'll see is decreased volume from that lender and also kind of an improved risk length over time.

Second example is a lender where we had issues from a product perspective, so a lender where significant user of lender-paid singles, or what has been traditionally a low-return product. So, we worked with this lender to convert their volume over towards more of a borrower- paid monthly over time, and you saw that improvement over the last year.

The third lender, what we see here was a lender where a couple issues with this one. One, it was an issue in terms of risky – risk mix overall and also servicing issues. So, we worked with this lender to correct kind of the mix of business and also deal with servicing issues. This is a lender where pretty impacted by disaster default. We worked with that lender, alerted them to the issues and corrected that.

So, you'll see these as kind of examples of what we're trying to do, constantly moving lenders from the upper right to the lower left.

The next slide here shows – and the background is a bit blurred out, are example of a lender segmentation dashboard. So, these dashboards we create for all of our largest lenders, our top 300 lenders, which is about 90% of our volume, and what we do is we use the metrics that come up on a lender-specific basis. I'm going to focus on a few of these.

So, when you zoom in here, we look at a variety of these metrics. This one what you'll see on the kind of upper left there is some of the metrics we look at from a share perspective, pricing perspective, and also what drives the lender decision.

Down on the lower part of this what you'll see is a variety of economic value metrics that we utilize when you look at our lenders. And on the upper left, we look at a variety of quality control metrics, as well as risk management assessment from a qualitative perspective. And it's important we utilize these lender dashboards in every decision we make with respect to a lender and it really kind of drive the way we manage the business.

So, risk distribution. Risk distribution, one of the things to point out is, [ph] we see ourselves (02:04:56) not always the optimal holder of risk from a capital perspective. So, one of the ways we optimize our retained exposure is through the use of risk distribution. And so, when you look at this slide, we have on the left a variety of the benefits when we distribute risk. Some of the factors we utilize in evaluating not only risk distribution opportunities but also risk distribution structures. So, determining when we're distributing risk, how we're distributing it and also the structures we use, these are some of the factors we utilize in that.

And I would say that in terms of risk distribution, we've significantly transformed how much risk we're distributing. So, when you look at the portfolio today, about 70% of it is subject to some form of risk distribution, and right now that provides about over \$1.5 billion of capital relief. And again, that's something Frank indicated that's something we'll continue to access. We'll also utilize multiple forms of risk distribution depending upon where we kind of see the optimal usage from a cost of capital perspective and also its impact on the portfolio.

So, one of the things I mentioned I wanted to talk about here at the end was looking at some scenario analyses. And so, Frank talked about it in the context of the overall portfolio. And what we have here is an illustration of our latest ILN transaction. So that ILN transaction hovered our 2018 monthly premium book of business. And so, what we have outlined here is the structure of the insurance linked notes.

And the point with respect to this, Frank talked earlier about a CCAR Severely Adverse scenario. And so, when we run that scenario on our 2018 monthly book of business, what you'll see is while losses will go through our B-2 retain layer, the losses are fully absorbed by the structure. And what this translates into is it translates into a loss ratio for us of less than 30%, even in a scenario in which home prices are down 26%, unemployment peaks at 10%, you significantly cap that exposure.

The other thing I would point out, Frank talked a bit earlier about premium, what you'll see on this chart is the lifetime premium on that book is actually in excess of our PMIERS capital requirements. In addition to that, that premium fully covers any of the losses that we'd suffer in that scenario. So, while the B-2 losses would essentially – would lose all of that, we'd more than make up for kind of multiples by the premium we'd earn on that actual book of business.

The final slide here shows the portfolio impact of the stressed scenario. And again, Frank talked about that earlier. And so, looking at the portfolio impact from a CCAR Severely Adverse scenario, what you'll see is a portfolio that's much less susceptible to that tone of stress scenario. So, when you look at that, what you'll see is because of the high quality business that we've written post-crisis and also the significant or expanded use of risk distribution, what you'll see is the portfolio is much less susceptible to that significant stress scenario. And so when we won a CCAR Severely Adverse stress scenario in the entire portfolio, what we find is we actually have a combined – a loss ratio of less than 70% in that scenario and we also generate over \$1 billion of earnings.

And the other thing I would point out with respect to that, I just want to keep in mind [ph] that's in a wall-off (02:08:39) scenario. So, while that the current portfolio has that loss ratio of 70%, one, we've already earned a lot of the premium on that portfolio. In addition to that, we'd also be writing a lot of high quality business in that scenario. So when you look at the last economic downturn,

what you found is some of the best books of business we wrote was actually coming out of the financial crisis. And so, you'd expect to have earnings from that.

The other thing I would point out is that \$1 billion of earnings that we have on that portfolio is what would provide the significant capital support that we'd actually need to write that business. So, as opposed to the past where you've needed to access additional capital to support that business, essentially, the portfolio kind of self-generating capital because of that combination of high credit quality as well as risk distribution. So, that kind of concludes my prepared presentation.

So, one of the, I think, takeaways is after going through this, I think what you'll see is kind of the significant transformation in terms of the company over time and also the – how insulated, I'd say, we are from an overall economic stress scenario.

So, with that, I think what we're going to do is go to a panel, and we'll take questions for the panel and I'll ask some questions as well. Okay?

So, I'm going to bring up on stage Meghan. So, Meghan is in-charge of our Credit and Counterparty Risk Management framework. Ted Cubbin is our Chief Analytics Officer. Marshall Gayden is in-charge of Mortgage Insurance Sales; and Steve Keleher is in-charge of Portfolio Management.

I'm going to start with questions from the audience, so people who have questions.

QUESTION AND ANSWER SECTION

<Q – Jack Micenko – Susquehanna International Group, LLP (SIG)>: Hi. Jack Micenko, Susquehanna. Derek, I think in your presentation you talked about 50% mix, give or take, of business going to Union currently, and some of your competitors have talked about numbers north of 80%. So curious, is that by design? Is that 50% going higher. How do you think about that? And is there a stated goal of what that percentage could or should be?

<A – Derek Brummer – Radian Group Inc.>: Sure. Good question. Yeah, I would say a couple of things. So, one, we don't have a stated goal in terms of where we would want that percentage to go. The other thing is I think different companies categorize their volume in different ways. So, when I looked at that chart earlier, we had on that far left the bulk bids. I think some of our competitors actually classify that as going through their pricing engine. So, when we look at what we classify as RADAR Rates pricing or Black Box pricing, that would be pricing where we provide very granular pricing, pricing that can be changed that's not transparent to the market.

So, I think the better comparison, when you look at our business, when I said that less than 25% is priced off our standard rate card. That's basically saying 75% is price of RADAR Rates or non-standard cards. That's probably more comparable to our competition. So, I would say I can – we'll continue to see some growth in the usage of RADAR Rates. But I would say we're probably not too far off from where, I think, some of our competitors are that have been using that as an option for longer than us.

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: Bose George, KBW. What percentage of the market is going through that bulk channel and have you seen much change in that over the last [indiscernible] (02:12:29) months?

<A – Derek Brummer – Radian Group Inc.>: It's tough to say exactly what percentage is going through that. I think that, I don't think we've seen significant changes with respect to that. I think the lenders that have been utilizing that have been somewhat constant. And again, I would say that that's just not something we've generally played a big role in. I don't think I'd say overall we've seen a significant shift in terms of the percentage of the market.

<Q – Chris Gamaitoni – Compass Point Research & Trading LLC>: Hi, Chris Gamaitoni from Compass Point. If we assume the whole portfolio is covered by ILN structures in the future, in the severely adverse scenario I understand Lifetime it would be profitable. Would there still be pure GAAP loss years from the timing of the recognition of loss?

<A – Derek Brummer – Radian Group Inc.>: In terms of pure GAAP, I don't think there will be kind of pure GAAP losses. So, when you kind of look at that business and you see that covered and you see a loss ratio capping out at 28%, 30%. Now essentially what you'd be doing to the extent covered by those structures, essentially unless you have a very significant stress scenario and meaning we have home prices down even worse than a CCAR Severely Adverse scenario, it essentially insulates that. It needs to have those losses come back out of the structure, which I would say [ph] is a cap (02:13:51) scenario that's kind of beyond what we probably saw on the last financial crisis.

<Q – Chris Gamaitoni – Compass Point Research & Trading LLC>: Thanks for clarifying that. A follow-up question, if your EV goes negative for a product cohort customer with the market overall, what's the point at which you stop writing business taking into account also customer relationships and kind of future business, ongoing business?

<A – Derek Brummer – Radian Group Inc.>: Well, I would say, we have a significant gap with respect to that. So in terms of that, obviously, if we're writing business below our cost of capital, we're destroying shareholder value. So, to the extent we see a product or a customer where we're

not writing EV-accretive business, we're going to move that volume away or we'll stop writing it. So, some of those examples I went through earlier, for instance, I think that first example I went through, that volume is one of the lowest returns on capital ranking. That was kind of right there, I would say, from our perspective at our cost of capital.

And so as a result, what you kind of saw on that chart is that size of that bubble which represents the volume from that lender, we've reduced that and we did that through a price increase. So, right now, I would say, overall business is very EV-accretive, but you see pockets where it's kind of closer to the edge, for instance, as you kind of see that shrink, and for instance, we see some of that in that bulk bid volume, we kind of moved back from that volume as a result. So, again, I think it depends on the customer. It depends on the particular product as well.

<A>: Sure.

<A – Meghan Bartholomew – Radian Group Inc.>: Yes. On the point on – continuing on the customer, what we can do with the segmentation is understand very clearly and specifically what might be driving a low EV, and so we can work with the sales team, we can work with the lenders to understand whether we can make changes to improve the EV for that customer.

<A – Derek Brummer – Radian Group Inc.>: So, can we have mic, Megan? One of the things maybe you kind of elaborate on is what has the lender and servicer segmentation framework brought to the organization that wasn't available before that?

<A – Meghan Bartholomew – Radian Group Inc.>: We for a very long time had very robust and very good surveillance around our lenders and our servicers. What our segmentation framework has brought is we have centralized all the metrics and we have one place where they're broadly accessible across Radian, across all the departments. Our risk department is using the segmentation results, the pricing team operations, and definitely, sales. So, we've worked very hard to figure out what the critical metrics are to measure our lenders' business performance and as we did that work brought – again broadly across Radian, there's a very common and consistent understanding of what those metrics are and a very clear understanding of how Radian measures this lenders' business performance.

Now, we also have the right people. Marshall has his sales team. I have a team of risk managers. They're located across the country and they're very experienced professionals, mostly 15-plus years in credit quality and underwriting, and they're working directly with our lenders and servicers on a day-to-day basis. So, when we have segmentation results we can clearly see what types of actions we need to take to improve our lenders' business performance. And we're working closely with Marshall's team because we have – we've a very detailed understanding of our customers, very intimate understanding and very good relationship such that we can work with them to take very specific actions too. And a lot of ways it's mutually beneficial, it improves our business relationship with them and improves their business as well.

And then I think a final key point is – and this is probably the most critical point is our executive management team had demonstrated that we're willing – we will make hard decision about lenders based on the segmentation results. And that's had a very positive culture shift at Radian very broadly at Radian. Radian employees understand that our management team is looking at the segmentation results on a regular basis that they're looking at the details and the dashboard and making decisions based on that information. And so everybody is very invested in making sure that we understand our lender's business performance and that we're working to drive positive change.

<Q – Mackenzie Aron – Zelman & Associates>: Hi. Mackenzie Aron from Zelman. In terms of making changes to pricing on a lender basis, how is that communicated to the customer? Is there some type of threshold in the change before you would want to explicitly tell lenders that you're

adjusting radar rates or is it going to be something that they'll just kind of discover as they continue to price loans?

<A – Rick Thornberry – Radian Group Inc.>: I think that depends on the situation in terms of that. And I don't know, Marshall, if you want to talk a little bit about as we manage customers and we think about pricing changes, it might be good to have a little color on that.

<A – Marshall Gayden – Radian Guaranty, Inc.>: Yeah. Derek showed you earlier on one of the slides kind of a spectrum and all the way from both bids into standard card rates, custom cards and then into RADAR Rates. I think your question was more specific probably to the RADAR Rates. But in some of those scenarios it's more of a fixed price. We put together a card for them based on our relationship and their historical performance. If we were going to make changes to that, we would clearly articulated change and must give them a notice period.

When you think about RADAR Rates, RADAR Rates is a black box. There's a reason they call it a black box. And it's because there's all kinds of risk characteristics inside of those engines and those characteristics change on an ongoing basis. And so, it is not common and customary for us or for others to communicate specifically what characteristics are being changed on an ongoing basis. It's fluid in nature as a result of that. And they don't go to that box with an expectation that they're going to get a certain price. They know that behind the curtain we're constantly evaluating risk and performance and making changes. So, it's delivered on a case-by-case basis and on a day-to-day basis.

Now, having said that, we do build tolerances into that engine because we want to work effectively with our customers and they may have price to loan at the point of sale. And when they come back four weeks later to apply and get a commitment, if key loan characteristics have not changed much then we will hold that price so that we don't create service and operational issue.

<A – Rick Thornberry – Radian Group Inc.>: And Geoff had a question.

<Q – Geoff Dunn – Dowling & Partners Securities LLC>: Geoff Dunn, Dowling. I'm curious what you're hearing from the 25% that have opted so far stay to stay with the standard card? What are their reasons?

<A – Rick Thornberry – Radian Group Inc.>: Sure. Marshall you want to?

<A – Marshall Gayden – Radian Guaranty, Inc.>: Yeah, it's made up of a variety of different customers; in some cases they have a technology issue. So, a lot of lenders out there right now are using standard kind of customized pricing engines as well as loan origination system. In those cases, we have integrated with all those standard industry platforms. And the vast majority of those customers have migrated to RADAR rates and have done it pretty quickly. There are a host of other lenders that have proprietary systems. In those cases, it's a technology issue in a lot of cases. They simply can't integrate with the engine effectively yet. Now, with some of those, we've had strategic discussions with them around how we might partner and enterprise based on a custom card or a different way to do business, which is why we're trying to be flexible there.

And then the third category is there are some customers they're just very conservative by nature. I would point to credit unions, sometimes small community banks. They don't like risk-based pricing. And we're okay with that. And we're okay leaving them on a standard card as long as they're not doing black box pricing with a competitor. So if that's – and we can price the business effectively as long as we know that we're not getting adversely selected. When we didn't see them go black box pricing with competitors, and we manage that, we would then require that they do the same with us.

<A – Rick Thornberry – Radian Group Inc.>: Yeah. I think that's an important, the adverse selection piece. So when you think about pricing mortgage risk and even how the GSE CRT market

works, it's essentially one price, right? For potentially over 100,000 loans you're issuing one price, but it's because you – it's a known pool, a fixed pool, and you're getting a pro rata share.

When it comes to pricing on the MI side, when everyone had a standard card, it was fine managing a standard card. To Marshall's point, when we see somebody on a standard card, that's fine. If we have a high share of guaranteed pro rata mix then we're comfortable with that. The second is, let's say, a more granular card gets introduced. That's when we start having a concern for adverse selection that might push them closer to RADAR Rates or some other solution that work.

<Q – Geoff Dunn – Dowling & Partners Securities LLC>: And then I think historically some of the concern about going to risk based pricing was if you do price yourself out of a segment, lenders can react pretty negatively and really take away more than that segment from you. Have you had any lenders really pushed back against your use of pricing for underwriting where you either loss or had the threat of losing a bigger book of business than what you're trying to avoid?

<A – Marshall Gayden – Radian Guaranty, Inc.>: Yeah. I would say that the RADAR Rates pricing that we have implemented in the marketplace has competed effectively. So we really haven't seen any significant adverse reactions to that because it's competed well with what our competitors have done. There's certainly some balancing of – from shifting of market share that comes with the those convergence black box per ton because instead of being purely or more relationship-driven based decisions when everybody was on standard card. They're comparing more pricing, and that creates those shifts. But that's not been a negative reaction.

<A – Rick Thornberry – Radian Group Inc.>: I'd say it's a relatively new world in that sense. And that Marshall seems well-suited to it. He's making sure [indiscernible] (02:24:45) that we have mine share with our customers or our loan officers. So that exact thing doesn't happen where they see potentially one price is not the most beneficial that day. And all of a sudden, they have stop quoting Radian. And so I think that Marshall has done a good job of making sure that, okay, it wasn't that loan but look at these other three loans, four loans that it is a favorable pricing and making sure that you're always quoting Radian.

<Q>: [indiscernible] (02:24:54). When you look at the portfolio during the next kind of downturn which is inevitable, what do you see as being different from kind of what we saw on the last financial downturn?

<A – Rick Thornberry – Radian Group Inc.>: Yeah. So I'm always hesitant in saying this time was different, especially seeing last time what happened. But I think there are key distinctions that are very quantifiable, very visible. And we have some of them in the appendix slides. One of them just being – we have a different portfolio today and a different portfolio, the credit mix of that portfolio, the underwriting quality of the policies and loans itself that went into that portfolio. So when we – I think it's 90 LTV fully documented 750 loan. That's what it is. There's no question on that, the defects have been very low. So we have a different portfolio going into it.

I'd say the other thing too from a macro standpoint we're less disconnected from a fundamental standpoint. So we get the question a lot of what happens under 2007 replay. And that in and of itself is tough to answer because the 2007 replay, houses were so disconnected. House prices were so disconnected from fundamental prices in certain areas that it's tough to – are we saying just a 20% to 25% down path or are we saying relative to fundamentals. So I'd say that's very different.

Today's underwriting quality is extremely strong. Our defect rates remain extremely low. So when we're writing these loans, these are good loans. I would even mention our EPDs. You see every one of our EPDs, our defect rate on that population is less than 2%, meaning, when we look at those loans, 98% of the time we'd write that same loan again tomorrow. Those are well

underwritten loans and those are true events that mortgage insurance covers. So those are things leading up to that.

I'd say the other thing that makes the difference in today's world is the servicing and Rick mentioned it as important to servicing. But a big difference in terms of servicers and their operational capacity, ability to scale quickly, changes that have been put in place since the last crisis that would facilitate any future downturn, things like single point of contact seems common sense that when a borrower calls in that you'd want them talk to the same person every time. That wasn't in place pre-crisis necessarily. Things like existing MOD programs, the HARP program, the High LTV Refi program, all of those things are in place, to the extent another downturn happens when it happens, those things are in place to sort of absorb some of that [ph] down the downturn (02:27:12). I think we're in a much better position in that.

<Q>: So, Ted, maybe you can touch upon some of the modeling challenges that's in place today and how that differs from what we kind of historically seen on the MI side?

<A – Ted Cubbin – Radian Group Inc.>: Sure. I would point at two things there. One is the loan level modeling which we talked about today. These days, we have to couple the economics narrowed generator and the forecasting at a regional basis with the loan performance models. That's totally necessary. We think that's a sink-or-swim issue. If there's an MI, you don't have the ability to make state-of-the-art economic forecast at a regional basis. We don't think that you can be a winner without that skill.

The other thing I would point out as a relatively new modeling requirement as an MI is the portfolio modeling. It's no longer good enough to just do the loan level modeling. We need to do modeling at a portfolio level in order to calculate firm-wide EV as we talked about today. And what I mean by that is modeling the 1 million or so policies that we have in our mortgage insurance portfolio and also being able to layer on top of that the reinsurance and ILN effects that we can measure EV at a portfolio level and connect that metric that we're trying to optimize down to the granular decisions that we make on a daily basis, so we have to now think, act, and model like an asset manager.

<Q>: How about data? I mean, how do you see that? It's just kind of the data we have today versus what we had going into the financial crisis?

<A – Ted Cubbin – Radian Group Inc.>: Yeah. The breadth and depths of Radian's proprietary data is a big driver of our model. And from a modeling perspective, we tend to look at it in three types, loan performance data, household finance data and property data. And we use all three of those in our modeling. And very importantly, as a mortgage insurer that's been writing business for decades, we have that data going back to substantially before the crisis period. And why that is very important and valuable is that it allows us to design models and calibrate models to predict loan performance based on household finance and property data at the mortgage funding.

<Q>: Thank you.

<A – Ted Cubbin – Radian Group Inc.>: [indiscernible] (02:29:48).

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: Bose George at KBW. Just following up on Chris' question on GAAP accounting. From a GAAP perspective, when your losses on a particular vintage exceeds or when the ILNs had kicked in, can you – do you book a recoverable or something just because of the lag between the provision and the claim?

<A – Steve Keleher – Radian Group Inc.>: [indiscernible] (02:30:12).

<A – Ted Hoffman – Radian Group Inc.>: I think we need [indiscernible] (02:30:13).

<A – Steve Keleher – Radian Group Inc.>: Yeah. We may need one of the accountants.

<A – Ted Hoffman – Radian Group Inc.>: Yeah. So, when we book a recoverable once it exceeds the position that we hold on a first loss position. So, once – loss that does not result in a claim, it's just from a reserving standpoint and incurred loss perspective. Once those losses exceed and start to eat into the coverage that the ILN provides, we would book a corresponding recovery. That would reduce our losses.

<A – Steve Keleher – Radian Group Inc.>: Yes. The trust is actually set up. It had to be a reinsurance [indiscernible] (02:30:51) to provide the credit to us. But [indiscernible] (02:30:53) happen. So, we take the regulatory side of it also to restructuring our ILNs.

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: Steve, maybe one of the things you want to talk about are when we kind of look at the different structures and we think about an ILN or reinsurance, what do we kind of look out when we evaluate that decision?

<A – Steve Keleher – Radian Group Inc.>: Yeah. So I think one important point to make is we value having multiple forms of execution as evidenced by the fact of us being in the ILN market, a reinsurance market. So we value both. When we think about the differences between them, both are beneficial in terms of reducing volatility and transferring risk cost efficiently. But they do have differences. When we think about the ILN market, a big benefit to that is its cash funded. There's no counterparty risk. It's also very easy to build a book. It's a robust market in today's marketplace. There's been a lot of standardization. Among the MI industry with these structures, even though some of them might be slightly different, they take a pretty similar form. So when we go to build a book, it's very quickly oversubscribed. We've had a lot of interest there and that's a big positive.

On the reinsurance side, one of the benefits we get is flexibility. So instead of a structure that more or less coalesce to one type of structure, there are a number of different structures we can do. And one of those is the ability to write forward. So, writing business before it's even on our books. That means our pricing is known one to two years in advance versus warehousing the rest and then laying it off. So we look at a number of factors when we're considering those things. And then we optimize accordingly.

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: Okay. Maybe one of the things you can talk about in terms of your role and sales role is when we talk about this transition in data and analytics, like, how that kind of works from your perspective and how they kind of work together as a team on that?

<A – Ted Cubbin – Radian Group Inc.>: I'd be happy to. First, I'll just frame sales. In MI sales, there is 84 employees. That includes management. So that's made up of national account managers who face off with our very biggest customers, that's also been field sales account managers that are more geographic, basically one per state is an easy way to think about that. Then we have inside sales. There's a lot of remote decision makers out there, remote loan officers and processors where [ph] we use that group of face off with them (02:33:08).

This group more importantly than the numbers is very tenured. So 30% of the sales force has been here more than 10 years. Another 15% of the sales force has been here more than 20 years. And the critical nature or the benefit I guess I should say to that is then kind of, okay, what do they do and how they do it. They've been in these local markets for a long time. They're very well connected. They know all the mortgage bankers there. And then when you face off with our customers, they know those customers very well.

So then the role we play kind of back to Derek's question, is you first talk a lot about data. And just by doing business with a customer, we have a lot of volume data. We have a lot of credit characteristic data. We have a lot of performance data. But what you can't get just from that is the

more qualitative side of this. So the role that we play is that through the relationships that we enjoy, we find out what companies' strategic orientation is. What are their goals and objectives, what are they trying to accomplish, what kind of company are they, what different channels are they in.

How do they make decisions? Who makes decisions? What technology did they use? Did they use pricing engines? Did they use [ph] LOS (02:34:36) engines? Who are our competitors? And we not only collect that type of information but then we feed it into our systems and into our databases. And Derek showed you a copy of our segmentation report at least one of them on the slide this morning and he kind of highlighted one of those areas where we were internally looking at what we believe our market share is versus our competitors, how they're making decisions, what technology they use. And we not only collect all that, but then, strategically, we work very closely as a group. So, sales inputs their information; risk and the analytics teams put all that together. We use the segmentation charts that we showed you and then we develop strategy.

Once we've built strategies, we're the go-to-market sales force, right? So we then take this thing, sales force that's gathering information and clearly communicate and educate what we want to accomplish, and this is an aggressive, strategic, talented group of people who will go out and execute what we ask them to do, and they're very driven to do so. I think the last point I want to make is just how well we work together. I think it's a point worth mentioning because in a lot of corporate cultures, there is a natural conflict between sales and risk and operations. And I will say that we've broken that down very effectively at Radian over the last few years, and this team works incredibly well together.

We go shoulder-to-shoulder. We're not operating in silos. We're collectively in the room using those segmentation reports every day. We literally meet every day, and we do that not only to make key decisions for us, but we do that in order to react quickly to customers and to react to the very fluid nature of the competitive landscape that we see out there.

<Q – Mihir Bhatia – Bank of America Merrill Lynch>: Hi. It's Mihir Bhatia with Bank of America. I had a question. Just trying to understand what kind of overlay is there on top of RADAR, whether it's from a management perspective or what have you to prevent model risk, if you will, like how soon would you know if you're gaining market share of whether it's from sales, feedback, or what have you, you're gaining share in a particular segment because your competitors have pulled back, RADAR still telling you, no, this is good, everything looks good, your model tell you it's a good pricing. Would you write all the business you can in that scenario or would you start pulling back and balancing that (02:37:20)? Thank you.

<A – Steve Keleher – Radian Group Inc.>: Yeah. So, thanks for your question. So, one of the big changes with Black Box pricing is exactly that that things can move a lot quicker, things can move quicker in terms of aggregate volume, but they can definitely move quicker in certain segment, [indiscernible] (02:37:40) someone is in or out, price high or low. So, one of the things that we've evolved to over the past year or two has been more real-time monitoring. So, it's no longer all right to look at end of the month and say, hey, what kind of volumes [indiscernible] (02:37:55) standard card. We're now looking daily, weekly. We've moved up how we're looking at it. Some of the things we look at now are the actual – the quote data that we're getting. So -- and I call the whole world or I think what they're referring to is sort of the past versus the present. We typically hadn't looked at which boats we're coming through. Now we're using that as a signal, is, are we getting quoted or we're not getting the volume, has that changed? And that's well before any commitment issued and certainly before any policy certified, so we're looking -- we move that timetable up by about a month or two to try to respond to that quickly and then Marshall's point with the daily meeting and we get to see each other every morning where we're talking about that. We're looking by customer and looking by credit segment. We're looking at across the whole span of things and have the technology in place to bubble up those, any anomaly high or low very quickly.

<A – Ted Cubbin – Radian Group Inc.>: Yeah. And I would add to that. So, as you kind of probably got the sense here, modeling has a real strong seat at the table, but by no means do we just follow RADAR blindly. We triangulate a lot. We know that RADAR knows some things and it doesn't know others. And really, our job at the table is to say, well, if RADAR has taken certain variables into account, then we probably don't need to discuss those a lot. But what are all the things that RADAR has not taken into account? Another point I'd make is that, when we have forecast on a regional basis, we don't put blinders on and just say that's the answer. We have a lot of third-party forecast data that we bring to the table, sometimes supply management overlays that we think that that's justified for whatever reason. And even in some cases we have third-party forecast algorithm that gets incorporated into our model.

Then, I'd add one more piece is that Derek I think has one of his slides is that we are willing to over and under allocate especially in the market that we're going into where certain pockets you may be over or under allocate it. We're comfortable with that from an EV perspective, but we won't [indiscernible] (02:39:53). We do have management overlays. We have diversification policies in place that monitor and allow for management judgment if we think we're going to do allocate.

<A – Steve Keleher – Radian Group Inc.>: [indiscernible] (02:40:03). What was a big emphasis in the first round of designing RADAR for the economic forecasting is it calibrated to history, but there are statistical techniques you can use so that you don't hit your wagon too strongly to what happened historically. You don't want to say just because one MSA had a big downturn in the recession, but the next time a recession happens, that's going to be front of the line again. It might be and – but it also might not be. We don't want to limit our imagination about what can happen and we actually reflect that sort of mentality in designing and calibrating RADAR.

<Q – Jack Micenko – Susquehanna International Group, LLP (SIG)>: Jack Micenko [indiscernible] (02:40:53). Marshall question for you, it seems to me that your job has changed a lot in the last year with RADAR rates and skeptic might say, maybe we don't need 48 salespeople now. It's the decision processing made back in Philadelphia whatever is around pricing. And so how is the job changed around selling rates versus the card and is there an opportunity down the road to maybe lower sales cost for all the MIs because of the change in the way the business is being written?

<A – Marshall Gayden – Radian Guaranty, Inc.>: Yes. It's a good question. First of all, I would say, you're right. This job has changed a lot. And there's a lot more moving parts now. And things are a lot more fluid than they use to be. We try not to get too far ahead of ourselves and predict exactly where this is going. So, what we've worked really hard to do is to make sure that we're moving with it. And we're staying far enough ahead of it to be very strategic and then we'll migrate. As far as the opportunity to shift the sales force, it's a little early for us to make that kind of decision. But what we are doing right now is we're watching how best X is evolving which is part of the question. It is inefficient today and it's not there yet because the technologies that support MI pricing in the industry that originators are using have not developed to the point where it's making what we call a brutal best X, easy for a lot of users to see. You have loan officers who are pulling down individual quotes out of an LOS and manually comparing them.

Now, I will say that that's changing without naming technology providers there are some advancements coming and by the end of this year and as we move into the next year I think that that happens more than it does today. And we're modifying our sales forces compensation structures in today's market because they're starting to lose more control of the volume that they may receive and so it's harder for us to set specific goals and be in line or accurate I should say with those. And so that's more the modification that we're currently working on. And it will again effectively move with this market as it changes.

<Q – Mark DeVries – Barclays Capital, Inc.>: Thanks. Mark DeVries, Barclays. How is it all the durability distribute risks on the back end impact pricing on RADAR?

<A – Ted Cubbin – Radian Group Inc.>: When we price the risk, it actually doesn't have any impact. So when we're kind of looking at the pricing, we're looking at it on a gross basis. I mean, we can certainly calculate it and look at it both ways. But, one of the things we're mindful of is not pricing in a way that's reliant upon that risk distribution. I think we've seen, certainly, there's the risk that that market can move away, also the relative costs to execute on that risk distribution can move as well. So, I think overall the way we view that is we really look at it on a gross basis and want to make sure that a product, a loan type and also customer basis that are gross EV, meaning not factoring in risk distribution as above our cost of capital. You can get additional leverage on top of that, but we certainly don't want to kind of price to that level.

<Q – Mark DeVries – Barclays Capital, Inc.>: We should start to price in net – on more than net basis?

<A – Ted Cubbin – Radian Group Inc.>: I'd say it's tough to speculate in terms of what our competitors are going to do. And if – I would say in the early innings, I think certainly in terms of the transformation industry, the combination of more granular pricing and greater use of risk distribution, I would say, we're still early on in that process. I don't think we've seen anything yet to indicate that that's what they're doing from a pricing perspective. And I think publicly, I think everyone's kind of talked about sticking with kind of their return target. I haven't heard a lot of talk about really making movement because a competitor is factoring in for instance greater risk distribution. But again we're pretty early on in the process.

Ted Cubbin, SVP, Chief Analytics Officer, Radian Group Inc.

I think we're...

Meghan Bartholomew, Senior Vice President-Credit and Counterparty Risk Management, Radian Group Inc.

Yes. I'm going to say thank you.

Ted Cubbin, SVP, Chief Analytics Officer, Radian Group Inc.

...going to wrap up.

Meghan Bartholomew, Senior Vice President-Credit and Counterparty Risk Management, Radian Group Inc.

Yeah.

Ted Cubbin, SVP, Chief Analytics Officer, Radian Group Inc.

Okay.

Meghan Bartholomew, Senior Vice President-Credit and Counterparty Risk Management, Radian Group Inc.

Thank you to the presenters. Thank you to everybody in the audience for all your questions. It's lunch time, my favorite time. So, we're going to take about half an hour and then convene up here for the legislative update. For those on the webcast, we'll be back on at 1:30. Thanks, everybody.

[Break] (02:46:07-02:51:59)

Eric R. Ray, Senior Executive VP-Technology, Radian Group Inc.

Thank you, Emily, and thank you, all, for your time today. I joined Radian 14 months ago to lead our technology, information security, mortgage, real state and title services businesses. Prior to joining Radian, I've spent 30-plus years at the IBM Corporation at various senior executive roles. While at IBM, I helped launch their mortgage servicing and mortgage origination BPO business.

Over the next 20 to 25 minutes, I would like you to take away three things. One is the company. Radian is transforming itself into a digital enterprise that is both agile and responsive. Two, Radian has tremendous depth, breadth and quality across its datasets that when coupled with our analytical prowess supports our strategy to disrupt current mortgage and real estate value chains.

Our Services businesses are not only relevant today with the capabilities to provide a competitive differentiation across our MI relationships, but they have the potential to transform the future of how mortgage and real estate services are procured, delivered and consumed.

Radian is transforming into a digital enterprise driven by data and analytics. Our Services businesses are being powered by technology and fueled by data to deliver new levels of customer service and a great solutions and innovation. We are positioned well to drive new and disruptive business models across the mortgage and real estate spectrum.

First, let me share with you what products and services we have in these businesses that comprise our overall Services business. Our diversified suite of services, solutions and products is well positioned and poised for growth.

Mortgage Services helps loan originators and investors evaluate, acquire, surveil and securitize mortgages. These services include loan review, RMBS securitization and distressed asset reviews, review and valuation of service as related to single family rental properties, servicer and loan surveillance and underwriting.

Real Estate Services helps lenders, investors and real estate agents evaluate, manage, monitor and sell properties. These services include software-as-a-service platforms, as well as managed services such as REO asset management, real estate valuation and brokerage services.

In 2018, we made two strategic acquisitions to strengthen this business. First our acquisition of Independent Settlement Services gave us two new capabilities, a national appraisal management firm and a state-of-the-art appraisal management platform that gives us end-to-end automation of the appraisal management process. Then, at the end of December last year we acquired Five Bridges, which is the catalyst we are using to create Radian Data & Analytics or as we refer to it Radian DNA that will serve our enterprise requirements for data and analytics. Our team from Five Bridges averages two decades of experience covering every financial discipline, including origination underwriting, servicing compliance, structuring asset management, portfolio optimization and risk management. I will have more to say about Radian DNA on a later slide.

With our acquisition in early 2018 of EnTitle, we now have the capability as a captive underwriter that has national coverage. Radian Title Services is able to provide a national footprint and a comprehensive suite of title insured and non-insured products, title settlement services, and both traditional and digital closing services. Why Services? As Rick said, we believe our service offerings are strategically valuable, values both driven and derived today from diversification and competitive differentiation, and in the future, from data and analytics, financial contribution and enterprise valuation. We also firmly believe enterprise value builds in certain businesses ahead of financial contribution.

Our strategic focus. Over the next couple of slides, I will discuss how we are building a digital enterprise, Radian Digital. We are creating digital handshakes with our employees, customers, partners to change the way we work, interact and transact with our customers. Radian DNA, I will drive deeper into Radian DNA. As I mentioned, our acquisition of Five Bridges has accelerated our use of enterprise data and analytics. This internal group is being developed to leverage our data and analytics in order to optimize, automate, and change the way we work. We are effectively instrumenting our business. We expect Radian DNA to support and enhance new product development and the creation of new business models across the mortgage and the real estate spectrum. Industry disruption. And finally, I will showcase ways we are driving new and disruptive business models across the mortgage and real estate spectrum.

We are transforming our business into a digital enterprise to support our business strategy and operating models. I will share with you the many ways this is happening. These digital capabilities will accelerate our potential to disrupt those markets where we choose to compete.

At Radian, our goal is to provide the best products, service, and customer experience to our customers. To ensure that, we chose to partner for success. This means we will partner with the best-of-breed solution providers in those areas where there is no competitive advantage or differentiation.

Let me share a few examples to highlight this strategy; [ph] Salesforce (03:36:18), our single source of customer [ph] truth (03:36:21). Radian Direct, our inside sales channel, has automated all of our inbound customer communications to effect data-driven prioritization and next best actions to increase the sales penetration into our Mortgage Insurance and Services customers. Box, we are deploying box with our enterprise content and collaboration tool to automate the way we store, share and collaborate on documents. Medallia, we have implemented Medallia to create truly digital and a real-time customer feedback. Medallia will establish our Net Promoter Scores, collect valuable customer insight analytics, create a foundation to improve our customer service and support the next generation of product development.

Oracle, their enterprise risk management platform supports our finance service transformation with a goal of modernizing our financial and operational processes, reducing costs and improving the speed to integrate acquisitions. Workday, we are using Workday to manage our human capital, workforce planning and recruiting talent management and to further drive our One Radian culture. And where we are not partnering for success, we are building our digital capabilities to create and differentiate our competitive advantage and enhance the customer experience.

I would like to share with you some of those areas where we've invested or are investing to create competitive differentiation. Our Mortgage Insurance platform, deploying later this year, will be the industry's first deployment of an end-to-end insurance application with underwriting and billing automation and a full spectrum of digital capabilities. As you heard Derek described earlier, RADAR is Radian's proprietary credit modeling suite and pricing engine, composed of an economic scenario generator and loan performance models. Our RADAR analytics platform leverages cloud computing for big data analysis over 100-plus terabyte files, state-of-the-art computational ability, and a fast delivery simulating millions of loans under thousands of scenarios.

In our Real Estate Services business, we developed software-as-a-service platform Pyramid that provides a comprehensive solution for the management at disposition of REO properties in an easy-to-use, secured Web-based application that is consistently ranked by Morningstar and HousingWire as a top real estate vendor platform.

Through our acquisition of Independent Settlement Services, we acquired a state-of-the-art appraisal management platform. This platform is a digital straight-through processing system with the appraisal management process. Across our Title business, we have implemented digital processing platform and will soon release a best-of-breed digital portal and we'll have one of the industry's first direct-to-consumer title platforms.

And last but not least, we are developing a new PropTech platform to personalize a realtor-consumer experience by offering enhanced transparency of the process and be informed along the way by data and analytics.

Our journey, we are leveraging digital technologies and new ways to work, new ways to operate and create the next generation of internal and external digital disruptive models. Radian Digital, we are creating a digital-first culture with a fintech flare that is inclusive end-to-end, innovative and driven by our customers' needs. We are using Radian Digital to incubate new technologies to accelerate our pace to become an industrial strength fintech and as a vehicle to co-create with our clients.

Radian is focused on delivering deep, meaningful and personalized solutions to our customers across the mortgage and real estate spectrum. We will rapidly prototype new technologies to drive operational efficiencies and data-driven [ph] decisioning first (03:40:07) via artificial intelligence, machine learning, hybrid cloud and other technologies. As I mentioned, we are building digital handshakes with employees, clients and partners. Some examples are, we're in the process of a complete website redesign project which will sunset 12 disparate and dated Web properties and will create a single Web property across our entire enterprise.

We are developing a get next button, a skill based routing tool across the enterprise. It will be required to be performed in a line of business stays in that line of business. But all other supporting activities are done once across the enterprise.

To create internal operational efficiencies and external customer value, we are developing a single pane of glass, client transaction portal across our Services business to create a friction-less client experience via advanced dashboard, self-service personalization and ease of use.

We have developed business intelligence operating reporting dashboard, deployed a straight-through processing appraisal management platform, dissected work by skill category and level that determines the advanced productivity metrics which will reduce our training time. And we'll use skill-based routing with smooth transaction volume curves due to product mix and seasonality.

Radian is driving a digital transformation using [ph] API, microservices (03:41:28). We have or are in the process of establishing analytical data documents and interaction hubs.

The teal colored dots highlight our progress. As I mentioned, we are in the process of an enterprise website redesign project and we are working on an enterprise level QC tool supported by [ph] cognitive tooling (03:41:46).

Now we will shift the discussion to what we are doing with our proprietary data and analytics to accelerate the value we bring to our employees, customers and partners. Over the next couple of slides, you will see how we're using analytics to create more business value across multiple dimensions. The broad spectrum of data analytics covers manual, augmented, automated and autonomous.

We are focused on the middle two; augmented and automated solutions. We are focused analytics, providing tools to our skilled workers to help them perform tasks more effectively. Automated tools require some but much less interaction with subject matter expertise.

You will see that our margin in Real Estate Services data has depth, breadth, and quality. It is national and granular from national to region, city, community, and neighborhood down to the individual home. It is both historic and up-to-date. Our margin on real estate data goes back 15-plus years, and in many cases it is updated near-real time.

Radian truly is a data company utilizing technology and analytics to disrupt the real estate value chain. We are building innovative products and services for our customers, driven by data and analytics. As you can see from the slide behind me, the depth, breadth, and quality of our data is evidenced by these metrics, from the number of consumers' transactions, photos, and filings of loan details. Radian is a data-rich, analytically driven company that is poised for growth.

On a prior slide, I mentioned the acquisition of Five Bridges. It accelerates our goal of building an enterprise data fabric to deliver high-quality automated products and services to our customers. With the acquisition of Five Bridges, we enhanced our total pool of data assets to drive value to the customer base.

Today, we are using a wide range of analytics in our Services business, from the traditional to the artificial. Two examples from our valuation business. Five Bridges was one of the first valuation platforms to leverage machine learning techniques in the development of automated property valuations. These real-time analytics leverage information about properties, neighborhoods, and market conditions to estimate the value of properties.

Through our machine learning and ensemble process, we are estimating hundreds of sets of values to inform our final automated decision. These technologies help to remove natural bias from human valuations. We consistently rank at the top of independent verification testing. Across our Services organization, we are also using data science and analytics to augment the valuation process. Our automated valuation engine is a technology that harnesses our vast amounts of real estate photo and geospatial data that can provide unique insight into property-specific reviews.

The tool augments the valuation and quality review process by capturing information supplied by valuation experts and automatically determines the quality of the information as compared to market-driven comparisons. Radian is one of the only companies in the mortgage and real estate industry that has proprietary data in every part of the industry ecosystem.

Our strategic approach on data and analytics is that we look at data in totality, end-to-end and accumulative. We built data lineage via proprietary unified property identifier algorithm among other different domains of data that we collected, whether it's mortgage, insurance, title, loan application. Therefore, we have the ability to leverage the best insight on borrowers, leverage the best insight on properties and produce time series data across property, borrower and loan.

On top of our property data, we leverage public data, such as just tax records, deeds, geolocation data and geographic data to form the most comprehensive analytical models in the industry. We leverage advanced cloud computing and tools to provide high-performance matching and matching. In order to extract insights from hundreds of millions of records, where it is not humanly possible, we leverage artificial intelligence, natural language processing and vision technology to analyze documents, data, photos and loan characteristics.

Radian built an enterprise data lake from the ground up using advanced data architecture and components such as PolyBase, Elasticsearch and Hadoop.

Now let me share with you some examples of the power of bringing it altogether. Radian is uniquely positioned with our data and analytical assets to drive tremendous value for our customers. Take the life of the loan. We have created propriety technology called Asset Bridge. This technology will allow us to aggregate loan note origination data, so we can match records across all systems and data in the organization.

We create a unique loan ID, Radian Loan ID, so we can see all transaction data, both current and historical. This will give us the ability to follow a loan through time and observe transactions, delinquency status, modification, workout options and servicing transfers. We all have the ability to identify and map consumer liens and performance over time.

It will include for example lender and servicer details, payment and origination details, payment status and additional links. This technology is designed to provide a more accurate picture of the full set of obligations, primary and secondary investment and other liens that a single consumer maybe associated with.

Take a life of a real estate property, we have 15-plus years of depth, breadth and quality real estate data, \$150 million plus transactions, 99% of all U.S. housing stock, 95% of all transactions in the U.S. over the last 15 years and over 1.4 billion interior and exterior property photos. Why is this of value? For example, utilizing our housing stock data, we have near-real time trending data and market data. This allows us to create the unique value propositions for our investors in the single family rental space. We have automated their asset identification process. They define their investment criteria and we automatically scan all U.S. housing stock and notify them when a house goes on the market that meets this criteria.

We are a virtual iBuyer connecting investors to properties and the brokers. Another example, utilizing our 1.4 billion interior and exterior property photos, we have the capability to track all the information about this property, including property characteristics, conditions, including renovations and upgrades over time, floor plan and finishes, logistical demographic, geospatial and topography. This gives us insight into the value of the property continuously over time based on property, environmental and location data.

I would like to now share with everyone the ways we're leveraging our technology, data and analytics to disrupt current business models and position our Services business to lead. Radian is beginning to adapt artificial intelligent solutions to shift the focus and value of our knowledge workers to deliver smarter solutions.

Radian has a strategic focus in enterprise relationships across consumers, realtors, lenders, investors and the GSEs to unbundle processes, connect seemingly disparate ecosystems to improve and personalize the customer experience with the products, services and solutions today.

The future of property valuation. Today, when you need a home appraisal as part of selling or buying a home, the appraisal process is kicked off. There are many challenges today with this process. First, the number of appraisers across North America is decreasing, so there is a projected overtime to be a labor shortage for appraisers.

Second, the process around scheduling, conducting and completing the review is cumbersome, manual. And finally, at some level you are dealing with human bias. We are leveraging our data analytics in an AI and in the change the future of home valuation. We expect tomorrow's valuation process today. We use our AI photo recognition engine to give us current property condition reporting with the confidence support. This condition report will enhance the quality and accuracy of the final property valuation process.

We can also monitor property condition over time using time series data and trending to track property improvement. By implementing this AI-driven technology, we have the opportunity to

increase the velocity, accuracy and quality of evaluation process. There are several other use cases we are working on to improve the home purchase experience. For example, if a prospective homebuyer is looking for a home that has already had a kitchen remodeled, they can search for one.

The future of a title transaction. Today, there is an existing ecosystem in place today to facilitate the acquisition of a clear title policy. This ecosystem consists of localized agents, localized brick-and-mortar, and an underwriter. Radian's strategy is to disrupt this ecosystem with an agentless model, a national and centralized platform and a frictionless digital experience. Our centralized platform and the lack of title agents gives us pricing leverage in a very competitive market.

Our underwriting platform gives us the flexibility to expedite the clear to close process. We will differentiate our value proposition by improving the lender and consumer experience with a personalized closing and post-closing platform. This closing experience will be anchored by eClosing digital technology and a state-of-the-art digital platform. We are also incubating a direct-to-consumer platform. This direct-to-consumer platform would allow us to rapidly adjust to changing buying patterns of our Gen Y and Gen Z customers as they have been trained to shop for competitive pricing.

The future of real estate transaction. At Radian, we believe the future of a real estate transaction will be centered on the agent. People aren't buying or selling a mortgage, they're buying or selling home, likely, their largest financial decision. It still remains both a complex and emotional decision. Consumers expect better educated and tech-savvy agents. Today, agents are dealing with several different technology platforms from customer acquisition through a property search, listing, offer and closings. Shepherding their customers through the end-to-end real estate transaction allows too many tools, touch points and disparate datasets, and they are not getting an acceptable return on that investment.

Our philosophy is the agent should always be the smartest person in the room. We are developing a new fully integrated digital, mobile and social platform. Our PropTech is intended to get consumers and agents everything they need in one platform. No more bouncing back and forth between five or more platforms to complete a real estate transaction, no more technology-enabled friction. Agents and consumers will be able to leverage our real estate datasets to personalize their property search, make accurate valuation and pricing decisions, and more seamlessly close on a purchase of their home. Agents and consumers will have personalized dashboards and process transparency to guide them every step of the way. The platform will share insights and provide a high-touch experience. Consumers will be more involved in the transaction. The future of a real estate transaction will be the agent plus the digital touch, not either or. We believe our PropTech will make agent geniuses.

In summary, as a company, Radian is transforming itself into a digital enterprise that is both agile and responsive. Radian has tremendous depth, breadth and quality datasets that coupled with our analytical prowess supports our strategy to disrupt current mortgage and real estate value chains. Our Service business offerings are not only relevant today, as a capability to provide a competitive differentiation across our MI relationships, but they have the potential to transform the future of home mortgage and real estate services are procured, delivered and consumed.

Thank you for your time.

I would now like to bring Brien up. Brien McMahon is our Chief Franchise Officer.

Brien J. McMahon, Chief Franchise Officer & Senior Executive VP, Radian Group Inc.

Thank you for all joining us today. We really appreciate you taking time out of your busy days to come in and hear more about Radian. We spent most of the day today talking about products and services. Rick talked about it, the rest of the team talked about all the products and services that Radian has.

And so what I'm going to try to do now is talk about our customers and what's our go-to market strategy. I know there were a number of questions earlier, so I'm glad to work. I think we're going to address some of those. So, let's talk about the Radian customers. Rick has mentioned we have 1,200 customers out there that make up 75% of the mortgage origination market. Think about that. 1,200 customers and 75% of the market. So, one end, I go, Marshall, why don't we have 100% of the market? But on the other end, it shows you how much reach we have throughout the whole industry.

Our coverage is even greater when I relate – when you talk about our relations with investors, servicers, GSEs and realtors, and I'll talk a little more about that as you just heard a lot from Eric regarding the realtor and the future of the realtor. We have a long history of many of our clients of both the company and personal level. And Marshall alluded to this earlier. 60% of our MI relations date back 10 or more years, with 30% stretching 20 or more years.

And then within our sales team which we feel is the best of the best – I know everybody says that, but ours really is – these folks have been, 30% of them have been with us for more than 10 years and 15% for more than 20 years. And so, these longstanding relationships are important. And for anybody who's been in sales, you cannot overcome longstanding relationships. It's hard to get in a door. And when you look at these years of our employees and how long they've been with us and we've been around for 40 years. If you think about 40 years where we've been working with customers, I can make this claim that when all things are equal we're going to win, because of those relationships.

So who are our customers? And Rick alluded to a few of our customers earlier. I'll kind of review that and talk more about how we approach them. Our customers are national banks, they're community banks, they're credit unions, they're independent mortgage bankers, they're servicers, they're single-family residential investors, mortgage investors, GSEs, realtors, and asset managers. And when you look at realtors and a lot of you probably think of realtors, I never really looked at realtors as being part of your customer base. We have over 18,000 realtors that work with us through our REO business.

And on top of that, we have agents that work with us through our Pyramid platform and on top of that, we have relationships that Ted showed earlier with NAHREP which is National Association of Hispanic Real Estate professionals and AREAA which is the Asian group of real estate – Asian Real Estate Association. So, we get to go to these conferences. We talk to them about MI, we talk to them about services business. We build strong relationships not only with these agents, but also with the owners of companies and the owners of mortgage companies.

So, understanding your customer is critical. Who is your customer and what kind of business do they do? So, our focus is, understanding as much as possible about our customers, their business, their operations, their competitors. We've always done this in the MI world where we have account reviews and we talk about, more or less, we get into, okay, who are our competitors there, what's our market share, what's our product mix and all that. Well, we're not doing that across all our businesses. And the very interesting conversation is which helps you learn a heck a lot more about your customers and what their needs are. So, yeah, it's questions like, do they originate mortgages? How much? And what kind of mortgages did they originate? Did they service mortgages? If so, what size of a portfolio? Did they hold loans in portfolio? Did they have real estate owned investments? Are they centralized or decentralized? That's very important.

When you look at a centralized platform, those are where more of the allocation is made from one point of contact. The decentralized is more where laid out in branches or with loan officers as we're talking earlier. And so, how do you get to those folks? Who makes the vendor decision across the whole enterprise within the lender? That's very important as we're trying to market other services to them. Who are their title companies? And are they happy with them? And is there an opportunity for us to get in there and work with them? What keeps them up at night? I mean, that's always a good question to ask customers. What keeps you up at night? It's a simple question, but it's amazing the answers you get. How can we help and transform their business? This is a critical discussion today as this business is really, really getting tough. As the refis are dried up, how do you get to the purchase business? How do lenders keep their current customers? We'll talk a bit more about that as we go along. And how do we create more stickiness to become an indispensable partner? That is really, really important.

Any of you know, the more products and services that you sell to a customer, the less chance you have of losing that customer. You've become too important to them. So our goal is to continue to sell more and more products and services so they look at us as an indispensable partner. So, how do we take it to market? So about a little over a year ago, when Rick started talking about the One Radian concept and an actually an interesting story to that is, we had a meeting with a customer and after leaving, we left the customer about six different business cards. We left them one from Clayton, one from Red Bell, one from Green River Capital, one from Value America, one from Radian. And I know that when I go back to my office, I look at my desk, I put the cards. After a long trip, I'm going through each cards and who was this again now and was this the same company. So, you can understand how confusing it was to our customers when we're operating as different companies.

So, we decided how do we solve that problem? How do we make it easier to work with us? So one of the first things we did, let's create a new sales structure that is dedicated to the largest most complex diversified organization. So, we kind of took a page out of the investment banker strategy and we more or less said, how do investment bankers work and that makes sense and does that apply to our business.

So we decided to create what we call an enterprise sales team. And so, this team was designed to go out and across some of the more complex customers, the larger credit unions, banks, independent mortgage bankers, GSEs and servicers, investment banks, Wall Street and get in front of those customers and talk about the rating and value proposition. Why rate it and explain our value products, because a lot of them didn't know. A lot of them didn't know, oh, you own the diligence firm, oh, you own a real estate services firm, we didn't know that one. Oh, you have a title, we didn't know that. So, their job is to get out and get in front of these customers and talk about our value prop, talk about what we have to offer.

And they would just focus on learning everything about that customer and then trying to figure out really how we can help solve their problem. And then, what we would do is, we have our mortgage experts, our expert is actually from the mortgage insurance team. We created a title team, we have really, really strong title team now and also our real estate services team. And all these folks, they will join the enterprise sales services manager when they go out and do a presentation. So, the job is with the enterprise sales folks but it's like get the meeting set up, to get all the C level executives in the room and then we talk about all our services and we brainstorm.

And then the last piece of this is we have our inside sales team. And there was a question earlier, about where's the market going and where is it – where the commission is going and how important is the sales person to the process. And believe me, we're having those conversations all the time with Rick. And it's something that's on our mind and we're watching. And our strategy is, we got to go to where the putt is going and that's where the puck is. So, we're talking about that deal. It's very important to us.

But we also have an inside sales team and their focus is to call on those customers where they are more decentralized for smaller customers. And if you think about it, it's much more efficient for us and allows us to get in front of more customers and on a daily basis. So, the inside sales team is [indiscernible] (03:18:21) producing loan offices over the country talking about our business, talking about our value props, introducing them to webinars that we may be showing about business – about our new products and programs that are out there. And they're calling out smaller branches where our account managers can't get to. This is too far away. And now utilizing that team across the other services business and when Dave McCormick comes up in the panel, he'll talk a little more about that.

Now, this is kind of a – it looks like it's all over the place, but this is kind of what we talk about when we have our enterprise sales meeting. So, you'll sit down with a CEO of a mortgage company or independent mortgage banker, whoever it might be, Rick may be there, I might be there, a variety of people are there based on the size of the company. We've brought Derek, we've brought Eric and we'll just talk about their business. And normally what's really cool about these type of meeting is that we ask the CEO of the lender, just talk about your business, talk about what you're doing today, and what's keeping you up at night? What are your challenges? And we just sit there and listen. And when you listen to others, everything they have to say and then we do a presentation that kind of focuses around their key issues. And we'll talk about of course our mortgage insurance, which by the way has been a leader for, God knows, how many years now. Rick said \$240 billion in the last five years, best year ever in our history last year. So we're rolling and the team is doing a great job.

So typically, we have a pretty good mortgage relationship with the company from a mortgage insurance standpoint. But we'll talk about it and we always ask for more business as we always do. Then we'll talk about other products and services. We'll talk about title as you deserve a merit. We got lot of really good things going on in terms of digital title, experience and how you could speed up the process and make the customers more efficient.

We're talking about risk services. Has Derek got into that today, we'll bring Derek along to a lot of meetings. We going to talk about what we can do in terms of the risk transfer solution, capital relief, credit enhancing, whatever it might be. So we literally talk about everything possible that is on the minds of our customers.

Talk about the real estate services platform, one of the biggest issues facing lenders today is keeping their customers. And in a refi bubble, they can more or less live off of that. But the key thing is what they do with their current customers. And when that customer is looking for a home, or if that customer is to get made a refi, how they keep them in their portfolio.

So we talked about some of our technology platforms. We got new technology that would come out called Home Genius that is going to help folks have a better real estate experience and be able to understand what kind of homes are out there that they should be looking at, what their home is worth. But how do we take that data and then help our customers use that to help retain their customers.

And that's where the conversations become a lot of fun because we really start thinking out of the box and we really start talking about how Radian is helping them be more successful. And at the end of the day, you don't want to sell a customer anything, you want to provide value, and that's what we're doing. We're sitting down and having these conversations. And then the mortgage services piece, whether from securitization, due diligence. You name it.

So this is really kind of the real estate and the mortgage ecosystem, and what's interesting is we play throughout the whole process. And in many of the conversations that we've had, customers

have said, I've met with one company that can do that and another company that can do that, but I haven't met with anybody who could do all of this. And that's what really sets us apart.

And they'll talk to us. Well, we thought you're just going to talk about MI. We didn't realize you talking about all these other things. And so this really helps us become that indispensable partner of brainstorm. And I got to tell you, we've got another meeting coming up this week. These meetings are going on every week now, and the feedback from our customers is terrific.

And in many cases, the CEO will come in and you figure he's going to hang around. He's thinking maybe half hour, an hour, and four hours later, he's still engaged in the meeting, or she's still engaged in the meeting and throwing out ideas and so on and so forth. So these meetings are going to be very effective. Mike Dziuba is going to come on stage in a little bit, and he'll talk a little more about what a typical enterprise sales meeting is like.

So what we thought we would do is give you a few success stories. It just sounds good, but show me that it's working. And again, if you go back, we just kind of made these changes about a year ago, a little more than a year ago, and starting this year, we have a full team. Last year, we did not have a full team. We had it by about the third quarter of the year. So this is evolving. This is something that's happening as we're talking. But the success stories, they're really exciting.

So let's look at a national bank, large national bank. Every one of these you'll see a consistent pattern – MI relationship for a long period of time. MI relationship has been in more than 20 years. We've been able to assist them with credit and compliance reviews, which then led to loan reviews and within our mortgage services segment. And we've leveraged the real estate services and now we began a nice, really exciting title and settlement services partnership with them. We just started a few weeks ago.

So, here's a perfect example of all the areas that we work with them, been very close to them, and then we get a chance to sit down with them in a room. Rick joined us at one of this meeting and we're able to talk about all the value that we offer and let you know, and now we're working with them in title and settlement services, so a great example of how the power of the relationship works.

Credit unions tend to be a little smaller for the most part, but this one is a pretty-good-size credit union. Again, a long-term 10-year MI relationship with this company and we've been – and actually, the decision makers have been on advisory board. We have the advisory board roll different credit unions come in once a year and we talk about business and how we can help them. And this one company happens to be in on our [ph] advisory board (04:09:04) for a few years, so we had a great relationship. Then, we'll assist them with a variety of real estate products in the past from our ARBPOs, the AVEs, BPOs and inspections, which led to other discussions about AMC and the HELOC Settlement services, and now we're talking about other – more products with them right now.

So, good example of – it's going to happen with a large and a small customer. Independent Mortgage Bank, another long-term MI relationship, 10 years. A lot of these companies, when you think about it and you look at how long our sales team has been around and how long we've been working with them, we kind of started with a lot of these companies. A lot of these independent mortgage bankers started 10, 12, 8, 6 years ago. So we were there from the start and we helped them grow. So we really created a solid relationship with them which gives us the opportunity now to get in front of them and sit down and talk about other services.

So in this case here, we used to help them – we help them in a large portfolio of REO properties and valuation products. We are in discussion of having them move to our Pyramid platform, and now we've also had numerous discussions about co-creating a Digital Mortgage experience with valuation and title insurance component where the settlement/closing is done virtually.

Great opportunity. We're in the process of having this conversation. But again, this comes out of the brainstorming sessions about how we can work closer with them and what value we can provide. And the last one here is a mortgage investor. It's an aggregator, a 7-year long MI relationship. These are automated valuations for years. We're in the process of entering the home equity origination space, and we are going to be working with them on a new product that we just released. And we're also talking to them about title and AMC.

So as you can see, these conversations just keep going and going and then more and more opportunities arise during these conversations. A lot of cool ideas that come out of these conversations that we're working on that we're putting together right now. But it's all about partnering and it's all – and again, it's our ability to be able to sit down at the table and bring all the subject matter experts to sit down with their subject matter experts to brainstorm and talk about how we can help transform the business and disrupt the business.

And the irony of this is not only are we expanding our revenue opportunities, but we are strengthening our MI relationships. So we started with the MI relationship being one opens the door, but by offering all these other products and services, we are even strengthening our MI relationship now. So it's really a win-win for us.

So what's the opportunity? So, approximately a third of Radian's customers across the enterprises are currently active in multiple products of our business, a third. It was – so there's significant opportunities to continue to expand. And I can tell you when you look at that, the number of a third we're in the early, early innings with many of those, very early innings. So, there's still a lot of opportunity with those. We can also see a significant opportunity. And as we continue to evolve this process, this enterprise sales process, we can get better and better at it.

We're going to get – we'll be able to come up with more, more ideas, to start sharing ideas that we learned from different meetings. Many customers indicated they would prefer to work with one vendor rather than a number of vendors. And if you think about it, many of you guys have been in that business, you understand what that mean.

You don't want to have vendors parading in and out of your office and interrupting your folks. If you can have one company come in and solve a lot of your problems which we do. I mean, we're spanning the whole real estate mortgage ecosystem. Why would you go outside and ask for your four companies to commit.

I'd rather work with one customer or one company and build a good relationship with them. And the great thing is that they know Radian. They've been working with us for years, they trust us, we got a great name out there. And they know we're going to do a great job. So, that sets another key points. And then – we are using our relationships not only to promote our current services, but to engage in kind of out of the box ideas that are really exciting and talk about how we can use data. How can you use our real estate data to help a customer keep their portfolio i.e. somebody is calling me – going to my website, to find out what their mortgage amount is? They must be thinking about buying a house or they're thinking about refinancing.

Maybe if we should have our sales team call them. So, they're using our data to help maintain and retain their own portfolio. So and wrap it up. Our suite of products and services are key differentiator in both the MI and the Services market. It really set us apart from our MI competitors as well as other competitors that are out there. Our long-standing relationships give us the opportunity to work collaboratively with our customers and continue to grow and expand those relationships across the entire enterprise. These meetings that we're having are they're very thoughtful discussions and the progress that we're making from these meetings that does give us a [ph] lot to deduce (04:14:04) when we leave, we got a lot of work to do but at the end of the day there's a lot of interest and it's really solidifying that relationship with the customer.

Our sales team as I said before has the experience, the industry recognition, the passion to continue to grow our business and they are supported by strong operations, our operation teams do a phenomenal job, great marketing team, our technology you saw and heard from Eric, our data and analytics team. So we're all working together. We have a saying here Radian, we are all on sales and we are, we are on sales and everybody is willing to work together and nobody cares who gets credit, it's all about winning.

And finally, we're working collaboratively to make One Radian more relevant throughout the mortgage and real estate industry. When we walk in the door, we want our customers to know you are a partner of ours and you are helping us solve our problems and we shall continue to solidify our relationship.

That's all I got. I appreciate all of your time. What we're now going to do is we're going to have a panel come up and so a lot of the services we talked about the folks are going to come up Katie Brewer, SVP of Real Estate Service Operations; Jill Cadwell, SVP of Settlement Services Operations; Mike Dziuba, Head of Enterprise Sales; Steve Gaenzler, SVP Data and Analytics; and Dave McCormick, our SVP of Enhanced Sales.

Okay. Why don't we kick this off? I'll ask the first question, and then we'd leave some time for more questions after that.

QUESTION AND ANSWER SECTION

<A – Brien McMahon – Radian Group Inc.>: Mike, I talked about enterprise sales and I talked about meetings that we're having. I didn't go into details too far. Can you talk a little more about the enterprise sales meetings we're having and the type of folks who tend to join you at those meetings?

<A – Mike Dziuba – Radian Guaranty, Inc.>: Sure. Enterprise sales meetings are more like a consulting session. We have senior executives, subject matter experts. The meetings are long. They go typically two to three hours, sometimes even longer. And it provides us an opportunity to present an overview of Radian but also to discuss our customers' business and identify any pain points.

Typically, it's attended by C-suite executives, business heads on the customer side, and then on the Radian side, any combination of Rick, Eric, Derek, Brien, myself, business unit leaders, senior relationship managers, so a lot of folks. And we're not really selling specific products and services. We're trying to identify solutions that eliminate pain points and help the customer grow their business.

The solutions that we identify could include current products and services that Radian offers, and we pair them maybe with new technology or processes. It's really about leveraging the co-create opportunity for new products and services and addressing the markets.

<A – Brien McMahon – Radian Group Inc.>: Great. Hi, Dave, a question for you. We talked about inside sales and our secret weapon. Can you tell us a little more about how you are approaching our MI customers today?

<A – Dave McCormick – Radian Group Inc.>: Yeah, sure. If we could just keep it between us, that would be great. So inside sales is a centrally -- is the central call center account management platform. So my whole team is located out of our Philadelphia office and operate over the phone with our customers. So you've heard it mentioned several times today, but it originated years ago to help serve our Tier 4 customers. What we refer to as really they're small customers. They're credit unions, community banks. They tend to be a little more remote and not -- it's difficult to be cost effective trying to cover that kind of customer with a traditional kind of boots on the ground account management approach.

Over time though, it's expanded. So, we've really looked at how do we tailor our account coverage approach to our customers based on how they operate or their style. So in looking at the data we have and looking at the customer information we have. We look at, the examples have been brought up early. You mentioned one Brien, where we've got large customers that have many branches.

Some of their branches are very remote. Some of them are very small. And again, it doesn't make a lot of sense for us to be trying to cover them with field account managers. We move a lot of those [ph] inside (04:19:03) and manage them over the phone which has the added benefit of greater visibility for our field sales team on the bigger opportunity that are out there.

And one that's mentioned a few times today is the loan officers. So with pricing disparity that's occurred over the past several years in the MI space, remote decision makers are more and more prevalent and predominantly in the name of loan officers. And so these guys are in the cars. They're not in the branches when we walk through the door. So we engage them over the phone.

So in April, I think we made 21,000 outbound calls to people in these capacities and a really effective phone call, these loan officers are -- they're welcoming over these phone calls. They're not accustomed to receiving phone calls like this from their MI provider. And we call offering value. We

call offering training. We call offering products and services that can help them grow their business. So, we always like to say that we're reaching out. So, we're reaching out with something in hand.

And I would say that one of the key ways we execute using inside sales is a great example is RADAR rate. So in these customers, where loan officers and remote employees make the decision on where the business is going to go, we need to be the megaphone, right? We need to – my team is really is the megaphone. We create the awareness throughout all these loan offices that are out driving in their cars and in realtor offices and then builders and financial advisors offices and make sure that they know about it, the benefits of it and to make sure that they're quoting it, using it, and giving us feedback, so that we can continually inform how the process is working.

<A – Brien McMahon – Radian Group Inc.>: And how are we applying that same sales strategy towards our services business?

<A – Dave McCormick – Radian Group Inc.>: Yeah, I mean so if you look at title, right, there's a lot of the same underpinnings in title as applied in mortgage insurance. We have many customers in the title space that are smaller. They don't, again, make a lot of sense to try to cover it with a traditional – try to cover it with a traditional accounting management model. So, we have moved a great many of our title customers to an inside coverage model only. They too are decentralized. So, a lot of their decision makers are located all around and they're out and about.

So again, picking up the phone, calling them is a more effective way of engaging them than trying to just walk through their doors, where we may kind of swing and miss as it relates to that. We're also offering kind of [indiscernible] (04:21:30) enterprise sales kind of approach. One company really predominantly does exist right on my sales floor as we have members of the team who cover MI, who cover title, who cover appraisal and who cover our vast array of other valuation products. And the way they go about that is they help to – once we've made the sale and Mike's team and others have gone out and made the sale force the valuation, my team engages with the user community to make sure that they – that we stay engaged with them after the sale. I called the sale after the sale to make sure that they're actually using the products, that their answers – their questions are answered. They're getting demos as needed, and we continually engage with them over time, so that we realize the benefit and that they realize the benefit.

<A – Brien McMahon – Radian Group Inc.>: Great. Thanks.

<A – Eric Ray – Radian Group Inc.>: Steve?

<A – Steve Keleher – Radian Group Inc.>: Yes, Eric.

<A – Eric Ray – Radian Group Inc.>: How has data changed the competitive landscape of Radian and within the services business?

<A – Steve Keleher – Radian Group Inc.>: Good question. So if you think about some of the things you talked about earlier and talking about the types of data that are now available to Radian at large, historically, Radian was capturing information and what was a segment of the marketplace that wasn't covered [indiscernible] (04:22:55), expanding out into the services businesses and finding ways to collect data from various points in the ecosystem, real estate all the way through investor, right? There is a brand new set of information and data asset that's available now at Radian that just wasn't available historically.

And that is a – for a guy like me, it's a kid in a candy store. There are so many different opportunities to not only take that data and develop new products off of it but also to create new stickiness with our clients by either generating new data products or finding other ways to help inform them about what their business is doing. We're obviously going to be using the data internally to help from an operational perspective and create efficiencies internally. But it also, like I

said, creates these opportunity to go outside in the marketplace with new ideas and this concept of the data fabric, I think is one that is very unique. Data is very expensive, unless you source it yourself. Data is very hard to manage. I would like to say, that all data is dirty, but mortgage data is the dirtiest of it all.

And so having expertise and understanding from a domain perspective is very unique, and Radian has now that full spectrum of domain experiences through all the companies they've acquired and then integrating those into the One Radian framework. And so when we look at that, think about the concept as data fabric. And so if I can go out and I can track a piece of property, I'd say, from an asset perspective, over time, year and years and years potentially, and know at any point in time what that property looks like if I have 1.5 billion, 1.4 billion photos, knowing what has happened in the past property from renovation or improvement perspective, knowing what the neighborhood looks like. All those different things are all really critical piece of information that historically have been hard to capture, hard to get and then hard to curate to make it available from an analytics perspective.

And so all the data we have there, I think, the same lens apply to mortgage loans and then the same lens prior to consumers gives us not only better information for our traditional mortgage insurance business about who the people are that we're providing this insurance to and being able to predict more effectively their tenancies and behaviors over time, but also looking at all the componentry around it whether it's property or actual loan, and tracking those over time too. So I think they're very, very powerful change from the Radian that probably a lot of folks have known in the past.

<A – Eric Ray – Radian Group Inc.>: Thanks, Steve. Katie, on my left. How do our valuation products differ from those other products in the marketplace?

<A – Katie Brewer – Green River Capital LLC>: Well, one thing that you have heard much about today is data. But, really, it is our data. And I think one of the data sets that makes us unique from our competitors is our MLS data. So we thought about 95% national coverage from over 400 MLSes that are tracking over 150 million transactions. So that ties directly into a lot of our valuation products which makes them much more rich from a data perspective. They've got a lot – they're a lot more informed than a lot of the other valuations out there as well. So MLS data is a huge piece of it. Also our experience, so we've completed – or I should say we've generated over 40 million valuations, almost about 100 – well, about 1.5 million of those in the last year for over 450 customers. So we've got a lot of experience from a valuation point, and we're constantly working with our customers to understand their valuation needs.

We're also evolving with the market. When you think valuation products, there's a lot of standard BPOs, a lot of old products out there, and we're continually looking to innovate those products and to add data to the product to make them more valuable and then also adapting to the market. We have adapted a large set of hybrid products that can be supported in many different uses for our clients. So making sure we're changing and more nimble and we're also changing with the valuation space as needed.

Then I would say – I just touched on our product set, right? We've got a very broad product set. There's lots of different options from a valuation perspective that have not been available in the past. And last I'd say our delivery. So we've got platforms called VIBE and it's a delivery platform. It's also an order tracking platform. There's lots of uses. So, do you want to make it easy – as easy as possible to do business with Radian. So we've integrated with many of the LOS systems out there. We're continuing looking to integrate so that lease grows every day. As we gain clients and just evolve, we want to make it as easy as possible for them to order our products. And then for those that are ordering products, not on the origination and/or VIBE platform also as transparency.

So, as I mentioned. You can order individually or in bulk. We also have a dashboard identifying where the orders are. You can track your progress, even receive your order. So there's a lot of functionality with VIBE that also uses this for our customers. And then, ultimately, the delivery piece of it. So, there's a lot of things that we're doing that drive innovation in the value space. I think that's what set up apart from our competitors.

<Q>: Thank you. Jill, you're in the process of building state-of-the-art disruptive digital title platform. Could you tell us why it's going to differentiate us or how it's going to differentiate us from the competition?

<A – Jill Cadwell – Radian Group Inc.>: Yes. So I'm sure it's going to surprise you. [indiscernible] (03:44:25) data, right? But we really do have a unique set of data tools that come across our entire network of services and companies throughout Radian. And we use those to drive our title engines on our existing tools as we move forward. Technology certainly is leading in our industry. You'll hear a lot coming into our industry about e-closings and e-ownerization across network.

And strategically, we've decided to be agnostic to those tools and really understand everything that's out there and be able to train our notary networks and our attorney networks to be able to utilize all of those tools instead of saddling ourselves up against one particular e-closing platform, which many of our competitors are doing today. So to be able to be nimble and have a wide breadth there and understand all those different networks is really an important key to us as we move forward.

Certainly Entitle. Entitle we acquired last year, and that provides us a really great dynamic, and it allows us to have – we acquired that title with no legacy reps. And we also don't have any competing interest, and what I mean by that is that, without that legacy rep, we can really look at underwriting guidelines and clear-to-close tools and push those dynamics into our decisioning tool and make them more dynamic and broader so that we can bring the title product to the table within seconds.

Really 12 to 15 seconds, in most cases, is when a title decisioning tool is produced. But then compile that with an expanded underwriting guideline and make that clear to close in 12 seconds but one that has a use and a product for them immediately is amazing.

Throughout my history, we've – I've worked for companies that have competing interests with a large agency base. And what that does is it makes us go into those lenders or customers and say, here's our product. Here's our services. This is the way we do things.

Today, without those competing interests, we can sit there and say, we're your partner. We're listening. How can we strategically partner with you and come up with new tools and technologies and ways of doing business, and to go into customers and actually be able to listen and really understand what's their point of friction are within their process and make a definite change in that is really exciting and it's different. It's fun to watch their faces and sit down with our customers and say we're listening and how can we help and so here's our process and this is what we think you should do.

The last things [indiscernible] (03:47:19) going forever because we have a lot of passion. But the last thing obviously is service. I've built my whole crew over service. And so how do I push that into my workforce and my production teams and make them have that same focus. So I've created these services key initiative this year that really makes them think about we deal in a cookie cutter, my team with thousands of transactions who run in a very short period of time because those are cookie cutters. So there's [indiscernible] (03:47:50). There's a property address. So there's a picture of the home. But how do we – how do I believe or make sure that my production teams understand there's a human being behind that. There's a man and woman that have worked for

that American dream and that that's a really stressful time for them to go through the purchase or the refinance of their transaction.

So how can I get them to look at their day-to-day service so that they would produce and process that transaction the way they want their own transaction to be processed? And how can they creating a culture where they can bubble up ideas and say this is our points of friction. This is what our lenders are saying to us. This is what our consumers are saying to us at the closing table and we need to change this.

Our people that are down in the trenches work hard and they usually know what's going wrong and where they can make changes and help. And so, it's critical so that they can bring that forward. It's really different. I would say that you know we really try to listen to our people and create new products and services based on their recommendations and how that works. Those are technology, our ability to change what's in the underwriting platform and our overall service really will differentiate us and help us feel better and more exciting products as we move forward to the title [indiscernible] (03:49:15).

<A – Eric Ray – Radian Group Inc.>: Thanks, Jill, we can all feel your passion. Steve so having data and analytics is great but how are we using it to create value for the people that we serve the customers, get passionate here.

<A – Steve Keleher – Radian Group Inc.>: So one of my favorite terms is that we're in a business, we should be in a business for reducing friction [indiscernible] (03:49:39) now. If you look at the spaces that the services business there isn't today there is still a lot of friction. The hotel industry has been depersonalized a lot. Transportation has been depersonalized a lot. This industry, title, real estate brokerage all of these still have a good deal of friction and that's a blessing and a curse at the same time I think for all of us because given I guess data assets I think the intelligence domain knowledge we have here is terms of the products we already have. I think this is a real opportunity for us.

And so looking at how we can reduce friction through analytics is kind of the cornerstone of the lens that I would look through in trying to evaluate how we should be doing it from a client perspective. I also think it's really important you mentioned culture Joe with regards to your interactions with customers. I also think that as an organization and I'm proud of what the newest member of this organization is for sure the leadership at Radian is very, very effective at conveying the culture of technology and innovation. There's a reason why you've heard data analytics a lot today is because there is a driver of how we think about the business. And we think about what we need to do to be effective for our customers, how do we use analytics? And from the top down, the executive team has been very, very supportive of what I would call this industrial fintech kind of concept especially in the service side of the business where you have capital and you have existing products, existing tools, existing analytics, and then you build on top of those and augment those.

So if you think about analytics from our perspective, we're doing things like robotic processing automation and thinking about how we can auto review products, so reduce the time line it takes, remove some of the manual transmission of information back and forth, create better exceptioning, less validation that needs to be done externally. We're doing things with machine learning then to create those auto reviews. People will say that our PA is the arms and legs of robotics, and then the MI or the AIs actual [indiscernible] (03:51:44) how you put those altogether to be really effective from generating analytics?

We're doing things in machine learning. So, I think Eric mentioned earlier that [indiscernible] (03:51:53) was one the very first firms in the United States to use our machine learning in the development of automated valuation products. And so, how can we leverage that better and better? We're doing those things.

I like to think about two constructs like augmenting product and automated product. And in this industry, there is still a lot of manual transmission things happening, so augmentation is a really, really valuable part of the process. Eric, you talked about the real estate transaction process as being not an agentless process, but actually having that human componentry in there. But how can we augment those people to be the geniuses, to be the smartest people in there?

It's about all the data that we have, the data we can still collaboratively capture and then, how do we either develop products ourselves or co-create with our clients to develop things that they're looking for, right. All the clients that we have – has a primary to be one step in front of where they are. So, if you're an investor, you want to know the capital markets guys. If you're the capital markets guys, you want to know the guys that are aggregating. If you're the aggregators, you want to know the lenders. If you're a lender, you want to know the real estate person. If you're in real estate, you want to know the consumer, right.

And so, we can – we're looking to develop another technology that can be predictive, so enhancing the existing products that we already have and all these service businesses have and analytics already involved, and how we can take those and make them smarter, given all the new [indiscernible] (03:53:23) from analytics perspective.

<A – Brien McMahon – Radian Group Inc.>: Thanks, Steve. Jill, one more bashing from you. If you look at where we're headed from a digital mile standpoint, can you talk a little bit about how title and settlement will be done in the future?

<A – Jill Cadwell – Radian Group Inc.>: Data and analytics will play a huge role on that. If we look at our title engine today and how we do decisioning really quickly, we'll expand that and we'll evaluate properties in a much more quicker fashion or format. We'll be able to provide tools to our lenders that are our point of sale tool, maybe even to the realtors someday as a point of sale tool, so that they can look at that property and say whether it's relatively, say, it's going to take you less time or more time or something more costly will affect the way that we're able to price our product.

MI has a risk-based pricing activity moving in that direction at some point as well based on the condition of your credit risk closed item, et cetera. And allowing the lenders to use that point-of-sale type product, that's a really quick product to say, this is a streamline product or this is going to have more requirement to get it to close. So, these could close for you, although we all know that our lenders close everything in 45 to 60 days.

But as they're trying to minimize their timeline, but also to bring that down to maybe a 10-day turn-time, and they can put those streams in areas that have less touch on their end which is a huge value add to them. They spend millions of dollars processing these transactions. Can we look at tools that end process it within our workflows that's fueled by technology that make us make sure that all of those components that create claims on the back end are eliminated for the most part. So, that's a post-close process for our lenders are less costly and less involved when we move data back and forth to them in a manner that allows them to analyze that and reduce the risk on the back end also.

<A – Brien McMahon – Radian Group Inc.>: Thanks, Jill. I have a question for Mike. Mike, what are some of the key challenges that our customers are facing today? You're in front of them every week numerous times. What are some of the key challenges that they're dealing with today?

<A – Mike Dziuba – Radian Guaranty, Inc.>: Well, our customers operate across the mortgage or real estate segment, originators, lenders are faced with challenges from fintech that they need to figure out how to close loans faster and they need to reduce cost albeit to compete. Servicers face regulatory risk from the servicing practices. They need to understand, just need to understand the collateral value, the underlying properties in their servicing portfolio.

And you have the buyers, the conduits are buying. And they've got to ensure that those loans that they're buying meet the credit and compliance test in the guidelines and then TRID. And then you have securitizers. So they've got challenges with speed and accuracy from the third-party reviewers as well as trying to ensure that they have consistent loan quality across the pool that they're securitizing. So, it's definitely a lot of challenges, challenging environment for our customers. But I think we have products and services that can help them to better compete.

<A – Brien McMahon – Radian Group Inc.>: You want to open it up to questions?

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: Yeah. Bose George, KBW. Actually, there's sort of a number of businesses within this type of services. If you kind of fast forward, say, five years from now, there are one or two businesses that have potential for outside growth? I mean, I kind of see this as an incubator of a bunch of interesting businesses but how do they all develop?

<A – Rick Thornberry – Radian Group Inc.>: So, you guys can see if you agree, all right. I think, look, as we look at these businesses, we put them into three categories of mortgage and real estate and title services, the mortgage services are really going to play along a revitalization of the securitization market, and we really see that as being kind of a participant of that market, and it has opportunities. But to your point, those we see the opportunity really coming across the real estate sector. They have more valuation growth and we have a uniquely set of assets across our brokerage capabilities, our technology capability, the deep data we have in the analytics around the combination of Steve's team from Firebridge is joining us.

So, as we look at the business, we're excited, we're focused on, we're making investment in the area really focused around the real estate market and where we play in that. The interesting part if you saw on my chart, our capabilities in the market cross over very well between a mortgage transaction and a real estate transaction. So, there's a lot of applicability that goes across lenders, realtors, investors like us, so foreign investors.

So, I think as Eric talked about, we're focused on the life of the loan and the life of the property and we're just in a very unique position. So, we like that space today. It's – we're created a lot of visibility around it with our customers. Now, I just – I don't want to steal Brien or Eric's thunder, but as an example, when we go and then talk to our large MI customers like, I think Brien used these in his examples, they want to talk about our real estate data. They want to think about how to swim upstream further with the consumer before they find a mortgage. We're uniquely positioned to co-create with them around that transaction of managing a house, valuing a house, thinking about the next house I buy, thinking about the house I'm going to sell, all leading downstream for mortgage transaction.

So, the forward thinking mortgage companies are beginning to think about the consumer at some point way before mortgage. We've talked about it for 30 years. But we have the data and analytics to kind of move them upstream, not just with their mortgage customers but with their bank customers. So, that's why we like that space. It crosses over both the mortgage and a real estate transaction.

<A – Brien McMahon – Radian Group Inc.>: Hey, Rick. And I would add on the real estate agent perspective. Many of these lenders are very interested in our network and how we can work collaboratively with them and our agents, because that agent is one who tends to take that customer somewhere else. So if we can connect our agent network to our lenders, it creates that stickiness with our lenders and that's a hidden weapon there that we're working on.

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: All right. I'm curious if you can give a little color on the cross-sell traction. So, first, do you have any customers where you have incrementally

got a new business or improved your MI position in the company because of your service offering? And then also, I'm curious about the – getting over the hurdle of that one product. So that two products plus that of a third of your customers, where was that two years ago go with One Radian marketing initiative? And of the other 67%, is there a meaningful portion of that where you're in deep discussions or you have a high probability expectation that you're going to add them as two-plus product customer over the next two years?

<A>: Yeah. I can answer a few, and Eric jump in or Rick jump in. In terms of where was it, as I mentioned, we have created this One Radian concept that's new. It's a little more than a year old. And what it's done is, first of all, work collaboratively together all under one team. Whereas, before we may have had separate teams that maybe the handoff wasn't as easy as it should've been. So I think, with this new approach where we're all communicating – I sit in meetings with all the team and we talk about each customer and we go through opportunities and follow up and who's following up with them and that's the key component of this as the communication and making sure we're talking to the right people. What can happen is you can have a meeting and everybody is excited, and they are. Every meeting we have, we leave and we're like, wow, that was a terrific meeting. But then if you don't do the follow up and you don't have somebody following up daily, it really goes back to their old job and they get [indiscernible] (04:03:03) caught up with their everyday [indiscernible] (04:03:05).

So this enterprise sales role that Mike's team is managing, their job is to follow up and these are kind of the air traffic controller, to make sure they were very interested in working with the title operations. Let's follow up. Let's make sure we have follow up meeting. Let's make sure something happens there. So that is evolving and it's relatively new for us for having interpreted this one team concept, or I'm seeing very good success. And the meetings we're having are all moving in the right direction.

In regards to have customers giving us more MI because we offer other services, I would say yes. I would say there are customers out there that have said, you know what, all things are equal, you guys are providing so much value than your competitors are, meaning our MI competitors? Say, yes, you deserve more business. And so, we have seen customers [ph] distribute (04:04:00) the value that we provide and how we're really becoming a good partner and sharing those data that we talk about. And when you look this whole [indiscernible] (04:04:07) ecosystem and how we can help them be more successful, and I think that's the key thing.

As we go into these meetings, thinking about how we can help them be more successful, not try to sell them anything. And that approach appears to be working. So, we're still in the early innings with this. Well it may seem like we've owned Clayton for four years and so and so forth and I get all that. But we got a different strategy now. And the vision is much more clearer to our customers. They understand the One Radian concept, they all know. I mean, a lot – I can tell you, two years ago a lot of the customers didn't know that we own Clayton. So, the fact that we're going off this new branding as one company and it's all under one team, I think that's making a big difference.

<A>: And just I wouldn't – I'm not the resident historian, only been here for 14 months. But what we've seen of late is, when we go into the enterprise meetings that Mike referenced is, we thank them for their MI business. We're pleased with their MI business. And we love the relationship, but we're really working with them to solve deeper business problem. I call that – how do they move to the front of the line in client acquisition and client retention. And maybe some quotes that we heard from prior meetings would help galvanize the point.

We've heard various senior CXO level folks say this and we have had five or so partners have come in and provide X solutions in any given space, but Radian we want to work with you because we can have more symbiotic relationship across all your products and services. And you're one of the only providers in the industry that can bring us that.

<Q – Bose George – Keefe, Bruyette & Woods, Inc.>: Okay. And just to be clear, so in terms of that one-third, two-third, it sounds like you've roughly been there, and you combine two opportunities using One Radian to drive that net. Am I [indiscernible] (04:05:49) answer right?

<A>: Yeah, I think so. Yeah. And...

<A – Rick Thornberry – Radian Group Inc.>: Look. And I would add something, Brien, just to Geoff's question. The fact that we know those statistics, okay, across – by bringing the group together and really starting to think about this at a customer level versus a product level is a huge leap. So as we've kind of developed this at a customer level whether it's through our sales force or even through our customer segmentation that Meghan and her team put together, we're starting to think in a customer level.

And so, I can tell you in all the meetings that I've met with all of our largest customers probably in the last six months, they are very, very focused on us, [indiscernible] (04:06:30) my partner and the other things we can do of our – I use one example, can't mention any names and I won't even give any hints. But we were having dinner, which we often do, with a large customer, two MI providers. By the time we were done with dinner, there was only one MI provider because of all the other capabilities we can have, that's not in their best interest only to have one MI provider. So eventually that other MI firm comes back in because they begged their way back in. I can tell you the power of what we can do with our MI customers is pretty compelling.

And actually, we – I was joking yesterday. We should bring our analysts after this meeting into an enterprise meeting and hear the compelling proposition that our customers are hearing and how they're responding to it. But that other MI did get back in after dinner, so...

<A>: Smaller percentage.

<A – Rick Thornberry – Radian Group Inc.>: Smaller percentage.

Emily Riley, Senior Vice President-Corporate Communications & Investor Relations, Radian Group Inc.

Okay. Great. I'm going to thank the panel then. Thank you, everybody. And invite Rick back up to the stage.

Richard G. Thornberry, Chief Executive Officer & Director, Radian Group Inc.

Okay. So I'm going to spend the next half hour talking about data and analytics. I want to make sure everybody got that. And we appreciated Joe's enthusiasm about the title business. Just I had a few of you all make comments to me more than two, maybe four, how much you appreciate the transparency. Our goal today, if you remember one of the first slides I put up there was to kind of have you seen what we can see, right. Have you understand what we're about, whether it's about how we manage the MI business or EV, Radian Economic Value, Radian's methodology for economic value.

But as you think about what we've gone through the day across our business from a financial point of view, from our risk management point of view, from a customer management point of view, from a technology, services business depth of analytics and data, and how we're applying that into our business model, I would find it hard to believe that you're going to hear that from any of our peers.

We're very excited about it and we think it positions us well. But our goal today and I'm glad I heard the comment come back to me more than a few times, we wanted to create transparency to the key

issues that we are focused on in dealing within our business so you could have a better understanding of what we're about, make your judgment as well as assessments based on kind of how we display the business and how we talk about the business. So I thought our team did an excellent job.

The other part is Emily likes to say, can I quote you, Emily? To know us is to love us, right. So we displayed a lot of our management team. You got to meet them at lunch for those of you here in Philadelphia. And I hope you can see this is a high quality team, but most importantly as I said earlier, working as one team. It's really very seamless. Turfs don't matter. It's all about what our goal is. And to Jeff's most recent question about some of the customer progress, our customers are feeling that. Our customers are starting to understand that Radian is not just an MI company. It's a great MI company but we have a group and a set of highly relevant products and services that allow them to transform their business. So we're early in that. And whenever we talk on our quarterly reports, the MI business dominates and that's a great thing because it's very powerful. But we really see a broader opportunity across our business.

So I thought what I would do is just take a moment to remind you what you heard today and what we think is important as a takeaway for today. But as I mentioned, transparency was our goal. And hopefully, as you saw the presentations, no shortage of presentations by the way, I thought everybody did a great job – that you have the takeaways that we really feel are important about our business.

So we are developing an innovative, high-value mortgage and real estate enterprise, okay. Yes, we are a great MI company, but we are focused on a broader purpose across the customer base that we have. So we're leveraging our core competencies to develop next generation with – this is not about the past, this is about the future, and we challenge everything. As you can hear from the team, we challenge everything we do and how we do it every day. We're never satisfied.

To create disruptive business models and we think we have some unique assets to do that in the form of data and analytics and technology, the people and customer relationships, and the things that are required to drive change. We're focused on enabling better ways of doing business. If we can make it better, we'll still do it.

And what's interesting as we look across all the products and services, certainly me for the last two years, we have to make tough decisions, what we do well and what we don't do well, and stop doing the things we don't do well. If we don't create a better way for our customers to transact or we don't do it better than the other guys, I don't want to use the Jack Welch if we're not number one or two or whatever. But if we don't do it a better way, we should think about not doing this anymore.

So, just the key takeaways. I spread it out today and you know I'm a big believer and kind of reminding, all joking aside, you heard a lot about data and analytics and technology, and a year and a half ago, when we did the Investor Day that other beautiful site called the New York Stock Exchange, we talked about creating a vision for One Radian and that we were an industrial strength fintech, we just didn't know it yet. We had a lot of aspects of data and information and inspiring technology and looking at the way that this is what it could be, right. We're evolving in that direction and I still think that term apply. I heard Eric and Steve use it throughout the day.

But one of the things that motivate us is not to hit some sort of category that creates unicorn like values, right. But to have that edge about us for creativity and entrepreneurship to think differently about what we're doing. And so, again, as you go away today, this is a different business, this is one that is focused on being disruptive across the things we do. But as you leave, we got a very valuable mortgage insurance portfolio. It's \$224 billion. We do have another month since we last reported, but I'm probably not at liberty to tell you what that number is.

So, anyway, I won't. But it's growing. It's high value. You saw in Frank's presentation the future earnings of that, those come through book value. Right. You saw the sensitivities under extreme stress scenarios. Most importantly the value today is our portfolio even using a reasonable cost to capital. The customer relationships, the discussion that we just had about how we're starting to leverage those relationships. We're early in it, but showing progress and position us for the future.

Our business model is more durable and less volatile, the risk distribution and that's we because of our capital situations, risk distribution isn't necessarily required from a pure capital point of view. But what it does do, an attractive execution, it creates a less volatile, a better insulated business through the cycle. So we use it, right. And we study it and we think about it and we apply it where it makes sense to us. The capital strength we have today, I think, is unmatched given the transactions that we've done. It has the potential to enhance shareholder returns, but most importantly, it provides strategic flexibility and those Frank went through all the different options of how we can manage our capital. We have a capital planning process. I always say plan – I won't say plan, because I don't want to have those quotes used against me, but we have a capital strategy planning process that is just as dynamic.

We don't have morning meetings like Derek and Steve and Marshall have on – and Megan and others, on facing our customers. But we have very frequent meetings on kind of our whole capital strategy, given the number of different options we have available to us. We think it creates strategic flexibility. We pulled capital off from the operating company into the HoldCo to create strategic flexibility. Our mortgage credit risk expertise is highly valuable.

So you think about the business going forward, we all want to put this into, like this traditional MI box. This business and others in the industry are mortgage credit risk investors. That's what we do. And the deep analytics we have both from a data and analytics point of view and also from an experienced team point of view, matter greatly going forward. And so, we're excited about kind of how the world is evolving and we think through all scenarios that we can think about that's a very valuable platform.

Our diversification strategy, I think, that burns this this question about what we see, we do see value. And as we – today, it's in the form of data and competitive differentiation, in the future, we really do think it's about financial return and enterprise value and that can come in different forms. And I think, we have flexibility. We think that value is accruing ahead of earnings. But we're very disciplined about how we think about in the long term and being thoughtful about what we should and should not do.

As you heard Eric talk about, this was a company again, when I got here two years ago, technology was spread all out and there are folks from our technology team, Mark Wai, Donna Ross, back in the back here, that have focused on bringing technology in as a core competency of this company. They're really setting the path forward whether it's from the development of technology or security framework for us to really leverage at the benefits of a digital transformation across data and analytics and technology to power our business. And it's happening on many levels at over – you can and we all talk about revenues and expenses on every quarter, we're doing that in the context of our financial results. But behind the scenes, there is a very significant transformation going on around our business to make us a better and actually have create more operating leverage for us going forward.

And the last one I have on this list, the team. So, you got to see many of the team. As I said earlier, one of the things I've been most pleased about since I joined two years ago is the quality and depth of the team and the absolute brilliance and commitment that this team has to doing just great things, right. Always starting with the customer, always thinking about the shareholder, always doing the right thing, right.

And so from a cultural point of view, we're guided by a set of values, but we have a great group of people. And personally, at this stage in my life, if I had only to spend time with people that don't approach the world in the same way that I do from an integrity point of view, then I would put this team up against any team in the country today.

So we're very, very much – we covered a lot of details, we created a lot of transparency for you. We appreciate you all coming in today. I'm happy to take questions. We didn't do that earlier, but I'm happy to take any questions.

QUESTION AND ANSWER SECTION

<A – Rick Thornberry – Radian Group Inc.>: Microphone is coming.

<Q – Jack Micenko – Susquehanna International Group, LLP (SIG)>: Jack Micenko, Susquehanna. Hey, Rick. I think, you had recently blessed on the last call the \$175 million to \$200 million...

<A – Rick Thornberry – Radian Group Inc.>: Yeah.

<Q – Jack Micenko – Susquehanna International Group, LLP (SIG)>: Revenue number for services that I heard a couple times today, something about enterprise value leads financial value or something like that. And then we had Frank go out six years on the up in insurance in force value. Can we do the same exercise for services? And is the \$175 million to \$200 million, is that aspirational, is that achievable, in a near-term model? How do we think about what this business could be? Because there's a lot going on here, but it's really hard to figure out.

<A – Rick Thornberry – Radian Group Inc.>: Yeah. That's a great question. So, first off, no, our guidance hasn't changed at all relative to the expectation to hit a run rate of \$175 million, \$200 million of revenue in this year, with a 10% and 15% EBITDA. So that has not changed. That's not aspirational. It is the objective of the team Eric and Brien, Mike, everybody raise their hand. So we're working hard to do that. I do think – and so that hasn't changed a bit. So, in the context of connecting what you heard today to what's happening kind of at the ground level, so every day, Mike and the team from a sales perspective, Sam on the title side, Katie and Jill and others, we have Tim in the back that are focused on the services business. Our everyday focus is on revenue and expenses and heading towards that goal.

The opportunity we have around it from a strategic point of view where we make investments are all about how we see exposing value in these businesses. So, we actually are walking and chewing gum at the same time which is building towards the financial contribution of these businesses, consistent with our guidance. And then second, focusing on developing the future value of these businesses. And I do think the value opportunity is on the real estate and title, kind of that real estate transaction side. But no change in our guidance. It's just really – these are things, they're all small, right. When you look at them relative to the MI, we stood them alongside the MI and they're relatively small.

I always talk about the last small numbers, small movements kind of affect them, but the growth trajectory that we see has not changed. Geoff?

<Q – Geoff Dunn – Dowling & Partners Securities LLC>: Thanks. Geoff Dunn with Dowling. Rick, how do you balance comparing the risk-free return of buying a stock versus investing in new platforms or additive platforms in mortgage services which are more or probably enterprise value type of additions that play out over time?

<A – Rick Thornberry – Radian Group Inc.>: Yeah. So, as Frank walked through, I mean, we try to be very thoughtful about further uses for capital. And I think we constantly think about [indiscernible] (04:22:41).

So, first and foremost we start as stewards of this capital for our shareholders, right. Share buybacks which we, hopefully you saw what we did in the first quarter and first part of the second quarter, right, in terms of what we disclosed on our earnings report in terms of share buybacks, so we have historically opportunistically used share buybacks to the benefit of our shareholders, right. And I think we still have an open \$125 million, \$130 million of open authority I think through June or July of next year. So that remains out there and we'll continue to be value driven and opportunistic in that respect.

As it relates to thinking about other uses of capital, so Frank went through the hierarchy. The first one was organic and inorganic kind of growth opportunities. And I think, we always have to be attuned to opportunities that are accretive to our business and be thoughtful about them as to whether it's a right deployment of capital or not.

As you saw last year, we did three acquisitions, so external acquisitions. They were all immaterial and I would – but strategically, not immaterial. They're accretive to our business for all the reasons we've talked about today. And we found that those acquisitions are – they fit well within our model. So we're not today looking at, I'd say homeruns, if you will. It's – we, Frank and I and [ph] John Damian (04:24:16) who's in here somewhere, here's John back there, we probably see four or five deals a month from an outside perspective and we probably kill four or five deals a month, right. So there's a lot of traction. I could show you the file on my hard drive that's got, like, 100-plus deals and John sends all time. So we're pretty disciplined, I feel like we're very disciplined on that.

Now the internal investment, right. So, in context of making capital allocations to our existing business, we do that through our planning process with our board and quite frankly, we do it in the ordinary course, I think very effectively. Whether it's technology investment where we're completely modernizing our MI platform or other investments across the real estate services business, we do that in the context of balancing that with our financial objectives on a year-to-year basis. So we do those with, I'd say within a box that we feel is manageable within our financial context.

So from a capital planning point of view, I would say those capital – the capital investments that we think of in terms of a waterfall would be other acquisitions or other asset acquisitions. But it's like I said, we kill most of those as they come through. So it's – we're not running out today to buy something to change the profile of our business. Hopefully, I answered your question, Jack.

Any other questions?

Richard G. Thornberry, Chief Executive Officer & Director, Radian Group Inc.

Everybody ready to see the beautiful artwork? So, Emily is going to probably set you out in the direction, but the galleries here are amazing. So, first, I want to thank you all for making the trip down here and taking the time to meet our team and hear our story. Sorry for the extra weights you got to carry back in your back with lots of presentation material. But I hope you find the information useful.

As always, Ms. Emily is ready and willing to kind of coordinate any further follow-up that you have and we'd love talking to our investors and our analysts who follow our business. Thank you for your support. Appreciate it.

Emily Riley, Senior Vice President-Corporate Communications & Investor Relations, Radian Group Inc.

Well, that concludes the presentations today. I just wanted to take a minute to say, thank you. Thank you to everybody who travelled here, thank you to everybody on the webcast. We appreciate your participation. Hopefully, everybody learned just a little bit more about One Radian. As Rick mentioned, we are happy to follow up. We're excited to talk about the story. I would like to just thank also the entire team that's here, everyone who's worked on the Investor Day, as well as all the Radian employees that are here in the room, across the country that help us get here and help make Radian so wonderful each and every day. And also thank you to staff in the Barnes Museum for hosting us here. So hopefully, you can join us for a cocktail reception, the Barnes Collection will be open. We'd love to talk to more of you.

So please join us and thanks again.

Disclaimer

The information herein is based on sources we believe to be reliable but is not guaranteed by us and does not purport to be a complete or error-free statement or summary of the available data. As such, we do not warrant, endorse or guarantee the completeness, accuracy, integrity, or timeliness of the information. You must evaluate, and bear all risks associated with, the use of any information provided hereunder, including any reliance on the accuracy, completeness, safety or usefulness of such information. This information is not intended to be used as the primary basis of investment decisions. It should not be construed as advice designed to meet the particular investment needs of any investor. This report is published solely for information purposes, and is not to be construed as financial or other advice or as an offer to sell or the solicitation of an offer to buy any security in any state where such an offer or solicitation would be illegal. Any information expressed herein on this date is subject to change without notice. Any opinions or assertions contained in this information do not represent the opinions or beliefs of FactSet CallStreet, LLC. FactSet CallStreet, LLC, or one or more of its employees, including the writer of this report, may have a position in any of the securities discussed herein.

THE INFORMATION PROVIDED TO YOU HEREUNDER IS PROVIDED "AS IS," AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, FactSet CallStreet, LLC AND ITS LICENSORS, BUSINESS ASSOCIATES AND SUPPLIERS DISCLAIM ALL WARRANTIES WITH RESPECT TO THE SAME, EXPRESS, IMPLIED AND STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY, COMPLETENESS, AND NON-INFRINGEMENT. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, NEITHER FACTSET CALLSTREET, LLC NOR ITS OFFICERS, MEMBERS, DIRECTORS, PARTNERS, AFFILIATES, BUSINESS ASSOCIATES, LICENSORS OR SUPPLIERS WILL BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING WITHOUT LIMITATION DAMAGES FOR LOST PROFITS OR REVENUES, GOODWILL, WORK STOPPAGE, SECURITY BREACHES, VIRUSES, COMPUTER FAILURE OR MALFUNCTION, USE, DATA OR OTHER INTANGIBLE LOSSES OR COMMERCIAL DAMAGES, EVEN IF ANY OF SUCH PARTIES IS ADVISED OF THE POSSIBILITY OF SUCH LOSSES, ARISING UNDER OR IN CONNECTION WITH THE INFORMATION PROVIDED HEREIN OR ANY OTHER SUBJECT MATTER HEREOF.

The contents and appearance of this report are Copyrighted FactSet CallStreet, LLC 2019. CallStreet and FactSet CallStreet, LLC are trademarks and service marks of FactSet CallStreet, LLC. All other trademarks mentioned are trademarks of their respective companies. All rights reserved.