Investing In Municipal Bonds

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Vice President, Debt Capital Markets
Hilltop Securities Inc.
INTRODUCTION
LACK OF ACCESS TO CAPITAL
WHAT CAUSES THIS PROBLEM?
The world invests $2.5 trillion annually in transport, power, water, and telecom **Today**

How can the world bridge its infrastructure gap?

Find a way to attract the $120,000,000,000,000,000 under management by banks and institutional investors to infrastructure finance **2030**

The world needs to invest $3.3 trillion annually just to meet growth forecasts by

Source: McKinsey; United Nations
MARKET OVERVIEW

The Municipal Market
History of Municipal Bonds

- Existed before corporate bonds and date back to the Renaissance, when Italian city states borrow money from wealthy families.
- The U.S. Market was thought to have dated back to the 1700’s but where not recorded until the early 1800’s
- First official municipal bond was issued in 1812

Source: Neighborly.com
MUNICIPAL MARKET BY THE NUMBERS

$3.8 trillion capital market

Approximately 1 million outstanding municipal securities

Around 40,000 daily trades in municipal securities

Approximately $11.6 billion in par traded every day

Nearly 2/3 of municipal securities held by individual investors either directly or through mutual funds

Default rates for investment-grade municipal bonds were 0.18% compared to 1.74% for investment-grade corporate bonds¹

¹ Moody's "U.S. Municipal Bond Defaults and Recoveries, 1970-2016"
POST-ISSUANCE COMPLIANCE & BANKRUPTCY

FINANCING STATE AND LOCAL INFRASTRUCTURE

2/3 of infrastructure projects in the United States are financed by municipal bonds.

More than 50,000 different state and local governments and other issuing authorities.

An average of nearly $435 billion in new municipal securities were issued each year in the last decade.

Municipal Securities Issuance by State (Par Amount US$ bil)

2018 NATIONAL TOTAL $388 billion

Source: Thomson Reuters
Date: 02/26/2019

March 2019

msrb.org | emma.msrb.org
Investing

INVESTING IN MUNICIPAL SECURITIES
Questions to Ask

• What information is Available?

• What is the Credit Quality and Risk?

• Sources of Funding?

• Repayment Priority?

• Maturity of the Bond?
What are bonds

• A bond is a debt security or fixed income product, similar to an I.O.U.

• When you purchase a bond, you lend money to the issuer of the bond. That issuer could be a corporation, state, city or federal government, a federal agency or other entity.

• In return, the issuer agrees to pay you a specified rate of interest over the life of the bond and to repay the face value of the bond (the principal) when it reaches maturity — that is, the date the bond comes due.

• There is a wide range of bonds available to investors, such as U.S. Treasury securities, municipal bonds, corporate bonds, mortgage- and asset-backed securities, federal agency securities and sovereign bonds.
Municipal Versus Corporate Bonds

• **Corporate Bonds** - company might issue bonds to help pay for general expenses or raise capital for things like research, product development, and expansion. Corporate bonds are backed by the issuing company’s ability to repay them.

• **Municipal Bonds “Muni’s”** - government-issued bonds. They’re generally used to finance public projects and obligations such as school construction or airports and infrastructure-related repairs. issuer—typically a city, town, or state.

Both- promise to pay a specific amount of interest as well as return the principal investment amount.
Types of Muni Bonds

**General Obligation** – back by the full faith and credit and tax power of the issuer

- Generally considered a “safer” investment
- Promise any mean necessary to repay (ex. raising taxes)
  - Income, sales, and property taxes

**Revenue** – back by revenues/income generated from specific project they are funding

- rely on a specific income stream
- Projects include highways and transportation systems, hospitals, and utilities.
  - money collected from those tolls can be used to repay bondholders.
Types of Muni Bonds

**General Obligation** – back by the full faith and credit and tax power of the issuer

**Revenue** – back by revenues/income generated from specific project they are funding

*Source: Neighborly.com*
Risks of Investing

• Greatest risk on fixed income investments, bonds, the possibility of default or “Credit Risk”.
• Lower supply than Corporates, might pay premium
• Essential to understand the creditworthiness of an issuer

Credit Ratings: measurement of an issuers credit worthiness
• Moody’s
• Standard & Poor’s
• Fitch
# Credit Ratings

<table>
<thead>
<tr>
<th>Investment Grade</th>
<th>Moody’s</th>
<th>S&amp;P</th>
<th>Fitch</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>Aaa</td>
<td>AAA</td>
<td>AAA</td>
<td>AAA</td>
<td>Prime</td>
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<tr>
<td>Aa1</td>
<td>AA+</td>
<td>AA+</td>
<td>AA+</td>
<td></td>
</tr>
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<td>Aa2</td>
<td>AA</td>
<td>AA</td>
<td>AA-</td>
<td>High Grade</td>
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<tr>
<td>Aa3</td>
<td>AA-</td>
<td>AA-</td>
<td>AA-</td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>A+</td>
<td>A+</td>
<td>A+</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>Upper Medium Grade</td>
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<tr>
<td>A3</td>
<td>A-</td>
<td>A-</td>
<td>A-</td>
<td></td>
</tr>
<tr>
<td>Baa1</td>
<td>BBB+</td>
<td>BBB+</td>
<td>BBB+</td>
<td></td>
</tr>
<tr>
<td>Baa2</td>
<td>BBB</td>
<td>BBB</td>
<td>BBB</td>
<td></td>
</tr>
<tr>
<td>Baa3</td>
<td>BBB-</td>
<td>BBB-</td>
<td>BBB-</td>
<td>Lower Medium Grade</td>
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<table>
<thead>
<tr>
<th>Junk</th>
<th>Moody’s</th>
<th>S&amp;P</th>
<th>Fitch</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>Ba1</td>
<td>BB+</td>
<td>BB+</td>
<td>BB+</td>
<td>Non Investment Grade Speculative</td>
</tr>
<tr>
<td>Ba2</td>
<td>BB</td>
<td>BB</td>
<td>BB</td>
<td></td>
</tr>
<tr>
<td>Ba3</td>
<td>BB-</td>
<td>BB-</td>
<td>BB-</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>B+</td>
<td>B+</td>
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</tr>
<tr>
<td>B2</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>Highly Speculative</td>
</tr>
<tr>
<td>B3</td>
<td>B-</td>
<td>B-</td>
<td>B-</td>
<td></td>
</tr>
<tr>
<td>Caa1</td>
<td>CCC+</td>
<td>CCC+</td>
<td>CCC+</td>
<td>Substantial Risks</td>
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<td>Caa2</td>
<td>CCC</td>
<td>CCC</td>
<td>CCC</td>
<td>Extremely Speculative</td>
</tr>
<tr>
<td>Caa3</td>
<td>CCC-</td>
<td>CCC-</td>
<td>CCC-</td>
<td></td>
</tr>
<tr>
<td>Ca</td>
<td>CC</td>
<td>CC</td>
<td>CC+</td>
<td>In Default w/ Little Prospect for Recovery</td>
</tr>
<tr>
<td>Ca</td>
<td>C</td>
<td>CC</td>
<td>CC</td>
<td></td>
</tr>
<tr>
<td>Ca</td>
<td>C</td>
<td>CC</td>
<td>CC-</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>D</td>
<td>D</td>
<td>DDDD</td>
<td>In Default</td>
</tr>
</tbody>
</table>

20
Risks of Investing

The greater the risk the higher the Yield

Source: Neighborly.com
Advantages to Investing

There are two ways to make money from investing in municipal bonds:

1. Collecting Interest – usually semi-annually
2. Selling the bonds for a higher price than what you paid for them.

The latter is dependent on market conditions and typically recommended as a long-term investment.

- Investing Locally
- Relatively low risk, lower default rates
- Tax Exempt Income
Taxable Equivalent Yield

- **Tax-Exempt bonds** – IRS code provides and exclusion from gross income for tax purposes for most municipal bonds. Free from Federal and in some cases State and local income taxes.

\[
\text{Tax Exempt Yield} = \frac{1.0}{1.0 - \text{Marginal Tax Rate}}
\]

**Example: 6% yield, 25% tax bracket**

\[
\text{Taxable equivalent yield} = \frac{0.06}{1.0 - 0.25} = 0.08 = 8\%
\]
## Taxable Equivalent Yield

<table>
<thead>
<tr>
<th></th>
<th>Federal Tax Rate</th>
<th>Federal Tax Rate</th>
<th>Federal Tax Rate</th>
<th>Federal Tax Rate</th>
<th>Federal Tax Rate</th>
<th>Federal Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Rate</td>
<td>15.0%</td>
<td>25.0%</td>
<td>28.0%</td>
<td>33.0%</td>
<td>35.0%</td>
<td>39.6%</td>
</tr>
<tr>
<td>Net Inv. Inc. Tax</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>3.80%</td>
<td>3.80%</td>
<td>3.80%</td>
</tr>
<tr>
<td>Total Fed. Rate</td>
<td>15.00%</td>
<td>25.00%</td>
<td>28.00%</td>
<td>36.80%</td>
<td>38.80%</td>
<td>43.40%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Tax Exempt Yield</th>
<th>Equivalent Taxable Yield</th>
<th>Equivalent Taxable Yield</th>
<th>Equivalent Taxable Yield</th>
<th>Equivalent Taxable Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0%</td>
<td>1.18%</td>
<td>1.33%</td>
<td>1.39%</td>
<td>1.58%</td>
</tr>
<tr>
<td>1.50</td>
<td>1.76</td>
<td>2.00</td>
<td>2.08</td>
<td>2.37</td>
</tr>
<tr>
<td>2.00</td>
<td>2.35</td>
<td>2.67</td>
<td>2.78</td>
<td>3.16</td>
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<tr>
<td>2.50</td>
<td>2.94</td>
<td>3.33</td>
<td>3.47</td>
<td>3.96</td>
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<tr>
<td>3.00</td>
<td>3.53</td>
<td>4.00</td>
<td>4.17</td>
<td>4.75</td>
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<tr>
<td>3.50</td>
<td>4.12</td>
<td>4.67</td>
<td>4.86</td>
<td>5.54</td>
</tr>
<tr>
<td>4.00</td>
<td>4.71</td>
<td>5.33</td>
<td>5.56</td>
<td>6.33</td>
</tr>
<tr>
<td>4.50</td>
<td>5.29</td>
<td>6.00</td>
<td>6.25</td>
<td>7.12</td>
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<tr>
<td>5.00</td>
<td>5.88</td>
<td>6.67</td>
<td>6.94</td>
<td>7.91</td>
</tr>
<tr>
<td>5.50</td>
<td>6.47</td>
<td>7.33</td>
<td>7.64</td>
<td>8.70</td>
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<tr>
<td><strong>6.00</strong></td>
<td><strong>7.06</strong></td>
<td><strong>8.00</strong></td>
<td><strong>8.33</strong></td>
<td><strong>9.49</strong></td>
</tr>
<tr>
<td>6.50</td>
<td>7.65</td>
<td>8.67</td>
<td>9.03</td>
<td>10.28</td>
</tr>
<tr>
<td>7.00</td>
<td>8.24</td>
<td>9.33</td>
<td>9.72</td>
<td>11.08</td>
</tr>
</tbody>
</table>
Pricing, Interest, Yield

**Face or par value**- that represents the amount of principal that a bondholder will receive at maturity. Not to be confused with price of the bond. Prices fluctuate face value does not.

**Price** – the amount investors are willing to pay for a bond

**Coupon** - is the interest rate that the issuer agrees to pay the bondholder. Usually semi annually (every 6 months)

**Yield** – varies based a number of factors such as prevailing interest rates, inflation, and chances of being repaid (Credit risk)

**Maturity** – date at which the principal come due and must be repaid to the lender
Pricing, Interest, Yield

When you buy a bond, you will be advised of its **coupon rate**, which is the amount of interest the investor earns each year.

Example:

**Purchase** $10,000 face value and a 5% coupon rate

**Receive** $500 a year in interest ($10,000 x 5% = $500).

Interest payments to bondholders are typically made *two times each year* ($10,000 x 5% = $500 / 2 = $250).

If the market conditions deteriorate the bonds face value may decline

**Bond Value**: $10,000 bond drops in price to be worth only $5,000 at face.

**Result**: current yield will be 10%, but the coupon rate will remain at 5% assuming the issuer makes payments as scheduled, you’ll still wind up with $500 in annual interest payments.
Inverse Relationship

This chart is for illustrative purposes only. The actual amount of price decrease will vary. A decline in bond prices does not necessarily mean that income from bonds is at risk.
INTEREST RATE
Bonds pay interest that can be fixed, floating or payable at maturity.

**FIXED RATE**
Fixed rate bonds carry an interest rate that is established when the bonds are issued with semiannual interest payments, called coupon payments.

<table>
<thead>
<tr>
<th>Bond Price</th>
<th>Interest Rate</th>
<th>Pays Investors</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000</td>
<td>2.00%</td>
<td>$10 every 6 mo.</td>
</tr>
</tbody>
</table>

When the bond matures, investors receive the full face amount of the bond, $1,000.

**PAYABLE AT MATURITY**
Purchase Price | Face amount | Maturing in
$617.60       | $1,000      | 20 years

At the end of the 20 years, the investor will receive $1,000.

The difference between $1,000 and the purchase amount represents the interest earned, based on an annual interest rate of 2.00%, compounded semiannually, until the bond matures.

YIELD
The yield is the return earned on a bond, based on the price and the interest payment received.

**CURRENT YIELD**
Current yield is the annual return on the dollar amount paid for the bond and is derived by dividing the bond’s interest payment by its price.

<table>
<thead>
<tr>
<th>Bond Price</th>
<th>Interest Payment</th>
<th>Current Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000</td>
<td>$30 annually</td>
<td>3.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bond Price</th>
<th>Interest Payment</th>
<th>Current Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>$900</td>
<td>$30 annually</td>
<td>3.33%</td>
</tr>
</tbody>
</table>

**PRICE AND YIELD**
From the time a bond is originally issued until the day it matures, its price in the marketplace will fluctuate.

<table>
<thead>
<tr>
<th>Principal Amount</th>
<th>Interest rate</th>
<th>Bond Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000 with 2.00% coupon payment</td>
<td>rise to 3.00%</td>
<td>$666</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principal Amount</th>
<th>Interest rate</th>
<th>Bond Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000 with 2.00% coupon payment</td>
<td>fall to 1.00%</td>
<td>$2,000</td>
</tr>
</tbody>
</table>

Because of these market fluctuations, the value of a bond will likely be higher or lower than its original face value if you sell it before it matures.
Yield Curve

Interest rate changes do not affect all bonds in the same way. The longer a bond’s term, the more its price may be affected by interest rate fluctuations. Investors typically expect to be compensated for taking that extra risk.

This relationship can be demonstrated by drawing a line between the yields available on similar bonds of different maturities, from shortest to longest. Such a line is called a yield curve.
Resources

FINDING INFORMATION
Issuer Disclosures

**Official Statement** - describes the essential terms of the bonds, including call provisions, the sources pledged to repay the bonds, the issuer’s covenants for the benefit of investors, and other pertinent information.

**Continuing Disclosure** - reflect the financial or operating condition of the issuer as it changes over time, as well as specific events occurring after issuance that can have an impact on the ability of the issuer to repay amounts owed, the value, or the timing of repayment of principal, and other key features of the bond.
OFFICIAL STATEMENT
Dated January 8, 2019

NEW ISSUE – BOOK-ENTRY-ONLY

RATINGS: Fitch: “AA+”
Moody’s: “Aaa”
S&P: “AAAA”
(See “RATINGS” herein.)

In the opinion of Co-Bond Counsel (named below), assuming continuing compliance by the City (defined below) after the date of initial delivery of the Bonds (defined below) with certain covenants contained in the Ordinance (defined below) and subject to the matters set forth under “TAX MATTERS” herein, interest on the Bonds for federal income tax purposes under existing statutes, regulations, published rulings, and court decisions (1) will be excludable from the gross income of the owners thereof pursuant to section 163 of the Internal Revenue Code of 1954, as amended, to the date of initial delivery of the Bonds, and (2) will not be included in computing the alternative minimum taxable income of the owners thereof. (See “TAX MATTERS” herein.)

$24,570,000
CITY OF SAN ANTONIO, TEXAS
GENERAL IMPROVEMENT REFUNDING BONDS, SERIES 2019

Date: January 1, 2019
Due: August 1, as shown herein
(Interest accrues from the hereinafter-defined Delivery Date)

The City of San Antonio, Texas (the “City”) is issuing its $24,570,000 General Improvement Refunding Bonds, Series 2019 (the “Bonds”), pursuant to the Constitution and general laws of the State of Texas (the “State”), including (particularly) Chapter 1207, as amended, Texas Government Code (“Chapter 1207”), and an ordinance (the “Ordinance”) adopted by the City Council of the City (the “City Council”) on November 29, 2018, for the purposes of (i) refunding certain outstanding City obligations identified in Schedule I hereto for debt service savings (the “Refunded Obligations”), and (ii) paying the costs of their issuance. (See “PURPOSES AND PLAN OF FINANCING – Purposes of the Bonds” and “THE BONDS – Authority for Issuance” herein.) As permitted by Chapter 1207, the City has, in the Ordinance, authorized certain City officials and staff to execute an “Approval Certificate” relating to the Bonds evidencing final sales terms relative thereto. An authorized City official executed the Approval Certificate, completing the sale of the Bonds, on January 8, 2019.

Interest on the Bonds will accrue from the date of their initial delivery (the “Delivery Date”) to the initial purchasers thereof (named below (the “Underwriters”), will be payable on February 1 and August 1 of each year, commencing August 1, 2019, until stated maturity, and will be calculated on the basis of 360-day year compounded of twelve 30-day months. The Bonds will be issued as fully registered obligations in book-entry-only form and when issued will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC”). DTC will act as securities depository (the “Securities Depository”) for the Bonds. Book-entry interests in the Bonds will be made available for purchase in the principal amount of $5,000 or any integral multiple thereof. Purchasers of the Bonds (the “Beneficial Owners”) will not receive physical delivery of certificates representing their interest in the Bonds. So long as the Securities Depository is the registered owner of the Bonds, the principal of and interest on the Bonds will be payable by UMB Bank, N.A., Austin, Texas, as the initial paying agent/Registrar, to the Securities Depository, which will in turn remit such principal and interest to its participants, which will in turn remit such principal and interest to the Beneficial Owners. (See “THE BONDS – Book-Entry-Only System” herein.)

The Bonds are payable from ad valorem taxes levied annually against all taxable property located within the City, within the limitations prescribed by law, including the State Constitutional tax limit of $2.50 per $100 of assessed valuation. (See “THE BONDS – Security” herein.)

SEE PAGE ii HEREIN FOR MATURITIES, PRINCIPAL AMOUNTS, INTEREST RATES, INITIAL YIELDS, AND CUSIP NUMBERS

The Bonds are offered for delivery, when, as, and if issued and received by the Underwriters, and subject to the approving opinion of the Attorney General of the State of Texas and the legal opinion of Norton Rose Fullbright US LLP and Kasakii & Ortiz, P.C. both of San Antonio, Texas, Co-Bond Counsel. Certain legal matters will be passed upon for the Underwriters by their counsel, Eckermann & Poneck, LLP, San Antonio, Texas, and for the City by the City Attorney. (See “LEGAL MATTERS” herein.) It is expected that the Bonds will be available for initial delivery through the services of DTC on or about January 22, 2019 (the “Delivery Date”).

LOOP CAPITAL MARKETS
RAMIREZ & CO., INC.
## Bond Structure

**Maturities, Principal Amounts, Interest Rates, Initial Yields, and CUSIP Numbers**

*Due August 1*

**$24,570,000**

**City of San Antonio, Texas**

**General Improvement Refunding Bonds, Series 2019**

(CUSIP No.¹ Prefix: 79623P)

<table>
<thead>
<tr>
<th>Stated Maturity (Aug. 1)</th>
<th>Principal Amount</th>
<th>Interest Rate</th>
<th>Initial Yield</th>
<th>CUSIP No. Suffix</th>
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</thead>
<tbody>
<tr>
<td>2019</td>
<td>$3,480,000</td>
<td>5.000%</td>
<td>1.710%</td>
<td>CE3</td>
</tr>
<tr>
<td>2020</td>
<td>3,135,000</td>
<td>5.000%</td>
<td>1.740%</td>
<td>CF0</td>
</tr>
<tr>
<td>2021</td>
<td>3,300,000</td>
<td>5.000%</td>
<td>1.790%</td>
<td>CG8</td>
</tr>
<tr>
<td>2022</td>
<td>3,480,000</td>
<td>5.000%</td>
<td>1.850%</td>
<td>CH6</td>
</tr>
<tr>
<td>2023</td>
<td>3,660,000</td>
<td>2.000%</td>
<td>1.920%</td>
<td>CJ2</td>
</tr>
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<td>2024</td>
<td>3,745,000</td>
<td>5.000%</td>
<td>1.990%</td>
<td>CK9</td>
</tr>
<tr>
<td>2025</td>
<td>3,770,000</td>
<td>5.000%</td>
<td>2.060%</td>
<td>CL7</td>
</tr>
</tbody>
</table>

**Redemption**

The Bonds are not subject to redemption prior to Stated Maturity. (See “THE BONDS – Redemption” herein).
Yield Curves

Municipal Yield Curves and Indices
View daily and historical yield curves and indices from third-party providers, and additional information, including the methodology used by each provider. For more information on yield curves and indices, visit EMMA Help.

Bloomberg
BVAL® AAA Municipal Curves
Daily Yield Curves Historical Yield Data

BondWave
BondWave AA OCurve
Daily Yield Curves Historical Yield Data

IHS Markit
IHS Markit Municipal Bond AAA Curve
Daily Yield Curves Historical Yield Data

MBIS
MBIS Municipal Benchmark Curve
Daily Yield Curves Historical Yield Data

S&P Dow Jones Indices
S&P Municipal Bond Index
Historical Index Data
Navigating EMMA
Additional Education
Conclusion

QUESTIONS