Fidelity Fixed Income Division

Considerations for Municipal Bond Investing

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All information as of 12/31/19 unless otherwise noted.

Topics for Discussion

1	**What are Municipal Bonds?**
2	**Why Invest in Municipal Bonds?**
3	**Risks of Municipal Bond Investing**
4	**Getting Started in Municipal Bonds**
5	**Market Technicals**
6	**Market Environment**
7	**Final Thoughts**

What are Municipal Bonds?

What are Municipal Bonds?

Types of Issuers

- Municipal bonds are debt obligations issued by state and local governments or governmental authorities operating in the United States and its territories.
- Municipal bonds are also debt obligations issued by non-profit organizations—and, in some cases, corporations or “for-profit” entities—operating in the United States, provided that the proceeds of the bond issue are used for a purpose that benefits the general public.

Use of Proceeds

- Short-term notes are often sold to cover seasonal and temporary imbalances between outlays for expenditures and inflows from taxes.
- Long-term bonds are used to finance both (1) long-term capital projects such as schools, bridges, roads, and airports; and (2) structural budget deficits that arise from current operations.
- Two-thirds of the infrastructure projects in the United States are financed by municipal bonds.

Tax Features

- Municipal bonds may be either taxable or tax-exempt.
- “Taxable” means the interest income generated by the bond is taxable at the federal, state, and local level.
- “Tax-exempt” means the interest income generated by the bond is tax-exempt at the federal level and possibly at the state and local level as well.
- Most municipal bonds are tax-exempt, so they will be the focus of our presentation today.

Types of Municipal Bonds

MUNICIPAL BONDS

General Obligation Bonds (GOs)	
Repayment Source	Backed by state or local government's authority to levy taxes
Common Issuers	States, Counties, Cities, Town, School Districts

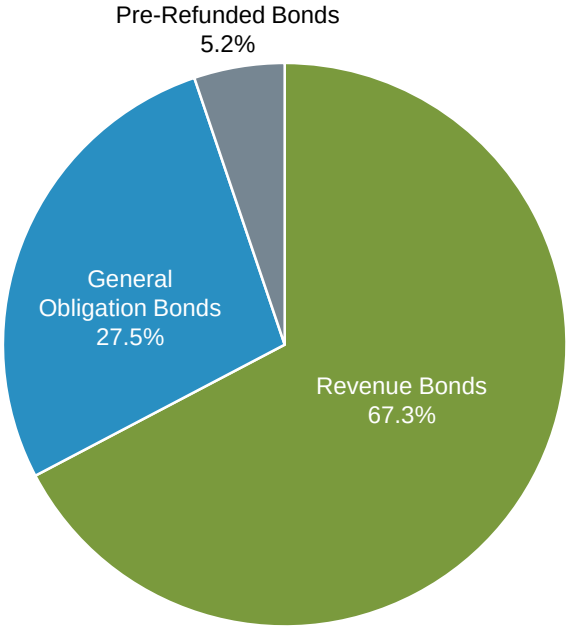
Revenue Bonds	
Repayment Source	Secured by revenue stream of project
Common Issuers	Hospitals, Toll Roads, Airports, Public Utilities, Colleges, and Universities

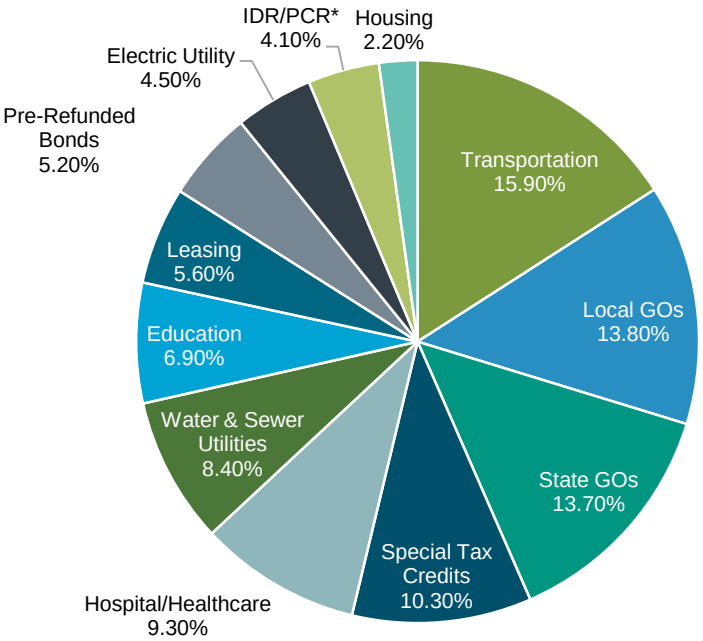
While municipal bonds are secured by either a governmental entity's taxing authority or the revenue stream of a specific project, they are not default-free, and thus are subject to credit risk.

As a result, municipal bonds and corporate bonds are often compared to one another.

Who Issues Municipal Bonds?

SIZE OF MARKET = $1.64 TRILLION*





* Based on the market capitalization of the Bloomberg Barclays Municipal Bond Index as of January 31, 2020.
Source: Barclays Bank PLC.

Municipal Bond Market by the Numbers

Characteristic	Municipal Bonds	Corporate Bonds
Market Size	$3.8 Trillion	$9.2 Trillion
Number of Securities	~1,000,000	~30,000
Number of Issuers	~50,000	~10,000
New Issuance Volume	$388 Billion	$1,376 Billion
Daily Trading Volume	$11.6 Billion	$31.2 Billion
Default Rates[1]	0.18%	1.74%

Sources: MSRB, Federal Reserve, FINRA, SIFMA, Standard & Poor's, Moody's, and World Federation of Exchanges.
Note: Calendar-year 2018 data, unless otherwise noted.
[1]According to Moody's investment-grade, 10-year cumulative default-rate average over the period 2007 through 2016.

While municipal bonds and corporate bonds may bear certain similarities, they also bear some distinct differences.

The municipal bond market is

1/3 the size
of the corporate bond market in terms of **market capitalization**

1/4 the size
of the corporate bond market in terms of **daily trading volume**

30 times the size
of the corporate bond market in terms of **issues**

In short, the municipal bond market consists of many small debt issues.

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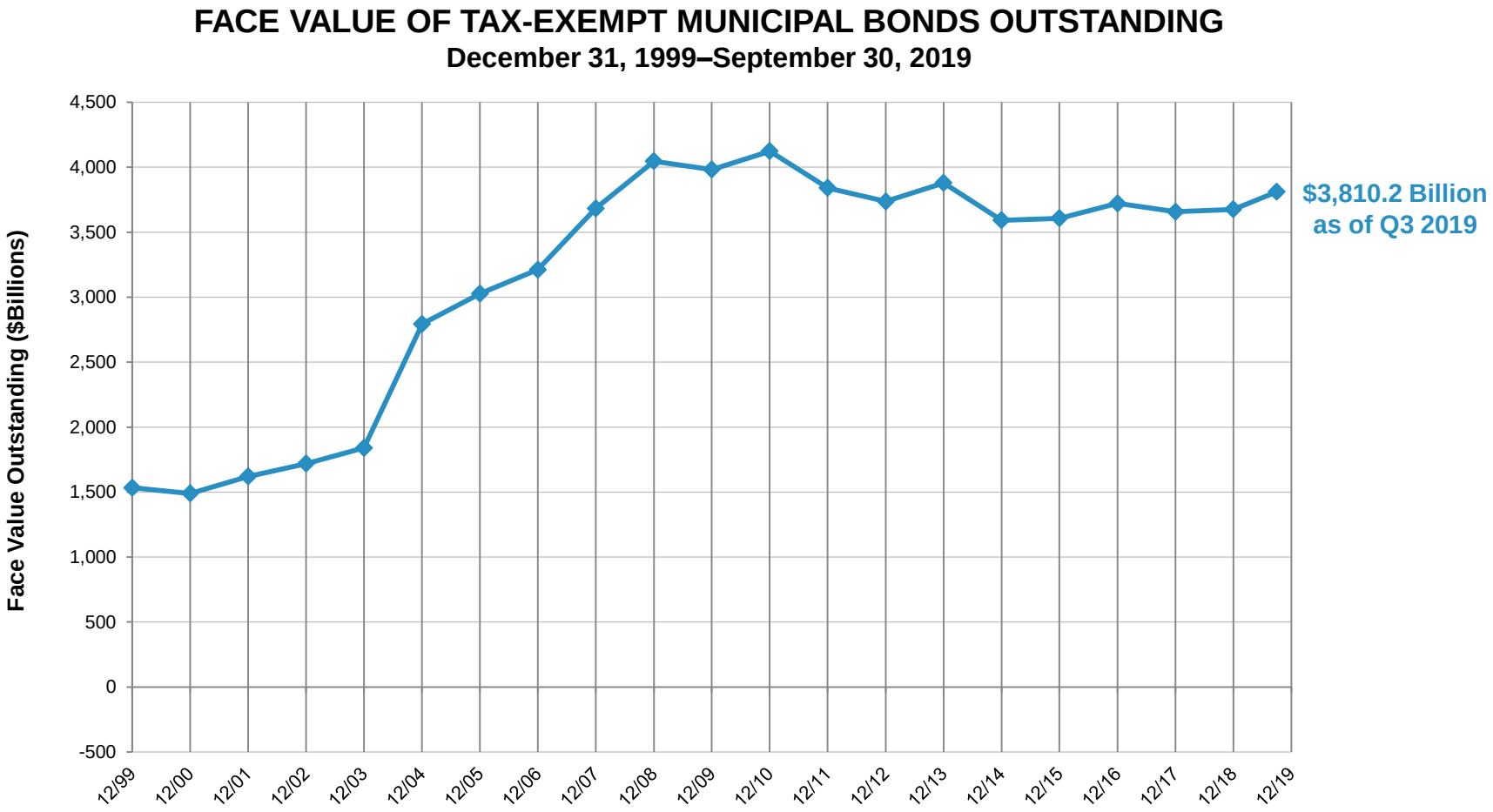
Tax-Exempt Municipal Bonds Outstanding



The size of the tax-exempt municipal bond market has actually been shrinking at the rate of about 1% per year over the last 10+ years.

Source: Securities Industry and Financial Markets Association as of September 30, 2019.

How the Tax-Exemption on Municipal Bonds Works

Interest Income

- The interest received on municipal bonds is exempt from federal income tax.
  - Exception: Certain municipal bonds known as “private activity bonds” may be subject to the Alternative Minimum Tax (AMT).
- The interest received on municipal bonds may be subject to state and local income taxes.
  - Most states will exempt bonds issued by political entities within their own state from state and local income taxes.
- Bonds issued by a territory or possession of the United States are exempt “triple-tax free”—i.e., exempt from federal, state, and local income taxes.
  - Examples: Commonwealth of Puerto Rico, U.S. Virgin Islands, Guam, American Samoa.

Capital Gains

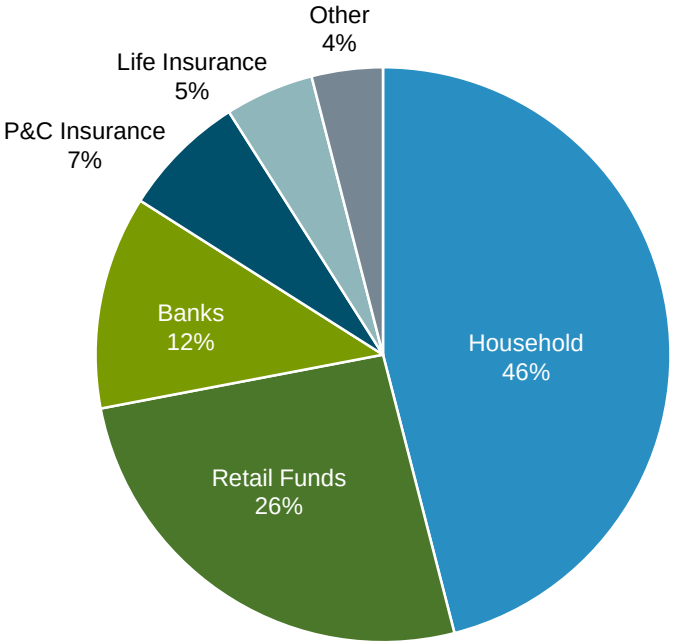
- A capital gain resulting from the sale or redemption of a municipal bond is subject to tax, and in some cases, this gain may have to be reported as ordinary income.
- Please consult with your tax advisor for further details.

Who Owns Municipal Bonds?

The constituencies that dominate the municipal bond market are households (i.e., retail investors), commercial banks, and property and casualty insurance companies.

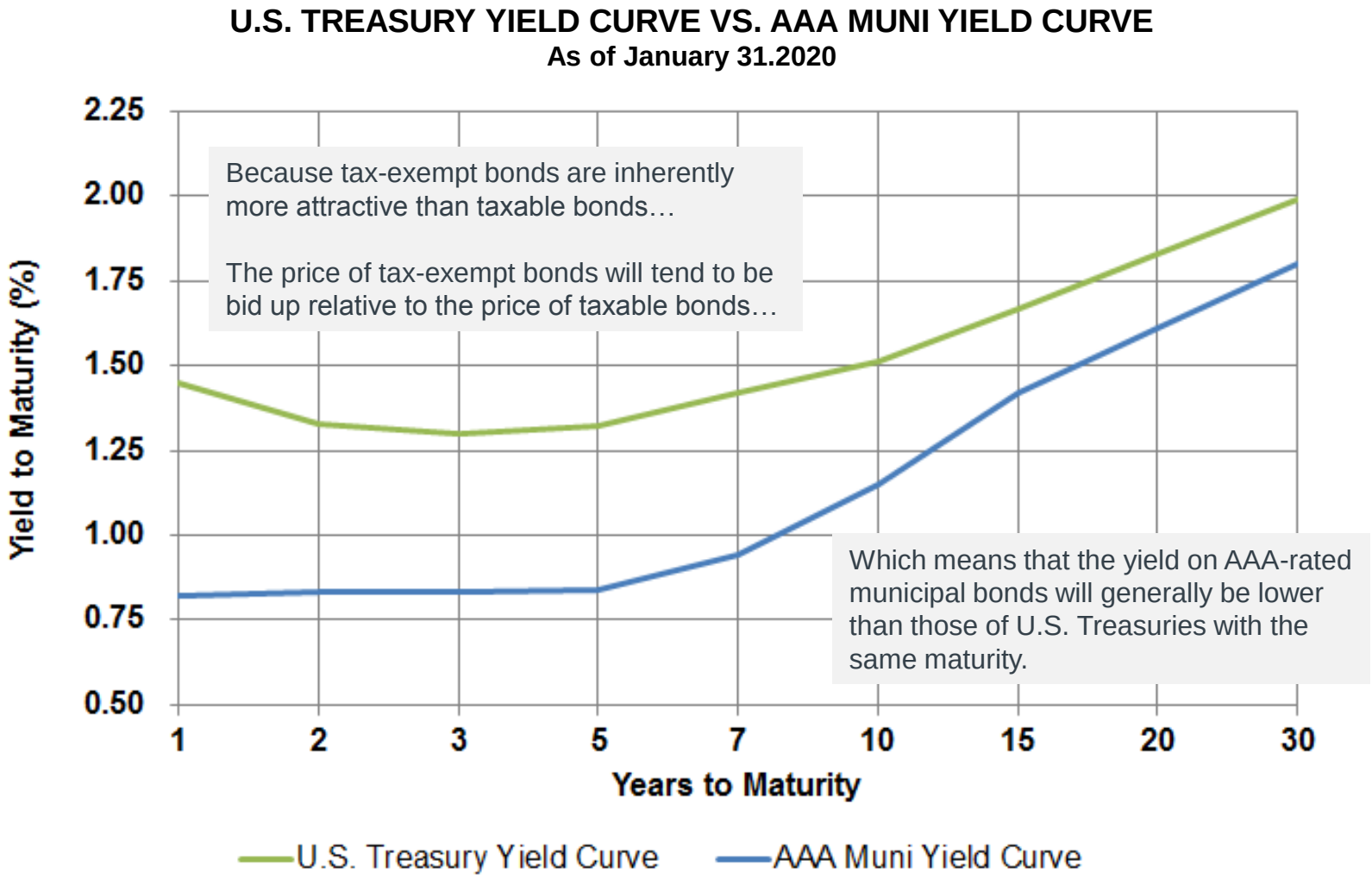
Not surprisingly, these are the investor groups who benefit the most from the tax exemption feature enjoyed by municipal bonds.

SIZE OF MARKET = $3.81 TRILLION



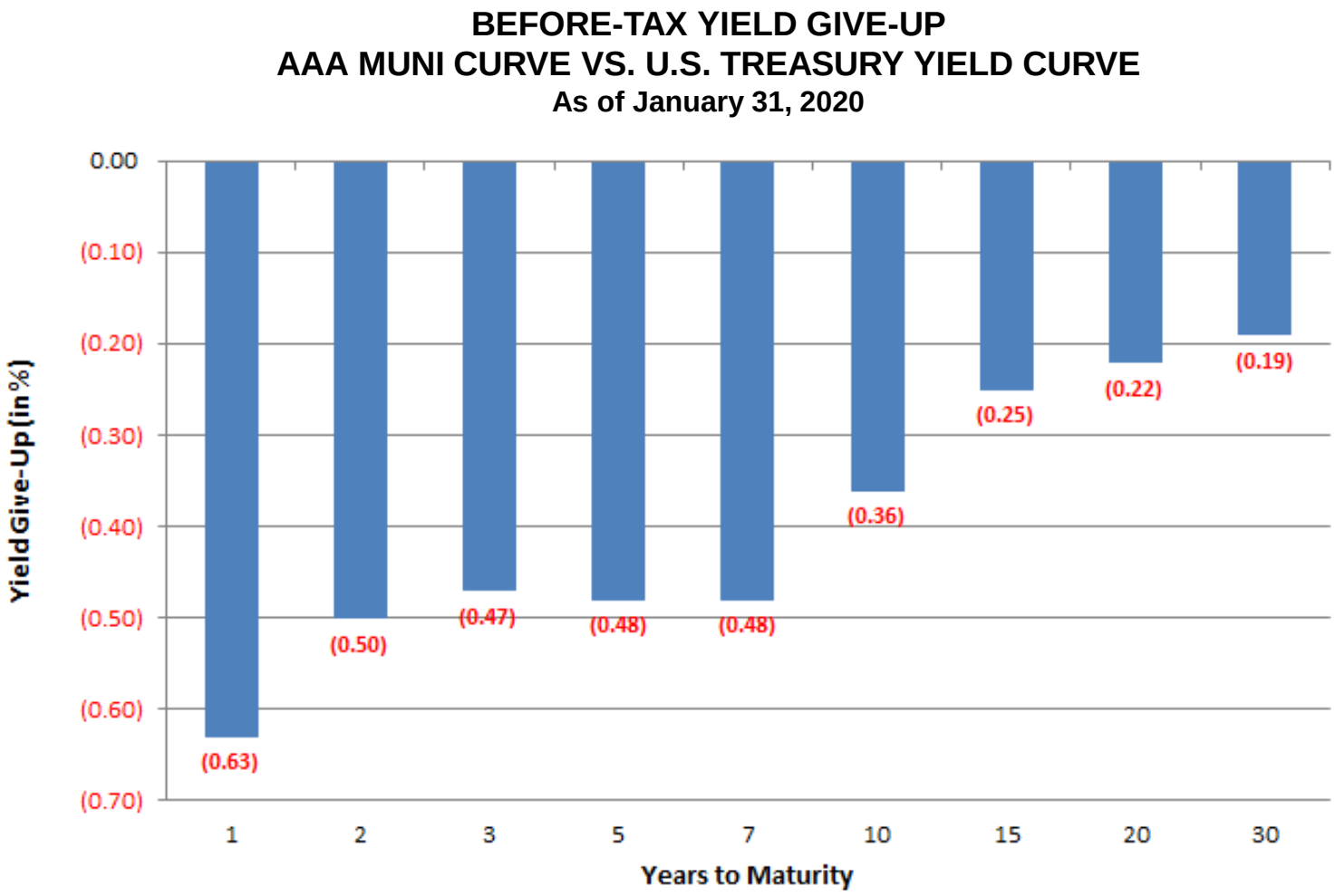
 Source: The Federal Reserve as of Q3 2019.

Tax-Exempt Bonds Yield Less Than Taxable Bonds



Source: Federal Reserve and Thomson Reuters as of 1/31/20.
Past performance is no guarantee of future results.

Yield Give-Up of Tax-Exempt Bonds vs. Taxable Bonds



Source: Thomson Reuters and Federal Reserve as of 12/31/19.
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How to Compare Tax-Exempt Bonds vs. Taxable Bonds

Is the yield give-up of tax-exempt bonds versus taxable bonds too much, too little, or just right?

The value of the tax-exemption feature depends on three things:

1. How much money you make
2. Where you live
3. Where the issuer of the bond is domiciled (i.e., state or territory)

Bonds issued outside of your state are exempt from federal income tax but subject to state and local tax.

- Exception: Bonds issued by entities domiciled in a U.S. territory.

Bonds issued inside of your state are exempt from federal, state, and local taxes.

Calculate the taxable equivalent yield of a tax-exempt bond using the following formula:

Taxable Equivalent Yield = Tax-Exempt Yield / (1 – Marginal Tax Rate)

- In most cases, your marginal tax rate will equal your federal income tax bracket.
- **Caveat:** in performing this calculation, be sure you're comparing "apples to apples"—i.e., a tax-exempt bond to a taxable bond of similar maturity and quality.

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Know Your Tax Bracket at the Federal Level

2019 TAX BRACKETS (FOR TAXES DUE APRIL 15, 2020) BASED ON TAXABLE INCOME*

TAX RATE	SINGLE	HEAD OF HOUSEHOLD	MARRIED FILING JOINTLY OR QUALIFYING WIDOW	MARRIED FILING SEPARATELY
10%	$0 to $9,700	$0 to $13,850	$0 to $19,400	$0 to $9,700
12%	$9,701 to $39,475	$13,851 to $52,850	$19,401 to $78,950	$9,701 to $39,475
22%	$39,476 to $84,200	$52,851 to $84,200	$78,951 to $168,400	$39,476 to $84,200
24%	$84,201 to $160,725	$84,201 to $160,700	$168,401 to $321,450	$84,201 to $160,725
32%	$160,726 to $204,100	$160,701 to $204,100	$321,451 to $408,200	$160,726 to $204,100
35%	$204,101 to $510,300	$204,101 to $510,300	$408,201 to $612,350	$204,101 to $306,175
37%	$510,301 or more	$510,301 or more	$612,351 or more	$306,176 or more

* NOTE: Taxable Income = Gross Income - Adjustments - Deductions

Seven income tax brackets at the federal level:
10%, 12%, 22%, 24%, 32%, 35%, and 37%

Your income tax bracket is determined by your amount of taxable income in any given year.
Taxable Income = Gross Income – Adjustments – Deductions

Intuitively, your tax bracket can be understand as the amount of tax owed on the next $1 that you earn.

Don’t forget about the Medicare surtax, which applies to taxpayers above a certain income level; if the surtax applies to you, you'll owe an additional 3.8% tax on your net investment income!

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Know Your Tax Bracket at the State and Local Level

States with No State Income Tax (7)

Alaska
Florida
Nevada
South Dakota
Texas
Washington
Wyoming

States with a State Income Tax on Unearned Income Only (2)

New Hampshire
Tennessee

States with a Flat State Income Tax (9)

Colorado
Illinois
Indiana
Kentucky
Massachusetts
Michigan
North Carolina
Pennsylvania
Utah

States with a Progressive State Income Tax (32)

All other states not listed above plus the District of Columbia

States in Which Cities, Counties, and School Districts Can Levy an Income Tax (16)

Alabama
Arkansas
California
Colorado
Delaware
Indiana
Iowa
Kentucky
Maryland
Michigan
Missouri
New Jersey
New York
Ohio
Oregon
Pennsylvania

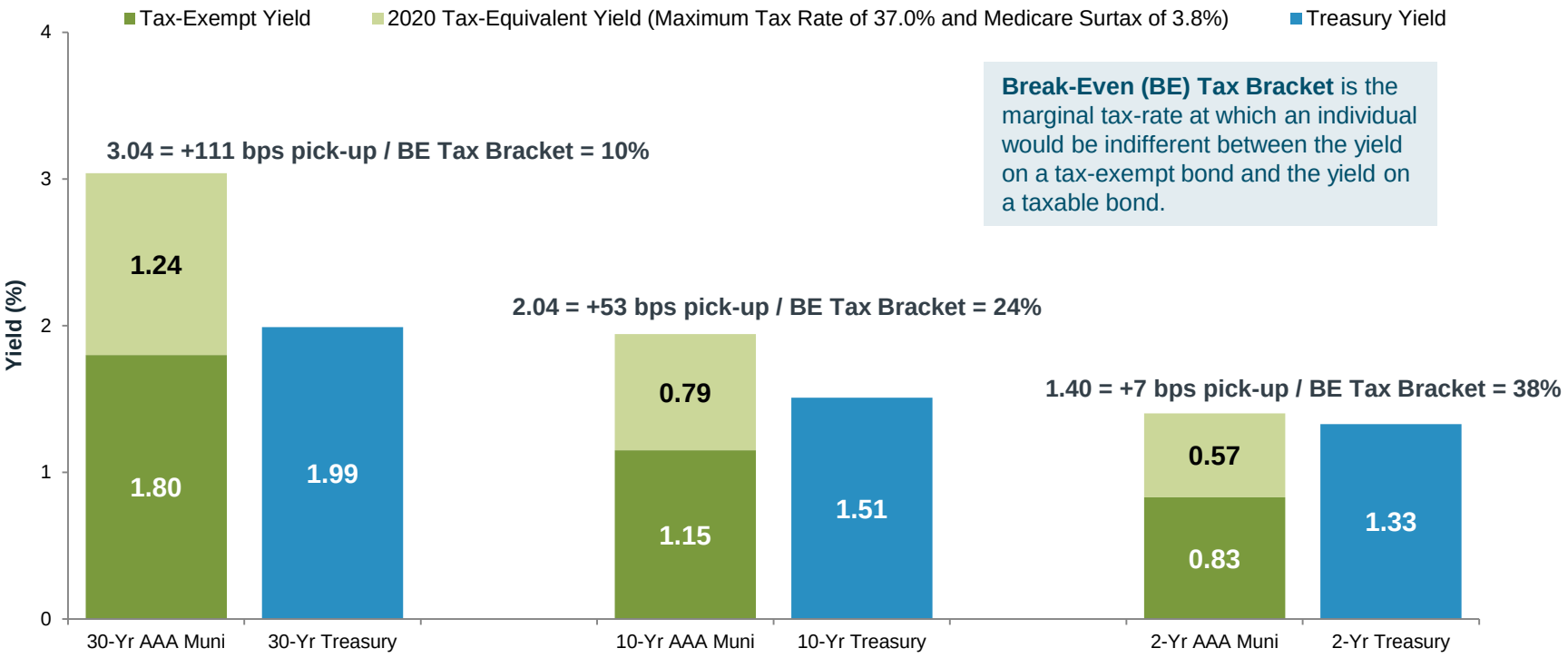
Bottom Line

Know your tax bracket at the federal, state, and local level; and apply the appropriate marginal tax rate when performing the taxable equivalent yield calculation.

Calculating Tax-Equivalent Yields: An Example

As of 1/31/20

Consider a single individual living in Massachusetts who earns $511,000 per year.
This individual is considering the purchase of a bond issued outside of Massachusetts



Break-Even (BE) Tax Bracket is the marginal tax-rate at which an individual would be indifferent between the yield on a tax-exempt bond and the yield on a taxable bond.

Based on 2019 federal income tax rates. Tax-equivalent yields do not reflect tax credits, exemptions, and itemized deduction phaseouts, or the impact of federal and/or state alternative minimum taxes. The two highest tax brackets of 38.8% and 40.8% include a Medicare surtax of 3.8% imposed by the Patient Protection and Affordable Care Act of 2010. Please consult your tax advisor for further details.

Source: Federal Reserve, Thomson Reuters, Fidelity Investments as of 1/31/20.

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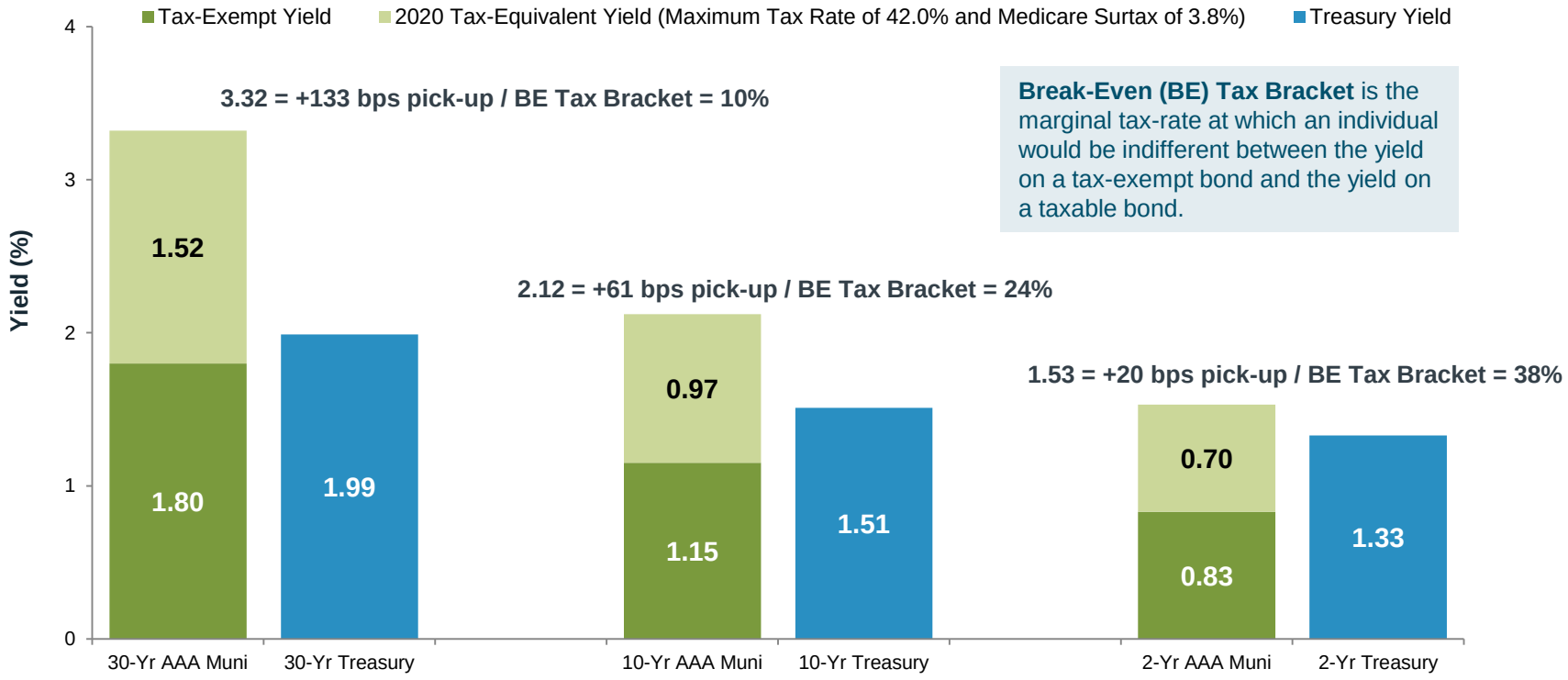

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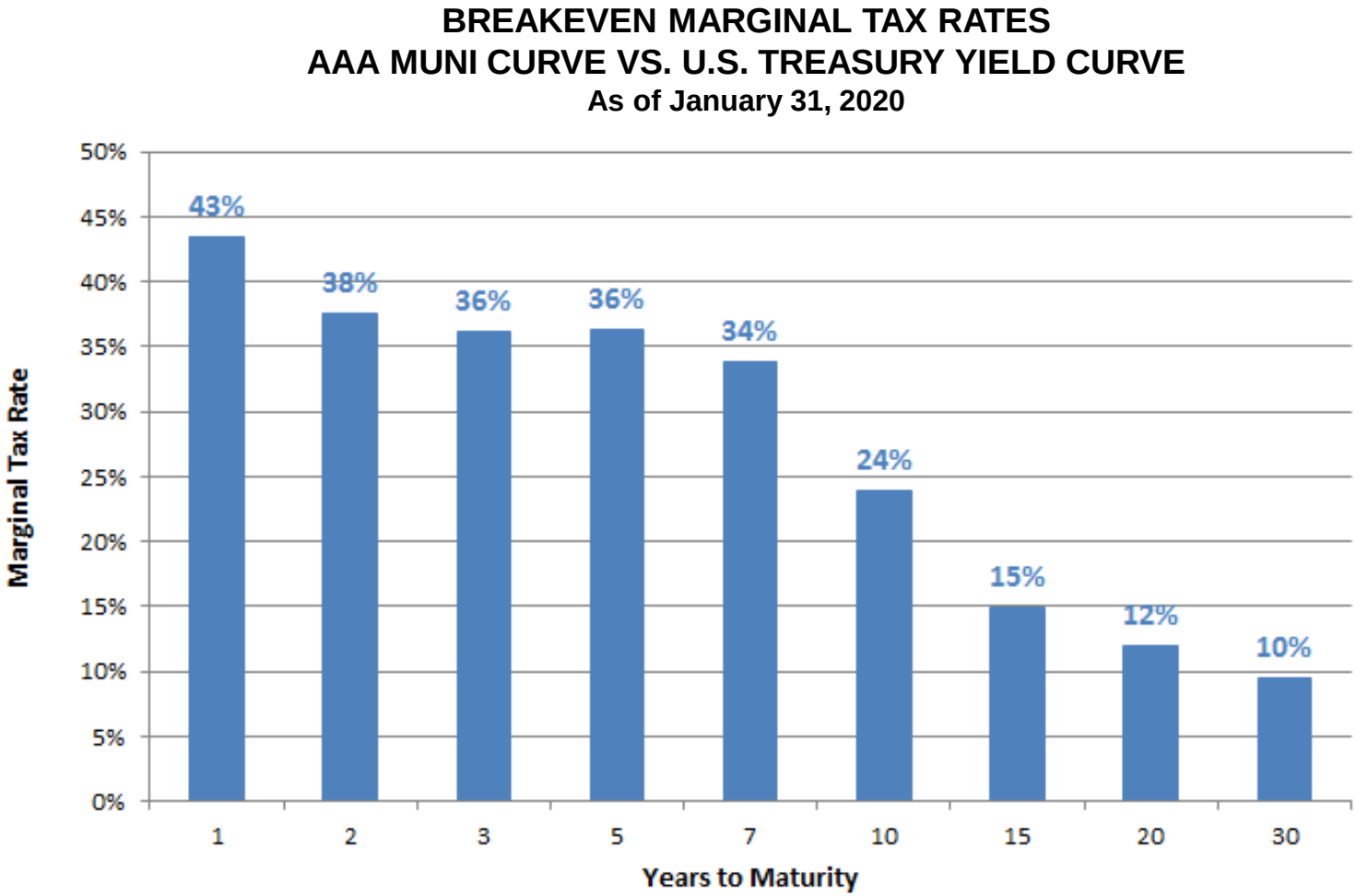
Breakeven Marginal Tax Rates: AAA Munis vs. U.S. Treasuries



Source: Thomson Reuters and Federal Reserve as of 1/31/20.
Past performance is no guarantee of future results.

Why Invest in Municipal Bonds?

Why Invest in Municipal Bonds?

There are at least six (6) reasons for investing in municipal bonds:

1	2	3	4	5	6
Potential to earn attractive amounts of after-tax income	Potential to earn attractive rates of total return	Comfort of investing in an asset class whose credit quality is generally high	Comfort of investing in an asset class whose default rates have historically been low	Attractive diversification benefits	Psychological payoff of knowing that your investment is helping to finance projects that serve the public good

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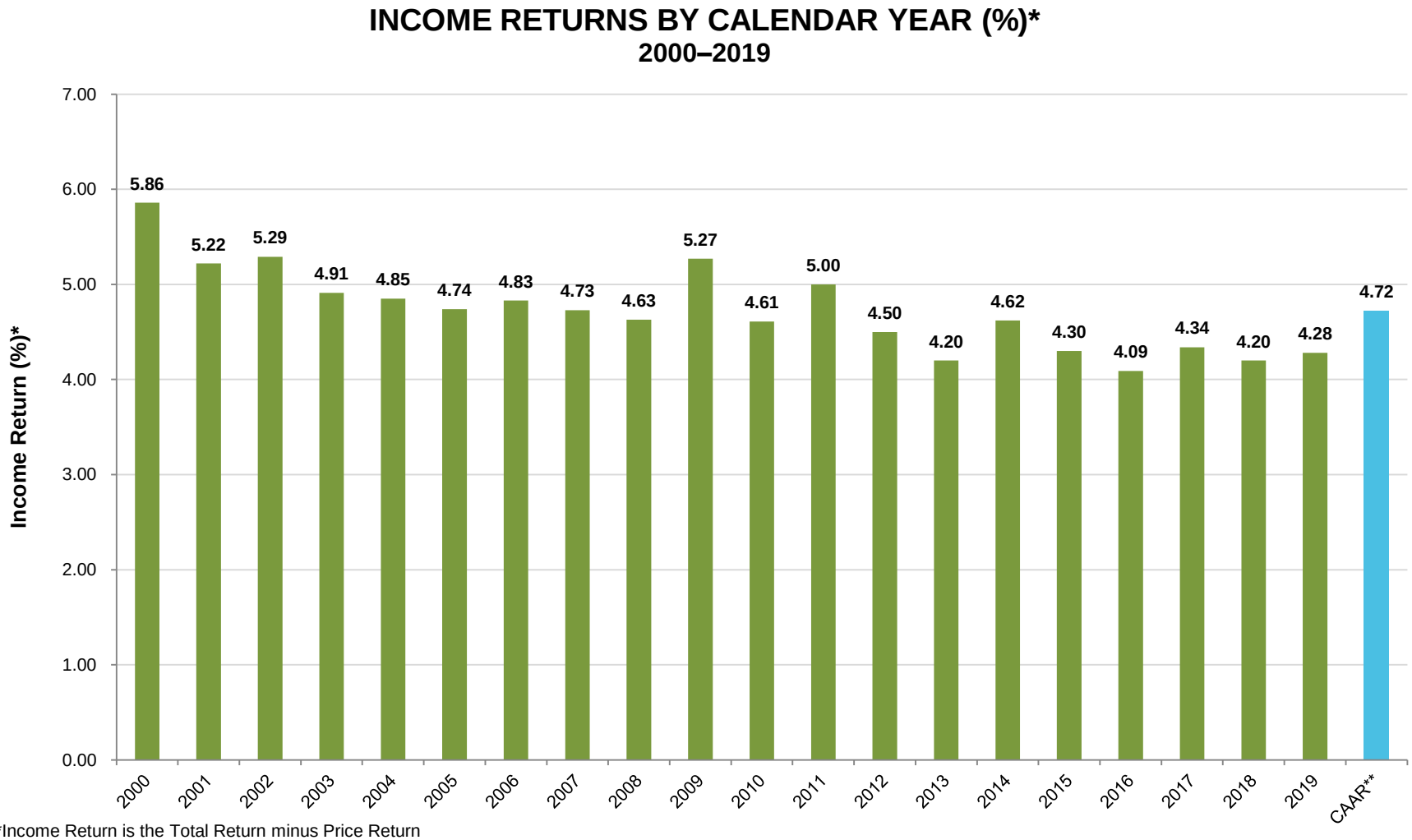
Attractive Income Return Over Time

Based on the Bloomberg Barclays Municipal Bond Index



*Income Return is the Total Return minus Price Return

**Compound Annual Average Return (CAAR): rate of return that would be required for an investment to grow from its beginning balance to its ending balance, assuming the profits were reinvested at the end of each year of the investment's lifespan.

Note: annual returns assume reinvestment of monthly coupon income.

Source: Barclays Bank PLC as of December 31, 2019.

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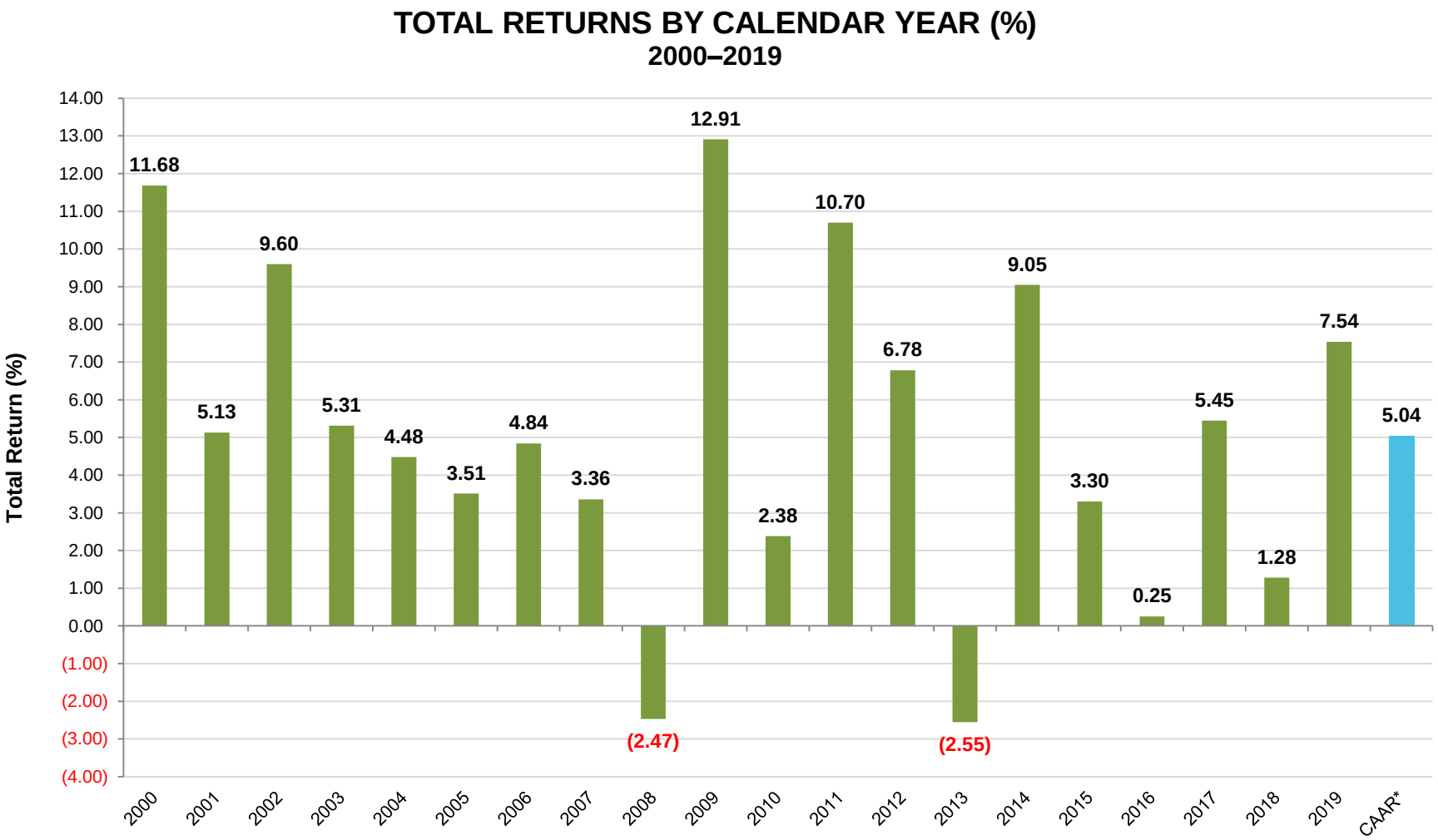
Attractive Total Returns Over Time

Based on the Bloomberg Barclays Municipal Bond Index



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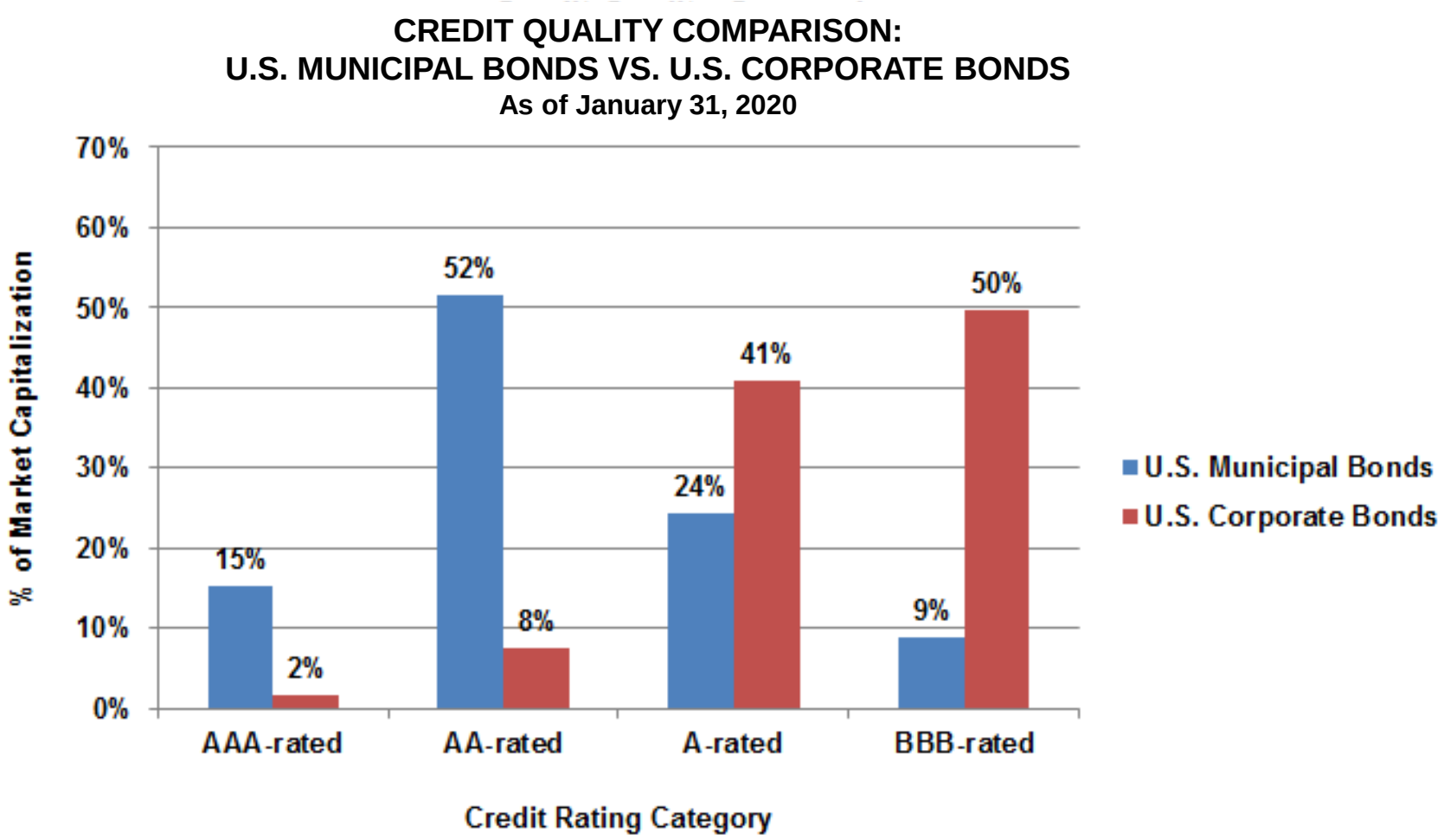
High Credit Quality (a)



(a) The U.S. municipal bond market is represented by the Bloomberg Barclays U.S. Municipal Bond Index; the U.S. corporate bond market is represented by the Bloomberg Barclays U.S. Corporate Bond Index. The market capitalization of the Bloomberg Barclays U.S. Municipal Bond Index was $1.644 trillion as of January 31, 2020; the market capitalization of the Bloomberg Barclays U.S. Corporate Bond Index was $5.959 trillion as of January 31, 2020.

Source: Barclays Bank PLC as of January 31, 2020.

Historically Low Default Rates

Municipal bonds have defaulted far less frequently than corporate bonds

AVERAGE CUMULATIVE DEFAULT RATES (IN %) OVER ROLLING TEN-YEAR PERIODS FROM 1970 THROUGH 2018

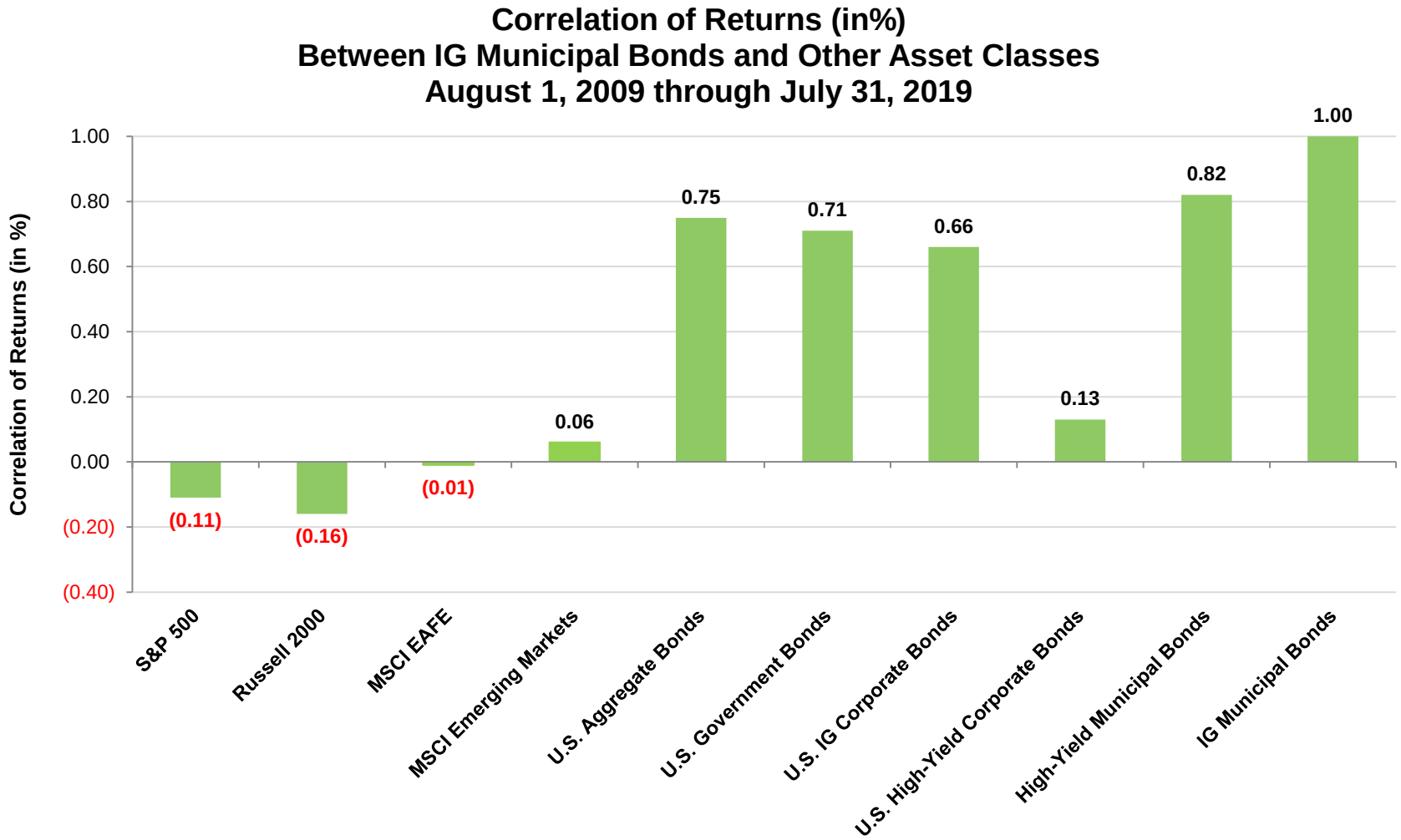
Rating Categories	Municipal Bonds (%)	Corporate Bonds (%)
Aaa	0.00	0.37
Aa	0.02	0.78
A	0.11	2.10
Baa	1.13	3.70
Ba	3.65	15.48
B	17.91	34.28
Caa-C	25.75	48.23
All investment-grade	0.10	2.28
All non-investment-grade	7.47	28.79
All rated securities	0.16	10.13

Note Well
All-rated municipal bonds had a lower 10-year cumulative default rate (0.16%) than did Aaa-rated corporate bonds (0.37%)

Source: Moody's Investor Services, Inc., as of December 2018 (latest data available).
Past default rates are no assurance of future default rates.
Data shown for the time period 1970 through 2018 is the most recent data available.
2019 data may increase the cumulative default rates for both municipal bonds and corporate bonds.
A credit rating is an assessment provided by a nationally recognized statistical rating organization of the creditworthiness of an issuer with respect to debt obligations, including specifica securities, money market instruments, or other debts. Ratings are measured on a scale that generally ragnes from Aaa (highest) to C (lowest); ratings are subject to change without notice. For more information on rating methodologies, please visit moodys.com.

Attractive Diversification Benefits

Historically, Municipal Bonds Have Been an Excellent Diversifier



Unless noted, Bloomberg Barclays index shown

Correlation reveals the strength of return relationships between investments. A perfect linear relationship is represented by a correlation of 1, while a perfect negative relationship has a correlation of -1. A correlation of 0 indicates no relationship between the investments. Correlation is a critical component to asset allocation and can be a useful way to measure the diversity of a combined plan portfolio.

Diversification does not ensure a profit or guarantee against loss.

Source: Zephyr StyleADVISOR, for the period August 1, 2009 through July 31, 2019. An investment cannot be made directly into an Index.

Past performance is no guarantee of future results.

Psychological Benefits of Municipal Bond Investing

Many investors today are interested in tying their investment activities to a set of ethical principles that promote the public good or effect positive social change in some way.

These approaches are variously known as socially-responsible investing (SRI), sustainable investing, mission investing, impact investing, or ESG (Environment, Social, Governance) investing.

Strictly speaking, municipal bond investing is not considered to be an example of either SRI or ESG investing, but to some extent, it can satisfy the same psychological impulse.

For example:

When you buy a municipal bond, you are in effect lending your money to an entity—whether it be a state government, a local government, a governmental entity, or a non-profit institution—whose mission is to make life better for the average person.

These entities may seek to achieve their goal in two primary ways:

1. Through the provision of vital social services (e.g., law enforcement, emergency response, education, healthcare, power generation, sanitation, pollution control, etc.)
2. Through the construction of important public works projects (e.g., roads, bridges, schools, hospitals, airports, public power plants, water works, sewage treatment plants, convention facilities, recreational facilities, etc.).

Some of the most famous public works in the history of the United States were financed by municipal bonds.

Examples: Erie Canal, Golden Gate Bridge, New York City Subway System

Source: Fidelity Investments as of 1/31/20.

The Risks of Municipal Bond Investing

Key Municipal Bond Risk Factors

Interest-rate risk

- Like all bonds, when interest rates go up, bond prices go down.
- Municipal bonds tend to be relatively long-dated, so the duration of pooled products tends to be relatively long.

Default risk

- Historically, default rates have been low, but defaults do occur.
- Examples: City of Stockton (CA), City of Detroit, Commonwealth of Puerto Rico
- Also, when defaults occur, workouts can be complex, and recovery times long.

Credit risk

- Risk of deflationary event (e.g., Great Financial Crisis of 2008)
- Risk of spread-widening event (i.e., a “flight to quality”)
- Idiosyncratic credit events

Call risk

Most municipal bonds are callable after a period of time, and callable bonds will underperform in a market environment where yields are falling and bond prices are rising.

Liquidity risk

- Municipal bonds as an asset class are less liquid than U.S. corporate bonds.
- Liquidity risk will be lower if you stick with investment-grade municipal bonds.

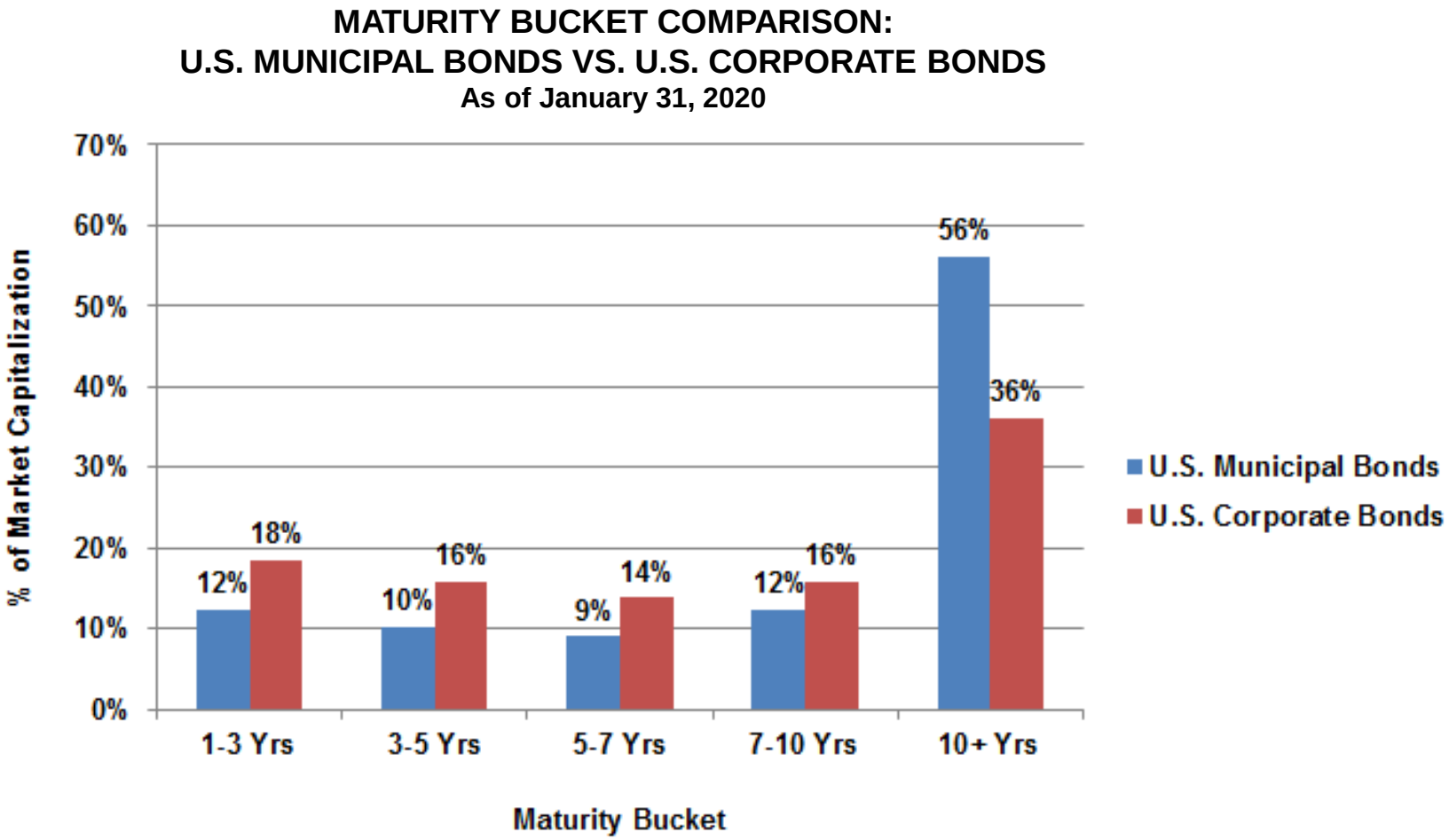
Inflation risk

Bonds with a fixed-rate coupon will deliver inferior returns on an inflation-adjusted basis when inflation is high and/or accelerating:

- **Example:** the inflationary decade of the 1970’s was a miserable time for bond investors.

The risks listed are not exhaustive and differ based on municipality and offering

Municipal Bonds Tend to Be Longer-Dated (a)



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Source: Barclays Bank PLC as of January 31, 2020.

Three More Municipal Bond Risk Factors to Consider

Changes in the Municipal Bond Tax Exemption

Once in a great while, investors become concerned that the federal government might seek to eliminate the tax-exemption associated with municipal bonds.

- **Example**: tax-exempt municipal bonds experienced a 4.2% drawdown between October 31st and November 21st in 2016 in anticipation and subsequent confirmation of a Donald Trump victory in the Presidential election.

The concern is not completely crazy: there is nothing in the United State Constitution that would prohibit the federal government from taxing the interest income on municipal bonds.

That said, it is highly unlikely that the tax-exemption associated with municipal bonds will be eliminated anytime soon.

Change in Marginal Tax Rates

Tax-exempt municipal bonds derive much of their value from the tax-exemption that they enjoy.

The value of the tax-exemption depends upon, among other things, the marginal tax rates at the federal, state, and local level.

Any change to these marginal tax rates—by the U.S. Congress, by state legislatures, or by city councils—can have a meaningful impact, either positive or negative, on the value of your municipal bond holdings.

Change in Other Public Policies

Return of tax-exempt advance refunding bonds, which were eliminated under the 2017 Tax Cuts and Jobs Act?

Prospect of a $2 trillion infrastructure bill?

Repeal of the $10,000 SALT deduction cap, which was also instituted as part of the 2017 Tax Cuts and Jobs Act?

Getting Started in Municipal Bonds

Things to Consider When Starting a Muni Bond Program

- Know when **not** to invest in municipal bonds.
- Know your investment objective(s).
- Know your time horizon.
- Choose your investment vehicle(s) wisely.
- Investment-grade bonds, high-yield bonds, or both?
- National funds, state-specific funds, or both?
- Active approach, passive approach, or both?
- Return-driven strategies or maturity-driven strategies?

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Know When Not to Invest in Municipal Bonds

The tax-exemption feature of municipal bonds is valuable only in an economic environment in which one is being taxed, so….

Refrain from investing in municipal bonds in an account that is already tax-advantaged—i.e.,

Traditional IRA

Roth IRA

401(k) plan

Taxable bonds are a better choice than municipal bonds in a tax-advantaged account.

Municipal bonds are worthy of consideration in a taxable account.

Know Your Investment Objective(s)

Traditionally, fixed income as an asset class has played a defensive role in a portfolio.

The defensive role of fixed income can take a number of different forms:

- Source of liquidity
- Source of current income
- Diversifier of equity risk
- Hedge against catastrophic deflation (e.g., Great Financial Crisis of 2008)
- Tool for asset-liability management and/or cash-flow matching

Municipal bonds are well-suited for some of these defensive roles, and not so well for others.

In particular, municipal bonds generally work best in the following roles:

- Source of current income
- Diversifier of equity risk
- Tool for asset-liability management and/or cash-flow matching

Know Your Time Horizon

"Know your time horizon" is a nice way of asking: when will you need your money back?

It's a key question to consider, since the municipal bond universe tends to be relatively long-dated, as we discussed earlier.

Tax-exempt bond funds tend to have a longer duration than their analogous taxable bond counterparts, with the difference being on the order of 0.5 years to 1.0 years, on average*.

TAXABLE BOND FUNDS VS. TAX-EXEMPT BOND FUNDS
(As of 1/31/20)

Maturity Focus	Taxable Bond Fund (Average Duration)	Tax-Exempt Bond Fund (Average Duration)
Core	Fidelity Investment-Grade Bond Fund (5.43 years)	Fidelity Municipal Income Fund (6.22 years)
Intermediate-Term	Fidelity Intermediate Bond Fund (3.97 years)	Fidelity Intermediate Municipal Income Fund (4.66 years)
Short-Term	Fidelity Short-Term Bond Fund (1.89 years)	Fidelity Limited-Term Municipal Income Fund (2.75 years)

So, in evaluating municipal bond funds, be sure to note the duration of the funds, so that you can match the duration to your time horizon.

The rule of thumb is: the duration of the fund (or funds) should be roughly comparable to your time horizon.

Remember that you can always combine a municipal bond fund, which will tend to have a long duration, with a municipal money market fund, which will tend to have a short duration, to create a blended portfolio for yourself that satisfies your duration target.

*Source: Fidelity (as of 1/31/20
Duration is a measure of a security's price sensitivity to changes in interest rates. Securities with longer durations generally tend to be more sensitive to interest rate changes than securities with shorter durations.

Choose Your Investment Vehicle(s) Wisely

Municipal bonds can be purchased in many different ways				
Self-directed individual account	Professionally-managed individual account (SMA)	Open-end mutual fund	Closed-end mutual fund	Exchange-traded fund

Key Factors to consider					
Your level of knowledge and expertise	How much time do you have?	Account minimums	Annual fees and expenses	Transactions costs	Standard investment guidelines vs. custom investment guidelines
Idiosyncratic risk vs. potential benefits of diversification	Potential benefits of professional management	Use of leverage	Liquidity of underlying bonds in the context of each vehicle	Advanced risk management techniques (e.g., stop-loss orders)	

Bottom Line:

- Open-end mutual funds can be a good choice for many investors
- SMAs may be a good choice for those who can afford the large account minimums

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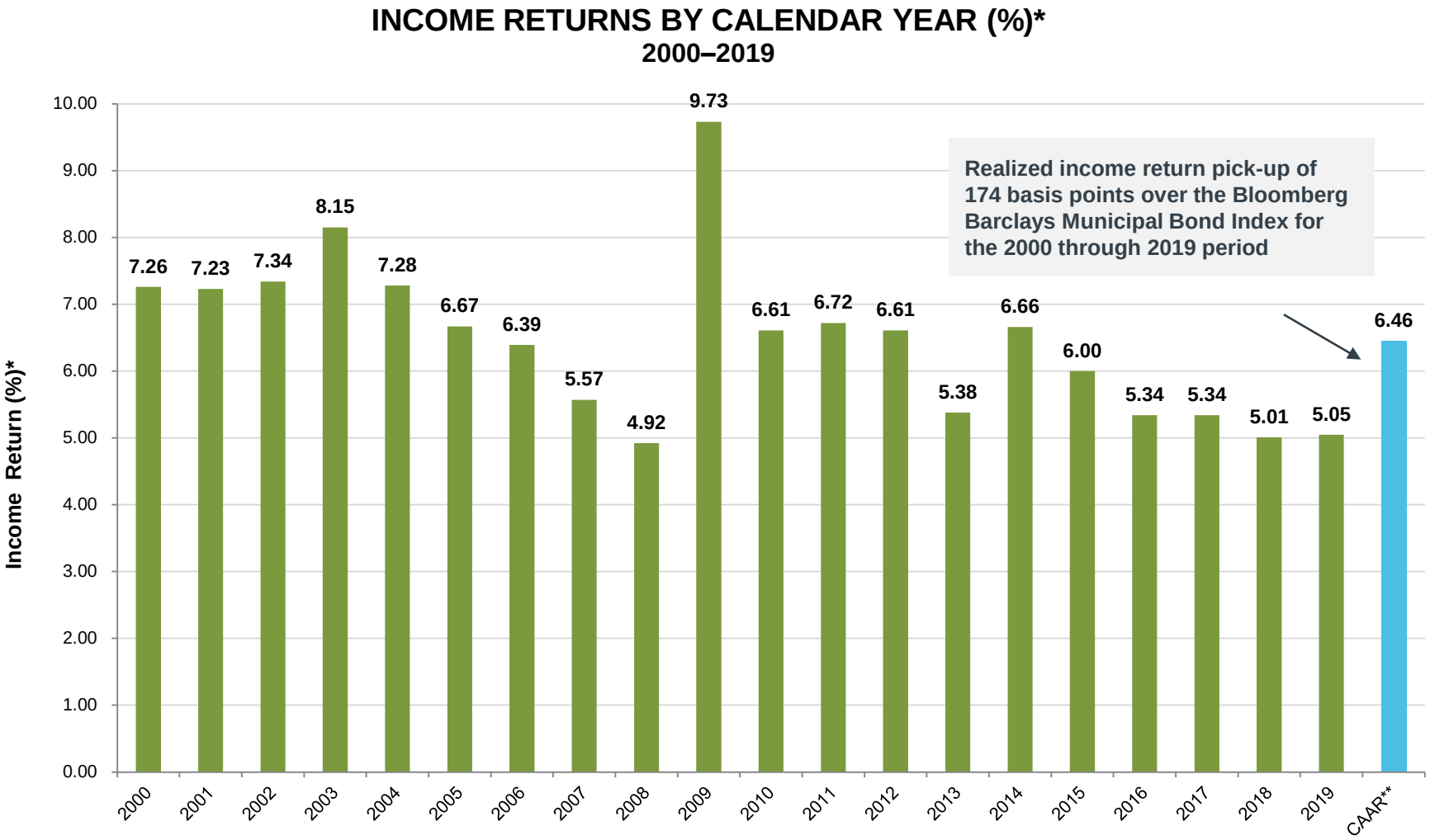
Investment-Grade Bonds, High-Yield Bonds, or Both?

Income Returns of the Bloomberg Barclays Municipal High-Yield Bond Index



*Income Return is the Total Return minus Price Return

**Compound Annual Average Return (CAAR): rate of return that would be required for an investment to grow from its beginning balance to its ending balance, assuming the profits were reinvested at the end of each year of the investment's lifespan.

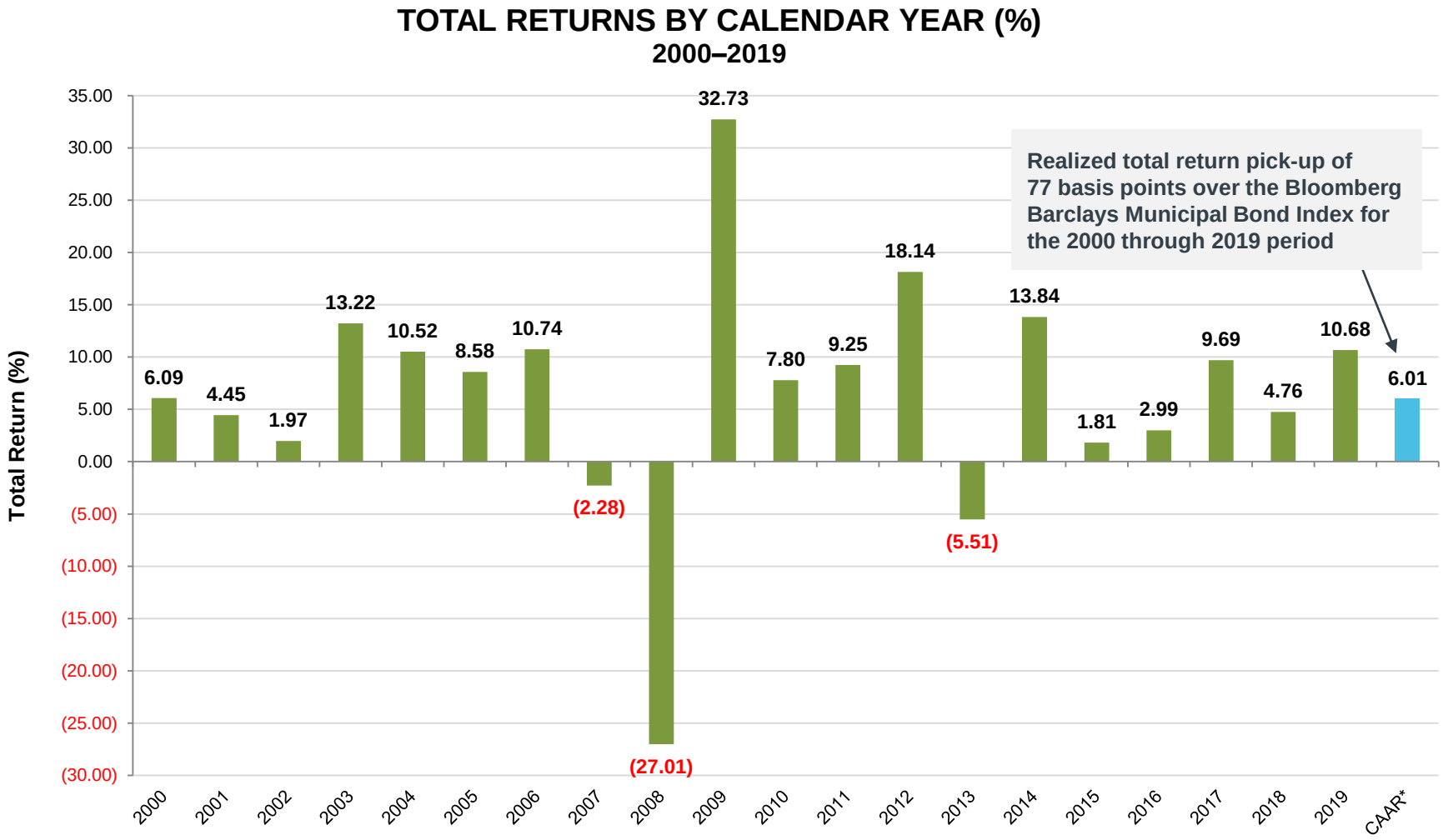
Note: annual returns assume reinvestment of monthly coupon income.

Source: Barclays Bank PLC as of December 31, 2019.

Past performance is no guarantee of future results

Investment-Grade Bonds, High-Yield Bonds, or Both?

Total Returns of the Bloomberg Barclays Municipal High-Yield Bond Index



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Annual returns assume reinvestment of monthly coupon income.
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Investment-Grade Bonds, High-Yield Bonds, or Both?

The Case for High-Yield (HY) Municipal Bonds

- As of February 28, 2020, HY bonds* were offering a yield of 3.29%, IG bonds** only 1.27%.
- Over the two decades ending December 31, 2020, HY bonds have outperformed IG bonds on a total return basis (i.e., by an average of 77 bps per year) and an income return basis (i.e., by an average of 174 bps per year).

The Case for Investment-Grade (IG) Municipal Bonds

- The size of the IG market is much larger than that of the HY market, both in terms of market capitalization ($1.667 trillion vs. $135 billion) and number of issues (~56,000 vs. ~4,500) based on the Bloomberg Barclays municipal bond indices.
- The liquidity in the IG market is much higher, and the transactions costs commensurately lower.
- The volatility of the IG market is lower than that of the HY market, and drawdowns in times of economic recession or market panic have been significantly lower.
- The average default rate for municipal bonds ramps dramatically from IG issues (0.10% per year) to HY issues (7.47% per year) based on Moody's data (1970 through 2018).
- The Chapter 9 bankruptcy process for municipalities is generally far more complex and more drawn out than the Chapter 11 bankruptcy process for corporations, for at least four reasons: (a) there is generally less case law and precedent to guide the proceedings; (b) there are generally more stakeholders involved; (c) there are often elements of politics involved in the adjudication of the case; and (d) the federal courts hold less sway over a municipality than a corporation, and that is by design.

Bottom Line

- Investors may want to consider IG bonds as the centerpiece of their municipal bond investment program, but doesn't have to be an "either-or" question.
- Both IG and HY can make sense, but it is also recommended that one should participate in the HY market only through a professionally-managed vehicle.
- You might consider taking a core-satellite approach to your municipal bond portfolio, in which some large portion of the portfolio—say, 90%--is invested in IG funds, and the remainder in HY funds.

*Bloomberg Barclays High Yield Municipal Bond Index
**Bloomberg Barclays U.S. Municipal Bond Index

National Funds, State-Specific Funds, or Both?

Income from state-specific funds are tax-exempt at the federal, state, and local level, whereas income from national funds are tax-exempt only at the federal level, but….

National funds tend to be larger, more diversified at the security level, less concentrated by sector, and less expensive in terms of annual management fees.

It doesn't have to be an "either-or" question; rather, it often makes sense to take a core-satellite approach, in which some large portion of one's tax-exempt fixed-income assets—say, 60%—are invested in national funds, and the remainder are invested in state-specific funds.

Characteristic (as of 12/31/19)	Fidelity Municipal Income Fund	Fidelity Maryland Municipal Income Fund
Market Capitalization	$5.111 billion	$227.7 million
Number of Securities	1,488	125
% Invested in 3 Largest Sectors	66.1%	73.0%
Average Duration	6.45 years	5.62 years
Expense Ratio (Gross)	0.46%	0.55%

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Active Approach, Passive Approach, or Both?

The Case for Passive Management

- Passive index funds hold the potential of providing you with benchmark-like performance.
- Actively-managed funds sometimes underperform their benchmark indices, net of fees.
- "You can't control your outcomes, but you can always control your costs!"
- Low-fee passive index funds may outperform actively-managed funds over time, net of fees.

The Case for Active Management

- The municipal bond market lends itself particularly well to active management.
  - Large numbers of small issues that often trade by appointment
- Fees are higher than passive, but they have to be, because the task is labor-intensive.
- Remember, you're investing in an index fund, not the index itself.
- Indexing a municipal bond portfolio is a daunting task for the same reasons that make the municipal bond market attractive to the active manager.
- The Commonwealth of Puerto Rico default underscores the risks of a passive approach.
- Rules-based trading of a municipal bond fund can actually lead to a larger number of unintended taxable events;
  the active manager can be more sensitive to the tax consequences of trading outcomes.
- Passive funds tend to be national, not state-specific, in scope.

Bottom Line

- Again, it doesn't have to be an "either-or" question; both active and passive can make sense.
- You might consider taking a core-satellite approach to your municipal bond portfolio, in which some large portion of the portfolio—say, 60%—is invested in passive funds, and the remainder is invested in actively-managed funds.

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Return-Driven Strategies or Maturity-Driven Strategies?

Municipal bond investing lends itself well to both **return-driven strategies** and **maturity-driven strategies**.

Return-Driven Strategies	Maturity-Driven Strategies
Income-oriented	Bulleted
Total return	Barbelled
	Laddered

There are mutual funds known variously as Defined Maturity products, Bulletshare products, and even Laddered products that can help you implement a maturity-driven strategy.

As always, pay attention to all of the underlying characteristics of these products—e.g., investment guidelines, credit quality, portfolio composition, fees, and the like—before making an investment decision.

Market Technicals

Market Technicals in the Municipal Bond Market

DEFINITION

"Market technicals" refers to the supply and demand characteristics of the municipal bond market.

Why Important?

Market technicals are important in every market, but especially so in the market for municipal bonds.

The municipal bond market is about one-tenth the size of the taxable bond market and far less liquid.

Therefore, pricing in the municipal bond market tends to be more strongly influenced by the ebbs and flows of supply and demand.

Key Takeaway

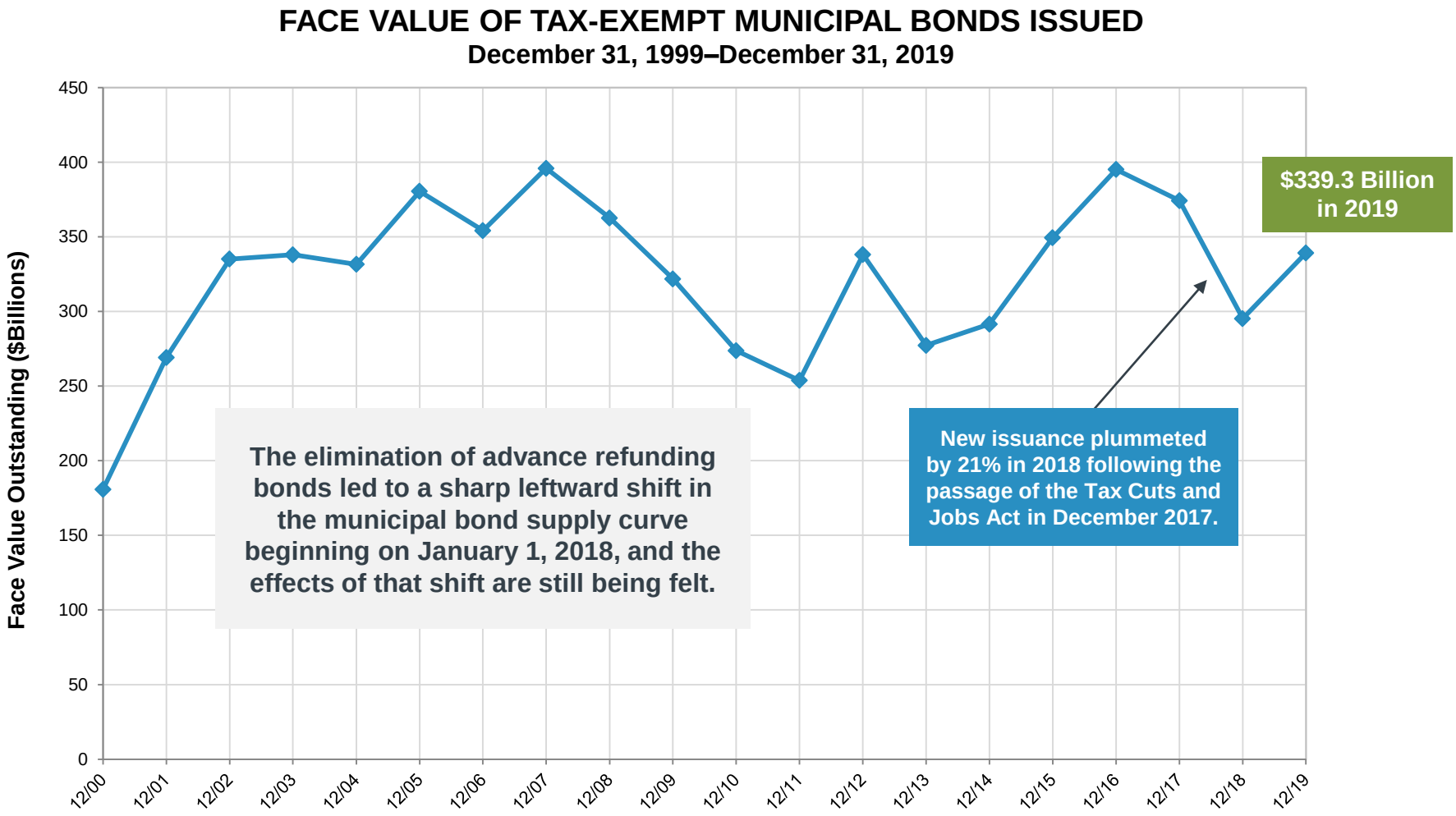
- To understand market technicals in the municipal bond market today, one must understand the Tax Cuts and Jobs Act of 2017 (TCJA).
- The TCJA made significant changes in the incentive structure of the municipal bond market, both for issuers and investors.
- Participants in the municipal bond market have been living with the consequences of those changes over the last two years.
- The full consequences of the TCJA are still playing out and will likely do so for some time.

Major Provisions of the Tax Cuts and Jobs Act of 2017

Provision	Change/Reform	Consequence for Muni Pricing
Advance Refunding Bonds	Eliminated tax-exempt advance refunding issuance, which historically had averaged about 20% of total supply	Positive, because it reduces the potential supply of muni bonds
Corporate Tax Rate	Reduced from 35% to 21%	Negative, because it reduces the incentive to buy and hold muni bonds among banks and property and casualty insurance companies
Tax Treatment for Life Insurance Companies	Historically, no tax exemption on muni income, but now 93.7% of muni income is tax-free at the federal level	Positive, because it broadens the potential buyer base for municipal bonds
Individual Tax Rate	Reduced the marginal tax rate for most individuals by 1% to 4%, with the top tax rate coming down by 2.6%	Negative, because it reduces the incentive to buy and hold muni bonds among retail investors
State and Local Tax (SALT) Deductions	Imposed a $10,000 cap on deductions for state and local income taxes and property taxes	Positive, because it increases the incentive to buy and hold muni bonds, especially among affluent investors who live in so-called high-tax states (e.g., CA, NY, IL, NJ, MA)
Individual Alternative Minimum Tax (AMT)	Raised the AMT income threshold for individuals, and eliminated the AMT for corporations	Positive, because it broadens the potential buyer base for AMT bonds and reduces the yield differential between AMT and non-AMT bonds

Source: Fidelity Investments.

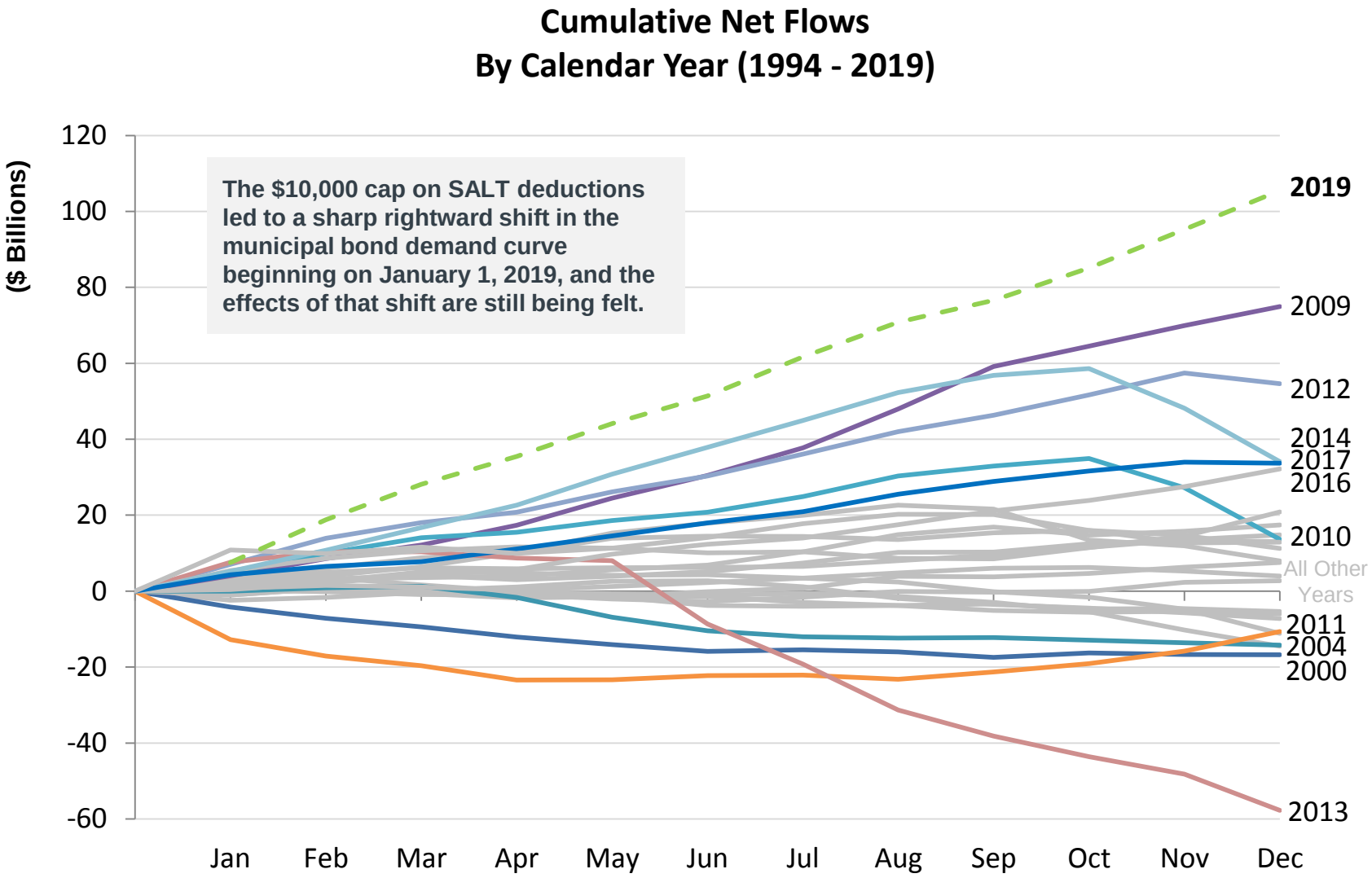
Tax-Exempt Municipal Bond Issuance



The amount of new issuance in January 2020 was $23.3 billion, about 30% ahead of the $17.9 billion issued in January 2019.

Source: Securities Industry and Financial Markets Association as of January 31, 2020.

Muni Fund Flows Set Record in 2019



Source: Morningstar Direct as of 12/31/19. Cumulative Net Flows represent the aggregate total of all mutual funds and ETFs within the Morningstar Municipal Bond US Category Group.

Market Technicals Recap

Tax reform has reduced the supply of municipal bonds.	The demand for municipal bonds has been strong despite lower marginal tax rates for individuals and corporations.	The size of the municipal bond market has been slowly shrinking over the last ten years.
• 2019 issuance was up year-over-year but roughly 80% of the five-year average. • The shortfall is mostly due to the elimination of advance refunding bonds.	• SALT deduction cap has put a premium on tax-exempt income among affluent investors in high-tax states. • Mutual fund flows in 2019 were the strongest ever recorded since data was first collected in 1992. • Reinvestment of maturities/coupons/ calls continues to support market.	• Tax reform has brought about a temporary imbalance between supply and demand in the municipal bond market. • Valuations will be the ultimate brake that brings demand in line with supply. • New legislative initiatives could boost supply in the years to come

 Source: Fidelity Investments.

Market Environment

Market Environment

Yield Curve Level

Municipal bond yields have declined over the last 13 months and remain near the lowest levels observed in the post-World War II era.

Yield Curve Slope

Municipal bond yield curve has flattened steadily over the last 6 years and is approaching the lowest levels observed over the last 30 years.

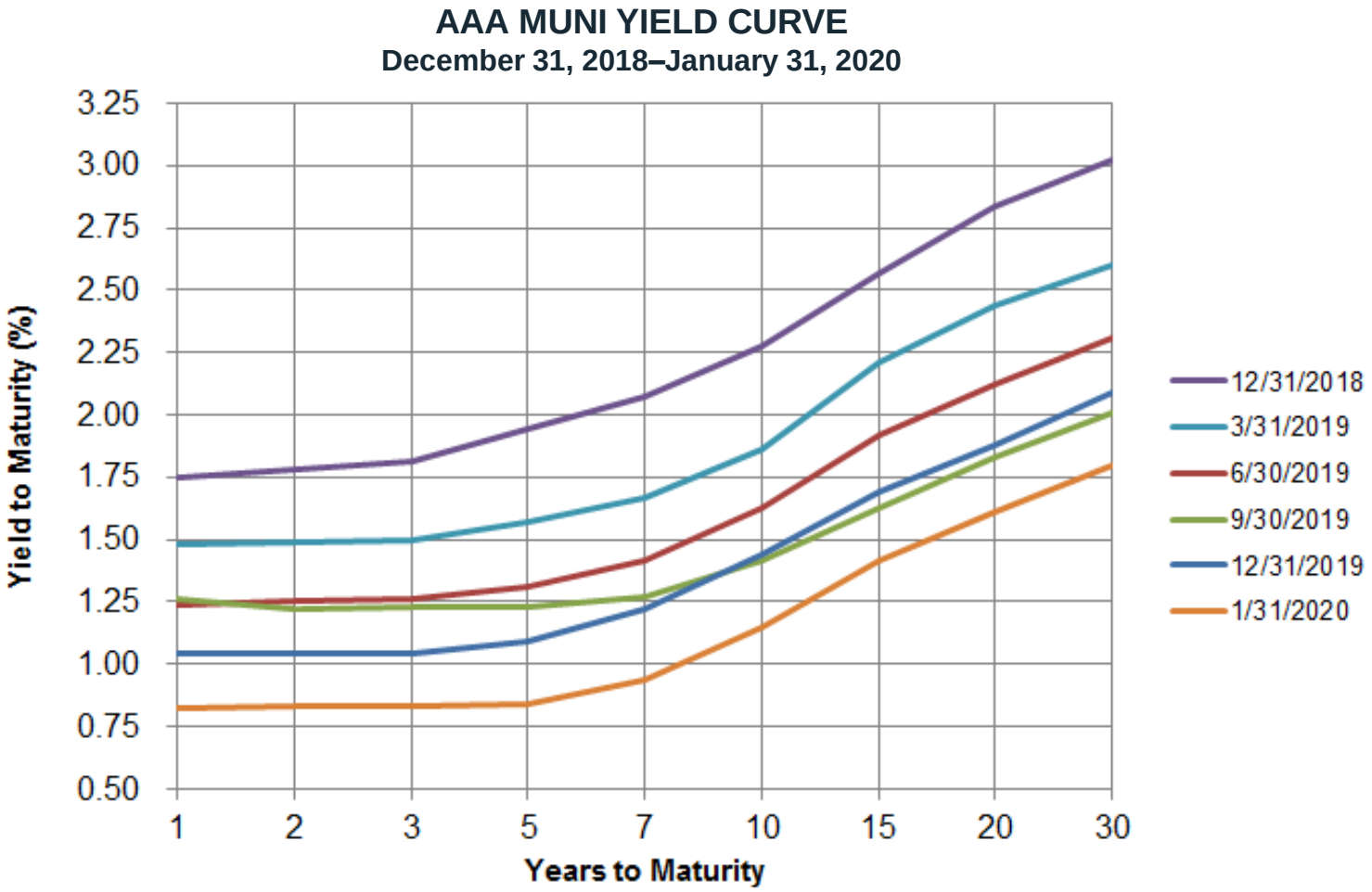
Yield Spreads

Municipal bond yield spreads have narrowed steadily over the last 8 years and remain compressed, with bonds now trading at levels last seen in 2005.

Market Volatility

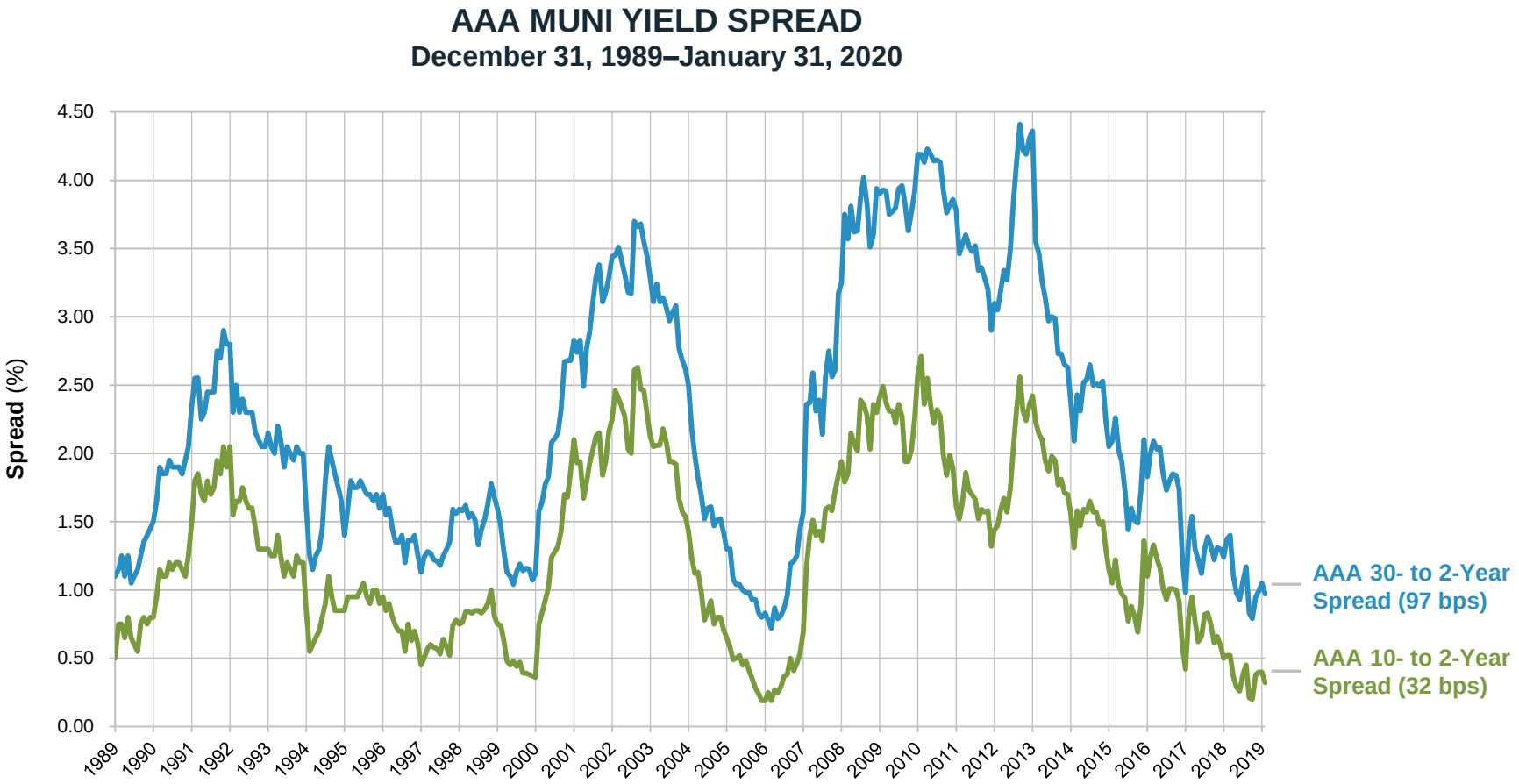
- Market volatility had been range-bound—between 12% and 20%--for the most part over the last twelve months—that is, until recently, when the outbreak of the coronavirus caused volatility to spike to 40% as of Friday, February 28th.
- Low volatility—in the range of 10% to 15%—is ideal, because it creates an environment in which incremental yield can be transformed into incremental return without the negative price effects of widening yield spreads.
- Low volatility also cheapens the value of the short call option embedded in many municipal bonds.

Changes in the Level of the Municipal Yield Curve



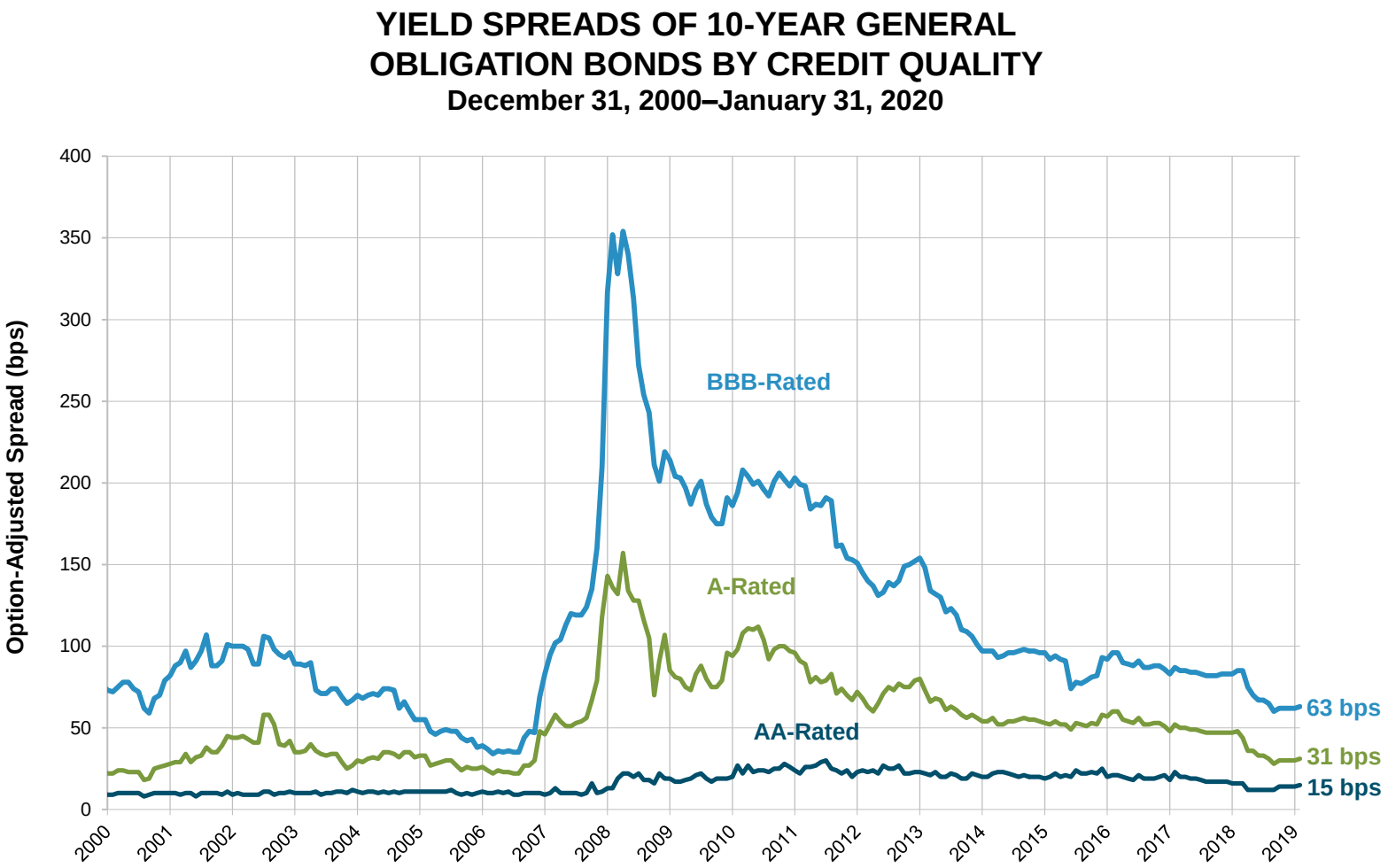
Source: Thomson Reuters as of 1/31/20.
Past performance is no guarantee of future results.

Changes in the Slope of the Municipal Yield Curve



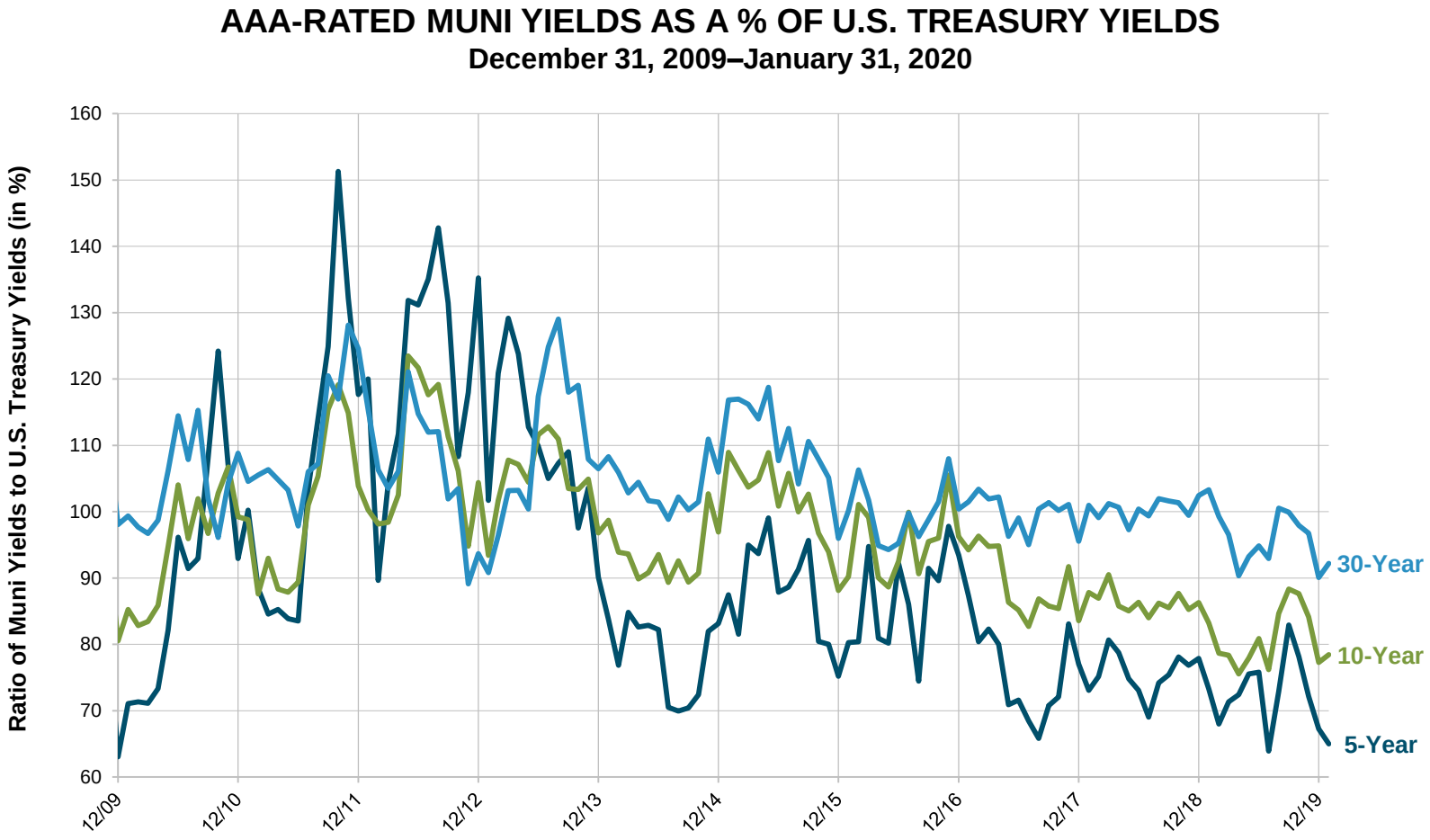
Source: Thomson Reuters, Fidelity Investments as of 12/31/19.
Past performance is no guarantee of future results.

Changes in Municipal Yield Spreads by Credit Quality



Sources: FMR and Thomson Reuters. as of 12/31/19.
Past performance is no guarantee of future results.

Valuations from a Muni Yield/Treasury Yield Ratio Perspective



Sources: The Bloomberg L.P. as of 1/31/20.
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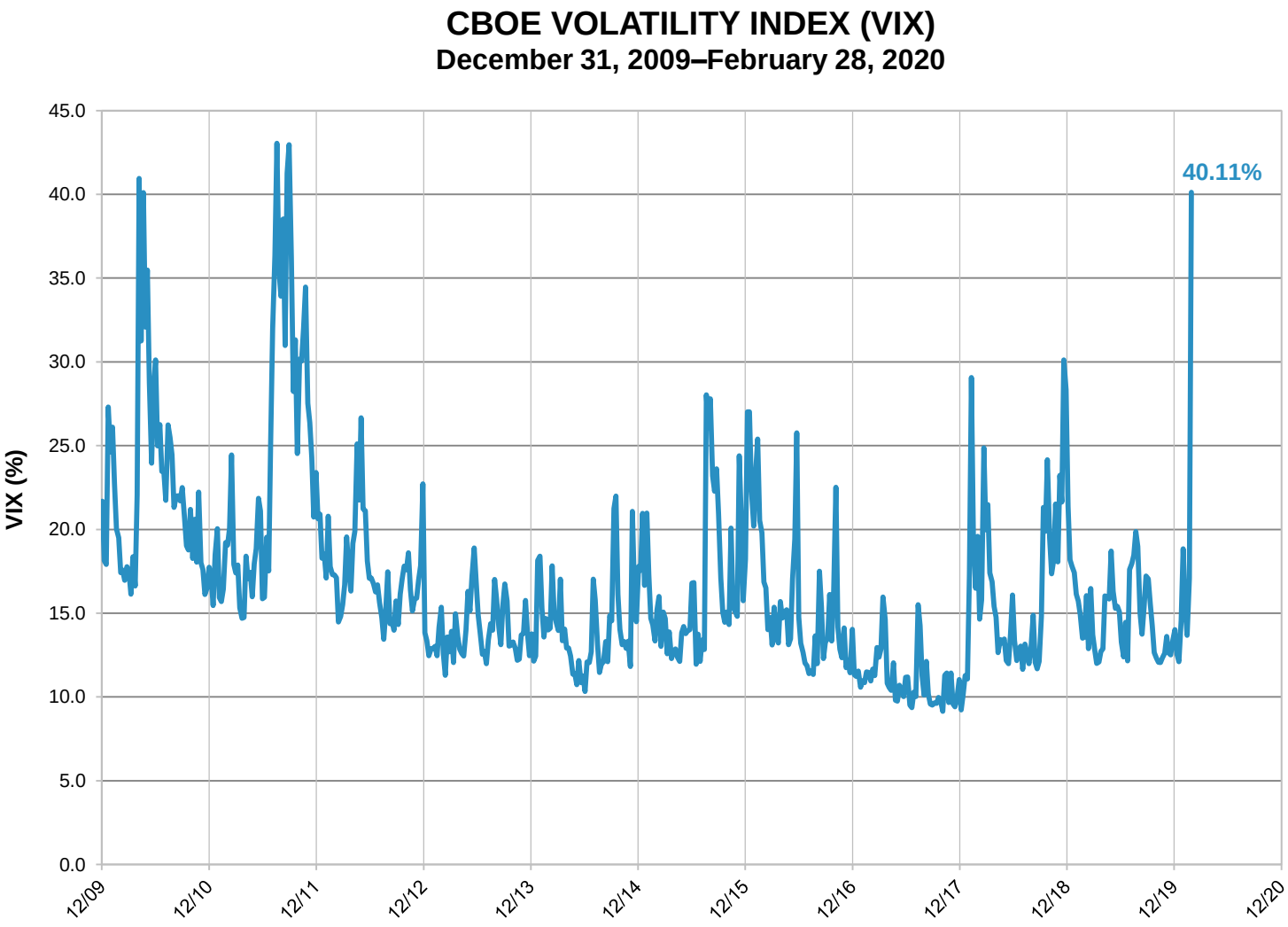
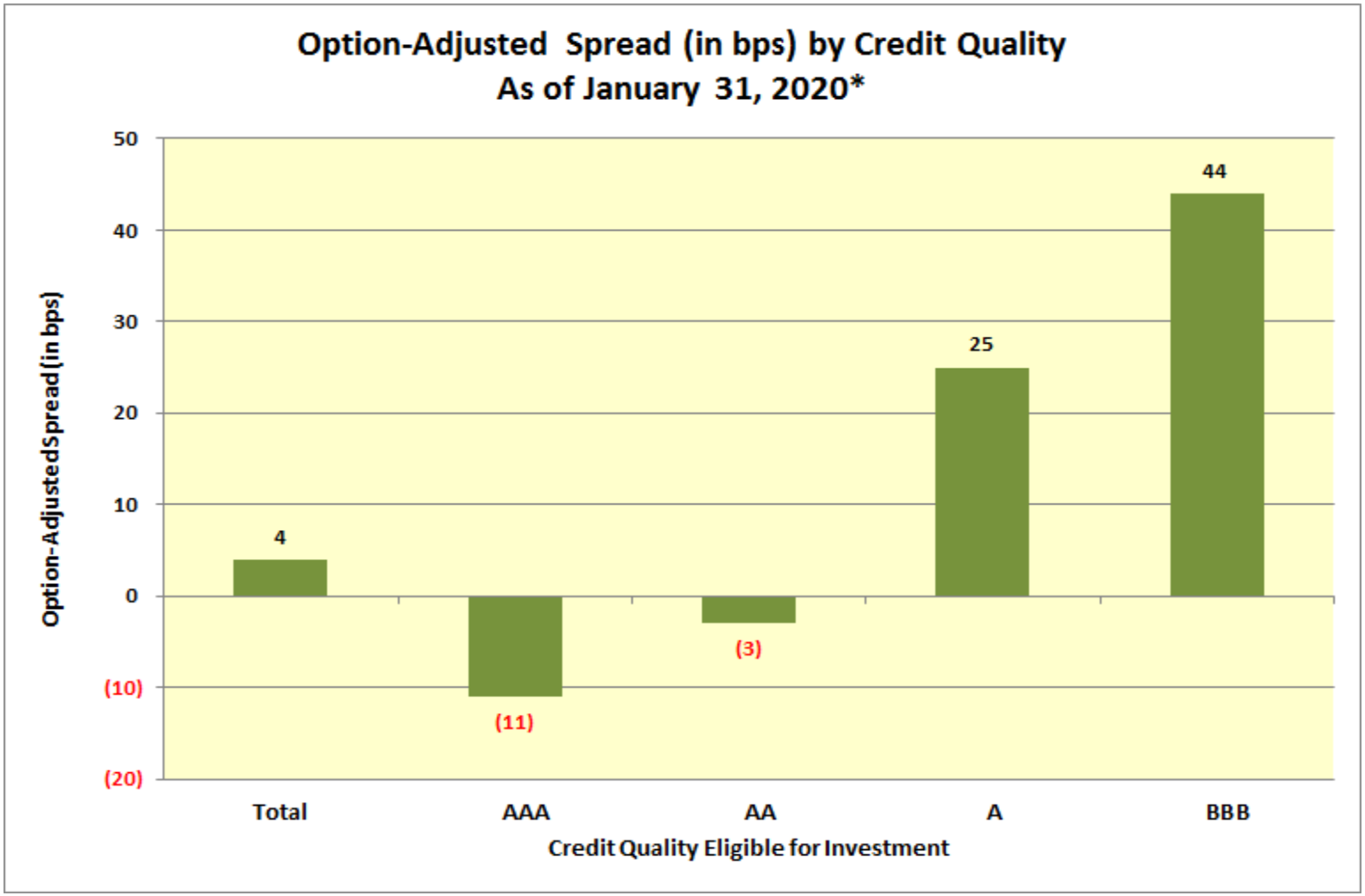
Changes in the Level of the CBOE Volatility Index



Source: Bloomberg, L.P. as of 2/28/20.

Valuations from an Option-Adjusted Spread Perspective

By Credit Quality

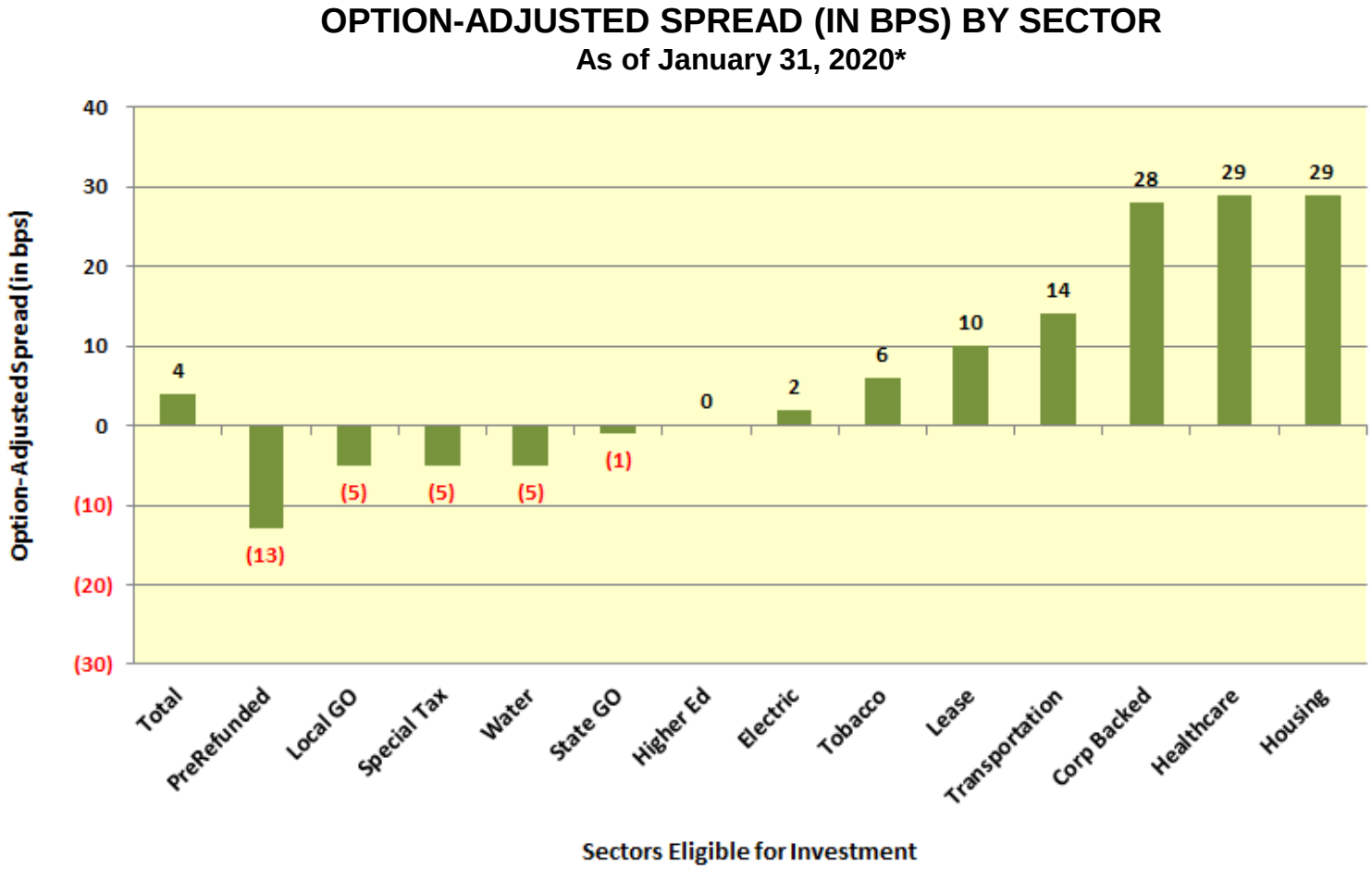


* Option-adjusted spread relative to the AAA-rated municipal bond yield curve based on the Bloomberg Barclays Municipal Bond Index.

Past performance is no guarantee of future results.
Source: Fidelity Investments as of 2/29/20.

Valuations from an Option-Adjusted Spread Perspective

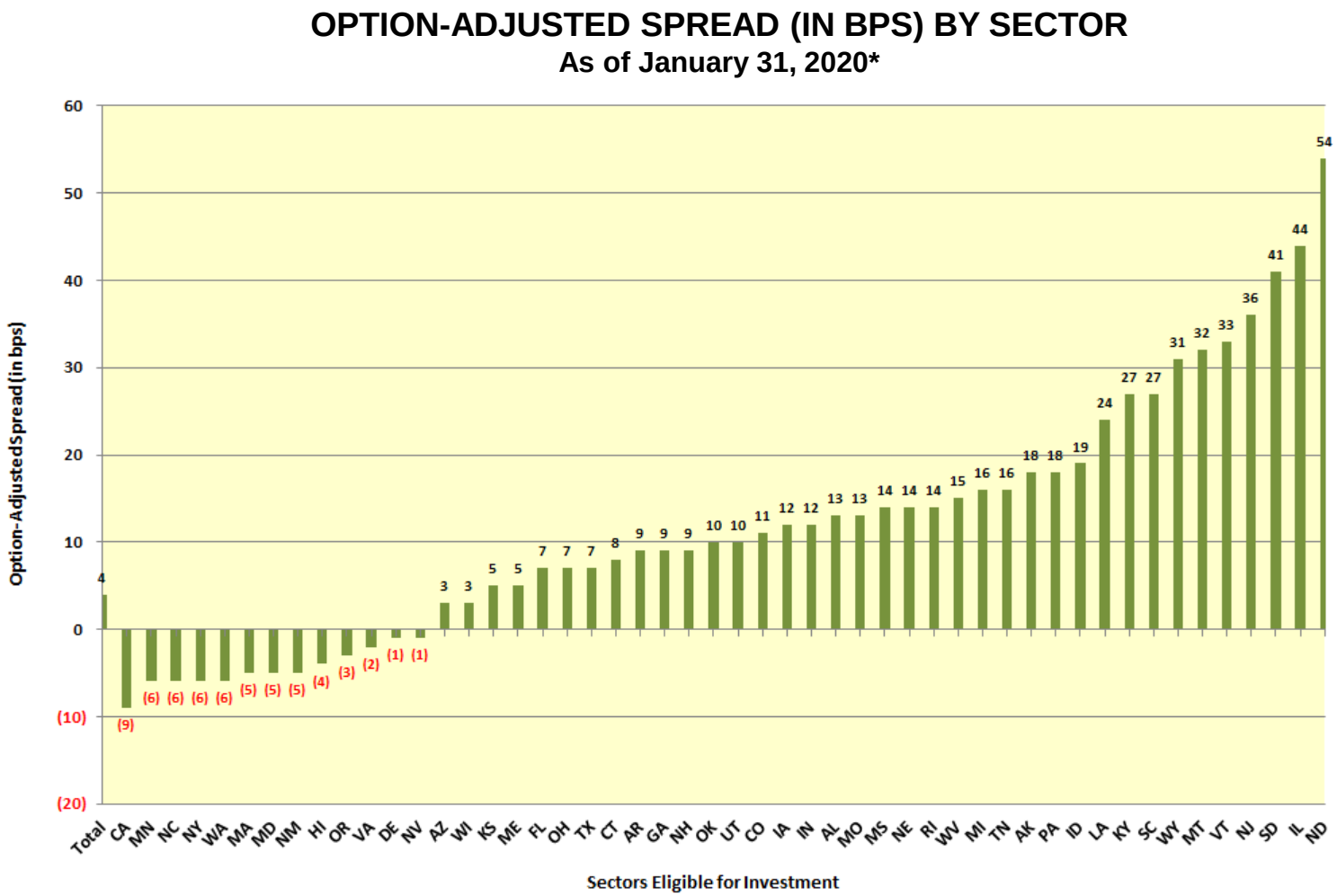
By Type of Issuer



* Option-adjusted spread relative to the AAA-rated municipal bond yield curve based on the Bloomberg Barclays Municipal Bond Index.
Past performance is no guarantee of future results.
Source: Fidelity Investments as of 1/31/20.

Valuations from an Option-Adjusted Spread Perspective

By Geography



* Option-adjusted spread relative to the AAA-rated municipal bond yield curve based on the Bloomberg Barclays Municipal Bond Index.
Option-Adjusted Spread for each state takes into account all bonds issued within the state, including both tax-backed and revenue-backed securities.
Past performance is no guarantee of future results.
Source: Fidelity Investments as of 1/31/20.

Final Thoughts

Final Thoughts

> The Chinese use two brush strokes to write the word ‘crisis.’
> One brush stroke stands for danger; the other for opportunity.
>
> PRESIDENT JOHN F. KENNEDY

- The primary appeal of municipal bonds lies in their tax-exemption feature—i.e., the interest income of most municipal bonds is tax-exempt at the federal level and sometimes at the state and local level.
- The value of the tax-exemption depends on your state of residence and on your tax bracket at the federal, state, and local level.
- Investment-grade municipal bonds tend to be of high quality, but be wary of default risk, as workouts can be complex and recovery times long.
- Emphasize investment-grade bonds in your portfolio, and layer in high-yield prudently, if at all.
- Municipal bonds tend to be long-dated, so pay attention to duration, and don’t forget about blending in tax-exempt money market funds as a way of achieving your duration target, if necessary.
- Municipal bonds tend to be a diversifier for equity risk, but not a great deflation hedge.
- Municipal bonds lend themselves well to active management, but both active and passive can make sense.
- The supply/demand characteristics of the municipal bond market are strong at the moment and continue to favor the investor, but....
- Yields are low, the curve is flat, spreads are compressed, and opportunities are harder to find.
- Proceed with caution**, and good luck!**

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Thank you for your attention! Time for Q&A!

Index Definitions

Bloomberg Barclays U.S. Municipal Bond Index: The Bloomberg Barclays U.S. Municipal Index covers the USD-denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds and prerefunded bonds.

Bloomberg Barclays U.S. Municipal Bond Index: The Bloomberg Barclays US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

Russell 2000 Index: The Russell 2000 index is an index measuring the performance of approximately 2,000 smallest-cap American companies in the Russell 3000 index, which is made up of 3,000 of the largest U.S. stocks. It is a market-cap weighted index.

MSCI EAFE Index: The EAFE Index is a stock index offered by MSCI that covers non-U.S. and Canadian equity markets. It serves as a performance benchmark for the major international equity markets as represented by 21 major MSCI indices from Europe, Australasia, and the Middle East.

MSCI Emerging Markets Index: The MSCI Emerging Markets Index stands for Morgan Stanley Capital International (MSCI), and is an index used to measure equity market performance in global emerging markets.

Bloomberg Barclays U.S. Aggregate Bond Index: The Bloomberg Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency).

Bloomberg Barclays Government Bond Index: The Bloomberg Barclays Government Bond Index is an index that measures the performance of all public U.S. government obligations with remaining maturities of one year or more.

Bloomberg Barclays U.S. Investment Grade Corporate Bond Index: The Bloomberg Barclays US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

Bloomberg Barclays U.S. Corporate High Yield Bond Index: Bloomberg Barclays U.S. Corporate High Yield Bond Index is a market value-weighted index that covers the universe of dollar-denominated, fixed-rate, non-investment-grade debt. Eurobonds and debt issues from countries designated as emerging markets are excluded.

Bloomberg Barclays High Yield Municipal Bond Index: covers the universe of fixed rate, non-investment grade debt.

Bloomberg Barclays U.S. Municipal Bond Index: covers the USD-denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds and prerefunded bonds.

Important Information

Before investing, consider the funds' investment objectives, risks, charges, and expenses. Contact Fidelity for a prospectus or, if available, a summary prospectus containing this information. Read it carefully.

You could lose money by investing in a money market fund. An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Before investing, always read a money market fund's prospectus for policies specific to that fund.

In general, the bond market is volatile, and fixed income securities carry interest rate risk. (As interest rates rise, bond prices usually fall, and vice versa. This effect is usually more pronounced for longer-term securities.) Fixed income securities also carry inflation risk, liquidity risk, call risk, and credit and default risks for both issuers and counterparties. Unlike individual bonds, most bond funds do not have a maturity date, so holding them until maturity to avoid losses caused by price volatility is not possible. Any fixed income security sold or redeemed prior to maturity may be subject to loss.

The municipal market can be affected by adverse tax, legislative, or political changes, and by the financial condition of the issuers of municipal securities. Interest income generated by municipal bonds is generally expected to be exempt from federal income taxes and, if the bonds are held by an investor resident in the state of issuance, from state and local income taxes. Such interest income may be subject to federal and/or state alternative minimum taxes. Investing in municipal bonds for the purpose of generating tax-exempt income may not be appropriate for investors in all tax brackets. Generally, tax-exempt municipal securities are not appropriate holdings for tax-advantaged accounts such as IRAs and 401(k)s.
Interest rate risk - Like all fixed income securities, the market prices of municipal bonds are susceptible to fluctuations in interest rates. If interest rates rise, market prices of existing bonds will decline, despite the lack of change in both the coupon rate and maturity. Bonds with longer maturities are generally more susceptible to changes in interest rates than bonds with shorter maturities.

Call risk - Many municipal bonds carry provisions that allow the issuer to call or redeem the bond prior to the actual maturity date. An issuer will typically call bonds when prevailing interest rates drop, making reinvestment less desirable for the holder. Some municipal bonds, including housing bonds and certificates of participation (COPs), may be callable at any time regardless of the stated call features. In some cases, bond issuers will call bonds to modify an indenture through a new offering. Investors should also be aware of special or extraordinary redemption provisions. These are provisions that give a bond issuer the right to call the bonds due to a one-time occurrence, such as a natural disaster, interruption to a revenue source, unexpended bond proceed, or cancelled projects.

Liquidity risk - The vast majority of municipal bonds are not traded on a regular basis; therefore, the market for a specific municipal bond may not be particularly liquid. This can be attributed to the large number of municipal issuers and variety of securities. With limited exceptions for some large more actively traded issues, the chances of finding a specific municipal bond in the secondary market at any given time are relatively small. According to the Municipal Securities Rulemaking Board (MSRB), it is much more common to identify basic characteristics of a municipal bond in which an investor is interested in investing (e.g., state, creditworthiness, maturity range, interest rate, or yield, market sector, etc.) and then to make a choice from a set of municipal securities that meet those criteria. Selling prior to maturity can present a challenge for municipal bond investors due to the fragmented and thinly traded nature of the market.

Revenue sources risk - With revenue bonds, the interest and principal are dependent on the revenues paid by users of a facility or service, or other dedicated revenues including those from special taxes. In general, the consumer spending that provides the funding or income stream for revenue bond issuers may be more vulnerable to changes in consumer tastes or a general economic downturn than the income stream for general obligation bond issuers. "Essentiality" is a key investor consideration for a project financed with revenue bonds. For example, a facility that delivers fundamental or essential services, such as water and sewer, may be more likely to have dependable revenues through multiple economic cycles. When evaluating revenue bonds, it is important to consider:

The overall economic health of the region or customer base and the impact it might have on the entity's ability to sustain its revenues.
- The exact source of the revenues that will service and repay the debt. Is the bond solely dependent upon one source of revenue or is a larger entity standing behind the issue?
- The entity's track record of operational effectiveness through multiple economic cycles. Is there a track-record of solid growth attracting more customers or taxpayers from more diverse sources?
- The legal provisions that may be in place to protect the bondholder, such as rate covenants and debt service reserve funds.
- The competence of financial management of the entity. Has its credit rating been maintained or strengthened over a period of time?
- How has it weathered previous economic downturns? How much debt does it have? How much of its cash flow is committed to paying down debt vs. investing in new projects or supporting services of value for the community?

Important Information

Credit and default risk - Credit risk is the risk that the issuer will default or be unable to make required principal or interest payments. Despite the fact that many municipal bonds have high credit ratings, there is a risk of default in any bond investment.

Tax risks - Because tax-exempt interest generated by municipal bonds is usually more beneficial for investors in higher tax brackets, municipal bonds may not be appropriate for all investors, particularly those in lower tax brackets. In addition, if you are subject to the federal alternative minimum tax (AMT), the interest income generated by certain municipal bonds (mainly private activity bonds) may be taxable.

Inflation risks - As with all bonds, investors run the risk that inflation will diminish the purchasing power of a municipal bond's principal and interest income.

Repudiation risk - There can be no assurance that bonds validly issued will not be partially or totally repudiated by the issuing state or municipality, should that be deemed reasonable and necessary to serve other important public purposes.

Other risks - Not all risks can be quantified in a bond's prospectus or offering circular. A type of risk called "special event risk," lawsuits or significant legal changes, another community's public works project, unusual weather, an economic downturn, or other events could impact the issuer's ability to meet their financial commitments.

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Expense ratio is the total annual fund operating expense ratio from the fund's most recent prospectus.

Indexes are unmanaged. It is not possible to invest directly in an index.

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Diversification does not ensure a profit or guarantee against a loss.

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