

# NOT-SO-RISKY BUSINESS: WHY RISK RETENTION REGULATIONS ARE GOOD FOR THE CMBS INDUSTRY

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April 03, 2017

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## Executive Summary

New financial oversight regulations, commonly referred to as “Dodd-Frank”, went into effect on December 24, 2016 requiring a commercial mortgage backed securities (“CMBS”) sponsor or qualified third party B-piece buyer (“Qualified B-Buyer”) to keep at least 5% of the bond or market value of a CMBS issuance on its balance sheet for a minimum period of time. The rationale behind this is that having “skin in the game,” which was not required in the pre-risk retention CMBS model, will lead to higher quality CMBS loans and a better alignment of interest between CMBS loan originators and CMBS bond investors.

Some in the CMBS industry have speculated that these new regulations could lead to a contraction in the market. Their belief is that these regulations will restrict capital, drive up borrowing costs, increase execution uncertainty around new loan originations, and push smaller financial institutions out of the market.

PGIM Real Estate Finance disagrees with this pessimistic view. Instead, we believe that these regulations will have a long-term positive effect on the CMBS market, resulting in better loan credit quality driven by a better alignment of interest between CMBS loan sellers and bond investors. This should lead to lower CMBS borrowing costs and better executions for borrowers.

PGIM Real Estate Finance anticipates the regulations will shift the CMBS market from one of a trading business to one of a lending business, since new risk retention rules will more closely link returns to a CMBS loan pool’s performance, not its initial sale.

Another issue to consider is that the new presidential and congressional administration have indicated an interest in repealing certain parts of Dodd-Frank. This could mean changes to, or the elimination of, the risk retention rules. This is causing uncertainty in the market, and the impact is yet to be seen.

## Key Takeaways

- Why new financial regulations mandate that certain CMBS securitization participants maintain ongoing exposure to CMBS loan credit performance
- What the three risk retention structures are and how each structure impacts borrowers, lenders, and investors
- Why some believe these regulations will have negative impacts on the industry, including increased borrowing costs, adverse credit selection, more uncertainty and a general constriction of the CMBS market
- Why PGIM Real Estate Finance challenges this pessimistic view and believes these regulations will result in better CMBS products and greater opportunities for CMBS borrowers and investors
- How post-risk retention deals have been structured and how they have been received by CMBS bond buyers
- Why PGIM Real Estate Finance views a complete repeal of risk retention rules as unlikely
- Why PGIM Real Estate Finance expects 2017 CMBS issuance to be around \$50-60 billion

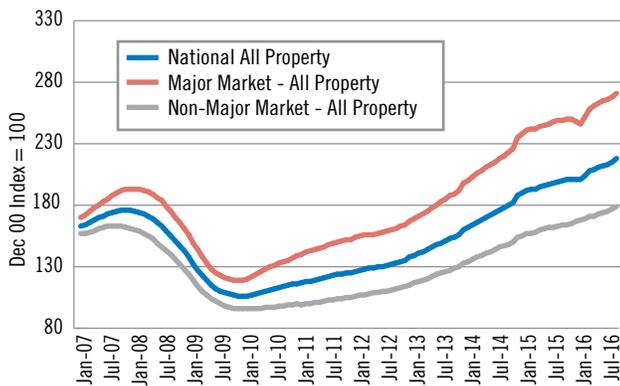
## State of the Commercial Real Estate Market

Before getting too deep into the details of the recently enacted risk retention regulations, PGIM Real Estate Finance will explore the state of the current commercial real estate (“CRE”) market and why there has been a renewed interest in CMBS lending.

Analyzing property price, rent, and equity appreciation performance provides insights on where the market is in the real estate cycle and how CRE borrowers may fulfill their financing needs.

As Exhibit 1 indicates, per Moody’s Market Price Composite, national property prices are currently 24% above the 2007 peak due in large part to capitalization rate compression coupled with net operating income growth and an increase in foreign capital flows into U.S. commercial real estate. U.S. commercial rents continue to grow and demand is outpacing new supply across most property types and markets.<sup>1</sup>

Exhibit 1: Moody's / RCA CPPI: Major & Non-Major Market Composites

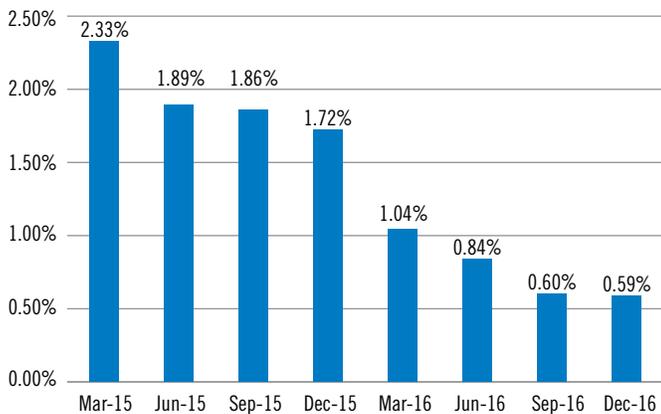


Source: Moody's RCA/CPPI – Composite Indices – 2/2017.

*Exhibit 1: Commercial real estate property prices are above their previous peak levels.*

However, as shown in Exhibit 2 below, while property prices and rents are on the rise and demand for U.S. commercial real estate remains healthy, the rate of equity appreciation has slowed.

Exhibit 2: NCREIF Quarterly Appreciation Return



Source: NCREIF National Property Index Q4, 2016.

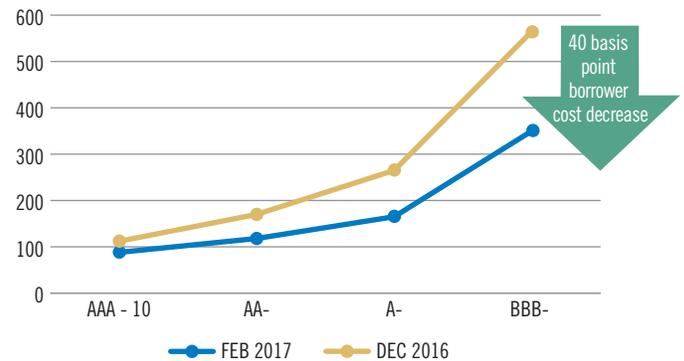
*Exhibit 2: While still positive, commercial real estate equity price appreciation has slowed every quarter since September 2015. A slowdown in equity appreciation will likely lead borrowers to use increased leverage to hit their equity return hurdles.*

This deceleration means borrowers will likely look to take on higher leverage levels to hit yield targets. This dynamic is likely to be accelerated in a flattening credit curve environment.

PGIM Real Estate Finance defines the “credit curve” as the incremental cost of borrowing additional debt proceeds.

When CMBS bond spreads tighten, for any given interest rate a borrower can now get a higher leverage CMBS loan than before.

Exhibit 3: CMBS Conduit Credit Curve



Source: PGIM Real Estate Finance CMBS Deal Database 2017-2-21.

*Exhibit 3: When the CMBS credit curve flattens, incremental CMBS loan leverage becomes less expensive and more attractive. In 2017, the credit curve has shifted down materially with the advent of risk retention. As a result, borrower CMBS loan credit spreads are now approximately 40 bps lower than December 2016 levels.*

Setting aside market -driven rent increases and capitalization rate compression, one way to enhance returns in a flat credit curve environment is to increase leverage debt. Banks have traditionally been the primary source of CRE financing (outpacing CMBS, financial institutions, government agencies, and insurance companies), but new regulations limit banks’ abilities to provide higher leverage loans. Insurance companies offer another option for CRE financing, but most insurance companies are reluctant to go too far out on the leverage spectrum.

Since banks may be restricted and insurance companies are continuing to be cautious in lending, CMBS loans will likely become an attractive financing option for borrowers needing higher leverage. It’s worthwhile to note that the CMBS market has historically been an important capital source for borrowers needing higher leverage, especially in secondary and tertiary markets. This need, combined with a flat credit curve that made CMBS an inexpensive source of incremental leverage, propelled the growth of the CMBS market in the early- to mid-2000s.

**“Since banks may be restricted and insurance companies are continuing to be cautious in lending, CMBS loans will likely become an attractive financing option for borrowers needing higher leverage.”**

**New CMBS Regulations and Expected Impact**

As borrowers gravitate towards higher leverage levels, interest in CMBS loans will grow, while at the same time,

the CMBS industry will be grappling with new regulatory requirements. New CMBS risk retention requirements, which took effect on December 24, 2016, seek to reduce risk to bondholders by requiring a CMBS securitization’s sponsor or Qualified B-Buyer to retain bonds and meet a minimum holding period requirement ranging from 5 to 10 years. The new requirements are aimed at better aligning the interests of CMBS loan sellers and CMBS bond buyers as it relates to a CMBS loan pool’s long-term performance.

Before delving into the new risk retention requirements, it is worthwhile to discuss the pre-risk retention CMBS model. CMBS deals utilize a priority of payments structure to distribute bond repayment risk and match CMBS bond investors risk/return appetite. As the underlying CMBS loans mature, AAA bondholders are repaid first, whereas the B-piece bondholder is repaid last. Historically, a CMBS “B-piece” has referred to the below investment grade bonds (BB, B, and Unrated Bonds), which are purchased as a unit by a B-piece buyer.

Exhibit 4: Typical CMBS Conduit Deal Structure

	Category	Rating	% of Deal	Credit Support (%)	Yield (%)	Market Value (%)
Return of Principal ↓ First	Investment Grade	AAA	70.0%	30.0%	2.5%	101.5%
		AA	6.0%	24.0%	2.7%	103.0%
		AA-	5.5%	18.5%	2.9%	103.0%
		A-	6.0%	12.5%	3.7%	103.0%
		BBB-	6.0%	6.5%	6.6%	75.0%
Last	B-Piece	BB	2.5%	4.0%	18.0%	50.0%
		B	2.5%	1.5%	18.0%	50.0%
		NR	1.5%	0.0%	18.0%	50.0%
						Risk/Yield ↑ Highest

Source: Theoretical example prepared by PGIM Real Estate Finance.<sup>3</sup>

Exhibit 4: CMBS deal structures utilize a priority of payments waterfall to distribute repayment risk. As the underlying CMBS loans repay, AAA-rated bonds receive principal first and therefore require the lowest yield. Conversely, the CMBS B-piece (which typically consists of BB, B, and NR-rated bonds) is the last to be repaid and therefore requires the highest yield.

The B-piece is the riskiest portion of the CMBS capital stack, as it has the least amount of credit support protection and is the first to absorb collateral losses. As such, the B-piece buyer requires higher returns and has the ability to influence a CMBS loan pool’s credit profile before the investment grade bonds are sold. The B-piece buyer can restructure, remove, or price adjust loans that it deems too risky. It can also appoint and direct the securitization’s special servicer, which is typically an affiliate, in loan workouts.

Pre-risk retention, B-piece buyers used a combination of loan price adjustments and bond trading to reduce, and in some cases eliminate, their credit risk and financial exposure to the CMBS transaction. For example, a B-piece buyer could “price adjust” a loan by requiring the loan seller to pay the

B-piece buyer a premium to accept the loan. This price adjustment could be used to offset the B-piece purchase price and reduce the B-piece buyer’s investment basis. However, CMBS investment grade bond buyers didn’t share in any of the price adjustment proceeds received by the B-piece buyer and were then exposed to a loan that may be riskier than they’d like. Moreover, B-piece buyers would often trade the BB-rated, and in some instances the B-rated, bonds at a profit shortly after B-piece purchase, further reducing their “skin in the game.”

Because of the ability to use loan price adjustments and/or bond trading proceeds to reduce or eliminate their risk exposure, some B-piece buyers viewed the B-piece as a trade as opposed to a long-term investment.

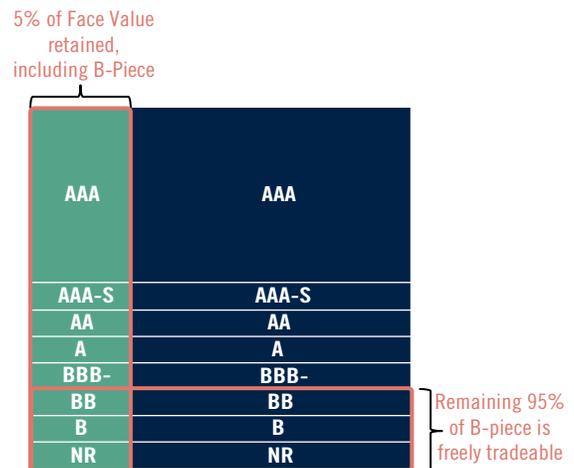
The new risk retention requirements change this.

There are three structures for risk retention compliance, each of which requires the sponsor, Qualified B-Buyer, or some combination thereof to retain at least 5% of the value of a CMBS transaction’s bonds for a specified amount of time. The idea behind this is that market participants will have a greater emphasis on loan performance if they are required to retain a portion of the CMBS issuance on their books for an extended period of time, something that was not required pre-risk retention. This is the aforementioned “skin in the game” that was referred to earlier, which PGIM Real Estate Finance believes will ultimately lead to future CMBS deals being secured by stronger, less volatile loans.

As depicted in Exhibit 5, issuers have three different ways they can exercise their risk retention compliant ownership, including:

- *Vertical risk retention:* The CMBS sponsor must retain a vertical strip, purchasing 5% of each bond class’ (from AAA-rated to unrated) face value. The sponsor must retain these bonds for a period expected to be approximately 10 years.

Exhibit 5A: Vertical Risk Retention

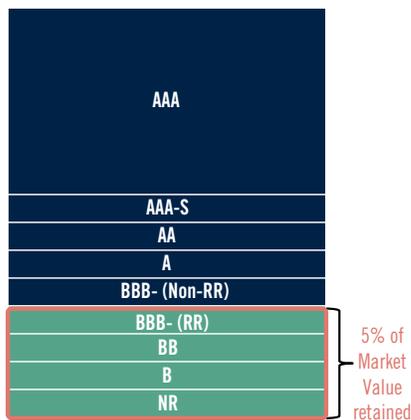


Source: Theoretical example prepared by PGIM Real Estate Finance.<sup>3</sup>

Exhibit 5A: The vertical risk retention structure requires a sponsor to maintain 5% of each bond’s face value. Similar to the pre-risk retention model, the remaining B-piece bonds are freely tradable.

- Horizontal risk retention:** The CMBS sponsor or Qualified B-Buyer must purchase the bottom 5% of the market value (not face value) of the bonds and must retain these bonds for at least 5 years. Practically speaking, PGIM Real Estate Finance believes that the purchaser will have to hold the bonds for closer to 10 years. Given that these bonds are sold at a deep discount, the sponsor or Qualified B-Buyer must purchase more than 5% of the CMBS deal's face value. To comply with the 5% requirement, the sponsor or Qualified B-Buyer will likely need to purchase investment grade bonds in addition to the "natural" B-piece that consists entirely of below investment grade (BB, B, and Unrated) bonds. Under this structure, if the risk is sold to a Qualified B-Buyer, the CMBS sponsor maintains ongoing liability to ensure that the Qualified B-Buyer complies with risk retention requirements.

**Exhibit 5B: Horizontal Risk Retention**

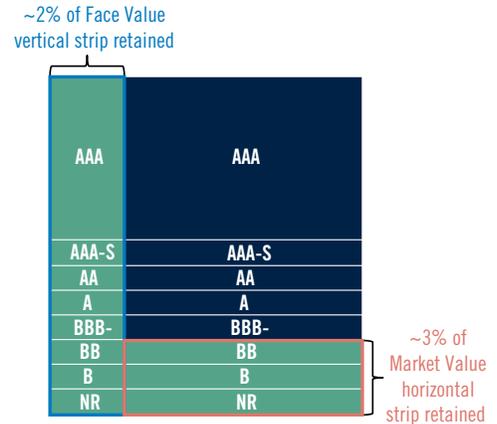


Source: Theoretical example prepared by PGIM Real Estate Finance.<sup>3</sup>

*Exhibit 5B: The horizontal risk retention structure requires a sponsor or Qualified B-Buyer to retain 5% of a CMBS deal's market value through the purchase of the deal's most subordinate classes. These classes will likely include some investment grade bonds.*

- L-shaped risk retention:** In a combination of the vertical and horizontal options, the L-shaped structure allows the sponsor to sell the "natural" B-piece to a Qualified B-Buyer while retaining a vertical slice of the deal in the size necessary to satisfy the 5% risk retention requirement. Under this structure, both parties must retain the bonds for approximately 10 years, and the CMBS sponsor maintains ongoing liability to ensure that the Qualified B-Buyer complies with risk retention.

**Exhibit 5C: L-shaped Risk Retention**



Source: Theoretical example prepared by PGIM Real Estate Finance.<sup>3</sup>

*Exhibit 5C: In the L-shaped risk retention structure, one party will retain the "natural" B-piece while another party will retain a vertical slice in the amount needed to satisfy the 5% rule. One of the two parties will act as the CMBS securitization sponsor.*

Mandating that sponsors or Qualified B-Buyers keep a percentage of the value of the CMBS securitization on their books can have a significant impact across the commercial real estate lending spectrum. While the specific impact of the risk retention requirements will depend upon which retention structure is employed, the requirements, in general, could change the CMBS landscape in the following ways:

**Investors:** Investment grade bond investors will pay up for better credit quality and will avoid deals with perceived subpar credit quality. They will gravitate toward CMBS deals perceived to have a risk retention structure that best aligns CMBS loan sellers interests with those of CMBS bond buyers. Qualified B-Buyers will become more selective about the loans that they are willing to accept since they will not be able to trade out of the B-piece after purchase. This loan purchase selectivity may lead to less execution certainty for CMBS borrowers.

**Borrowers:** Borrowers could face less certainty of execution and potentially increased costs as B-piece buyers become more discerning about the loans they will purchase, resulting in CMBS lenders becoming more hesitant to originate non-middle of the fairway loans. This may be particularly problematic for borrowers seeking acquisition financing. PGIM Real Estate Finance believes that borrowers will be willing to pay up (in the form of a higher loan coupon) for certainty of execution.

Lenders: Lenders will become increasingly tiered and could be less willing to go too far out on the credit spectrum. Large and small lending shops must explore ways to address the diminished certainty of execution that risk retention rules have imposed. Borrowers and brokers will gravitate toward those lenders who can offer certainty of execution. Large banks could gain a capital advantage over smaller origination shops who are unable to serve as the risk retention compliant party. These banks may pass along the costs of risk retention to smaller loan contributors in their securitizations, making the smaller lending shops less competitive by forcing them to pass along these costs to their borrowers in the form of higher loan spreads. These smaller lenders may ultimately exit the CMBS market altogether since they will end up with a less competitive lending product.

The specific impacts to lenders, borrowers, and investors will depend on which of the three risk retention structures are used in the deal. Here PGIM Real Estate Finance examines the consequences of each structure in more detail:

Vertical strip impact: Retaining a 5% ownership interest of each class in the CMBS transaction for 10 years is not ideal for anyone; however, well-capitalized banks are in the best position to meet this requirement if they choose.

Considering banks might be required to keep as much as \$50 million in capital for a \$1 billion deal, they must determine if committing capital for 10 years at such a low yield is acceptable.<sup>2</sup> Those banks that do decide to take on this risk can reduce their costs by passing them onto smaller CMBS lenders in the form of fees. They can also require other loan contributors to the transaction to hold their pro-rata share of bonds, although one contributor will have to act as sponsor for the entire transaction.

For B-piece buyers, not much changes from the pre-risk retention model. B-piece buyers can price adjust loans and/or sell off bonds, and because there is no requirement for them to hold bonds and no minimum purchase size, this structure represents a “business as usual” approach and does little to create the improved alignment of interest that risk retention was attempting to address.

For investment grade bond investors, the vertical strip model does, however, offer somewhat of an alignment of interest in each class of securities, although most of the sponsor’s retained bond economics will be highly rated. In addition, some of the collateral may not be desirable since any premium (price adjustment) paid upfront to the B-piece buyer to purchase certain loans doesn’t flow through to investment grade bond buyers.

For borrowers, the vertical strip model is seen as the least disruptive option. The vertical option would theoretically have a smaller impact on CMBS borrowing costs, and the ability

for B-piece buyers to price adjust and/or sell their positions shortly after purchase may lead them to accept credit quality further out on the risk spectrum. This can be a positive for borrowers during a year when many loans underwritten at the height of the last cycle (2007) are coming due.

Horizontal strip impact: In contrast to the vertical structure, the horizontal structure is more stringent for B-piece buyers. Under this model, the sponsor or Qualified B-Buyer is required to hold more bonds for a longer period of time. As a result, the pool of B-piece buyers under a horizontal structure will likely shrink. The remaining B-piece buyers will be more selective about the credit they accept. Loan acceptance will become more binary since price adjusting loans would require the Qualified B-Buyer to purchase additional investment grade bonds at yields significantly below its return hurdles. This binary loan acceptance will lead to less certainty of execution for borrowers, as CMBS lenders will only make a loan that they are confident they can sell to a Qualified B-Buyer.

Borrowing costs may also increase, as Qualified B-Buyers will be required to purchase investment grade bonds to satisfy the minimum 5% of market value criteria. However, this cost may be partially or fully offset by a flattening investment grade bond credit curve as investment grade CMBS bond buyers pay up for better credit quality and improved alignment of interest.

The horizontal structure should lead to better credit quality and better alignment of interest between loan sellers, investment grade bond buyers, and B-piece buyers. That being said, investment grade bond buyers may be concerned with Qualified B-Buyers who appoint an affiliate as a special servicer. If the B-piece bonds don’t perform, the Qualified B-Buyer could exploit its role as special servicer and divert money that would otherwise be applied to repaying a loan away from the CMBS trust in the form of special servicing fees.

Finally, there will be added pressure on risk retention sponsors to get acceptable indemnifications from Qualified B-Buyers, as the sponsor will be liable if the Qualified B-Buyer violates the risk retention requirements.

L-shaped impact: The L-shaped structure is a blend of the vertical and horizontal structures and is viewed by many in the industry as the most viable of the three risk retention structures. Unlike the horizontal structure, in the L-shaped model, Qualified B-Buyers would not have to retain investment grade bonds. Instead, two parties would hold risk retention bonds: the Qualified B-Buyer would retain the “natural” B-piece (BB, B, and Unrated bonds) and a bank or other deal sponsor would hold the necessary amount of vertical bonds to satisfy the risk retention requirement.

As a result of the multiple parties involved, the L-shaped model could offer a lower cost option than the pure horizontal model since Qualified B-Buyers will not have to purchase and hold investment grade rated bonds through maturity. This option may still be more expensive than the vertical option since Qualified B-Buyers may require an illiquidity premium when purchasing the B-piece.

For banks, the L-shaped structure would allow them to satisfy risk retention requirements while reducing the amount of capital that they need to tie up for 10 years. Two potential drawbacks include ongoing sponsor liability over the Qualified B-Buyer as well as issues with loan execution certainty, since Qualified B-Buyers will be more selective about the loans they're willing to accept. Indemnities from Qualified B-Buyers will play an important role in this structure.

For borrowers, the L-shaped structure impact will be similar to that of the vertical model. While CMBS borrowing costs may only be slightly impacted in the short term, there will be issues with execution uncertainty and perhaps an inability to get the proceeds needed to refinance current debt outstanding due to reduced risk appetite from B-piece buyers.

For investment grade bond buyers, the L-shaped model may offer the best alignment of interest, as the sponsor will have an incentive to monitor the Qualified B-Buyer's special servicing behavior and ensure that the Qualified B-Buyer behaves in a way that is in the best interest of all bond investors.

PGIM Real Estate Finance believes that the willingness of banks to retain bonds will influence which risk retention structure(s) the CMBS market ultimately adopts. If banks are unwilling or unable to retain bonds, the CMBS market will likely gravitate toward a horizontal model. If, however, banks are willing to retain bonds, PGIM Real Estate Finance believes that the CMBS market will ultimately gravitate toward an L-shaped model. The L-shaped model provides a cost-effective way for sponsors to satisfy risk retention while creating the best alignment of interest, which should appeal to CMBS investment grade bond buyers and benefit deal execution in the form of tighter CMBS bond credit spreads.

## **Pessimistic Reactions to the Regulations and Why PGIM Real Estate Finance Disagrees**

Some in the industry have speculated these new regulations are bad for the CMBS market. They argue that the additional capital required to satisfy these regulations will result in fewer lenders extending CMBS financing, which will restrict capital and push smaller financial institutions out of the market, stifling competition. They also believe that risk retention's impact on borrowing costs will lead to adverse

selection in CMBS loan pools, as the better quality assets get financed by cheaper capital sources.

Further, they believe that any increased cost, in addition to the uncertainty surrounding loan sales to B-piece buyers, will cause the CMBS market to significantly contract and become a less competitive lending option for CRE investors.

They are not completely wrong. A number of players have exited the CMBS market since last year. While the exact implications are still unknown, PGIM Real Estate Finance

doesn't share such a pessimistic view. Instead, we see the risk retention regulations as a positive for the industry, leading to higher quality CMBS products and significant opportunities for CMBS bond investors and well-capitalized B-piece buyers. Consider the following:

***Stronger CMBS products:*** Those CMBS lenders who want to be in business for the long run will need to put the best product they can on the shelf. Since CMBS lenders and/or Qualified B-Buyers will now be responsible for holding a piece of the CMBS securitization for a much longer period of time, it will lead to better decision-making and

stronger pool credit quality. CMBS sponsors and Qualified B-Buyers will need to focus more on quality in the post-risk retention environment because their returns will be more closely linked to the repayment of loans contributed to a CMBS pool. Said another way, CMBS will become more of a lending business and less of a trading business.

PGIM Real Estate Finance has already seen – with the new deals hitting the market – CMBS bond investors' willingness to pay up for a better product. Having a better quality product could offset most, if not all, of the increased costs associated with risk retention.

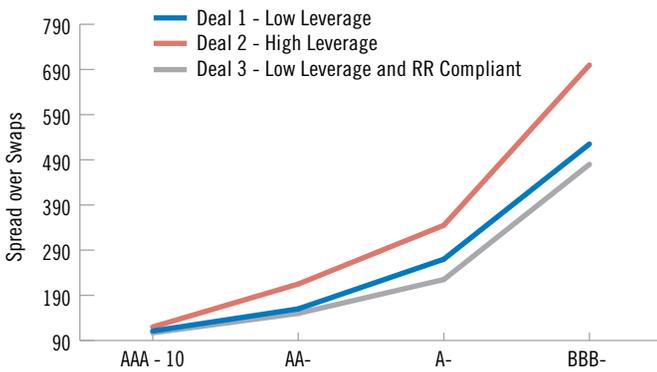
To gauge CMBS investment grade bond investors' readiness to "pay up" for better credit quality and interest alignment, Exhibit 6 examines three CMBS conduit deals that priced around the same time in Fall 2016. Deal 1 was a low leverage, non-risk retention compliant deal, whereas Deal 2 was a higher leverage, non-risk retention compliant deal. CMBS bond investors' willingness to accept lower yields for better credit quality resulted in Deal 1 having a credit curve that was meaningfully flatter than that of Deal 2.

**“We see the risk retention regulations as a positive for the industry, leading to higher quality CMBS products and significant opportunities for CMBS bond investors and well-capitalized B-piece buyers”**

**“Those CMBS lenders who want to be in business for the long run will need to put the best product they can on the shelf”**

To examine the impact of risk retention compliance, PGIM Real Estate Finance compares Deal 3 to Deal 1. Deal 3 has lower leverage collateral, similar to Deal 1, but in addition was also risk retention compliant. As a result, Deal 3's credit curve was even flatter than that of Deal 1. These three deals illustrate that when it comes to a willingness to "pay up," CMBS investment grade bond investors focus first on a deal's overall credit quality and second on the interest alignment among the loan sellers, B-piece buyer, and bond holders. In short, CMBS investment grade bond investors are willing to pay more for a better quality product.

**Exhibit 6: Impact of Credit Quality and Risk Retention on Credit Spreads**



Source: PGIM Real Estate Finance CMBS Deal Database.

*Exhibit 6: In 2016, CMBS investment grade bond buyers began to pay up for a better CMBS product. Better credit quality and risk retention compliance resulted in a flatter credit curve as CMBS bond investors accepted lower yields.*

Less competition among lenders: The size of the CMBS lending universe more than doubled from 2011 to 2016, growing from 18 loan contributors to 37 loan contributors.

This heightened competition led to a degradation of CMBS loan credit quality, as an influx of CMBS lenders entered the market and fought for loan origination opportunities. PGIM Real Estate Finance believes that the current contraction in the CMBS lending universe is healthy for the market and will favor well-capitalized institutions with a tenured history in CMBS lending and broad origination forces. PGIM Real Estate Finance does not believe that the lender contraction will drive up borrowing costs, as borrowers will still have an array of financial institutions and capital sources from which to choose.

Certainty of execution, which has always been a challenge in the CMBS market, will continue to be a concern in 2017, at least until the market finds its footing.

Lenders will only lend if they are confident they can sell the loan. That said, lenders with combined lending and B-piece

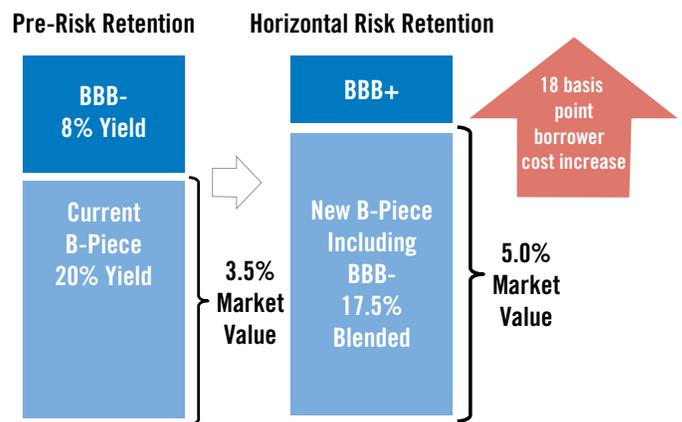
buying arms will have a competitive advantage. By essentially becoming the lender and the B-piece buyer, this structure removes the uncertainty around loan saleability. Borrowers and brokers will gravitate towards lenders who have a strong track record and can provide certainty of execution.

Significant opportunities for B-piece buyers: While the new regulations will shake things up for all the players in the CMBS arena, a select group of reputable, well-capitalized B-piece buyers may have a lot to gain. In the near term, a lack of capital able to satisfy risk retention rules could lead to outsized returns. Longer term, the regulations could reduce competition and present a tremendous opportunity for well-capitalized B-piece buyers with a strong reputation and longer investment horizons.

Qualified B-Buyers will also have a greater incentive to improve CMBS pool credit quality upfront given the required capital commitments and the fact that their payout will be highly correlated to the payoff of underlying loans in a CMBS pool. This should lead to better risk-adjusted returns.

Offsetting costs: While it's true that the new regulations could increase borrowing costs in the short term, PGIM Real Estate Finance expects loan costs to remain flat or decrease in the long run. The belief is that risk retention costs (as illustrated in Exhibit 7A) will be offset or exceeded by the cost savings (as illustrated in Exhibit 7B) associated with lower spread premiums investment grade bond buyers will require for better quality collateral pools and interest alignment resulting from risk retention. Recent CMBS deal pricing levels support this argument.

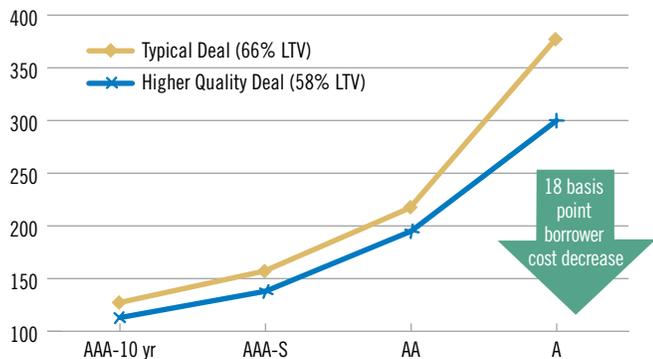
**Exhibit 7A: Horizontal Risk Retention Impact on B-piece Size and Yield**



Source: Theoretical example prepared by PGIM Real Estate Finance.<sup>3</sup>

*Exhibit 7A: This horizontal risk retention example shows how increasing the size of the B-piece investment from 3.5% to 5.0% of market value would require purchasing BBB- bonds as well, leading to an 18 basis point increase in a CMBS borrower's loan coupon.*

### Exhibit 7B: CMBS Investment Grade Bond Credit Curve



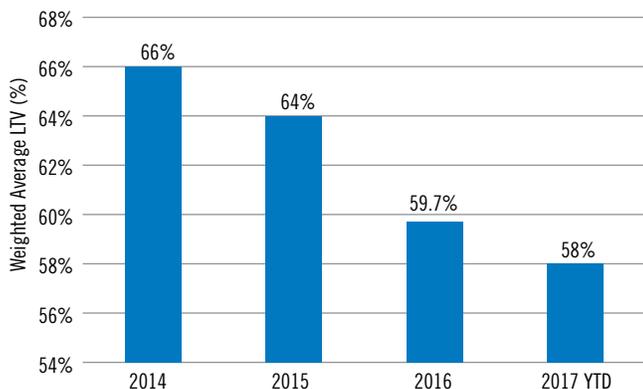
Source: Theoretical example prepared by PGIM Real Estate Finance. Credit spreads based on CMBS deal pricings observed in May 2016.<sup>3</sup>

*Exhibit 7B: The additional cost in Exhibit 7A is offset by a flattening investment grade bond credit curve, as CMBS investors pay up for better loan credit quality and alignment of interest.*

### Done Deals

Financial regulations are often met with resistance, so it's no surprise that many in the industry are skeptical of what these regulations mean. However, as seen in Exhibit 8, PGIM Real Estate Finance is already seeing better credit quality loans as new CMBS deals are being made. Recent deals are characterized by lower loan-to-values, higher debt yields, and higher debt service coverage ratios. The likely result of the improved deal quality will be lower default and loss risk for CMBS bonds, particularly B-piece investments.

### Exhibit 8: CMBS Conduit Deal Average Loan-to-Value (%)



Source: PGIM Real Estate Finance CMBS Deal Database as of February 13, 2017.

*Exhibit 8: CMBS conduit deal weighted average LTV has continued to decline and is at its lowest level since 2014.*

A total of three risk retention compliant CMBS deals were issued in 2016: two conduit deals that employed the vertical risk retention model and one single asset-single borrower deal that employed the horizontal risk retention model. These deals, which were well-received by the market, provided a blueprint that other CMBS originators can follow.

To date in 2017, as shown in Exhibit 9, six CMBS conduit deals have come to market employing the various forms of risk retention.

### Exhibit 9: 2017 Conduit CMBS Deals

Securitization	Risk Retention Strategy	Risk Retention Sponsor
CD 2017-CD3	L-shaped	Bank
WFCM 2017-BNK3	Vertical	Bank
BBCMS 2017-C1	Vertical	Specialty Finance
WFCM 2017-RC1	Vertical	Bank
JPMCC 2017-JP5	Horizontal	Specialty Finance
GSMS 2017-GS5	L-shaped	Bank

Source: PGIM Real Estate Finance CMBS Deal Database as of March 3, 2017.

*Exhibit 9: Year-to-date 2017 CMBS conduit deals have utilized a variety of risk retention structures.*

Each of the deals has been very well-received, as evidenced by the dramatic credit spread tightening over year-end 2016 levels shown in Exhibit 10.

### Exhibit 10: CMBS Investment Grade Credit Spreads

Bond Class	Feb-17	Dec-16	Difference
AAA	88	112	-24
ASB	72	101	-29
AAA-S	105	140	-35
AA-	118	170	-52
A-	165	265	-100
BBB-	350	565	-215

Source: PGIM Real Estate Finance CMBS Deal Database as of February 13, 2017.

*Exhibit 10: CMBS investment grade bond spreads have tightened dramatically since year end 2016 as a result of investors paying up for a better CMBS product. As the credit curve flattens, CMBS loans become a more competitive source of commercial real estate capital.*

Ultimately, PGIM Real Estate Finance believes that the market can support all three risk retention structures, with the L-shaped structure being the preferred option for CMBS securitization sponsors and CMBS investment grade bondholders.

## Potential for Repeal

Of course, all of this could be a moot point should the new presidential and congressional administration repeal Dodd-Frank. The administration has hinted that it wants to repeal certain financial regulations and parts of Dodd-Frank, including the risk retention rule, could be on the chopping block.

There are a lot of questions around a potential repeal, including whether it will be repealed outright or retroactively, if at all, and this uncertainty has cast a shadow over the industry. PGIM Real Estate Finance doesn't believe this uncertainty will bring the CMBS industry to a halt, but it might slow new issuance or impact the form that risk retention takes on CMBS new issuance as the industry adopts a "wait and see" attitude.

PGIM Real Estate Finance is confident that, even if Dodd-Frank is amended, the repeal of the risk retention regulations is highly unlikely. The unchecked securitization market is widely accepted as a contributor to the financial crisis, and those with the power to repeal Dodd-Frank understand this and probably are not in a rush to reset the dials.

Uncertainty still lingers around potential repeal and the specific results and impacts each of the three risk retention structures will create. Nonetheless one thing is certain, these new regulations are encouraging originators to think

longer term and put their best products forward. That's a win for everyone.

## SIDEBAR: The CMBS Market by the Numbers

Many in the industry expected CMBS issuance to drop sharply in 2016. In fact, at the midway point, the CMBS market had seen a 50% decline in overall issuance from the previous year. Now, the final 2016 figures are in and they were on track with expectations that had been revised downward mid-year.

- Conduit loan transaction volume: \$48.02 billion
- Single asset-single borrower securities transaction volume: \$17.21 billion
- Total CMBS issuance: \$66.40 billion (including \$1.17 billion in short-term CMBS loans issued)
- Total 2016 issuance was 30% lower than the \$94.6 billion issued in 2015<sup>4</sup>

PGIM Real Estate Finance expects CMBS issuance will take some time to rebound as the industry responds to the new regulations. The first and second quarter of 2017 is expected to be slow but PGIM Real Estate Finance anticipates an uptick in the second half. By the end of the year, PGIM Real Estate Finance expects issuance to be around \$50-60 billion.

### Sources:

<sup>1</sup> Moody's/RCA CPPI – Feb 6, 2017

<sup>2</sup> "Big Banks Brace For Bundle Of Real Estate Debt They Must Invest In". Investor's Business Daily. Feb. 25, 2016. [www.investors.com/news/real-estate/wall-street-girds-for-real-estate-debt-it-must-invest-in]

<sup>3</sup> Theoretical example prepared by PGIM REF. (Typical Deal" credit spreads are based on CGCMT 2016-C1 (66.1% loan-to-value, "LTV") actual pricing spreads on May 17, 2016. "Higher Quality Deal" credit spreads are based on an average of the actual pricing spreads on May 17, 2016 of CSAIL 2016-C6 (58.7% LTV) and GSMS 2016-GS2 (58.0% LTV)). Target returns are not guaranteed.

<sup>4</sup> "Loan Contributors to US CMBS Deals in 2016". Commercial Mortgage Alert. Jan. 6, 2017

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