



# **South Bayside Waste Management Authority**

*April 6, 2009*

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## Overview of Bonds

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**At its most basic level, a municipal bond is a loan and is typically structured like a home mortgage loan**

- ◆ A municipal bond is a debt instrument issued by a state, county, city, or other municipality to finance certain capital expenditures.
  - A joint powers authority is considered a municipal entity qualified to borrow through the issuance of municipal bonds.
  - Individuals typically secure loans from commercial banks or lenders; corporations and municipal entities borrow money directly from investors.
  
- ◆ The SBWMA, as a joint powers authority, qualifies as a municipal entity for the purpose of issuing bonds.
  
- ◆ Similar to a home mortgage, municipal bonds can be structured to bear interest at a fixed or variable (i.e., adjustable) rate.
  - Like a mortgage, principal and interest on a municipal bond is paid over time.
  - The interest cost on a variable rate bond will reset at periodic intervals. The most common reset interval for a variable rate bond is every 7 days.

## Overview of Bonds

Banks use personal credit scores to evaluate home mortgages; municipal bond investors use credit ratings

- ◆ Credit ratings play a key role in determining the interest cost – either fixed or variable – that a municipal bond issuer pays.



**Moody's Investors Service**

**STANDARD  
& POOR'S**

**Fitch Ratings**

Investment Grade	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term
	Aaa	VMIG 1	AAA	A-1+	AAA	F1+
	Aa1		AA+			
	Aa2		AA.			
	Aa3		AA-			
	A1	VMIG 2	A+	A-1	A+	F1
	A2		A			
	A3		A-			
	Baa1	VMIG3	BBB+	A-2	BBB+	F2
	Baa2		BBB			
Baa3	BBB-		A-3	BBB-	F3	

## Overview of Bonds

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### What factors influence a credit rating?

- ◆ A credit rating represents a rating agency's level of confidence in the repayment of the bonds.
- ◆ Municipal credit ratings are influenced by a number of factors, including:
  - Revenue stream used to repay the bonds.
  - Financial performance.
  - Demographics and local economy.
  - Management and financial policies.
  - Legal covenants.
- ◆ Rating agencies provide relative rankings of public sector credits
  - General obligation bonds are secured by property taxes.
  - General fund lease obligations (e.g., COPs or Lease Revenue) are secured by General Fund appropriations.
  - Water and wastewater bonds are secured by revenues paid by ratepayers.
  - **Solid waste bonds are secured by revenues paid by ratepayers. SBWMA revenues include gate “tip” fees, commodity sale revenues, and interest income.**

## Overview of Bonds

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### What are the rating criteria for a solid waste credit?

#### ◆ Economic Considerations

- Waste flow available within the service area and ability of flows to generate sufficient revenues.
- Service area economy and demographics.

#### ◆ Financial data

- Primary concerns are the levels of coverage and liquidity.
- Costs measured in terms of tip fees per ton and household costs.

#### ◆ Operational characteristics

- System or project operations are evaluated against demand for disposal over the term of the bonds.

#### ◆ Management assessment

- Assessment of management's ability to adapt and respond within the business environment and consider strategies for ensuring waste flow and revenue streams.

#### ◆ Legal provisions

- Provide a sufficient revenue stream to cover operating costs and debt service payments.

# Overview of Bonds

## Structural differences between fixed and variable rate bonds

<b><u>Fixed Rate Bonds</u></b>		<b><u>Variable Rate Bonds</u></b>	
Interest Rate Reset Frequency	Set at initial sale.	Interest Rate Reset Frequency	Set at initial sale, and then weekly thereafter.
Security for Repayment	Net Revenues of the System.	Security for Repayment	Bank LOC.
Investor Tender or "Put"	Not applicable.	Investor Tender or "Put"	7 day Notice Requirement.
Optional Redemption	No redemption for first 10 years.	Optional Redemption	On any business day at par.

## Overview of Bonds

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Credit ratings for variable rate bonds are based on the bank that provides the Letter of Credit

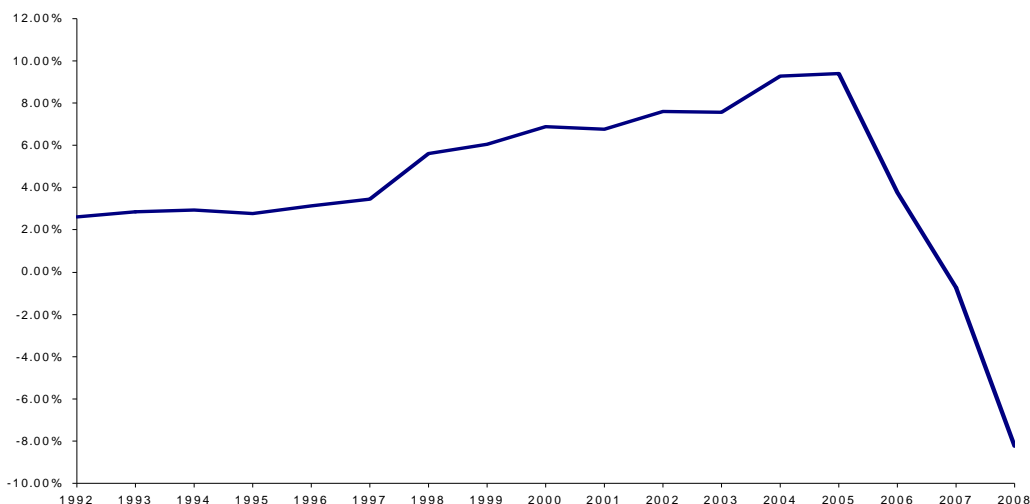
- ◆ Key features of variable rate bonds:
  - The interest rate is typically reset every 7 days;
  - The investor does not have to keep the bonds as a long-term investment – if the investor does not like the rate on the bonds or the credit rating, the investor can return the bonds back to the issuer.
  
- ◆ To make sure that they can return the bonds at any time, investors require municipal variable rate bonds to have a Bank-issued Letter of Credit.
  - The Letter of Credit (“LOC”) provides investors with security – if the issuer defaults and cannot repay its debt, the LOC Bank will assume the obligation to repay principal and interest.
  - If the Bank’s LOC is used to buy the bonds, there will be an increase in the interest rate on the bonds and a shortening of the repayment period (from 25 years, typically back to 5 years).
  
- ◆ ***Municipal variable rate bonds trade based on the strength of the LOC Bank***, not on the issuer’s underlying ratings.

# Municipal Market Overview

The dislocation in the financial markets is not limited to municipals

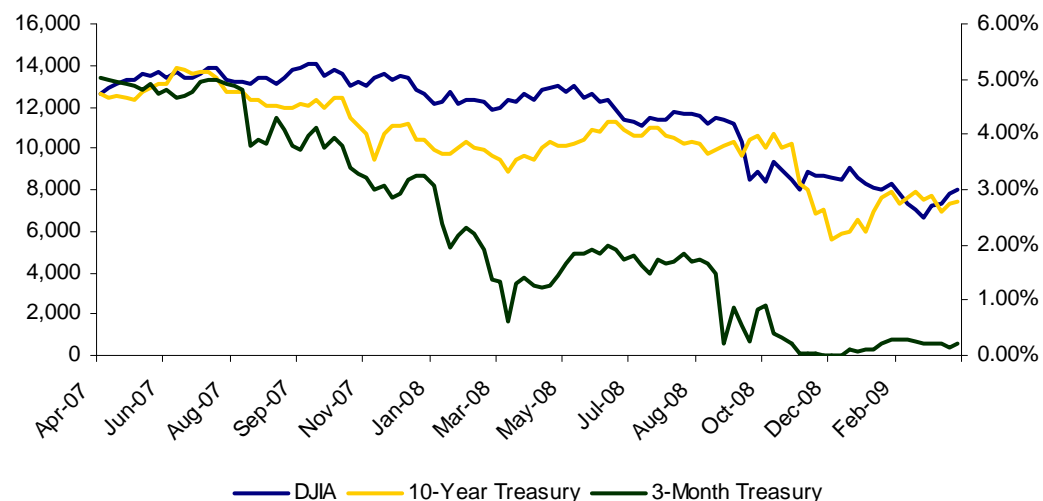
- ◆ The dramatic decrease in housing prices and corresponding increase in inventory levels served as the catalyst for the current financial and liquidity crisis.
- ◆ Subprime mortgages found their way into a range of structured investments, including:
  - Residential Mortgage Backed Securities
  - Collateralized Debt Obligations (“CDOs”)
  - Structured Investment Vehicles
- ◆ Over the past decade, major securities firms invested in CDOs.
  - When subprime mortgages defaults caused CDO valuations to decline, firms realized significant mark-to-market losses in valuation.

OFHEO HOUSING PRICE INDEX



Source: OFHEO

COMPARISON OF CAPITAL MARKET INDICES



Source: US Treasury and Google Finance

## Municipal Market Overview

Anxiety in the financial markets typically leads to a “flight to quality” and municipal markets have historically benefited

- ◆ Typically, long-term municipal yields are less than long-Term Treasuries.
  - There is a “flight to quality” as investors seek the safest possible investments (i.e. Treasuries)
- ◆ Currently, long-term municipal yields are higher than long-term Treasuries.
- ◆ In the past, municipal issuers have used bond insurance, which is no longer available.
  - Bond insurance has historically allowed municipals to sell at lower yields.

RELATIONSHIP OF 30Y TREASURY and 30Y MUNICIPAL (MMD) YIELDS



Source: US Treasury and Thomson Reuters

## Municipal Market Overview

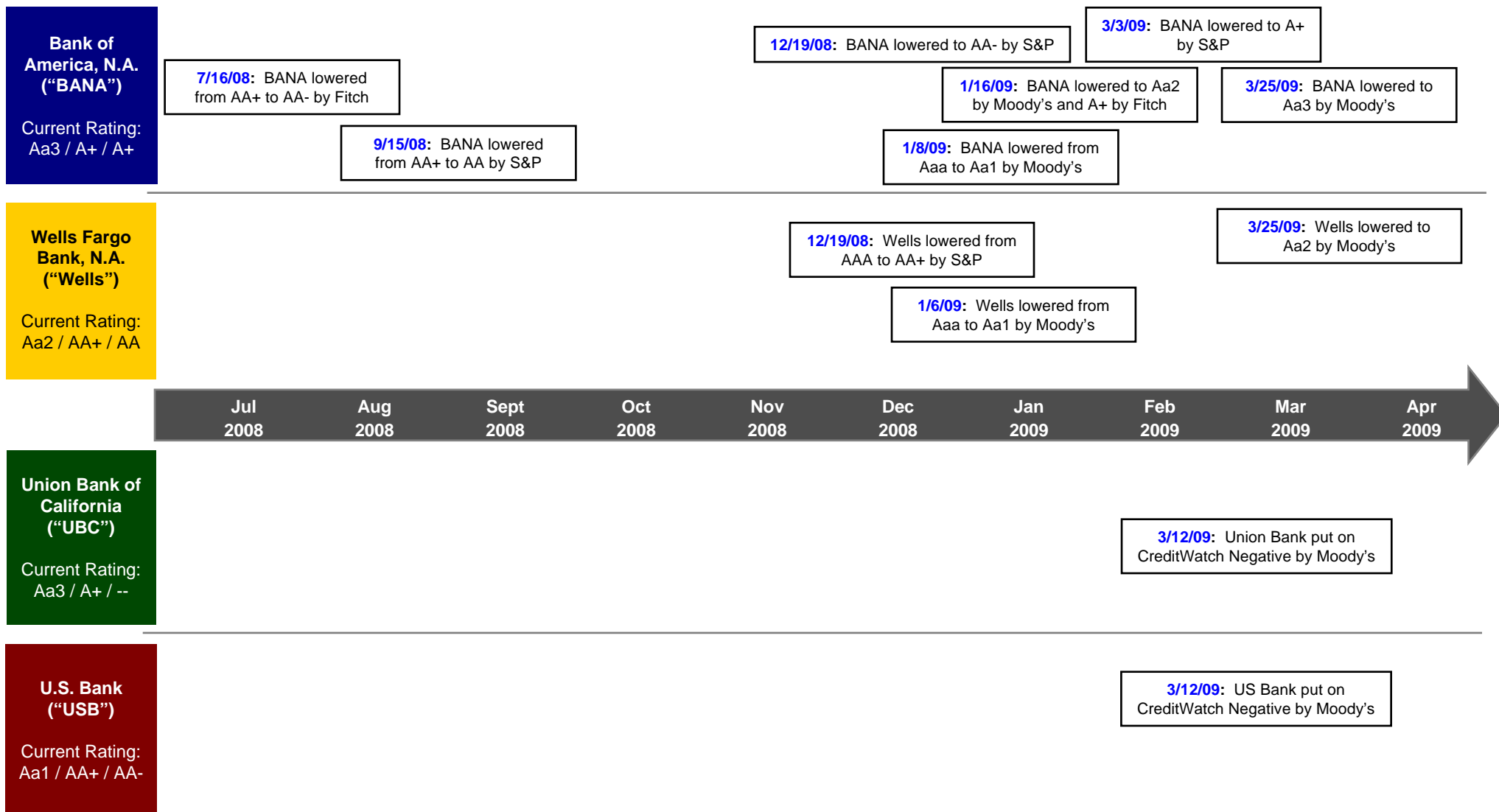
In 2000, the SBWMA purchased bond insurance to secure AAA ratings, but in 2008, the bond insurance market collapsed

	<b>Moody's</b> as of March 25, 2009	<b>Standard &amp; Poor's</b> as of March 25, 2009	<b>Fitch</b> as of March 25, 2009
<b>Ambac</b>	<b>Baa1.</b> Placed under review for possible downgrade on 3/03/09.	<b>Downgraded 11/19/09 to A.</b> Outlook remains negative.	<b>Rating withdrawn 6/26/08.</b> <i>6/18/08: Ambac has requested immediate ratings withdrawal.</i>
<b>Assured Guaranty</b>	<b>Downgraded 11/21/08 to Aa2.</b> Outlook revised to Stable.	<b>AAA. Stable Outlook</b>	<b>AAA. Stable Outlook</b>
<b>CIFG</b>	<b>Upgraded 1/22/09 to Ba3.</b> Outlook revised to developing.	<b>Upgraded 1/22/09 to BB.</b> Remains on CreditWatch Developing.	<b>Rating withdrawn 10/21/08.</b>
<b>FGIC</b>	<b>Rating withdrawn 3/24/09.</b>	<b>Downgraded 11/24/08 to CCC.</b> Outlook revised to Negative.	<b>Rating withdrawn 11/24/08.</b>
<b>FSA</b>	<b>Downgraded 11/21/08 to Aa3.</b> Outlook revised to developing.	<b>AAA. Revised to CreditWatch Negative 10/08/08.</b>	<b>AAA. Revised to Rating Watch Negative on 10/09/08.</b>
<b>MBIA</b>	<b>Baa1.</b> Placed under review for possible upgrade on 2/18/09.	<b>Downgraded 2/18/08 to AA-.</b> Outlook revised to CreditWatch Developing.	<b>Rating withdrawn 6/26/08.</b> <i>3/7/08: MBIA has requested immediate ratings withdrawal</i>
<b>XLCA</b>	<b>Downgraded 3/9/09 to Ca.</b> Outlook revised to developing.	<b>Downgraded 1/29/09 to CC.</b> Outlook revised to Negative.	<b>Rating withdrawn 9/05/08.</b> <i>9/03/08: XLCA has requested immediate ratings withdrawal.</i>
<b>BHAC</b>	<b>Assigned Aaa on 4/25/08.</b> Stable Outlook.	<b>Assigned AAA on 4/11/08.</b> Outlook revised to Negative (3/25/2009)	<b>NR</b>

Source: Fitch Ratings, Moody's Investor Service, Standard & Poor's, 2009.

# Municipal Market Overview

As the global financial crisis has deepened, prominent letter of credit banks have also been downgraded



Source: Fitch Ratings, Moody's Investor Service, Standard & Poor's, 2009.

## Structuring Alternatives

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### What alternatives are available to the SBWMA for its 2009 Bond issue?

- ◆ The SBWMA plans to issue Solid Waste Revenue Bonds, which will be repaid from tipping fees and commodity revenues.
- ◆ There are three basic structure alternatives available to the SBWMA:
  - Fixed Rate – pay a fixed rate of interest until the final maturity of the bonds.
  - Variable Rate – pay a variable rate of interest until the final maturity of the bonds.
  - Combined Fixed and Variable Rate – pay a fixed rate of interest on a portion of the bonds and a variable rate of interest on the remainder until final maturity.
- ◆ Each structure has its advantages and disadvantages.
  - Each structure should be viewed in the context of the current market environment.

## Structuring Alternatives

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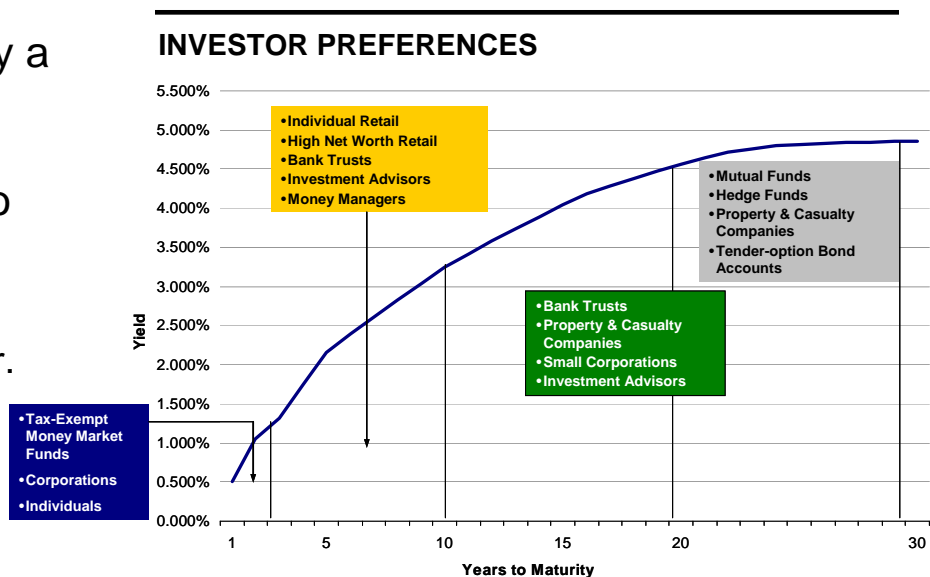
### SBWMA has a rare opportunity to issue Non-AMT, private activity bonds

- ◆ SBWMA's finance plan had previously assumed issuance of private activity bonds, subject to the alternative minimum tax ("AMT").
  - The universe of AMT investors is substantially smaller than for Non-AMT bonds.
  - AMT investors demand a pricing premium for the additional tax accounting.
  
- ◆ The Federal Government's recently passed Stimulus Act included a temporary suspension of the AMT cost for certain private activity bonds.
  - The suspension allows the SBWMA to issue Non-AMT, private activity bonds no later than January 1, 2011.
  
- ◆ **As a comparison point, in the current market, the addition cost of AMT bonds is estimated at 125 basis points (1.25%) over a comparable Non-AMT maturity for fixed rate bonds, and 25 basis points (0.25%) for variable rate bonds.**

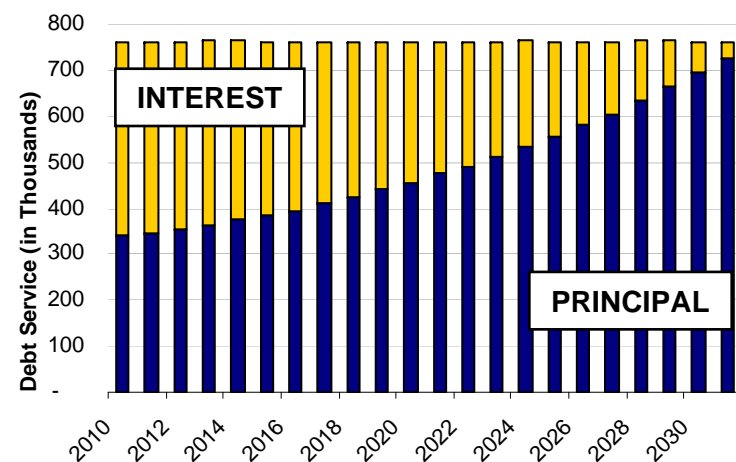
# Structuring Alternatives – Fixed Rate Bonds

## The mechanics of fixed rate bonds

- ◆ Long-term, municipal fixed rate bond issues pay a fixed rate of interest.
- ◆ A municipal bond issue is typically structured so that principal maturities in different years.
  - This allows municipal issuers to take advantage of shorter-term interest rates, which are typically lower.
  - This allows municipal issuers to target different investors.



## SAMPLE FIXED RATE DEBT SERVICE

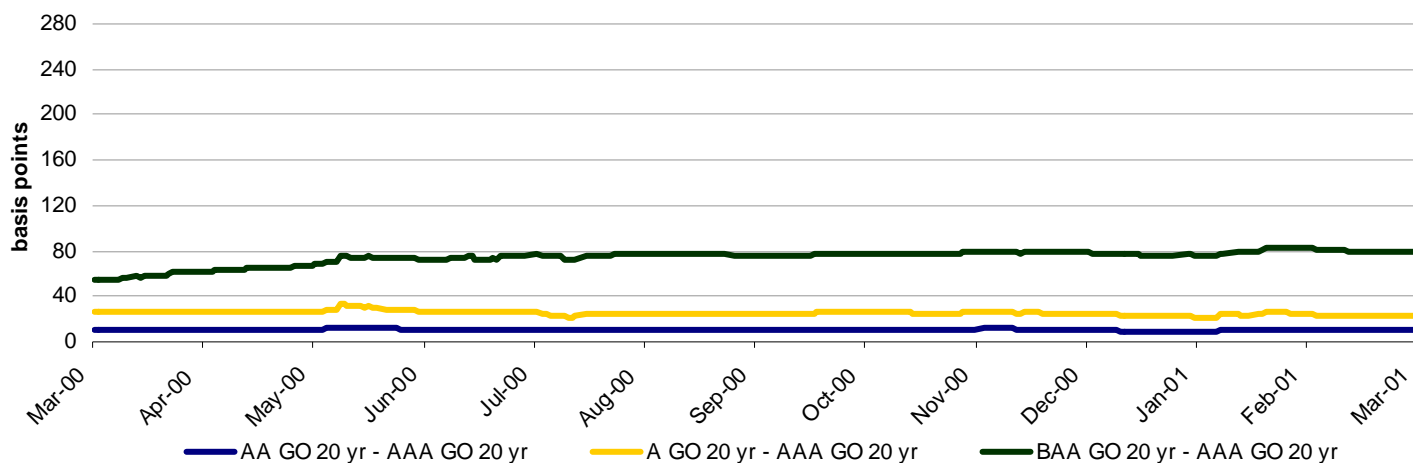


# Structuring Alternatives – Fixed Rate Bonds

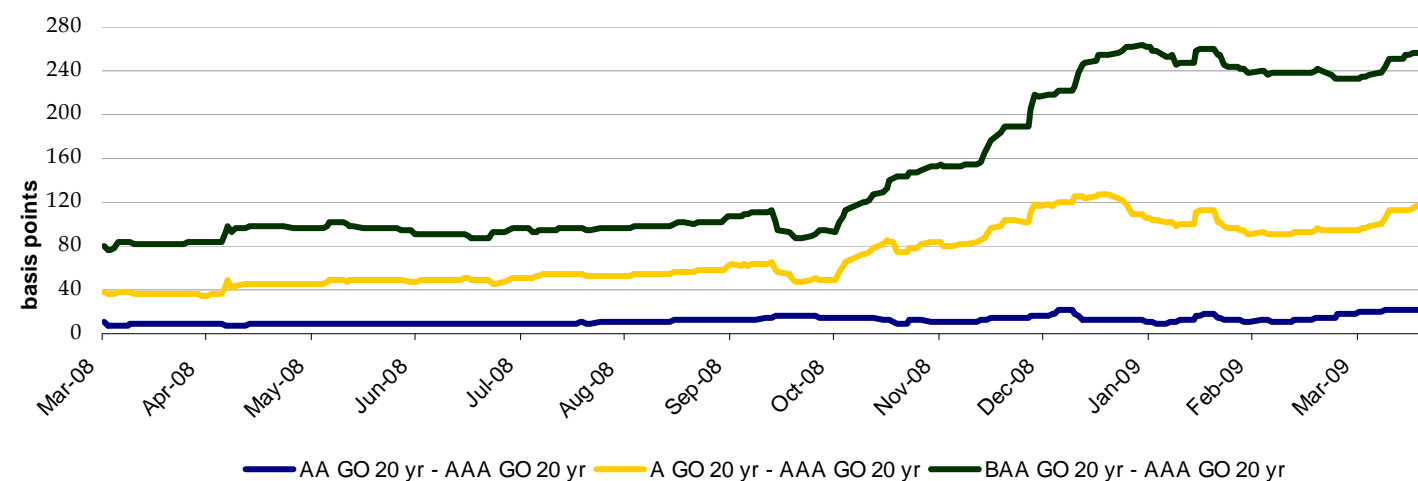
## Flight to quality affects municipal credit spreads

- ◆ Investors demand higher interest rates for lower rated credits.
- ◆ From March 2000 to 2001, the average credit spread for a BAA credit averaged 74 bps over a AAA credit.
- ◆ Since January 2009, the credit spread for a BAA credit has averaged **247 bps** over a AAA credit.

COMPARISON OF G.O. CREDIT SPREADS  
March 2000 to March 2001



COMPARISON OF G.O. CREDIT SPREADS  
March 2008 to March 2009



Source: Thomson Reuters

## Structuring Alternatives – Fixed Rate Bonds

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### Common legal provisions that provide an additional measure of investor security

- ◆ Security for the Bonds/Revenue Pledge
  - Net Revenues of the System – All Revenues less Operations and Maintenance costs – are pledged to repayment of the bonds.
- ◆ Rate Covenant/Debt Service Coverage
  - Debt service coverage is equal to Net Revenues divided by debt service.
  - **SBWMA must covenant to set rates and charges equal to 1.4x maximum annual debt service on the bonds.**
  - Investors will look for debt service coverage levels that are higher than the rate covenant to feel confident of repayment.
- ◆ Debt Service Reserve Fund
  - SBWMA must fund a Debt Service Reserve Fund, typically equal to maximum annual debt service on the bonds, from bond proceeds.
  - If SBWMA is unable to pay debt service for any reason, it can draw upon the Debt Service Reserve Fund to repay investors in that year.
- ◆ Additional Bonds Test
  - If the SBWMA elects to sell additional bonds, Net Revenues divided by total debt service (including the proposed bonds) must be at least 1.40x.

## Structuring Alternatives – Fixed Rate Bonds

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### Advantages and disadvantages of fixed rate bonds

#### Advantages

- Budget certainty
- No interest rate risk after pricing
- Market risk only at initial pricing
- Transaction is completed upon closing/funding with no post-closing maintenance
- “Tried and True” method for financing capital projects
- Transparent marketplace

#### Disadvantages

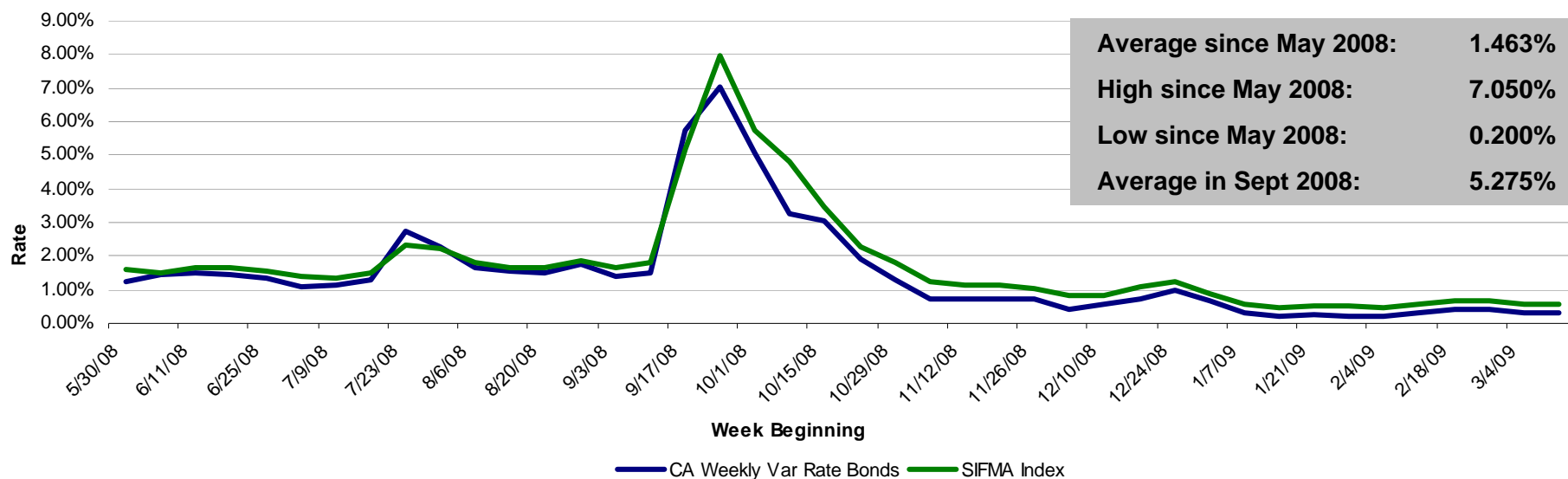
- Less flexible financing method
- Historically more expensive than variable rate
- In general, penalties for bond redemption
- Requires a period where bonds cannot be redeemed
- Turbulent market since 4th quarter 2008

## Structuring Alternatives – Variable Rate Bonds

### The mechanics of variable rate bonds

- ◆ Variable rate bonds offer issuers access to long-term capital at short-term (variable) interest rates.
- ◆ The interest rate on variable rate securities is reset periodically to match current market conditions.
  - The most common reset interval in the current market is weekly.
- ◆ The actual cost of funds depends on market conditions over time and is not known until the bonds mature.

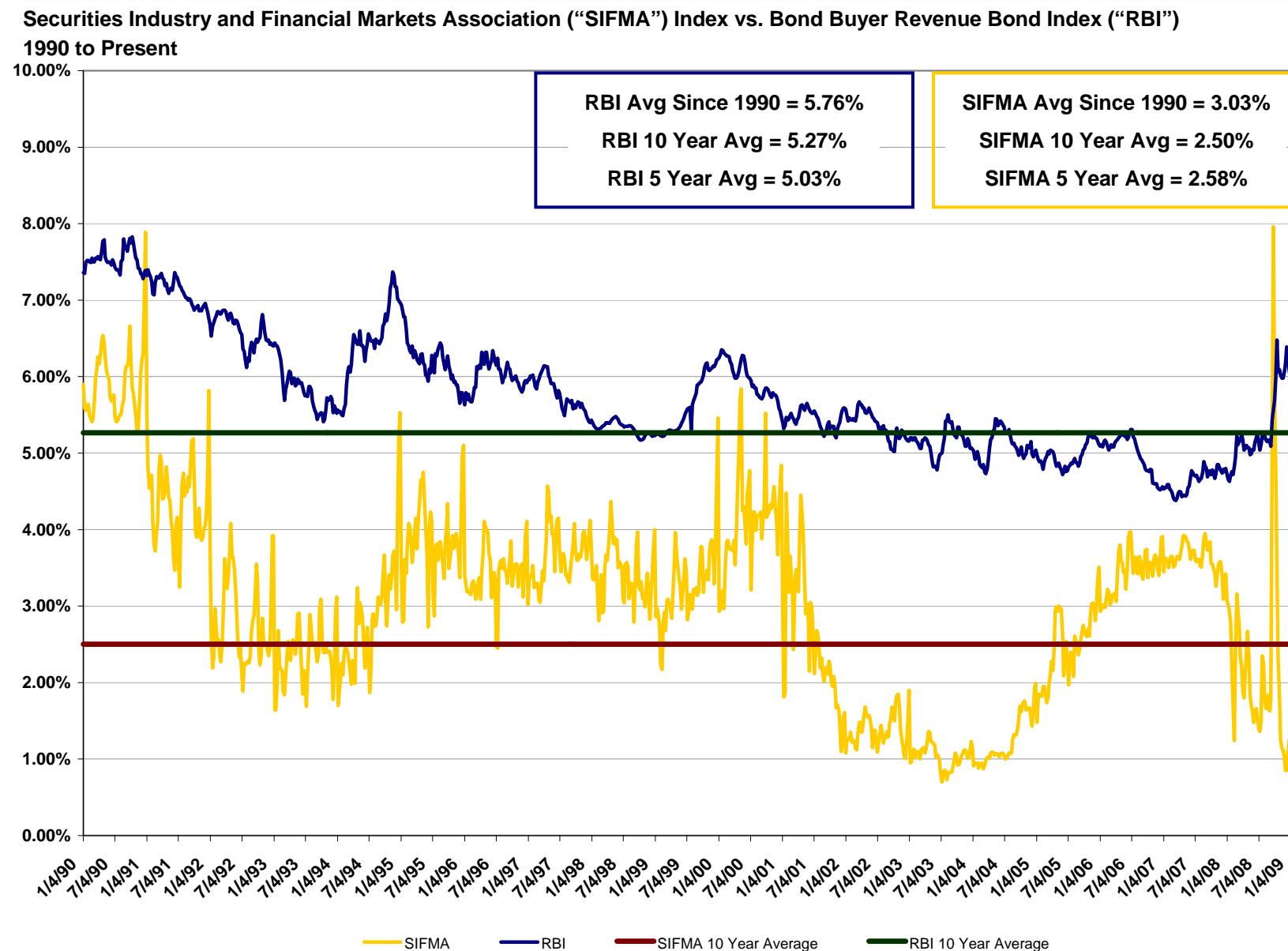
**SAMPLE CALIFORNIA WEEKLY VARIABLE RATES**  
(Assumes Top-Tier LOC Bank with Stable Rating Outlook)



Source: Banc of America Securities and SIFMA.

# Structuring Alternatives – Variable Rate Bonds

On average, short-term rates have outperformed long-term rates



Source: Bond Buyer and SIFMA.

## Structuring Alternatives – Variable Rate Bonds

### The risks associated with variable rate bonds

<u>Risk Category</u>	<u>Description</u>
Interest Rate Risk	<ul style="list-style-type: none"><li>• The risk that short-term rates rise above historic averages.</li><li>• Following the Lehman bankruptcy in September 2008, weekly tax-exempt rates averaged 7.96%.</li></ul>
LOC Rating Risk	<ul style="list-style-type: none"><li>• The risk that the LOC Bank is downgraded.</li><li>• All of the major LOC providers have been downgraded in the past year, and many remain on negative credit watch.</li><li>• The impact on interest rates depends on the magnitude of the downgrade; in 2008, bonds were “put” to the bank due to such downgrades.</li></ul>
LOC Renewal Risk	<ul style="list-style-type: none"><li>• The risk that the LOC is not renewed at expiration (typically 3 years).</li><li>• LOC capacity is extremely scarce and there is no assurance that LOC capacity will be available in 3 years or that the fixed rate market will be more attractive.</li><li>• The SBWMA must covenant to replace the LOC with a comparable LOC or refund the bonds into fixed rate.</li><li>• Failure to renew forces a refinancing at the market conditions or triggers an event of default.</li></ul>
Remarketing Agent Risk	<ul style="list-style-type: none"><li>• The risk that the Remarketing Agent will be unable to remarket the bonds.</li><li>• Inability to remarket could result in higher interest rates, trigger a draw on the LOC, or cause an event of default.</li></ul>
Debt Coverage Ratio Risk	<ul style="list-style-type: none"><li>• A prolonged period of high short-term rates would put pressure on SBWMA’s coverage ratios.</li><li>• Moody’s has been evaluating the exposure of California issuers to variable rate risk. Specifically, Moody’s is looking at an entity’s ability to withstand an interest rate spike for a period of 6 to 12 months.</li></ul>

## **Structuring Alternatives – Variable Rate Bonds**

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**Similar common legal provisions apply to variable rate bonds**

- ◆ Security for the Bonds/Revenue Pledge
- ◆ Rate Covenant/Debt Service Coverage
- ◆ Debt Service Reserve Fund
- ◆ Additional Bonds Test

## Structuring Alternatives – Variable Rate Bonds

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### Advantages and disadvantages of variable rate bonds

#### Advantages

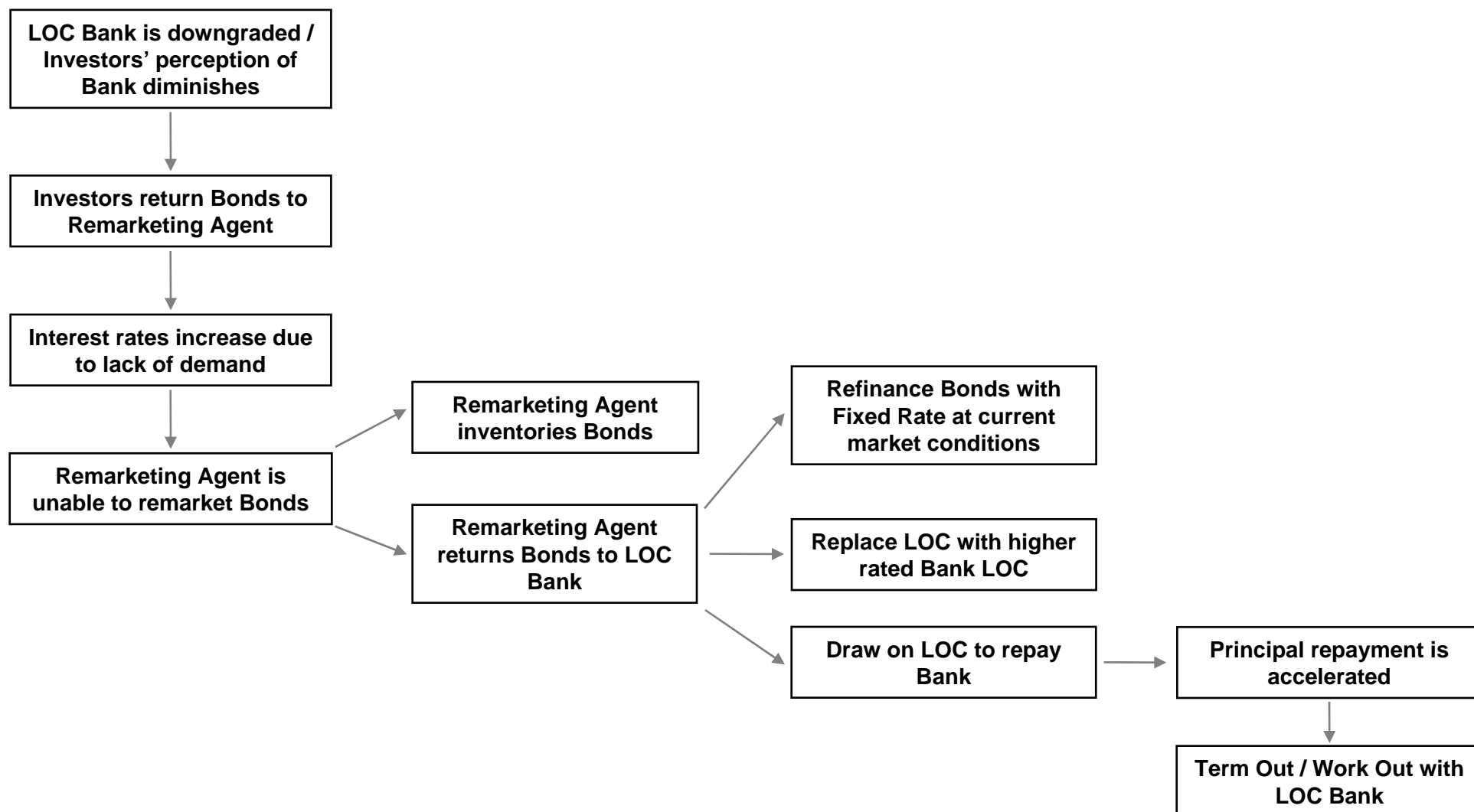
- Historically less expensive than fixed rate
- Flexible debt structure
- Zero prepayment penalty
- Investors rely upon credit-worthiness of credit bank, not issuer
- Reduced disclosure requirements for an initial offering
- Market timing for an offering is less critical for an issuer

#### Disadvantages

- Interest rate risk
- LOC downgrade risk
- LOC renewal risk
- Remarketing risk
- Less budget certainty than fixed rate

## Structuring Alternatives – Variable Rate Bonds

LOC bank downgrades have a cascading effect



## Structuring Alternatives – Variable Rate Bonds

Many issuers utilize interest rate derivatives to hedge some of the risks of variable rate bonds

- ◆ An interest rate swap agreement is one between two parties to exchange interest payments for a pre-determined amount of time based upon a principal amount.
- ◆ Unlike a bond, principal is not exchanged in a swap agreement.
  - When issuers hedge floating rate debt the issuer pays a fixed rate in exchange for a floating payment linked to an index paid by the swap counterparty.

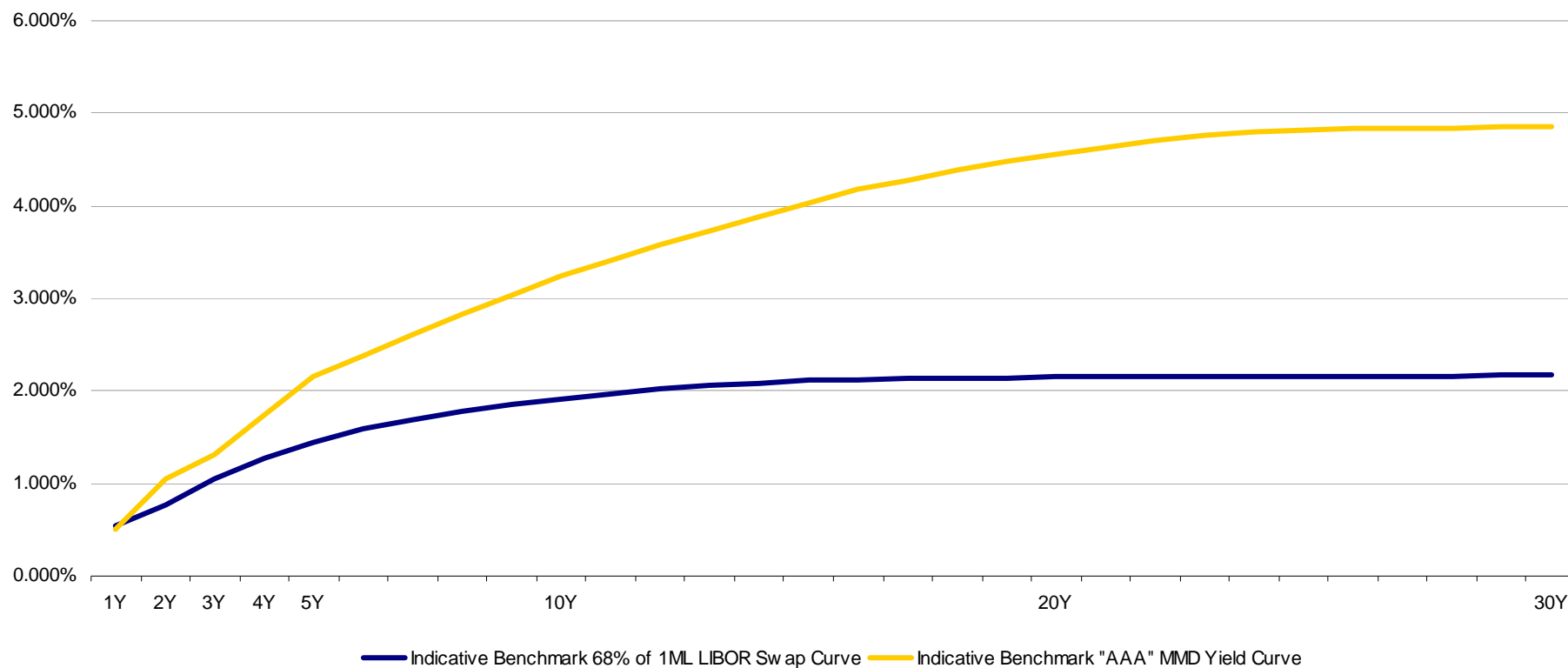


- ◆ **Using synthetic fixed rate bonds can allow issuers to reduce funding costs by providing a lower fixed rate than otherwise possible from selling conventional bonds.**

# Structuring Alternatives – Variable Rate Bonds

Current market swap pricing compares favorably to current fixed rates

**COMPARISON OF BENCHMARK 68% of 1ML SWAP CURVE<sup>1/</sup> vs. “AAA” MMD YIELD CURVE<sup>1/</sup>**  
**April 2, 2009**

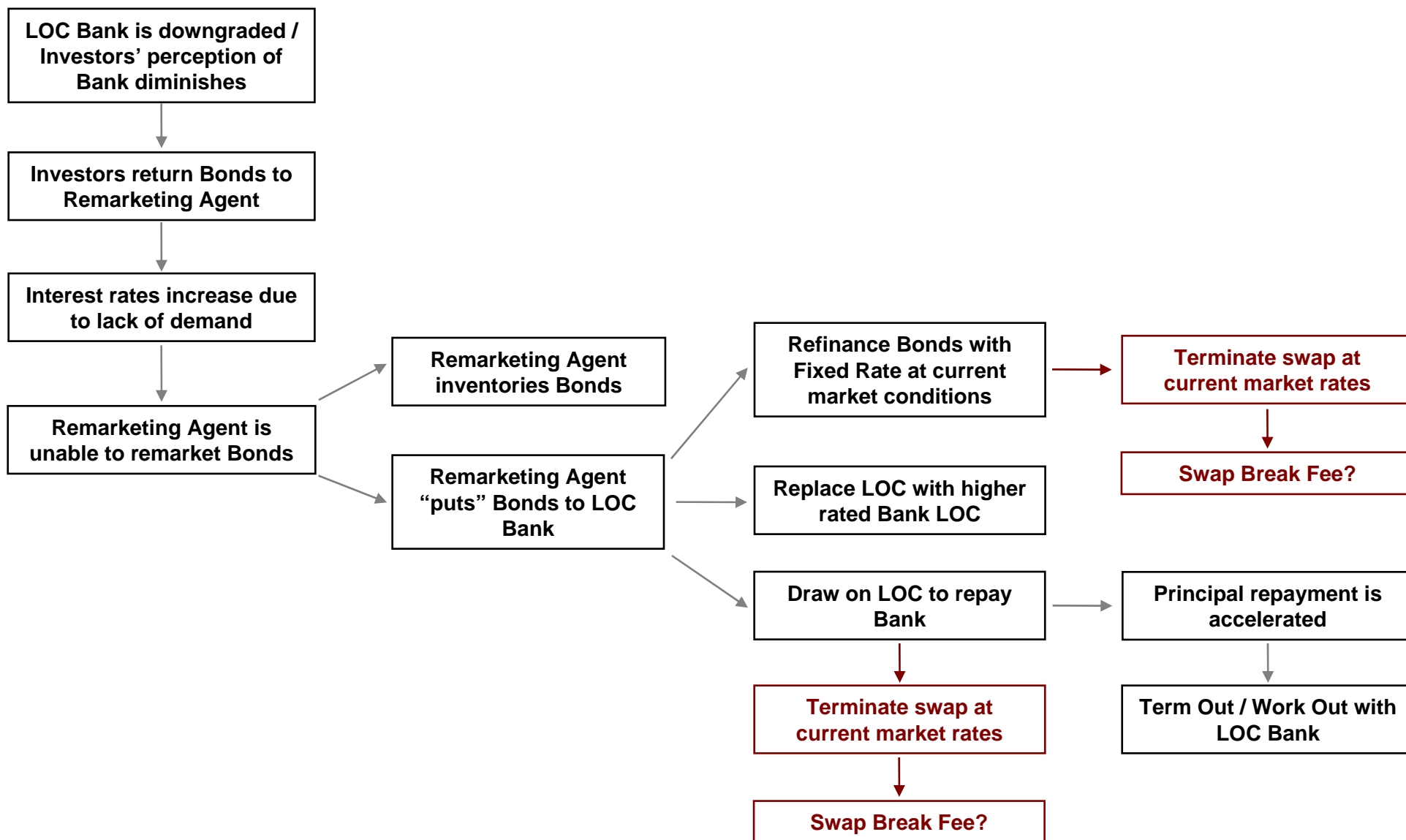


Source: Thomson Reuters and Bank of America.

<sup>1/</sup> Indicative Yield Curves are provided for comparison purposes only, do not include credit costs (i.e., premiums) or revenue spreads, and do not reflect actual pricing that the SBWMA would expect to receive.

## Structuring Alternatives – Variable Rate Bonds

LOC bank downgrades have a cascading effect on an interest rate swap: Possibility for a Swap Break Fee owed to Swap Provider



## Structuring Alternatives – Combined Financing

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### The SBWMA could utilize a mix of fixed and variable rate bonds

- ◆ The SBWMA could consider issuing both fixed and variable rate bonds to finance the costs of the facilities.
- ◆ Such “combined” approach would involve a simultaneous issuance of fixed rate bonds to finance 70% of the project, with the remainder of the project costs (30%) to be financed with variable rate bonds.
- ◆ There is no “right” answer to balancing fixed and variable rate debt; it is a function of several factors, including:
  - Liquidity (i.e. cashflow)
  - Diversity of revenues
  - Risk tolerance

## Structuring Alternatives – Comparison

### Estimated savings for certain fixed and variable rate scenarios

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#### COMPARISON OF FIXED AND VARIABLE RATE FINANCING SCENARIOS

Scenario	Estimated Rate	Annual Debt Service Savings (\$000s)	FY 2015 Ending Reserve Balance <sup>1/</sup> (\$000s)	Ending Balance Difference (\$000s)
Fixed Rate	6.75% <sup>2/</sup>	n/a	\$14,345	n/a
Combined (70% Fixed Rate; 30% Variable Rate)	6.30% <sup>3/</sup>	\$220	\$16,195	\$1,850
Variable	5.25% <sup>3/</sup>	\$730	\$19,965	\$5,620

<sup>1/</sup> FY2015 is a useful benchmark because it represents two complete cycles for letter of credit commitments.

<sup>2/</sup> Assumed interest rate that satisfies debt ratio covenants of rating agencies.

<sup>3/</sup> Variable rate is a conservative long-term cost of funds which is inclusive of letter of credit and remarketing fees.