

Morgan Stanley



2018 HFA Institute

January 10, 2018

Geoff Proulx, Executive Director
1585 Broadway, 16th Floor
New York, NY 10036
Phone: +1 212 761-9056
Geoff.Proulx@morganstanley.com

THIS IS SALES AND TRADING COMMENTARY PREPARED FOR INSTITUTIONAL INVESTORS; it is NOT a research report; tax, legal, financial, or accounting advice; or an official confirm. The views of the author may differ from others at MS (including MS Research). MS may engage in conflicting activities -- including principal trading before or after sending these views -- market making, lending, and the provision of investment banking or other services related to instruments/issuers mentioned. No investment decision should be made in reliance on this material, which is condensed and incomplete; does not include all risk factors or other matters that may be material; does not take into account your investment objectives, financial conditions, or needs; and IS NOT A PERSONAL RECOMMENDATION OR INVESTMENT ADVICE or a basis to consider MS to be a fiduciary or municipal or other type of advisor. It constitutes an invitation to consider entering into derivatives transactions under CFTC Rules 1.71 and 23.605 (where applicable) but is not a binding offer to buy or sell any financial instrument or enter into any transaction. It is based upon sources believed to be reliable (but no representation of accuracy or completeness is made) and is likely to change without notice. Any price levels are indicative only and not intended for use by third parties. Subject to additional terms at <http://www.morganstanley.com/disclaimers/terms.html>.

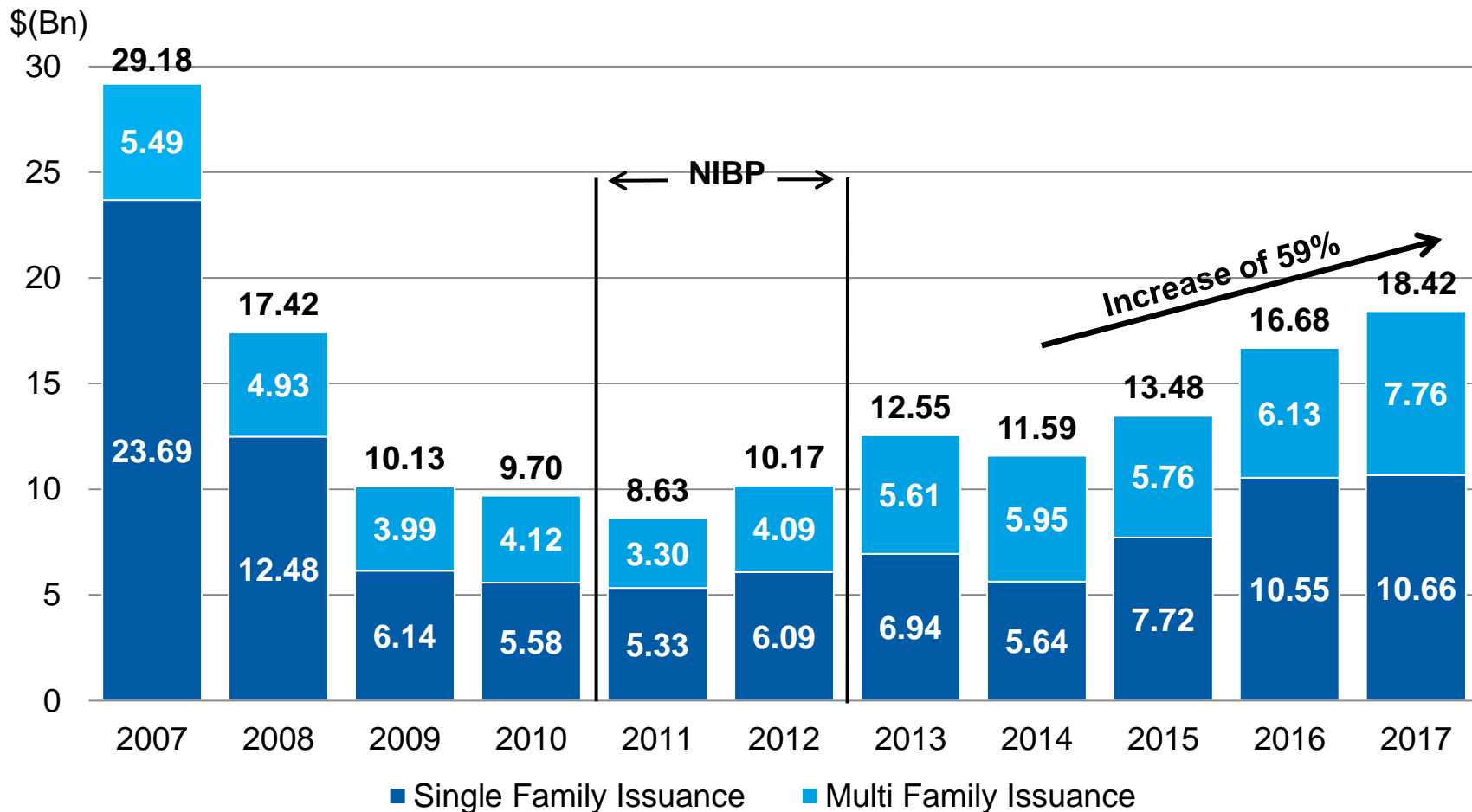
The views represented herein are the author's own views and do not necessarily represent the views of Morgan Stanley or its affiliates, and are not a product of Morgan Stanley Research

Disclaimer

(a) Morgan Stanley & Co. LLC (“Morgan Stanley”) is not recommending an action to you; (b) Morgan Stanley is not acting as an advisor to you and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to you with respect to the information and material contained in this communication; (c) Morgan Stanley is acting for its own interests; (d) you should discuss any information and material contained in this communication with any and all internal or external advisors and experts that you deem appropriate before acting on this information or material; and (e) Morgan Stanley seeks to serve as an underwriter on a future transaction and not as a financial advisor or municipal advisor. The information provided is for discussion purposes only in anticipation of being engaged to serve as underwriter. The primary role of an underwriter is to purchase securities with a view to distribution in an arm’s-length commercial transaction with the issuer. The underwriter has financial and other interests that differ from those of the issuer and obligated persons.

Any non-historical interest rates used herein are hypothetical and take into consideration conditions in today’s market and other factual information such as the issuer’s or obligated person’s credit rating, geographic location and market sector. As such, these rates should not be viewed as rates that Morgan Stanley guarantees to achieve for the transaction should we be selected to act as underwriter. Any information about interest rates and terms for SLGs is based on current publically available information and treasury or agency rates for open-market escrows are based on current market interest rates for these types of credits and should not be seen as costs or rates that Morgan Stanley guarantees to achieve for the transaction should we be selected to act as underwriter.

Municipal Housing Issuance by Year



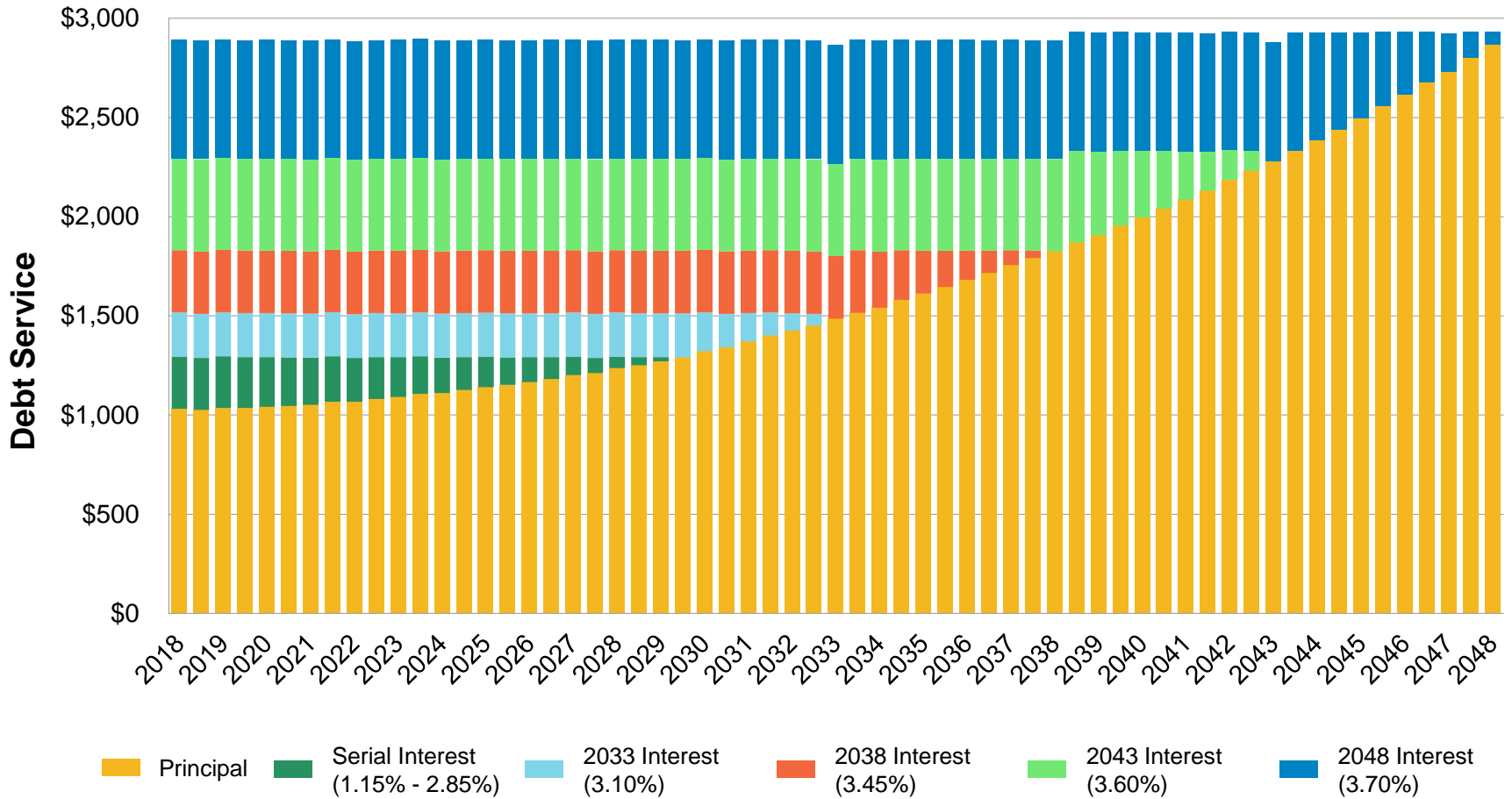
Source: Thomas Reuters SDC Platinum

1. Please see additional important information and qualifications at the end of this material

How Do Municipal Bonds Differ From Other Bonds?

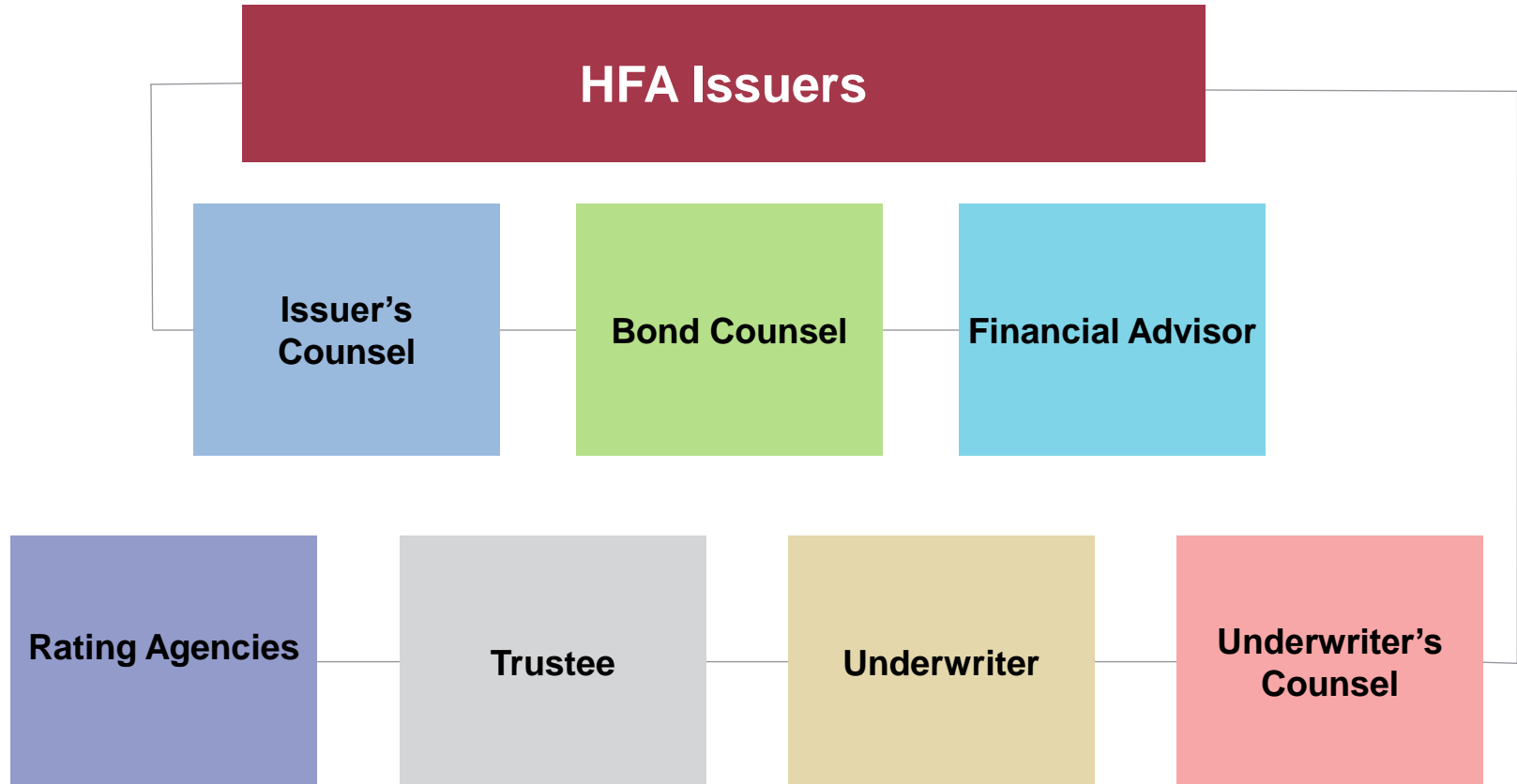
- Bonds issued by state and local governments and authorities enjoy a special tax-exempt status when issued for certain purposes
- The types of projects that may be financed and how bond proceeds are spent are subject to very specific tax law constraints
- Interest income is generally exempt from federal taxation and often from state and local taxes, with exceptions
- As a result, investors are willing to accept a lower interest rate than they would if their income was taxable
 - This results in a "subsidized loan" to the issuer; the government agrees to forego money in tax revenues, and the issuer enjoys a lower interest rate on its debt

Bond Mechanics – Principal and Interest

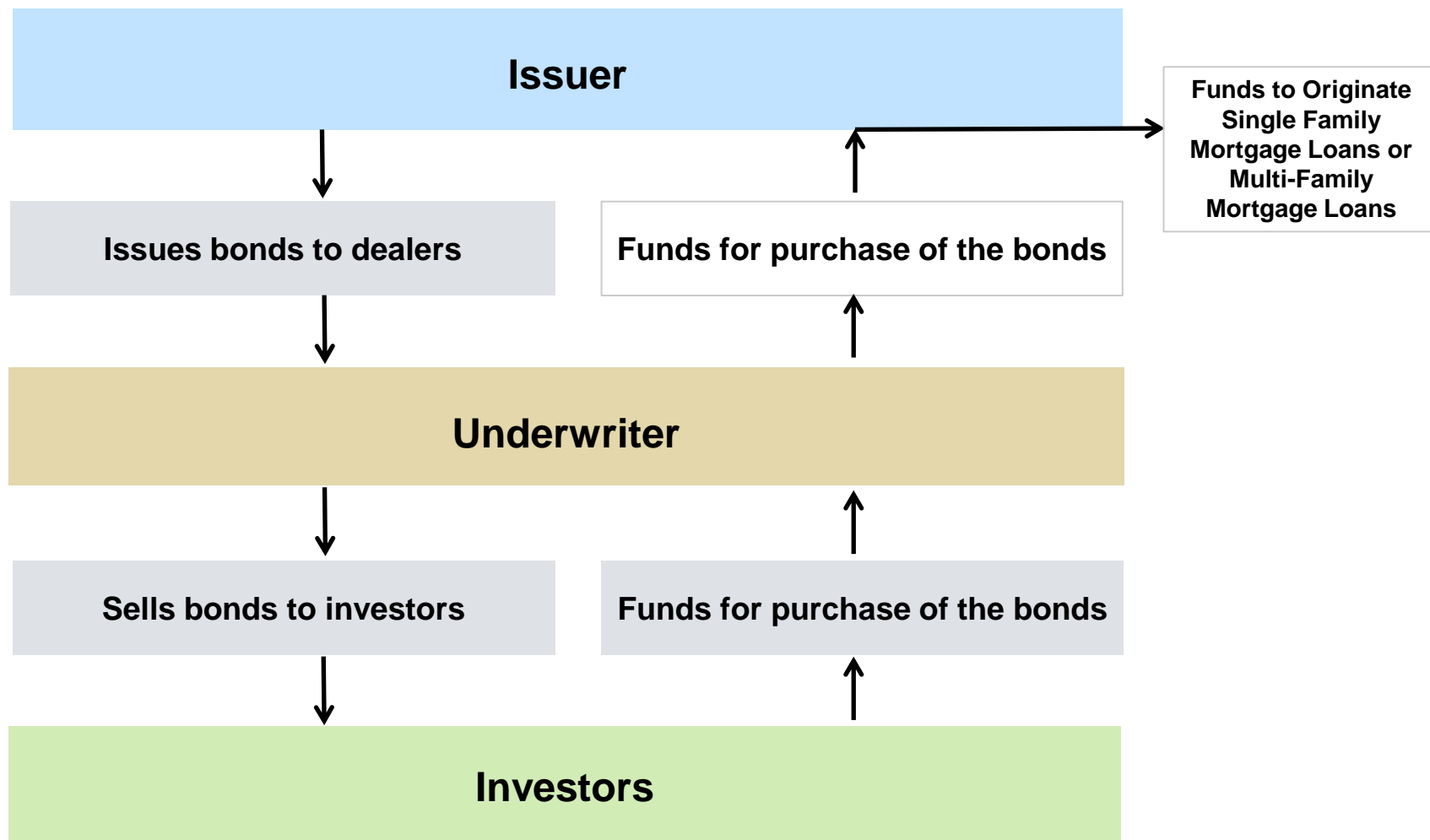


Source: Morgan Stanley Municipal Finance Group
 1. Please see additional important information and qualifications at the end of this material

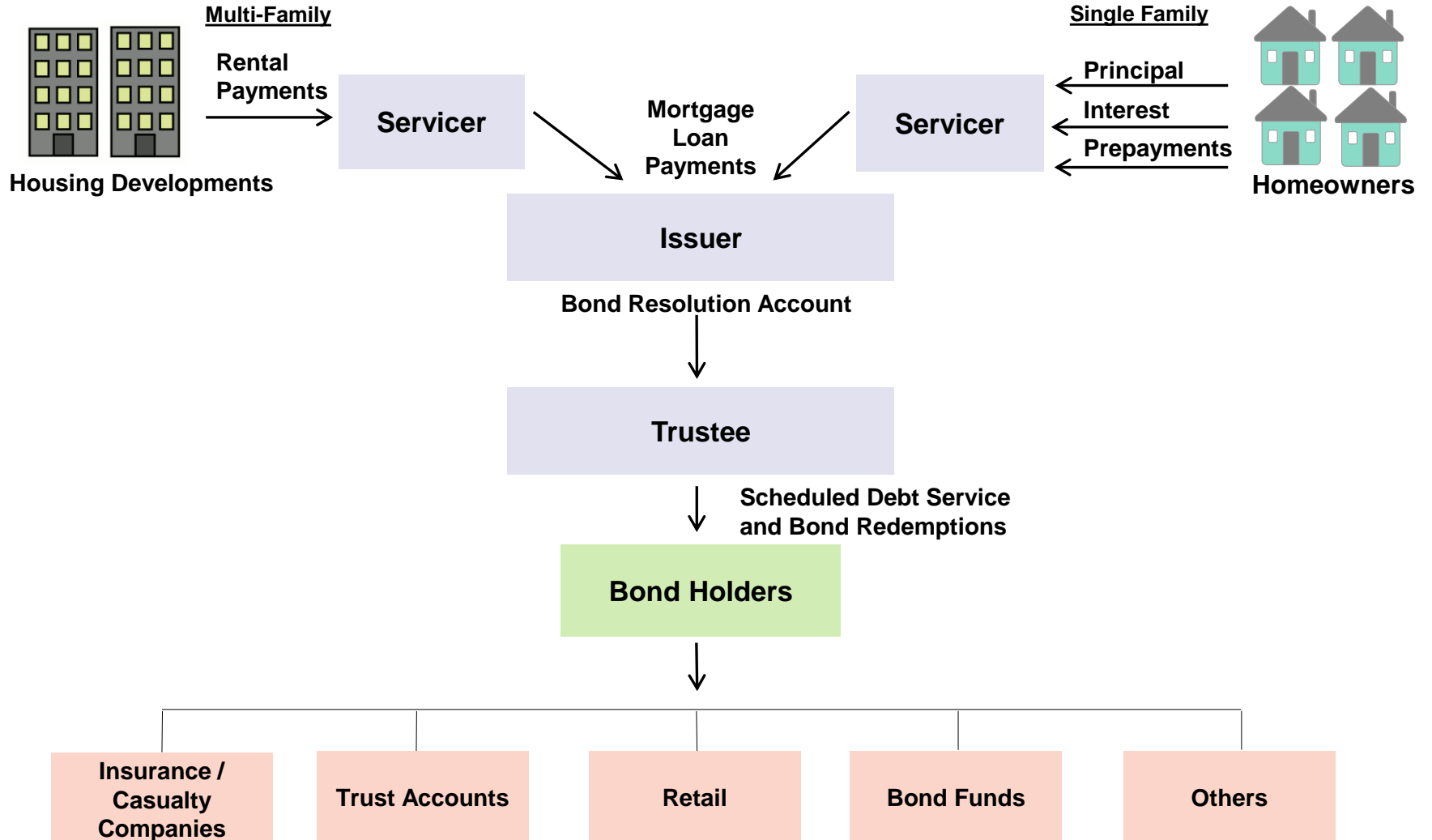
Financing Team Members



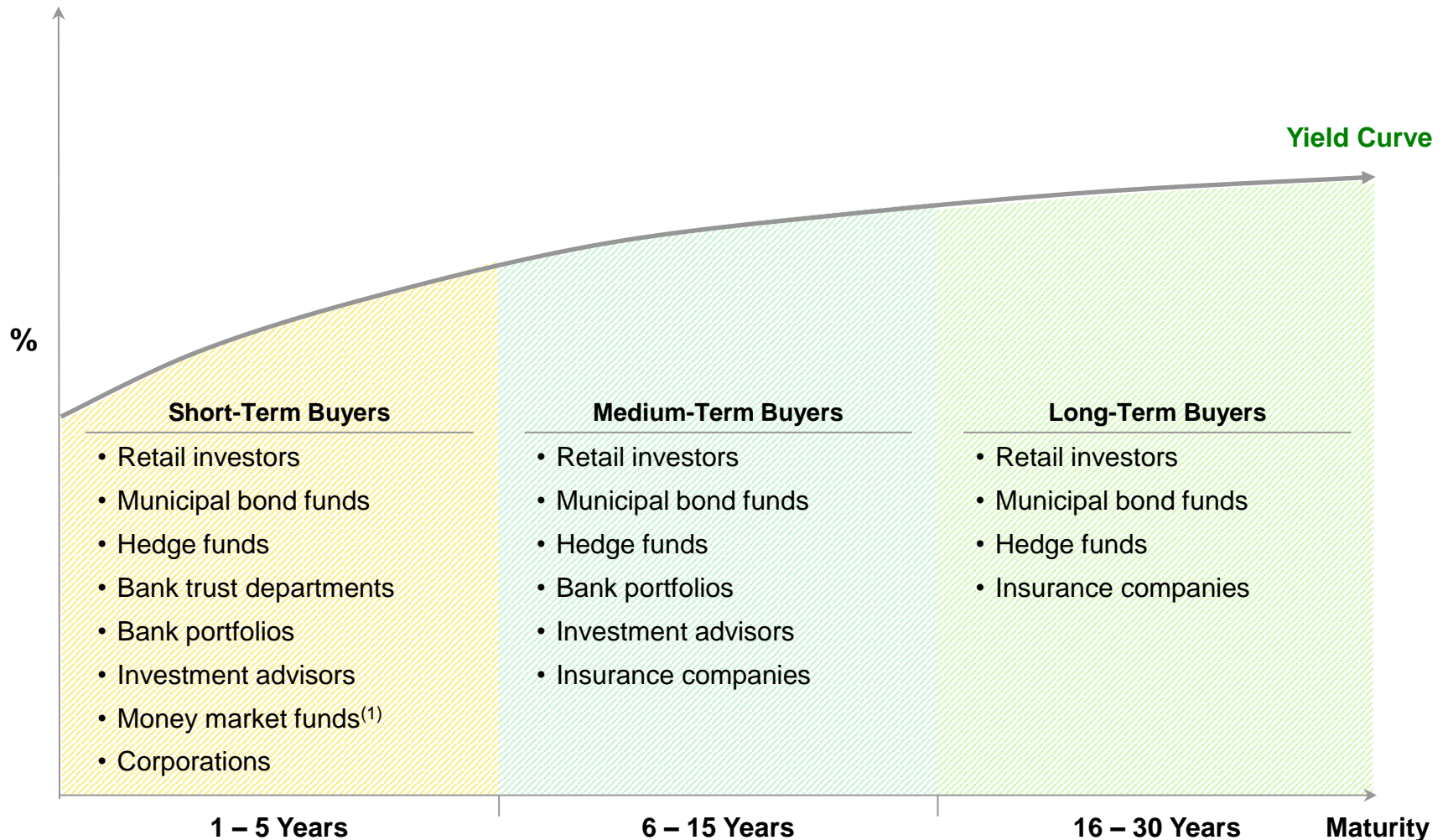
Bond Issuance: Initial Sale



Housing Bond Issuance: Ongoing Flow of Funds



Bond Buyers Vary by Bond Type/Maturity



Source: Morgan Stanley Municipal Finance Group
 1. Please see additional important information and qualifications at the end of this material

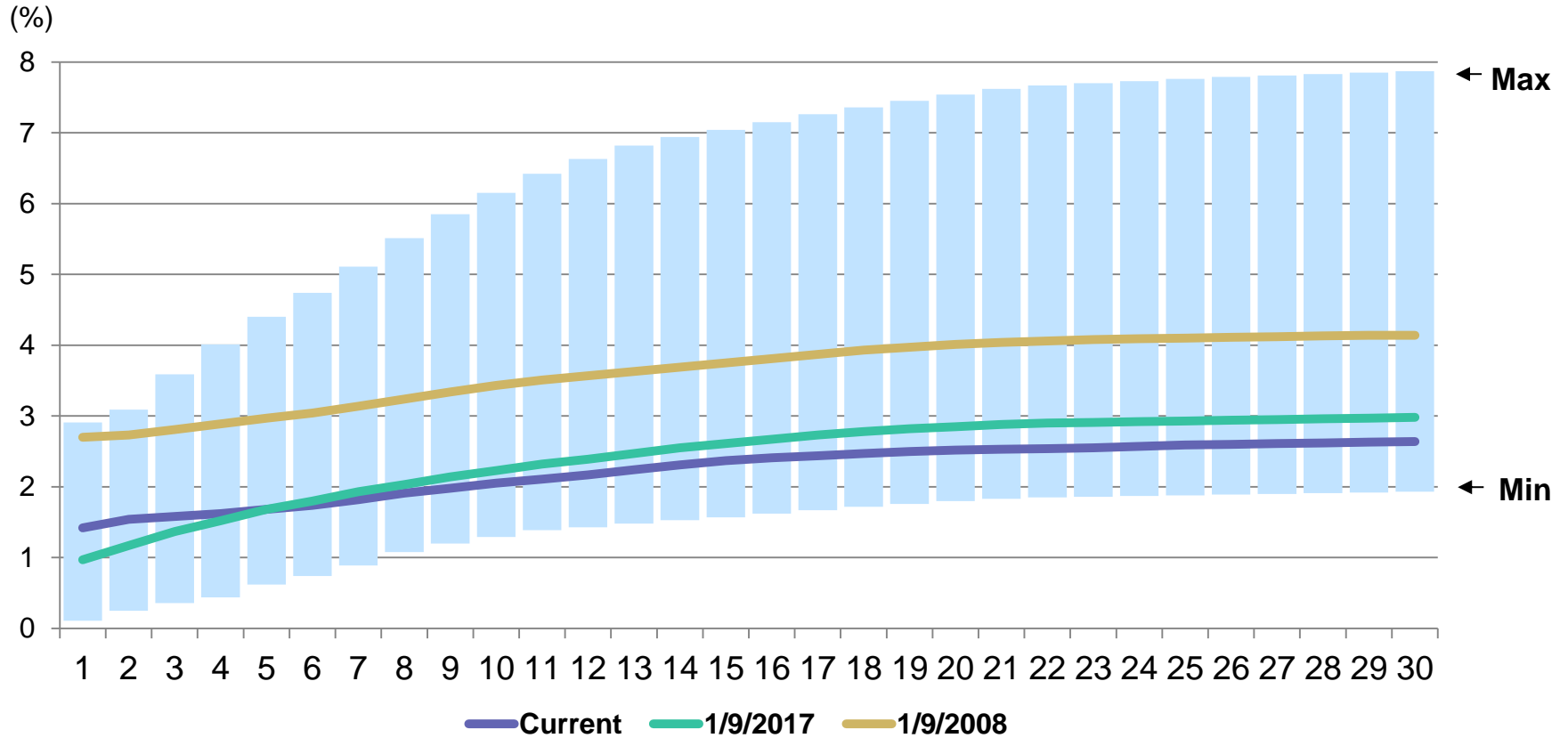
Factors that Impact Yield

- Federal/State/Local Tax Exemption
- Issuer
- Credit
- Bond Type
- Call features
- Supply vs. Demand
- Tax rates
- State of Issuer
- Rating
- Duration
- Macroeconomic climate
- Perceived value of alternative investments

MMD Benchmark Yield Curve Comparison

MMD Benchmark Yield Curve Comparison

2008 - 2018YTD



Morgan Stanley

APPENDIX

Disclaimer

Disclaimer

The information in this material was prepared by sales, trading, or other non-research personnel of Morgan Stanley for institutional investors. This is not a research report, and unless otherwise indicated, the views herein (if any) are the author's and may differ from those of our Research Department or others in the Firm. This material is not impartial and is not independent of the interests of our trading and other activities, which may conflict with your interests. We may deal in any of the markets, issuers, or instruments mentioned herein before or after providing this information, as principal, market maker, or liquidity provider and may also seek to advise issuers or other market participants.

Where you provide us with information relating to an order, inquiry, or potential transaction, we may use that information to facilitate execution and in managing our market making and hedging activities. This material does not provide (and should not be construed to be) investment advice (including, without limitation, as defined under the Employee Benefit Income Security Act of 1974, as amended or similar concepts under applicable law) or offer tax, regulatory, accounting, or legal advice. By submitting this document to you, Morgan Stanley is not your fiduciary, municipal, or any other type of advisor. This material is general in nature and not based on a consideration of any individual client circumstances and thus should not be considered a recommendation to any recipient or group of recipients. This material is an invitation to consider entering into derivatives transactions under CFTC Rules 1.71 and 23.605 (where applicable) but is not a binding offer to buy or sell any instrument or enter into any transaction. To receive further information in relation to the past performance of the financial instrument and or underlying (as applicable) and/or the functioning of the financial instrument in different market conditions referred to in any communications produced by Employees of any Morgan Stanley entity based in EMEA, please contact your EMEA Morgan Stanley Sales representative.

We have prepared this document solely for informational purposes. You should not definitively rely upon it or use it to form the definitive basis for any decision, contract, commitment or action whatsoever, with respect to any proposed transaction or otherwise. You and your directors, officers, employees, agents and affiliates must hold this document and any oral information provided in connection with this document in strict confidence and may not communicate, reproduce, distribute or disclose it to any other person, or refer to it publicly, in whole or in part at any time except with our prior written consent. If you are not the intended recipient of this document, please delete and destroy all copies immediately.

We have prepared this document and the analyses contained in it based, in part, on certain assumptions and information obtained by us from the recipient, its directors, officers, employees, agents, affiliates and/or from other sources. Our use of such assumptions and information does not imply that we have independently verified or necessarily agree with any of such assumptions or information, and we have assumed and relied upon the accuracy and completeness of such assumptions and information for purposes of this document. Neither we nor any of our affiliates, or our or their respective officers, employees or agents, make any representation or warranty, express or implied, in relation to the accuracy or completeness of the information contained in this document or any oral information provided in connection herewith, or any data it generates and accept no responsibility, obligation or liability (whether direct or indirect, in contract, tort or otherwise) in relation to any of such information. We and our affiliates and our and their respective officers, employees and agents expressly disclaim any and all liability which may be based on this document and any errors therein or omissions therefrom. Neither we nor any of our affiliates, or our or their respective officers, employees or agents, make any representation or warranty, express or implied, that any transaction has been or may be effected on the terms or in the manner stated in this document, or as to the achievement or reasonableness of future projections, management targets, estimates, prospects or returns, if any. Any views or terms contained herein are preliminary only, and are based on financial, economic, market and other conditions prevailing as of the date of this document and are therefore subject to change. We undertake no obligation or responsibility to update any of the information contained in this document. Past performance does not guarantee or predict future performance.

This document and the information contained herein do not constitute an offer to sell or the solicitation of an offer to buy any security, commodity or instrument or related derivative, nor do they constitute an offer or commitment to lend, syndicate or arrange a financing, underwrite or purchase or act as an agent or advisor or in any other capacity with respect to any transaction, or commit capital, or to participate in any trading strategies, and do not constitute legal, regulatory, accounting or tax advice to the recipient. We recommend that the recipient seek independent third party legal, regulatory, accounting and tax advice regarding the contents of this document. This document does not constitute and should not be considered as any form of financial opinion or recommendation by us or any of our affiliates. This document is not a research report and was not prepared by the research department of Morgan Stanley or any of its affiliates.

Notwithstanding anything herein to the contrary, each recipient hereof (and their employees, representatives, and other agents) may disclose to any and all persons, without limitation of any kind from the commencement of discussions, the U.S. federal and state income tax treatment and tax structure of the proposed transaction and all materials of any kind (including opinions or other tax analyses) that are provided relating to the tax treatment and tax structure. For this purpose, "tax structure" is limited to facts relevant to the U.S. federal and state income tax treatment of the proposed transaction and does not include information relating to the identity of the parties, their affiliates, agents or advisors.

This document is provided by Morgan Stanley & Co. LLC and/or certain of its affiliates or other applicable entities, which may include Morgan Stanley Realty Incorporated, Morgan Stanley Senior Funding, Inc., Morgan Stanley Bank, N.A., Morgan Stanley & Co. International plc, Morgan Stanley Securities Limited, Morgan Stanley Bank AG, Morgan Stanley MUFG Securities Co., Ltd., Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., Morgan Stanley Asia Limited, Morgan Stanley Australia Securities Limited, Morgan Stanley Australia Limited, Morgan Stanley Asia (Singapore) Pte., Morgan Stanley Services Limited, Morgan Stanley & Co. International plc Seoul Branch and/or Morgan Stanley Canada Limited. Unless governing law permits otherwise, you must contact an authorized Morgan Stanley entity in your jurisdiction regarding this document or any of the information contained herein.

© 2018 Morgan Stanley