

06-Nov-2017

# Radian Group Inc. (RDN)

Investor Day

## CORPORATE PARTICIPANTS

**Emily Riley**

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

**Richard G. Thornberry**

*Chief Executive Officer & Director, Radian Group Inc.*

**J. Franklin Hall**

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

**Derek V. Brummer**

*Chief Risk Officer, Radian Group Inc.*

---

## OTHER PARTICIPANTS

**Bose George**

*Analyst, Keefe, Bruyette & Woods, Inc.*

**Ronald David Bobman**

*Analyst, Capital Returns Management LLC*

**John Gregory Micenko**

*Analyst, Susquehanna International Group, LLP*

**Chris Gamaitoni**

*Analyst, Compass Point Research & Trading LLC*

**Alan Scott Danzig**

*Analyst, Lord, Abbett & Co. LLC*

**Mark C. DeVries**

*Analyst, Barclays Capital, Inc.*

**Douglas Harter**

*Analyst, Credit Suisse Securities (USA) LLC*

**Mihir Sudhir Bhatia**

*Analyst, Bank of America Merrill Lynch*

---

## MANAGEMENT DISCUSSION SECTION

### Unverified Participant

Good morning, ladies and gentlemen. Please welcome Investor Relations, Senior Vice President and Corporate Communications, Emily Riley.

---

**Emily Riley**

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

Thank you very much. Good morning, and welcome to Radian's Investor Day. It's great to see so many familiar faces, a couple of new ones. On behalf of the management team here at Radian, welcome everyone here in New York and also on the webcast. For those, who don't know me, I'm Emily Riley, Senior Vice President of Investor Relations. Many of you know or have met my colleague in IR, Terry Perry, who you can hear, but not see right now. So, we're very happy to have you and we're happy for your interest in our company.

Before we get started, it's important to note that some of the statements, we'll make today will be forward-looking. These statements as well as Radian's prospects are subject to certain risks and uncertainties and you should read about these risks on slides 70 and 71. Everyone in the room should have today's presentation in front of them. You can also find it on the Investor Section of our company website, that's [www.radian.biz](http://www.radian.biz). And finally, I'd ask that you please silence any electronic devices for the benefit of those in the room and also on the webcast. You should silence them, but don't turn them off. And I'll explain that in just a moment.

Now, I'd like to give you a preview of what we'll be doing today. You'll find an agenda in the very front of your handout packet. Throughout the day, you'll hear why Radian is different from the competition. You'll hear from our CEO, our CFO, and our Chief Risk Officer, and each presenter will allow time for remarks after their presentation. Our goal is to make this a very interactive day, so we encourage you to ask the questions that are on your mind. But please keep in mind that certain questions might be addressed later. So if your question is asked to be held, it's because the presentation content will cover it a little bit later. During the Q&A, if you could also wait for a microphone that will help the webcast listeners to be able to hear all the questions clearly.

Following the formal presentations at noon today, we'll invite each presenter and a few additional executives to the stage here and we'll have a Q&A panel. So we don't have any planned breaks this morning, because we have quite a bit of material to cover, but you can exit at any time through those back doors and at 12:30 today, we'll break for a lunch. The buffet will be available outside of these doors, so we ask you to gather your food come back into the room and our guest speaker Anand Sanwal from CB Insights will begin promptly at 12:45. And lunch will end at 1:30, at that time we'll invite you to the Hamilton room which is around the corner, where we'll hold our Expo Program.

Our Expo is a room filled with our management team and our business leaders and the ones who interact really with our customers each day, they oversee our businesses and product lines and represent the primary reason for our success which is our outstanding team. We'll also have some of our customers and business partners in the Expo and here, you'll see firsthand how Radian differentiates itself from the competition. And there's also dessert in there, so it's something you don't want to miss.

We'll adjourn our meeting today at 3 o'clock, following the Expo and we'll be ringing today's closing bell. We're celebrating 25 years on the New York Stock Exchange and 40 years as a company. Be sure to see us live on the Stock Exchange website, that's at [nyse.com/bell](http://nyse.com/bell) or check us out on Twitter. If you haven't seen it yet, we have a live Twitter wall, it's @RadianMI. Throughout the day, we'll be using social media to connect with all of you and each other. We encourage you to do the same. Use the #RDNInvestorDay and you'll be sure to follow us and then you can be a part of the action.

For those here in the New York, you'll see all of the post that use the hashtag on the wall behind us. You can take photos, post content and connect with other attendees. And if you think you already know Radian, be on the lookout for some trivia questions and have an opportunity to test the knowledge of our company. You'll also be able to see some of our executives and their bitmojis, see if you can figure out who's who. They're already dancing around behind you and you can see some of the action from our executive with bitmoji emojis. And remember that your knew new Radian key finder in front of you also serves as a selfie remote control, so you might want to use that a little bit later when you get to the expo.

Now, we'll get started. Thank you very much.

---

## Company Representative

Ladies and gentlemen, please welcome Chief Executive Officer, Rick Thornberry.

---

**Richard G. Thornberry**

*Chief Executive Officer & Director, Radian Group Inc.*

Welcome. Thank you, Emily. For everybody's information, these emojis, none of us got to pick out our emoji, so when you see my emoji, there's still a debate of who that old gray haired guy is, [indiscernible] (05:00). And I guess this morning, I was dancing through Wall Street or someplace, so I'm not sure what I'm doing now, but we'll watch Twitter to see so. Thank you all for coming. It's great to have you all here and we appreciate your attendance. We know you have very busy schedules. And we welcome you as we celebrate our 25th anniversary here at the New York Stock Exchange and 40 years as a company as Emily said, and we're excited to update you on our business and the opportunities we see ahead. So let's get started.

If I forget to advance this, you guys will remind me. Okay. So as we were preparing for today, Emily suggested that I give you a little bit of my background and maybe my journey to Radian. And so I'm not going to necessarily go through this entire slide you have it in your book, but my background and my experience has prepared me well for this job. I have strong financial management skills. Beginning my career at Deloitte, kind of coming through the business as a CFO, of a – one of the largest mortgage companies in the 1980's and 1990's, Prudential Home Mortgage. I'm a mortgage banker with broad industry experience. So I can understand kind of what our customers are dealing with on a day-to-day basis. I understand the challenges that they face today and some of the things that are changing in that market.

I have experience managing large originators, lenders, servicers, you know so I've been around this business for 30 plus years and we've seen a lot, I have done turnarounds. I've been part of turning around a couple of different large bank owned mortgage companies, one of which is mentioned up here, and one that you know player that will be named later.

I've done a successful fintech, before fintech was even in vogue. I did a partnership with KKR, where we founded a BPO company and built it and sold it in the mid-2000. So, turnaround technology my entire career, and over the last several years I've worked really closely with some of the leading private equity firms, on some of the financial crisis and post-financial crisis, M&A transactions that have been done, and also developed some technology startups in parallel. So stayed very well with the industry. So I've never been satisfied with business as usual and I like to think innovatively and drive change across businesses.

So let's talk about my journey here, and why I joined Radian. And I've been asked that question even you know from the day it was announced, even as recently as last week at the MBA conference, why did you join Radian. The answer was pretty simple. So why not, right. Why not? Here's a company with a strong market position or either across brand and customer distribution, operating scale. Here's a company with strong financial strength, strong financial position across our capital structure, our earnings, and the high value of our – I like to think of it as off balance sheet, insurance in force portfolio, different than the mortgage banking world where the MSR assets on balance sheet, we have the benefit of and our business is being significant off balance sheet value. We have a diversified product set, which we're going to spend some time talking about today and the strategic opportunities I saw. So, given what I understand the market needs to be and the opportunities going forward, combined with the capabilities as I learned more about Radian, before I even started, I said this is an interesting platform with a lot of good momentum and a lot of the raw materials to build a very significant player in this mortgage base.

So, what have I learned since joining? I've learned a lot. By the way, today is eight months. Somebody asked me earlier how long I'd been here, eight months to the day. And if you would ask me on March 6 when I started and I think quite shortly thereafter, Emily and Franklin and I started talking about Investor Day, was like, well that seems like a long ways away, but it seems like a blink from March 6 that we're here and a lot's going on. But over the course of that time, I've met with customers, I've met with our business partners, I've met with regulators, I've met with everybody, I tried to meet with as many people as I can, to try to get an outside view of our company. I've sat

side by side with our employees and all of our key operating groups. And by the way, that's good for me and it was good for them.

So, someone actually running the company, actually appreciates what they're doing, what tools they're using and how well they can perform. So, that gave me a lot of insight and I've sat and talked to employees around tables, which really give me an opportunity to assess what we do well, what we don't do so well, and what we can do better going forward and where are our opportunities are. So, when you think about it, you know we have the strength of this team from an experienced and from a commitment, and from a customer focus point of view from a commitment and from a customer focus point of view. Those are things that have been validated as I've been here.

The incredible depth of our market relationships, you're going to hear me talk about our 1,500 market relationships that we have across our MI and other business. If we probably add them all up, [indiscernible] (10:05) you'll have different math. But let's just say more than 1,500 relationships – with our customers and then we have regulators and GSCs and investors. So many of our key customers I've known for 20 plus years, 30 plus years I've worked with them, they've worked for me, I've worked with them over different places. We've been around this industry. They've been very open and candid about sharing their needs and what we can do for them. And most of all they respect Radian. To a person that I've talked to outside this company, I've got nothing, but positive feedback about their relationship with Radian.

So our strengths, we have risk management, we have financial management, we have operating scale, by the way, I don't want to just gloss over scale, if you're going to build a business in this marketplace as I think some companies learn, scale matters, okay. The ability to maneuver through scale and do that efficiently and leverage scale is a key ingredient to building anything of diverse, any further diversification and we start with great skill. So we have some of the best top secrets in this industry. We'll try hard, we're working hard in terms of products, we're working hard to change those and bring those to market. But as I went through and saw what we do, I wouldn't say I discovered, but I realized we have the opportunities we have.

Of course, the market opportunities what we're here, if any, I don't want to pass by financial flexibility. So I came into this business kind of with a – as a financial guy at heart. I looked at the company and I said, okay, there's these different ways to think about how we manage the financial structure of this business. As I've gotten to know and this team here has taught me all about different insurance related structures combined with my own capital markets experience. We have a high degree of optionality around this business and how we explore the use of capital. I'll come back to that.

So the broad market opportunities, [indiscernible] (11:58) as I sit here today combined with what I knew coming down and what I've learned since I'm extremely excited, and hopefully that's going to come out today as we thought. So, just as I've gone through this whole journey over the last eight months, as I've come to know this business, it has become clear to me that we manage risk for our customers across mortgage and real estate services. Okay.

We are a uniquely diversified mortgage risk management business. We manage credit risk through our mortgage insurance and reinsurance, structured mortgage solutions, which I'll talk about here a little bit, some of the loans and securities work we do with our customers. We manage transactional risk across origination, acquisitions, securitization and servicing, okay, through some of the businesses that we have across our services segment, as well as our MI business where we underwrite an incredible number of loans each year.

Real estate, we can help companies manage their risk-related to real estate. In terms of valuation, we have some of the most advanced valuation tools among some of the best kept secrets in our industry right now, not for long. Title insurance, as our title agency, producers you know helps customers manage the risk associated title, our real estate brokerage capabilities and our OREO asset management.

So when you really think about it, we manage risk across a broad spectrum of our business that are all highly integrated, right, gives us the opportunity to think about the integrated risk profile that our clients are dealing with, our mortgage insurance business provides us the foundation to build from and our broad capabilities provide strong building blocks for the future. So we're going to be discussing this as we kind of go through the day, but keep this view in mind is that if you look at one single thing [indiscernible] (13:50) company, we're much broader than that. Our customers are recognizing that, and we understand the risk of a transaction, and our products and services are geared towards that. So you'll have the opportunity in the expo hall to hear more about it as well and see some of the things that we do, but at the end of the day we manage risk.

Okay. So before I get kind of started of going through some of the strategy, I thought I would share a few bits of info about the company's history. Some of which surprised me, I've been here for eight months you would think I know everything by now. But some of these, as I asked a question some of them surprised me. We have enormous scale, and we have a history of success, but over the last 40 years, Radian has insured \$7 million loans. It's a big number. Okay. And when you think about it? How many of those \$7 million borrowers and families, homeowners, right, would not have been able to buy their house without our products. Right. It's a pretty important thing. Many of us, probably many of us in this room bought our first house with less than 20% down. So we're relevant and we've been relevant for a long time.

Over the last five years, we've written \$228 billion in insurance covering approximately \$940,000 loans. And we've paid \$4 billion in claims, most of that relates to the pre-financial crisis kind of era loans, so very little to the more recent vintages since 2008. But again we not only do business, we pay our claims. And so as you think about this, we're an industry, we in our industry play a very important role sponsoring high quality borrowers who require greater than 80% LTV loans. First time homebuyers are more than a third and we expect that number to grow in terms of new purchase loans, right.

So through our products and our underwriting processes and our risk management capabilities, we're focused on putting consumers into sustainable homeownership positions and situations and not in harm's way. And, I think that's a discipline that we and our other industry peers really have that discipline we bring to the market.

So, these homebuyers need our sponsorship to achieve their American dream. And so, when we say we're insuring the American dream, we mean it. I don't just say that because, hey it's nice, it's the tagline, right. One of our senior executives, who joined about a year ago, came and said you know the thing that excites me most about being part of this company? I was like, what, you're going to say. And he said, to me he said, you know, Rick, everyday we're insuring the American dream, right, we're insuring people's ability to achieve homeownership. And I think that's a pretty mighty mission and especially when you think about it in diversified risk business across the mortgage or real estate market.

So if you look across, and we've been doing it through – by the way for 40 years, in both good and challenging times. We know this business well. So, when you look at our services business, Clayton has reviewed four million loans over its history, maintains a database with more than \$2 trillion in original loan balance, okay. Red Bell has 58 million properties in its proprietary database.

So, when you think about scale of this business, we've got proven experience. We've got great skill and great data. Again, is there any reason why I came here, any reason, the question why I came here, we have a lot of the raw materials to go build a very special company and take this forward. So, as we look at our business going forward, we're focused on continuing to drive growth across our mortgage insurance business, while we strategically evolved into a more diversified financial services enterprise focused on mortgage and real estate markets.

Continued growth in our MI portfolio plus our expanded diversification across the mortgage and real estate market continuum are the real catalysts of sustainable growth for our company. Our customers as we start to introduce this broader enterprise concept or, I shouldn't say concept, our approach to the marketplace as we unveil ourselves to the market in a much more enterprise way, they're confirming our approach and our sales strategy through their feedback. And obviously there's some work to do to achieve these objectives, but we're well positioned to have the team in place to execute these objectives.

So, today, I plan to cover a few topics. First, how we are growing our high quality, high value mortgage insurance portfolio to drive future earnings? How we're executing our strategy to further diversify our business? How we're leveraging our capital and financial flexibility to optimize shareholder returns? How we're driving a one company market view through our enterprise sales and marketing platform? How we are achieving operational excellence to drive further competitive differentiation and enhance operating leverage? In addition, how are we building competitive differentiation through our business model and how are we positioned relative to the mortgage market transformation trends that we see?

And you know last but not least, our progress to date in our roadmap going forward. So what steps have we taken, because we've been busy, I've been busy last eight months, I expect maybe we'll be busy for another eight months, but we've got some work to do and we continue to stay very focused on it. But we'll walk you through kind of where we're and what we're doing.

Why don't we kick-off kind of the jump into some of our strategic overviews by taking a look at the market overall. And you can see from this chart that there really is a growing purchase market. And for anybody, who's been around the mortgage market for as long as I have been, the purchase market's always been the base of growth in the market with a lot of volatility around refinances, kind of think of refinances as opportunistic. So, as we think about the cycle going forward and we look at the core purchase market growing, which is really fueled by demand and first time homebuyers kind of entering the market, obviously, we have to see inventories continue to sustain this growth of purchases.

But, it seems likely and it seems where mortgage insurance is three to five times more likely in a purchase transaction versus a refinance. And low refinance volumes, you could see refinance volumes are pretty steady there and more normalized, if there is such a [ph] word (20:42). It may increase our portfolio persistency and certainly could result in increased future earnings, but we like this scenario. We think this is a good scenario for our company for our high value insurance in force book of business.

We also – as we look at this, we have to – the only real challenge that we see will be avoiding the risk pitfalls that can occur in this type of an environment as the mortgage market looks to drive volume by expanding the credit box and we'll remain disciplined. This is something that we could talk about the pre-financial crisis and some of the lack of discipline, but as an organization, we will remain disciplined and we will focus on doing high value loans and focus on building our portfolio from a value perspective.

So when you also think about this type of market and it's also relevant to our services business where the size of the market, this is a \$1.5 trillion market consistently, drives a lot of opportunities across our core services business. So we like this market, it's a good backdrop from which to build.

Okay. So we're focused on growing our MI portfolio through the next cycle. And I'm going to talk a little bit about that, but first we're starting from a position of strength, as a market leader, delivering great service and competitively priced products. We see a new MI market cycle emerging and when I say new that doesn't mean bad, it actually – I think it's a pretty good scenario, it's one characterized by purchases and first time homebuyers that are – that we may see higher LTVs, just because of the nature of a purchase transaction, especially around first time homebuyers, little bit higher DTIs and credit scores, but it's a different scenario and quite frankly the last [indiscernible] (22:41) years have been extremely good from a credit profile.

I think we're going to see a very good profile going forward and from that perspective we're closely monitoring any changes that we see, because this approach or this market cycle has changed, requires discipline, okay and our team is extremely disciplined around watching the risk management attributes that are coming through; using our risk and return analytics, understanding the customers, who we do business with, right. So you'll hear Derek talk about our customer segmentation analysis that we use to really manage customers who are performing well and customers that we need to either move out or move up from a performance point of view, it's a very active process and I think different than 10 years ago from a business point of view.

So we're closely monitoring these across the board, we'll leverage our tools to identify value in terms of quality of customers, the products that we are offering and then where we see the mix and the pricing that we offer. We're not just focused on growing in NIW and market share, as that all NIW is [ph] created (23:52) equal and I think that's an important concept to watch. And I think for us, we're very focused on growing our business with the right customers and the right value – contributing the right value, so that we can grow our insurance in force portfolio in a high quality, high value way. Okay.

And then this is all aimed at as we grow that portfolio value, we're building long-term value for our shareholders, okay? It's a pretty simple model, stayed, look at the market, leverage our position which is a position of strength; do it in a disciplined way, focus on growth and value as opposed to just surely units of volume, okay?

So we are also diversifying our business through structured mortgage solutions. So we're leveraging our credit risk capabilities to address expanded market opportunities. And so when you think about it, we can leverage, we plan to leverage our core risk management expertise including our data driven risk analytics platform and our customer relationships, the source underwrite sponsor and distribute high-quality mortgage credit risks through sustainable sources of low capital, right, a low cost capital.

So we're in a great position to do that because of this distribution franchise we have and our disciplined risk analytics. The market needs it because we're at a time where there's an epic shift of credit risk going from the government and taxpayers out to private capital, okay? We're one of those private capital sources. We also have the opportunity to work with other private capital sources where we think it adds to our capabilities and breadth in the market. So – and I think we're also starting to see early signs of a re-emergence of the non-agency kind of the prime non-agency market coming back as we see some large lenders starting to jump, not jump back in, because it's going to be slow, but starting to reenter the market and start to express their interest in kind of coming back into the securities market.

So there are a number of innovative structures available to us, whether it's insurance, whether it's reinsurance, securities, managed structures and vehicles, sponsorship through co-investment from our own balance sheet. So

when we think about it, we want to use those levers to grow earnings, not to stay with you, when we talk about financial flexibility, you're going to hear me say we don't need to stay necessarily within our capital base, in our capital box, we can expand our leverage in the marketplace by leveraging other sources of capital as well.

So we're focused on increasing revenues through the combination of our own invested capital where we co-invest or sponsor credit risk and fee-based revenues where we manage for others. And we'll drive greater operating leverage across our expense base by growing revenues and leveraging our core capabilities embedded within our business.

Okay. As many of you are aware, we are working through a restructuring of our diversified services segment to strategically position our core products. We are diversifying our business through our mortgage and real estate services and as we've talked about in the last few quarterly earnings reports, we've been working through this over the last three or four months, working and I appreciate all the teams efforts on this is. It really takes a lot of hard work to kind of go through and think about how you want to go forward and kind of challenge things that we've done in the past.

As we think about it and I'll talk a little bit about this year here. Our current products and services are really go across four categories; mortgage and real estate transaction management, and portfolio and securities surveillance, our real estate brokerage and valuation business, title and settlement and REO asset management.

Now some of that may sound vaguely familiar, okay? Some of it may sound like, hey Rick, that sounds like what you were doing four months ago, very big difference. By the way, each of those businesses on their own have market leading positions certainly across our historical Clayton business from a transaction management and surveillance point of view; our valuation products across Red Bell are extremely powerful; our REO management capabilities are I think second to none.

So within those businesses, we have market leading positions. What we did and what we've done and what we continue to do is, I think our products set and our focus got too broad. We're coming back to what we do very well in each of these businesses and we're looking to leverage those capabilities to grow the business as opposed to kind of doing all things for our people.

So if you go through our TM business, what we're really, really good at is we're very good at loan due diligence and [indiscernible] (28:56) view and surveillance over portfolios and servicing. We're very good at that, we're best-in-class that's our focus. Does that mean, we won't do things that kind of fall into that box, we're going to be very disciplined around focusing on where we see growth in each of these businesses leveraging what we do well and what is core to our business as opposed to trying to get too far out.

So when you – so, some of the best kept secrets go around some of our valuation products and we see a lot of hype in the marketplace about things that others do, where we have better capabilities in our – in my opinion. So but again, we have to kind of re-launch these products and think about it from a move towards where the opportunity is and not really think about how we've done them in the past.

So our products fit very well with the market need and integrated products across the mortgage value chain, digitally enabled products, leveraging data and technology, transaction quality and transparency when you think about securities market, one of the reasons that it's kind of been slow to come back among others is because of the concern over transparency.

We're enhancing these products by looking at how we expand the products within our core products, how do we define and present our products in the marketplace, leveraging the tools and capabilities we have that are core, how we bundle some of these offerings, we kind of came [ph] out this (30:25) from a product silo perspective; how do we sell this product, this product, but there is within all the legal requirements and making sure we comply with all laws, really think about how we bundle the products to go to market gives us a position of strength versus somebody who's just offering a single product okay? And that's true on the M&A side.

So – and then this is all focused on – and I actually put here in terms of opportunistic and highly creative M&A. We see no shortage of opportunities. We're not chasing in any deals and our future is not dependent upon any M&A. We're staying right within the core that we have today and expanding. Obviously, given what we're going to talk about today is we have a very accretive platform to the extent we think things have value. And I think – when we think about some of the innovation, most of the companies that are doing innovative early stage things are going to suffer from scale, there might be opportunistic opportunities for us to bring those things into our platform, but again, we're going to remain disciplined.

So we're focused on growing earnings through an increased fee-based capital light revenues, strong operating margins and increased operating leverage. So when you think about this we've gone through a restructuring in our services business, it's focused on strategically repositioning our core products across the market opportunities we see, okay?

We've changed our approach to this business. It's from a market perspective, from a sales model – we have changed our approach to this market dramatically in the last several months. We start to sell our products from an enterprise perspective, which I'll talk about in just a minute. But this is a 180-degree shift from where we were before, where we sold title, and then we sold transaction management, and we sold Red Bell, we sold Green River as opposed to really thinking about how we, as a company, position our products to be increasingly relevant to our customers, from an enterprise point of view, I'll come back to that.

So as I've gone through my own journey over the last eight months, including even at the MBA last week, the mortgage bankers conference, I get questions like, hey, I didn't know you guys do that; like I ask myself why not, because we haven't told you yet, but we're telling you now. The other one I get is, hey, I didn't know Green River and Red Bell were part of Radian. I actually had to call a customer about two months ago and say, hey – a customer I've known for 30 years, hey, remember Green River part of the Radian. Really? Didn't understand that. Okay. That's changing. That's changing. Unacceptable.

So many of the products we have that I mentioned are best-in-class and they offer significant leverage. So we're early in this effort and we have work to do. There's no doubt about that. But our focus is sharper and we're focused on leveraging a core set of products that we do very, very well; and where we think we have competitive differentiation. We gave guidance in our third quarter around this business. It's kind of our initial kind of level setting post restructuring to get to a revenue run rate of \$150 million to \$175 million of revenue with a 10% to 15% EBITDA level, right?

And by the way, we think EBITDA is the right measure for this business. When you think about fee-based businesses, when you think about the value creation in those businesses, it's really [ph] tracked (33:54) around the EBITDA that we're generating. How we choose to allocate our debt and even some – to some degree our corporate overhead is more of an accounting exercise but from a value creation point of view, EBITDA drives this and this is our focus.

Now, we're not satisfied with that starting point, okay? You guys asked for guidance, we provide a little guidance, trying to tell you where we're going to level set to and where we're going to grow from, but we're not – that's not where we're headed, right? Not here prepared to give more guidance about the future because Frank and Emily will jump up and – but the bottom line is, I want you all to understand it's a starting point. It's from where we're going to measure ourselves going forward and we see a significant amount of opportunity in this business to grow by leveraging it across our enterprise sales platform, so come back more to that.

So we have the opportunity to leverage our capital and financial flexibility. As I mentioned earlier kind of during my journey, got a great deal of insight into really the tools and flexibility we have. We have a strong capital base and we continue to look for opportunities how to improve our earnings and returns for our shareholders. So we start with a strong capital base. We see market opportunities where we can leverage third-parties to improve our returns and expand similar to what we just did with our most recent reinsurance deal on the single premium policies, expand our business opportunities beyond our own capital structure.

We don't have to think within our own boundaries. We have to think about what's the right capital structure for the right products and the right services and how do we access those given our distribution and scale. We can leverage the tools around reinsurance, the FHLB financing options that we have in our insurance subsidiaries, off balance sheet financing, certainly proprietary capital vehicles and capital partners. We can do this to improve returns. Obviously, we're driven to improve returns through the optimization of the use of capital and grow our earnings by leveraging third-party capital, increase our fee-based revenues, and increase our operating leverage.

So you kind of hear some themes about this. We don't want to just sit and rely upon on growing high quality MI portfolio, which we think is a tremendous opportunity and it generates tremendous future earnings. But we want to leverage our core capabilities and leverage the financial flexibility we have to create value for our shareholders. So Frank and Derek are going to talk about this, both – in different ways, kind of in their presentations, but I think, the point I would leave you all with is, as a company and as a guy who has a financial background, one of the great things that I am excited about in this business, well, there's many things. But as I think about this company is how we can leverage capital beyond our boundaries and how we can leverage third-party capital where it makes sense, so anyway.

Let's go to the next. So we continue to sharpen our focus on improving our operational effectiveness, service delivery, while increasing our operating efficiency. By the way, I know that sounds like motherhood and apple pie. Most CEOs get up and say, we're going to manage our expenses better and our productivity and we're going to do things better, better, better. So I just want you all to know that it's more than just an exercise so that we can put a slide here. We want to fundamentally change the way we do business and how we think about leveraging data and technology across our business.

So, as you think about my background and some of the things I've done in terms of creating high-tech kind of BPO solutions in terms of leveraging innovative capital structures, when you think about operational excellence, we just got to start back at the core and really think about what we do, how well we do it, how we could do it better, and how does that improve our results.

So we're focused on identifying our key metrics. I listed a few examples; customer service, operating quality, productivity, cost, employee satisfaction. By the way, I think our employees are pretty satisfied, but we need to continue to understand where their heads are because they serve our customers every day.

We're developing roadmaps around how we start to move the needle. It'd be nice to say, look, everything's all about low hanging fruit. We can just do everything within three days. None of that would be sustainable; there's a

few things. None of it would be sustainable and relevant to us going forward. So we are actually identifying when you're 40-year-old company there's things you can do different and better. We're identifying those, developing plans that may span a month, may span three years for us to really kind of evolve and move our true expense structure, our operating leverage, move our – how we move our customer service to a level that's beyond what our competitors can do. So, developing those roadmaps, understanding the KPIs and really making – having those improvement plans.

So, we'll make investments. I don't – when we started talking about operational excellence, there is a balance between making sure you invest in the things that are going to produce those results. And I think our team has been very thoughtful as we're going through this process of identifying things in really a cost benefit way, from a value perspective and we're creating those disciplines and making decisions around investments and things that we can do to change our financial profile.

So we're making improvements, we're going to measure the results, we're going to align accountability and we're going to celebrate our successes. This is cultural. This isn't like some cost cutting exercise for the sake of saying hey we've done it.

You know the restructuring was really kind of the first piece of that. But why are we doing this, we're doing this to grow earnings on a sustainable basis, to create competitive differentiation with our customers from a – yeah, with our customers and from our peers with from a service and quality perspective and then improving our operating performance and increasing our operating leverage in terms of productivity and cost.

So you know we're – we just went through the services restructuring as you know we still are kind of working our way through that. But today, we're questioning everything we do and doing it in a managed way where we challenge ourselves around the vendors we use, our organizational structure, how we replace head count, how we integrate headcounts, in terms of consolidation. So we're broadly attacking the problem and really thinking about the roadmaps.

So, we're focused on becoming a much more digital company by leveraging our data combined with technology. That's part of our shift from an operating efficiency point of view. We have an incredible amounts of data you can refer back to slide 3 or whatever. We've got lots of data. Sometimes we have to pick it up off of the floor because we have so much data coming through the place that we have to make sure that we capture, that we use it and we make decisions and change our processes around the use of data that's enabled through technology.

So internally, I'll say this publically, but I internally as I got there and started to talk to our team, the employee level, management level that I refer to our future is building an industrial strength fintech company. So I said before I built a fintech company before I was in Vogue, I figure we had to try to do one with scale and industrial strength today. But how do we really think differently about this business, how do we think differently about how we approach this business? We can't set and let the world change around, that's why we continue to do the same things we've done for the last 25 years or 40 years. Needless to say this is hard work, but it's doable and we're focused and the team is receiving that well.

Something that became clear to me as I talked to customers and participated in numerous sales meetings, actually organized a few sales meetings, where we took a broad cross-section of our team out to meet with the customer and the executive management team was our need to begin leveraging our enterprise sales and marketing model. What does that mean? Because it sounds again, why didn't you do it before. But again we kind of had the silo focus of what we were doing from a – how we were selling our products and somehow it all came together to the customer call through cross-sell.

So what we've done is we have a very diversified set of uniquely positioned products to become increasingly relevant to our customers. So this 180 degree shift that I mentioned earlier is we took our team structure and we combined our sales organization under Brian. We have product-specific teams, we have enterprise level relationship managers. We have an inside sales team that's really a centralized telesales group for those of you, that's an incredible weapon in our arsenal. It has proven to be extremely valuable and we have an extremely talented team there. And we've integrated our marketing and communication efforts.

We have a diversified set of products across MI, structured mortgage solutions, and the mortgage and real estate services. We have over 1,500 customers that we do business with and talk to on various levels, whether they're purely an MI customer or an MI Plus customer, or a non-MI customer that you know, it's maybe a Wall Street bank, could even be the GSEs right? The GSEs are big users of services. So you know we have a broad set of customers and leveraging our capabilities is really our focus to grow earnings, grow revenues to greater penetration of customer relationship.

So when you combine this diversified set of products with a sales focus that is materially different than what we have before across a very talented group of sales and marketing professionals, I think, we have a lot of opportunity. And as I've talked to our customers, I think, we have the opportunity, not only to you know, work with our MI customers, but to grow the MI relationship, and also grow the other revenues that we generate through those relationships. The number of customers at some of the most – some of the largest mortgage enterprises that have told me, Rick, we want to leverage more of your capabilities. We just didn't know, is that's changing, right? That's changing. So those discussions are happening real time and I think we have real opportunity. And we're focused on deepening those relationships to drive growth from the revenue and profitability per claim.

So we're just at the beginning of this. Again, it's one of those things where just because I wave my wand and say, let's do it, and Brian goes and start to pull it together and his team. It doesn't happen overnight. But the momentum we're seeing and we've seen this recently at the MBA conference is strongly confirming this approach. So I would say work to do, so far so good, okay.

So, we're going to call this the wheel of fortune, I guess, I'm not sure. This is a slide. I'm not going to read every word on this, you have it in your book, but clearly we offer the market a broad set of mortgage or real estate services. In the current regulatory environment around oversight management of third party providers, our clients can rely upon us as a partner with a 40-year history, a comprehensive suite of products, and a strong financial base, right. There aren't many counterparties in this market segment that has the financial strength and history that we have. So we're the perfect counterparty, right. We're the perfect counterparty.

Radian has unparalleled portfolio of products and services across origination, loan fulfillment, servicing and securitization. So, again, you can read this list. It's not meant to be all inclusive nor is it – it's just I guess a little bit of give a dramatic feel for kind of our breadth and depth of our products. We're excited to launch these products kind of in a new and different way and this platform to the market. And I think as we get more experience under our belt and continue to refine these efforts, I think the benefits will be realized.

So, as you think about it, our diversified product set positions us to increasingly be relevant with our customers, for a typical mortgage insurance company, sorry, I think on the slide here that's up there's a little bit of some overlap. But for a typical mortgage insurance company, the relationship opportunity is limited beyond EMI product. For us, EMI relationship is just the beginning of an opportunity to work with our customer. And so when you think about it, we're focused on increasing our relevance to our customers driving greater revenues and

profitabilities for clients, but we're strategically better positioned. And I like having these capabilities as we work with customers.

So, as we increase awareness, this is just an example slide, our customers are beginning to realize that we are – that they can rely upon us for more than just rely, okay. So, of course, as an MI provider, we do mortgage insurance surprise, underwriting, training, online tools and various forms of risk solutions around the credit risk transfer that different players are looking to do.

But then we offer a broader set that create competitive differentiation. So I think we can build stronger relationships and expand our business. We're going to rely upon brand recognition, Radian's brand in the market is extremely strong, very well-respected, through a one company model, right.

And again this may just sound like hey, Rick, that's nice thing to say. But we're taking our company, putting it together, integrating sales, integrating all the things that need to be done to really create one seamless experience for our customers. And the personal touch that we deliver through our own internal values as a company and our sales relationships to grow our business with existing clients and expand the new one. So, I think we'd like the position we're in.

So, why is this strategically important? So, we're well-positioned [indiscernible] (49:03) mortgage and real-estate markets and our transformative period. There is the emergence of first-time homebuyers who require – in a purchase market who require MI and other forms of credit sponsorship. We're relevant to that. This presents us an opportunity to do what we do well.

The industry, the mortgage industry, many of you may or may not be familiar with some of the mortgage industry challenge. One of the greatest single challenges in the mortgage industry right now is the costs between \$7000 and \$9000 to originate a mortgage, right. And then they have to put a profit on top of that, then they have to add all the other things that all of us do around that to price to a consumer and that cost is materially too high. So we have an opportunity to think about how we help originators reduce costs of their transactions.

And then there is a tremendous amount of business disruption going on in terms of business models. We see it in other industries. The mortgage industry is right for that from a disruption point of view. We think we're well positioned to not only participate in that disruption, and help our clients deal with that transformation, but also to drive some of it.

As I mentioned, our credit risk management expertise aligns well with the industry transition to an epic shift from the government to private capital. And I think that's undeniable at this point. I think – when we think about housing finance reform that is good, that's fundamental to all aspects, and all proposals, that the government continues to reduce the footprint of credit risks that it has in the marketplace.

But I think there's also a need for a reduced reliance on the U.S. government and taxpayers as a foundation for this mortgage industry. Fannie, Freddie, FHA, if you're a mortgage historian like I am for the last 30 plus years, so that makes me a historian, I think maybe an antique in some ways. But I think when you look at over the history, the opportunity for high quality loans, high quality investors to exist side-by-side with the government programs, I think is where the future has to go. So we have to reduce the reliance to create a healthy mortgage market going forward. The need for investors, that's going to be driven by the need for investors for transparency and really certainty and reliability of their transactions.

So, we're at the early stages of a re-emergence of this non-agency secondary market. Again, I think we're well positioned for that. So, net-net diversification drives competitive differentiation and sustainable value for shareholders. We think leveraging our core MI franchise along a number of the market-leading products and services to deepen our relationships and increase our relevance to customers is a winning strategy. Our capabilities in diversification position us to assist our customers with this transformation in terms of risk transfer, in terms of costs, in terms of business models. So, I think we're in the right place, at the right time and we're executing against that.

So, as you've seen from our most recent quarterly earnings reports, we're moving quickly to reposition the business for the future. Some of you all might be baseball fans, one of – even though he kind of probably will never make the Hall of Fame, but Mark McGwire once – as he testified in front of Congress, related to his potential alleged steroid use. I'm not sure, not sure he said, I'm not here to talk about the past. I'm here to talk about the future, and that's [indiscernible] (52:50) regardless of the context of what said. But it's really the context of where we are as a company. But we're not here to talk about the past, past we learned from, the past gives us the capabilities we have today.

But we're going to talk about the future and how we leverage those capabilities and those experiences to go build a transformative – a business that can participate in the transformation of a very large market, a trillion and a half size market. So we've been busy. We've been busy. Evolving the organization and the team, we've had quite a bit of change going on which is good. I have to tell you that the team that we have in this company is certainly, I'll put them against any team. This is a team that's very focused, very talented, very experienced and want to do the right things in the right way. We're integrating the one company. We're taking all these capabilities, put them in a way that we can present ourselves to the market in an effective way.

We're restructuring our services business. There was time that needed to be done. We needed to kind of change the trajectory of that business, so it can become increasingly – it can increase its contribution to our business both financially and strategically. We're launching the enterprise sales platform. I think I've talked about that, but it is a fundamental change, like I said 180 degree change. We're strengthening our capital and debt structures, so as Derek and Frank will kind of walk through. And we're refining our focus on what we do well, our core strengths.

So to use another sports legend, I think we all maybe not there might be some hockey fans here that didn't like him because he usually beat them, was Wayne Gretzky. So we're going to go where the puck is going and not where it's been, okay. And that really defines our future. It's not about where things have been. It's where things are going.

And the one thing that's clear to this team is the status quo is not a true viable long-term option. I think that's true for any business, you can't stand still and for us we need to continue to evolve our capabilities and think strategically and innovatively and think new, right. Think new about how this business can be done and that's where we're at. So we're not going to sit around and let the markets around us evolve and transform differently leaving us at a strategic disadvantage. We're going to take the actions we need to do.

So going forward, what should you expect? We are positioning the business for the future. We're taking a very disciplined value driven approach to building our mortgage insurance portfolio. As I said earlier, we're thinking about the volume coming through, from a – doing business with the right customers, the right products with the right risk return profile and measuring and managing the risks that we're taking on.

We're expanding our credit risk management platform to expand our profile and our leverage of our core capabilities. We're going to grow our mortgage and real estate services capabilities across the core set of

products. We're going to leverage innovative use or we're going to – we're going to leverage innovative use of lower cost capital structures and our capital partners to improve returns and expand our capabilities. Driving operational excellence, improvements through our disciplined focus on operational excellence is a cultural focus, right.

So the central theme to our future release of the leverage of data and analytics combined with technology to deliver disruptive, next generation products and services for a digital mortgage in real estate world, okay. That's not a question, it's a question of when, it's not a question of if. We can participate in driving that.

You shouldn't think of as Radian as your father or your mother's mortgage insurance company. We are sometimes referred to as one of the legacy MI companies, and by the way as you'll see from the numbers that Derek – by the way the act – when I came in, I was like why has it, I mean, time has passed, we kind of look at it, the others, yeah I think, you can look at the portfolio its 91% kind of on the post-financial crisis.

But we're – as a company, we're a different company today. We are focused on merging diversified – on building an emerging diversified enterprise focus from an enterprise diversification of financial services, focused on the mortgage and real estate markets, okay? We have great leverage points. We have a great portfolio and we're in a great position but we are a different company than we were 10 years ago, and the legacy we have is the experience we have and what we've learned from in the past. But again, we're not here to talk about the past, we're here to talk about the future.

So, I want to leave you with a few key takeaways from today. We have a market-leading mortgage insurance franchise, okay? We're growing high-quality – growing a high quality mortgage insurance portfolio. We have a disciplined approach to credit risk management and that will serve us well going through the marketplace here. We're growing a diversified set of high-quality products and services across the mortgage and real estate continuum.

We're driving growth through a unique enterprise sales platform and model. We have significant financial flexibility and we are highly focused on improving operating performance. And that concludes my comments. Just want to say thank you. And I guess, we have time for some questions if we want to do that. Thank you.

## QUESTION AND ANSWER SECTION

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

Hi, Bose.

A

Bose George

*Analyst, Keefe, Bruyette & Woods, Inc.*

Rick. Bose George from KBW. So, you spoke a lot about the non-MI businesses that you have. Just thinking about it going forward, the value that you're creating there, is it going to come through, more earnings in that segment, more earnings in the MI piece? And then in terms of the longer-term valuation, you feel like there's an opportunity where people say, okay, there's some other parts here where you've got an EBITDA business that you can value and a mortgage and MI business that you can value?

Q

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

I'll say, yes, yes and yes. I think, I can [indiscernible] (59:23). Look, I think, today the great part of the Radian story today is we have this incredibly valuable franchise across the MI world, where we continue to grow our insurance in-force portfolio, it's high value, it's high quality, we're going to continue to focus on doing that, again with the right customers, doing the right products, right pricing, the right credit profile. And so, I think that part of the business we expect to continue to grow.

A

So the rest of it is really about leveraging the other capabilities we have to increase much more fee based kind of EBITDA, kind of valuation businesses to grow and to be increasingly relevant and contribute to our financial results. Right. Today, we all know there's little to any contribution from those businesses. So as we go forward, we are looking to leverage our presence in the market from an MI perspective, continue to grow that, and to diversify our set of products that drive much more fee based opportunities across structured mortgage solutions and the other service products that we offer.

I do think, you know, as a guy who thinks about value all the time. I do think having the combination of what we have which is a strong capital base, a strong portfolio, generating significant earnings combined with a growing fee-based EBITDA value driven business, will result in some other parts kind of view of the world. How we choose to exercise that value and think about that value will come as we develop the results. But we do see different value components, and we do see different opportunities to think about the separate value. But again across a one enterprise sales model, leveraging those core relationships, building value across a number of fronts.

So, we could build value from a credit risk management point of view outside of our own capital base, almost from an asset management point of view, we could build value in all these different services businesses that we focus. But I think some of the parts will ultimately be a key part of our value equation. We have to go build it and we have to go demonstrate it, and I think we're taking the steps to get there.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Hi. Ron Bobman, Capital Returns. I had a couple of questions about sort of other sources of capital. On the traditional side, the broadened reinsurance treaty that you entered into on the single business, are the terms and

Q

conditions and the pricing consistent with what they were previously or was there any improvement or deterioration in those?

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

So – and I'll let Derek – Derek is going to go through this in detail, I think during his presentation, but the answer to the question is they are generally the same, just an increased participation from the reinsurance on our singles. So, we look at these transactions as really kind of capital improvement, return improvement structures, and so the terms, other than just the size of it, the terms are generally the same.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

Okay.

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

I think Derek can address that when he comes [indiscernible] (01:02:36).

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

Okay. And then on sort of a wholesale utilization of other sources of capital..

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Yes.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

...which you touched on is sort of a going forward objective, the opportunity to manage an under-rate on behalf of other people's capital, sort of third-party capital markets provider or whatever have you, that's been 1an opportunity for a couple of years now. What's taken so long for the company to manage other's capital in this space that you know so well?

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Yeah. Great question. I can only comment on the last eight months, okay, in terms of the opportunity we see. I think, look, part of it is really just forming our strategy going forward to look and say, we have great distribution. So we sit in front of a lot of transactions. I think it's 250,000 transactions a year we see just from our MI business point of view, probably a few more than that in terms of the turndowns. So we sit in front of a lot of customers, doing a lot of transactions and we see the opportunity to expand our capabilities though other capital sources to distribute that risk where they can rely upon our risk analytics, they can rely upon our underwriting.

So I can't comment why we've got to this answer, I think Derek and team has been working on it for a while, but I think we're positioning our company differently so that we can put ourselves in those positions where we can have insight and opportunity around those, what I would say, distribution opportunity.

So I think the other thing too is if you think about the credit risk market and the credit risk transfers have gone on between Fannie and Freddie and that's kind of the starting point in a lot of, some of that's been done through security, some of that's been done through reinsurance. I think we see that, we're like in the first inning of that market. It's a big market, right. The good news is it's got big size. We're kind of at the first inning of how that's ultimately going to play, where is the attention of reinsurers going to be over time from the credit risk business versus property and casualty versus other risks. I think we want to position ourselves as people that can not only take risks, but we can underwrite risk and we provide the risk analytics as a partner, right. So, I think we're at the point where we're still early in the market. We're still, but we have core capabilities that many of the participants don't. So, we will leverage it.

We'll see the capital structures that we use, I always think of it like this. We're a great sponsor of credit risk, because we can also invest, we can co-invest and we can participate with our partners. So, I think we're in a unique position between distribution risk analytics and our capability to participate, puts us in a different position than some of the competitors.

---

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

And my last question is, so how long is it going to be – is it – are we 90 days away, are we nine months away until you have something to show for it?

---

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Yeah. Look, we've participated in some of the CRT transaction. So, I think these are themes of our objectives that are playing out real time today. And so, we're constantly evaluating different capital structures. We've done everything within our own capital footprint. And I think as you see us go forward, you'll see us leverage other capital structures to leverage the depth and breadth of our business. So, I'm going to – I can't really provide any timelines, but it's something that we are actively working on right now.

---

Emily Riley

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

A

Any other questions?

---

John Gregory Micenko

*Analyst, Susquehanna International Group, LLP*

Q

Hi, Rick. Jack Micenko, Susquehanna.

---

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Hi, Jack.

---

John Gregory Micenko

*Analyst, Susquehanna International Group, LLP*

Q

The enterprise sales solution makes all the sense in the world, you just deliver one firm from one set of products, but I guess the flipside of that is, how do you prevent or how do you plan on managing through potential discounting of that bundling effect? And I guess the follow on to that would be, with that in mind, would you sacrifice growth for profitability on a per unit basis?

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

So, it's great question. And it's something I think any time you have a diversified set of products you kind of intellectually have to deal with, especially when you start thinking about bundling. We think of our business in a way that there's pricing, the products for the risk return elements or transactional elements that we wish to achieve for that particular product, [indiscernible] (01:07:14) take our valuation services, take our REO management services, take our title agency business, take our MI business.

So I don't see us doing discounting in terms of trying to get relationships, because I think the merits of the products have to stand on their own. And so, we're not in the business of kind of subsidizing other products, where we want the products, because again we'll offer them on a standalone basis, right. So we can't have standalone and discount that we get into all kinds of issues. So I think our approach is much more about pricing our products in a way that we think is competitive and delivering best-in-class service and best-in-class execution and bringing those to a relationship in a relevant strategic way.

So we're not looking to use pricing power, because we don't think we need to do that. We think we have best-in-class, we think we can deliver something that others can't, and we're just commodity like, we think we win every day because of the depth of the relationship, but not intended to be a discounting kind of subsidization.

Chris Gamaitoni

*Analyst, Compass Point Research & Trading LLC*

Q

Chris Gamaitoni, Compass Point.

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Hi, Chris.

Chris Gamaitoni

*Analyst, Compass Point Research & Trading LLC*

Q

Hi. You mentioned a few times that you spoke to clients who didn't know you own Green River, Red Bell.

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Yeah.

Chris Gamaitoni

*Analyst, Compass Point Research & Trading LLC*

Q

Why hasn't there been like a brand realignment to clarify that issue?

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Yeah. That is a great question. We're – okay. So to say we're working through branding, Emily is smiling here, but we are – it is something we're actively working on. So yes several times over the course of the last eight months which still seems like a blink. Clients you know we had to connect the dots. That's unacceptable right. So we are – before I got here, we were headed down a path of really thinking about the right branding strategy for the

company. I put that on hold not because the effort wasn't in the right direction, but mostly because I wanted to take time to really figure out how we want to present ourselves to the market.

We've now figured that out and we're taking actions to do it. And as part of that, we're working our way through kind of the branding alignment that goes with that. Okay. So I would say stay tuned, but you know again you could kind of take away from the one company view and really putting ourselves from a market perspective, leveraging the strength of our brand in the marketplace. But there's few components of that, that we have to deal with and think through, not the least of which were legal structural issues. Ted's happy I've said that, so we have to think through. So, we're, we're not going to stop our efforts based upon that and we can present ourselves in the way we want to from an enterprise point of view, but following that there will be kind of this whole structuring and branding effort that will kind of come in. We just don't want to wait for that. We didn't either like – let the grass grow under our feet. So it's a great question. And that you made Emily smile, so that's good.

Chris Gamaitoni

*Analyst, Compass Point Research & Trading LLC*

Q

And, one follow-up if I could. On the alternative capital sources.

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Yeah.

Chris Gamaitoni

*Analyst, Compass Point Research & Trading LLC*

Q

Do you envision the company – is the revenue on like an asset management side from a fee-based or is it having deep penetration of your services. I'm kind of unclear what your vision of how reading operates in that new let's say growing private capital environment is?

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

Yeah. So, I think, actually I think both. I think we have an opportunity, I think we have an opportunity to leverage third-party capital to expand our footprint in this kind of credit restraints for the market. I think combined with that, we have an opportunity to leverage our transactional services to serve that market along with all the other markets.

So, I think when you think about this, and I was actually thinking about drawing a picture and actually we drew it and I took it out at the last minute. But there's really a cycle here that we run and a play that we're running you could call it a virtual circle, which is we start with quality relationships, we fulfill those in a quality way that results in quality assets, right. And we distribute those quality assets to our portfolio or third parties and by virtue of the quality of those assets, we derive greater customer relationships and we just keep spinning that circle.

So, the bottom line is that these things all work together, they're not separate efforts, and it goes back to we manage our customers – we manage risk for our customers across a number of different pieces of the puzzle and those things all can work together. So, it's not an either/or but I do think generating fee-based income from providing managed services around risk analytics and even portfolio management combined with the other services from a valuation or a property management or a servicer surveillance or a transaction underwriting perspective, all kind of go hand in hand.

Other questions? Okay. I think we're good. So, from that, I want to thank you all. Great questions. We'll be back up here for the Q&A later. Thank you.

---

## Unverified Participant

Please welcome Radian's Chief Financial Officer, Frank Hall.

[Music] (01:12:38-01:12:48)

---

### J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

Good morning, everyone. And thank you for your attendance at our Investor Day. I would like to compliment Emily Riley for a nice touch of the Radian M&Ms on each of the tables, oh was it [ph] Terry, okay, Terry (01:13:04), nice job, very nice job.

So, today, after a few background and high level updates on our key mortgage insurance financial trends, I've selected a few topics this morning that are meant to address and frequently asked questions that we get on our capital and liquidity.

So first before we get into that let's go over some background. So the origination of our high quality new insurance written price to yield attractive returns is the fuel that keeps our mortgage insurance engine going. Our NIW for the third quarter of 2017 was \$15.1 billion and as reported in our third quarter earnings release, the NIW for the month of August 2017 represented a record monthly volume written on a flow basis for the company. We still expect our NIW for the full year to be approximately \$50 billion.

Our production momentum and strong persistency is evident in the growth of our insurance in force which has grown by nearly \$40 billion over the past four years. The nearly \$200 billion in insurance in force has excellent returns and credit characteristics. The levered returns on our new business remained strong at roughly 17% to 18%. Our overall portfolio composition, which Derek will speak to in greater detail shortly, also continues to improve both from a legacy versus post legacy mix perspective, which will continue to improve over time.

Our full year net premiums earned is expected to be on track to meet or exceed our 2016 results with a slightly higher quality mix of monthly premium versus single premium product. As disclosed in our quarterly earnings report, the accelerated premium recognition from single premium policy cancellations was significantly elevated in 2016, approximately \$59 million net of reinsurance. In contrast, the benefit to net premiums from such activity in 2017 has been lowered by approximately \$22 million net of reinsurance year-to-date through September 30, 2017. Despite the decline in the acceleration impact, 2017 net premiums earned are still expected to be on track to surpass prior year totals.

Our provision for losses continues to be favorably influenced by positive credit trends, which Derek will speak to in greater detail shortly. In addition to lower notices of primary defaults, down 6% over prior year on a year-to-date basis, the trend in cure rates on existing defaults has led to positive developments and a series of reductions in our estimated default to claim rate for new primary defaults from 16% as of yearend 2014 to 10.5% as of the third quarter 2017. For some additional historic reference, in 2013, our loss ratio was 72% versus a year-to-date 15% in 2017.

These positive and vastly improved operating results translate into improved and positive operating cash flows, driven primarily by lower claims paid. For example, we currently expect to pay claims of approximately \$350 million to \$400 million for the full year of 2017. In contrast, we paid \$1.4 billion in claims in 2013. Premium growth has also contributed to this positive trend and it is because of these improved and positive trends that we are frequently asked about capital plans. So I thought I would take this opportunity to do a deeper dive into the current landscape of capital and liquidity planning by evaluating some of the details.

First, I will provide an overview of the relevant legal entities and regulatory framework that impacts our planning and the potential for friction that exist among them. Second, I'll provide some color on how we, at Radian, have sufficient flexibility to address some of this potential friction. And lastly, I will illustrate the positive momentum that we have experienced and expect to see continue into the future.

Illustrated on this slide is an overview of our legal entities. As some of you may recall, in late 2015, we simplified our mortgage insurance legal entity structure to consolidate substantially all risk from five different entities into just two. Radian Guaranty, our flagship insurer and Radian Reinsurance, which provides reinsurance to Radian Guaranty on deeper coverage policies to help Radian Guaranty comply with current state rules. And beginning late last year, Radian Reinsurance has also directly insured CRT transactions issued by the GSEs.

Our most significant financial contributions come from Radian Guaranty, an entity that is subject to state insurance rules and in particular, the rules of Pennsylvania. Its state of domicile and the requirements of the private mortgage insurers eligibility requirements or PMIERS established by the GSEs.

Radian Reinsurance status transitioned effective in the third quarter of 2017 to a non-exclusive affiliated reinsurer under the PMIERS and its assets and risk are no longer consolidated with Radian Guaranty for PMIERS reporting purposes. We have seen numerous benefits from our legal entity simplification initiative including higher investment income for more efficient portfolio management and lower operating expenses due to fewer audits among other benefits.

On this slide, we have illustrated a simplified view of both immediately available sources of funds and the method in which the subsidiary may get capital to the parent company. We have also listed the most significant immediately accessible source of liquidity for Radian Group, our recently obtained \$225 million credit facility which we will talk about shortly. It should also be noted that our primary insurance subsidiaries are members of the Federal Home Loan Bank of Pittsburgh and have the ability to borrow on a collateralized basis for any of its operating needs.

There are several key takeaways from this slide. First, there is a longstanding expense, interest, and tax sharing arrangement with the insurance subsidiaries of Radian Group, which allow for a seamless, recurring method to have the expenses of Radian Group reimbursed by its insurance subsidiaries. What is most significant about this is that the insurance regulators have approved this arrangement before the financial crisis and it has remained in place ever since. This precludes us from having to request recurring special dividends in order to meet the operating needs of Radian Group and provides greater certainty of cash flows to the parent company.

The second key takeaway is that there are ways to contribute capital to the insurance subsidiaries in a less permanent manner than simply down-streaming cash. If you'll recall when PMIERS first became effective in 2015, Radian Guaranty issued a surplus note to Radian Group that stayed in place until our first singles-only reinsurance transaction became effective. This effectively served as a bridge of capital from day one of PMIERS until the capital relief from the reinsurance transaction became effective. After that capital relief occurred, the

surplus note was re-paid. And the final take away from this slide is the point of regulated dividends which come in two forms, ordinary dividends and special dividends, both of which I will speak to in a moment.

Our insurers operate under two distinct regulatory frameworks, statutory and PMIERS. There are 16 states that impose risk-based capital requirements, among which are states with risk-to-capital ratios as high as 25 to 1. Pennsylvania is not one of these states, but since Radian Guaranty is licensed in all 50 states, in order to be a nationwide insurer, Radian Guaranty must abide by the 25 to 1 risk-to-capital restriction.

Under Pennsylvania's insurance laws, ordinary dividends versus special dividends, ordinary dividends could be paid if Radian Guaranty had a positive unassigned surplus as of the end of the prior fiscal year. But it would only be permitted to pay dividends or other distributions during any 12-month period in an aggregate amounts less than or equal to the greater of 10% of the preceding year and statutory policyholder surplus or the preceding year's statutory net income. Don't worry there will be no quiz at the end.

PMIERS are a comprehensive set of requirements both financial and non-financial that covers virtually all aspects of a private mortgage insurers' business and operations. The financial requirements are an asset based framework that require available assets to meet or exceed its minimum required assets, which is a risk based calculation based on net risk in force and is intended to approximate the maximum loss exposure based on a variety of criteria.

PMIERS has become the binding capital framework from which our business decisions are made and Radian Guaranty has been in compliance with the PMIERS including the financial requirements since their implementation date of – excuse me of December 31, 2015.

A new concept for many of you here is the concept of a contingency reserve and the contingency reserve is a statutory construct setup to protect the insured against catastrophic losses and serve the industry well during the financial crisis. As such, mortgage insurers in particular, are required to set aside 50% of earned premiums for each year for a period of 10 years. There are exceptions when the losses and loss adjustment expenses are more than 35% of premiums earned.

Because the unassigned surplus is a key trigger for the ability to pay ordinary dividends, it is important to understand the variables at play. This very simple illustration shows that in year one, this particular mortgage insurance company, earns \$1,000 in premiums, has investment income of \$100, losses of \$200, operating expenses of \$250 and taxes of \$228 yielding a net income of \$422.

In the simplified example, if we take the current year net income of \$422 and deduct 50% of the current year earned premium [ph] were (01:24:47) \$500, there is a resulting negative unassigned surplus of \$78. In year one, this company cannot pay an ordinary dividend because the unassigned surplus is negative. If this performance continues for the next 10 years, the accumulated negative unassigned surplus would be \$680. However, if you'll note in year 11, when they can begin releasing the contingency reserves from way back in year one, the unassigned surplus begins to reverse. And as soon as the second year in our very simple illustration here, they turn to a positive unassigned surplus. And it is at this point that an ordinary dividend could be paid. An ordinary dividend simply means that there is no regulatory approval required to pay a dividend, subject to the limitations noted previously.

But the point is that the requirement to build contingency reserves, which was put in place to protect policyholders due to the cyclical nature of real estate is a high hurdle to overcome unless you are in a steady state of releasing

reserves set up 10 years earlier. Since we depleted all of our contingency reserves due to the financial crisis, we are now in the midst of that 10-year build period.

The top chart on this slide shows Radian Guaranty's actual experience leading up to, during, and immediately after the financial crisis. As one would expect, contingency reserves were building and our risk to capital ratio declined until 2007. As a result of the crisis, all contingency reserves were depleted and our risk-to-capital ratio approached, but did not exceed 25 to 1.

Since that time, our risk to capital ratio has trended down significantly and we have built up approximately \$1.6 billion in contingency reserves. If the current environment persists, we should continue to build contingency reserves and drive down our risk to capital ratio. A hypothetical illustration of that point is presented on the lower chart. Note that the trend reversal in the unassigned surplus in this hypothetical example occurs in year 2023 or 10 years after the depletion of contingency reserves from the financial crisis.

The potential results for organic growth are shown on this slide under both current statutory and PMIERS regulatory frameworks. The fact that in this illustration, the statutory cushion exceeds the PMIERS' cushion is a positive fact with regard to potential special dividend requests that one could make to the Pennsylvania Insurance Department in the future. The simple point in all of this is that the PMIERS framework provides the level of conservatism necessary to provide confidence to MIs that if a special dividend were to be requested before the time in which an ordinary dividend would be formulaically available, the relevant risk metrics from both a statutory and PMIERS standpoint would be favorable. There should be sufficient risk to capital cushion, as well as PMIERS cushion to support the request.

There are some cautionary notes to consider, however. PMIERS does take into account the underlying loan characteristics of our originations when determining the minimum required assets, which is good news for the industry as it is a risk-based framework. We are mindful of these differences and have evolved our pricing to reflect these changes such that we have more uniform, risk adjusted returns irrespective of the mix of NIW. Our PMIERS cushion could also be reduced due to strong high quality organic growth and that would be a very good problem to solve for.

These elements of the PMIERS highlight the inherent uncertainty in projecting out over long periods of time. The nature of the loan level capital factors combined with volatility and the macroeconomic environment can affect both the level of available assets and minimum required assets. Additionally, the GSEs will regularly update the PMIERS requirements with the next expected update to be communicated in draft form in the near future with changes anticipated to be effective in late 2018.

We just covered a lot of detail that may seem a little nettlesome and slightly down every now and then, but the good news is we have planned for this. Radian has developed and maintains financial flexibility to mitigate these uncertainties in a variety of ways. First, we have available PMIERS cushion at Radian Guaranty of approximately \$237 million. In addition, we have holding company liquidity of approximately \$300 million, which could be used as we did in the past in the form of a surplus note. And finally, we have recently entered into a three-year credit facility of \$225 million with a potential to upsize to \$300 million at very attractive terms. In total, these three sources would provide an approximate 23% PMIERS cushion under the current PMIERS framework.

This is before contemplating any additional reinsurance. Reinsurance is another highly cost effective way to manage our capital position. Derek will speak in more detail on how we have done this most recently, but only 10% of our consolidated risk in force is seeded to reinsurance. To put that in perspective, if we needed to increase our PMIERS cushion by 1%, we would need to reinsure approximately \$400 million or roughly 1% of

Radian Guaranty's non-reinsured risk in force of approximately \$40 billion. And in today's market that would have an estimated annual cost of approximately \$0.01 per share. And lastly, on this slide is our consolidated debt-to-capital ratio which is a key metric for our rating agencies and has improved to 25.6% over time.

Over the course of the last several years, we have made a concerted and deliberate effort to improve our capital structure. As of this month, we will have retired all of our convertible notes and have more evenly distributed our maturities across time with our most recent execution of a new seven-year senior note, our next debt maturity will not be until 2019 at an amount less than \$200 million.

Our capital realignment transactions coupled with improved financial performance, reduced leverage and reinsurance utilization have supported our continued upgrades by both Moody's and S&P. Our Radian Guaranty subsidiary is an investment grade rated company and Radian Group remains on a steady path to return to investment grade as well.

So in summary, the combination of writing industry leading levels of high quality new business, in combination with enhanced financial flexibility at both our parent and subsidiary levels, provides strong foundation from which we can continue to grow organically, but also may provide sufficient flexibility for enhanced capital deployment consideration in the future.

And I think we have time for a few questions. So if you raise your hand, [ph] Terry, or one (01:32:47) of our capable assistants will come around with a microphone.

---

## QUESTION AND ANSWER SECTION

Bose George

*Analyst, Keefe, Bruyette & Woods, Inc.*

Q

Thanks. Hi, Bose George, KBW.

---

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

Hi, Bose.

---

Bose George

*Analyst, Keefe, Bruyette & Woods, Inc.*

Q

So when you think about excess capital over time, should we think about PMIERS and the cushion being sort of the level that you'd like to manage to and from a regulatory standpoint, the difference between that and the contingency reserve as it builds, do you think a fair amount of that could be returned to shareholders or come back as special dividends?

---

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

Yeah that's a great question, Bose. And that really is the point of the presentation here is to try to delineate between the various frameworks in which we operate. So PMIERS, as it is the binding capital from which we're basing our business decisions and as you look at that lined up relative to the statutory capital build over the

reduction and risk the capital over time, we would expect and certainly under the current PMIERS framework that that would be the leading indicator of when we may consider a return of capital to shareholders.

Bose George

*Analyst, Keefe, Bruyette & Woods, Inc.*

Q

Thanks.

Alan Scott Danzig

*Analyst, Lord, Abbett & Co. LLC*

Q

Hi, Alan Danzig from Lord, Abbett. Couple of follow-ons for page 37. I was curious what your target holding company liquidity would be and as well as your targeted debt to capital ratio?

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

Sure. So on the parent company liquidity, really what we're looking for is maintaining sufficient flexibility there and historically that flexibility has been needed to address upcoming debt maturities which were anywhere from \$300 million to \$350 million, depending on the particular maturity. But we have additional flexibility now with the new credit facility. And so I don't know that we have necessarily a target liquidity number just on a standalone basis in mind, but we look at it more holistically as far as what the available source of funds are to deal with the upcoming potential uses of funds.

And then on the debt-to-capital ratio, rating agencies have sort of guided that a return to investment grade would really only occur if our debt-to-capital were in the low-20s, which we believe we're on a good organic path to achieve.

Chris Gamaitoni

*Analyst, Compass Point Research & Trading LLC*

Q

Chris Gamaitoni, Compass Point.

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

Hi, Chris.

Chris Gamaitoni

*Analyst, Compass Point Research & Trading LLC*

Q

Given the nature of how like you illustrated, capital gets trapped essentially in the [indiscernible] (01:35:23), how does Radian, as a management team, deal with – what's happened in the past, where you've built up a lot of capital, then the market gets over competitive because they can't pay that capital out and you don't have – then you release, you pay capital out the exactly worst time and we end up in a bad situation, how do you manage that under these frameworks?

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

Yeah, great question. And I think, the point that I'm trying to make here is to delineate between an ordinary dividend, which is very formulaic and a special dividend. And the special dividend requests, [ph] they're actually is precedence (01:35:54) in the mortgage insurance industry for requesting a special dividend and receiving it from

the regulators. So, we think that when we go to the state regulators, if we feel our cushions are sufficient to make that request that we would do it from vantage point of strength and flexibility such that they could see what we see in our comfort level of even making the ask. So, I don't know when in the future that will be, but if the trends continue we would expect to see that occur sometime in the not too distant future.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

Thanks. Ron Bobman. I understand the position that Pennsylvania is the decision maker or the approver of the special dividend, but I'm wondering if is there anything unique that would require any other state to approve a special dividend or is it really just singularly Pennsylvania?

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

It is the state in which we're domiciled, Pennsylvania.

A

Any other questions. Thank you.

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

Great. Thank you, everyone.

## Unverified Participant

Please welcome Radian's Chief Risk Officer, Derek Brummer.

[Music] (01:37:18-01:37:24)

Derek V. Brummer

*Chief Risk Officer, Radian Group Inc.*

Thank you. All right. Exciting day for Radian, ringing the closing bell. We have a Twitter wall out there and when Emily's first talked about that, she's talked about this concept we're going to have these bitmojis. So now that's pretty cool. My bitmojis, he dances around and thought I could start dropping that in conversation and get in touch with millennials. I was talking about the bitmojis, I did that a couple of times and then someone said, you sound like you're about 100 years old, because it's bitmojis. So that was an important lesson, so in any case, I'm going to focus on a variety of things here, I'll get to my presentation.

First, I'm going to give a quick overview of risk management at Radian, focusing on our vision, our approach to enterprise risk management and some of the tools we utilize. Next, I'll give an overview of the U.S. housing market, and how today's market differs from kind of pre-crisis market. I'll then discuss our MI portfolio, looking both at current production, and how the overall portfolio changed through time.

I'll also dig into some of the payment and performance trends that we're seeing in the portfolio. After that, I will walk through how we expect our portfolio would perform through a severe stress scenario, what the results look

like, and I'll wrap things up with a discussion about how we think about risk distribution; and give an overview of our most recent singles reinsurance transaction that we entered into earlier in October. Also leave time for a few questions at the end, although I think we're running a bit behind schedule.

So first just an overview of risk management. The slide lists some of the important areas within risk management at Radian, some of the areas that fall within really the orbit of risk management. I'm not going to go into detail. I would say at the top here is Enterprise Risk Management, which encompasses all risks within Radian Group and our subsidiaries. Most of these other areas really focus on Mortgage Insurance portfolio management, which continues to be the biggest risk that we're focused on from a risk management perspective.

So next slide list out our visions and goals within risk management at Radian. And the vision is very simple, and that is to be the industry's leading risk management organization in terms of identifying, assessing and managing risks. Now, I'll start with our visions and goals, because a clear and simple statement of risk management's vision and goals is important to a strong risk culture, and we very much agree with the statement that culture eat strategy for breakfast. I would say, it also eats really process and policy for breakfast as well, it's kind of all-encompassing, and it's something we focus on.

I think this is very important when you think about credit-focused financial service organizations, such as mortgage insurers or banks. What separates these organizations from one another is not really one of data or analytics, there's not a huge variation. What it comes down to is really one of culture, specifically risk culture. So when you look at that, the financial crisis, I think one of the important lessons what separated the institutions that were viable and came out of the crisis, when it came down to it, it was largely one of risk culture.

So that's why risk management's top priority this year, next year, every year when I'm in this position is going to be really embedding a strong risk culture throughout the organization, and also a culture that's willing to say no when we have to. Rick touched upon market share versus return. It's also a culture where we're going to put returns and returns for shareholders above just volume and market share.

To ensure that, it is also a focus – a culture that's focused on credit and risk return discipline, as well. And in addition to that, I think, a couple of other things to point out, in this slide, you'll see a focus and Rick focused on this quite a bit too, is focus on data, analytics and technology to get a better sense of that as I walk through some of our tools within risk management, also if you get a chance to go through our demo program out in the hallway this afternoon, I think you'll get a better sense of some of the tools we utilize on the risk side.

If I turn to the tools, I'm just going to give a kind of a quick overview of our ERM framework at Radian, we take culture and governance very seriously. You can see that in our extensive Enterprise Risk Management Framework and Program with risk culture sitting at the apex of the ERM framework. Our ERM framework provides the foundation upon which we identify, categorize, assess, and manage all risks throughout Radian.

This encompasses every type of risk in the organizations, including credit, financial, operational, strategic, and legal and compliance risk. It also involves input and feedback from every level of the organization. You can see on the chart here, it really flows from the individual risk owners all the way to the board, all the risks within our portfolio are reviewed and are scored on a quarterly basis by the risk owners. It's reviewed by our ERM Council, our ERM Executive Steering Committee and that entire process culminates with my quarterly report to our board of directors.

Let me now turn to some of the risk management tools that we've developed. As Rick discussed earlier, Radian has a unique business model among MI companies, as our focus is on providing risk management service and

solutions across the entire mortgage lifecycle. And we do this by leveraging a variety of risk management tools that we've developed internally.

This slide lists out some of those tools; I'll talk about some of these tools just briefly. First on the list is the Mortgage Risk Navigator; this is our cloud-based mortgage analytics and business intelligence suite. This is our data and analytics platform that we use to analyze mortgage risk and manage our portfolio, both our CRT exposure and our MI portfolio. The Navigator is set up where I can seamlessly ingest a portfolio such as a GSE CRT transaction that stratify the portfolio, show performance through time, project future performance, and then it prices out the risk utilizing our pricing utility known as [ph] Radian Ready Rate (01:43:05). And again, if you get a chance to go to the demo program, we'll be demoing that out on the hallway this afternoon.

Second on the list is our performance model which is really the analytical engine behind RaDaR, and that's the Radian default and risk model, which we refer to as RaDaR. RaDaR is a model or a suite of models that we develop post-crisis. It's a statistically-based default and prepayment model, it leverages key borrower, loan, product and macroeconomic factors such as home prices, interest rates and unemployment rates to project credit losses over time, utilizing both deterministic scenarios and Monte Carlo simulations. So again, RaDaR is really that analytical engine that drives the projection parts of Navigator, and what we utilize to model out our portfolio.

Next is our Lender Segmentation Framework, what we utilize to rank order our lenders, Rick, focused a lot on the importance of really distinguishing lenders and who we do business with. I'm going to delve into that in more detail in the subsequent slides.

I'd say the other thing that risk management benefits from Radian is by really collectively having within the portfolio of companies, companies like Clayton, Red Bell, Green River Capital. Rick focused on some of the data and some of the tools that provides, that's an important tool that we utilize on the risk side in terms of the MI portfolio as well. Red Bell provides us with a tremendous source of property valuation data and tools, that's something we're able to leverage in our modeling, and also something that we actively leverage in our underwriting. Also mentioned, Green River Capital, this provides us insight into local real estate markets; and in addition to that, helps us make better property acquisition decisions as well in our MI portfolio.

I want to turn now to our Lender Segmentation Framework; there's bunch of light bubbles here, I guess, that kind of looks like Connect Four, Connect Eight. But in any case, in addition to utilizing lender specific dashboards, what we do on a monthly basis is, we rank order our lenders, based on numerous quantitative and qualitative metrics, and some of these are actually listed up here. So we'll rank order the lenders on a variety of things.

These are all populated with numbers in our actual framework. But what we'll do is, score all of our lenders on the basis of the mix of business that they deliver, the performance we see from the portfolio that they deliver, economic value added, and also the expected return on capital in terms of the business they're delivering. You can see here on the far right, we mentioned qualitative. So qualitative information is something that would include things like our assessment of their processes, also our assessment of the risk culture.

All these numbers within the Framework are weighted, and then what we do is, combine them to rank order the lenders. And we do that both on the basis of risk, which you can see here, and the basis of return on capital. In turn, what we do is, then we weight these two metrics, and we provide each lender with an overall risk rank. So this is basically how we segment all of our customers, and it allows us to segment the customers, and most importantly, identify and address underperformers.

An important point I'd make here is, any customer-specific or lender-specific decision that we're making, this is what we're referencing, we're looking at this, where they rank and then also we're digging into the data to see where we might have issues with lenders if we're making any decisions.

So this next one has a variety of bubbles. This is kind of a – I would say an easy way to – or a convenient way to conceptualize the lender rank system. What you'll see here is, on the Y axis, you'll see the return on capital, and then on the horizontal axis, what you're going to see is the lender risk rank. So what the bubble represents is, kind of looking at that, what each bubble represents a specific lender, and the size of that bubble is going to represent the volume of the lender. And what you'll see as you go from the lower left to the upper right, it's really in descending order of rank.

So, as a result, those lenders that are in that upper-right are going to be the lenders that from both a risk perspective and a return on capital perspective are going to be kind of the most problematic, and that we're focused on. So, when you look at this, what you'll see is that, orange bubble up in the upper right, that's going to be a lender that is most likely under a remediation plan, it's going to be a lender that would be proactively working with to essentially both improve their risk metric, and also to improve their return on capital metric, because ultimately what we're trying to do when we look at this is, we're trying to move lenders from the upper right to the lower left into kind of a higher rank. And the other thing we're trying to do is, make sure that we increase the volume for lenders that are really highly ranked both from a risk and return perspective, and trying to shrink the volume in this upper right quadrant.

The other thing I'd point out, as we can see in this upper left kind of a large green bubble. So what that is, that's a lender who from a lender risk rank perspective looks very good. So that lender looks good from a risk perspective, where they don't look so good is really on a return on capital perspective. Now, when you kind of look at that, we look at a lender like that, we're comfortable with the risk, we're comfortable with how they manage the risk. And what we're really looking to do is to find ways to basically change their product mix to increase the return on capital.

Generally, when you see a lender like this, the other thing you conclude is, the volatility around returns for a lender like that is likely to be less, because generally on the risk side, it's a higher-quality lender. I would point out that when you kind of look at the [ph] Customer Segmentation Framework (01:48:28), it's an important tool that we utilize to manage risk, and I would emphasize the importance of differentiating lenders.

If you look at historical data, and you look at it from a modeling perspective, what we find is, you see a pretty wide distribution when you look at lender performance from lender-to-lender. As a result, it's very important to differentiate lenders, you want to do that in the expansion phase of the credit cycle. So when things turn, generally what you're going to see is you're going to see kind of worst performance on those lenders that congregate really in that upper right.

So now, I'm going to turn and talk a bit about the U.S. housing market. I'm not going to spend a huge amount of time on this. I think, you're pretty familiar with it, but I wanted to give you kind of our overall quick perspective on the housing market or at least the way we look at it at Radian. I think, overall when you look at really macroeconomic factors, they remain very favorable for housing. Generally, home prices are in line with long-term trends, and I would say valuation and affordability metrics. The other thing is, I think that, supply and demand drivers also provide a very strong foundation.

I think, when you look at demand side, again there tends to be a supply problem in housing right now, but you have a lot of pent-up demand in the system which provides a pretty good tailwind on the housing demand side.

The other thing when we look at consumers and borrowers, they're generally in a better position post-crisis as well as their debt burdens have decreased since the financial crisis, and you start to see personal income growing, again at a pretty modest pace at this point, but we are seeing that steadily grow which is a positive.

The other important thing on the housing market side is, the credit quality is strong, and credit criteria also remains, I would say very tight, overall. And this is even if you compare where things stand from a credit perspective to the early 2000s, everyone knows it's tighter than the mid-2000s, but even comparing it to the early 2000s, it's tight. And that's important, because oftentimes the market looks to that as really, I would say a historical normalized period.

In addition, I'd say, the other thing we've seen post-crisis is a lot of the riskier loan products have gone away entirely or they're really been reduced, I'd say a pretty de minimis amount. And importantly, the other significant shift we've seen is, really a decrease in risk layering that we see in the market. And what I mean by risk layering is, really combining multiple riskier attributes within one loan, and that became very problematic, I would say, in the financial crisis.

A final point – couple of final points. Also that today's underwriting and servicing quality are all so much better. Something referred to often is loan manufacturing quality. This is very important, people understand that the credit quality has increased, but the loan manufacturing quality is also significantly better. So you know the loans you're getting delivered from a credit quality perspective are solid, the data is pretty solid at this point. I'd say the final thing with respect to this is that, we think that this is a pretty sustainable market insofar as a lot of this has been really embedded in the regulatory infrastructure.

So if you looked at the Qualified Mortgage Rule, you look at PMIERS, there's pretty good guardrails in place that we think prevents the market from deteriorating too much. Again you're going to see kind of a natural credit expansion, but a lot of this regulatory infrastructure, I would say puts kind of a natural, I would say, a floor in terms of where things can go from a credit perspective.

Now, turn, another important component which I referenced just a bit ago is the PMIERS. So the PMIERS is a very important component on the MI side that gives us a lot of comfort. And the PMIERS provide a robust, I would say, risk-based capital framework and requires MI companies to withstand significant stress scenarios, in part because of the heightened PMIERS' capital requirements, mortgage insurance companies are significantly stronger counter parties today, and that's important because they are required to withstand significant stress scenarios and maintain adequate liquidity and claims paying resources to withstand that. I think that's important because it provides a solid foundation to MI companies being an important part of the housing market and the GSE market going forward.

From a risk management perspective, I'd also say that the PMIERS provide standards that ensure that the industry remains disciplined and very risk-focused, insofar as they provide a common set of binding and transparent, not only capital, but also operational requirements across MI companies, and this is really important, insofar as, what it does is, it really creates a level playing field for the MI industry, and helps to prevent, I would say, a race to the bottom.

One of the issues you had in the financial crisis is, MI companies competing against each other. Each MI company had their own notions of economic capital. The PMIERS provides that kind of natural binding capital which everyone needs to look to, and everyone needs to price to. And partially in response to this kind of, I would say common capital framework, the MI's industry pricing today, and after implementation of the PMIERS is much more granular, and it's much more risk-based than what it was going into the crisis, and even before that.

So when you look at Radian's pricing for instance, it's pretty risk-neutral at this point. And what I mean by risk-neutral is, the pricing and what we expect to get from a return perspective is pretty consistent across the entire credit spectrum, and this is also very important when you think about an expanding credit environment, because what this does, if you have that kind of consistent expected return across the credit spectrum is, it really insulates our returns, it also helps to insulate our loss ratios from volatility even in stress scenarios, and I'll talk a bit more about a stress scenario and what that looks like.

All right, as I mentioned earlier, generally we think home prices are in line with valuation and affordability metrics. This slide I have projected is a slide from the Urban Institute, which makes that point, I mean, you can look at various sources that I would say make similar point. If you look at this slide, what you'll see is, in terms of the blue line, this shows the medium house sales price really over a period of time, whereas if you look at the black line, this is showing the maximum affordable price. And what you'll see is, you'll see a gap between the two, and you just can contrast that with really kind of the credit bubble years, in which case those got inverted. So essentially, you had the medium sales, price really outstripping the median affordable price.

Now, one thing that we've seen, as we've seen that gap close a bit over time, and that's really a function of home price growth outstripping wage growth. So, if you look at, I would say things after home prices troughed out or hit a bottom, you've seen home prices increase about 2.5 times faster than income growth. And so, that's something we continue to watch closely. We generally like to see those come back in line, there's only – probably after a few more years of that, you're going to start seeing more markets become a bit stretched, I would say.

So with that, I'm going to move on to the Mortgage Insurance portfolio. So, what this slide gives is an overview of the new insurance written that we've written really over the last 15 years. And so, when you look at this, you kind of understand why we're often referred to as a legacy player. The reason for that is, you can see pretty large books that we wrote in the early 2000s and the mid-2000s as well. However, that characterization has become, I would say, less and less relevant over time.

And I'm going to switch this view to the magic of PowerPoint. You'll see that, I'm going to transform this [ph] when I look (01:55:55) at the NIW to basically insurance in force. And so, when you see that change in view, what you're going to see is that, when you look at the remaining portfolio, the legacy portfolio is a pretty small portion of our portfolio at this point from an insurance in force or a risk perspective; much more the portfolio is kind of the high quality post-2008 book of business at this point in time.

And you'll see it summarized here. So that last slide showed it on insurance in force basis. What you see here is a distribution of the portfolio from a vintage perspective, looking at risk in force; and Rick made reference to this earlier. And what you can see when you look at this slide is, 91% of our primary Mortgage Insurance risk in force consists of business now that was written after 2008, including our HARP volume. So at this point, that means less than 10% of the portfolio is pre-2009 loans that have not been HARP-ed. So again, predominantly a portfolio that's skewed towards a newer book of business.

I'm going to turn, and I'm going to talk in little bit about that pre-2009 portfolio in more detail. But before I do that, I'm going to talk about kind of recent vintages. And so, when you look at this slide, what this slide is showing is, it's really breaking down our new insurance written into three segments. You have the early 2000s, the mid 2000s and then, post-2008.

And what you'll see when you look at this is, if you look at the bottom, you can see that, the percentage of portfolio now that's prime, that's [indiscernible] (01:57:23), it's basically the entire new insurance written is entirely [indiscernible] (01:57:27) and prime.

In addition, what you're seeing is a shift. When you look at the upper-left, you can see from a FICO perspective, below 680 FICO in the early 2000s to mid-2000s, that was about 35% to 45% of the business we are writing. When you look at that today, that's running right around 6%. Now that's looking at it from kind of a single dimension perspective.

The other important thing to keep in mind which I referenced earlier is, we're not seeing risk layering in the new business like we saw in the mid to early 2000s, and again that's really combining kind of multiple characteristics. We have a few examples down here at the bottom. So for instance if you looked at mid-2000s, about 11% of our production was below 680 FICO and cash-out refis. Products like that have really evaporated from the market. We're seeing now in terms of a segment like that, that's less than 10 basis points post-2008. And again, a lot of that is driven by PMIERS' capital requirements and QM regulations that are in place.

And I would say that, just a pause here on risk layering. One of the things, we saw in the financial crisis is, when you had risk layering, what you ended up with is what I'd call product morphing, where you combine some of these characteristics, we didn't have good data to understand really how some of these products performed, and some of these products that we thought we understood when these characteristics were combined, what we found is, losses really increased exponentially. So as a result, this is something I would say, we're very focused on is risk layering in the portfolio.

Now, when you look at this business, obviously this business is very solid post-2008. I would note that, we have seen as we've seen purchase volume increase, and we've seen credit expand over time, we are starting to see more volume, I would say over the last couple of years in really the higher LTV segment.

So, when you look at that 97% LTV, we're also starting to see more of a pickup in higher debt to income ratio loans. So we're seeing that pick up in the market, and when we look at that, we're very focused on that in trying to identify, are we seeing risk layering in that production. So, that's something I would say also on the risk management side, we're very focused on.

So, that's really looking at it from a credit quality perspective, I referenced earlier, the improvement, when you look at the portfolio from an underwriting quality perspective, and that's what this slide is showing. So when you look at this slide, this is showing our early default experience, and what I mean by that are loans that default within the first 6 to 12 months after origination.

And so, when you look at that, you can see on this chart, you can see that the green line is the percentage of loans that default within 6 months of production and the blue line is the ones that default within 12 months, and you can see, even compared to the early 2,000s, the levels we're seeing today are very small.

And when we see kind of early defaults at this point in time, we audit all of these files, and what we're finding is, there aren't manufacturing problems, there's not defects that are causing the defaults. What's causing the defaults at kind of these minor levels are kind of life event. Someone is unemployed, there's a death or something along those lines. And I would say, we've seen really no slippage with respect to that.

The other thing we look at, when we're trying to determine underwriting quality of the new production is, we've [ph] built out (02:00:34) and the industry has [ph] built out (02:00:34) the quality control, I would say, audit review

process pretty extensively post-crisis. And we look at those audit defect rates, they also tend to be historically very low levels, and haven't seen a lot of slippage with respect to that.

So what does this mean, so what this means when you look at that new book of business is, it's translating into extremely low loss ratios for those post-2008 vintages, which is what this slide shows. So when you look at this slide, [indiscernible] (02:01:02) looking at cumulative loss ratios for vintages that are post-2008. And what you're seeing is, those vintages that are turning over in the loss ratios from a cumulative perspective are really leveling out, some of them into the single digits.

So, when we look at these vintages, these are looking like the best vintages that we've ever written. And when you also look across this, and look kind of down on a diagonal, we're really not seeing any slippage with respect to that. Those loss ratios have held pretty constant, and we haven't seen those really deteriorate at all.

And so, what you're seeing is, as you see more and more of the portfolio transform from pre-2009 to the post-2009 and forward portfolios, you're seeing the risk distribution of that portfolio significantly improve. And so, we have various charts here, here on the left one, what you can see is the percentage of the portfolio that was low FICO below 680. You can see where that was in the early 2000s, and how small that is today. And that's important because as you see that portfolio transform, what that does is, it significantly reduces the tail risk in the portfolio. So when you see the portfolio running through a stress scenario today as compared to what it would look like if you ran it through a stress scenario in 2003, what you're going to see is the volatility in terms of a loss perspective is significantly reduced, and I'll talk about that in a bit more detail.

This next slide shows kind of a variety of metrics, which is really making the same point, I would kind of focus here on the left. You can see from a documentation perspective, again the portfolio really a prime portfolio, and we also give example here in terms of like cash-out refis, about 15% of the portfolio in 2003 that's down to a pretty small amount at this point at around 3%.

The other thing I've talked a lot about or mentioned was risk layering. So this is really looking at the risk layering we're seeing in the portfolio. And again, just as an example, again looking at that combination of below 680 FICO and cash-out refis, in terms of – from a portfolio perspective that was over, around 10%, 11% in the mid-2000s. Again you've seen that dramatically reduce over time down to very low levels in terms of what we see in terms of the outstanding portfolio today.

So what I do want next is really talk a bit more about, I would say, the legacy portfolio. I would say this is very important. I think, it's obviously something I think that is often overlooked when you look at the legacy portfolio of the pre-2009 portfolio, and that is looking at the payment history. So often times, I just went through those slides where we looked at it from an origination quality perspective, and what you saw in that is, you saw, I would say pretty poor portfolio from, I would say a credit characteristic perspective.

But the important thing to keep in mind is a lot of this is very seasoned now, so what matters much more in terms of the portfolio is really looking at the payment history of the portfolio. And the point here is that, approximately 98% of our outstanding portfolio is currently performing, and 91% has always been performing, meaning it has never been in default. And this is particularly relevant again when you look at that pre-2009 portfolio.

So let's look at that in a bit more detail. So when you look at that chart on the right, this is looking at the always-performing portion of our pre-2009 portfolio. So again, this means loans that have been paying default-free for kind of throughout their life. With respect to our pre-2009 portfolio, it's important to note that 60% of what remains has never been in default. That means 60% of remaining pre-2009 portfolio has been making payments without

default for 9-plus-years. And that's – to keep in mind, that's through the financial crisis. So again they've performed throughout the financial crisis.

So when you look at that portfolio, what has really benefited from is something we call credit burnout. And what I mean by that is, when you look at those loans that have gone through the financial crisis, that really expose the weaker loans within the portfolio.

And so at this point, those weaker loans have either gone through default, and they've resulted in paid claims or they sit in our default inventory, or at a minimum they've missed payments along the way. So when you look at the portfolio of always performing, when we look at that, what you can assume is the next downturn – the next downturn also, it's more likely to be, I would say less stressful from a housing perspective than what we saw on the financial crisis.

When you look at these loans that are performing throughout the financial crisis, the probability of them defaulting even in stressed scenario is, I would say, pretty small at this point after 9, 10, 11 years of seasoning in many cases.

So, now that we've talked about the always performing, let's look at the segment, the pre-2009 re-performing portfolio. And when you look at this portfolio, what you'll see is that 40% of our pre-2009 portfolio that has been in default, at some point over the last nine years. Important thing to keep in mind, while they've been in default at some period of time, when you look at this re-performing portfolio, much of this has actually been performing for a number of years.

So when you actually dig into the portfolio, more than 50% of this exposure has exited default and been making payments for four years or more without having any further defaults. And that's important because when you look at these borrowers, what you've seen over that period of time is, they've rebuilt equity. They've rebuilt equity both in terms of making payments or paying down their loan balance, but as well as that you've seen them benefit from home price appreciation. So again, the propensity of these re-performers that have been performing for a number of years, the probability that they default is again much reduced compared to the other, I would say, the other non-performing loans.

So now, finally, what I want to look at in terms of this portfolio is our default inventory. So when you look at the overall portfolio, about 2% of the remaining portfolio is currently in default; that's come down pretty dramatically over the last several years. So not only does this default inventory continue to decrease as new defaults decrease, and cures increase, but the other important point is the composition of this default inventory continues to improve as well. And by composition, what I mean by is really the distribution from a borrower perspective in terms of the number of payments that they've missed.

And so, we have compared here, couple of comparison periods, so looking at really about four years ago compared to today. And when you look four years ago at that portfolio, a much bigger portion of that was either in pending claim or they've missed 12 or more payments. You're seeing that really reduced over time, and that's important, because as you see the portfolio shift to borrowers who have missed your payments, they're much more likely to cure and much less likely to ultimately [ph] rule the claim (02:08:00) as a result.

And you're also starting to see that in our results as you see that shift. I think over the last year or year-to-date in 2017, we've had about \$45 million of reserve releases, and again a lot of that's driven by that improved distribution in terms of our default inventory.

Okay. So this next slide has a lot of numbers on it. Generally, what it is, it's looking at our default inventory and default trend data. So on the left, what you see is our quarterly new default rates. At the top, what you see is the overall new defaults, you can see that's gone down dramatically over the last number of years. And what's really driving that is again credit burnout in that legacy portfolio, and the other thing that's driving it is the blue line.

So the blue line is showing the new defaults on that post-2008 book of business. And again when you look at that, those new default rates on that book of business are extremely low, and those are gradually going up as some of those vintages enter their default seasoning peaks, but still from an absolute perspective, the defaults are very low.

And when you look at the table on the right, what it shows is how much the default inventory has decreased over the last several years. The other thing important to point out is the increasing portion of new defaults that are coming from the 2009-plus portfolio. And what you'll see here is about 37% of new defaults are actually coming out of that portfolio.

Now, again on an absolute basis, very low new default rates, but what I would point out when you look at that portfolio compared to the pre-2009 portfolio, when those loans go into default, they're much more likely to cure. We have pretty good data in terms of showing that they have a higher propensity to cure. So, as a result as you see new defaults shift to those more recent vintages, that's certainly a positive from a portfolio perspective. While the pre-2009 portfolio continues to represent the majority of our new defaults, it also continues to benefit from credit burnout. This burnout led to 17% year-over-year decrease in new defaults from that pre-2009 book in 3Q.

A final point with respect to that pre-2009 portfolio, which is a positive; when we looked at the new defaults in that portfolio, the two most recent quarters, what we found is that 90% of these defaults were repeat defaulters; and that's important. Repeat defaulters as opposed to first-time defaulters, have a greater probability of curing, and also a lower probability of actually willing to claim.

This next slide shows the percentage of defaulted loans that have been curing each quarter, and we've broken it down into several buckets, again, based upon the number of payments missed. And what you'll see is, pretty much across the board year-over-year improvement, pretty much in every single bucket, whether they've missed two to three payments or whether they've missed 12 payments.

Important thing to point out is, people often think while these 12 – those who've missed 12 payments rarely cure, we've actually seen that increasing pretty significantly as we have seen also an increase in cures from our pending claim inventory as well. So, again, a very encouraging trend from a default perspective.

So when you look at the portfolio, one of the things I referenced earlier was the fact that the portfolio because it's higher credit quality today, higher manufacturing quality, stress scenario of the portfolio looks much better in a stress scenario.

So, what I would note is that I referenced earlier our RaDaR model. So, we utilize our RaDaR model to look at our insured portfolio and we stress the portfolio under multiple scenarios. Again, this is part of our macroeconomic simulation modeling. But for purposes of illustration, and to make it simpler, this slide really focuses on one particular stress scenario. It's a stress scenario that many market participants are pretty familiar with. It's a Moody's S4 – Protracted Slump Scenario.

So when you look at Moody's S4 Scenario, that Scenario assumes home prices are going down more than 20%, you have unemployment peaking above 10%. And I would note that, Moody's puts the probability of this economy

being better than this at 96%. So essentially, this is a 96 percentile stress scenario. So when we run our portfolio through this, we look at it in two dimensions. So one is, we're looking at it, on our new business. So what does that do that the returns on our new business if that new business goes through a stress scenario like this.

And so, when we look at the new business, what we find in the stress scenario like this is, the loss ratio – cumulative loss ratio hits about 60%. Again, a stress scenario like this does cut our returns, it cuts our returns in about half. However, the important thing to point out is, even in a stress scenario like this, our returns are in the 6% to 7%, range. So again, returns are down, but in a pretty significant stress scenario, the portfolio years ago would have never performed with this low loss ratio.

The other thing we do is, we actually take the entire portfolio, the entire outstanding portfolio, run it through the same stress scenario, and we do it on a [ph] run-off basis. So again, on run-off (02:13:02) basis, we're assuming no new business comes in the portfolio. When you run that portfolio through it – hit us a loss ratio cumulative on the portfolio of a little less than 100%. The thing I'd point out with respect to that is, again that's assuming no new business comes in the portfolio.

The other important thing is, in a stress scenario like that, that means we're not tapping into our capital base at all to pay claims, essentially in a scenario like that, you're going to have really your – your premiums are going to cover your losses in a scenario like that. So again, much different in terms of what the portfolio looks like from a stress scenario today compared to the mid or even early 2000s.

And as a final point, what we did is, we also looked at the portfolio from a – or the new business from a breakeven perspective, and try to determine well, what would basically a stress scenario have to look like for us to generate negative returns on the new business. And what we found when we look at that is, you actually need to shock and decrease home prices more than 30% in order for the new business not to generate positive earnings, and that's significant. You saw home price decline somewhere in that range in the financial crisis, but again that was starting at much more inflated value, so the probability of having a 30% home price decline is significantly lower than what you would have seen in the financial crisis.

All right, so as Rick alluded to, we continually review and evaluate how to utilize risk distribution structure such as reinsurance in order to manage our capital, and also manage the mix of business we have in our insured portfolio. And so, I think, we've been asked about this several times, what this slide shows is, it shows factors we consider when we review various structures and options we have for distributing risk and for capital management purposes.

And I'd say, the most important ones on this list is, first and foremost, I would say, cost of capital. Again, when we're [ph] realizing reinsurance (02:14:55) today, it's really for capital management purposes. And then the other thing we look at is the impact that the risk transfer has on our retained insured portfolio.

So what does the portfolio look like after we make the risk transfer? So to-date, when we consider really all of these factors, and we look at the various options out in the market, what we found is that reinsurance of our single-premium production provides the best alternative. Best alternative from a cost of capital perspective, ease of execution, and really we get the biggest bang for our buck from a capital perspective on that.

So as a result, more than 80% of our single-premium exposure at this point in time is actually subject to reinsurance. It doesn't mean we cede more than 80%, but 80% of it is subject to reinsurance of varying session levels, what you're going to see is, you're going to see that portion increase, and you're going to see the session

percentage on that portfolio increase as well. And the reason that's going to increase is because of the singles reinsurance transaction that we recently entered into.

So, as Rick pointed out, and I think it was a question earlier, when you look at that transaction, the terms are very similar to the current transaction, almost identical. The most significant – or really where it differs is the session percentage, whereas the current transaction cedes 35%, the most recent transaction is going to cede 65%. I would point out that the transaction is not in effect, it will go in effect next year, and it is subject to GSE approval.

So, when you look at the transaction, the important thing to keep in mind is what the implied cost of capital is. So again, I pointed out in that earlier slide that the cost of capital is very important in terms of when we look at these transaction; and we model out this transaction and we look at it from a PMIERS capital perspective, our implied after-tax cost of capital and the transaction we estimate to be less than 2%. So again very favorable economics.

The other thing I pointed out earlier was, an important thing we look at is, what is the impact on our retained insured portfolio? So, the impact on the retained portfolio is, it significantly reduces our retained share of the singles on new business in a potentially increasing interest rate environment. So, if you look at, essentially we're kind of near that 20% range in terms of single business. If you basically assume a 65% session on that, that leaves us with only 7% kind of retained exposure to singles in the portfolio going forward.

So that's it in a nutshell on the risk side. I'm sorry. Thank you. So, Q&A?

---

## Emily Riley

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

Actually, Derek, we're going to change the Q&A portion around a little bit, we're going to [ph] axe that (02:17:33). Rick Thornberry, and Derek, and Frank Hall, will join you back on stage along with our General Counsel, Ted Hoffman; Chief Franchise Officer, Brien McMahon; and Corporate Controller, Cathy Jackson. And we'll [ph] axe the combined (02:17:44) question-and-answer session.

---

## Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

All right.

## QUESTION AND ANSWER SECTION

Emily Riley

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

Q

Okay. Well, any questions for the group. Sorry about that, anything for Derek? Of course, we can cover as well.

Mark C. DeVries

*Analyst, Barclays Capital, Inc.*

Q

Sure.

Emily Riley

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

Q

Thanks, Mark.

Mark C. DeVries

*Analyst, Barclays Capital, Inc.*

Q

Yeah, Mark DeVries from Barclays. Both my questions are for Derek. First as your slide showed everything post-2009 is coming in between 4% and 7% loss ratios, that stands in a bit of a contrast to the 15% run rate for this year. Clearly, that's because of the legacy stuff that's still coming through. Is it reasonable to assume absent economic stress that we converge on that at 4% to 7% range? And if so, kind of at what pace could that happen?

Derek V. Brummer

*Chief Risk Officer, Radian Group Inc.*

A

I wouldn't make that assumption. And I think that, one of the things to emphasize is, when we really model out the portfolio and look at what the loss ratio looks like kind of through the cycle basis, which is the only way to look at it. Now you could have loss ratios on what you'd expect. Basically when we model out the portfolio, it looks like maybe about an 18% to 20% loss ratio through the cycle, so really looking through multiple economic paths.

What you'd expect to see in that is kind of in good economic times, when you have home prices going up 6%, 7% a year, unemployment going down. You're going to see that loss ratio come under that. So you're going to see maybe that in the 10% range, I would say. But again, we're not going to price from that perspective. So yeah, if you have very favorable macroeconomic environment, it could kind of gravitate towards there. But again, the ability to kind of predict that cycle is something we're really not taking a bet on.

Mark C. DeVries

*Analyst, Barclays Capital, Inc.*

Q

Okay. Fair enough. And then, you've any thoughts on your stress scenario, if you ran a more moderate normal recession on average more like 7% unemployment, home prices are flat, what the loss ratio could look like in a scenario like that?

Derek V. Brummer

*Chief Risk Officer, Radian Group Inc.*

A

Yeah. Well, it would be all somewhere between [ph] 16% and 20% (02:19:56). So when you looked at that and we run it also through Moody's S3 Scenario, which is a much more moderate kind of recession scenario, I think, you

have home prices down around 10%. And what we've seen in kind of a scenario like that is, you're going to see returns you might see about 300 basis points trimmed off in a scenario like that. So versus the S4 Scenario where you saw returns really trimmed down by 600 basis points to 700 basis points. So we're going to see the loss ratio probably in the 30s most likely in a scenario like that.

---

**Emily Riley**

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

A

[ph] Alan (02:20:31)? No, I'm sorry. Doug, over there?

---

**Douglas Harter**

*Analyst, Credit Suisse Securities (USA) LLC*

Q

Yeah.

---

**Emily Riley**

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

A

Yeah. Go ahead.

---

**Douglas Harter**

*Analyst, Credit Suisse Securities (USA) LLC*

Q

Yeah. It's Doug Harter from Credit Suisse. I was just hoping you could talk about the outlook to sort of maintain pricing or is pricing adequate when you look at kind of that S4 Scenario where you're still generating a 6.5%, 7.5% return?

---

**Derek V. Brummer**

*Chief Risk Officer, Radian Group Inc.*

A

Yeah. Well, I would say, it's certainly adequate, insofar as I would say, overall we've seen pretty good stability from a pricing perspective, and also from a return perspective. So the point I was making in terms of that risk-neutral pricing is, I saw what – I think what you saw before the industry made pricing changes in response to the PMIERS is, you had what I would call kind of an inverted return card where you actually saw returns decrease as you went down the credit spectrum. So you'd expect to get lower returns on kind of riskier credits.

Now, it's pretty risk-neutral. So as we kind of see that credit expansion, we feel pretty comfortable. The other thing is, you're not seeing a lot of risk layering in the portfolio as well. So when we look at the portfolio, in an S4 Scenario where you can still make 6%, 7%, 7.5% returns, we think the pricing is more than adequate, and I don't see really a change to that on the horizon.

---

**J. Franklin Hall**

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

Yeah. And I think, I would just add, just from a general market environment point of view, we see not – pricing being generally consistent, there's always kind of noise around the edge, but I think where we're priced, where the market is, we feel comfortable with the risk return balance that we're achieving. And I think, really it's indicative of – kind of that kind of stress scenario is still producing a positive return on currently-priced asset, so I think that's the right balance we want to do, and just kind of watch as things evolve.

---

**Mihir Sudhir Bhatia**

*Analyst, Bank of America Merrill Lynch*

Q

Sure. Mihir Bhatia, Bank of America. I had a quick question on just – appreciate your slide on the stress scenarios, and the 30% decline you'd need in home price appreciation to see a not positive earnings. But what kind of assumption do you make, just to get your regular returns? What on home price appreciations when you give a 13%, 14%, or 20% loss ratio; the 13%, 14% unlevered returns, what kind of assumptions are embedded in that on home price appreciation?

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

There's not an explicit in terms of – from a reserve perspective?

Mihir Sudhir Bhatia

*Analyst, Bank of America Merrill Lynch*

Q

No. Just what...

J. Franklin Hall

*Chief Financial Officer & Executive Vice President, Radian Group Inc.*

A

What's the pricing?

Mihir Sudhir Bhatia

*Analyst, Bank of America Merrill Lynch*

Q

...what's your best case, I guess, scenario when you're thinking about home price appreciation from current levels, I guess would be the question.

Douglas Harter

*Analyst, Credit Suisse Securities (USA) LLC*

A

Yeah. I think, long-term home price appreciation, kind of a more reasonable estimate is probably the rate of inflation, so probably that kind of 3% to 4% range is a more reasonable kind of assumption from a home price appreciation perspective.

Mihir Sudhir Bhatia

*Analyst, Bank of America Merrill Lynch*

Q

Thanks.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

Hi, Ron Bobman, I had a couple of reinsurance questions. Firstly, is there a cap on ceded losses?

Douglas Harter

*Analyst, Credit Suisse Securities (USA) LLC*

A

There is a cap, so there's kind of an annual cap that's embedded, and also an aggregate cap that's embedded which is pretty typical of a structure like that.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

And how does that cap, the level at which it sits relative to let's say the worst vintage that we had in the Great Recession. I mean, is it still above that level?

Derek V. Brummer

*Chief Risk Officer, Radian Group Inc.*

A

I would say that, if you look at the Great Recession, you probably would have certain vintages that would go through it. But with respect to those vintages from a credit characteristics perspective, it would be vastly different from the vintages we're writing today.

So the more appropriate way to look at it is not the crisis vintages; what you want to look at is what I went through looking at the new business, where I said in an S4, that resulted in a 60% loss ratio on the new business, that would be significantly inside of where those loss ratio caps are sitting.

And that's important, because also one of the ways in terms of getting credit for reinsurance transactions from GSEs is, they have to be comfortable that the reinsurance is going to pay, and kind of cover all losses in a significant stress scenario to make sure you get full capital credit. So as a result, when you look at kind of the new production today, those loss ratios are set pretty high, it's the best way to think about it.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

Is it an annual renewable quota share treaty? And then also, could you explain how the profit commission is earned? Thanks.

Derek V. Brummer

*Chief Risk Officer, Radian Group Inc.*

A

Yeah. So that transaction, it's a two-year transaction, so it's going to cover new business in 2018 and 2019. And so, the loss ratio, the way – the profit commission the way it essentially works is, we take out our ceding commission of 25%. And then, anything after that losses really eat into that profit commission. So essentially if you had really no losses, essentially we'd get a profit commission of 56% in a scenario like that.

Ronald David Bobman

*Analyst, Capital Returns Management LLC*

Q

[indiscernible] (02:25:31).

Derek V. Brummer

*Chief Risk Officer, Radian Group Inc.*

A

Correct. Because essentially the reinsurers get a margin of 19%, we get a ceding commission of 25%. So anything in between is really absorbed to that profit commission. So we get a profit commission as long as the loss ratio stays below 56%.

John Gregory Micenko

*Analyst, Susquehanna International Group, LLP*

Q

Hi, thanks. Jack Micenko, again. Rick, you've been on the ground for I guess, eight months now, and we have this larger singles reinsurance group, I'm just curious, organizationally has the company's appetite changed around single premium business either more or less over that timeframe?

Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

A

So yes, eight months to a day, actually. So yeah, I would say look, we've brought our singles percentage down over the course of this year from I think it's 26%, 27% down to 22%, 23% currently. So I think, we're monitoring our mix, and it really goes back to looking at our returns at a customer level as to the quality of business they're doing, the returns that we generate as part of that relationship. Some customers look to do more singles versus others, and so we see that at a customer level, and we're actively managing Brian and his team and Derek and his team really work closely together to look at it from a customer perspective to determine, where things get out of balance.

And as I mentioned earlier, as we see a customer, whether it's singles, monthly mix, whether it's other risk attributes where we start to see them check out of our kind of risk return profile, we're moving them either up or we're moving them out, right. So I think we're comfortable with the mix that we have today. I think it's reflective of kind of our overall customer mix if you will. We like the risk return profile that we have.

Mihir Sudhir Bhatia

*Analyst, Bank of America Merrill Lynch*

Q

Hi. Mihir, again. Just real quick, last week, obviously, we had the tax reform released, and I was just wondering to see if we could get maybe some of your perspectives on how that would impact the MI industry, both just the \$500,000 cap on interest deductibility to solve provisions in there. And also if you could also just touch on – if you expect any impact on reinsurance markets and rates from the Bahamas provisions? Thank you.

A

Sure, we'll [ph] tag team just (02:27:50) a little bit. In terms of, I'd say the general market reaction to the capping of the \$500,000, when you think about this that still covers our customers, right, I mean, most of our customers, in fact a high percentage of them fit within that box.

The other piece is kind of doubling the standard deduction, and kind of how that affects actual borrowers' ability or need to deduct interest right, when you look at overall deductions. The MI deductibility is the one kind of absent from the discussion so far, and I know our government relations team and our industry groups are very focused on clarifying that through the legislation that's moving through.

The other part of the reduction in some of the state tax deductibility, I think has less of an impact for our borrowers because of the higher standard deduction. So I think net-net, I'm not bothered by it. I think, they're the offshore aspect, and kind of – it's going to be interesting to see how that plays out, and we're going to monitor that very closely as it impacts not really us as much as it impacts maybe competitors and other alternative sources of capital.

Emily Riley

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

A

A question here.

Bose George

*Analyst, Keefe, Bruyette & Woods, Inc.*

Q

Hi, this one's for Derek. Just wanted to ask about loss ratios by product type, and as you and the industry is doing more [ph] 97s (02:29:22). Do you think there will be any difference in loss ratios, or is that priced to generate a similar loss ratios? And also just the variability of loss ratios under stress scenarios for that kind of product? Bose George, KBW.

Derek V. Brummer

*Chief Risk Officer, Radian Group Inc.*

A

Yeah. Overall from a loss ratio perspective, they are pretty stable across the credit spectrum, so that's what I was getting at in terms of, I'd say risk-neutral pricing. So when we look at the [ph] 97s (02:29:49), we think we are appropriately priced for that volume.

We still look at concentrations, also look importantly, at lenders who might be outside the market which often can be an indication that they might be stretching. But overall, as long as we're comfortable with kind of the underwriting and the volume of 1997s, we think we're pretty comfortable from a loss ratio perspective. I think that wouldn't have been the case four, five years ago.

And I would say a similar thing when you kind of move down the FICO spectrum as well. That's why I would say from a business perspective, we're a bit more agnostic in terms of product today and we can be because that of the way we price today relative to four or five years ago.

A

By the way on that point, I would like to point out that my wife and I were low down payment first time homebuyers like much of the market and it really is characteristic of kind of that step through homeownership. And those are the borrowers though maybe not, my wife and I maybe we weren't good credit, I don't know. But it seem to work out okay for the lender. But when you really kind of go through this whole scenario, supporting that first time homebuyer who's got enough to make a down payment it's very, very difficult to save \$50,000 to make a 20% down payment on a \$250,000 home.

I know we're in New York and there aren't too many \$250,000 homes, when you think about it that's the market that we're addressing. So we price, we analyze the risk just because it's a low, we want skin in the game, we want the lack of risk layer and we want to be thoughtful about the risk that we're taking in that business, but they're generally that's kind of the first step of coming into the market from a homeownership point of view and we want to support that. We want to be help people find sustainable homeownership positions.

Emily Riley

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

A

Right. Well, I think we're out of questions. I'm sorry did you...

Q

Thank you. Hi. [ph] Manny Ramirez, Bayview Asset Management (02:31:56). To what extent, do you think the GSEs are primarily focused on reducing their own cost of capital for sharing credit risk versus trying to find the most sustainable forms of capital through the cycle and how does that impact the business?

A

I'm not sure, I heard all the questions. So I'm going to ask you just to repeat because, you were kind of quite.

---

Q

Sorry about that. So...

---

A

I've been accused of being quite too, so I share that.

---

Q

To what extent do you think the GSEs are primarily at this point looking for at the lowest source – the lowest cost of capital when they're looking at sharing credit risk versus finding the most sustainable sources of capital through the cycle particularly when things get a little bit dicier?

---

A

Yeah. I love this question, right because I think today there is – there are sources of capital that are low cost, we take advantage of them as well. I think the kind of the – as I said earlier, we're in the first inning of a nine-inning baseball game around this whole credit risk transfer. And I think we – and I just said in this discussion with both GSEs last week, I mean we are a permanent source of capital. The mortgage insurance industry is the only source of permanent capital that may continue to support this market through the credit cycle, right? We show up every day, we underwrite loans, we understand the credit risk.

I think the question is how do we continue to strengthen the capital structures of these businesses that continue to be strong and viable counterparties, right. I think over the long-term, these credit risk transfers are going to play much more towards permanent capital structures and the good news is it's huge, right. I mean these are \$1 trillion markets today and they're kind of in the first stage. So I think our permanent capital, our ability to analyze credit risk, our position in the marketplace puts us in a position to kind of play in that game. But I think that the markets going to evolve towards kind of a rebalancing of permanent capital sources that are sustainable that aren't just going to leave the market when things get tough, they're going to stay in there and continue to underwrite and promote credit risk through the financial markets.

I think that's where Fannie & Freddie want to be and I think that's where the government – the government doesn't want to be the backstop for when other capital providers run for the hills as soon as there is a disruption in the credit markets. We need permanent sources of capital and that's what we're focused on.

---

Derek V. Brummer  
*Chief Risk Officer, Radian Group Inc.*

A

And the other thing I would add to that is just that we've been essentially part of a reform effort that's been going on as the GSEs have kind of implemented new master policy requirements for the industry as well as the

PMIERS. So in terms of private capital playing a role going forward in any form, it's housing finance reform, I mean there's going to be strong oversight and accountability over any types of private capital. And frankly, we're veterans in that. We've been living with that for the last couple of years and so there's already a model in place. I think that we fit very well in and I think we've been succeeding in, in terms of the way we're looking going forward.

---

## Emily Riley

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

Okay. Good. I think we're at the end of our Q&A session. So I'm going to invite everybody to grab lunch outside [indiscernible] (02:35:23), come back in here, we'll start our video presentation shortly. Thanks everybody.

---

## Richard G. Thornberry

*Chief Executive Officer & Director, Radian Group Inc.*

Thank you.

---

## Unverified Participant

Thank you.

### 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 2017 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.