

Structuring the Financing

The Mechanics of a Bond Sale

California Debt and Investment Advisory Commission

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Topics

- ◆ **Developing the Plan of Finance**
- ◆ **Sizing the Bond Issue**
- ◆ **Developing the Debt Service Structure**
- ◆ **Debt Service Structure**
- ◆ **Ratings and Credit Enhancement**
- ◆ **Variable Rate Bonds**
- ◆ **Interest Rate Swaps**

Developing the Plan of Finance

Nature of the Asset to be Financed

Source of Repayment

Financing Vehicle

Timing

Nature of the Asset

Questions

Useful Life of the Asset?



Considerations

Match amortization of debt to life of asset

Revenue Generating Asset?



Revenue bonds vs. General Fund

Asset Cost?



- **Is any construction funding available?**
- **Other sources of funding?**

Constitutional Debt Limit

- ◆ **Applies to Cities, Counties and School Districts**
- ◆ **Article XVI, Section 18 – cannot incur an “indebtedness or liability” without voter approval**
 - **2/3 in most cases; 55% for school and community college districts**
- ◆ **As interpreted by the Courts, “indebtedness” for these purposes is a long-term commitment to pay money in return for present benefit, payable from the general funds or taxing power of a governmental entity**

Exceptions to the Debt Limit

Courts have interpreted Article XVI, Section 18 (and corresponding Section 1 which limits State indebtedness) to approve several ways to accomplish short or long-term borrowing by public agencies

- **Special Fund – Debt repayable only from specified source of revenues, linked to the project being financed, and not from the general fund. This covers all kinds of revenue bonds and special assessments, and any kind of conduit financing**
- **Contingent Obligation – No debt if payment in the future is contingent on receiving some benefit in the future year – “Offner-Dean” line of cases approves lease-based financings in California**

Exceptions to the Debt Limit (cont'd)

- **Annual Appropriation – No ongoing promise to repay; no legal default if appropriation is not made**
- **Obligation imposed by law – If borrowing is mandated by some greater authority, not choice of the government agency, not a debt – examples are court judgments, pension obligations, other state-mandated capital costs**
- **Cash flow borrowing – Not a debt if repaid from revenues within the same fiscal year**

Leading cases:

Rider v. City of San Diego, California Supreme Court 1998

Taxpayers for Improving Public Safety v. Schwarzenegger, Third District Court Appeal, 2009

Statutory Authority

- ◆ **Regardless of what method of financing may be chosen based on the Constitutional debt limit rules, there must be a specific statutory basis for the borrowing program**
- ◆ **California Codes governing each particular kind of entity (cities, counties, special districts) contain provisions authorizing various kinds of borrowing**
- ◆ **Charter cities can authorize borrowing within their charters**
- ◆ **In absence of specific bonding statute, most entities have power to buy, sell or lease property, which can be used to create a financing vehicle**

Plan of Finance – Sources of Repayment

Tax Supported

General Fund

- Annual Appropriations
 - Lease Financings
-

Taxes

- Property Tax (GO Bonds)
- Tax Increment
- Sales Tax
- Special Tax or Assessment

Plan of Finance – Sources of Repayment

Fee or Revenue Supported

Enterprise Funds

- Water
- Wastewater
- Power
- Airport
- Parking
- Transportation
- Solid Waste Disposal

Plan of Finance – Typical Financing Vehicles

General Obligation Bonds

Security

- **Full Faith & Credit Pledge of Municipality**

Typical Features

- **Voter Approval required**
 - **Projects to be financed set out in Ballot Measure**
- **Generally Ad Valorem Property Tax**
- **Highest Rating/Lowest Borrowing Cost**

Plan of Finance – Typical Financing Vehicles

Certificates of Participation/Lease Revenue Bonds

Security

- **Rental due for use and occupancy**
- **Rental payable usually from General Fund revenues**
- **Construction and Abatement Risk**
- **Level payments of fair rental value**
- **Limited remedies**

Plan of Finance – Typical Financing Vehicles

Certificates of Participation/Lease Revenue Bonds (cont'd)

Typical Features

- **Not Subject to Voter Authorization**
- **No Debt Coverage Requirement**
- **Lease or installment purchase of an asset; usually “essential” government function**
- **Generally One Grade Rating Below G.O. Rating**
- **Asset-stripping sometimes used**

Plan of Finance – Typical Financing Vehicles

Land Secured Financings

(Benefit assessment, Special Tax/Mello-Roos)

Security

- **Pledge of Property Owner Assessments and/or Special Taxes**
- **Complex rules for levying assessments under Proposition 218**

Typical Features

- **Property Owner Election Required**
- **Statutory Limits (minimum 3:1 value-to-lien ratio, etc.)**
- **New Districts Generally Unrated**

Plan of Finance – Typical Financing Vehicles

Enterprise Revenue Bonds

Security

- **Specific Source of Revenue Pledged (typically user fees)**
- **May be single project or entire enterprise**

Typical Features

- **Generally not Subject to Voter Authorization**
- **Bonding Capacity Limited by Rate Covenant and Additional Bonds Test**
- **Generally Investment Grade Rating**

Plan of Finance – Typical Financing Vehicles

Tax Allocation Bonds

(Special category of Revenue Bonds)

Security

- **Pledge of Tax Increment From Redevelopment Project Area Net of Required Pass-Throughs**

Typical Features

- **Not Subject to Voter Authorization**
- **Rating Dependent Upon Strength of Project Area and Tax Increment Stream**

Plan of Finance – Typical Financing Vehicles

Short-Term Notes

(TRANS, RANs, BANs, GANs, etc.)

Security

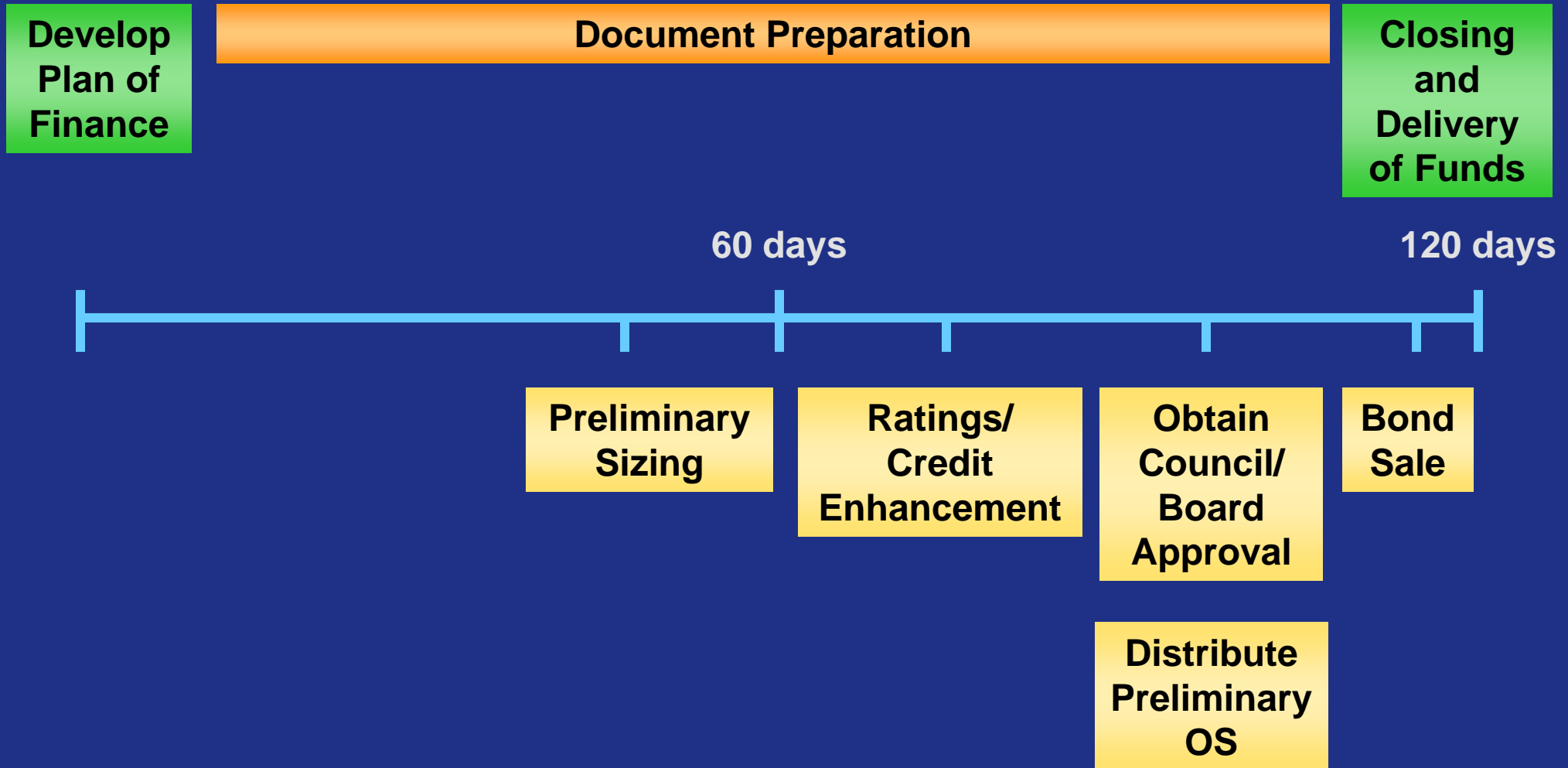
- **Specific Anticipated Revenue Pledged to Retire Notes**

Typical Features

- **Generally Investment Grade Short-Term Rating is Based Upon Strength of Pledged Revenue Source**

Timing Considerations

A straightforward financing can be executed in 60 to 120 days



Sizing the Bond Issue

Project or Construction Fund

Capitalized Interest Fund

Debt Service Reserve Fund

Costs of Issuance

Underwriting Discount

The Project Fund

Funds acquisition of the asset or construction of the project

- ◆ **Based on actual costs or reliable estimates**
 - Bid contracts, then sell bonds

- ◆ **Net Funded or Gross Funded?**
 - **Gross Funded – Deposit exact amount required to pay for asset or project.**
 - **Net Funded – Amount deposited plus interest earnings sufficient to fund project**

The Capitalized Interest Fund

Bond proceeds used to pay interest for a finite period of time

- ◆ **Interest is capitalized for a number of reasons:**
 - **Until a project/asset can produce revenue sufficient to pay debt service**
 - **Until the government has beneficial use (COPs, Lease Revenue Bonds)**

The Debt Service Reserve Fund

Provides additional security for investors

- ◆ Found in most credits with the exception of GO Bonds

- ◆ Sizing limited to the lesser of:
 - Maximum Annual Debt Service
 - 125% of Average Annual Debt Service
 - 10% of Par Amount

- ◆ Fund is invested with earnings usually going as an offset to debt service

Costs of Issuance

Bond proceeds may be used to pay certain eligible costs

Professional Services

- Bond Counsel and Disclosure Counsel
- Financial Advisor and Trustee/Paying Agent
- Rating Agencies
- Appraisal, Feasibility Study, Engineer's Report
- Special Tax Consultant
- Title Insurance

Credit Enhancement

- Bond Insurance and/or Surety Bond Premium
- Letter of Credit fees

Underwriting Discount

Underwriter's compensation and expenses

Components

- Average Takedown
- Management Fee
- Expenses

Funding Method

- At closing, Underwriter pays for bonds an amount less the underwriting discount

\$100,000,000	Par
(650,000)	Less discount of 6.50/\$1,000
<hr/>	<hr/>
\$ 99,350,000	Purchase Price

Other Considerations

- Expressed as dollars per thousand dollars of bonds (e.g., \$6.50/\$1,000)

Sizing Example

Net Funded Construction Fund

Capitalized Interest Fund

Debt Service Reserve Fund

Costs of Issuance

Underwriting Discount

Sizing Assumptions – Dry Creek Water District

Project Cost and Draw Schedule	4/1/2009	\$ 10,000,000	
	10/1/2009	\$ 10,000,000	
	4/1/2010	\$ 10,000,000	
	10/1/2010	\$ <u>10,000,000</u>	
		\$ 40,000,000	Total Project Cost
Bonds Dated:	4/1/2009		
Final Maturity:	4/1/2039		

Sizing Assumptions – Dry Creek Water District

Costs of Issuance

\$200,000

**Legal, FA, Trustee
Ratings, Printing, Misc.**

Bond Insurance

40 bps

**Bond Insurance Premium
(Total Debt Service x .40%)**

Underwriting Discount

\$6.50/bond

**Takedown, Management Fee,
Expenses**

Sizing Assumptions – Dry Creek Water District

Debt Service Reserve Fund

Lesser of:

Maximum Annual Debt Service

125% of Average Annual Debt Service

10% of Par Amount

Capitalized Interest

**Through
4/1/11**

2-year Construction Period

Sizing Assumptions – Dry Creek Water District

Reinvestment Assumptions			<u>Earnings Go To:</u>
	Capitalized Interest Fund:	2.50%	Construction Fund
	Construction Fund:	2.50%	Construction Fund
	Debt Service Reserve Fund:	5.0% (Bond Yield)	Construction Fund

Sizing Example – Net Funded Project Fund

Sources of Funds:

Par Amount:	\$ 46,390,000
Total Sources of Funds:	\$ 46,390,000

Uses of Funds:

Project Fund	\$ 38,723,636
Cap Interest Fund:	\$ 4,008,591
Debt Service Reserve Fund:	\$ 2,795,850
Bond Insurance:	\$ 357,550
COI:	\$ 200,000
Underwriter's Discount:	\$ 301,535
Rounding:	\$ 2,838
Total Uses of Funds:	\$ 46,390,000

4/1/09 Initial Deposit: \$ 38,723,636

Project Fund Earnings \$ 968,704

Cap Interest Fund Earnings: \$ 112,609

Debt Service Reserve Fund Earnings \$ 195,051

Total Project Cost \$ 40,000,000

Sizing Example – Capitalized Interest Fund

Sources of Funds:

Par Amount:	\$ 46,390,000
Total Sources of Funds:	\$ 46,390,000

Uses of Funds:

Project Fund	\$ 38,723,636
Cap Interest Fund:	\$ 4,008,591
Debt Service Reserve Fund:	\$ 2,795,850
Bond Insurance:	\$ 357,550
COI:	\$ 200,000
Underwriter's Discount:	\$ 301,535
Rounding:	\$ 2,838
Total Uses of Funds:	\$ 46,390,000

4/1/09 Initial Deposit: \$ 4,008,591

7/1/09 Interest Payment: (\$ 1,005,697)

1/1/09 Interest Payment: (\$ 1,005,697)

7/1/10 Interest Payment: (\$ 998,599)

1/1/10 Interest Payment: (\$ 998,599)

Fund Balance on 1/1/10: \$ 0

Sizing Example – Debt Service Reserve Fund

Sources of Funds:

Par Amount:	\$ 46,390,000
Total Sources of Funds:	\$ 46,390,000

Uses of Funds:

Project Fund	\$ 38,723,636
Cap Interest Fund:	\$ 4,008,591
Debt Service Reserve Fund:	\$ 2,795,850
Bond Insurance:	\$ 357,550
COI:	\$ 200,000
Underwriter's Discount:	\$ 301,535
Rounding:	\$ 2,838
Total Uses of Funds:	\$ 46,390,000

Lesser of:

Maximum Annual Debt Service	\$ 2,795,850
125% of Average Annual Debt Service	\$ 3,491,698
10% of Par Amount	\$ 4,639,000

Sizing Example – Bond Insurance Premium

Sources of Funds:

Par Amount:	\$ 46,390,000
Total Sources of Funds:	\$ 46,390,000

Uses of Funds:

Project Fund	\$ 38,723,636
Cap Interest Fund:	\$ 4,008,591
Debt Service Reserve Fund:	\$ 2,795,850
Bond Insurance:	\$ 357,550
COI:	\$ 200,000
Underwriter's Discount:	\$ 301,535
Rounding:	\$ 2,838
Total Uses of Funds:	\$ 46,390,000

Total Principal & Interest: \$ 89,387,448

x.40%

Bond Insurance Premium \$ 357,550

Sizing Example – Costs of Issuance

Sources of Funds:

Par Amount:	\$ 46,390,000
Total Sources of Funds:	\$ 46,390,000

Uses of Funds:

Project Fund	\$ 38,723,636
Cap Interest Fund:	\$ 4,008,591
Debt Service Reserve Fund:	\$ 2,795,850
Bond Insurance:	\$ 357,550
COI:	\$ 200,000
Underwriter's Discount:	\$ 301,535
Rounding:	\$ 2,838
Total Uses of Funds:	\$ 46,390,000

Costs of Issuance:

Bond Counsel:	\$ 100,000
Financial Advisor:	\$ 50,000
Trustee:	\$ 5,000
Rating Agencies:	\$ 30,000
Printing:	\$ 7,500
Miscellaneous:	\$ 7,500
Total COI:	\$ 200,000

Sizing Example – Underwriting Discount

Sources of Funds:

Par Amount:	\$ 46,390,000
Total Sources of Funds:	\$ 46,390,000

Uses of Funds:

Project Fund	\$ 38,723,636
Cap Interest Fund:	\$ 4,008,591
Debt Service Reserve Fund:	\$ 2,795,850
Bond Insurance:	\$ 357,550
COI:	\$ 200,000
Underwriter's Discount:	\$ 301,535
Rounding:	\$ 2,838
Total Uses of Funds:	\$ 46,390,000

Underwriting Discount:

Takedown (\$3.50/bond):	\$ 162,365
Management Fee (\$1.00/bond):	\$ 46,390
Expenses (\$2.00/bond):	\$ 92,780
Underwriter's Discount (\$6.50/bond):	\$ 301,535

Debt Service Structure

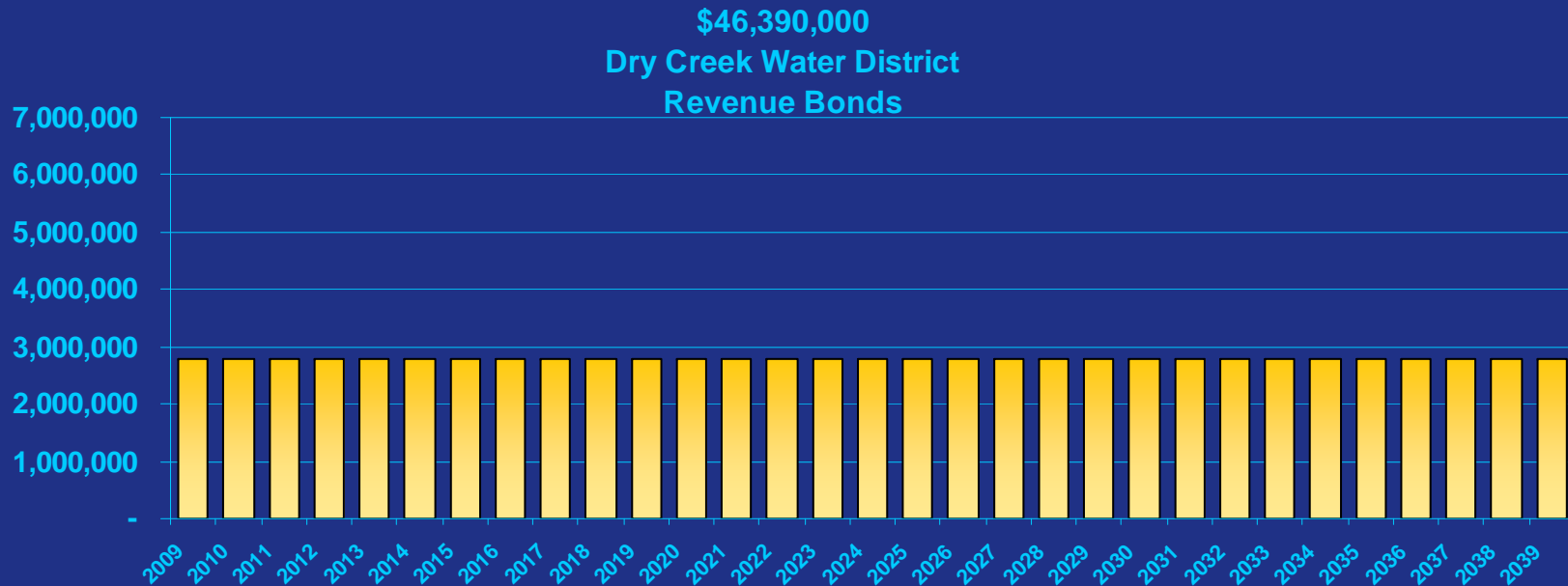
Sample Structures

Current Interest vs. Deferred Interest

Optional Redemption

Refunding Considerations

Level Debt Service



DSRF Implications

Lesser of:

Maximum Annual Debt Service \$ **2,795,850**

125% of Average Annual Debt Service \$ **3,491,698**

10% of Par Amount \$ **4,630,000**

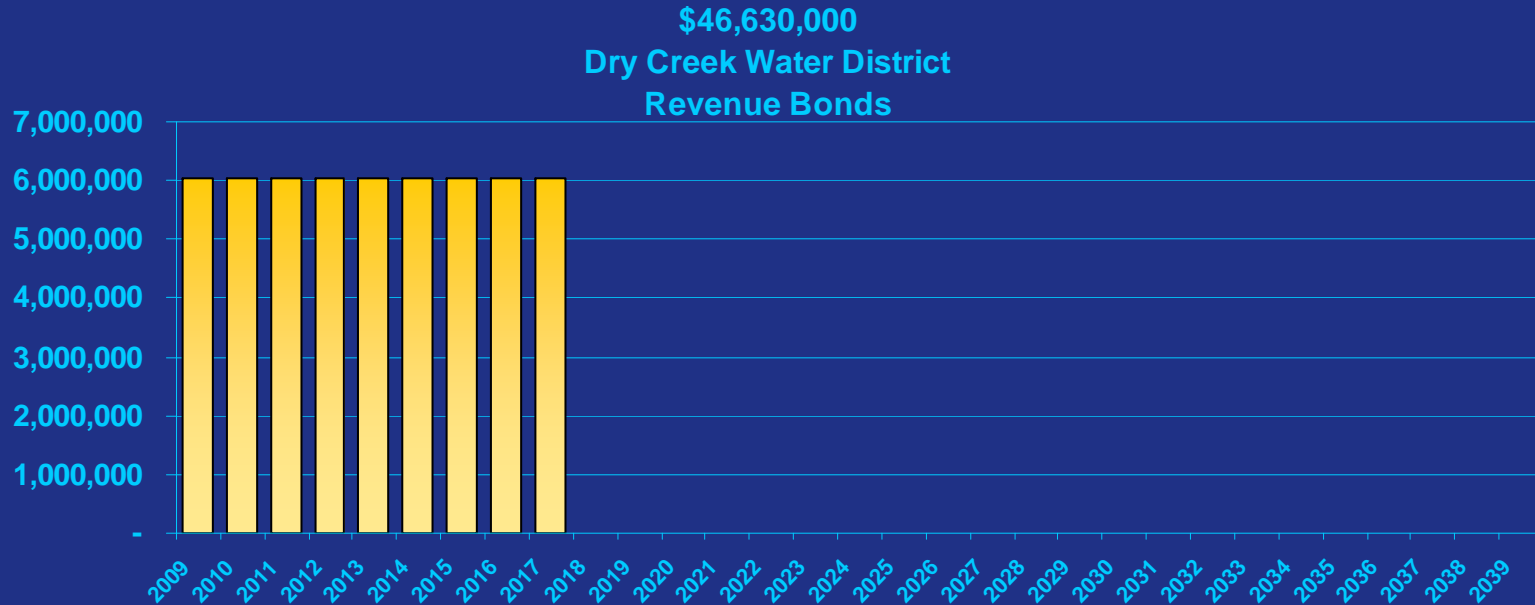
Bond Insurance Implications

Total Principal & Interest \$ **89,387,448**

x.40%

Insurance Premium \$ **357,550**

Short Maturity



DSRF Implications

Lesser of:

Maximum Annual Debt Service \$ 6,041,629

125% of Average Annual Debt Service \$ 7,549,914

10% of Par Amount \$ 4,663,000

Bond Insurance Implications

Total Principal & Interest \$ 54,359,382

x.40%

Insurance Premium \$ 217,438

Structuring the Bonds

στο παράθυρο που θα εμφανιστεί επιλέξτε το Λεξικό Γεωργακά στο π
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 Γεωργακά στο παράθυρο που θα εμφανιστεί επιλέξτε το Λεξικό Γεωργ
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Dry Creek Water District Water Revenue Bonds

Dated: April 1, 2009

Due: April 1, 2039

στο παράθυρο που θα εμφανιστεί επιλέξτε το Λεξικό Γεωργακά στο π
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 επιλέξτε το Λεξικό Γεωργακά στο παράθυρο που θα εμφανιστεί επιλέξτε το Λεξικό Γεωργακά στο παράθυρο που θα

Maturity (April 1)	Maturity Schedule		Yield
	Principal Amount	Interest Rate	
2009	780,000	1.820%	1.820%
2010	795,000	2.070%	2.070%
2011	815,000	2.370%	2.370%
2012	830,000	2.670%	2.670%
2013	855,000	3.020%	3.020%
2014	880,000	3.220%	3.220%
2015	910,000	3.370%	3.370%
2016	940,000	3.520%	3.520%
2017	970,000	3.630%	3.630%
2018	1,005,000	3.740%	3.740%
2019	1,045,000	3.840%	3.840%
2020	1,085,000	3.940%	3.940%
2021	1,130,000	4.030%	4.030%
2022	1,175,000	4.110%	4.110%
2023	1,220,000	4.180%	4.180%
2024	1,275,000	4.270%	4.270%
2025	1,325,000	4.350%	4.350%

\$ 7,610,000 4.72% Term Bonds maturing January 1, 2029

\$ 9,600,000 4.81% Term Bonds maturing January 1, 2034

\$ 12,145,000 4.84% Term Bonds maturing January 1, 2039

Serial Bonds

- Mature “serially” by year
- Take advantage of positively sloped yield curve

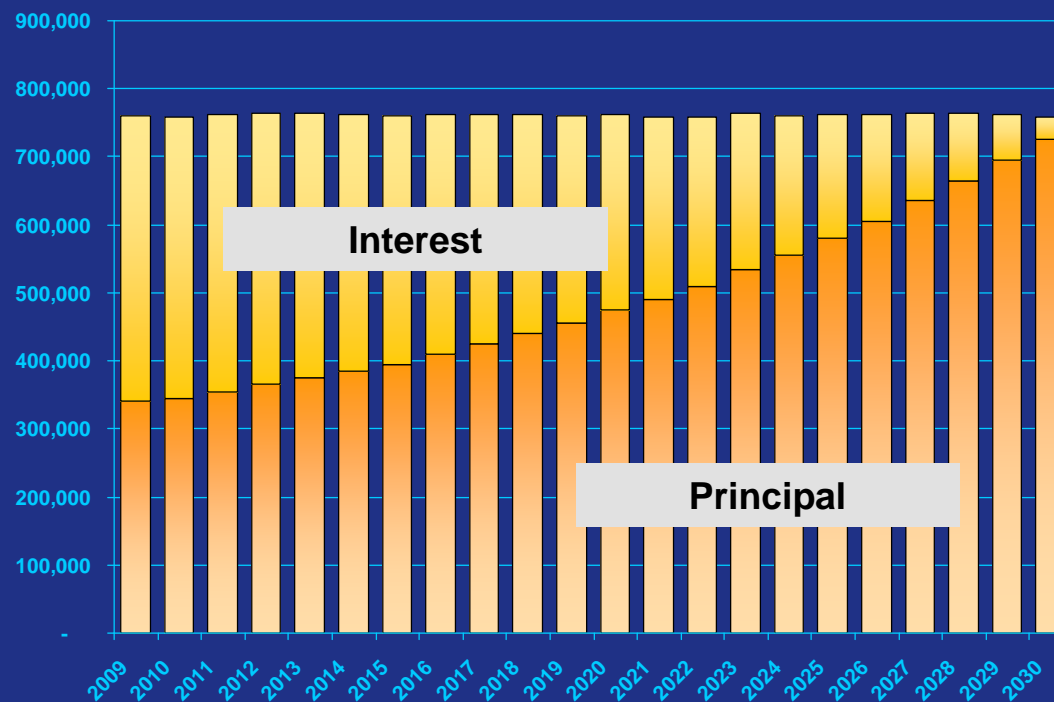
Term Bonds

- Single coupon covering multiple years
- Retired with annual Sinking Fund Payments

Current or Deferred Interest Bonds

Current Interest Bonds

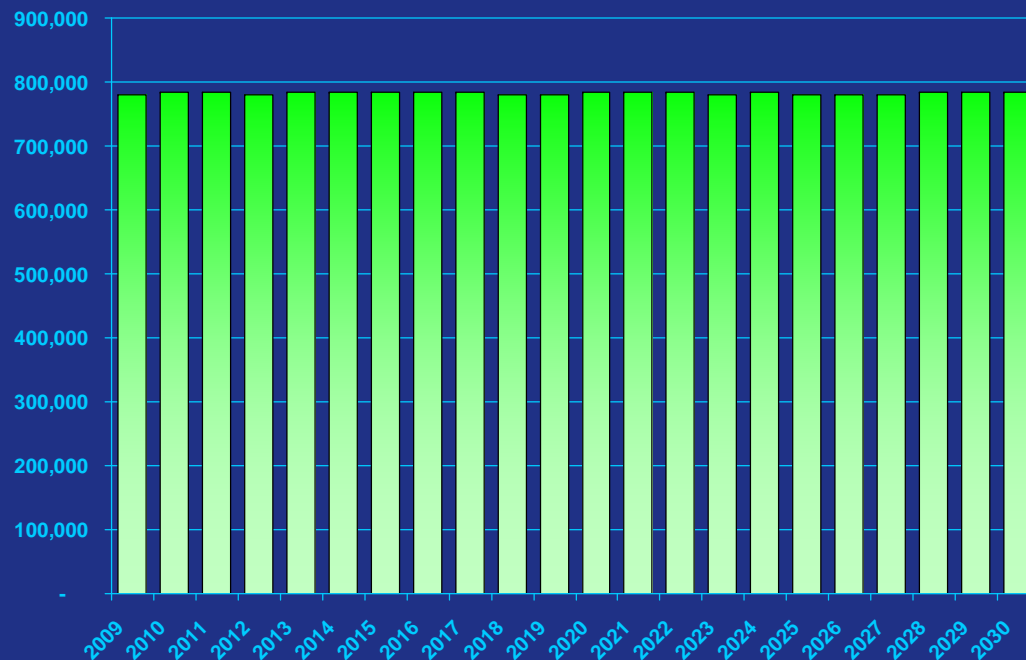
- Pay interest at stated coupon
- Interest typically paid every 6 months
- May be sold at par, at a premium or at a discount
- Investor's yield determined by price paid for the Bond



Current or Deferred Interest Bonds

Capital Appreciation Bonds

- “Zero” coupon or deferred interest bonds
- Interest accretes to maturity
- Sold at a deep discount
- Investor’s yield determined by price paid for the Bond



Other Considerations

◆ **Optional Redemption**

- **Standard optional redemption period is 10 years**
- **Callable bonds generally have a higher yield than non-callable bonds**

◆ **Par Bonds, Original Issue Discount Bonds, and Original Issue Premium Bonds**

	<u>Coupon</u>	<u>Yield</u>	<u>Price</u>
■ Par Bond	5.00%	5.00%	100%
■ Discount Bond	5.00%	5.10%	98% (est)
■ Premium Bond	5.00%	4.90%	100.9% (est)

Refunding Considerations

Advance Refunding

- Old Bonds are not currently subject to optional redemption
- New Bond proceeds are used to fund an escrow that defeases old bonds to call date
- Escrow invested in Treasury (SLGs) with maximum permitted yield equal to bond arbitrage yield
- Can only advance refund one time

Current Refunding

- Old bonds are currently subject to optional redemption
- New bond proceeds used to redeem old bonds within 90 days

Ratings and Credit Enhancement

The Rating Agencies

Rating Agency Packages

Obtaining a Rating

Credit Enhancement – Bond Insurance

Credit Enhancement – Letters of Credit

The Rating Agencies



Moody's



S&P

FitchRatings Fitch

Long-Term

Aaa
Aa1, Aa2, Aa3
A1, A2, A3
Baa1, Baa2, Baa3
Ba1, Ba2, Ba3

AAA
AA+, AA, AA-
A+, A, A-
BBB+, BBB, BBB-
BB+, BB, BB-

AAA
AA+, AA, AA-
A+, A, A-
BBB+, BBB, BBB-
BB+, BB, BB-

Short-Term

MIG-1, MIG-2, MIG-3
(Notes)

VMIG-1, VMIG-2,
VMIG-3 (Commercial
Paper and VRDBs)

SP-1+, SP-1, SP-2,
SP-3 (Notes)

A-1, A-2, A-3
(Commercial Paper
and VRDBs)

F-1+, F-1, F-2, F-3
(Notes)

LOC (Commercial
Paper and
VRDBs)

Obtaining a Rating

- ◆ **A typical rating agency package might include:**
 - **3 years of audited financial statements**
 - **Current and proposed budget**
 - **Bond Documents, including:**
 - **Trust Indentures**
 - **Lease Agreements**
 - **Installment Sale Agreements**
 - **Redevelopment Loan Agreements**
 - **Preliminary Official Statement**
 - **Special Reports**
 - **Sizing and Debt Service Schedules**
 - **Timing and Responsibility Schedule**
 - **Distribution List**

Obtaining a Rating

- ◆ **It is often useful to meet with the rating analysts to:**
 - **Describe the project**
 - **Get feedback on the structure**
 - **Describe salient aspects of security**
 - **Review demographics and economics of service area**
 - **On-site or at rating agency offices**

Credit Enhancement – Bond Insurance

Pay a premium to have an outside party guarantee timely payment of principal and interest for the life of the bonds

- ◆ **AAA Bond Insurance Availability Limited (Berkshire Hathaway, Assured Guaranty)**
 - Generally look to insure BBB+ credits and above
 - Lower premiums for stronger credits
 - At this time, Moody's has no "AAA" rated insurers
- ◆ **Method of Payment**
 - Upfront
 - Periodically (not common)
- ◆ **Pricing expressed in "basis points" (1 bp = 1/100 of 1%) and multiplied against total principal and interest**
- ◆ **Can enhance both fixed and variable rate bonds**

Credit Enhancement – Letters of Credit

- ◆ **Letter of Credit – guarantee payment of outstanding principal and accrued interest at any point in time during the term of the LOC. Long-term and short-term ratings based on bank ratings**
- ◆ **Liquidity Facility or Line of Credit– limited obligation to pay principal and interest during term of facility. Not a full guarantee. Long-term rating based on issuer or bond insurance. Short-term rating based on bank**
- ◆ **Term – 1 year to 7 years generally with options to renew**
- ◆ **Fee – Usually paid annually or quarterly based on principal plus specified number of days interest**

Variable Rate Bonds

Historical Interest Rates

Structuring Options

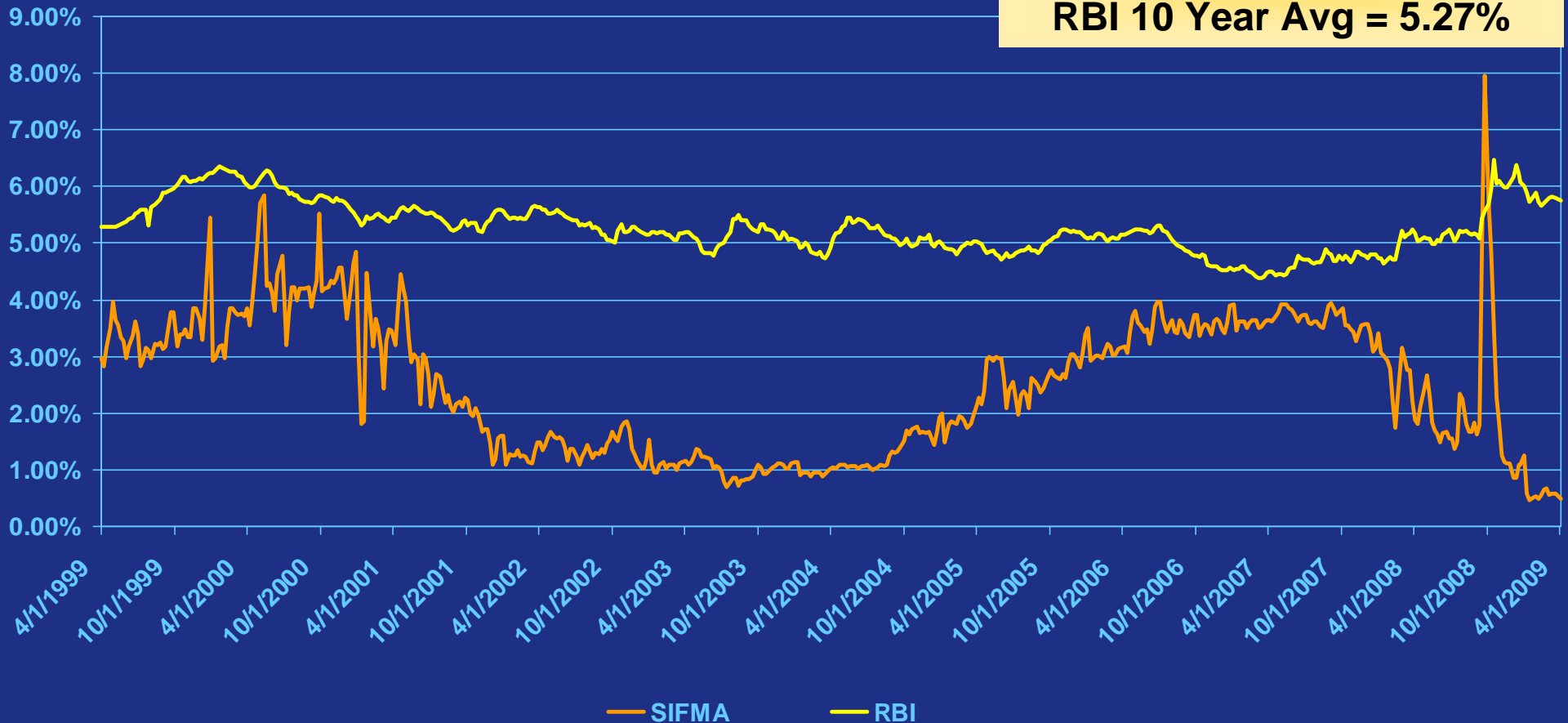
Pros and Cons of Alternative Structures

Variable Rate vs. Fixed Rate

Securities Industry and Financial Markets Association (SIFMA) Index vs. Bond Buyer Revenue Bond Index (RBI)

A Ten Year History

SIFMA 10 Year Avg = 2.49%
RBI 10 Year Avg = 5.27%



Introduction to Variable Rate Structures

- ◆ **There are two primary variable rate structures used in the municipal market:**
 - **Commercial Paper**
 - **Variable Rate Demand Bonds**

- ◆ **Auction Rate Securities had been popular but market imploded in early 2008**

Variable Rate Structuring Options

Commercial Paper

- Can be drawn down and paid back as needed
- Outstanding CP is remarketed for a maximum of 270 days
- Bank credit facility required for liquidity
- Money Market Funds are the primary investor

Variable Rate Structuring Options

Variable Rate Demand Bonds

- Long-term bond with rate that resets periodically (daily, weekly, monthly, etc.)
- Investor can “put” bonds on short notice (allows bond to trade at par)
- Bank credit facility required to support put
- Combination of reset and put designed to make bonds always trade at par

Pros vs. Cons of Alternative Structures

PROS

CONS

Fixed Rate

- Debt Service certainty
- Ability to issue on own credit if good rating

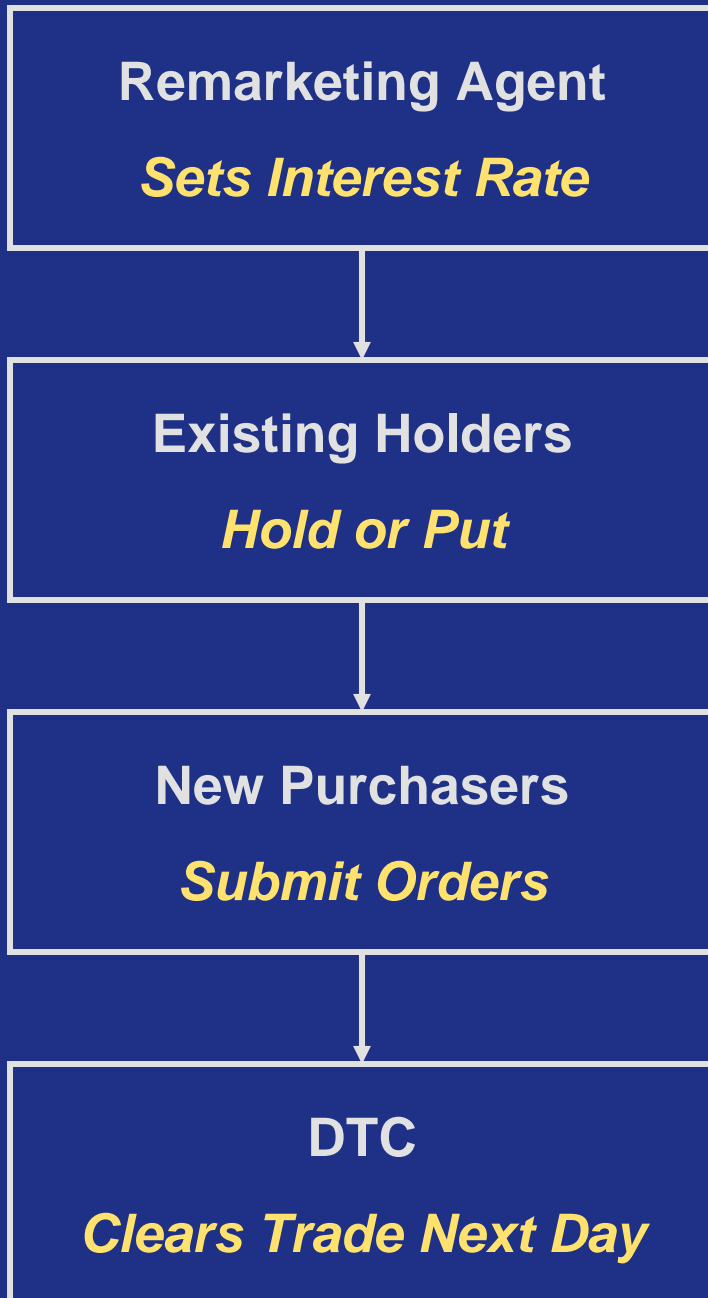
- Less flexibility to refinance if rates go down
- Higher interest rate

Variable Rate

- Lower rates
- More flexibility to restructure/refinance

- Interest rates may rise
- Takes more time to manage
- Risk of interest rate spike of downgrade of credit enhancer
- Renewal risk for credit enhancement

VRDB Process



Remarketing Agent

- Establishes interest rate at periodic intervals (i.e., daily, weekly, monthly)

Existing Holders

- May hold bonds or “put” bonds back to Remarketing Agent

New Purchasers

- Submit orders for any bonds that have been “put” back to the Remarketing Agent

Market Dislocation Impact

- Starting in late 2007 the market saw a significant dislocation to the variable rate market:
 - Most insurers were downgraded from AAA
 - Auction rate bond investors were stranded with uninsured bonds
 - Investors “put” variable rate bonds back to the banks, fearing first insurance, then the bank documents
 - Investors demanded significantly higher interest rates for those who could get liquidity
 - Bank liquidity costs increased 300% to 400%, for those who could get liquidity
 - Late 2008, investors left municipal bond market sending rates to almost 8%

Interest Rate Swaps

Intro to Interest Rate Swaps

Floating-to-Fixed Cashflows

Risks in a Tax-Exempt Financing

Hedging Risk

Selecting the Appropriate Index

Index Alternatives At-a-Glance

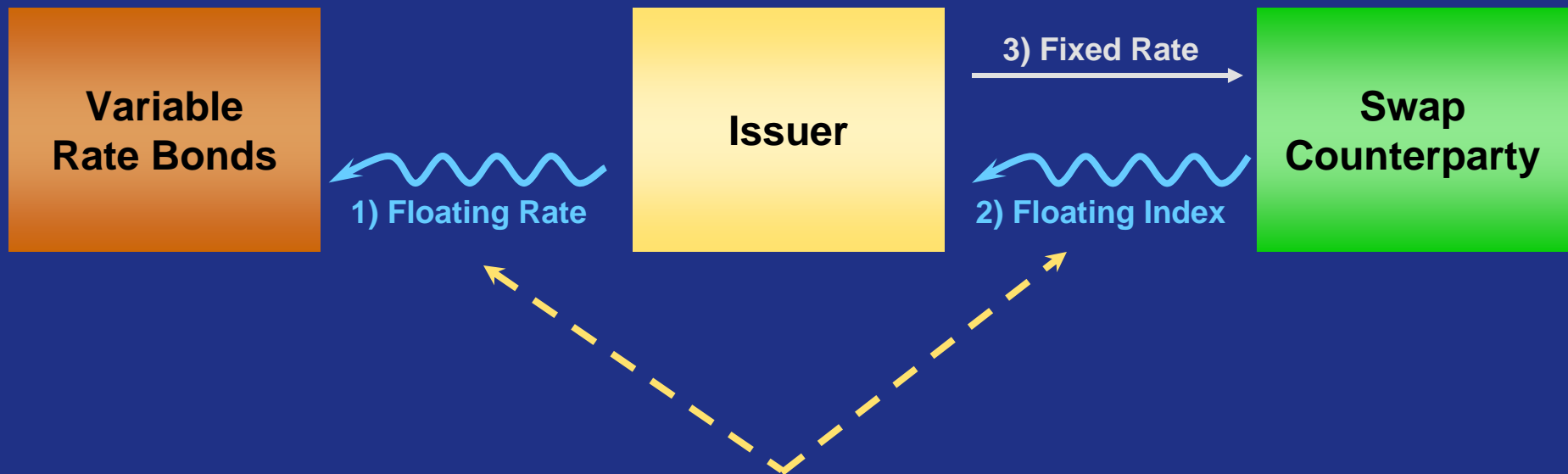
Introduction to Interest Rate Swaps

- ◆ **A swap is an agreement between two parties to exchange interest payments based upon a principal amount called the notional amount**
- ◆ **The notional amount of the swap typically matches the amortization of the underlying bonds**
- ◆ **Typically, one party exchanges fixed payments for a floating payment linked to the actual bond rate, SIFMA, or LIBOR**
- ◆ **Actual principal is never exchanged on an interest rate swap**

Floating-to-Fixed Cashflow Diagram

Organizing the Cashflows

- 1) Issuer pays a floating interest rate to the Bond Trustee
- 2) Issuer receives a floating interest rate payment from the swap
- 3) Issuer makes a fixed rate interest payment on the swap



Basis Risk is the degree to which the floating rate index and floating rate on the bonds differ.

Risks in a Tax-Exempt Variable Rate Financing

Interest Rate Risk

- The risk that the general level of interest rates rises

Tax Rate Risk

- The risk that interest rates rise due to a decline in income tax rates, causing the tax exemption to be worth less to investors

Credit Provider Risk

- Market acceptance of the LOC bank declines causing investors to demand a higher rate

Remarketing Agent Risk

- The remarketing agent fails to remarket the VRDB competitively

Hedging Risk

By selecting the appropriate variable rate index all or some of the risks that are present in a variable rate financing can be controlled

Cost of Funds

- The Swap Counterparty pays the Issuer the actual rate on the underlying variable rate bonds

**SIFMA
Municipal
Swap Index**

- The Swap Counterparty pays the Issuer the SIFMA Index, a seven-day high-grade market index comprised of tax-exempt VRDBs

**Percent of 1-
Month LIBOR**

- The Swap Counterparty pays the Issuer a specified percentage of the London Interbank Offered Rate (“LIBOR”), a short-term taxable interbank lending rate

Selecting the Appropriate Index

The Cost of Funds Index

- **The Swap Counterparty pays the Issuer the actual rate on their variable rate bonds**
- **The Bonds must be in a “weekly reset” mode**
- **A Cost of Funds Index swap will result in the highest fixed rate to the issuer due to the complete shifting of risk**

Selecting the Appropriate Index

The SIFMA Index

- **The SIFMA Index is a widely quoted, seven-day high-grade market index comprised of tax-exempt VRDBs**
- **The SIFMA Index will hedge the two primary VRDB risks:**
 - **Interest Rate Risk - SIFMA changes with general market conditions**
 - **Tax Rate Risk - SIFMA will change as investors adjust to changing tax rates**

Selecting the Appropriate Index

The Percent of 1-Month LIBOR Index

- **LIBOR is a short-term taxable rate**
- **LIBOR moves efficiently with the general interest rate market, unaffected by tax rates, credit enhancement or other influences**
- **By using LIBOR, the Issuer is hedging interest rate risk only**
- **SIFMA has averaged 72.48% of LIBOR since 1989**

Index Alternatives - At-a-Glance

Each index hedges different risks

Cost of Funds

~~Interest Rate Risk~~

~~Tax/Basis Risk~~

~~Supply-Demand Risk~~

~~Remarketing/Credit
Enhancement Risk~~

SIFMA Swap

~~Interest Rate Risk~~

~~Tax/Basis Risk~~

~~Supply-Demand Risk~~

Remarketing/Credit
Enhancement Risk

% of LIBOR

~~Interest Rate Risk~~

Tax/Basis Risk

Supply-Demand Risk

Remarketing/Credit
Enhancement Risk