

CCRESG Commercial Mortgage Trust 2016-HEAT Rating Report (Non-NRSRO Rating)

Tranche Name	EJR Rating*
A	AA(sf)
B	A+(sf)
C	A-(sf)
D	BBB(sf)
E	BB+(sf)
F	BB-(sf)
X	NR(sf)
R	NR(sf)

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Prepared on Dec 31, 2020
 *Non-NRSRO Rating

Rating Summary

TRANCHES	BALANCE (\$M)	OTHER NRSROs*	EJR RATING (NON-NRSRO)**	CE	LOAN-TO-VALUE (LTV) %		
					BASE	OPTIMISTIC	PESSIMISTIC
A	51.10	AAA	AA(sf)	68.06	-85.25	-71.19	-103.34
B	19.30	AA-	A+(sf)	56.00	-117.44	-98.07	-142.36
C	14.30	A-	A-(sf)	47.06	-141.31	-117.99	-171.28
D	18.90	BBB-	BBB(sf)	35.25	-172.83	-144.31	-209.49
E	29.80	B+	BB+(sf)	16.63	-222.53	-185.81	-269.73
F	26.60	CCC	BB-(sf)	0.00	-266.92	-222.88	-323.53
X	103.60	BBB-	NR(sf)	0.00			
R	0.00		NR(sf)	0.00			

* Rating of other NRSROs translated to EJR's rating scale; we use the median rating, and for only two ratings, the lower rating.

** EJR rates the items as a Non-NRSRO. Ratings are based on Base case assumptions.

Transaction Summary

The transaction closed on Apr 28 2016 and matures in Apr 2021. The pool's current aggregate principal balance is \$160.0 million compared to \$160.0 million at close.

The single asset of the pool is secured by Ritz-Carlton South Beach located in Miami-Miami Beach-Kendall, FL metropolitan area. Occupancy at the subject was 63%.

Quantitative Analysis

Key Credit Metrics

CLOSING DATE	Apr 28 2016
WAC / NWAC	5.5088 / 5.4882
WAM / WALA	6 / 54
# Loans / Properties	1 / 1
Wtd Avg Orig / Appraisal LTV	47.35 / 47.35
Wtd Avg UW / Curr NOI Debt Yield	12.00% / -8.28%
Wtd Avg UW / Curr NCF DSCR	1.74 / -1.88
% Occupancy	63.00
% RemTerm <= 6mos	200.00

The weighted average coupon (WAC) and the weighted average age (WALA) were 5.51% and 54 months as of 10/10/2020, respectively. There are a total of 1 loans and 1 properties in the portfolio. The appraisal LTV was approximately 47.4% compared to the Original loan to value (LTV), which was approximately 47.4%. The most recent weighted average Debt Service Coverage Ratio (DSCR) was -1.88x. As of 10/10/2020, 200.00% of loans had a remaining term of less than 6 months. Weighted average occupancy was approximately 63%.

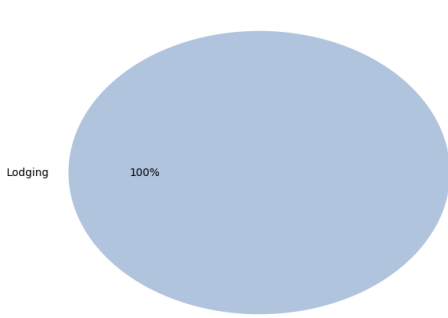
(Data Source: INTExcalc)

Portfolio Characteristics

Property Type

Property Type	Assets	Balance (\$M)	Bal %	Gross Coupon %	Curr Amort LTV %	Remaining Term (mos.)	Age (mos.)	DSCR (x)
Lodging	1.00	160.00	100.00	5.51	47.35	6.00	54.00	-1.48

Type Concentration



The single asset in the pool is used for lodging with the outstanding amount of \$160M.

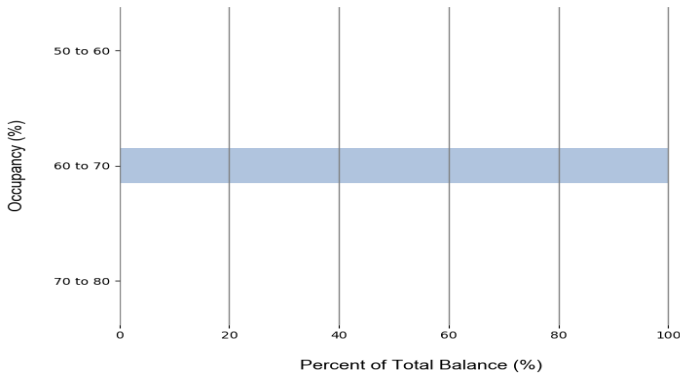
Defeasance Status

Defeasance Status	Assets	Balance (\$M)	Bal %	Gross Coupon %	Curr Amort LTV %	Remaining Term (mos.)	Age (mos.)	DSCR (x)
No Defeasance Occurred	1	160.00	100.00	5.51	47.35	6.00	54.00	-1.48

Occupancy % (by property)

Occupancy (%)	Assets	Balance (\$M)	Bal %	Gross Coupon %	Curr Amort LTV %	Remaining Term (mos.)	Age (mos.)	DSCR (x)
50 to 60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60 to 70	1.00	160.00	100.00	5.51	47.35	6.00	54.00	-1.48
70 to 80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Occupancy Distribution (%)

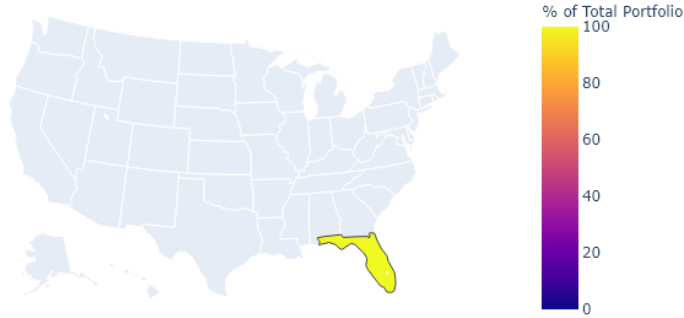


Occupancy of the portfolio ranged from 60% and 70%.

Region (by property)

Region	Assets	Balance (\$M)	Bal %	Gross Coupon %	Curr Amort LTV %	Remaining Term (mos.)	Age (mos.)	DSCR (x)
South / Atlantic	1.00	160.00	100.00	5.51	47.35	6.00	54.00	-1.48

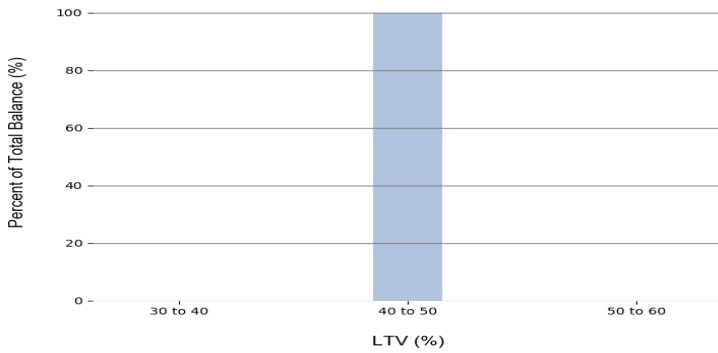
Local Distribution



The single asset in the pool is the state of Florida with the outstanding amount of \$160M.

Loan to Value (LTV)

LTV Distribution (%)



Among all the assets in the portfolio, 100% of total balance had LTVs between 40% and 50%.

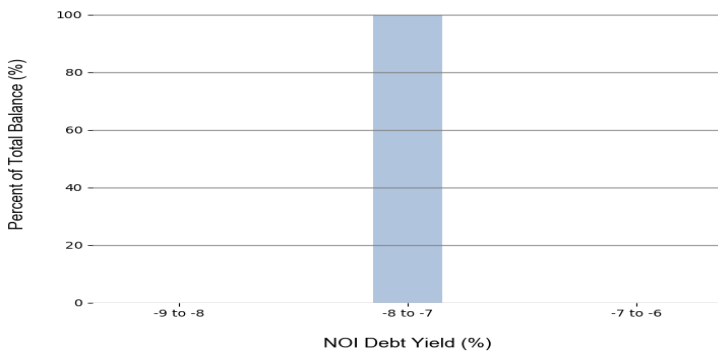
Amortization

Is Balloon	Assets	Balance (\$M)	Bal %	Gross Coupon %	Curr Amort LTV %	Remaining Term (mos.)	Age (mos.)	DSCR (x)
Balloon	1	160.00	100.00	5.51	47.35	6.00	54.00	-1.48

NOI Debt Yield

NOI Debt Yield (%)	Assets	Balance (\$M)	Bal %	Gross Coupon %	Curr Amort LTV %	Remaining Term (mos.)	Age (mos.)	DSCR (x)
-9 to -8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-8 to -7	1.00	160.00	100.00	5.51	47.35	6.00	54.00	-1.48
-7 to -6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

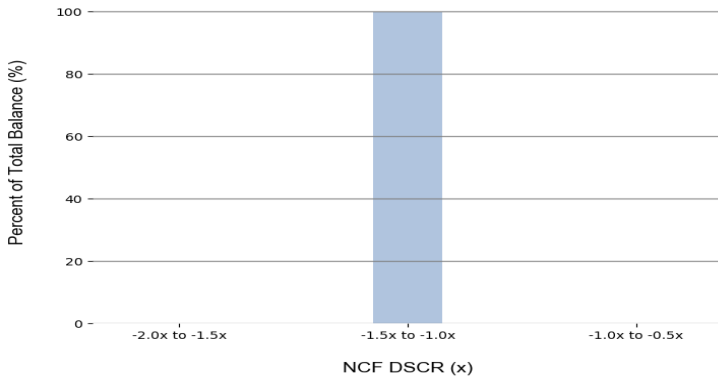
NOI Debt Yield (%)



There was one single asset in the pool with the most recent net operating income debt yield (NOI Debt Yield) of -8.3%.

NCF DSCR

Net Cash Flow DSCR (x)

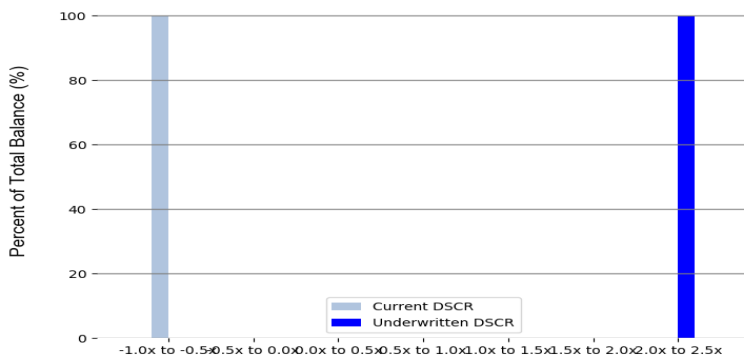


There was one single asset in the pool with the most recent net cash flow debt service coverage ratios (NCF DSCR) of -1.9x.

DSCR (Current / Underwritten)

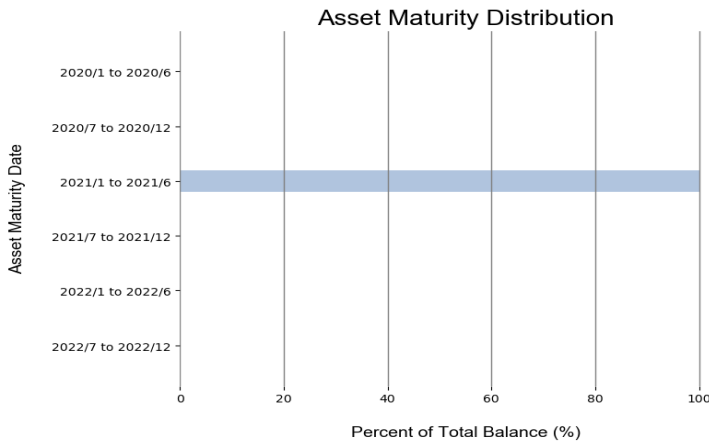
Current DSCR				Underwritten DSCR			
DSCR (x)	Assets	Balance (\$M)	Bal %	DSCR (x)	Assets	Balance (\$M)	Bal %
-1.0x to -0.5x	1.00	160.00	100.00	-1.0x to -0.5x	0.00	0.00	0.00
-0.5x to 0.0x	0.00	0.00	0.00	-0.5x to 0.0x	0.00	0.00	0.00
0.0x to 0.5x	0.00	0.00	0.00	0.0x to 0.5x	0.00	0.00	0.00
0.5x to 1.0x	0.00	0.00	0.00	0.5x to 1.0x	0.00	0.00	0.00
1.0x to 1.5x	0.00	0.00	0.00	1.0x to 1.5x	0.00	0.00	0.00
1.5x to 2.0x	0.00	0.00	0.00	1.5x to 2.0x	0.00	0.00	0.00
2.0x to 2.5x	0.00	0.00	0.00	2.0x to 2.5x	1.00	160.00	100.00

DSCR Distribution (x)



There is one single asset in the pool with the most recent DSCR of -1.48x.

Maturity



There is one single asset in the pool with the maturity date in April 2021.

Sensitivity Analysis

Summary

EJR used the capitalization rates ("cap rates") listed below for the different types of the properties and then calculated the value of the properties in the portfolio by considering the most recent NCF and the various cap rates.

Cap Rate Assumption

Type	OPTIMISTIC CASE	PESSIMISTIC CASE	Base Case
Lodging	7.75	8.75	8.25

EJR's Key Rating Features & Differences Compared With Other NRSROs

Below is a summary of EJ's approach (see our Methodology for rating Commercial Mortgage Backed Securities (CMBS) (Non-NRSRO) for more complete description):

1. Our ratings are derived from Loan to Value estimates (LTVs) and calculated Estimated Losses (ELs). The ELs are then compared to our EL matrices to derive the implied ratings.
2. To reflect the current bearish credit conditions, we have discounted reported pool assets' Net Cashflow (NCF) by 20% for the Base Case.
3. EJ's analysis is conducted using information and cash flow engines supplied by a recognized industry service provider.
4. Subject to economic conditions, EJ may cap its highest rating at "AA" and apply an additional downgrade of up to two notches for each tranche.

SEC Rule 17g-7(a) Disclosure

Below are the disclosures as required by Paragraph (a) of Rule 17g-7.

1. The symbol in the rating scale used to denote the credit rating categories and notches within categories and the identity of the obligor, security, or money market instrument as required by Paragraph (a)(1)(ii)(A) of Rule 17g-7:

There are three notches in each of EJR's rating categories (e.g., A-(sf), A(sf) and A+(sf) for category A(sf)) except for AAA(sf), CC(sf), C(sf) and D(sf).

2. The version of the procedure or methodology used to determine the credit rating as required by Paragraph (a)(1)(ii)(B) of Rule 17g-7:

We are using the Methodology for Rating Commercial Mortgage Backed Securities (CMBS) (Non-NRSRO) v1a and General Methodology for Rating Asset Backed and Structured Finance Obligations (Non-NRSRO) v1.

3. The main assumptions and principles used in constructing the procedures and methodologies used to determine the credit rating as required by Paragraph (a)(1)(ii)(C) of Rule 17g-7:

The credit rating assigned reflects EJR's judgement regarding the future credit quality of the issue. The major assumptions used to construct the methodologies include:

- 1). Past data reflects the performance and credit worthiness of the pooled assets and is useful for analysis.
- 2). Financial and credit information that EJR gets from the issuer or the third party is reliable and accurate.
- 3). The economy and regulation policies will remain stable in the foreseeable future.

Specific quantitative assumptions used in this credit analysis applied to the collateral assets, which include Loan-to-Value analysis and Cash flow analysis.

Asset diversification is not considered in this report.

4. The potential limitations of the credit rating as required by Paragraph (a)(1)(ii)(D) of Rule 17g-7:

EJR's rating pertains solely to EJR's view of current and prospective credit quality. EJR's rating does not address pricing, liquidity or other risks associated with holding investments in the issuer. EJR ratings:

- 1). Are not intended to address the value, price, price stability, liquidity, suitability, or merit of an investment.
- 2). Do not address whether a particular rated security is suitable for a particular investor or suitable for an investor's risk tolerance.
- 3). Do not address whether the expected return of a particular investment is adequate for the inherent risk.
- 4). Do not address whether the market value of the security will remain stable over time.
- 5). Are not exact measures of the probability of default but are instead expressions of the relative credit risk of issuers and debt instruments.
- 6). Are not recommendations to buy, sell or hold any security.

5. Information on the uncertainty of the credit rating as required by Paragraph (a)(1)(ii)(E) of Rule 17g-7:

EJR's rating is dependent on numerous factors including the reliability, accuracy, and quality of the data used in determining the credit rating. The data is sourced from issuers' publicly disclosed reports, or from third-party data vendors. For solicited rating reports, EJR may also use the information provided by the client. In some cases, the information is limited because of issues such as the lack of reported data. Such shortcomings are not always readily apparent. EJR aims to identify such shortcomings and make adjustments using its best judgement.

6. Whether and to what extent third-party due diligence services have been used in taking the rating action as required by Paragraph (a)(1)(ii)(F) of Rule 17g-7:

EJR does not utilize third-party due diligence services.

7. How servicer or remittance reports were used, and with what frequency, to conduct surveillance of the credit rating as required by Paragraph (a)(1)(ii)(G) of Rule 17g-7:

EJR did not conduct surveillance of this rating.

8. A description of the data that were relied upon for the purpose of determining the credit rating as required by Paragraph (a)(1)(ii)(H) of Rule 17g-7:

EJR uses a third-party data vendor to obtain essential data for ratings on this ABS product.

9. A statement containing an overall assessment of the quality of information available and considered in the credit rating as required by Paragraph (a)(1)(ii)(I) of Rule 17g-7:

The information used in this analysis is generally of high quality.

10. Information relating to conflicts of interest as required by Paragraph (a)(1)(ii)(J) of Rule 17g-7:

This rating is unsolicited.

11. An explanation or measure of the potential volatility of the credit rating as required by Paragraph (a)(1)(ii)(K) of Rule 17g-7:

EJR's rating aims to assess the possible loss of investing in the obligations. Factors which affect such projection, and in turn EJRs rating, include changes in the credit worthiness of the collateral assets, changes in the correlation between them, and overall economic changes.

12. Information on the content of the credit rating as required by Paragraph (a)(1)(ii)(L) of Rule 17g-7:

Regarding the historical performance of the credit rating, our rating transition matrix is available in our Form NRSRO, Exhibit 1.

13. Information on the sensitivity of the credit rating to assumptions as required by Paragraph (a)(1)(ii)(M) of Rule 17g-7:

See the section in the report entitled "Rating Summary".

14. If the credit rating is assigned to an asset-backed security, a description of: (i) the representations, warranties, and enforcement mechanisms available to investors; and (ii) how they differ from the representations, warranties, and enforcement mechanisms in issuances of similar securities, as required by Paragraph (a)(1)(ii)(N) of Rule 17g-7:

Such information in this analysis is non-public. Hence EJRs has determined that this disclosure doesn't apply to this report.

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- 1) No part of the credit rating was influenced by any other business activities,
- 2) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated, and
- 3) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.

Analyst Signature:

Steve Zhang

STEVE ZHANG
Rating Analyst
Date Prepared
2020-12-31

Reviewer Signature:

Kevin Zhang

KEVIN ZHANG
Rating Analyst
Date Prepared
2020-12-31

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Appendix I

Smoothing Calculation

Base Case PD : assuming LTV > 100% as Default (D)	
Avg NCF * 80%	
Property Value (\$M)	-60M
LTV	-266.92%

TRANCHES	LTV %	Est. LTV implied Rtg	Cash Flow Loss %	Smoothed (Adj for Est. Loss)	Smoothed for Cashflow Est, Loss
A	-85.25	AAA	0.00	AA	AA
B	-117.44	AAA	0.00	A+	A+
C	-141.31	AAA	0.00	A-	A-
D	-172.83	AAA	0.00	BBB	BBB
E	-222.53	AAA	0.00	BB+	BB+
F	-266.92	AAA	0.13	BB-	BB-