Taxable Advance Refundings: A Critical Examination

BROOKINGS

2022 Municipal Finance Conference

July 19, 2022

Andrew Kalotay

Kalotay Advisors

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***

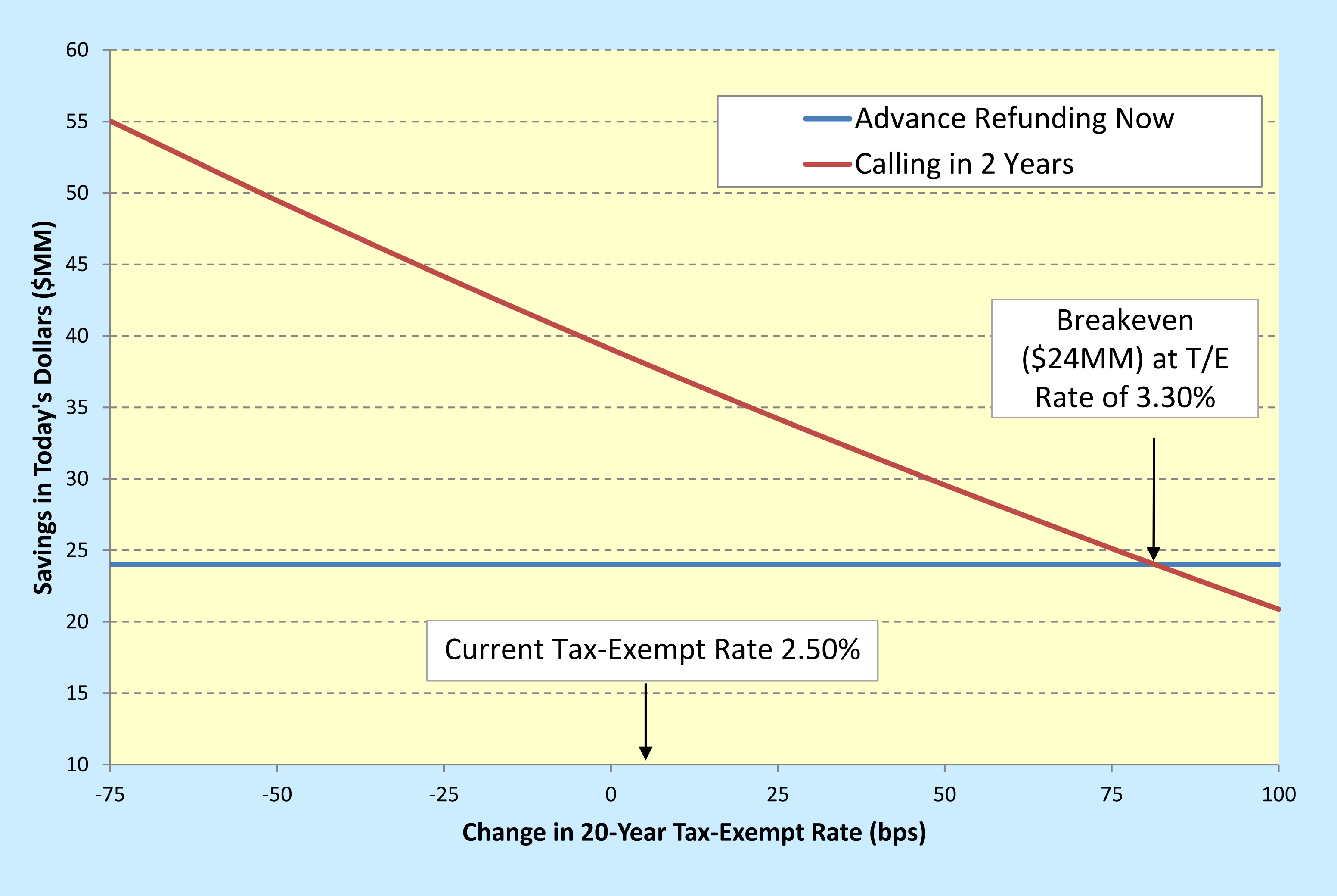
* MSBA 2019 Series B Taxable Advance Refunding Bonds – Final Results

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

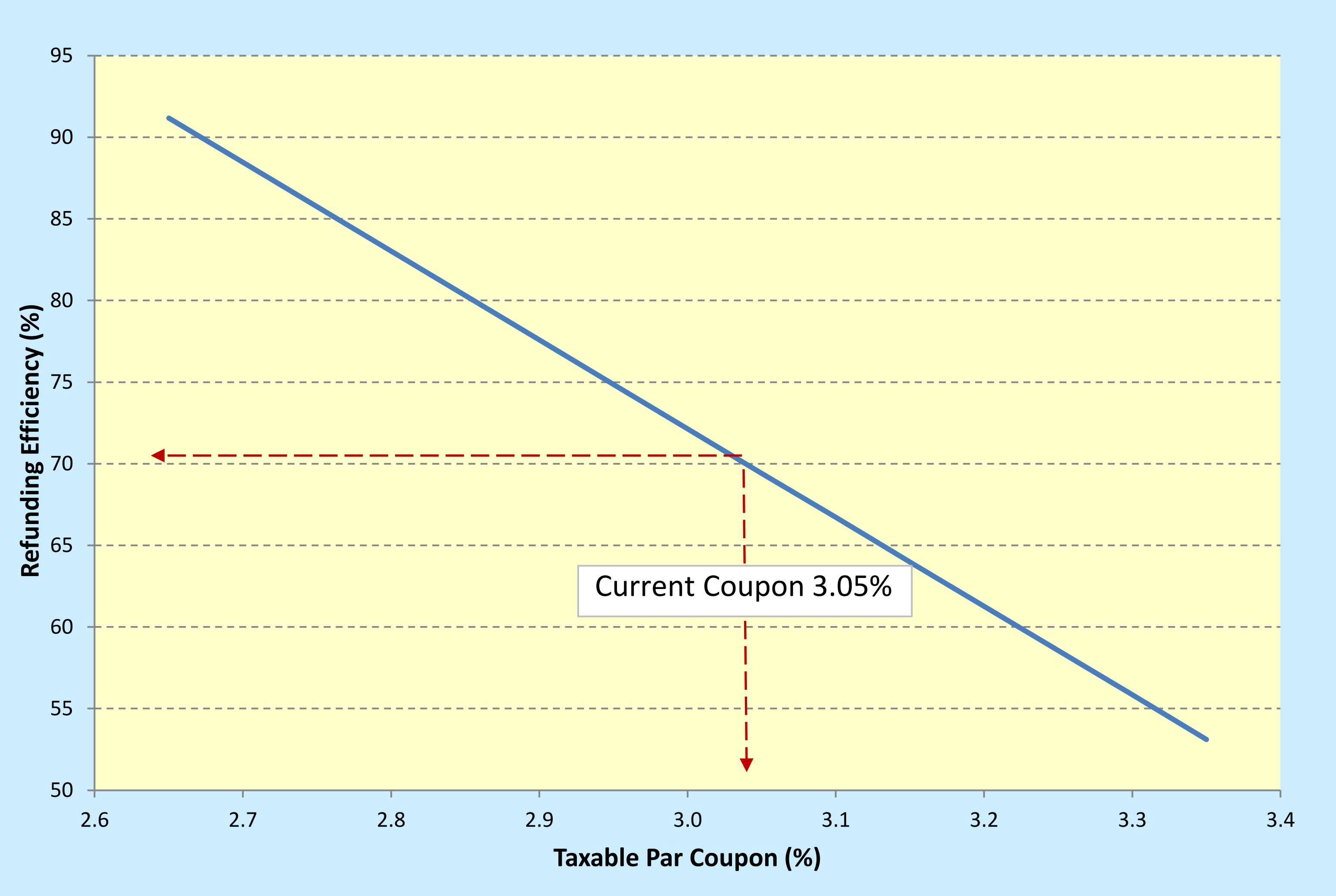
Waiting to Call vs. Advance Refunding Now ($100MM Par Amount)

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



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 volatili**ty 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*

Taxable Advance Refundings: A Critical Examination, *Municipal Finance Journal, 2021*

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*