To: Industry and Interested Persons

From: NAIC, Structured Securities Group

Re: Macroeconomic Scenarios and Probability Weightings to be used for the Year End 2017 Annual Surveillance of Insurer Owned RMBS and CMBS

Date: 10/13/2017

This document contains the macroeconomic scenarios and probability weightings that the NAIC Structured Securities Group (SSG) will use in the 2017 Annual Surveillance of insurer owned RMBS/CMBS.

BlackRock Solutions will model the securities under four scenarios: Optimistic, Baseline, Conservative, and Most Conservative, with applicable weightings. The final losses will be a probability-weighted average of valuations across all scenarios. The descriptions of these scenarios and weightings are summarized in the tables and charts in **Appendix - A** for RMBS and **Appendix - B** for CMBS.

Please note that these 2017 scenarios were not used to generate our recent mid-year refresh breakpoints. Instead, the mid-year breakpoint values were based on the 2016 scenarios, which were rolled forward.

It is also worth noting that, the implementation of enhancements made to the BlackRock Solutions CMBS Credit Model[1], along with the updated macroeconomic assumptions, is taking place for NAIC's financial modeling in 2017. The SSG presented BlackRock Solutions Enhancements to Commercial Mortgage-Backed Securities (CMBS) Model at the NAIC Summer 2017 National Meeting and produced mid-year breakpoint values utilizing the enhanced CMBS model. Each company who reported CMBS securities in their 2016 annual statement has been provided with access to the re-modeled CMBS data[2] for its portfolio (reported at year-end 2016) in AVS+ (STS).

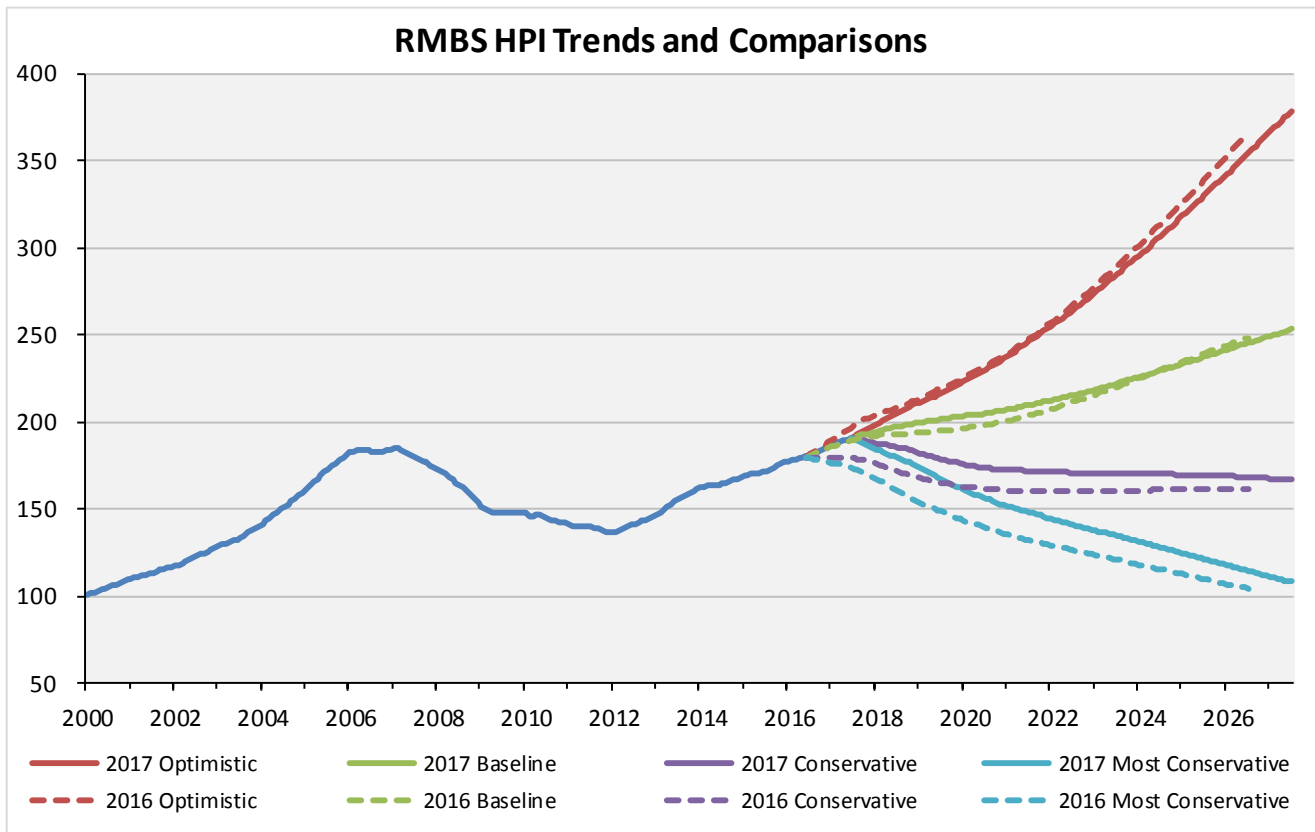Please visit the Structured Securities Group and Structured Securities Reporting webpage for additional information.

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[1] BlackRock Solutions CMBS Methodology is available on the Structured Securities Reporting webpage.
[2] The link to download the re-modeled CMBS data became available in AVS+ (STS) on September 11, 2017 and will remain available until Nov. 1, 2017.

Appendix - A

RMBS: Comparison of Scenarios

RMBS Scenario	Probability	Current to Trough	Time of Trough	3-Year HPI Growth	5-Year HPI Growth
2017 Scenarios and Forecasts					
Optimistic	10%	N/A	N/A	20%	38%
Baseline	50%	N/A	N/A	7%	13%
Conservative	25%	-12%	Q1 2028	-9%	-10%
Most Conservative	15%	-45%	Q1 2029	-18%	-26%
2016 Scenarios and Forecasts					
Optimistic	10%	N/A	N/A	21%	37%
Baseline	50%	N/A	N/A	8%	13%
Conservative	25%	-11%	Q1 2022	-8%	-11%
Most Conservative	15%	-43%	Q1 2027	-17%	-26%

RMBS HPI Trends and Comparisons

Legend: 2017 Optimistic, 2017 Baseline, 2017 Conservative, 2017 Most Conservative, 2016 Optimistic, 2016 Baseline, 2016 Conservative, 2016 Most Conservative

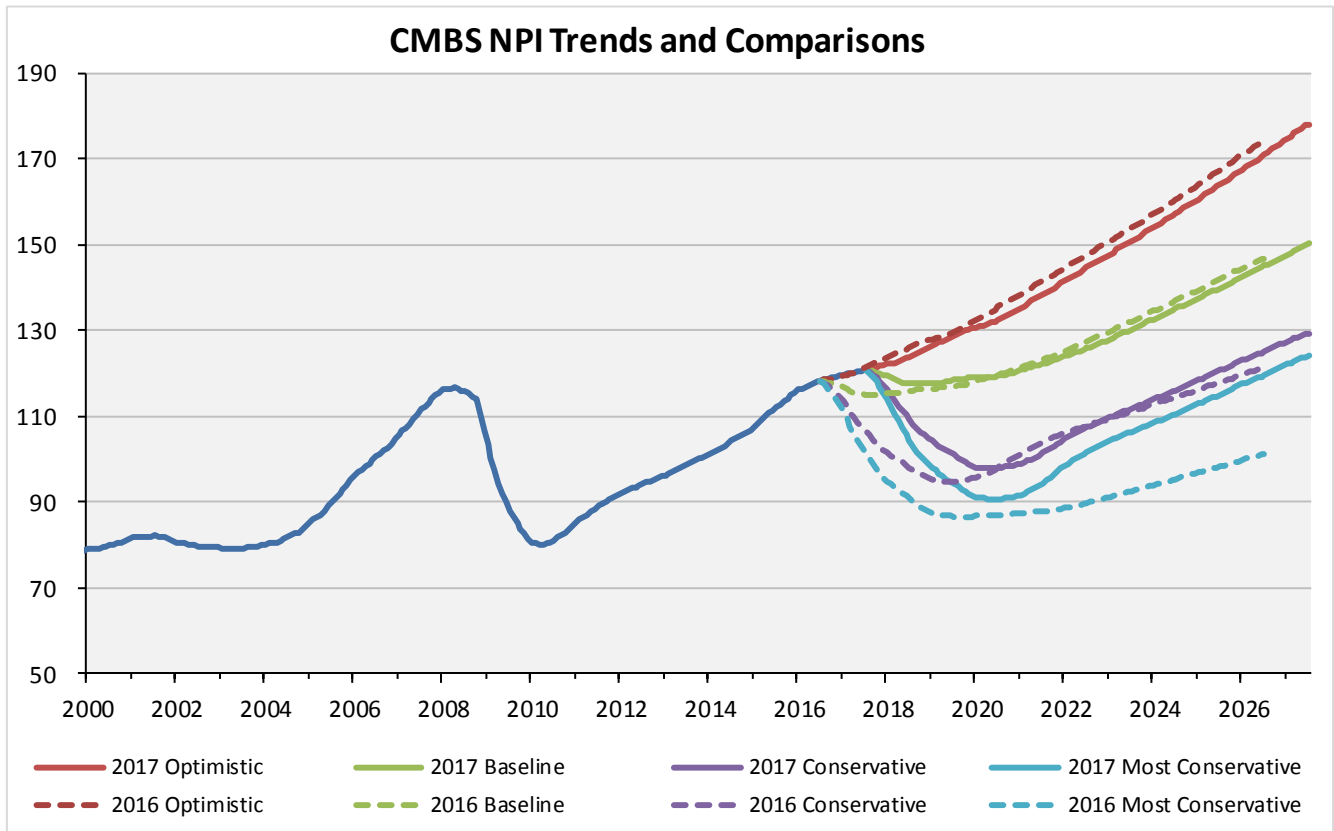*Source: Case-Shiller and BlackRock Solutions*   *National HPI (Indexed 2000M1 = 100)*

Appendix - B

CMBS: Comparison of Scenarios

CMBS Scenario	Probability	Current to Trough	Time of Trough	3-Year NPI Growth	5-Year NPI Growth
2017 Scenarios and Forecasts					
Optimistic	10%	N/A	N/A	10%	20%
Baseline	55%	-3%	Q3 2018	-1%	4%
Conservative	25%	-19%	Q2 2020	-19%	-11%
Most Conservative	10%	-25%	Q3 2020	-25%	-16%
2016 Scenarios and Forecasts					
Optimistic	10%	N/A	N/A	10%	20%
Baseline	55%	-3%	Q3 2017	-1%	4%
Conservative	25%	-20%	Q3 2019	-20%	-12%
Most Conservative	10%	-27%	Q3 2019	-27%	-26%

CMBS NPI Trends and Comparisons

Legend: 2017 Optimistic, 2017 Baseline, 2017 Conservative, 2017 Most Conservative, 2016 Optimistic, 2016 Baseline, 2016 Conservative, 2016 Most Conservative

Source: NCREIF and BlackRock Solutions *NPI (Indexed 1990M1 = 100)*