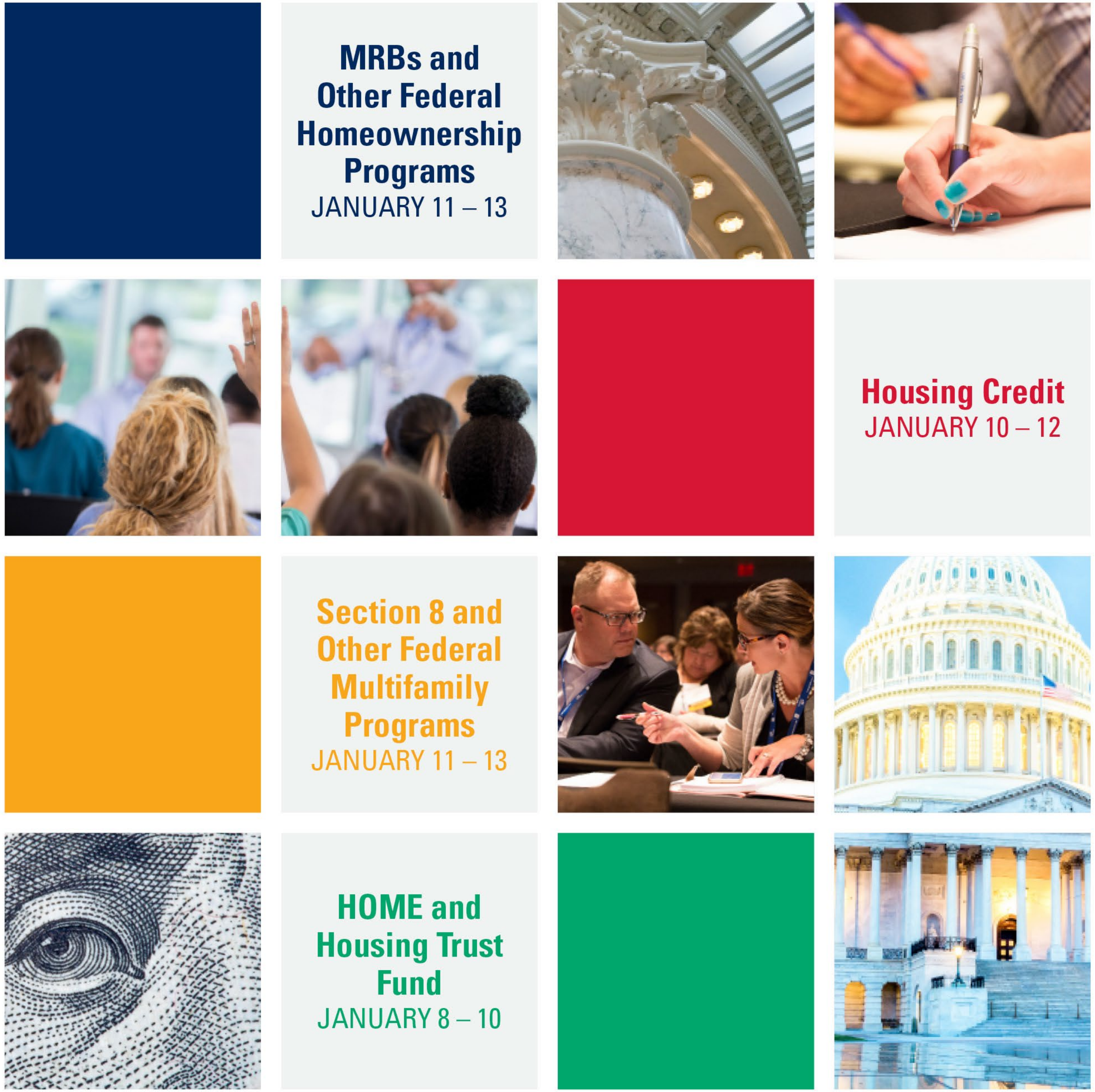
THE HFA INSTITUTE 2023

Financing Affordable Mortgages 101: Mortgage Revenue Bonds, TBA, and Securitization Basics

NCSHA
National Council *of* State Housing Agencies



DISCUSSION LEADER

Thomas Haffey
Secondary Marketing Manager | Colorado Housing and Finance Authority

SPEAKERS

Sam Caldwell
Assistant Vice President | Citigroup Global Markets Inc.

Chuck Karimbakas
Managing Director | cfX Incorporated

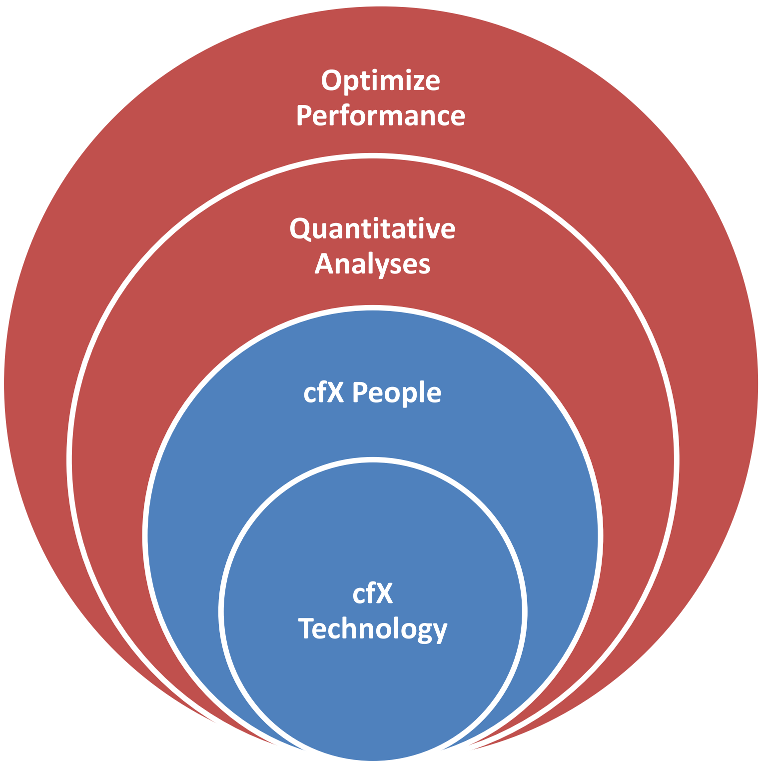
Nicholas Koontz
Attorney | Hawkins Delafield & Wood LLP

Daniel Pulter
Associate Director | S&P Global Ratings

cfX - Optimizing Affordable Housing Finance

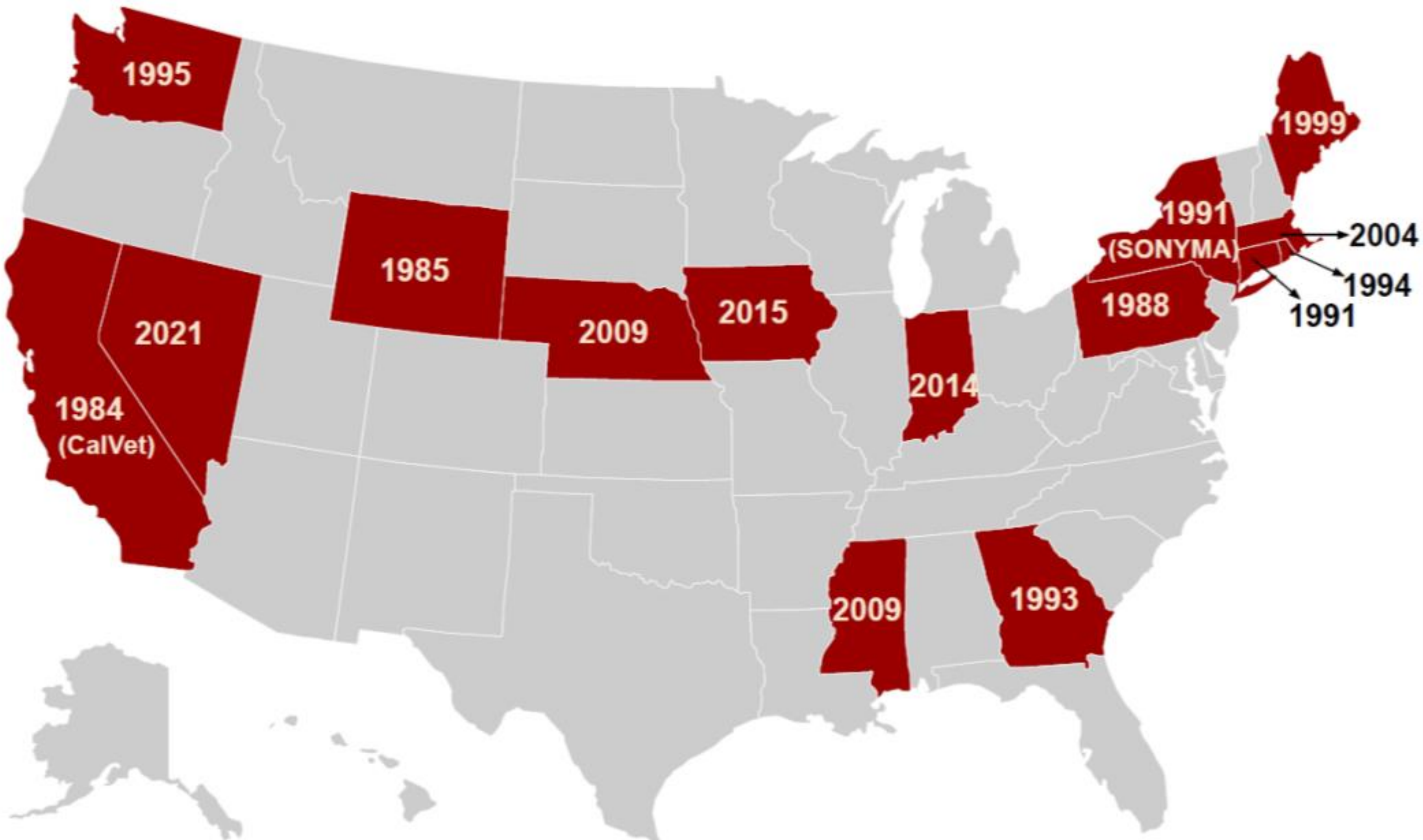
NCSHA HFA Institute
Financing Affordable Mortgages 101
January 12, 2023

cfX - Optimizing Affordable Housing Finance



- **cfX Technology**
  - 30 years of continuous investment
  - Unmatched HFA-specific applications, databases and data feed translators
  - Attention to data security and sustainability
- **cfX People**
  - Largest group of experienced housing-focused advisors
  - Commitment to the mission and clients
  - Reliable, long-term partner

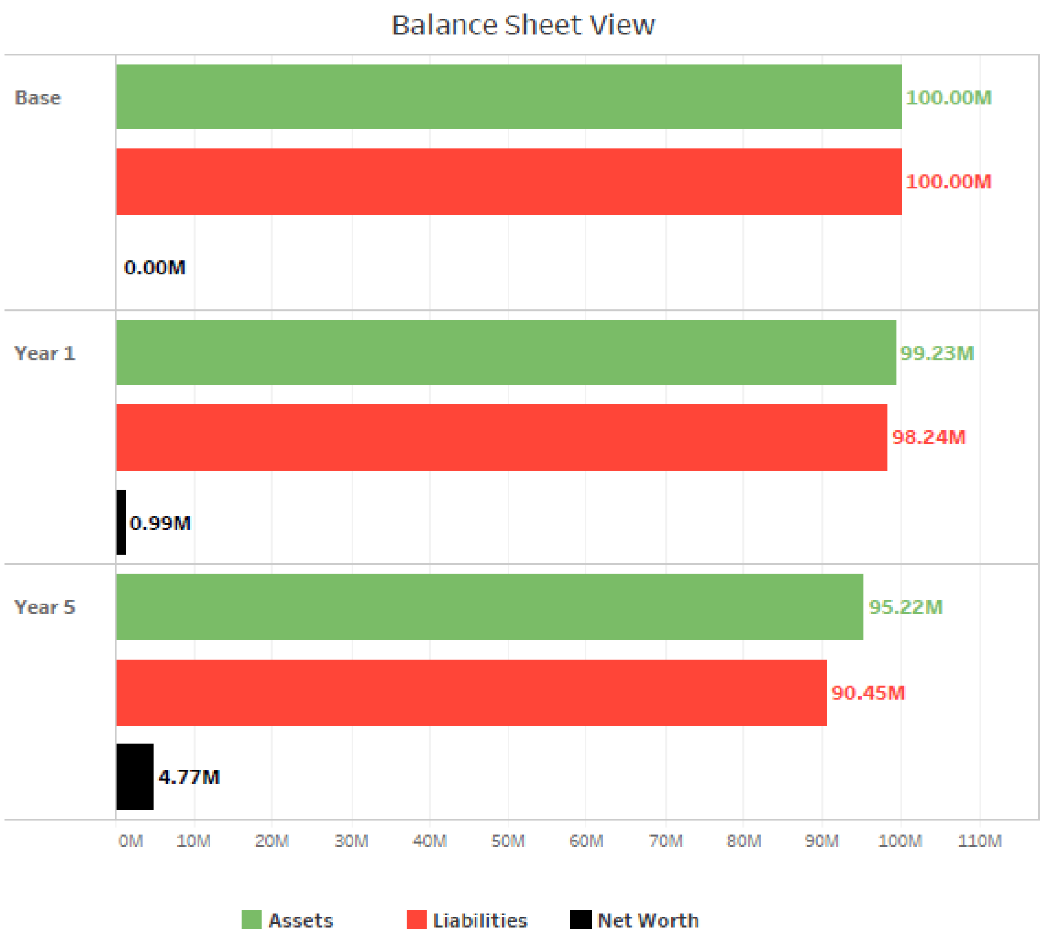
cfX – Current HFA Clients



HFA Basics – Business Model

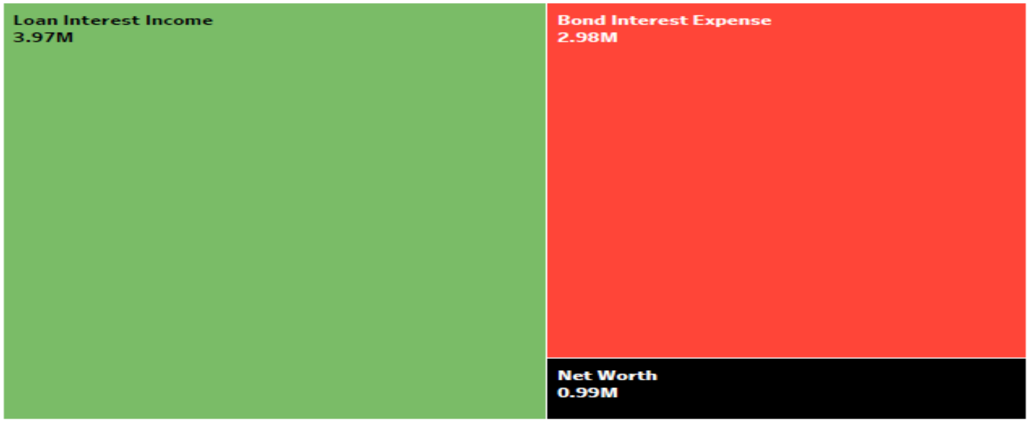
- General business model is simple yet very effective
  - Borrow **tax-exempt** and lend at an interest rate greater than the cost of bond debt
  - **Matched book:** loan assets = bond liabilities in amount and term. Net assets (parity) grow through positive net income over time (spread from difference between loan rate and bond rate)
  - **Simple example:** Borrow $100M at 3% and lend $100M at 4% - match bond and loan principal amortization

HFA Basics – Business Model

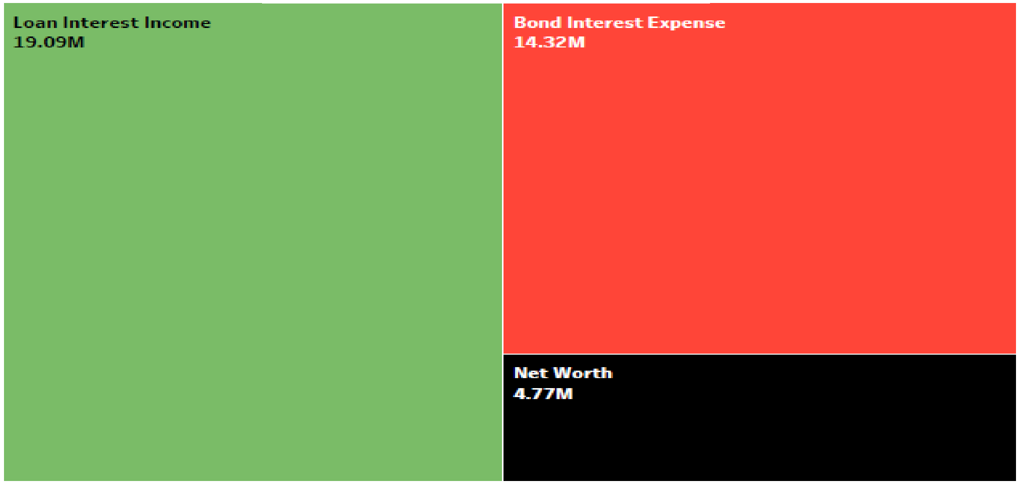


HFA Basics – Business Model

Income Statement: Year 1



Income Statement: Year 5



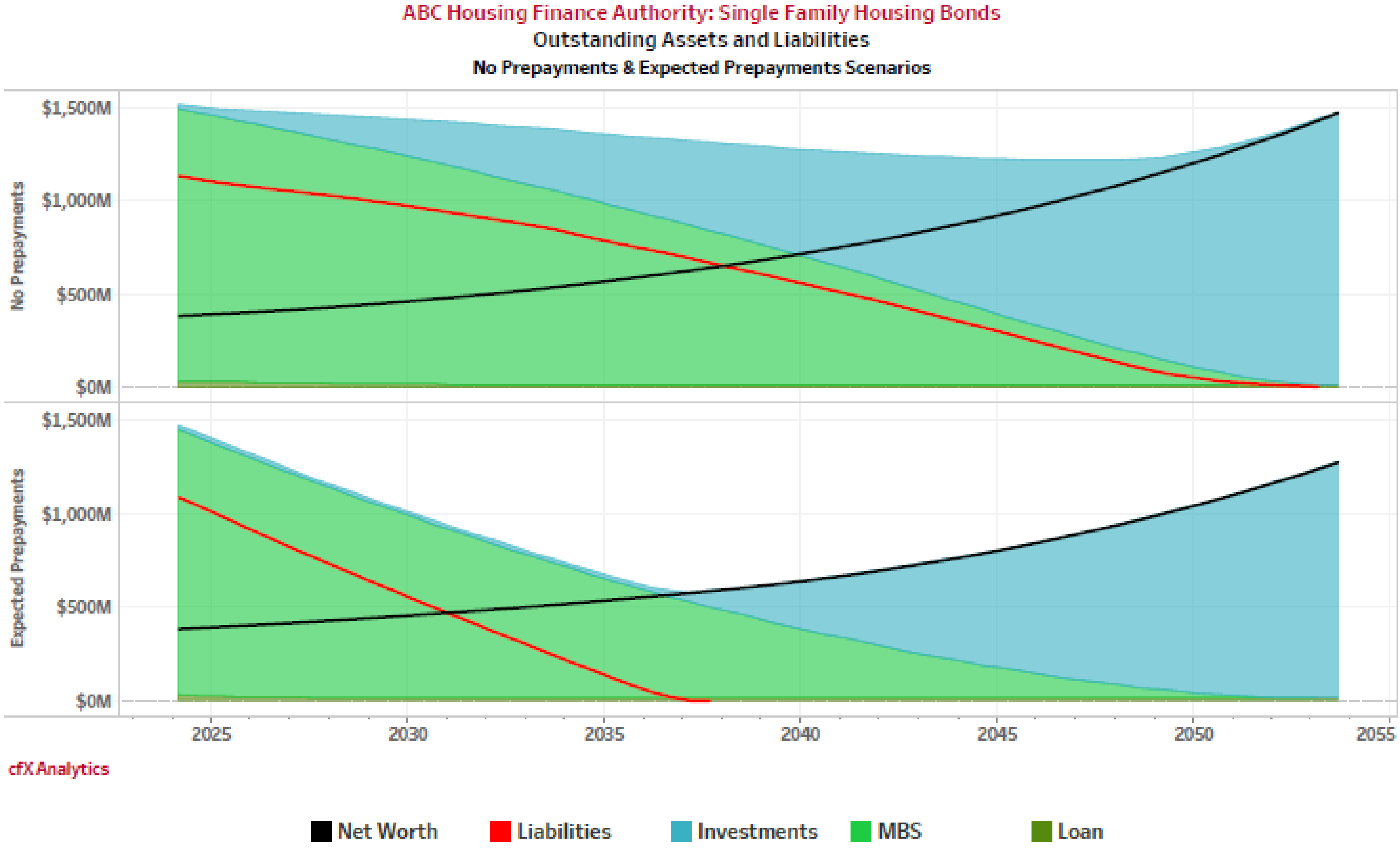
Business Model Complexity

- Several factors lead to added complexity of HFA business model
  - **Scale:** 40–50-year program history – billions of assets and liabilities
  - **Optionality:** 30-year fixed rate mortgages can be prepaid without penalty at any time during the life of the loan
  - **Compliance**: IRS rules and regs create compliance obligations (ex. limit on potential earnings)…..and opportunities
  - **Market:** HFAs can only sell debt that investors want to buy and lend at rates that are competitive
  - **Credit:** loan delinquency and foreclosure rates effect borrowing costs and capital requirements

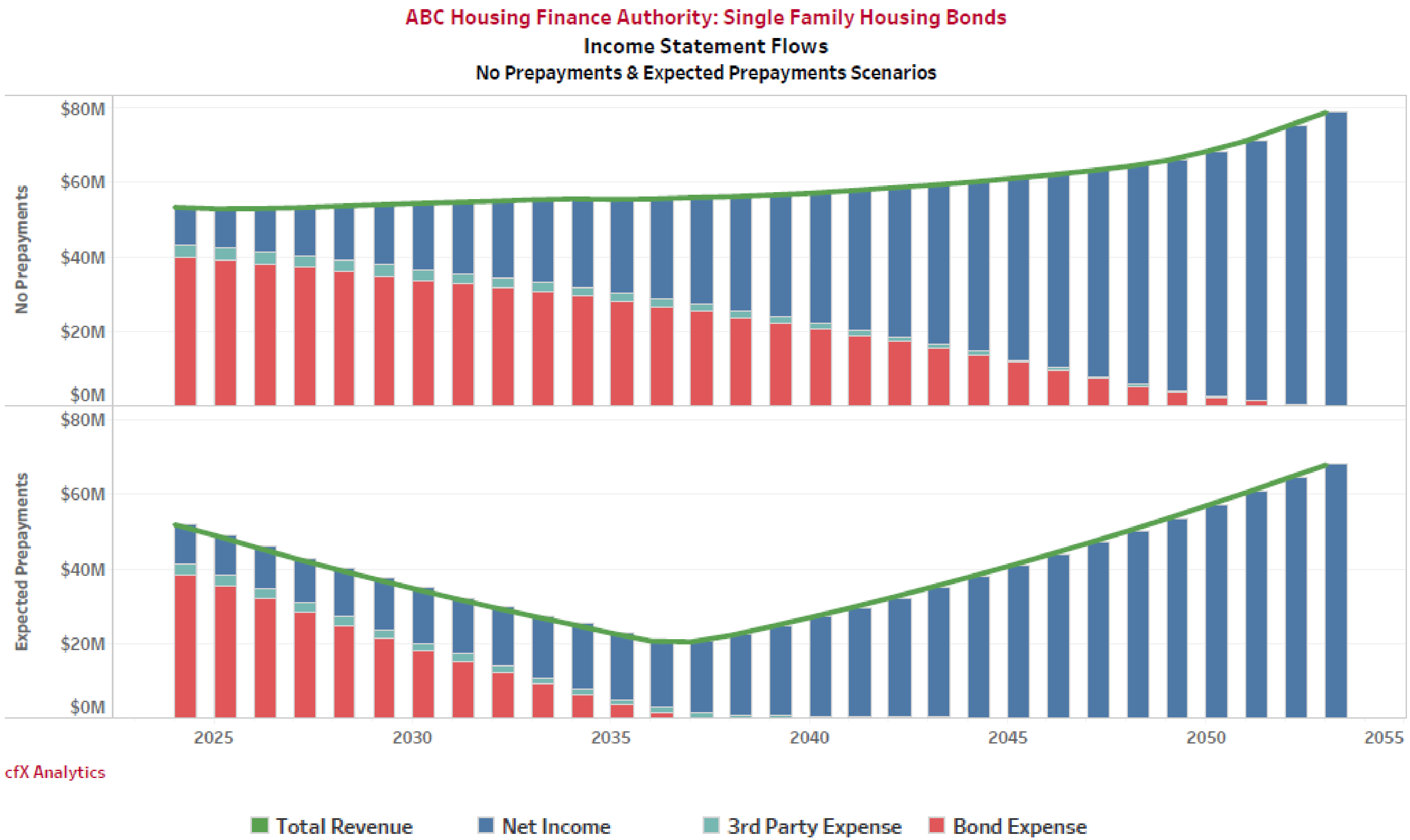
Parity Indenture

- To manage business complexity efficiently, most HFAs issue bonds in a parity indenture
  - All assets support all liabilities now and into future
  - Legal structure – flexibility for issuer vs investor acceptance
  - Growing parity to manage difficult market and credit environments
  - Rating agencies require stress cash flows to support high credit ratings – parity needed to "pass" stress tests
  - Open structure allows for volume cap preservation and tax compliance optimization

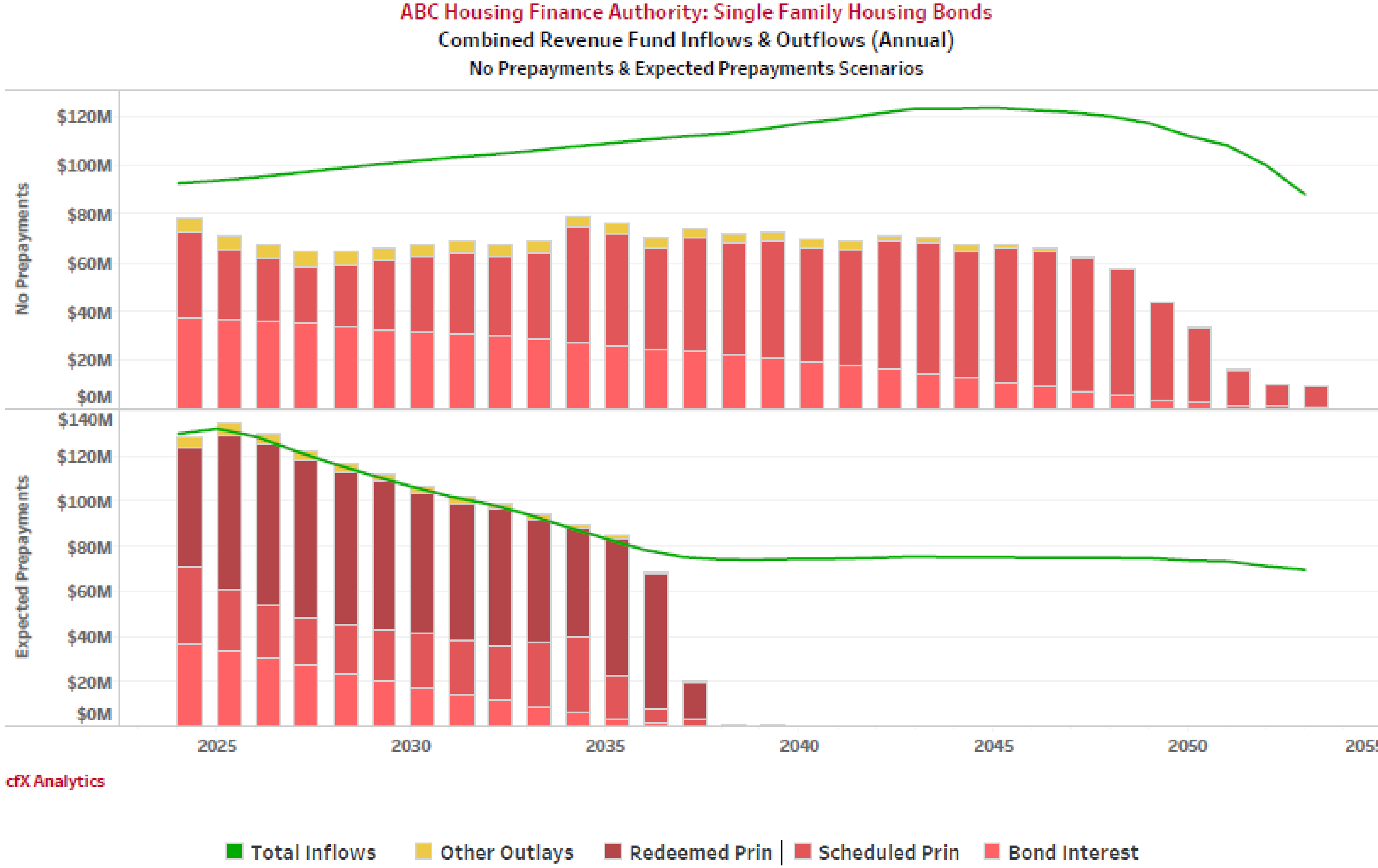
Parity Indenture – No vs Expected Prepayments



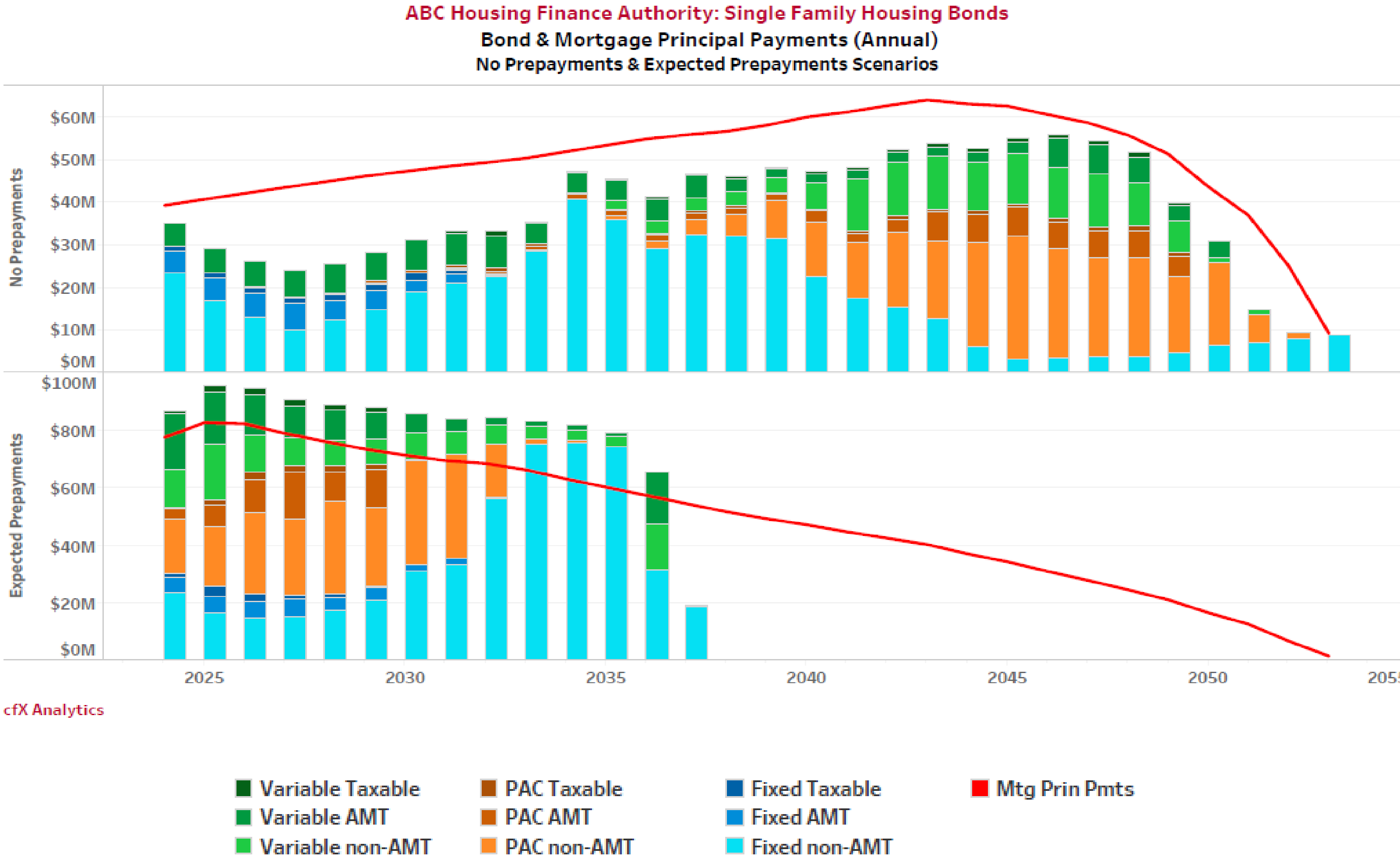
Parity Indenture – No vs Expected Prepayments



Parity Indenture – No vs Expected Prepayments



Parity Indenture – No vs Expected Prepayments



Conclusion

- Original HFA business model has benefited borrowers and HFAs over time
  - The ability to generate spread and grow parity has led to strong financial performance and program development
    - Below market interest rates
    - High LTV lending
    - Down payment assistance programs
  - Parity indentures help grow wealth and manage complexities of the mortgage lending business and economic cycles

MORTGAGE REVENUE BONDS

TAX-EXEMPT BOND REQUIREMENTS

Basis for Tax Exemption

- Internal Revenue Code
  - it's the framework for Treasury to raise $$ to run government
  - tension between raising $$ and steering social policy
    - ex. of social policy: encourage home ownership
    - encourage charitable giving
  - Congress provides the categories of possible tax-exemption (loss of tax revenue in exchange for public good)
    - » ***single-family housing (MRBs) is such a category***
  - Code imposes many rules to assure public purposes are met

MRB Code Requirements

- Programmatic Requirements
  - qualifying the borrower
  - qualifying the residence
  - qualifying the amount of the loan
- Non-programmatic Requirements
  - pre-bond issue matters such as public hearing
  - bond closing requirements, such as volume cap

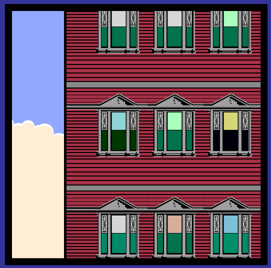
PROGRAM REQUIREMENTS

New Homebuyers

- 1st-time homebuyer requirement
  - really 3-year rule
  - exception for targeted-area lending
  - exception for veterans (once)
  - rule applies to each borrower
  - 5% exception
  - same rule for MCCs (except 5% exception)

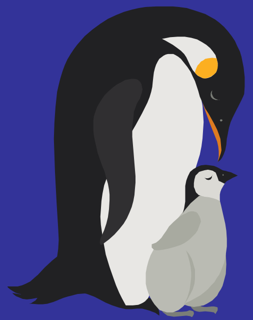
Hawkins DELAFIELD & WOOD LLP

- principal residence requirement
    - based on expectations
    - 60-day safe harbor
    - only land that provides basic livability
    - limited, if any, business use of home
    - 2, 3 or 4-family building is ok with certain restrictions
    - same rule for MCCs



Hawkins DELAFIELD & WOOD LLP

INCOME



- family income limits
  - HUD § 8 rules control
  - limits for
    - small (1-2) families (100% AMGI)
    - and large (3+) families (115% AMGI)
  - higher limits for targeted areas (120%-140%)
  - high housing cost area adjustment (up to 140%)
  - same rule for MCCs

Hawkins DELAFIELD & WOOD LLP

PURCHASE PRICE

- purchase price limits
  - based on acquisition cost, not loan amount
  - limits based on –
    - FHA insurable limits/factor (1.083 in 2022)
  - 90% of such limits, except 110% in targeted areas
  - higher limits possible if more accurate data
  - issuer study requires separate data for new and existing
  - same rule for MCCs

- mortgage loans must be new, not refi’s
    - MRB proceeds may not be used to pay off borrower’s existing indebtedness
    - exception for bridge, construction or temporary loans
    - same rule for MCCs

ASSUMPTIONS

– assumptions permitted if new owner qualifies

– transfer of an MCC follows same rules

NON-ACQUISTION LOANS

- **non-purchase loans**
  - home improvement loans
    - $15,000 limit, with higher limits for certain disaster areas
    - must improve basic livability or energy efficiency
  - qualified rehab loans
    - generally in connection with acquisition; cost is added to acquisition cost
    - residence must be >20 years old
    - must add 25% or more to basis of home
    - specific rules about retention of interior and exterior walls
  - same rules for MCCs

COMPLY !

- **Importance of Program Compliance**
  - **a single non-compliant loan could render bond issue taxable**
  - **Issuer would negotiate with IRS to avoid its bondholders being taxed**
  - **settlement may be possible, but costly**
  - **finding of taxability could jeopardize Issuer borrowing opportunities or raise borrowing costs**

SAFE HARBOR

- Better alternative….
  - – safe harbor compliance
    - obtain affidavits of borrower, seller
    - 3 years tax returns
    - have comprehensive program guide
    - remove any non-complying loan when discovered
  - – similar rules for MCCs (but cannot pull the loan)

Hawkins DELAFIELD & WOOD LLP

NON-PROGRAM REQUIREMENTS

USES

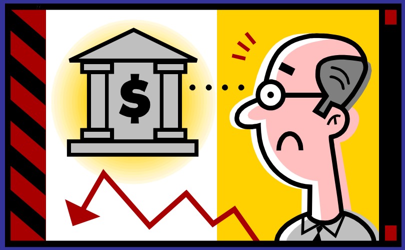
- limit on use of bond proceeds for other than making loans
  - costs of issuance (not more than 2%)
  - bond reserve fund (not more than 10%)
  - down payment assistance ok

“TEFRA” Hearing

- public hearing and elected official approval
  - newspaper, radio or TV public notice or **internet**
  - 7 days in advance of hearing is safe harbor
  - hearing conducted by issuer to get public comment
  - highest elected official of issuer’s jurisdiction gives approval after hearing

Yield on Loans

- limit on interest rates and points charged on loans
    - limit is on yield not coupon
    - 1-1/8% over bond yield
    - is aggregate of all loans allocated to bond issue



Hawkins DELAFIELD & WOOD LLP

Rebate

- payments of certain excess earnings to IRS every 5 years
  - called “rebate”
  - is only on non-mortgage loan investments
  - pay net excess of earnings over bond yield

Targeted Areas

- Required set-aside of 20% of proceeds for loans in ‘targeted areas’
    - targeted areas are qualified census tracts or ‘areas of chronic economic distress’
    - one year ‘set-aside’
    - higher purchase price and income limits for these loans
- Program requirement is active promotion of product

Recapture

- borrower may be required to pay certain gain on sale of home back to feds
  (Recapture)
  - never more than 6.25% of loan amount
  - limited to ½ gain on sale
  - won’t owe if income hasn’t increased
  - won’t owe if sale is more than 9 years after purchase
  - ~25 issuers “indemnify” (reimburse) borrowers

Reimbursement

- Issuer must declare “official intent” if it expends money before bonds are issued
  - needed if Issuer “warehouses” loans before bonds are issued
  - reimbursement must occur within 18 months of loan funding
  - intent is declared by resolution or similar official documentation

- certain tax returns must be filed at time of bond issuance and annually
  - within specified time after bonds are issued
  - every August 15th, an annual mortgagor report

Hawkins DELAFIELD & WOOD LLP

Limit on Bonds Issued

Volume Cap

- each State has limit of private activity bonds that can be issued annually
    - based on population of State (with small state minimum)
    - 2022: $110 x population or $335,115,000
    - not just single-family and multi-family housing (12 categories of bonds use cap)
    - unused cap may be carried forward for 3 years

Volume Cap (continued)

- “new money” bonds, use $1 of volume cap for $1 of bonds
- refunding bonds only use “cap” if bond maturity is extended past certain limits
- MCCs use $4 of “cap” for every $1 of MCCs

10-Year Rule

- loan repayments must be used to redeem bonds and not used to re-lend (“10-year rule”)
    - generally, won’t apply first 10 years
    - applies sooner for refunding bonds

Refundings

- refundings: bond proceeds used to pay off outstanding bonds
  - used to lower debt costs of issuer
  - used to “recycle” at current lending rates
  - trust indentures dictate when/if old bonds can be redeemed early
  - certain maturity limits on refunding bonds

Unexpended Proceeds

- bond proceeds not used to make loans within 42 months must be used to redeem bonds

    - only applies to ‘new money’ bonds

AMT

- bonds may be subject to the alternative minimum tax
  - an extra tax, meant to apply to very wealthy (< 100 taxpayers when enacted in the 1960's)
  - began applying to housing bonds in 1986
  - eliminated in 2008 for housing bonds

MCCs

Additional MCC program requirements…

MCCs

- homebuyer gets credit on income tax
  - % of mortgage interest paid (20%-50%) up to amount of federal income tax for year
  - gets credit each year that loan is outstanding, so long as occupying house as principal residence
- borrower must be able to use any qualified lender to obtain loan

MCCs

- may not use with tax-exempt bond loan
- any loan product permitted
- Issuer may not control source of loan funds
- Issuer may approve an MCC being transferred to one assuming loan
- MCC “disappears” when loan is repaid

Questions?

Hawkins DELAFIELD & WOOD LLP

January 12, 2023

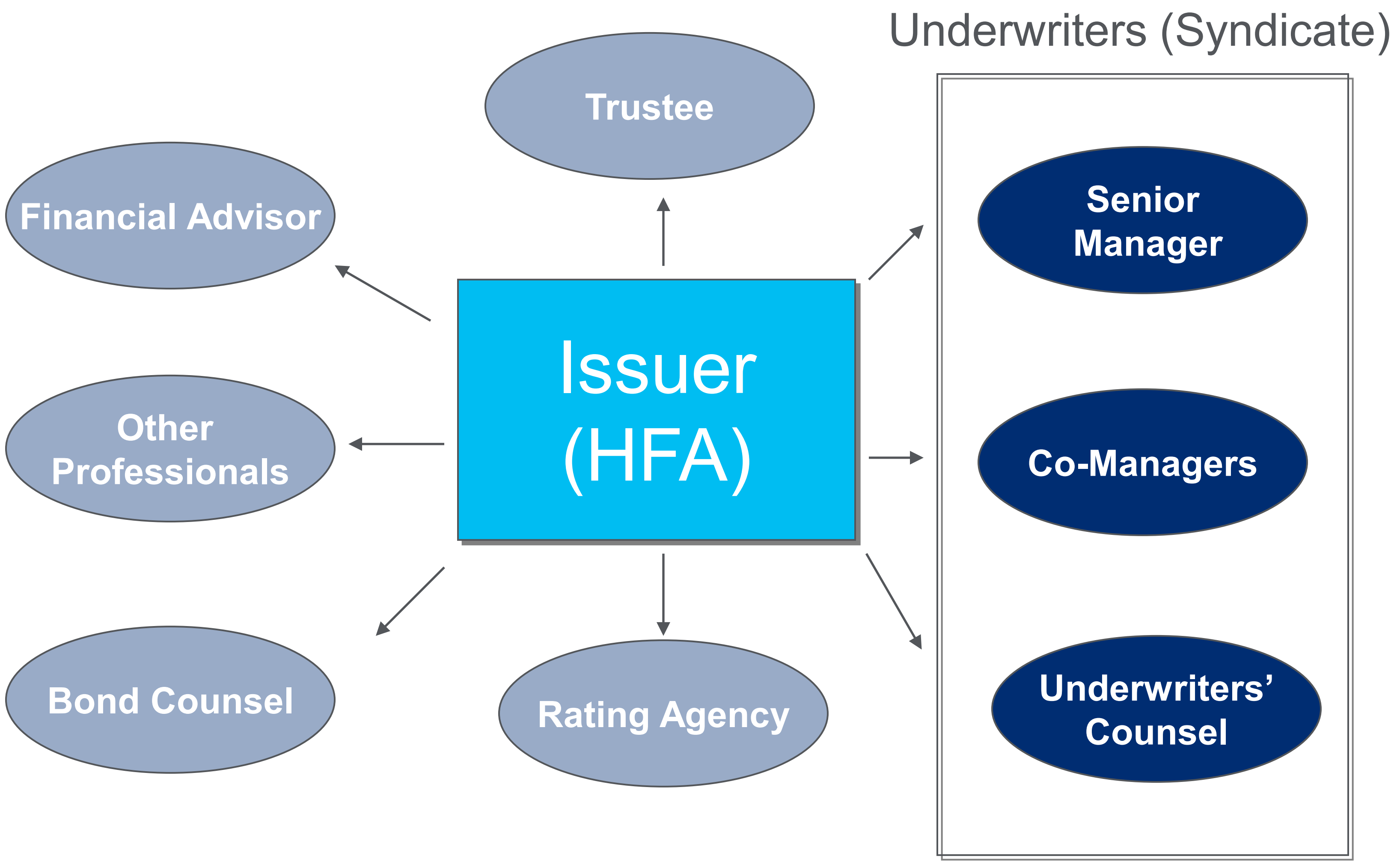
NCSHA – HFA Institute

Financing Affordable Mortgages 101: Mortgage Revenue Bonds

Samuel Caldwell
Assistant Vice President

212-723-9754
samuel.caldwell@citi.com

Finance Team Members



Finance Team Members

Parties Involved	Respective Role
Issuer	Entity under whose name the bonds are issued. However, the issuer is not always the entity liable for the bonds. For example, hospitals may issue through the local health facilities authority or an airline issue could be sold through a port authority.
Issuer's Counsel (General Counsel)	Either an internal or outside counsel, who generally gives an opinion on the legality of the issuer's actions under the issuer's enabling statutes.
Financial Advisor	A consultant who advises the issuer on matters pertaining to a new bond issue, such as structure, timing, marketing, fairness of pricing, term and ratings.
Bond Counsel	An outside counsel to the issuer who gives an opinion (1) on the tax exemption of the bonds and (2) on the validity of the bond issue.
Underwriters / Syndicate	
Senior Managing Underwriter	The Underwriters (Syndicate) agree to purchase all of the bonds from the issuer and resell them to investors, as per the terms of the Bond Purchase Agreement (the "*written award"*) The Senior Manager is the book running manager for the issue whose responsibilities include working directly with the issuer to develop the plan of finance, structure the marketing plan, prepare documents and lead the Syndicate.

Finance Team Members (Continued…)

Parties Involved	Respective Role
Co Managing Underwriters	Other underwriting firms involved in the financing (part of the Syndicate). Usually their role includes assisting in the marketing process and sale of the bonds.
Underwriter’s Counsel	Legal counsel hired by the underwriters to assist in documentation, preparation of the official statement, disclosure and state securities filings (“blue sky”), and preparation of the Bond Purchase Agreement (“BPA”)
Trustee	The Trustee handles the payments of interest and principal to the bondholders. Trustees have a fiduciary role to serve as representative of the bondholders in relation to the issuer.
Rating Agencies	The organizations (generally in housing Moody’s Investor Services, Fitch and Standard & Poor’s) which provide publicly available ratings of the credit quality of municipal and corporate issuers.
Servicer	Collects principal and interest payments from single family mortgage borrowers and remits to the Trustee.
Credit Enhancement Providers	An insurance company or commercial bank providing a letter of credit guaranteeing the timely payment of principal and interest on the bonds. The credit enhancement provider will also guarantee debt service payments if the issuer is unable to make payments. The issuer in return will reimburse the credit enhancement provider.

Bringing Bonds to Market: The Pricing Process

Prior to Pricing

1 POS Posting & Begin Marketing

- Prior to the POS posting, no communication with potential investors
- The POS contains the preliminary bond structure, expected credit ratings, call features of bonds, and the security of the bonds
- The POS does **not** contain coupon / yield indications (Pricing Information)

2 Price Views & Pre-Marketing

- POS is used to market bonds/gauge investor interest
- Recent housing bond transactions (Comparables) used as starting point
- The entire syndicate submits their preliminary rate indications to the Senior Manager
- After indications are collected the senior manager will put together a consensus scale to be used for Pre-Marketing

During Pricing

3 Retail Order Period

- To start the order period, the Senior Manager puts together a document known as a ROP Wire that contains the bond structure and proposed yields
- Orders will only be taken from individuals from the Issuer's state, individuals in other states and institutions on behalf of individuals, with the Issuer's state individuals typically receiving priority

4 Institutional Order Period

- After the ROP concludes, the IOP begins with the Preliminary Pricing Wire
- Note that during the ROP, the underwriters reach out to large institutions such as insurance companies and money managers to gauge their specific demand/appetite for the bonds offered based on pricing levels offered during the ROP

5 Verbal Award & Written Award

- Occurs at the end of the IOP Wrap-up Call
- The verbal award signifies that the Issuer and the Senior Manager have agreed on the coupon and price of bonds (the Underwriter agrees to buy and Issuer agrees to sell the bonds)
- The Written Award or Bond Purchase Agreement finalizes these terms in writing and completes the sale

After Pricing

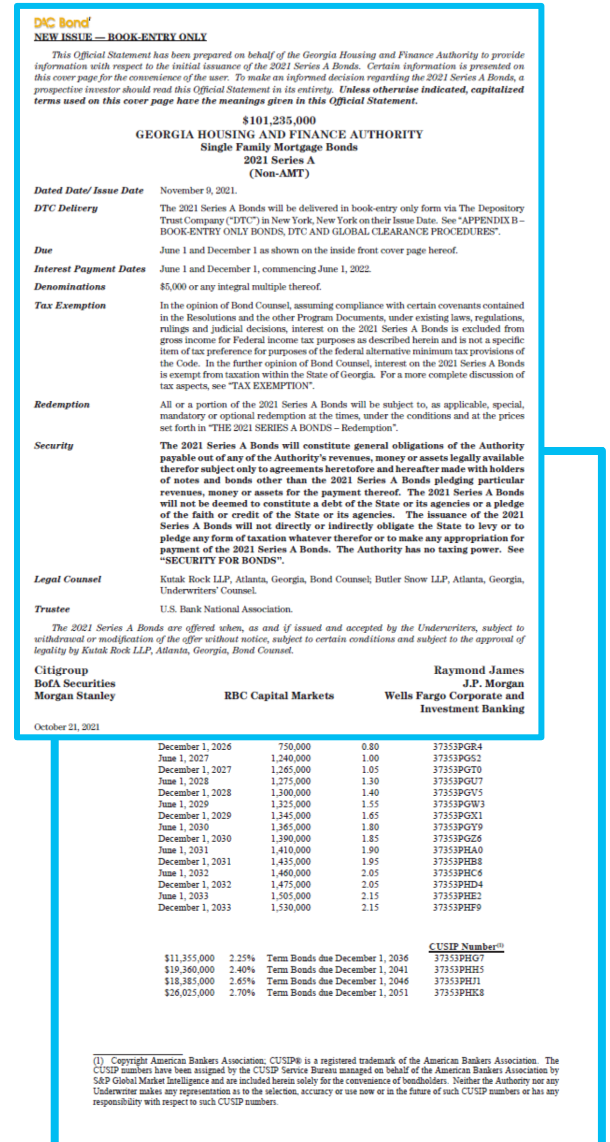
6 Closing & Delivery

- At closing, money is exchanged (via wire) for the sale and purchase of the bonds

1. Marketing: Leading up to Pricing / Bond Sale

- Marketing: The process of marketing the bonds to the investor community (the community of municipal bond buyers); includes the following:
  - Communicating terms of bonds being offered, via the "Preliminary Offering Statement" (POS)
  - Marketing also involves a solicitation of indications of interest from potential investors
    - Permits the Syndicate to get a sense of where the market is – prevailing price levels
  - E.g., it may also bring out specific bond features than an investor is willing to "pay up" for (pay a higher price), ultimately benefiting the transaction

- Marketing commences with the posting of the POS
  - The POS should be "On the Street" a week or so in advance of sale
    - Prior to official public dissemination of the POS (its "Posting") no communication is permitted
    - Current regulatory environment has strict limitations on communications apart from (or in advance of) the POS Posting
  - Certain information is excluded from the POS as it is only known at final pricing
    - E.g., final structure, coupons, prices, etc.
    - This final information is only available for the final Official Statement ("OS")



DAC Bond

NEW ISSUE — BOOK-ENTRY ONLY

This Official Statement has been prepared on behalf of the Georgia Housing and Finance Authority to provide information with respect to the initial issuance of the 2021 Series A Bonds. Certain information is presented on this cover page for the convenience of the user. To make an informed decision regarding the 2021 Series A Bonds, a prospective investor should read this Official Statement in its entirety. ***Unless otherwise indicated, capitalized terms used on this cover page have the meanings given in this Official Statement.***

$101,235,000
GEORGIA HOUSING AND FINANCE AUTHORITY
Single Family Mortgage Bonds
2021 Series A
(Non-AMT)

Dated Date/ Issue Date November 9, 2021.

DTC Delivery The 2021 Series A Bonds will be delivered in book-entry only form via The Depository Trust Company ("DTC") in New York, New York on their Issue Date. See "APPENDIX B – BOOK-ENTRY ONLY BONDS, DTC AND GLOBAL CLEARANCE PROCEDURES".

Due June 1 and December 1 as shown on the inside front cover page hereof.

Interest Payment Dates June 1 and December 1, commencing June 1, 2022.

Denominations $5,000 or any integral multiple thereof.

Tax Exemption In the opinion of Bond Counsel, assuming compliance with certain covenants contained in the Resolutions and the other Program Documents, under existing laws, regulations, rulings and judicial decisions, interest on the 2021 Series A Bonds is excluded from gross income for Federal income tax purposes as described herein and is not a specific item of tax preference for purposes of the federal alternative minimum tax provisions of the Code. In the further opinion of Bond Counsel, interest on the 2021 Series A Bonds is exempt from taxation within the State of Georgia. For a more complete discussion of tax aspects, see "TAX EXEMPTION".

Redemption All or a portion of the 2021 Series A Bonds will be subject to, as applicable, special, mandatory or optional redemption at the times, under the conditions and at the prices set forth in "THE 2021 SERIES A BONDS – Redemption".

Security **The 2021 Series A Bonds will constitute general obligations of the Authority payable out of any of the Authority's revenues, money or assets legally available therefor subject only to agreements heretofore and hereafter made with holders of notes and bonds other than the 2021 Series A Bonds pledging particular revenues, money or assets for the payment thereof. The 2021 Series A Bonds will not be deemed to constitute a debt of the State or its agencies or a pledge of the faith or credit of the State or its agencies. The issuance of the 2021 Series A Bonds will not directly or indirectly obligate the State to levy or to pledge any form of taxation whatever therefor or to make any appropriation for payment of the 2021 Series A Bonds. The Authority has no taxing power. See "SECURITY FOR BONDS".**

Legal Counsel Kutak Rock LLP, Atlanta, Georgia, Bond Counsel; Butler Snow LLP, Atlanta, Georgia, Underwriters' Counsel.

Trustee U.S. Bank National Association.

The 2021 Series A Bonds are offered when, as and if issued and accepted by the Underwriters, subject to withdrawal or modification of the offer without notice, subject to certain conditions and subject to the approval of legality by Kutak Rock LLP, Atlanta, Georgia, Bond Counsel.

Citigroup		**Raymond James**
BofA Securities		**J.P. Morgan**
Morgan Stanley	**RBC Capital Markets**	**Wells Fargo Corporate and Investment Banking**

October 21, 2021

December 1, 2026	750,000	0.80	37353PGR4
June 1, 2027	1,240,000	1.00	37353PGS2
December 1, 2027	1,265,000	1.05	37353PGT0
June 1, 2028	1,275,000	1.30	37353PGU7
December 1, 2028	1,300,000	1.40	37353PGV5
June 1, 2029	1,325,000	1.55	37353PGW3
December 1, 2029	1,345,000	1.65	37353PGX1
June 1, 2030	1,365,000	1.80	37353PGY9
December 1, 2030	1,390,000	1.85	37353PGZ6
June 1, 2031	1,410,000	1.90	37353PHA0
December 1, 2031	1,435,000	1.95	37353PHB8
June 1, 2032	1,460,000	2.05	37353PHC6
December 1, 2032	1,475,000	2.05	37353PHD4
June 1, 2033	1,505,000	2.15	37353PHE2
December 1, 2033	1,530,000	2.15	37353PHF9

			CUSIP Number[1]
$11,355,000	2.25%	Term Bonds due December 1, 2036	37353PHG7
$19,360,000	2.40%	Term Bonds due December 1, 2041	37353PHH5
$18,385,000	2.65%	Term Bonds due December 1, 2046	37353PHJ1
$26,025,000	2.70%	Term Bonds due December 1, 2051	37353PHK8

(1) Copyright American Bankers Association; CUSIP® is a registered trademark of the American Bankers Association. The CUSIP numbers have been assigned by the CUSIP Service Bureau managed on behalf of the American Bankers Association by S&P Global Market Intelligence and are included herein solely for the convenience of bondholders. Neither the Authority nor any Underwriter makes any representation as to the selection, accuracy or use now or in the future of such CUSIP numbers or has any responsibility with respect to such CUSIP numbers.

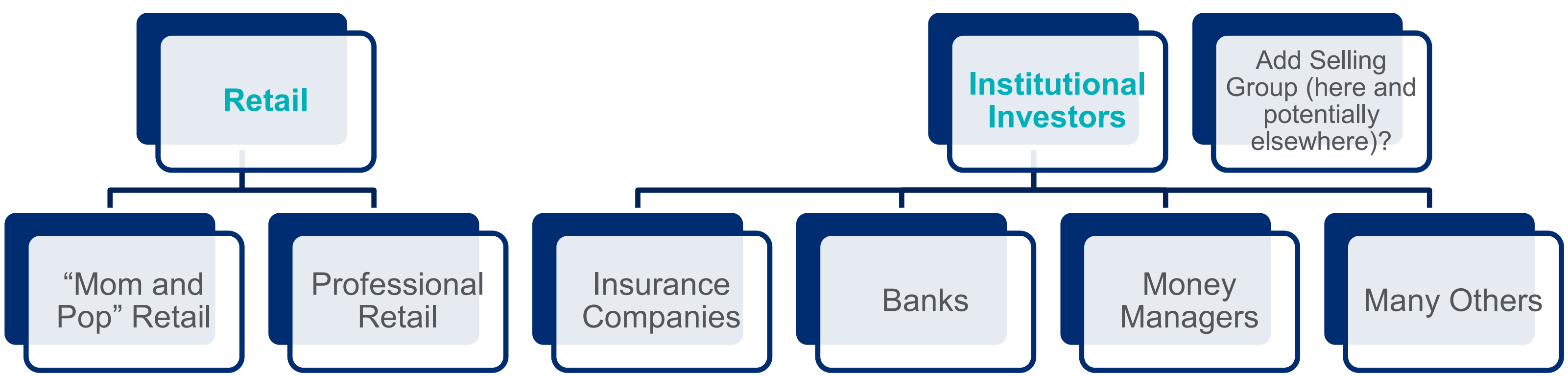
1. Marketing: Who Buys Housing Bonds?

- Targeted Investors and Investor Types: Retail versus Institutional
  - Bond buyers are interested in municipal debt because of the credit, the pricing levels, and most importantly, the tax-exemption
    - Municipal housing buyers are a smaller group: one willing to purchase bonds that are backed by housing (mortgage loan revenues) and acceptant of underlying "loan prepayments"

- A Retail Investor is an individual ("Mom and Pop") or a manager on behalf of an individual (Professional Retail or Separately Managed Account "SMA")
  - Tend to purchase shorter dated maturities and they buy-and-hold (they do not hedge and are less concerned with future market price fluctuations)

- Institutional investors are firms such as insurance companies, money managers and banks
  - Institutional investors traditionally purchase bonds with longer maturities and PAC bonds
  - They tend to buy longer dated bonds and thus "reach out" on the "yield curve" for more yield
  - Also, they are more likely to be concerned with average life expectations as they may be hedging their longer term investment for price and other fluctuations

- A typical bond structure needs and benefits from both type of investor



2. Price Views & Pre-Marketing: The “Syndicate”

- Syndicate: The firms selected to sell the bonds inclusive of the Senior Manager and Co-Managers
- Senior Manager: The firm that is responsible for coordinating the sales efforts, sometimes called the Lead or the “Book” Running Manager
  - This firm is given the authorization through an Agreement Among Underwriters (“AAU”) to act on behalf of all syndicate members
  - Orders for bonds are taken by the Senior Manager, and final determinations of prices and allotments are made by the Senior Manager

Example Underwriters

Role	Liability
Senior	60%
Co-Manager 1	20%
Co-Manager 2	20%
Selling Group 1	0%
Selling Group 2	0%
Total	100%

- Co-Managers (Co-Senior/Co-Manager): These are the other members of the syndicate who sell bonds on behalf of the Authority but do not have the above listed responsibilities as book-running senior manager
  - Their main job is to bring in orders, especially from “retail” investors, which are passed along the Senior Manager who is actively maintaining and managing the “Book”
- Selling Group Members: These are underwriters who have no underwriting liability on the transaction, but can bring in orders to support the transaction; they typically bring in retail orders
- Agreement Among Underwriters: Defines each underwriters’ liability in the sale - this represents each underwriter’s risk in the event bonds are underwritten (not sold to investors)

2. Price Views & Pre-Marketing: Initial Price Indications

- Price Views: As pricing approaches, and based on the communications described previously, each member of the syndicate provides their opinion of where each bond maturity should price
  - The Senior Manager collects these on behalf of the syndicate (co-seniors / co-managers, but not selling group members)
  - Price views are either taken as absolute levels or as a spread to a benchmark index
  - For tax-exempt municipal issuances, the index used is Municipal Market Data (MMD)
    - MMD is a benchmark tax-exempt yield curve that provides a proxy for where the highest “AAA” rated state general obligation bonds’ should price.

- Consensus Scale: After the price views are gathered from the Syndicate, the senior manager generates a scale which takes into account market considerations and all syndicate members’ price views

- Pre-Marketing: The day before a formal order period starts, the senior manager will release the consensus scale to the market; this is the first time the market will be able to see rates associated with the bonds and this allows the syndicate to obtain more robust investor feedback before opening up the order period

	Interpolated MMD (01/18)	Consensus Spread (to 01/18 MMD)	Indicative Rates (Based on 01/18 MMD)	Senior Mgr	Co Mgr 1	Co Mgr 2
2023 Series 1 (Non-AMT)						
2023 Series 1 Serials						
11/15/2023	1.00	10	1.10	10	15	20
11/15/2024	2.00	20	2.20	20	25	25
11/15/2025	3.00	30	3.30	30	35	30
11/15/2026	4.00	40	4.40	40	45	35
2023 Series 1 Terms						
11/15/2041	5.00	10	5.10	10	15	100
11/15/2046	6.00	20	6.20	20	25	105
11/15/2051	7.00	30	7.30	30	35	110

Theoretical Example Price Views

3. Retail Order Period: Entering the Market

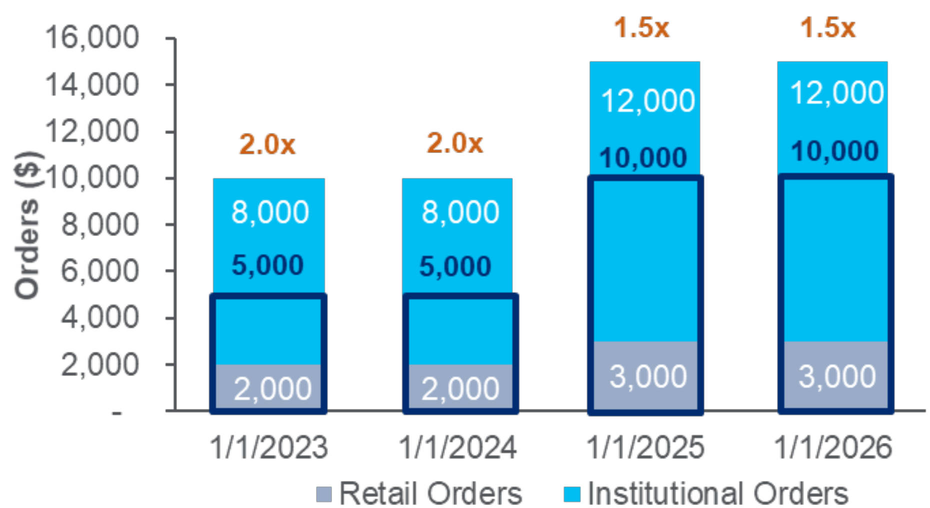
- Retail Order Period Call/Discussion and “Release into the Market”
  - The Pricing Wire is prepared and provides the amount, coupon and price by maturity of bonds being offered
  - The Release of a pricing wire signifies the start of an order period and official order taking
    - It should be noted that the Wires are not offering documents and the transaction terms are still governed by the POS – though the Wire will update amounts being offered, prices, etc.
- Retail Order Period: During this order period, only retail investors can submit orders
  - This allows retail investors to have a first chance to place orders for bonds
  - It may be the case that not all bonds are offered to retail, some maturities may be held back in order to:
    - Avoid selling to retail buyers a more sophisticated product that is inappropriate for them, such as a PAC
  - Retail investors are generally less price sensitive than other investors, and for this, and other reasons, they are usually given the first opportunity to buy
  - This allows the underwriting desk to build a book at attractive prices, while commencing the further solicitation of “Institutional” investor interest.
- Retail Order Period Priority Policy - Order in which investors will receive bonds:
  - In State Retail
  - National Retail
- Retail Wrap-up and Institution Pre-Pricing Call / Discussion: Takes place at the end of the Retail Order Period
  - Reviews the results of the retail order period
  - Discusses feedback from institutional investors
  - Proposes any structure or yield adjustments

4. Institutional Order Period: Targeting Institutions

- Institutional Order Period: This is generally the second and last order period which is targeted toward Institutions
  - Though it typically occurs the day after the Retail Order Period, if there is significant investor interest during the Retail Order Period the Institutional Order Period might be accelerated and take place in afternoon following ROP
  - Allows institutions first priority since they were not allowed to participate in the retail order period
  - Typically bonds that have been fully sold to retail investor will not be offered during the institutional order period
- Institutional Order Period Priority Policy - Order in which investors will receive bonds:
  - Net Designated Orders or Group Net (Institutional Orders)
  - In State Retail Orders
  - National Retail Orders
  - Member Orders (Syndicate Orders)
- Designation Policy. This applies only to institutional orders and dictates how the bond takedown / sales commission should be allocated by the institutional investor to syndicate members. (Note that for Retail and Member Orders, the firm that sold the bond receives all the sales commission.)
  - At least [XX] firm(s) must be designated
  - No firm may receive more than [XX]% of any designations

Order Book Example

Maturity	Par	Retail Orders	Institutional Orders	Total Orders	Subscription
11/15/2023	5,000	2,000	8,000	10,000	2.0x
11/15/2024	5,000	2,000	8,000	10,000	2.0x
11/15/2025	10,000	3,000	12,000	15,000	1.5x
11/15/2026	10,000	3,000	12,000	15,000	1.5x
Total	**30,000**	**10,000**	**40,000**	**50,000**	**1.7x**



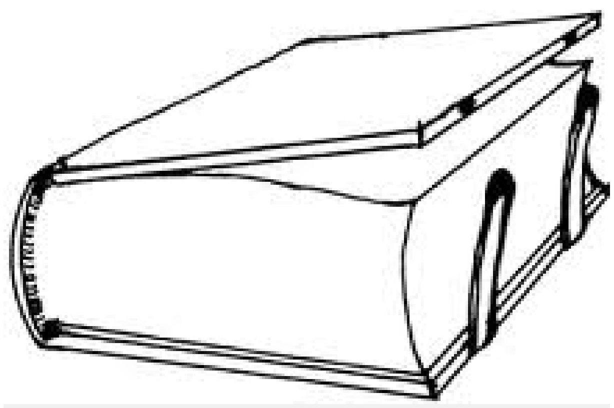
5. Verbal Award & Written Award: Pricing Wrap Up

- Institutional Wrap-up / Verbal Award Call: Takes place at the end of the Institutional Order Period
  - Reviews the results of the institutional order period
  - Verbal Award: any final yield adjustments / structure changes are made and the underwriter and issuer verbally agree to the final terms of the sale

- Bond Purchase Agreement (BPA): The written contract signed by the underwriter (on behalf of the syndicate) and the issuer
  - The parties are bound to the sale as defined by the terms laid out in the BPA (i.e., the conditions for delivering the bonds at closing in exchange for the agreed upon price)
  - It formalizes the prior verbal “handshake” that took place at the end of the institutional order period
  - It is executed when both parties have signed the agreement, typically the day following institutional pricing

6. Significant Post Pricing Events

- Official Statement (OS):
  - The OS is the bond document that lays out the final terms upon which the bonds are sold to investors
  - It should differ from the POS only in terms of market dependent final characteristics of the bonds being offered
- Leading up to Closing
  - Finalizing of bond documents, tax certificate, etc., based on the final structure and pricing results
- Bond Closing: The day money is exchanged (via wire) for the sale and purchase of the bonds



Disclaimer

In any instance where distribution of this communication is subject to the rules of the US Commodity Futures Trading Commission (“CFTC”), this communication constitutes an invitation to consider entering into a derivatives transaction under U.S. CFTC Regulations §§ 1.71 and 23.605, where applicable, but is not a binding offer to buy/sell any financial instrument.

This presentation has been prepared by individual personnel of Citigroup Global Markets Inc., Citigroup Global Markets Limited or their subsidiaries or affiliates (collectively, “Citi”). Such employees are not research analysts and are not subject to SEC or FSA rules designed to promote the independence of research and research analysts and accordingly may receive compensation related to securities or products to which these materials relate. These materials may contain general market commentary and excerpts of research; however they are not intended to constitute investment research, a research recommendation, research analysis or a research report for purposes of such rules.

In connection with any proposed transaction, Citi will be acting solely as a principal and not as your agent, advisor, account manager or fiduciary. Citi has not assumed a fiduciary responsibility with respect to the proposed transaction, and nothing in this or in any prior relationship between you and Citi will be deemed to create an advisory, fiduciary or agency relationship between us in respect of a proposed transaction. You should consider carefully whether you would like to engage an independent advisor to represent or otherwise advise you in connection with any proposed transaction, if you have not already done so.

Any terms set forth herein are intended for discussion purposes only and are subject to the final terms as set forth in separate definitive written agreements. This presentation is not a commitment to lend, syndicate a financing, underwrite or purchase securities, or commit capital nor does it obligate us to enter into such a commitment. By accepting this presentation, subject to applicable law or regulation, you agree to keep confidential the existence of and proposed terms for any contemplated transaction.

The provision of information in this presentation is not based on your individual circumstances and should not be relied upon as an assessment of suitability for you of a particular product or transaction. Even if Citi possesses information as to your objectives in relation to any transaction, series of transactions or trading strategy, this will not be deemed sufficient for any assessment of suitity for you of any transaction, series of transactions or trading strategy.

This presentation is provided for information purposes and is intended for your use only. Except in those jurisdictions where it is impermissible to make such a statement, Citi hereby informs you that this presentation should not be considered as an offer to sell or the solicitation of an offer to purchase any securities or other financial products. This presentation does not constitute investment advice and does not purport to identify all risks or material considerations which should be considered when undertaking a transaction. Citi makes no recommendation as to the suitability of any of the products or transactions mentioned. Any trading or investment decisions you take are in reliance on your own analysis and judgment and/or that of your advisors and not in reliance on us.

Certain transactions, including those involving swaps and options, give rise to substantial risk including the potential loss of the principal amount invested, and are not suitable for all investors. Citi does not provide investment, accounting, tax, financial or legal advice; however, you should be aware that any proposed indicative transaction could have accounting, tax, legal or other implications that should be discussed with your independent advisors. Therefore, prior to entering into any transaction, you should determine, without reliance on Citi, the economic risks or merits, as well as the legal, tax and accounting characteristics and consequences of the transaction and that you are able to assume these risks. By acceptance of these materials, you and Citi hereby agree that from the commencement of discussions with respect to any transaction, and notwithstanding any other provision in this presentation, Citi hereby confirms that no participant in any transaction shall be limited from disclosing the U.S. tax treatment or U.S. tax structure of such transaction.

This presentation is not intended to forecast or predict future events. Past performance is not a guarantee or indication of future results. Any estimates and opinions included herein constitute Citi’s judgment as of the date hereof and are subject to change without any notice.

This presentation may contain "forward-looking" information. Such information may include, but not be limited to, projections, forecasts or estimates of cash flows, yields or return, scenario analyses and proposed or expected portfolio composition. Any forward-looking information is based upon certain assumptions about future events or conditions and is intended only to illustrate hypothetical results under those assumptions (not all of which are specified herein or can be ascertained at this time). It does not represent actual termination or unwind prices that may be available to you. Actual events or conditions are unlikely to be consistent with, and may differ significantly from, those assumed. Illustrative performance results may be based on mathematical models that calculate those results by using inputs that are based on assumptions about a variety of future conditions and events and not all relevant events or conditions may have been considered in developing such assumptions. Accordingly, actual results may vary and the variations may be substantial. The products or securities identified in any of the illustrative calculations presented herein may therefore not perform as described and actual performance may differ, and may differ substantially, from those illustrated in this material. When evaluating any forward looking information you should understand the assumptions used and, together with your independent advisors, consider whether they are appropriate for your purposes.

Any securities or other financial products described herein may be subject to fluctuations of their mark-to market price or value. Such fluctuations may be substantial, depending on the type of securities or other financial products and the financial environment. In addition certain securities described in the presentation may provide for payments linked to or derived from prices or yields of one or more securities or other instruments or foreign currencies, and such provisions may result in negative fluctuations in the value of and the amounts payable with respect to such securities prior to or at redemption. You should consider the implication of such fluctuation with your independent accounting, tax and risk advisors.

Citi shall have no liability to you, the user or to third parties, for the quality, accuracy, timeliness, continued availability or completeness of the data nor for any special, direct, indirect, incidental or consequential loss or damage which may be experienced because of the use of the information in this presentation or otherwise arising in connection with this presentation, provided that this exclusion of liability shall not exclude or limit any liability under any law or regulation applicable to Citi that may not be excluded or restricted. These materials are intended for distribution solely to customers of Citi in jurisdictions where such distribution is permitted. The information contained herein is proprietary information of Citi and may not be reproduced or otherwise disseminated in whole or in part without Citi’s prior written consent.

Citi often acts as (i) a market maker; (ii) an issuer of financial instruments and other products; and (iii) trades as principal in many different financial instruments and other products, and can be expected to perform or seek to perform investment banking and other services for the issuer of such financial instruments or other products. The author of this presentation may have discussed the information contained herein with others within or outside Citi and the author and/or such other Citi personnel may have already acted on the basis of this information (including by trading for Citi's proprietary accounts or communicating the information contained herein to other customers of Citi). Citi, Citi's personnel (including those with whom the author may have consulted in the preparation of this presentation), and other customers of Citi may be long or short the financial instruments or other products referred to in this presentation, may have acquired such positions at prices and market conditions that are no longer available, and may have interests different from or adverse to your interests.

Citi is required to obtain, verify and record certain information that identifies each entity that enters into a formal business relationship with Citi. Citi will ask for your complete name, street address, and taxpayer ID number. Citi may also request corporate formation documents, or other forms of identification, to verify information provided.

Although Citibank, N.A. (together with its subsidiaries and branches worldwide, "Citibank") is an affiliate of Citi, you should be aware that none of the financial instruments or other products mentioned in this presentation (unless expressly stated otherwise) are (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by, Citibank or any other insured depository institution.

IRS Circular 230 Disclosure: Citi and its employees are not in the business of providing, and do not provide, tax or legal advice to any taxpayer outside of Citi. Any statements in this presentation regarding tax matters were not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Any such taxpayer should seek advice based on the taxpayer’s particular circumstances from an independent tax advisor.

Credit Rating Basics and Overview of HFA Bond Ratings

Financing Affordable Mortgages 101: Mortgage Revenue Bonds, TBA, and Securitization Basics

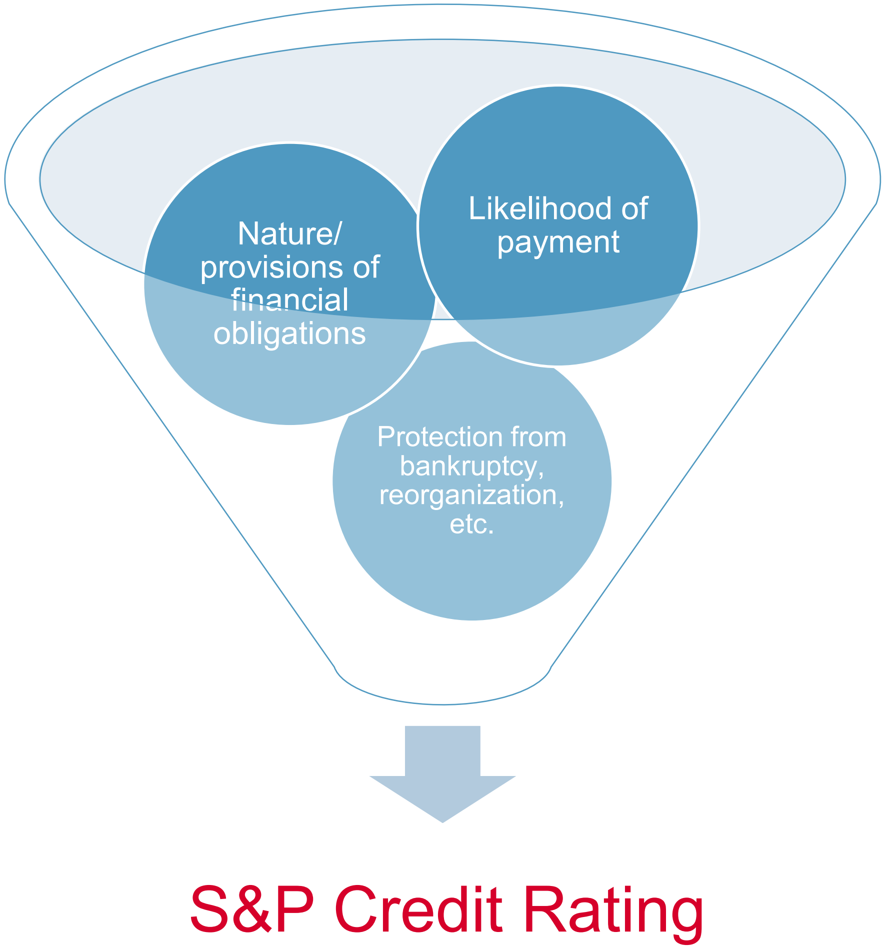
Dan Pulter, CFA
Associate Director
U.S. Public Finance - Housing

January 12, 2023

S&P Global Ratings

What is a credit rating?

- A forward-looking opinion about an issuer's (or program's) relative creditworthiness.
- Establish a common and transparent global language for investors to form a view on, and compare the relative likelihood of, whether an issuer may repay its debts on time and in full.
- *"Credit ratings help facilitate an **efficient capital marketplace**. They provide transparent third-party information that's not only forward-looking but **standardized for consistency**."*
- Personal finance analog: **Credit Scores**



Uses of Credit Ratings

Additionally, credit ratings provide investors with:

Common terminology to describe different levels of creditworthiness (e.g., AAA)

Third-party opinions

Information to help make more informed decisions

Assistance in understanding and measuring credit risk, and emerging risk types: sustainability & climate change, cyber risk, technology & digital disruption

Smooth functioning of the capital market enables:

People to start and grow businesses

Governments to improve infrastructure

Manufacturers to build factories and create jobs

S&P Global Ratings' Impact

>35,000 issuers helped to access capital markets

>1 million credit ratings outstanding on government, corporate, financial sector and structured finance entities and securities.

$47 Trillion in outstanding debt surveilled

$75 Trillion in debt rated by S&P Global since 2000

S&P Global's Credit Rating Definitions

Investment Grade

Non-Investment Grade

Rating Category	Description
AAA	The obligor's capacity to meet its financial commitments on the obligation is **extremely strong**.
AA	The obligor's capacity to meet its financial commitments on the obligation is **very strong**.
A	**More susceptible to the adverse effects of changes in circumstances and economic conditions** than obligations in higher-rated categories. However, the obligor's capacity to meet its financial commitments on the obligation is still **strong**.
BBB	An obligation rated 'BBB' exhibits **adequate protection parameters**. However, **adverse economic conditions or changing circumstances are more likely to weaken the obligor's capacity to meet its financial commitments** on the obligation.
BB, B, CCC, CC, and C	Regarded as having **significant speculative characteristics**. While such obligations will likely have some quality and protective characteristics, these may be outweighed by large uncertainties or major exposure to adverse conditions.
D	An obligation rated 'D' is **in default or in breach of an imputed promise**. The 'D' rating also will be used upon the **filing of a bankruptcy petition** or the taking of similar action and where **default on an obligation is a virtual certainty, for example due to automatic stay provisions**.

***Ratings from 'AA' to 'CCC' may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the rating categories.**

HFA Ratings In Perspective

S&P Rating	
AAA	Microsoft, Johnson & Johnson
AA+	Alphabet, Median HFA Bond Rating
AA	Walmart Save money. Live better., amazon
AA-	Chevron, NIKE, SAMSUNG
A+	COSTCO WHOLESALE, Pfizer, TOYOTA
A	TARGET, THE HOME DEPOT, MARS, Honeywell
A-	Qualcomm, conEdison, RALPH LAUREN, HONDA

S&P Rating Process Overview

Contract & Pre-Evaluation

- Rating requested & documents submitted
- Scheduling and logistics
- Initial due diligence

Management Meeting & Analysis

- Management meeting/call with senior staff may be necessary
- Follow ups for data, questions, clarifications
- Internal evaluation of relevant credit factors under criteria

Rating Committee Review

- Rating committee of senior analysts discusses criteria factors
- Majority vote determines outcome

Notification & Publication

- Issuer reviews rating report
- Issuer's comments, if any, are incorporated
- Release rating and publication

Annual Surveillance

S&P Global Ratings

Other Things to Know About S&P’s Ratings

- An assortment of personnel on various S&P teams play a role in generating a given rating

- Timelines to produce a rating vary by sector, security, and analyst/team capacity

- Avoid the “F-word” (fees) when interacting with your analysts!

- Analysts are strictly prohibited from “structuring” transactions

- A criteria RFC provides a formal method to provide feedback, but S&P Global Ratings accepts feedback on criteria 365 days/year

Types of S&P Ratings for HFAs

Issuer Credit Ratings (ICRs)

- Reflects the general creditworthiness of an HFA
- Sometimes referred to as the "General Obligation" (GO) pledge of the HFA, meaning all legally available revenues
- Rated using **Methodology And Assumptions: Housing Finance Agencies And Social Enterprise Lending Organizations**, published Dec. 27, 2016
- Rated Universe: 23 HFAs
- Information sources: audited financials, questionnaires, conversations with HFA management
- Criteria framework: Financial strength (capital adequacy, profitability, asset quality, liquidity); Management, legislative mandate, or federal designation; and Economy

Program/Issue Ratings

- Reflects the credit strength of an HFA program/indenture/resolution
- Covers bonds backed by pools of mortgage loans on residential properties, which are typically established and overseen by a state or local HFA
- Rated using the **Methodology For Rating U.S. Public Finance Mortgage Revenue Bond Programs (MRBP)**, published Oct. 10, 2022
- Rated Universe: ~74 program ratings
- Information sources: cash flow runs, questionnaire, periodic disclosures, conversations with HFA management
- Criteria Framework: Legal framework analysis; Program management & operational risk analysis; Credit quality of the asset pool; Cash flow analysis; Modifiers & holistic analysis; Application of other criteria

HFA Programs By The Numbers

Median Rating

Single-family programs

AA+/Stable

Multifamily programs

AA+/Stable

Non-Performing Assets (NPAs)

Median whole loan delinquency rate as of Q2 2022

4.75% Single-family

0.30% Multifamily

Portfolio

Median program size

$931 Mil. Single-family

$1.75 Bil. Multifamily

Median asset-to-liability parity

118% Single-family

133% Multifamily

Single-family insurance support

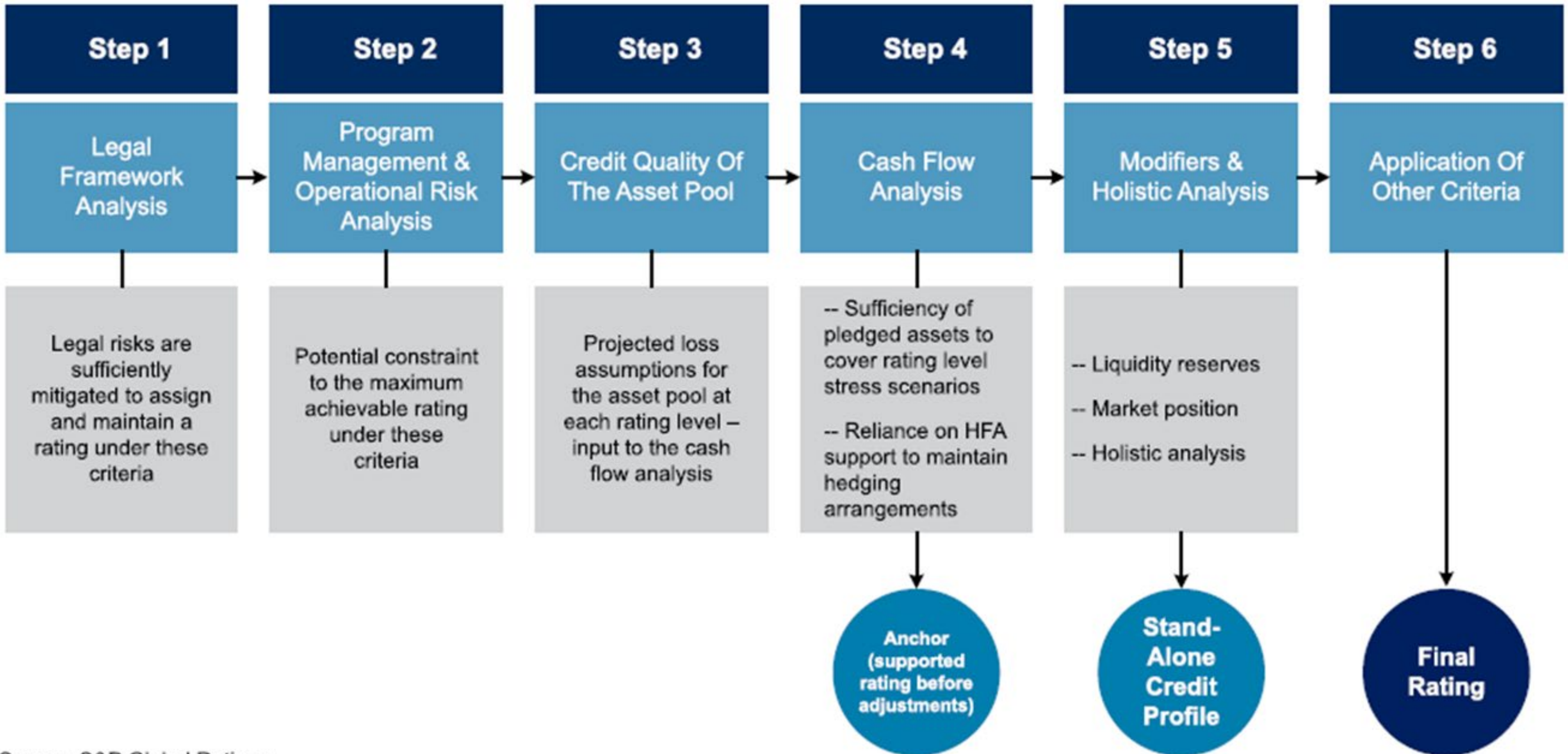
71% of whole loan portfolios carry government loan insurance

Source: S&P Global Ratings.

New HFA Program Criteria (MRBP) – Key Changes

- Established a comprehensive framework capturing all aspects of HFA programs' performance & operation vs. asset type approach
- Emphasize the HFA's active role in the program & dependency on the HFA (support or risks)
- Updated our single-family credit quality analysis to integrate state nuances (economy/taxes/foreclosure process) and market value changes
- More explicit analysis of the sufficiency of liquidity reserves
- Establish direct linkage to the HFA's issuer credit rating based on derivative support or events of default

Mortgage Revenue Bond Program (MRBP) Methodology



Source: S&P Global Ratings.

MRBP Analysis Step 2: Program Management & Operational Risk Analysis

Program Management & Operational Risk Factors
See Table 2 in Criteria for Examples

1. Program strategy & governance
2. Loan origination & monitoring
3. Asset & liability management
4. Liquidity risk management
5. Counterparty risk management

Table 1
Determining An MRB Program's Maximum Potential Rating Based On Program Management And Operational Risks

Number of factors assessed as negative	Maximum potential rating
0	No constraint
1-2	'AA' category
3-4	'A' category
5	'BBB' category

The presence of a specific attribute may not lead to a negative assessment if we view the identified risk as otherwise mitigated

MRBP Analysis Step 3: Credit Quality of the Asset Pool

Projected loss assumptions for single-family whole loan pools

- We first determine a rating level foreclosure frequency (FF) and loss severity (LS) for each cohort; we then determine a weighted average foreclosure frequency (WAFF) and weighted average loss severity (WALS)

WAFF x WALS = Projected loss assumption at each rating level

- The typical pool definition and base foreclosure frequency assumptions are benchmarked against our U.S. RMBS criteria "Methodology And Assumptions For Rating U.S. RMBS Issued 2009 And Later“
- Based on the calibration of these criteria, the FF assumption for a typical pool of loans originated or purchased by HFAs would be *approximately 0.7x the FF assumption for a U.S. RMBS pool* with otherwise similar borrower characteristics
    - We have observed stronger credit performance of loans originated or purchased by HFAs, through periods of stress, relative to other U.S. mortgage loans to borrowers with similar characteristics

MRBP Analysis Step 3: Credit Quality of the Asset Pool (continued)

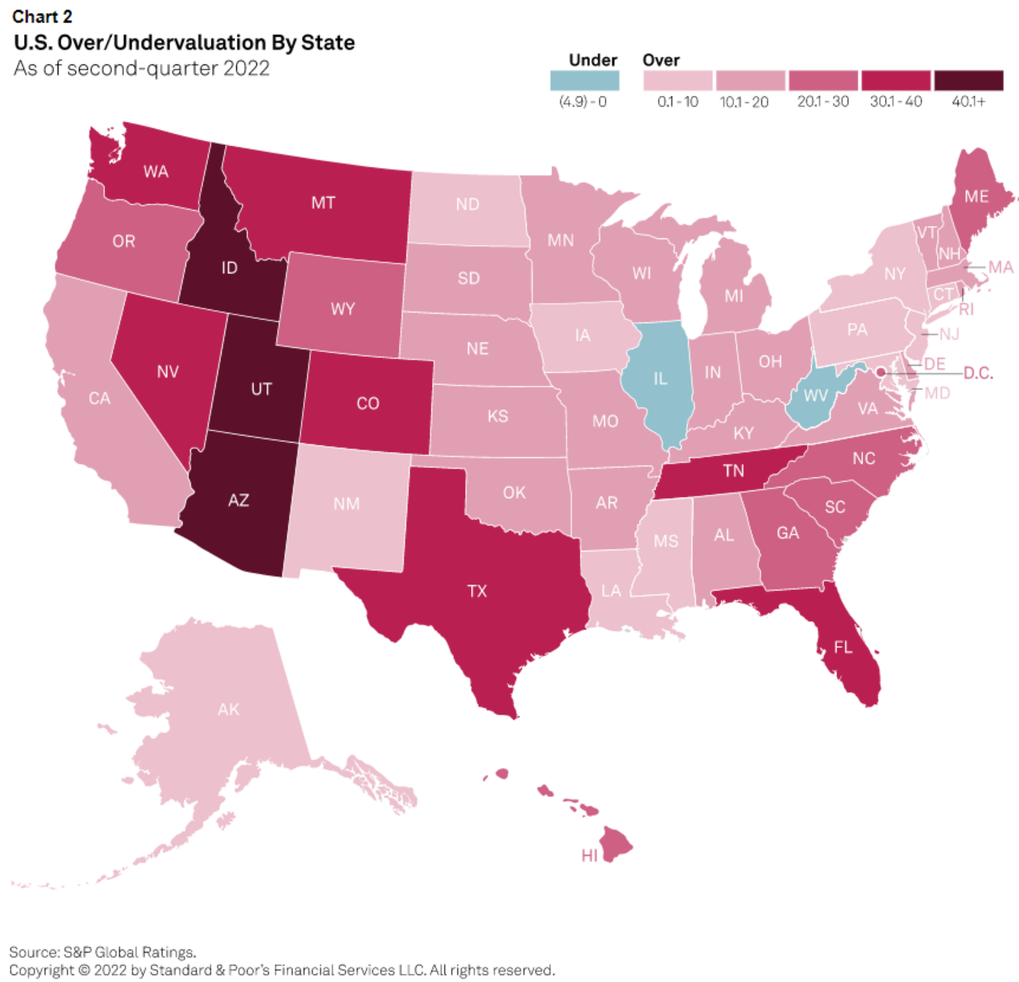
Overview Of Foreclosure Frequency Adjustments For Single-Family Whole Loan Pools

Characteristic	Adjustment factor
Adjustments reflecting loan characteristics	
LTV	0.7x–2.1x for LTVs in the range 75%-95%, with an adjustment of approximately 1.0x for LTVs of 82%, increasing exponentially for higher LTVs (see chart 8)
Seasoning	0.5x–1.0x applied to performing loans with at least five years' seasoning (see table 11)
Loan type	1.5x for loan types other than fixed-rate 30-year maturity amortizing loans. Can increase to 3.0x for balloon or negam loans, if applicable (see table 10)
Property type	1.1x–2.0x for property types other than single-family residences (see table 12)
Delinquency status	2.5x–5.0x for loans that are at least 30 days delinquent, with 100% foreclosure frequency assumed for loans 90 days delinquent and above (see table 13)
Adjustments reflecting pool characteristics	
Average borrower FICO	0.9x–2.5x for FICO scores ranging from greater than 725 to below 620 (see table 9)
Small pool adjustment factor	Applies to pools of fewer than 250 loans (see chart 10)
Qualitative adjustment factor	1.0x–2.0x, applied where servicing or origination standards deviate significantly from the norm for HFA managed pools (see paragraph 64)

MRBP Analysis Step 3: Credit Quality of the Asset Pool (continued)

Loss severity

- Brings state-level nuance into loss assumption
- Calculated based on the following components (detailed in Appendix I)
  - Market value decline (MVD) assumptions for the underlying properties;
  - Over/undervaluation adjustments (based on long-term price-to-income ratios) for current housing market conditions in the relevant state;
  - Forced sale discount;
  - Foreclosure and preservation costs; and
  - Lost-interest, taxes and insurance over the course of the liquidation timeline



Source: "Housing Overvaluation May Be Peaking: How It Affects U.S. RMBS"

S&P Global Ratings

What we're watching in 2023 – S&P's Sector Outlook for HFAs

Stable sector outlook overall

- Shallow recession expected, with GDP growth expected to weaken by 0.1% in 2023, pushing unemployment to a peak of 4.5% in Q42023
  - However, HFA balance sheets remain strong, with sufficient liquidity
  - Prudent underwriting and high levels of gov't insurance
  - Continued shift away from TBA
  - Minor weakening of Asset/Liability parity in programs and HFA ROA for ICRs
- With inflation outpacing wage gains, pressure on low-income households will only intensify
  - DPA will be continue to be an integral part of HFA financing
- HFA management teams continue to demonstrate the foresight and resilience to steer their organizations profitably through uncharted territory.

Contact Information

S&P Housing Team

Caroline West
Senior Director
Analytical Manager
Chicago, IL
+1-312-233-7047
caroline.west@spglobal.com

Marian Zucker
Senior Director
Sector Leader
New York, NY
+1-212-438-2150
marian.zucker@spglobal.com

David Greenblatt
Director
Lead Analyst
New York, NY
+1-212-438-1383
david.greenblatt@spglobal.com

Aulii Limtiaco
Director
Lead Analyst
San Francisco, CA
+1-415-371-5023
aulii.limtiaco@spglobal.com

Joan Monaghan
Director
Lead Analyst
Centennial, CO
+1-303-721-4401
joan.monaghan@spglobal.com

Raymond Kim
Associate Director
New York, NY
+1212-438-2005
raymond.kim@spglobal.com

Ki Beom Park
Associate Director
San Francisco, CA
+1-212-438-8493
Kib.park@spglobal.com

Shirley Murillo
Associate Director
New York, NY
Shirley.Murillo@spglobal.co,

Daniel Pulter, CFA
Associate Director
Centennial, CO
+1-303-721-4646
Daniel.pulter@spglobal.com

Emily Avila
Associate
New York, NY
+1-212438-1824
Emily.avila@spglobal.com

Sam Krouse
Associate
Dallas, TX
+1-214-871-1409
Sam.Krouse@spglobal.com

Jessica Pabst, CFA
Associate
Centennial, CO
+1-303-721-4549
Jessica.pabst@spglobal.com

John Mariotti
Rating Analyst
Centennial, CO
+1-303-721-4463
John.Mariotti@spglobal.com

spglobal.com/ratings

S&P Global
Ratings