APPA
Accounting and Finance Spring Meeting

Life After Advance Refundings

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Discussion Topics

- Advance Refunding Description and Benefits
- Impacts of Recent Legislation
- Alternatives to Advance Refundings
- Actions to Consider for Future New Money
- Advance Refunding BABs and other Taxable Bonds
- Potential for Legislative or Regulatory Relief

Advance Refundings - Defined

- Tax Cuts and Jobs Act signed on December 22, 2017
- Authority to issue tax-exempt advance refunding bonds ended on 12/31/2017
- ***Advance Refunding*** is an issuance of New Tax-Exempt Bonds that refinance Existing Tax-Exempt Bonds, such that the New Bonds close and fund more than 90 days prior to the retirement of the Refunded Bonds
- Typically accomplished through the purchase of investments in an Escrow that will fund the remaining payments of the Old Bonds until they are mature or are called
- Two Sets of Tax-Exempt Bonds outstanding at the same time until the call date of the Old Bonds

Advance Refundings - Defined

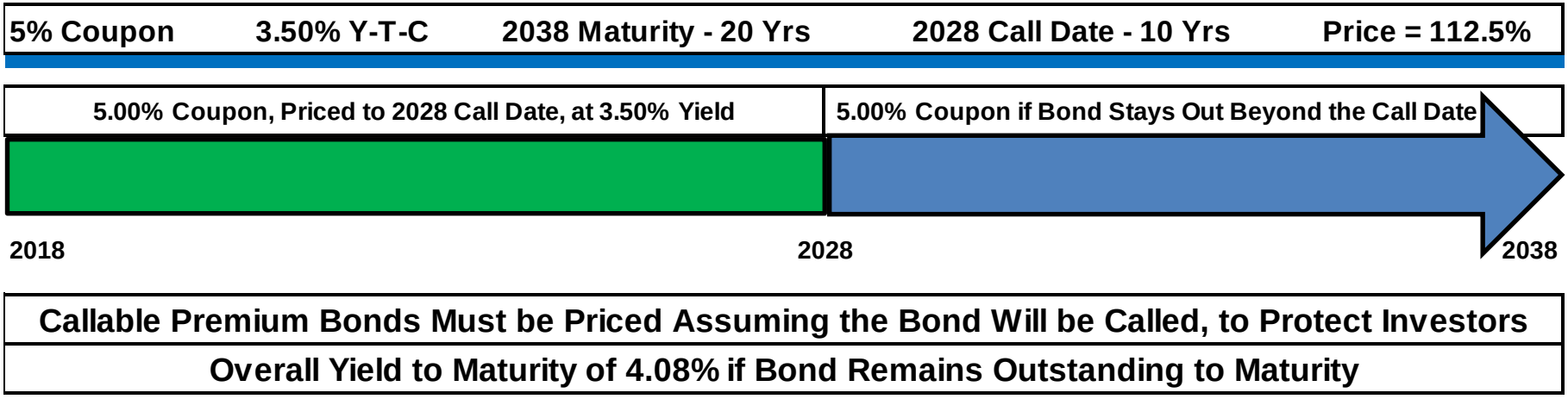
- In the past, most New Money Bonds were allowed one Advance Refunding. And the Advance Refunding Bonds could not be advance refunded again. Prior to 1986, there were no restrictions or advance refundings

- Bonds generally are allowed an unlimited number of tax-exempt Current Refundings, in which the Existing Bonds are retired within 90 days of the closing of the new tax-exempt bonds

Advance Refundings - Benefits

- Interest Rate Savings – capture “improved” market conditions in advance of actual call date of the bonds.
  - Prevailing 5% premium coupon structure with 10 year call date means high likelihood of “improved” market conditions even if rates go up

PREMIUM BOND: The Market Standard



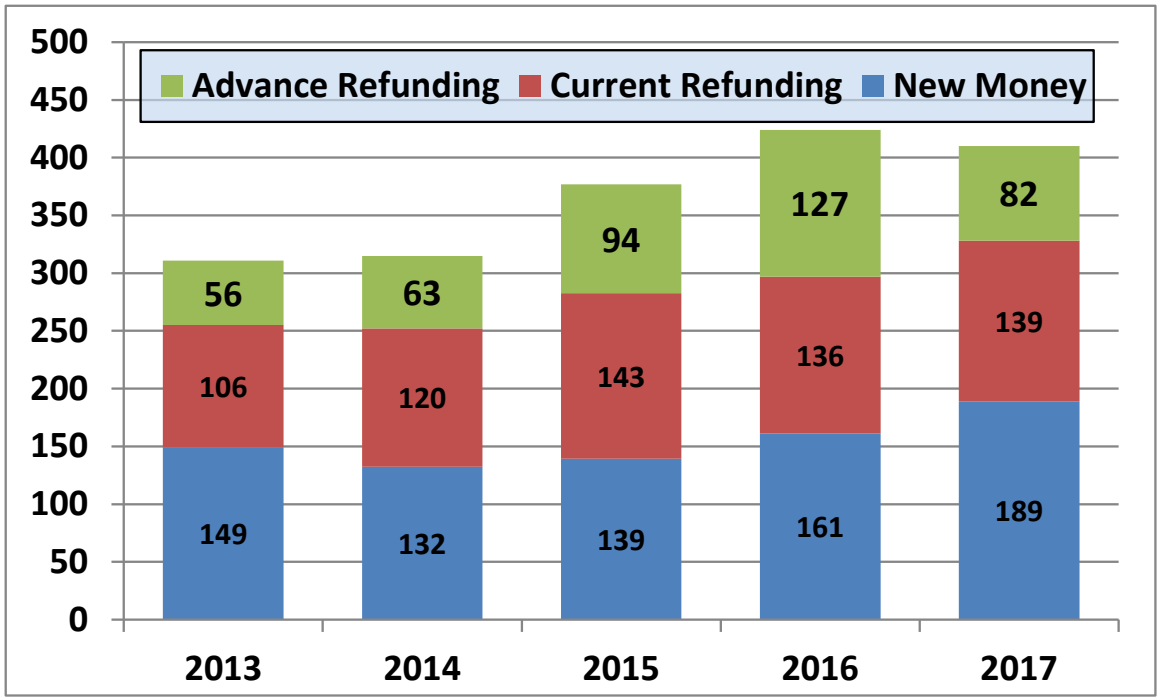
Callable Premium Bonds Must be Priced Assuming the Bond Will be Called, to Protect Investors

Overall Yield to Maturity of 4.08% if Bond Remains Outstanding to Maturity

Advance Refundings - Benefits

- Debt Restructuring – reshape debt repayment pattern
- Amend Bond Provisions – defease bonds with restrictive covenants
- Advance Refundings have been a Major part of the Muni Market

Estimated Annual Muni Issuance (in $ Billions)



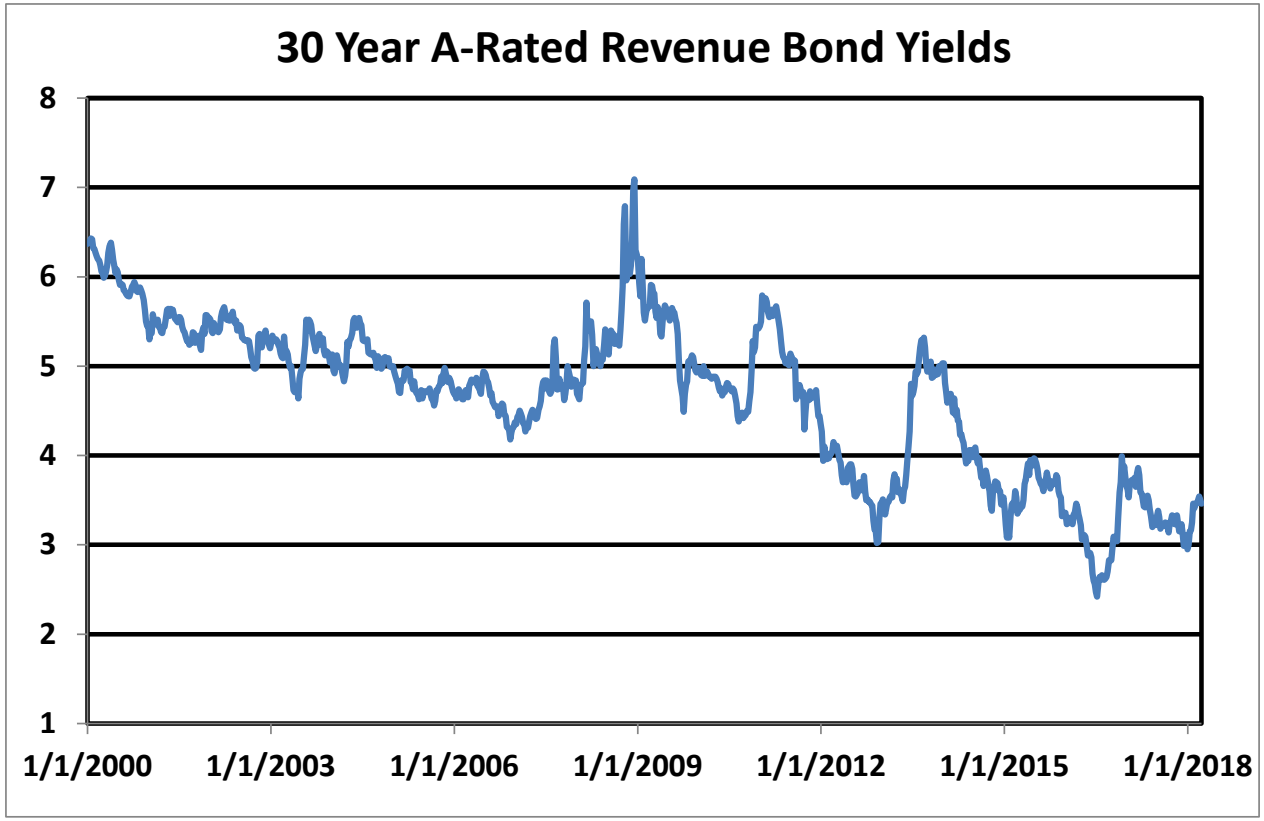
Nearly 25% of Volume has been Advance Refunding

Advance Refundings – Why Not?

- Back to the “Two Sets of Tax-Exempt Bonds”
- Advance Refunding and Refunded Bonds until call date
- Tax-Exempt Bonds cost the Treasury/Budget
- If $400Bn of TE Bonds had been issued as Taxable
  - 5% on $300Bn equals ~$15Bn in annual interest
  - Taxed at 35% equals ~$5.2Bn in annual foregone taxes
  - If refundings occur 5 years before call, ~$26Bn for each year’s volume
- Likely an major overstatement of Federal budget impact
- But an attractive, “defenseless” target for budget cutters

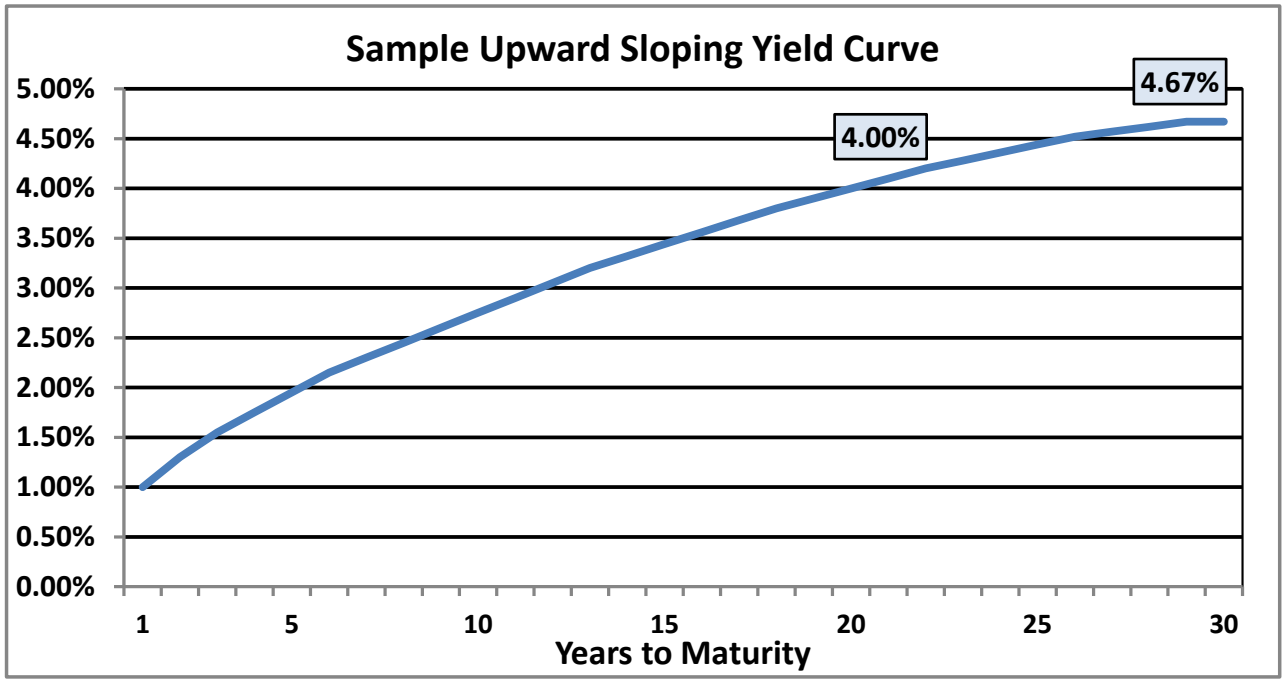
Advance Refundings – What Have We Lost?

- From an historical perspective, maybe not much
  - In a declining rate environment, patience is a virtue



Advance Refundings – What Have We Lost?

- From an historical perspective, maybe not much
  - In a stable market, patience is still a virtue
  - Delay means shorter refunding bonds and lower rates
  - Refunding rates “improve” as a function of shorter refunding maturity



Advance Refundings – What Have We Lost?

- As rates “normalize” and fluctuate in the future, issuers will lose the flexibility to capture market movements
- Reduced flexibility to use advance refunding for debt restructuring and bond covenant changes
  - However, many public power issuers have a very limited remaining “supply” of advance refundable bonds

Alternatives to Advance Refundings

- This is not a New Problem
  - Most public power issuers already have significant amounts of non-advance refundable debt outstanding
  - Many have already used alternative refinancing methods
- Option #1 - Patience
  - Just wait until ~90 days prior to the call date
  - From statistical and historical perspectives, issuers should be OK
  - Generally declining interest rate for the past 30 years
  - Upward sloping yield curve has been the norm

Alternatives to Advance Refundings

- Multiple Additional Alternatives
- But there are common tradeoffs among the alternatives
- Certainty versus expected savings
- Savings versus complexity and risk
- Greater expected savings are typically accompanied by uncertainty and risk

Alternatives to Advance Refundings

- Base Case Refunding Candidate Example:

$10 MM 20 year bond	~A Rated bond
5% coupon	**par call date in 5 years**
NPV discount rate of 3.75%	discount back to 7/1/2018

Savings on all examples will improve as you get closer to the call date

- Hypothetical Advance Refunding Potential

5% refunding bond coupon	**callable in 10 years**
3.25% yield to call for 20yr	**3.92% yield to maturity**
escrow invested at 2.70%	~$11 MM escrow cost

$356,000 NPV Savings or 3.56% of Par

- Negative Arbitrage has often been the savings killer
  - Borrowing at 3.92% and investing at 2.70% for five years
  - Adds ~$500,000+ to the cost of retiring the old bonds

Alternatives to Advance Refundings

- Wait Until the Call Date, and Current Refund

5% refunding bond coupon	**callable in 10 years (for 5 yrs)**
3.05% yield to call for 15 yrs	**3.55% yield to maturity**
90 days escrow at 1.00%	~$10.1 MM escrow cost

$1,200,000 NPV Savings or 12% of Par

- Yield to Call can go up over 1% and "Wait and See" will still outperform "Do It Now" Savings
  - No negative arbitrage cost
  - Benefit from shorter term refunding bonds
- But "Do it Now" is not a possibility any more

Alternatives to Advance Refundings

- Taxable Advance Refunding
  - And possible conversion back to tax-exempt in the future
- Tender Option – buy the bonds back in the market
- Forward Refunding or Sell Options on Forward Bonds
- Rate Lock and Financial Settlement
  - Various alternatives for reference index
- Forward Interest Rate Swap – “permanent” or “settled”
  - Various index, option and structure alternatives

Alternatives to Advance Refundings

- Taxable Advance Refunding

  4.1% refunding bond coupon ***non callable***
  4.1% yield to maturity 20 yrs
  Escrow at 2.70% ~$11 MM escrow cost
  $150,000 NPV Savings or 1.5% of Par

- Theoretical potential to refund taxable bonds in 5 years after the escrow, and refunded bonds, are gone
  - May be able to pick up a few extra % NPV savings
  - Using optional call, make-whole call or market buy-back
  - Very difficult to predict savings or availability
  - Or sell taxable bonds with an optional call (at a higher rate)
  - Possible automatic conversion to tax-exempt in 5 years under "Cinderella" bond structure

Alternatives to Advance Refundings

- Tender Option – buy bonds back in the market
- A bond issue in reverse, or “fishing for bonds
- For large balances – get ¼ to ½ of the bonds at prices that are 2% to 4% above “fair” market prices
- More complex and difficult to predict results
- Savings typically less than advance refundings, and only on roughly half or less of the bonds purchased
- Disclosure regulations often require issuers to inform investors of their “intentions”
  - Investors often have the upper hand in the pricing “poker game”

Alternatives to Advance Refundings

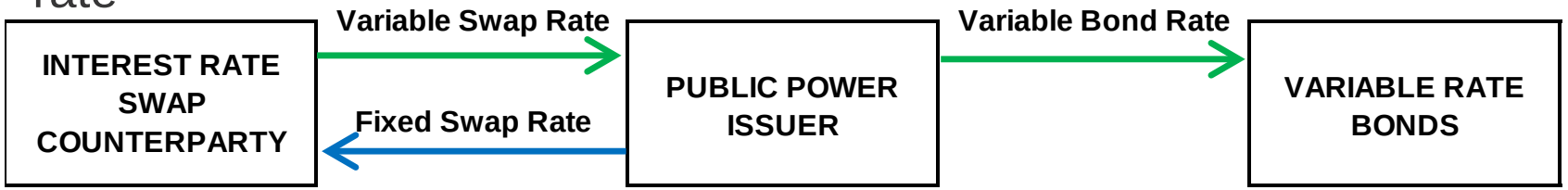
- Forward Refunding
- Agree today to sell current refunding bonds on allowable delivery date, at predetermined price, yield, structure
- Investors agree to buy “forward” bonds in the future at rates based on current market rates
  - As a practical matter, 1 yr forward is as far as most investors will go
  - Only large, well-established investors will be eligible
  - Additional “forward rate premium” compensates investors for: (a) foregone income, (2) illiquidity, (3) hassle factor
- Very rough forward premium estimate of 6-10 basis points per month in advance of delivery (~0.50% for 6 months)

Alternatives to Advance Refundings

- Sell Options on Forward Refunding
- Sell investors an option to buy current refunding bonds on allowable delivery date, at preset price, yield, structure
- Rate on the new bond often set to provide breakeven savings relative to the existing bond – an above market rate
  - Investor pays a premium for the above market bond
  - The payment becomes the refunding savings
  - Issuer gets savings up front
  - But may have to give them back if future bonds can't be issued
  - If rates rise, investors don't exercise the option, issuer keeps savings
  - Tax law constraints on option price
- Limited investors, complex structure

Alternatives to Advance Refundings

- Interest Rate Swaps and Options (the “D Word”)
- Enter a “swap” contract where the issuer agrees to exchange a fixed annual payment starting on the future current refunding date, and the counterparty agrees to pay a variable payment linked to the rate on the future variable rate current refunding bonds – producing a net fixed rate



VARIABLE PAYMENTS NET OUT TO PRODUCE NET FIXED RATE

3.0% fixed swap + costs — ***economically non callable***
3.0% yield to maturity 20 yrs
90 day escrow at 1.00% — ~$10.1 MM escrow cost

$1,700,000 NPV Savings or 17.0% of Par

Alternatives to Advance Refundings

- Forward Swaps can Produce high **EXPECTED** Savings
- But several things have to go right for a long time:
  - counterparty performance
  - variable swap/bond rates
  - variable rate issuance
  - variable rate credit support
  - issuer continued performance and credit strength
- Multitude of variations on the theme:
  - variable rate bond structures
  - call features
  - issuer credit terms
  - swap rate indices
  - counterparty enhancement
  - etc., etc., etc.
- Swaps slowly coming back in the muni market
  - Still commonplace on the corporate market

An Alternative to the Alternatives

- Cash Optimization
  - Managing the balance sheet to make the most efficient use of cash and tax-exempt debt borrowing capacity
- If revenues are typically used for capital expenditures that qualify for tax-exempt bond funding….
- Then bond funding of these capital expenditures can free up cash to be used to defease higher cost debt
- The economics can be very close to advance refunding
- But these must be two separate transactions and must not be considered an advance refunding for tax purposes

An Alternative to the Alternatives Cash Opt

- Certain conditions required to maintain “separateness”
- One feature is separation in time
  - As defined by tax counsel
- Separation of bond defeasance from new money issuance introduces interest rate and execution risk
  - Defeasance first – rates can go up on the new money issue, or conditions may prevent issuance
  - Bonds first – defeasance costs may go up
- Records should reflect that the transactions are separate

An Alternative to the Alternatives – Cash Opt

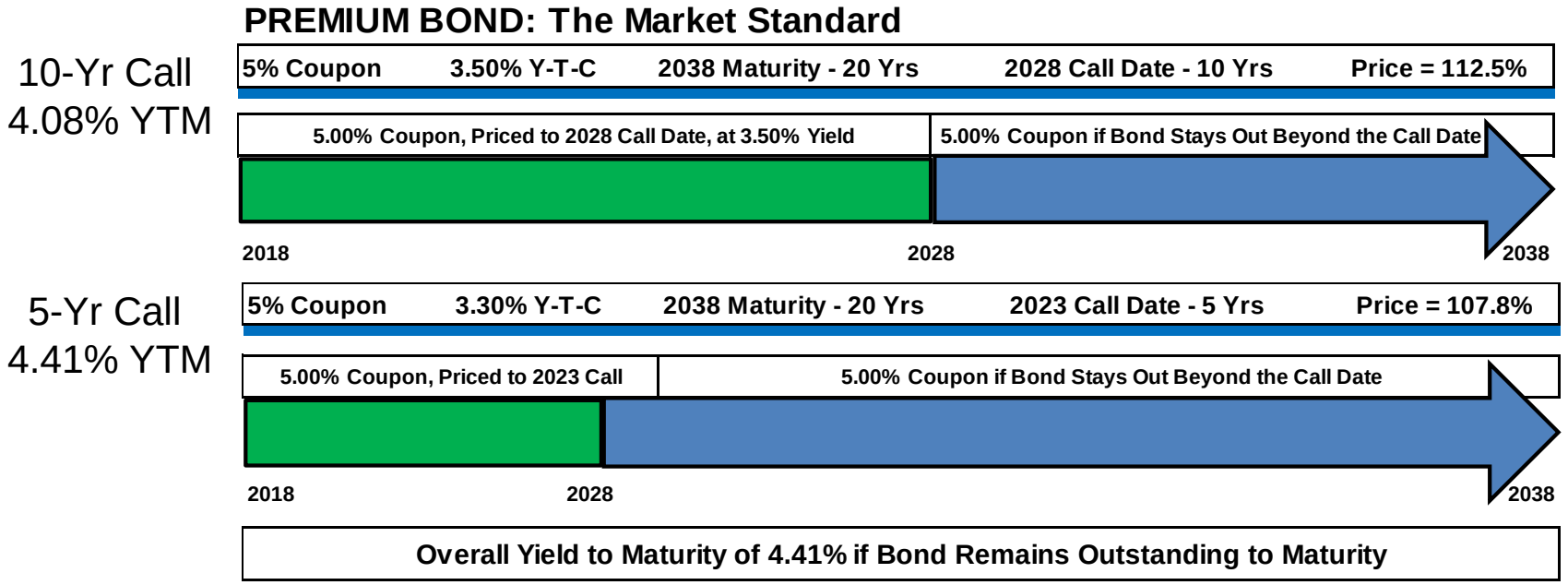
- Other transaction separation criteria
- Important to consult with tax counsel
- Reimbursement approach
- And of course, you need to have the ability/plan to cash fund certain amounts of capital expenditures
- Typical for retail utilities, but not for joint action agencies

Looking to the Future – Options for New Money

- Variable Rate Bonds
  - Generally callable at almost any time
  - Very flexible restructuring potential
  - But inescapable interest rate, market, credit, structure risks
  - Interest rate risk can be mitigated (swaps and investment offsets)
- If long rates continue to increase, we will likely see more reliance on variable rate structures
  - There is still a concern with Dodd-Frank MM reform
  - The market has adjusted to MM reform – by shrinking
  - Bank Loan/DP cost increases may put pressure on variable rates

Looking to the Future – Options for New Money

- Shorter Call Provisions – shorter than 10 years
  - Surprisingly easy to sell in most market conditions
  - But for a reason – the 5% premium bond structure
  - Short call means lower price to call and higher YTM
  - If the bond stays out to maturity it will cost more in yield



Looking to the Future – Options for New Money

- Shorter Call Provisions – shorter than 10 years
- Paying a higher YTM for a shorter implies a belief in steady to lower rates in the future
- So why not go all the way and sell a shorter bond for a much lower rate?
- Common in the corporate market
  - Has provided a nice advantage to IOUs for the past 30 years
  - They may have had comparable borrowing costs to munis
- Rating agencies will have something to say about shorter debt and increased variable rate debt

Looking to the Future – Options for New Money

- Tender Friendly Bond Structures
- Larger Term Bonds instead of serial bonds
- Less emphasis on retail placement
- More active involvement in the secondary market
- But major changes are unlikely

Looking to the Future – Options for New Money

- Greater use of “Make-Whole” call structures
- Allows issuers to call bonds almost immediately, but at a market based price that is very protective on investors
  - Call price will generally decline over time, and
  - Higher prices if rates decline, lower if rates rise

Sample Make Whole call price for a bond sold at a price of ~111%

Market Move (BP)	MMD Yield	Call Price
-50	2.50%	121.999%
-40	2.60%	121.014%
-30	2.70%	120.039%
-20	2.80%	119.073%
-10	2.90%	118.116%
0	3.00%	117.169%
10	3.10%	116.230%
20	3.20%	115.301%
30	3.30%	114.380%
40	3.40%	113.468%
50	3.50%	112.565%

- Unlikely to be an economic substitute for advance refundings

Looking to the Future – Options for New Money

- Make-Whole calls are more likely to be an expensive flexibility tool, as opposed to a cost effective tool to capture interest rate savings
- There is not widespread investor comfort for Make-Whole calls in the muni market, and issuer-friendly provisions are likely to affect bond pricing
- Larger numbers of investors are likely to gain comfort over time, as most Make-Whole provisions are favorable to investors

Advance Refundings – Clarifications

- Additional guidance on Legislation would be helpful
- Refundings of Build America Bonds
- Refunding of Taxable Bonds
- Cinderella Bonds

Legislative and Regulatory Possibilities

- Legislation to return to pre-2018 Law
  - Hultgren Bill
  - More limited legislative relief (half a loaf)
- Possible help from Treasury/IRS
  - Advance refundings with a “toll” charge
  - Advance refundings with escrow invested in other tax-exempt bonds
  - Advance refunding with a “tax-exempt” SLGs program
  - Can Treasury/IRS do any of this without legislation?

Summary and Questions