

2019 NCSHA HFA Institute Ratings in MRB financings

Ratings are opinions of credit risk

Investors use ratings to make investment decisions

- » Communicate credit risk of bonds to investors in a consistent framework
- » Ratings reflect our opinion of:
 - Likelihood of a bond default
 - Expected financial loss suffered in the event of default
- » Our ratings are not:
 - Guarantees against losses
 - Recommendations to buy or sell
 - Indications of market value
 - Fixed; they may change over time

Moody's rating scale

- » Numerical modifiers assigned to each category
- » Securities rated Baa3 and above are considered “investment grade”

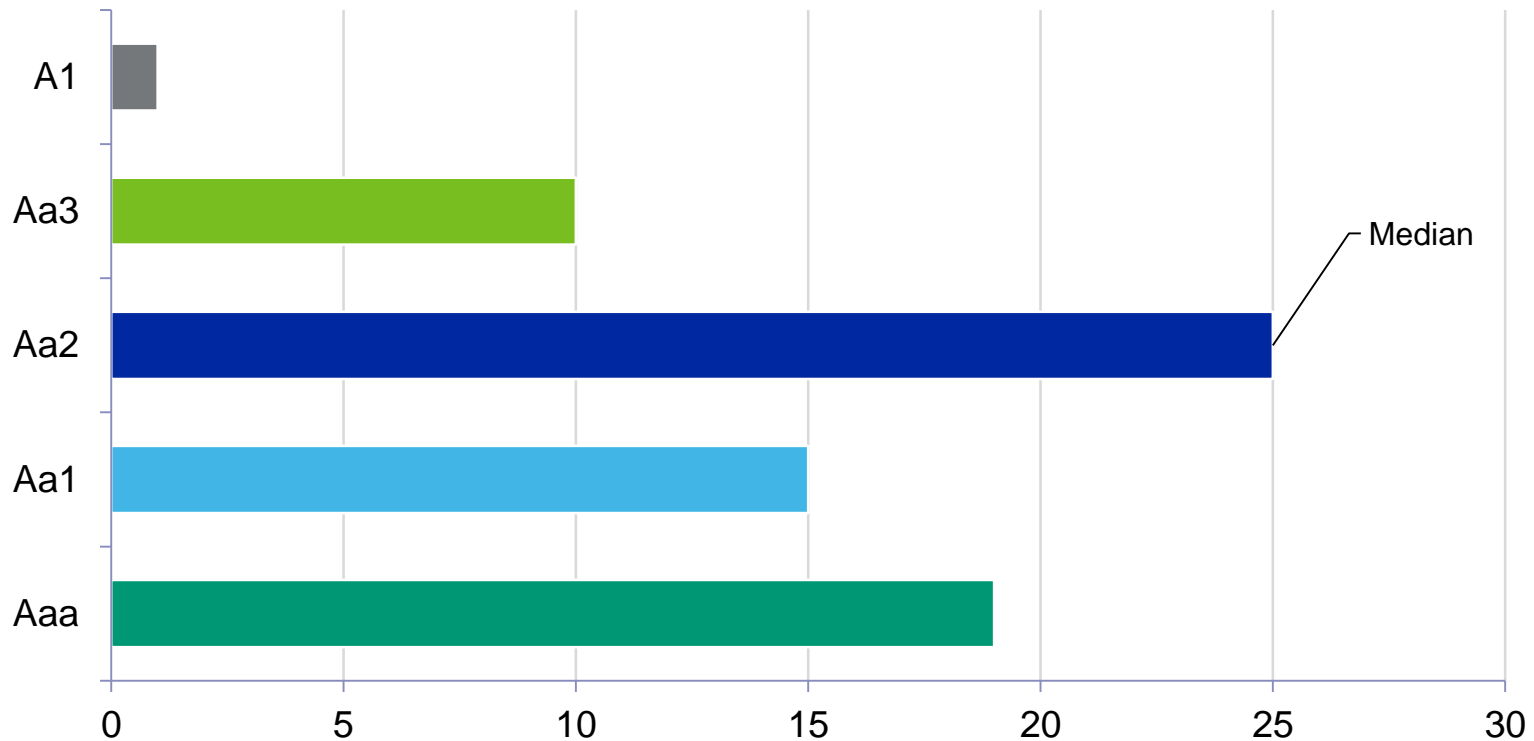
LONG-TERM RATING	SHORT-TERM RATING
Aaa	Prime-1
Aa1	
Aa2	
Aa3	
A1	
A2	
A3	Prime-2
Baa1	
Baa2	
Baa3	Prime-3
Ba1, Ba2, Ba3	Not Prime
B1, B2, B3	
Caa1, Caa2, Caa3	
Ca, C	

U.S. State HFA single family programs

- » 110 obligors rated under US State Single Family Programs Methodology
 - 70 whole loan programs (64%)
 - Collateral may be insured whole loans (both governmental and private insurances) or uninsured ones
 - Median rating = Aa2
 - 40 mortgage-backed securities (MBS) programs (36%)
 - MBS certificates are the highest quality collateral for the bonds
 - All rated Aaa
- » “Open” parity programs, actively managed
 - HFAs issue multiple times annually in the same program; bonds are cross-collateralized
 - We examine the programs as a whole and assess the ability of the entire loan portfolio to support all bonds

Highly rated bond programs

Whole loan programs rating distribution



Rating methodologies guide our process

SF Program Methodology

- » Contains a scorecard, which anchors our rating
- » A committee process determines the final rating

Key Factors Considered

- » Financial Position
- » Loan Portfolio
- » Bond Program Structure
- » Management & Governance
- » Legal Framework & Covenants

Key factors for HFA single family program

Each factor has a relative weight in our analysis

Financial Position (45%)	Loan Portfolio (25%)	Bond Program Structure (15%)	Management and Governance (15%)
<ul style="list-style-type: none">» Balance sheet strength» Cash Flow Projections» Historical Financial Performance	<ul style="list-style-type: none">» Portfolio performance» Portfolio characteristics» Mortgage type» State and local real estate conditions	<ul style="list-style-type: none">» Variable rate debt» Counterparties	<ul style="list-style-type: none">» Governance» Track record» Program expertise and financial management» Disclosure

What else do rating agencies do?

- » Answer investor questions
- » Publish research on the HFA market trend and specific issuers
- » Offer briefings and speak at conferences

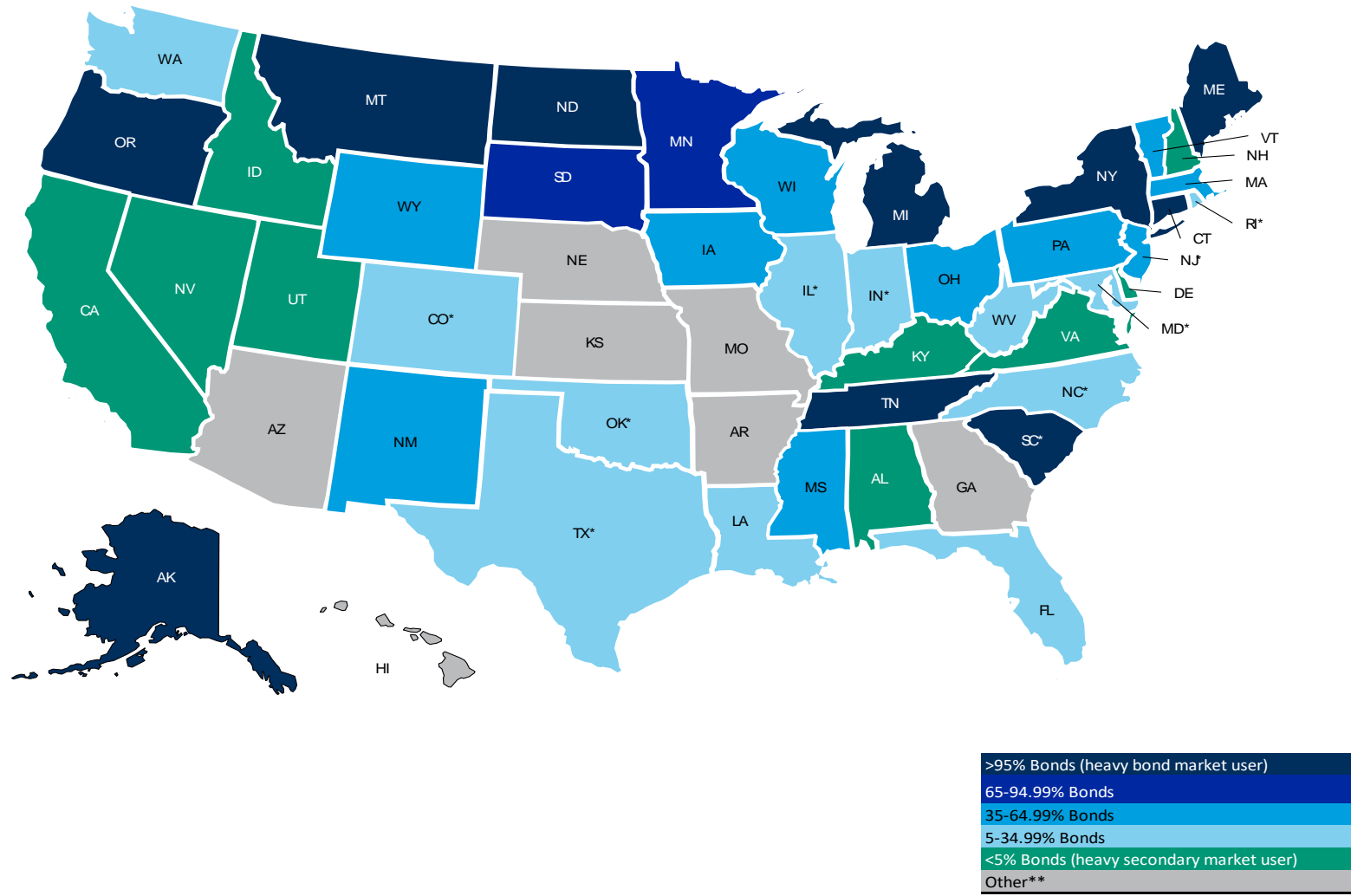
Bonds are back in favor!

Bonds as % of HFA total funding strategy	Number of HFAs		
	Q4 2015	Q2 2018	Change (2015-18)
95% - 100%	6	10	4
65% - 94.99%	5	2	-3
35% - 64.99%	5	10	5
5% - 34.99%	9	12	3
0% - 4.99%	18	9	-9
Other*	8	8	0
	51	51	

*HFAs not rated by Moody's or no information

Source: Moody's HFA surveys Q2 2018

Bonds as % of HFA mortgage funding source 2018



* HFAs who returned to bonds in the last two years

** HFAs not rated by Moody's or no information

Source: Moody's State HFA Surveys

Moody's Housing Team

Team rates range of transaction types

- » The Housing Team is comprised of 13 lead analysts and 3 supporting analysts
- » We rate the following types of bonds
 - » State and local HFA single family, multifamily and issuer
 - » Privatized military housing
 - » Privatized student housing
 - » Public housing authority capital grant securitizations
 - » State revolving funds for clean water and drinking water programs



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