Taxable Advance Refundings: A Critical Examination

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Outline

• What’s advance refunding
• Case study: Massachusetts School Building Authority
• The timing decision
• How to reduce borrowing cost
What’s Advance Refunding?

- Outstanding bond: tax-exempt, not-yet-callable, has above-market coupon
- Municipality issues refunding bond
  - Tax-exempt bonds no longer allowed (Tax Cuts and Jobs Acts of 2017)
  - Taxable bonds are allowed, at a considerably higher cost
- Proceeds invested in a Treasury escrow, to defease outstanding bond
  - Escrow cashflows match those of outstanding bond to the call date
  - Outstanding bond retired on the call date
- Municipality reports **savings**: difference between cashflows of outstanding and replacement bond
Massachusetts School Building Authority Advance Refunding*

- On November 6, 2019 MSBA issued $715,420,000 *taxable* bonds; TIC 3.243%
- Proceeds used to advance refund tax-exempt bonds issued in 2011
  - Callable at par in 2021, coupons not reported (probably 5%)
- Net present value savings: $135,173,788; *over 18% of refunded principal*
  - Annual savings $9MM; undiscounted savings $192,537,622
  - Interest earned by escrow $444,721 *(0.06% of principal of refunding bonds)*
- Book running manager Bank of America; municipal advisor PFM

*Missing from press release:*

> Cost of issuance (underwriting, advisory, legal, etc.) $4MM
> Forfeited option value $180MM, *value wasted* $45MM

* MSBA 2019 Series B Taxable Advance Refunding Bonds – Final Results
Life-Cycle of 5% Bond Callable at Par in Year 10 at Par

- Municipality acquires call option at issue; cost depends on prevailing rates
  - E.g.: price of 30-year callable bond 120, ‘price’ of optionless bond 145, **cost of option 25 points**
- Advance refunding (with taxable bonds) locks in cashflow savings
  - MSBA saved 18% NPV
- Advance refunding forfeits **option to refund beyond call date**
  - Forfeited option value 24%, not mentioned
  - Net loss: 24% - 18% = 6%, or $6MM per $100MM principal
  - Brainteaser: Who benefits from the waste?
- **Refunding Efficiency: Savings/Forfeited Option Value**
  - 18/24=75% , too low
Waiting to Call vs. Advance Refunding Now ($100MM Par Amount)

$24MM Savings from Taxable Refunding of 5% Bond Now at 3.05%

- Current Tax-Exempt Rate 2.50%
- Breakeven ($24MM) at T/E Rate of 3.30%

Change in 20-Year Tax-Exempt Rate (bps)

Savings in Today's Dollars ($MM)
Refunding Efficiency with 22-Year 3.05% Taxable Bullet

Current T/E Par Coupon 2.55%
How to Improve the Refunding Decision

• Consider forfeited option value
  • Use refunding efficiency (savings/option value); set threshold well over 90%

• Avoid using NPV savings threshold, such as 3% or 5%
  • Unsuitable for 5% bonds; call option deep in the money at time of issuance

• Utilize industrial-strength analytics
  • Convert 5% NC-10 yield curve into interest rates
  • Use correct discount rates to determine NPV
  • Select sensible interest rate volatility to value call option

*Is the MSRB certification of municipal advisors adequate?*
*How about the GFOA ‘best practices’ for refunding municipal bonds?*
How to Reduce the Cost of Borrowing
*Debt Management Is a Cradle-to-Grave Process*

5% Non-Call-10 Bonds: Increase Call Prices

- Defect of par call: **refund even if rates increase**
  - Task: find 5% bonds older than 10 years
  - Refunding generates huge savings, transaction costs accumulate

- Solution: set call prices so high that **refunding is beneficial only if rates decline**
  - Results in higher bond prices and lower transaction

*Other Possibilities for Tax-Exempt Bonds*

- Ratchet bonds (TVA PARRs)
  - When rates fall, **coupon declines automatically and at no cost**; it never increases

- Optionless bonds
  - **Lower expected cost** than that of callable bond
References

**Book**
Interest Rate Risk Management of Municipal Bonds, *Andrew J Kalotay, 2021*

**Academic publications**
Callable Tax-Exempt Bonds Are Too Costly, *Journal of Fixed Income, Forthcoming*
Life Without Advance Refunding, *Municipal Finance Journal, 2018*
Optimum Bond Calling and Refunding, *Interfaces, 1979*
Subsidized Borrowing and the Discount Rate, *Municipal Finance Journal, 1999*

**Trade press**
You Haven't Heard of Ratchet Bonds? *Bond Buyer, June 8, 2020*
There Is Hidden Value for Investors in Callable Taxables, *Bond Buyer, March 4, 2020*
Are Taxable Advance Refundings Leaving Money on the Table? *Bond Buyer, November 8, 2019*
Win Smith, Taming Premium Bonds, *Bond Buyer, August 10, 2016*