
Living with an Issue: On-Going Debt Administration

Refunding an Issue



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What is a “Refunding”?

- Defined broadly as the substitution of one class or issue of debt for another
- Roughly analogous to re-financing a home mortgage
 - You borrowed mortgage money several years ago when rates were high, now they are lower – so, you “substitute” a new mortgage (at lower rate of interest) for the old one
 - Sometimes, there are other reasons



Why Do It?

- Save interest costs
 - Sell new bonds with lower rates than the old bonds, thus reducing overall cost (the “mortgage” example)
- Change terms or covenants
 - Replace the “old” debt with a “new” debt that incorporates different promises or requirements
- Restructure cash flows
 - Source revenue being used to repay debt has been changed or modified, therefore debt must be re-arranged so as to better “match” it



Savings Approach

- Interest rates were higher when we sold those old bonds few years ago than they are now
- The old bonds still have a significant number of years to be repaid
- How should we measure the savings?
 - 3% rule: we should realize (after all costs) a savings, in present value terms, of at least 3% of the refunded debt
 - Total dollar savings rule: we might wish to impose an absolute minimum dollar savings as well
 - “People in suits” rule: the savings we realize should be significantly greater than the fees paid to the people who are offering to “help” us!



Change in Terms Approach

- Example 1: The old debt required that we have at least 125% debt service coverage in order to issue new debt – that doesn't seem to be working. *Solution: out with the old, in with the new*
 - Caution: measure all of the effects of this – they may add up to more than you think
- Example 2: The old debt doesn't permit us to use a "surety" in lieu of a debt service reserve fund held in cash. *Same solution; same caution.*
- Example 3: The old bonds require us to maintain a level of revenues at least 135% of the debt service requirements. *Same solution; same caution.*



Restructuring Approach

- Sometimes, none of the above apply and you must restructure for other (usually unfavorable) reasons
 - Somewhat more common in land-based or development driven financings
 - Current real estate slowdown may require remedial financings for stressed Mello-Roos or assessment district financings
 - Watch carefully for credit implications – again, the folks offering to “help” may not illuminate all of the factors to be considered



Types of Refunding

- Refunding transactions generally fall into one of two types:
 - “advance” in which new debt is sold more than 90 days before the redemption date of the old debt; and
 - “current” in which the new debt is sold less than 90 days before the redemption date of the old debt.



Basic Rules

- In general, an issue of bonds can be “advance” refunded only once; but
- An issue of bonds can be “current” refunded as often as is feasible
 - As a result, the opportunities for arbitrage are reduced to defined parameters
- Proceeds of the “new” issue are then invested (usually at higher rates than the rates being paid for borrowing) pending payment to the “old” bond holders
- These funds are held in an “escrow” account – more on that



The Role of Federal Tax Law in the Process

- The IRS knows that (in typical times) the interest rates you pay on debt are less than what you can earn on your investments
 - Generally, tax law prohibits “arbitrage” opportunities beyond the ones specifically allowed in the law
- That basic prohibition drives some fundamental rules based on the “type” of refunding – advance or current



The Escrow

- Three basic types of escrows:
 - Net cash – future earnings required
 - Full cash – future earnings not required
 - “Cross-over” refunding – somewhat rare today
- The typical escrow invests in U.S. Treasury securities
 - Either “open market” securities or
 - “SLGS” or State and Local Government Series
- Watch for the efficiencies of the escrow



Preliminary Testing

1. Determine the annual debt service requirement for the old debt (no earnings!) for each of the remaining years; then
2. Select a range of yield curves that would be available for the refunding debt; then
3. Determine the principal amount of debt that is supportable by the debt service amounts in Step 1, using the re-offering scale selected in Step 2; then
4. Calculate the issuance cost for the proposed bonds and the present value of the call premiums on the old bonds; then
5. Calculate the net value by subtracting the result obtained in #4 from the result obtained in #3



The Call Option

- When you sell debt with the right to redeem it prior to its stated maturity, this “option” to call the debt has value – value that can (and should) be measured before deciding to refund the debt
- When you sold the original debt, there was a “cost” associated with the granting of the right to you to take the debt away from the investor prior to maturity – that’s the “value” of the option



Typical Option

- Issuer “A” sells debt today at prevailing rates and imposes a “call option” on the bonds to enable it to redeem the bonds in 10 years at a “premium” of 103% of the face value of the debt.
- Investor “B” may impose a yield penalty on Issuer “A” for this right, so as to mitigate the risk that the investment may be “lost” early as a result of falling interest rates



“Pay Now or Pay Later”

- As an issuer, you’ll “pay” for the option in one or both of these places:
 - in the form of marginally higher rates during the period in which the bonds are not subject to being called; and
 - as a “premium” paid to the investor when the option is exercised.
- In the first instance, you paid for the right to call; in the second you paid for the actual exercise of that right – it is an important difference



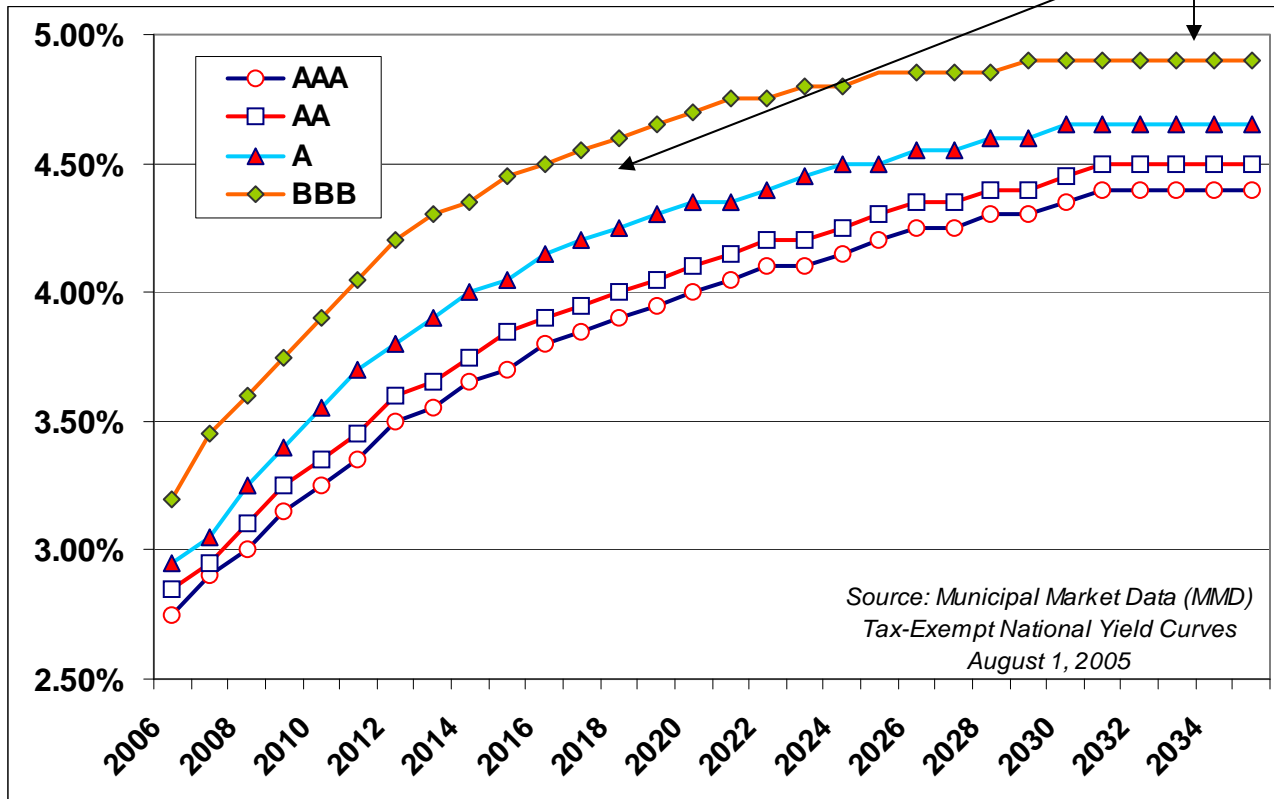
What You Don't See Can Hurt You

- Does the issue you're selling today have a "yield kicker" in it?
 - Long-term, callable bonds priced at a premium and sold to investors at "worst" yield (i.e., yield to maturity of yield to the call date and price)
 - Result: higher costs to you as the issuer!
- How to approach this problem:
 - *Observe what the yields would be if the bonds were non-callable*
 - *Ask your underwriter or advisor to show you what the "yield to maturity" would be in those situations where you are offered premium prices on callable bonds*
 - *Compute the cost of money (using the present value approach) assuming that you refund the bonds on the first call date*
 - *Use premiums sparingly in callable bonds, but apply liberally in non-callable maturities or issues*



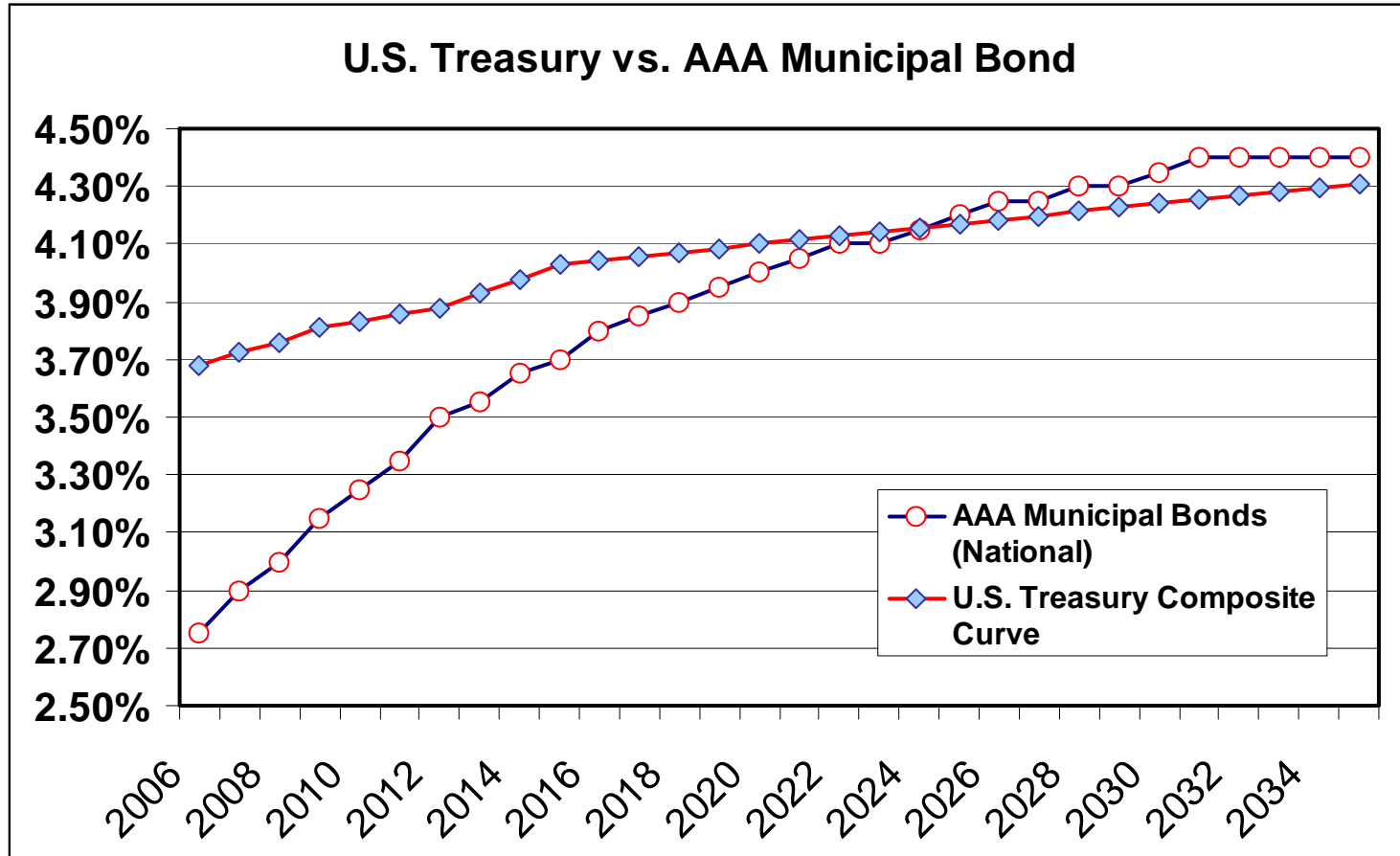
The Yield Curve

Observe how the relationship between credit quality is not constant over the entire curve



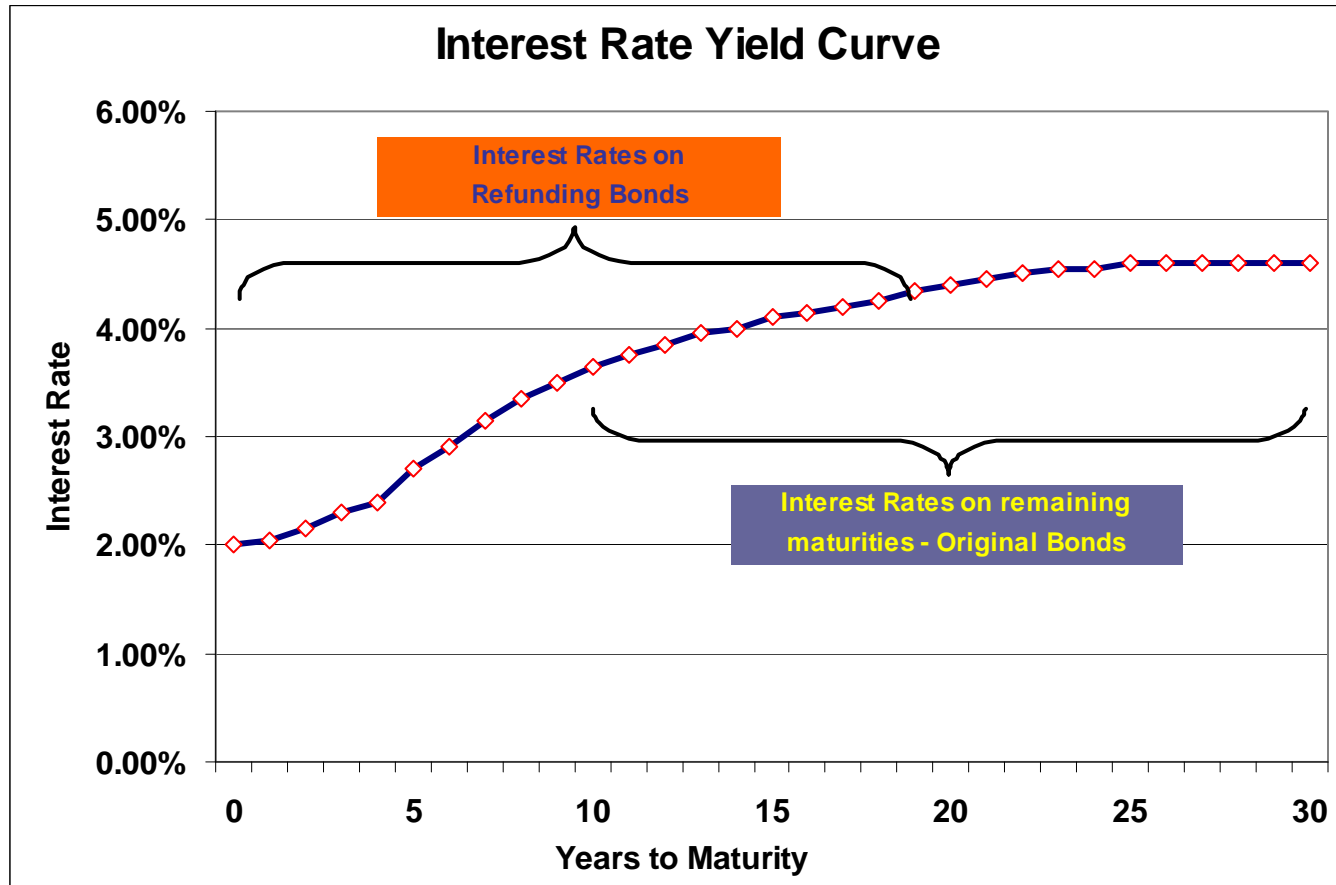


Relational Rates





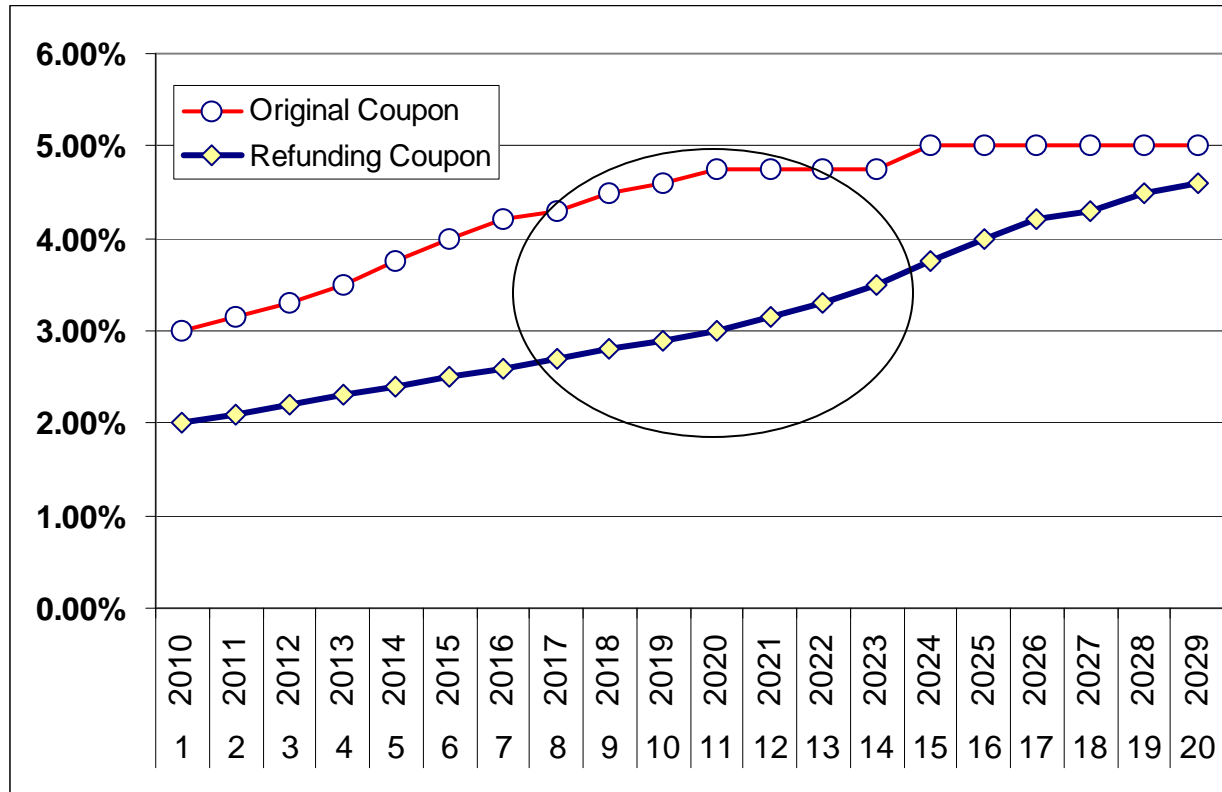
Rolling Down the Yield Curve





Partial Refundings

Sometimes, it works better to refund only those individual bonds that offer the greatest savings





Summary

- Smaller, infrequent issuers: follow the 3% rule, watch for major drops in rates and observe the “suits” rule.
- Moderately larger issuers: apply the 3% rule, perhaps with the “absolute savings” rule and “ride down the yield curve”.
- Larger, frequent issuers: perform the analysis necessary to value your option each time you sell callable debt.



Further Reading (Audience)

- *California Debt Issuance Primer* (Everyone)
California Debt and Investment Advisory Commission
- *Debt Issuance and Management – A Guide for Smaller Governments* (Smaller, infrequent issuers)
James C. Joseph
GFOA, 1994 (In Print)
- *Municipal Bonds – Planning, Sale and Administration* (Moderately-sized, more frequent issuers)
Lennox L. Moak
GFOA, 1982 (Out of Print – Try Amazon)
- *Inside the Yield Book – New Tools for Bond Market Strategy* (You'll know who you are!)
Sidney Homer and Martin Leibowitz
Prentice Hall, 1972



Questions and Discussion

Maturity = 20 years
 Par Amount = \$ 10,000,000
 Bond Yield to Maturity = 4.50 %
 Underwriting Spread (Fee) = 1 %

The following table shows that when a non-callable bond issue is priced at a premium or when a bond issue (regardless of whether it is callable) is priced at par (100%), the True Interest Cost is essentially the same.

Comparison of Non-Callable Premium Bonds to Bonds Sold at Par

	Non-Callable Bonds Sold at Premium	Bonds Sold at Par
Rate on Bonds	4.65 %	4.50 %
Price Sold to Investors	101.964 %	100.000 %
Yield to Maturity	4.50 %	4.50 %
Amount Paid by Investors	\$ 10,196,400	\$ 10,000,000
Less Underwriter's 1% Fee	(\$ 100,000)	(\$ 100,000)
Amount Paid to Issuer	\$ 10,096,400	\$ 9,900,000
True Interest Cost (TIC)	4.58 %	4.58 %

The following table shows that when a callable bond is priced to sell at a premium the price paid by the issuer (True Interest Cost) is significantly higher than on a non-callable bond.

Comparison of Callable Premium Bonds to Non-Callable Premium Bonds

	Callable Premium Bonds	Non-Callable Premium Bonds
Call Date	8 years	Non-callable
Rate on Bonds	4.65 %	4.65 %
Yield to Maturity	4.57 %	4.50 %
Yield to Call	4.50 %	N/A
Price Sold to Investors	100.998 %	101.964 %
Amount Paid by Investors	\$ 10,099,800	\$ 10,196,400
Less Underwriter's 1% Fee	(\$ 100,000)	(\$ 100,000)
Amount Paid to Issuer	\$ 9,999,800	\$ 10,096,400
True Interest Cost (TIC)	4.65 %	4.58 %