Bond Concepts

Key Concepts And Principles Of Municipal Debt

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DEBT AND
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Municipal Debt Essentials, Debt 1: Debt Basics, Session One

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David Brodsly
Managing Director
(510) 208-8205
dbrodsly@knninc.com

KNN public finance

Cheryl Hines
Senior Managing Director
415-248-5903
chines@williamblrair.com

William Blair

Why Do Municipalities Issue Bonds?

- State and local governments usually issue municipal bonds to pay for relatively large infrastructure projects
- Municipal bonds are a common and popular tool, with over $332 billion of municipal bonds issued in 2014, $3.2 trillion outstanding
- Key Question: Should an issuer use Pay-As-You-Go funds or issue bonds to pay for a new infrastructure project?
- Key Considerations:
  - Can an issuer afford to pay 100% of a project upfront and:
    - ✓ Maintain healthy reserves
    - ✓ Effectively manage rate/tax increases
  - Would an issuer need or prefer to finance multiple projects instead of just one project at the same time and with the same amount of revenues?
  - "Intergenerational equity" – if an issuer wants all the people that benefit from the project over time to pay for it, it would issue bonds
- Long-term bonds should not be used to finance operations or maintenance (though occasionally are)

Municipal Bonds Have a Long and Noble History in the U.S.

- Financed many iconic governmental projects in California and across the country

Golden Gate Bridge

CA State Water Project

K-12 Schools

University of California
California State University
California Community Colleges

Los Angeles
International Airport

What are Municipal Bonds?

- Municipal bonds are a form of securities - “Stocks & Bonds”
  - Industry is “self-regulated” by the MSRB (Municipal Securities Rulemaking Board), subject to SEC review and approval of rules
- Municipal governments that issue bonds receive a cash payment at the time of issuance in exchange for a promise to repay investors principal plus interest over time
  - Bonds to finance long-term municipal infrastructure projects are typically repaid over 20-40 years
- Rather than getting a loan from one institution (e.g., a commercial bank), municipal bonds are sold in the public capital markets to many investors
  - Large loan is broken up into pieces as small as $5,000
  - Each maturity is an investment product that can be sold to different types of investors with different investment horizons
  - Maturities are further tailored to fit the needs of different types of investors: such as individuals and mutual funds
- Accessing the capital markets generally results in getting the lowest cost of capital for projects of size

How are Bonds Issued?

- Finance team works together to create a marketable and credit-worthy financing structure
- Legal documentation outlines the (limited) rights of the bondholders and the mechanics for repayment; provides disclosure information on the credit to potential investors
- Issuer offers its bonds to investors through investment banks (broker-dealers)

  - Broker-dealers manage the sales process
  - Make an offer to the issuer to buy the bonds at certain prices on a maturity-by-maturity basis based on investor demand
  - If less than 100% of bonds are sold, broker-dealers typically underwrite a portion of the bonds
- Other key players include financial advisors, bond and disclosure counsel, trustees, and rating agencies

What is Special about Municipal Bonds?

- Historically, interest on municipal bonds is tax-exempt at the Federal and State level
  - As a result, tax-exempt investors accept lower rates than available on taxable investments to achieve the same after-tax return
  - Tax-exempt interest is more valuable to individuals in higher tax brackets
  - Tax-exempt interest rates are also lower in states with high income tax rates, all else buy equal
  - Typically, tax-exempt bonds carry lower interest rates than taxable bonds of similar credit quality
- Bond counsel opines at closing that all conditions have been met to qualify for tax-exemption or as BABs

Some Introductory Vocabulary

- **Principal**: also known as par amount or face value. The amount of bonds to be paid back on the maturity date
- **Interest**: cost of borrowing money
- **Yield**: percentage rate the investor will earn, based on the nominal rate on the bond ("the coupon rate") and the price of the bond ("par," "discount," or "premium")
- **Debt Service**: sum of all principal and interest due on a bond series
- **Maturity**: date on which principal payments are due
  - Most bond issues have principal maturing each year until the final maturity date
  - Typically, maturity dates on municipal bonds are within 30 years

When Can a Local Government Issue Bonds?

- There are state constitutional debt limits in all states
- Unless an issuer meets an exception to the State Constitutional debt limitation, it must get voter approval to issue bonds

Government Level	State of California Voter Approval Requirement
State	50%
Local	55% - Property Tax Secured – School Districts 2/3 - Property Tax Secured – Other

- Three major exceptions to the State's debt limitations have been recognized by California Courts and are commonly used

Lease
- Strong case law
- Payments cannot exceed "fair rental value"
- Debt service is subject to abatement if no "beneficial use & occupancy"

Special Fund
- Revenue bond debt service supported by revenues related to the project(s) financed
- Case law allows for other "special fund" obligations

Obligation Imposed by Law
- Involuntary obligation, such as one imposed by a legal judgment
- Examples: Judgment Obligation Bonds, Pension Obligation Bonds & Teeter Financings

- State statutes and local law also govern when and how bonds can be issued

What Resources are Used to Repay Bonds?

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	Source of Repayment	Type of Bond
Dedicated Taxes	Unlimited ad valorem property tax	General Obligation Bonds (GOs)
	Voter-approved additional sales tax	Sales tax revenue bonds
	Parcel tax	Mello-Roos bonds
	Property tax increment	Redevelopment tax allocation bonds
General Fund Obligations	Annually appropriated lease payments	Lease revenue bonds
	Required pension contributions	Pension obligation bonds
	General fund payments	State-level GOs
Special Fund Bonds	Water and other utility fees	Enterprise revenue bonds
	Special benefit assessments	Assessment bonds
Non-Governmental Activities	Loan repayments from non-profit corporations like hospitals and universities	501(c)3 revenue bonds
	Loan repayments from "exempt" business	Private Activity bonds

Bonds and Other Bond-like Securities Contain Promises (Covenants) Made to Bond Buyers (Lenders)

- Promise to repay principal and interest
- Promise to take actions necessary to ensure repayment; for example:
  - Levy a property tax for local government general obligation bonds
  - Budget and appropriate lease payments for lease revenue bonds or COPs
  - Set rates to pay operating costs, debt service, and usually a margin of safety for revenue bonds
- Promise to maintain tax-exemption (if tax-exempt)
  - Promise to use proceeds on non-private activities
  - Expectations regarding expenditure within three years
  - Rebate of arbitrage
- Other promises to protect investors may include
  - Maintenance of system
  - Limitations on additional debt
  - Maintain insurance on assets
  - Annual audits
  - Continuing disclosure

How are Bond Proceeds Used?

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- New Money
  - Capital projects
  - Costs of bond issuance
  - Debt service reserve fund equal to up to one-year’s debt service
  - Pre-funded or “capitalized” interest
- Refundings
  - Tax-exempt municipal bonds are usually callable; i.e., can be redeemed by an issuer prior to maturity (often after ten years)
  - Call option may increase initial interest rates
  - Refunding bonds are usually issued at lower rates to generate cash flow and present value savings
  - Non-economic refundings done less frequently to change the covenants in the legal documents or to restructure debt service
- Working Capital
  - Tax and Revenue Anticipation Notes are for annual cash-flow borrowings
  - Long-term working capital (deficit borrowings)
  - Tricky tax laws govern what can be issued as tax-exempt bonds
- Interim Finance
  - Bond anticipation notes or commercial paper are sold in anticipation of bond issue

What Determines Interest Rates on Municipal Bonds?

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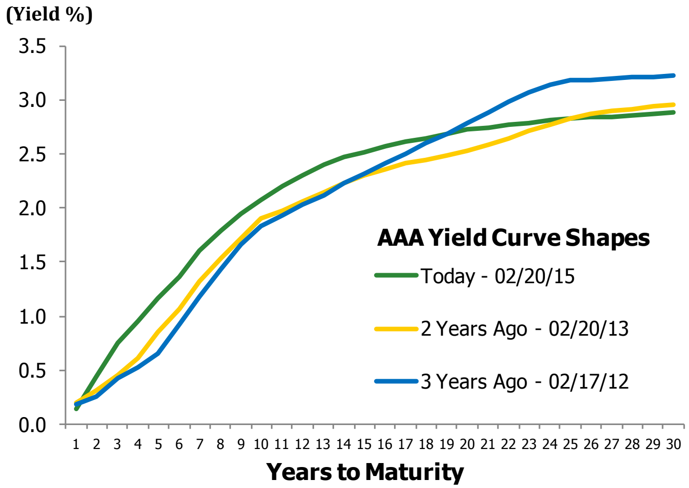
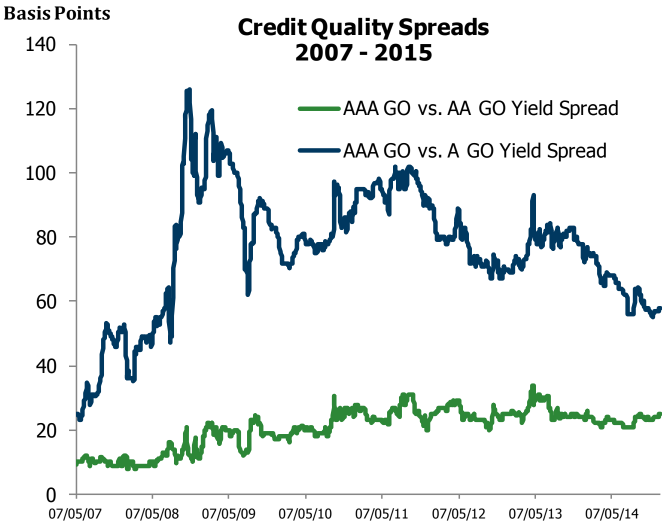
- Interest Rates, Generally
  - Inflation and other economic activity
  - Treasury bonds are the “benchmark” rate
  - Shape (slope) of the yield curve changes
- Supply
  - Abundance or scarcity of tax-exempt bonds available on the market
- Demand
  - Money flows between stocks and bonds
  - Liquidity (short-term) or yield (long-term)
  - The need to shelter income from taxes
- Credit Spread
  - Ratings
  - Buyer sentiment

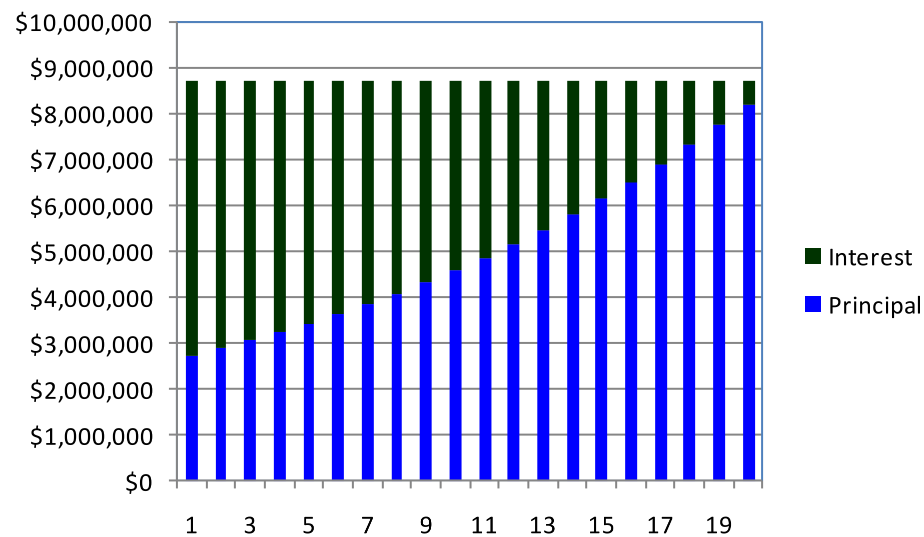




Sources: MMD

How is a "Bond Issue" Structured?

- Most bond issues are structured to produce level debt service
  - "Amortization" occurs by paying all interest due and some principal each year
  - Debt service can be sculpted by accelerating or deferring principal payment
- Principal is amortized by paying off individual maturities of the bond issue
  - Bonds can either mature annually (serial bonds) or as term bonds
- Nominally, a term bond matures at the final date
  - Annual "sinking fund" payments of principal are made prior to the term bond's final maturity
  - Some investors like term bonds because they are large "blocks" and increase secondary market "liquidity"



Maturity Date	Principal	Coupon	Interest	Debt Service	
6/30/2011	-	-	$2,400,275	$2,400,275	Serial Maturities
6/30/2012	$10,245,000	1.50%	$2,400,275	$12,645,275	
6/30/2013	$10,395,000	2.00%	$2,246,600	$12,641,600	
6/30/2014	$10,605,000	2.50%	$2,038,700	$12,643,700	
6/30/2015	$10,870,000	5.00%	$1,773,575	$12,643,575	
6/30/2016	$11,415,000	5.25%	$1,230,075	$12,645,075	Term Bond $23.43 mm
6/30/2017	$12,015,000	5.25%	$630,788	$12,645,788	
Total	$65,545,000		$12,720,288	$78,265,288	

How is a "Bond Issue" Priced?

- Each maturity of a bond has a "coupon" rate, the nominal interest rate
  - Each maturity can be sold at a "premium" (more than par), or a "discount" (less than par), reducing or increasing the "yield"
  - Pricing reflects investor preference and market outlook
    - Retail investors like to buy bonds at par
    - Premium bond: Institutional investors like because there is less price volatility. If interest rates rise after you purchase the bond the value of the bond will not fall as quickly
    - Discount bond: Institutional investors like for call protection. In a market environment where interest rates are falling it will take longer for a bond with a lower coupon to be profitably called for refunding
- Interest is paid periodically until bond matures
  - Fixed-rate bonds usually pay interest every six months, principal annually
  - Variable-rate bonds might change rates weekly, pay interest monthly

Maturity Date	Principal	Coupon	Yield	Price	
1/1/2012	$10,245,000	1.50%	1.69%	99.627	Discount Bonds
1/1/2013	$10,395,000	2.00%	2.08%	99.768	
1/1/2014	$10,605,000	2.50%	2.50%	100	Par Bond
1/1/2015	$10,870,000	5.00%	2.80%	110.198	Premium Bonds
Total	$42,115,000				

Additional Jargon to Impress Your Friends

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- Basis Point
  - Yields on bonds are usually quoted in terms of basis points, with one basis point equal to one one-hundredth of one percent
  - .50% = 50 basis points
- MMD
  - Municipal Market Data
  - A yield curve published daily by TM3 (Thompson Municipal Market Monitor)
  - Pricing (i.e., interest rates) is often discussed in terms of a basis point spread to the "AAA" MMD
    - ✓ "AAA" MMD is the benchmark for all tax-exempt pricings and represents an index of the highest quality municipal bonds
- A security by any other name…
  - Bond: a security sold according to a bond law
  - COP (certificate of participation): A bond-like security secured by a contract (a lease or installment purchase agreement), often used when an issuer wants to leverage its revenues but is not authorized to sell bonds by law
  - Note: a bond that matures in less than three years

Summary

- U.S. municipal bond market is large and well-established
- Municipal bonds are a useful and cost-effective method to raise capital for infrastructure projects
- As with any debt, it is important to make sure that both the debt service as well as the operating costs are affordable
- Hire a strong team of financial professionals to assist you in developing a credit-worthy and cost-effective structure
- The role of the public finance staff:
  - Ask questions
  - Understand the tradeoffs between costs, risks and opportunities so you, your management and your governing board can make informed decisions
  - Ask even more questions: as the issuer, there are no stupid questions

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