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CMBS - US

2015 Defeasance Activity Surpasses 2014 Levels

Executive Summary

CMBS defeasance activity increased in 2015, rising to \$22.4 billion, a 7% increase over 2014 and a 70% increase over \$13.2 billion in 2013. The \$22.4 billion 2015 defeasance figure represents the highest level since the market's peak at \$32.4 billion in 2007. Defeasance activity increased significantly during the past two years, with 2015 activity falling in between 2005 levels at \$21.2 billion and 2006 levels at \$25.9 billion.

Increased defeasance activity is the result of several factors, including strong liquidity in the commercial real estate (CRE) debt and equity markets, continuing improvement in real estate fundamentals, borrowers ability to capitalize on the low interest rate environment ahead of expected Federal Reserve rate increases and borrowers preference to complete their refinancing ahead of the refinancing wave of 10-year loans securitized in 2005-07.

New commercial mortgage-backed securities (CMBS) issuance increased 78% in 2013, 9% in 2014 and 7% in 2015, increasing the availability of credit. Because of the last year's robust lending environment, many borrowers were able to refinance existing loans, frequently with higher proceeds and lower interest rates.

CMBS new issuance in 2016 is off to a slower start, but defeasance activity has remained strong. A highly competitive CMBS loan origination market, a large number of outstanding loans nearing maturity (the sweet spot for defeasance), ongoing improvement in commercial real estate markets and low interest rates all combine to provide favorable conditions for defeasance activity in 2016.

Among the highlights in 2015:

- » Defeasance of CMBS loans increased 7% to \$22.4 billion from \$20.9 billion in 2014 and 70% from \$13.2 billion in 2013.
- » The largest shares of defeased loans, by property type were office, 35%; multifamily, 33%; and retail, 15%; followed by hotel, 10%; other 5%; and industrial, 2%.
- » The 10 largest defeased loans accounted for \$3.8 billion, or 17% of 2015 defeasance activity. The top 10 largest defeased loans were all secured by office properties with eight out of the top 10 defeased loans situated in the major markets of New York and Boston. Despite a recent slight downturn in pricing, major market CBD office prices remain

50.2% above their peak pricing before the Great Recession, affording sophisticated borrowers the opportunity to defease and recapitalize their trophy office properties.¹

- » The 2006, 2007 and 2011 vintages accounted for \$16.7 billion or 74% of aggregate 2015 loans defeased.
- » Defeasance of loans with five years or more to maturity increased to a 10% share of total 2015 defeasance activity, compared with a 5% share of total 2014 defeasance activity and 1% in 2013. This magnitude of increase suggests that financing options were more plentiful last year and property markets had improved to such an extent that defeasance was a cost-effective option even for loans with an extended period of time before maturity.
- » In seasoned deals, CMBS bonds that are fully covered by defeased loans may not always have a Aaa (sf) rating because of the timing of anticipated payoffs, credit concerns regarding other loans in the pool, or realized losses, including interest shortfalls, experienced by the bonds.

Defeasance Explained

Fixed-rate loans originated for CMBS conduit/fusion transactions generally limit a borrower's ability to prepay a loan before maturity. Defeasance allows a borrower to substitute the real estate collateral securing a mortgage loan with a portfolio of US government securities sufficient to satisfy all debt service payments, including the balloon payment upon maturity. The mortgage loan remains in the trust and the certificate holders receive an uninterrupted Aaa payment stream from the defeased mortgage loan. The real estate that originally served as collateral for the loan is released, allowing the borrower to refinance or to sell a property unencumbered by debt.

Defeasance in 2015

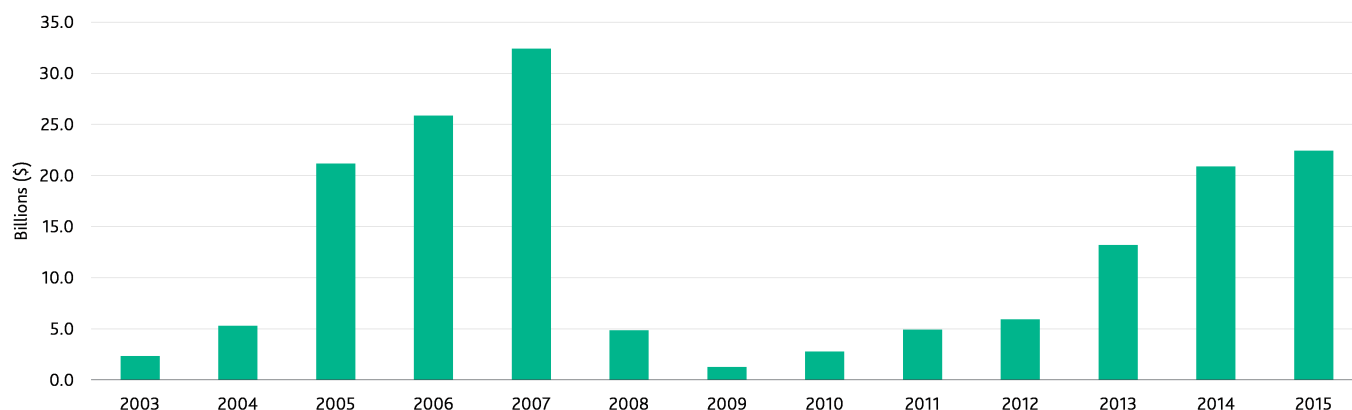
In 2015, defeasance activity increased 7% to \$22.4 billion from \$20.9 billion in 2014 and 70% from \$13.2 billion in 2013. By number of loans, 2015 defeasance activity increased 3% to 1,309 loans from 1,275 in 2014 and 888 in 2013.² The average defeased loan size has steadily increased, reaching \$17.1 million in 2015 compared to \$16.4 million in 2014 and \$14.9 million in 2013. The current average defeased loan size represents the highest average since 2005.

Even with the increased defeasance activity in recent years, defeasance totals remain below peak levels reached in 2007 at \$32.4 billion, as Exhibit 1 shows. Activity in 2015 exceeded 2005 levels at \$21.2 billion but were below 2006 levels at \$25.9 billion. Ongoing increases in defeasance activity over the past few years are because of several factors, including strong liquidity in the CRE debt and equity markets, continuing improvement in real estate fundamentals, borrower interest in locking in historically low interest rates prior to Federal Reserve rate increases and borrower preference to complete their refinancing ahead of the upcoming refinancing wave of loans securitized in 2005-07.

According to Trepp LLC (Trepp), \$192.7 billion of loans are due to mature in 2016-17. Many borrowers with loans originally scheduled to mature during this time period were able to defease and refinance frequently capitalizing on higher proceeds and lower interest rates.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Exhibit 1

Annual Defeasance 2003-2015

Sources: Moody's Investors Service, based on data from defeasance consultants

A competitive CMBS loan origination market, a large number of outstanding loans nearing maturity (the sweet spot for defeasance) and ongoing improvement in commercial real estate markets provide favorable conditions for defeasance. We expect that 2016 defeasance activity will remain strong, but potential increases in interest and/or capitalization rates, which are at historic lows, and sustained uncertainty in the conduit lending market due to spread volatility could impinge on refinancing and hence defeasance activity.

Defeasance by Property Type

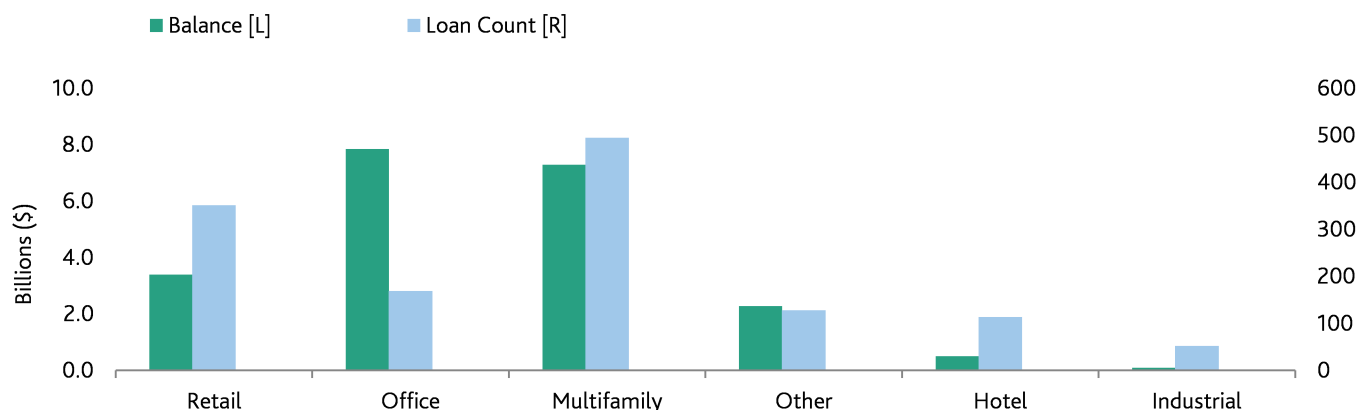
By balance, the largest shares of defeased loans were backed by office at 35%; multifamily at 33% and retail at 15%. Other property sectors reported lower defeasance figures by balance, with hotel at 10%; other at 5%; and industrial at 2%. Based on loan balance, all of the top 10 largest defeased loans in 2015 were office properties with eight out of the top 10 located in two major markets (six in New York and two in Boston) whereas in 2014 only six of the 10 largest defeased loans were office.

By loan count, the largest share of defeased loans were backed by multifamily at 38%, retail at 27% and office at 13% (fewer large balance office loans) with other at 10% and hotel at 9%.

Defeasance by balance by property type for 2015 and 2014 was similar with the office sector representing the largest share at 35% and 34%, respectively. In 2013, retail represented the largest share by balance, at 33%.

The increase in office loan defeasance activity, especially office loans in major central business district (CBD) markets, reflects two trends: ongoing improvement in the office sector and the shifting composition of 2006 vintage loans made up of larger office loans. Major market CBD office market prices are now 200.3% of their trough pricing during the Great Recession and 50.2% above their peak pricing prior to the Great Recession. ³

Exhibit 2

2015 Defeasance by Property Type

Source: Moody's Investors Service, based on data from defeasance consultants

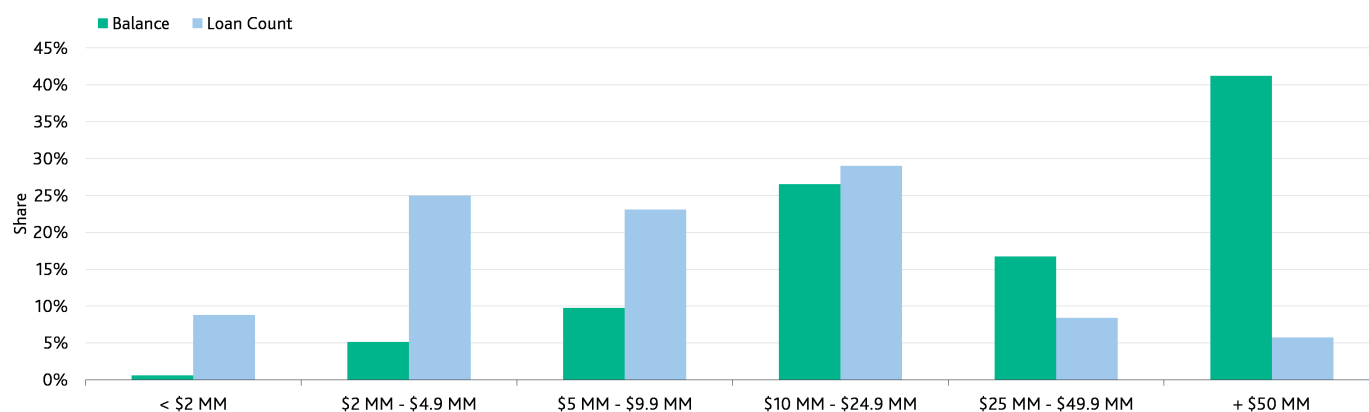
While there has been improvement in real estate fundamentals in major markets, individual property performance varies depending on the specific market and quality of the real estate. Aggregate major market prices exceed November 2007 pre-crisis peak levels by approximately 33%, while non-major market prices are only 2% above pre-crisis peak levels. ⁴

Defeasance by Loan Size

By loan size, approximately 34% of 2015 defeased loans had balances of less than \$5 million, compared with 39% of 2014 defeased loans. Loans of less than \$5 million constituted only 6% of 2015 aggregate defeasance volume, compared with 7% in 2014. Defeased 2015 loans of \$50 million or greater constituted 41% of aggregate defeasance volume, compared with 47% in 2014. Exhibit 3 shows the dispersion of defeased loans by balance and number of loans.

The average balance of defeased loans in 2015 was \$17.1 million, compared to \$16.5 million in 2014, which is slightly larger than the average loan balance of the CMBS universe—\$13.8 million according to Trepp—and up from 2013, when the average defeased loan balance was \$14.9 million.

Exhibit 3

2015 Defeasance by Loan Balance and Loan Count

Source: Moody's Investors Service, based on data from defeasance consultants

Exhibit 4 shows the 10 largest loans that defeased in 2015. These 10 loans constitute approximately 17% of overall 2015 defeasance volume, compared with the top 10, which made up 20% of total 2014 defeasance activity and 23% in 2013. The average loan size in 2015 was \$378 million, lower than \$409 million in 2014, yet larger than \$298 million in 2013. The aggregate balance of the 10 largest loans decreased by \$300 million to \$3.8 billion in 2015, compared with \$4 billion in 2014 and \$3 billion in 2013.

Exhibit 4

10 Largest Defeased Loans in 2015

Property Name	Location	Property Type	Vintage	Years to Maturity	Balance at Defeasance
11 Madison Ave	New York, NY	Office	2006	1	\$806,000,000
1211 Avenue of the Americas	New York, NY	Office	2006	1	\$675,000,000
John Hancock Tower & Garage at Clarendon	Boston, MA	Office	2007	1	\$640,500,000
590 Madison Avenue	New York, NY	Office	2007	1	\$350,000,000
Charles River Plaza North	Boston, MA	Office	2007	2	\$310,000,000
Selig Office Portfolio	Seattle, WA	Office	2005	<1	\$242,000,000
Galleria Towers	Dallas, TX	Office	2006	1	\$232,000,000
535 and 545 Fifth Avenue	New York, NY	Office	2006	1	\$177,000,000
525 Seventh Avenue	New York, NY	Office	2007	1	\$172,000,000
Tower 45	New York, NY	Office	2007	1	\$170,000,000
Total					\$3,774,500,000

Source: Moody's Investors Service, based on data from defeasance consultants

Top 10 Properties**11 Madison Avenue**

The largest loan to defease in 2015, representing 4% of total defeasance, was backed by 11 Madison Avenue, which overlooks Madison Square Park in New York City. Built in 1932, this 29-story, 2.3 million square foot (SF) office building was sold by a partnership of the Sapir Organization and CIM Group to SL Green in August 2015 for \$2.29 billion in one of the biggest single building real estate transactions ever in New York City. The building houses Credit Suisse Group AG's US headquarters and also boasts Sony and Yelp as major tenants.

This interest-only loan had a balance of \$806 million at defeasance and was securitized in CSMC 2006-C4. The loan was structured with a 10-year term maturing in September 2016 and a 5.75% coupon. The loan was defeased in August 2015.

Following defeasance, the property was refinanced with a \$1.075 billion first mortgage in August 2015, of which \$764.3 million was split among six *pari-passu* notes securitized in MAD 2015-11MD, MSBAM 2015-C26, COMM 2015-CR26, COMM 2015-CR27, COMM 2015-LC23 and MSBAM 2015-C26. Additionally there is \$310.7 million of subordinate secured debt and \$325 million of mezzanine debt. The \$150.0 million Mezzanine A Loan is coterminous with the first mortgage loan and accrues interest at a fixed annual rate of 4.650%. The \$175.0 million Mezzanine B Loan is also coterminous with the first mortgage loan and accrues interest at a fixed annual rate of 4.850%. The new \$1.075 billion first mortgage is interest-only for the full 10-year term, with a 3.56% coupon.

1211 Avenue of the Americas

The second largest loan to defease in 2015, representing 3% of total defeasance, was backed by 1211 Avenue of the Americas, also known as the News Corp building, in midtown Manhattan near Rockefeller Center. Built in 1973, this 45-story, 1.9 million SF office building is owned by a joint venture of Ivanhoe Cambridge, Callahan Capital and Beacon Capital. News Corp occupies a majority of the building.

This interest-only loan had a balance of \$675 million at defeasance and was split among two *pari-passu* notes securitized in LBUBS 2006-C6 and LBUBS 2006-C7. The loan was structured with a 10-year term maturing in September 2016 and a 6.4% coupon. The loan was defeased in July 2015.

Following defeasance, in July 2015 the property was refinanced with a \$1.035 billion mortgage, which was then securitized in the single-asset AOTA 2015-1211 transaction. The new mortgage is interest-only for the entire 10-year term, with a 4.15% coupon.

100 & 200 Clarendon (former John Hancock Tower & Garage at Clarendon)

The third largest loan to defease in 2015, representing 3% of total defeasance, was backed by 100 & 200 Clarendon Street (formerly known as the John Hancock Tower & Garage at Clarendon) in the Back Bay neighborhood of Boston, Massachusetts. This IM Pei-designed building was built in 1971. The first building, 100 Clarendon, is an eight-level parking garage and the second, 200 Clarendon

(the former John Hancock Tower), is a 62-story, 1.7 million SF office building that is the tallest office building in Boston. Property owner Boston Properties changed the building's name after John Hancock Insurance departed in March 2015, upon lease expiration.

This interest-only loan had a balance of \$640.5 million at defeasance and was securitized in GCCFC 2007-GG9. The loan was structured with a 10-year term maturing in January 2017 and a 5.58% coupon. The loan was defeased in August 2014. To date, Boston Properties has not refinanced 100 & 200 Clarendon.

590 Madison Avenue

The fourth largest loan to defease in 2015 was backed by 590 Madison Avenue in the Plaza District of Manhattan. Built in 1983, this 43-story, 1.0 million SF office building is owned by the State Teachers Retirement System of Ohio.

This interest-only loan had a balance of \$350 million at defeasance and was securitized in GCCFC 2007-GG9. The loan was structured with a 10-year term maturing in February 2017 and a 5.44% coupon. The loan was defeased in July 2015.

Following defeasance, the property was refinanced with a \$650 million first mortgage in August 2015, of which \$369.4 million was split among three *pari-passu* notes securitized in GSMS 2015-590 M, GSMS 2015-GS1 and CGCMT 2015-GC35. In addition, there is \$280.6 million of subordinate secured debt held in GSMS 2015-590M. The new mortgage is interest-only for the full 10-year term, with a 3.82% coupon.

Charles River Plaza North

The fifth largest loan to defease in 2015 was secured by an eight-story medical office condominium unit totaling 354,594 SF that is part of Charles River Plaza, a 640,000 SF mixed-use complex located in Boston, Massachusetts. The property is situated at the junction of Beacon Hill and the West End of Boston, which offers numerous shopping, dining, and entertainment opportunities. The property was 100% leased at the time of sale. Sponsors are Jonathan G. Davis and Paul R. Marcus.

This interest-only loan had a balance of \$310 million at defeasance and was securitized in Cobalt 2007-C3 and CD 2007-CD5. The loan was structured with a 10-year term maturing in July 2037 and a 6.25% coupon. The loan was defeased in July 2015.

Following defeasance, the property was refinanced with a \$245 million first mortgage in August 2015, of which \$210.8 was split among three *pari-passu* notes securitized in CSAIL 2015-C3, MSC 2015-UBS8, and BACM 2015-UBS7. Additionally there is \$134 million of subordinate debt. The new mortgage is amortizing on a 26-year amortization schedule over a 10-year term with a 4.19% coupon.

Selig Office Portfolio

The sixth-largest loan to defease in 2015 was backed by the Selig Office Portfolio, which consisted of nine cross-collateralized, cross-defaulted office properties containing 1.6 million SF of aggregate net rentable area, all located in Seattle, Washington. The average occupancy rate across the collateral was 92.4%. The portfolio's largest building (27.5% of NRA), 1000 Second Avenue, is located in Seattle's Financial District. The remaining eight buildings are located in Seattle's Lower Queen Anne/Lake Union and Denny Regrade Districts. The buildings were constructed between 1971 and 1986 and have been selectively upgraded as needed. The sponsor is Martin Selig.

This interest-only loan had a balance of \$242 million at defeasance and was securitized in JPMCC 2005-LDP5. The loan was structured with a 10-year term maturing in 2016 and a 5.77% coupon. The loan was defeased in March 2015.

Following defeasance, the property was refinanced with a \$345 million first mortgage in June 2015, and was split among four *pari-passu* notes securitized in GSMS 2015-GC30, CGCMT 2015-GC29, CGCMT 2015-GC31, and GSMS 2015-GC32. The new mortgage is interest-only for the full 10-year term with a 3.91% coupon.

Galleria Towers

The seventh largest loan to defease in 2015 was Galleria Towers in the Far North Dallas submarket, located approximately 10 miles north of the Dallas Central Business District. The loan was secured by three class A office buildings, containing a total of 1.4 million SF of net rentable area that were built in phases in 1982, 1985 and 1991. The Galleria Towers are connected to the 1.4 million SF Galleria Mall and the Westin Galleria Hotel. The properties were recently sold by California-based investor Cannon Commercial to CBRE Global Investors in September 2015. The total complex was 70% leased at sale and CBRE Global Investors reportedly is poised to launch a \$19 million capital improvement program at the towers.

This interest-only loan had a balance of \$232 million at defeasance and was securitized in JPMCC 2006-LDP9. The loan was structured with a 10-year term maturing in December 2016 and a 5.75% coupon. The loan was defeased in September 2015.

Following defeasance, the acquisition was financed with a \$167.6 million first mortgage loan originated in September 2015. This loan was not securitized.

535 and 545 Fifth Avenue

The eighth largest loan to defease in 2015 was secured by 535-545 Fifth Avenue, which is situated within Manhattan's Grand Central office submarket along Fifth Avenue, spanning the entire block from East 44th Street to East 45th Street. The loan was secured by two adjacent Class B office and retail buildings that are 36 and 14 stories tall, respectively. Built in 1927 and 1898, these buildings operate as a single property. The property's leasable area consists of 415,440 SF of office and retail space, 22% of which (or 91,247 SF) is composed of street-level, below-grade and second floor retail space that the borrower is currently redeveloping into prime retail space at a budgeted cost of \$11.0 million. The sponsor is Joseph Moinian of the Moinian Group.

This interest-only loan had a balance of \$177 million at defeasance and was securitized in CSMC 2006-C3. The loan was structured with a 10-year term maturing in May 2016 and a 5.77% coupon. The loan was defeased in February 2015.

Following defeasance, the property was refinanced with a \$310 million first mortgage in February 2015. The loan was split among three *pari-passu* notes securitized in MSBAM 2015-C24, MSBAM-C26 and MSBAM 2015-C27. The new mortgage is interest-only for the full 10-year term, with a 3.86% coupon rate.

525 Seventh Avenue

The ninth largest loan to defease in 2015 was backed by 525 Seventh Avenue in the Garment District of Manhattan. Built in 1925, this 24-story, 500,000 SF office building is owned by Samuel W. Rosenblatt and MSGT.

This interest-only loan had a balance of \$172 million at defeasance and was securitized in MSC 2007-HQ11. The loan was structured with a 10-year term maturing in February 2017 and a 5.54% coupon. The loan was defeased in October 2015.

Following defeasance, the property was refinanced with a \$176.0 million first mortgage in October 2015, which was then split among *pari-passu* notes, of which \$70 million was allocated to MSC 2015-UBS8. It is not currently known in which deal(s) the remaining \$106 million will be securitized. The new mortgage is interest-only for the first five years of the 10-year term, with a 4.12% coupon.

Tower 45

The tenth largest loan to defease in 2015 was backed by Tower 45, a 443,956 SF Class A office tower located at 120 West 45th Street in the Grand Central office submarket of Manhattan. This 40-story office building includes a parking garage and ground floor retail space occupied by Bobby Van's Steakhouse. The property was built in 1989, was renovated in 2011 and was 100% leased at the time of sale. The loan's sponsor was SL Green Realty Corp., which is a publicly traded REIT that owns more than 35 million SF of office space. The property was recently sold to Kamber Management for \$365 million in July 2015.

This interest-only loan had a balance of \$170 million at defeasance and was securitized in MLCFC 2007-5. The loan was structured with a 10-year term maturing in February 2017 and a 6.12% coupon. The loan was defeased in September 2015. Following defeasance, the acquisition was financed with a \$365 million first mortgage loan. This loan was not securitized.

Defeasance by Years to Maturity

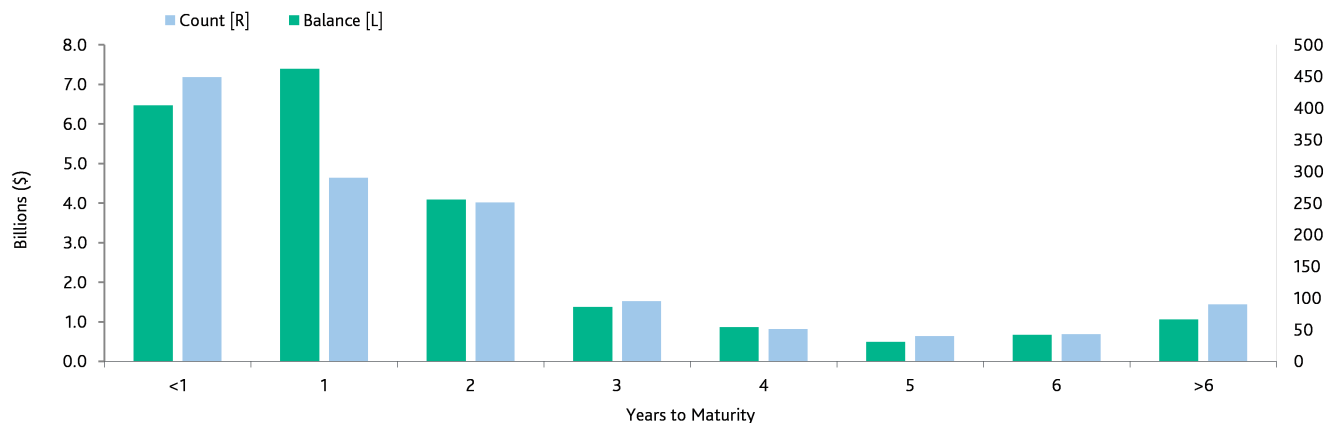
As Exhibit 5 shows, in 2015, loans having a remaining term of one year or less represented the largest share of defeasance, at 62%. We expected this result given the large number of 2005-07 loans with near-term maturities, the relative low cost of short-term defeasance and borrowers' desire to take advantage of current favorable financing and sales markets. A number of loans were defeased even though they were within a few months of their open or prepayment period because borrowers wanted either to lock in favorable refinancing or to accommodate property sales or portfolio repositioning.

What is surprising, however, is the increase in defeasance of loans with longer terms to maturity. Defeasance of loans with five years or more to maturity increased to 10% of 2015 defeasance compared to 5% in 2014 and 1% in 2013. These increases suggest that financing and property markets continued to improve to such an extent that defeasance was still an attractive option from a cost

perspective even if yield maintenance or prepayment penalties were involved and the loan had an extended period of time before maturity.

Exhibit 5

2015 Defeased Loans by Years to Maturity



Source: Moody's Investors Service, based on data from defeasance consultants

Defeasance by Vintage

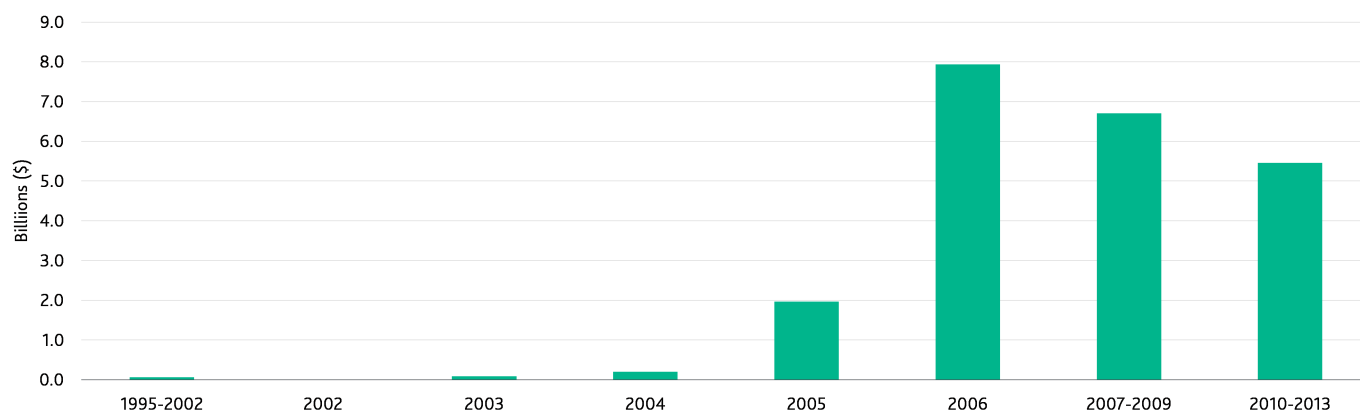
Because of REMIC rules, defeasance cannot occur until after the second anniversary of the closing date of a typical CMBS transaction. Thus there has been no defeasance in any of the deals securitized in 2014 and 2015.

Most of the loans that defeased in 2015 were originated between 2005-07, accounting for approximately 73% of total defeasance for the year, as Exhibit 6 shows. These loans had shorter periods to maturity, and in many cases in-place interest rates were higher than current interest rates. In addition, many of the properties backing these loans had experienced price appreciation since securitization owing to cap rate compression primarily and, in some cases, NOI growth. [5](#)

One of the highlights in 2015 was the increase in the share of defeasance in deals with loans that were newly eligible for defeasance. In 2015, loans in deals that were securitized in 2012-13 (newly eligible vintages) totaled 12%, compared to 9% of loans in deals that were securitized in 2011-12 in 2014.

More than 33% of loans that defeased in 2015 were backed by multifamily properties, showing the health of the multifamily market. According to the most recent Moody's RCA/CPPI report, prices in the multifamily market appreciated 11.5% in for the most recent 12 months ending February 2016, exceeding its pre-crisis peak by 39.1%. In addition, multifamily benefits from the prevalence of government-sponsored enterprise (GSE) debt.

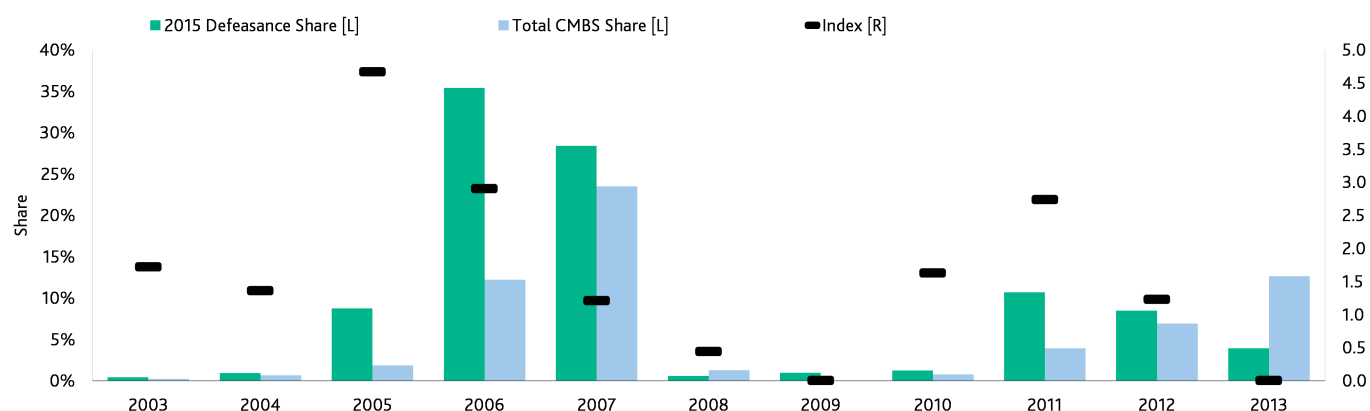
Exhibit 6

2015 Defeasance by Vintage

Source: Moody's Investors Service, based on data from defeasance consultants

Exhibit 7 indexes 2015 defeasance by comparing the share of defeasance from a particular vintage to that same vintage's share of the entire CMBS universe. For example, loans originated in 2006 constituted the largest share of 2015 defeasance, 35%, even though the 2006 vintage constituted only 12% of the CMBS universe as of year-end 2015. Thus, the index for 2006 vintage contributions to 2015 defeasance is 2.9 (35%/12%). At 4.7, the 2003-07 and 2010-12 vintages had index values well above one with 2005, while the 2008-09 and 2011-12 vintages had index values of less than one.

Exhibit 7

2015 Defeasance Indexed to CMBS Universe, by Vintage

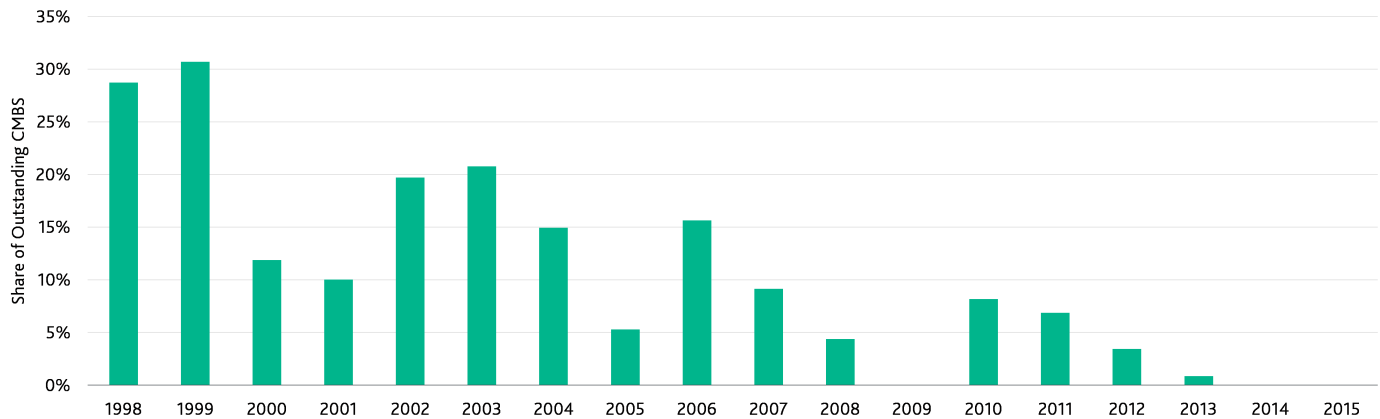
Source: Moody's Investors Service, based on data from defeasance consultants

Impact of Defeasance on CMBS Credit

Defeasance remains an important factor in CMBS credit because substituting Aaa-rated US government securities for real estate collateral of lower credit quality dramatically reduces the risk of loss. However, the amount of defeasance, and hence the benefit to CMBS credit, varies significantly by deal.

On a cumulative basis, defeasance represents a minimal share of the 2007-12 vintages. Exhibit 8 shows cumulative defeasance by vintage. The vintages with the largest shares (10% or greater) are 1998-2004 and 2006. Years 2005, 2007 and 2010-11 all had cumulative defeasance shares of between 5%-9%.

Exhibit 8

Cumulative Defeasance by Vintage

Source: Moody's Investors Service, based on data from defeasance consultants

Although early vintage deals may contain a significant share of defeased loans, the positive impact of defeasance can be offset by the poor credit quality of remaining loans in the pool as adverse selection plays out over time. In seasoned deals, CMBS bonds that are fully covered by defeased loans may not be rated Aaa (sf) because of the timing of anticipated loan payoffs, credit concerns regarding other loans in the pool or realized losses, including interest shortfalls experienced by the bonds.⁶

Moody's Related Research

Below are links to publications from Moody's related to the indices and underlying trends

- » [Moody's/RCA CPPI - Office and Industrial Prices Soften Driving Second Consecutive Decline in National All-Property Index](#)
- » [Conduit Collateral NOI Trends Align with Price Indices and Credit Performance](#)
- » [US CMBS: Defeasance Continues to Surge Fueled by Increased CRE Liquidity](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

- [1](#) Moody's/RCA CPPI - Office and Industrial Prices Soften Driving Second Consecutive Decline in National All-Property Index 5 April 2016
- [2](#) AST Defeasance, Chatham Financial, Defeasance Holding Company, Waterstone Defeasance and Wells Fargo Commercial Mortgage Servicing provided data for this study.
- [3](#) Moody's/RCA CPPI - Office and Industrial Prices Soften Driving Second Consecutive Decline in National All-Property Index 5 April 2016
- [4](#) Moody's/RCA CPPI - Office and Industrial Prices Soften Driving Second Consecutive Decline in National All-Property Index 5 April 2016
- [5](#) Conduit Collateral NOI Trends Align with Price Indices and Credit Performance 18 December 2015
- [6](#) Interest shortfalls occur when the interest available is insufficient to pay 100% of the interest due on all the certificates. Interest shortfalls are due to special servicing fees, including workout and liquidation fees, appraisal subordinate entitlement reductions (ASERs), loan modifications, extraordinary trust expenses and non-advancing by the master servicer based on a determination of non-recoverability.

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