



# Municipal High-Yield Market Brief

## October 2019 Market Update

**Peter DeGroot** <sup>AC</sup>

(212) 834-7293

[peter.degroot@jpmorgan.com](mailto:peter.degroot@jpmorgan.com)

J.P. Morgan Securities LLC

**Ye Tian**

(212) 834-3051

[ye.tian@jpmorgan.com](mailto:ye.tian@jpmorgan.com)

**Daniel Zheng**

(212) 834-5674

[daniel.c.zheng@jpmorgan.com](mailto:daniel.c.zheng@jpmorgan.com)

**See the end pages of this presentation for analyst certification and important disclosures, including non-US analyst disclosures.**

J.P. Morgan does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

**J.P.Morgan**

This document is being provided for the exclusive use of BRIAN FAGAN at MACKAY SHIELDS LLC (AS AGT).

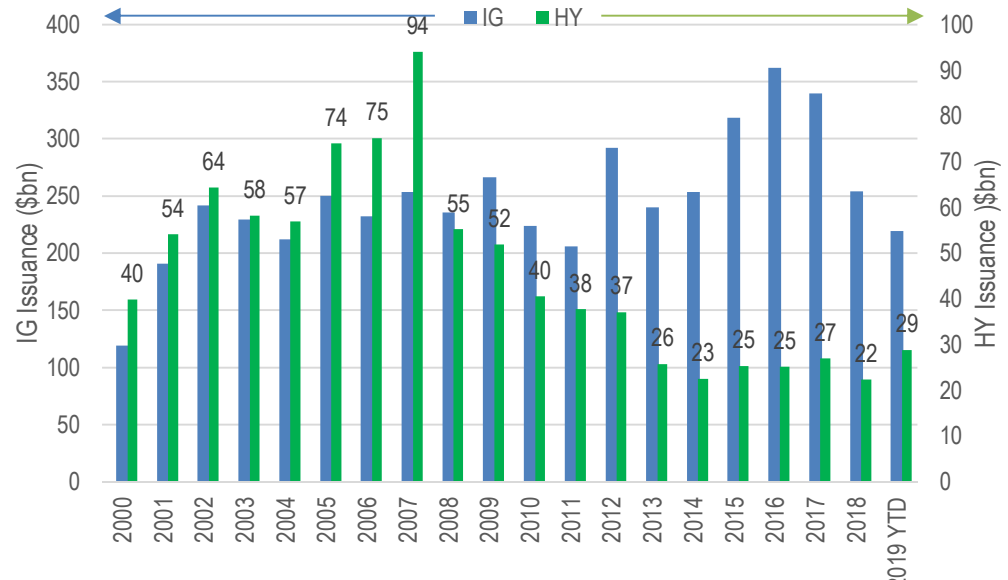
The high-yield Municipal Bond market is heavily weighted in longer duration assets and has an impressive performance history relative to the IG sector of the market

### Municipal HY Market Themes

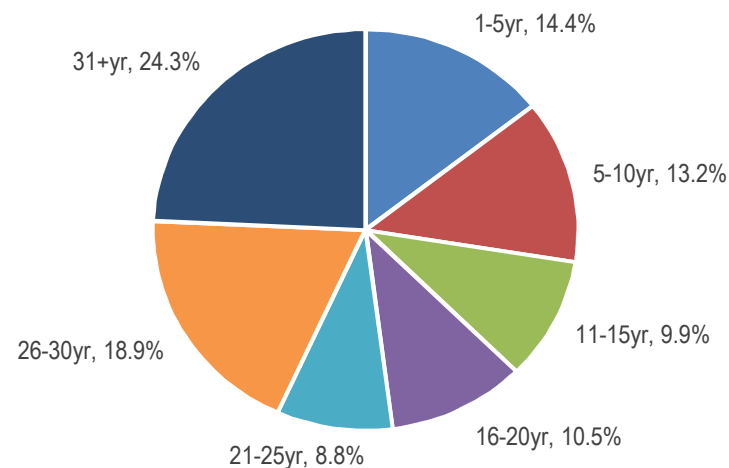
- The Bloomberg Municipal HY Index has outperformed its IG counterpart for three consecutive years and is leading the IG index by 275ppt YTD
- High-yield municipal mutual funds have taken in a record \$15bn in inflows YTD 2019
- PR and tobacco bond issuers are among the largest issuers in the Muni HY Market
- 16yr and longer bonds make up over 50% of the HY market
- YTD high-yield issuance has already surpassed the 2018 total, but is still very low by historic standards
- Half of Bloomberg's HY Index is 22yrs or longer in maturity, with bonds issued in PR and CA representing over \$90bn of bonds
- Since 2009, the HY Index returned 163% vs 72% for the broader muni index
- The performance characteristics of high-yield municipals are evident in a Sharpe analysis given high tax-adjusted returns and relative low volatility

PR and tobacco bond issuers are among the largest issuers in the Muni HY Market. 16yr and longer bonds make up over 50% of the HY market. YTD 10/09, HY issuance has already surpassed the 2018 total, but is still very low by historic standards

Issuer Name	Amount Out (\$)	Mkt %
Puerto Rico Sales Tax Financing Corp Sales Tax Revenue	22,644,723,183	7.68%
Children's Trust Fund	11,868,750,000	4.02%
Buckeye Tobacco Settlement Financing Authority	11,163,645,000	3.78%
Michigan Tobacco Settlement Finance Authority	6,995,745,000	2.37%
Chicago Board of Education	6,039,150,000	2.05%
Public Finance Authority	5,795,832,922	1.96%
Golden State Tobacco Securitization Corp	4,746,455,000	1.61%
California Statewide Communities Development Authority	4,434,992,804	1.50%
District of Columbia Tobacco Settlement Financing Corp	4,424,325,000	1.50%
New York Counties Tobacco Trust V	4,298,350,000	1.46%
California County Tobacco Securitization Agency	3,670,880,000	1.24%
Inland Empire Tobacco Securitization Corp	3,619,895,000	1.23%
Puerto Rico Commonwealth Aqueduct & Sewer Authority	2,767,675,000	0.94%
Puerto Rico Infrastructure Financing Authority	2,593,055,000	0.88%
Tobacco Settlement Finance Authority	2,488,370,000	0.84%
Puerto Rico Highway & Transportation Authority	2,472,585,000	0.84%
Illinois Finance Authority	2,392,227,168	0.81%
GDB Debt Recovery Authority of Puerto Rico	2,076,710,390	0.70%
Puerto Rico Public Buildings Authority	1,987,485,000	0.67%
Connector 2000 Association Inc	1,908,931,943	0.65%
New Jersey Economic Development Authority	1,869,064,069	0.63%
Erie Tobacco Asset Securitization Corp	1,837,544,699	0.62%
Tobacco Settlement Financing Corp/RI	1,749,965,000	0.59%
Nassau County Tobacco Settlement Corp	1,677,020,000	0.57%
Puerto Rico Public Finance Corp	1,621,685,000	0.55%
New York Liberty Development Corp	1,589,075,000	0.54%
California Statewide Financing Authority	1,538,090,000	0.52%
Territory of Guam	1,458,380,000	0.49%
North Texas Tollway Authority	1,448,420,000	0.49%
New York State Dormitory Authority	1,433,815,000	0.49%
Virgin Islands Public Finance Authority	1,427,235,000	0.48%
Capital Trust Agency Inc	1,376,058,785	0.47%
Commonwealth of Puerto Rico	1,372,285,000	0.47%
New York Counties Tobacco Trust IV	1,352,660,000	0.46%
New Hope Cultural Education Facilities Finance Corp	1,343,570,000	0.46%
Arizona Industrial Development Authority	1,281,600,000	0.43%
Leander Independent School District	1,213,440,000	0.41%
Tarrant County Cultural Education Facilities Finance Corp	1,209,426,238	0.41%
Wisconsin Health & Educational Facilities Authority	1,202,665,741	0.41%
California Municipal Finance Authority	1,172,605,000	0.40%
Silicon Valley Tobacco Securitization Authority	1,154,385,000	0.39%
City of Santa Maria CA Water & Wastewater Revenue	1,150,000,001	0.39%
Massachusetts Development Finance Agency	1,116,886,992	0.38%
Tobacco Securitization Authority of Southern California	1,097,625,000	0.37%

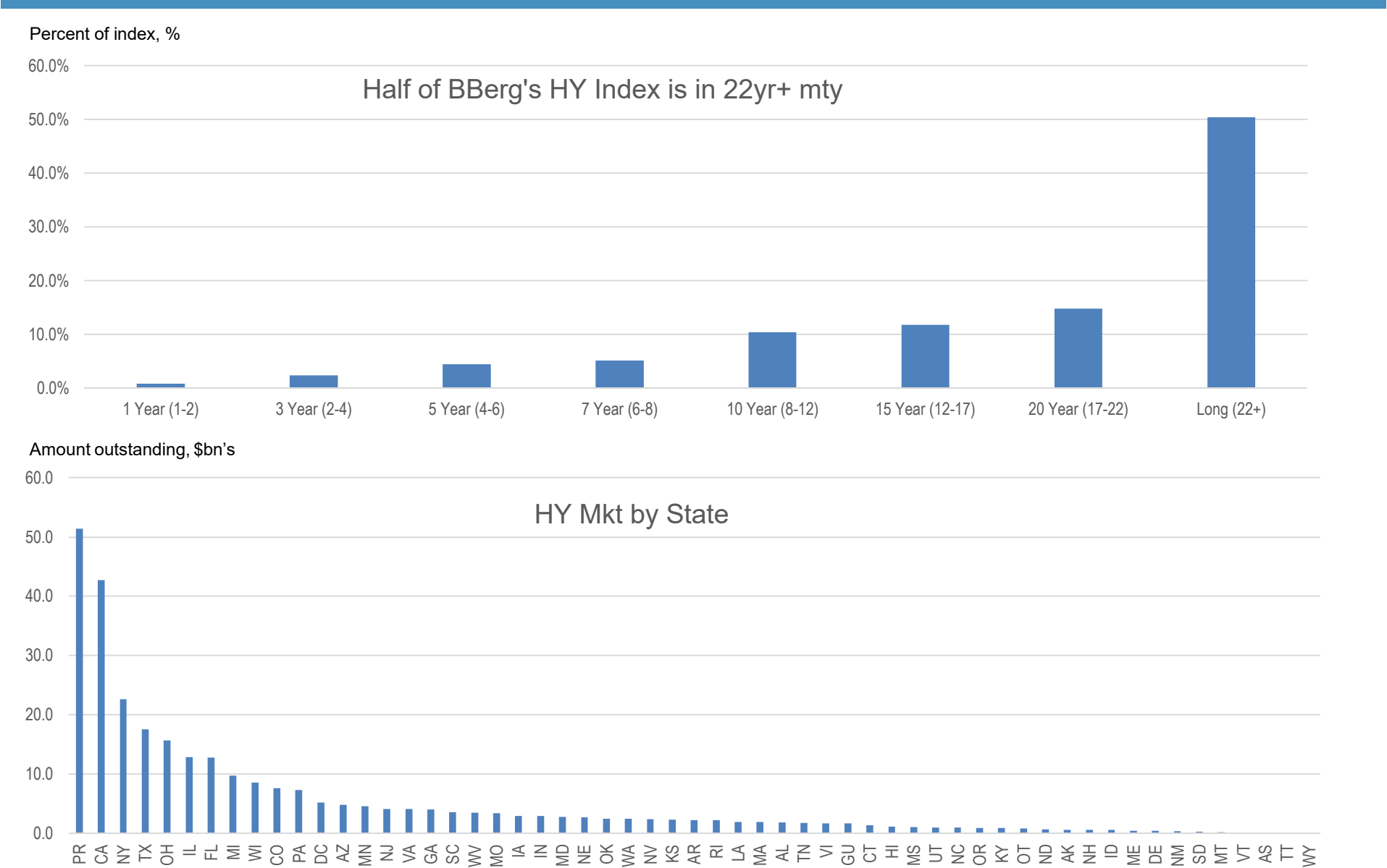


Muni HY Mkt Mty Breakout



Source: Bloomberg, J.P. Morgan Note: As of 10/10/2019

# Half of Bloomberg's HY Index is 22yrs or longer in maturity with PR and CA issuance representing over \$90bn of bonds

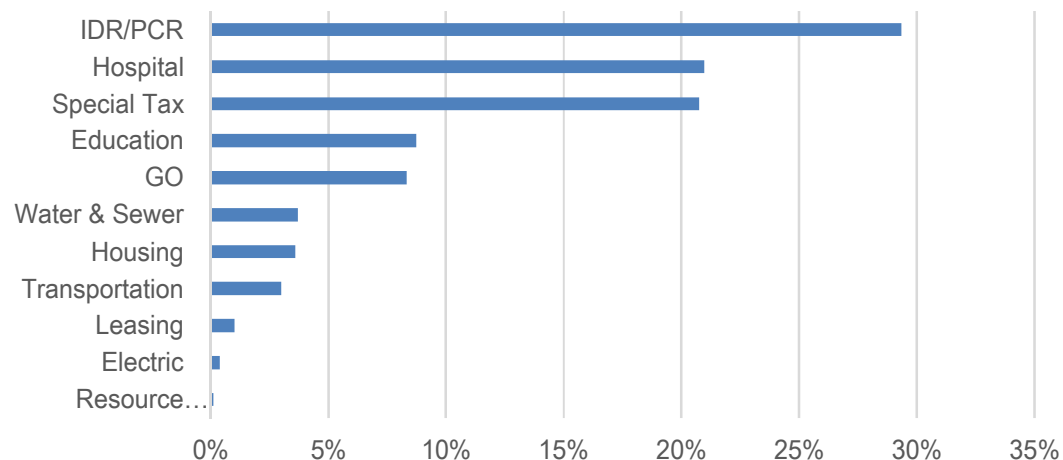


Source: Bloomberg, J.P. Morgan Note: As of 10/10/2019

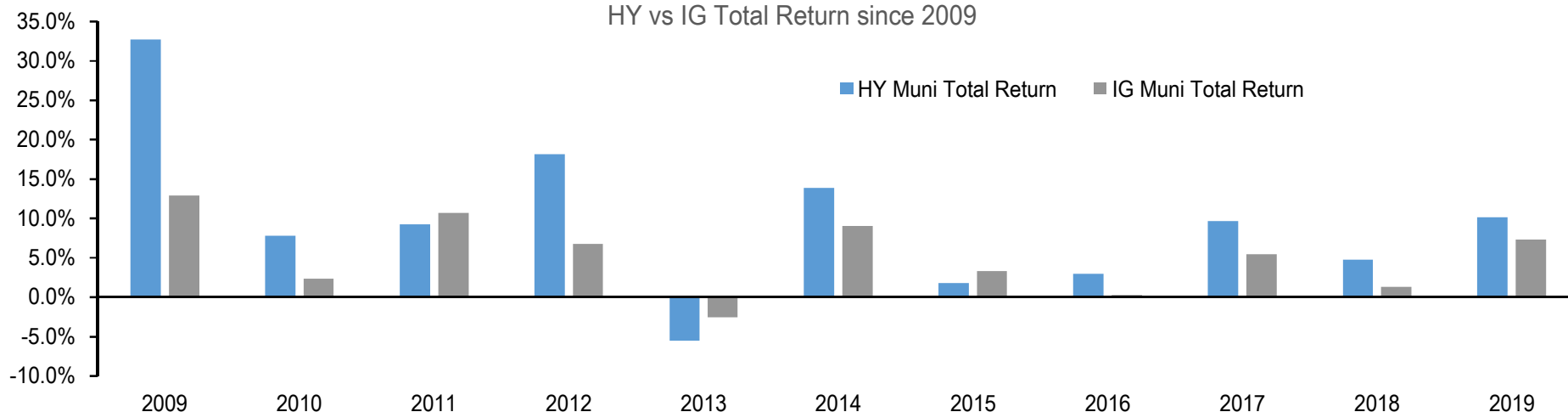
## HY Index performance has significantly outperformed the IG sector

- Bloomberg's HY Muni Index has outperformed their IG muni index in three consecutive years and thus far in 2019 (10/09)
- Since 2009, the HY Index returned 163% vs 71% for the broader muni index
- The HY sector is dominated by IDR, Healthcare, and Special-tax debt

### IDR, Hospital and Spec Tax sectors make up about 70% of the HY Index



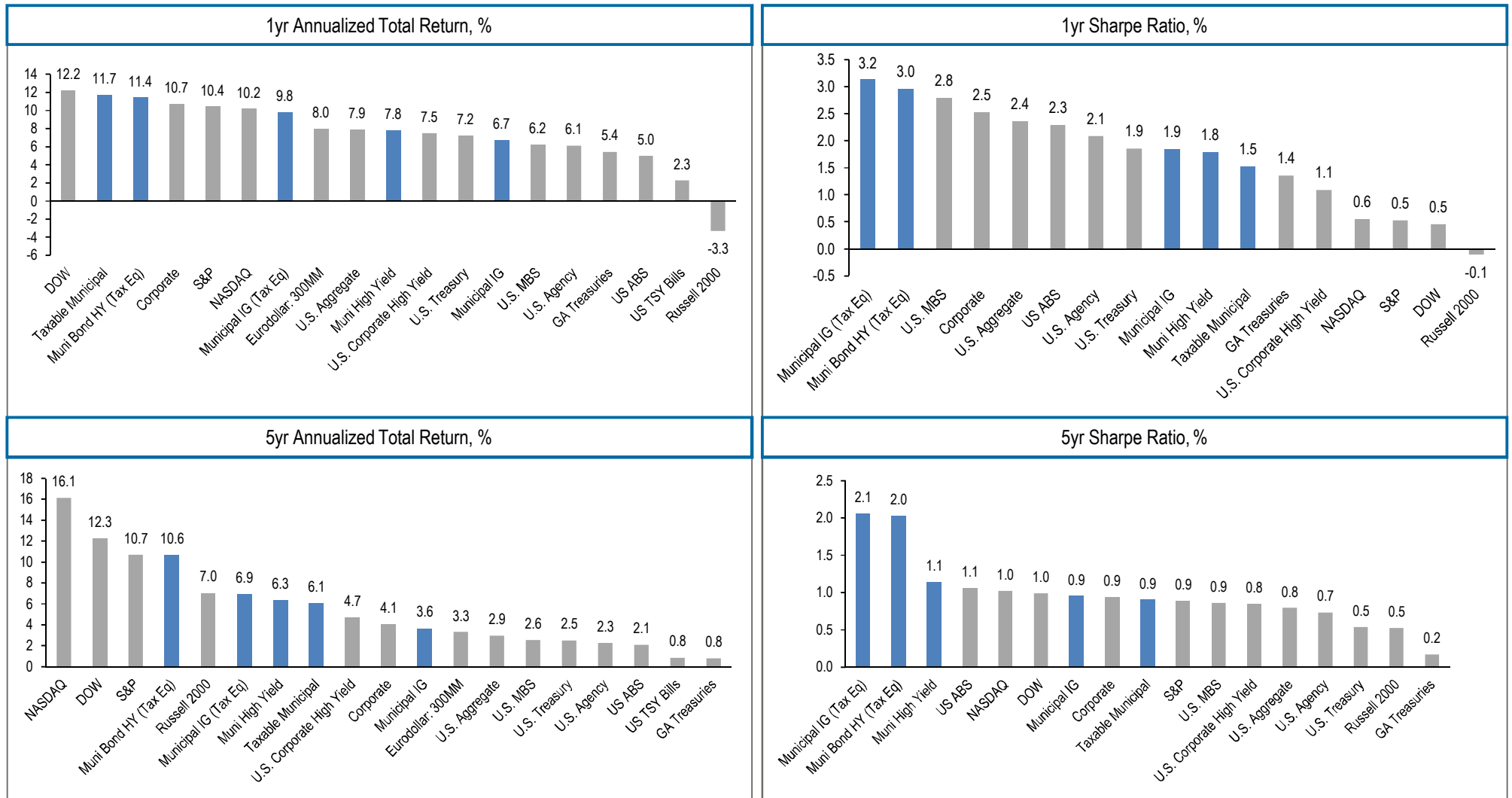
### HY vs IG Total Return since 2009



Source: Bloomberg, J.P. Morgan Note: As of 10/10/2019

The performance characteristics of municipals are evident in a Sharpe analysis given high tax-adjusted returns and relative low volatility

### Municipal performance compares well versus other fixed income asset classes over a five year horizon



Source: Bloomberg, J.P. Morgan. 1-3month US Tbill index used and the risk free rate for calculating Sharpe ratio for municipal indices. Sharpe for remaining indices directly from Bloomberg. Taxable equivalent returns are calculated by grossing up the coupon return by the multiplier based upon the top individual tax bracket. Note: As of 06/30/2019

# Disclosures

**Analyst Certification:** All authors named within this report are research analysts unless otherwise specified. The research analyst(s) denoted by an “AC” on the cover of this report certifies (or, where multiple research analysts are primarily responsible for this report, the research analyst denoted by an “AC” on the cover or within the document individually certifies, with respect to each security or issuer that the research analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect the research analyst’s personal views about any and all of the subject securities or issuers; and (2) no part of any of the research analyst’s compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report. For all Korea-based research analysts listed on the front cover, if applicable, they also certify, as per KOFIA requirements, that their analysis was made in good faith and that the views reflect their own opinion, without undue influence or intervention.

## Important Disclosures

**Company-Specific Disclosures:** Important disclosures, including price charts and credit opinion history tables, are available for compendium reports and all J.P. Morgan–covered companies by visiting <https://www.jpmm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing [research.disclosure.inquiries@jpmorgan.com](mailto:research.disclosure.inquiries@jpmorgan.com) with your request. J.P. Morgan’s Strategy, Technical, and Quantitative Research teams may screen companies not covered by J.P. Morgan. For important disclosures for these companies, please call 1-800-477-0406 or e-mail [research.disclosure.inquiries@jpmorgan.com](mailto:research.disclosure.inquiries@jpmorgan.com).

**Analysts' Compensation:** The research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

## Other Disclosures

J.P. Morgan is a marketing name for investment banking businesses of JPMorgan Chase & Co. and its subsidiaries and affiliates worldwide.

Any data discrepancies in this report could be the result of different calculations and/or adjustments.

Any long form nomenclature for references to China; Hong Kong; Taiwan; and Macau within this research report are Mainland China; Hong Kong SAR, China; Taiwan, China; Macau SAR, China.

**Options and Futures related research:** If the information contained herein regards options or futures related research, such information is available only to persons who have received the proper options or futures risk disclosure documents. Please contact your J.P. Morgan Representative or visit <https://www.theocc.com/components/docs/riskstoc.pdf> for a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options or [http://www.finra.org/sites/default/files/Security\\_Futures\\_Risk\\_Disclosure\\_Statement\\_2018.pdf](http://www.finra.org/sites/default/files/Security_Futures_Risk_Disclosure_Statement_2018.pdf) for a copy of the Security Futures Risk Disclosure Statement.

**Principal Trading:** J.P. Morgan trades or may trade as principal in the derivatives or the debt securities (or related derivatives) that are the subject of this report.

**Private Bank Clients:** Where you are receiving research as a client of the private banking businesses offered by JPMorgan Chase & Co. and its subsidiaries (“J.P. Morgan Private Bank”), research is provided to you by J.P. Morgan Private Bank and not by any other division of J.P. Morgan, including but not limited to the J.P. Morgan corporate and investment bank and its research division.

**Legal entity responsible for the production of research:** The legal entity identified below the name of the Reg AC research analyst who authored this report is the legal entity responsible for the production of this research. Where multiple Reg AC research analysts authored this report with different legal entities identified below their names, these legal entities are jointly responsible for the production of this research.



# Disclosures

## Legal Entities Disclosures

**U.S.:** JPMS is a member of NYSE, FINRA, SIPC and the NFA. JPMorgan Chase Bank, N.A. is a member of FDIC. **Canada:** J.P. Morgan Securities Canada Inc. is a registered investment dealer, regulated by the Investment Industry Regulatory Organization of Canada and the Ontario Securities Commission and is the participating member on Canadian exchanges. **U.K.:** JPMorgan Chase N.A., London Branch, is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and to limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from J.P. Morgan on request. J.P. Morgan Securities plc (JPMS plc) is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Registered in England & Wales No. 2711006. Registered Office 25 Bank Street, London, E14 5JP. **Germany:** This material is distributed in Germany by J.P. Morgan Securities plc, Frankfurt Branch which is regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht and also by J.P. Morgan AG (JPM AG) which is a member of the Frankfurt stock exchange and is regulated by the Federal Financial Supervisory Authority (BaFin), JPM AG is a company incorporated in the Federal Republic of Germany with registered office at Taunustor 1, 60310 Frankfurt am Main, the Federal Republic of Germany. **South Africa:** J.P. Morgan Equities South Africa Proprietary Limited is a member of the Johannesburg Securities Exchange and is regulated by the Financial Services Board. **Hong Kong:** J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong and/or J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. JP Morgan Chase Bank, N.A., Hong Kong is organized under the laws of U.S.A. with limited liability. **Korea:** This material is issued and distributed in Korea by or through J.P. Morgan Securities (Far East) Limited, Seoul Branch, which is a member of the Korea Exchange(KRX) and is regulated by the Financial Services Commission (FSC) and the Financial Supervisory Service (FSS). **Australia:** J.P. Morgan Securities Australia Limited (JPMSAL) (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by ASIC and is a Market, Clearing and Settlement Participant of ASX Limited and CHI-X. **Taiwan:** J.P. Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. **India:** J.P. Morgan India Private Limited (Corporate Identity Number - U67120MH1992FTC068724), having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz - East, Mumbai – 400098, is registered with Securities and Exchange Board of India (SEBI) as a ‘Research Analyst’ having registration number INH000001873. J.P. Morgan India Private Limited is also registered with SEBI as a member of the National Stock Exchange of India Limited and the Bombay Stock Exchange Limited (SEBI Registration Number – INZ000239730) and as a Merchant Banker (SEBI Registration Number - MB/INM000002970). Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: [www.jpmypl.com](http://www.jpmypl.com). For non local research reports, this material is not distributed in India by J.P. Morgan India Private Limited. **Thailand:** This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangrak, Bangkok 10500. **Indonesia:** PT J.P. Morgan Sekuritas Indonesia is a member of the Indonesia Stock Exchange and is regulated by the OJK a.k.a. BAPEPAM LK. **Philippines:** J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission. **Brazil:** Banco J.P. Morgan S.A. is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. **Mexico:** J.P. Morgan Casa de Bolsa, S.A. de C.V., J.P. Morgan Grupo Financiero is a member of the Mexican Stock Exchange and authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. **Singapore:** This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMS) [MCI (P) 058/04/2019 and Co. Reg. No.: 199405335R], which is a member of the Singapore Exchange Securities Trading Limited and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore) [MCI (P) 070/09/2019], both of which are regulated by the Monetary Authority of Singapore. This material is issued and distributed in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289 (SFA). This material is not intended to be issued or distributed to any retail investors or any other investors that do not fall into the classes of “accredited investors,” “expert investors” or “institutional investors,” as defined under Section 4A of the SFA. Recipients of this document are to contact JPMS or JPMCB Singapore in respect of any matters arising from, or in connection with, the document.



# Disclosures

**Japan:** JPMorgan Securities Japan Co., Ltd. and JPMorgan Chase Bank, N.A., Tokyo Branch are regulated by the Financial Services Agency in Japan. **Malaysia:** This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission in Malaysia. **Pakistan:** J. P. Morgan Pakistan Broking (Pvt.) Ltd is a member of the Karachi Stock Exchange and regulated by the Securities and Exchange Commission of Pakistan. **Dubai:** JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - Building 3, Level 7, PO Box 506551, Dubai, UAE. **Russia:** CB J.P. Morgan Bank International LLC is regulated by the Central Bank of Russia. **Argentina:** JPMorgan Chase Bank Sucursal Buenos Aires is regulated by Banco Central de la República Argentina ("BCRA"- Central Bank of Argentina) and Comisión Nacional de Valores ("CNV"- Argentinian Securities Commission")

## Country and Region Specific Disclosures

**U.K. and European Economic Area (EEA):** Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by JPMS plc. Investment research issued by JPMS plc has been prepared in accordance with JPMS plc's policies for managing conflicts of interest arising as a result of publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. Further information about J.P. Morgan's conflict of interest policy and a description of the effective internal organisations and administrative arrangements set up for the prevention and avoidance of conflicts of interest is set out at the following link <https://www.jpmorgan.com/jmpdf/1320742677360.pdf>. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. **Australia:** This material is issued and distributed by JPMSAL in Australia to "wholesale clients" only. This material does not take into account the specific investment objectives, financial situation or particular needs of the recipient. The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of JPMSAL. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001. J.P. Morgan's research coverage universe spans listed securities across the ASX All Ordinaries index, securities listed on offshore markets, unlisted issuers and investment products which Research management deem to be relevant to the investor base from time to time. J.P. Morgan seeks to cover companies of relevance to the domestic and international investor base across all GIC sectors, as well as across a range of market capitalisation sizes. **Germany:** This material is distributed in Germany by J.P. Morgan Securities plc, Frankfurt Branch which is regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. **Korea:** This report may have been edited or contributed to from time to time by affiliates of J.P. Morgan Securities (Far East) Limited, Seoul Branch. **Singapore:** As at the date of this report, JPMSS is a designated market maker for certain structured warrants listed on the Singapore Exchange where the underlying securities may be the securities discussed in this report. Arising from its role as designated market maker for such structured warrants, JPMSS may conduct hedging activities in respect of such underlying securities and hold or have an interest in such underlying securities as a result. The updated list of structured warrants for which JPMSS acts as designated market maker may be found on the website of the Singapore Exchange Limited: <http://www.sgx.com>. In addition, JPMSS and/or its affiliates may also have an interest or holding in any of the securities discussed in this report – please see the Important Disclosures section above. For securities where the holding is 1% or greater, the holding may be found in the Important Disclosures section above. For all other securities mentioned in this report, JPMSS and/or its affiliates may have a holding of less than 1% in such securities and may trade them in ways different from those discussed in this report. Employees of JPMSS and/or its affiliates not involved in the preparation of this report may have investments in the securities (or derivatives of such securities) mentioned in this report and may trade them in ways different from those discussed in this report. **Taiwan:** Research relating to equity securities is issued and distributed in Taiwan by J.P. Morgan Securities (Taiwan) Limited, subject to the license scope and the applicable laws and the regulations in Taiwan. According to Paragraph 2, Article 7-1 of Operational Regulations Governing Securities Firms Recommending Trades in Securities to Customers (as amended or supplemented) and/or other applicable laws or regulations, please note that the recipient of this material is not permitted to engage in any activities in connection with the material which may give rise to conflicts of interests, unless otherwise disclosed in the "Important Disclosures" in this material.

# Disclosures

---

**India:** For private circulation only, not for sale. **Pakistan:** For private circulation only, not for sale. **New Zealand:** This material is issued and distributed by JPMSAL in New Zealand only to "wholesale clients" (as defined in the Financial Advisers Act 2008). The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of JPMSAL. **Canada:** This report is distributed in Canada by or on behalf of J.P.Morgan Securities Canada Inc. The information contained herein is not, and under no circumstances is to be construed as an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. **Dubai:** This report has been distributed to persons regarded as professional clients or market counterparties as defined under the DFSA rules. **Brazil:** Ombudsman J.P. Morgan: 0800-7700847 / ouvidoria.jp.morgan@jpmorgan.com.

**General:** Additional information is available upon request. Information has been obtained from sources believed to be reliable but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) do not warrant its completeness or accuracy except with respect to any disclosures relative to JPMS and/or its affiliates and the analyst's involvement with the issuer that is the subject of the research. All pricing is indicative as of the close of market for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. JPMS distributes in the U.S. research published by non-U.S. affiliates and accepts responsibility for its contents. Periodic updates may be provided on companies/industries based on company specific developments or announcements, market conditions or any other publicly available information. Clients should contact analysts and execute transactions through a J.P. Morgan subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

"Other Disclosures" last revised October 05, 2019.

**Copyright 2019 JPMorgan Chase & Co. All rights reserved. This report or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan**