

Taxable Advance Refundings: A Critical Examination

BROOKINGS

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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

*> Option wasted : **\$30MM***

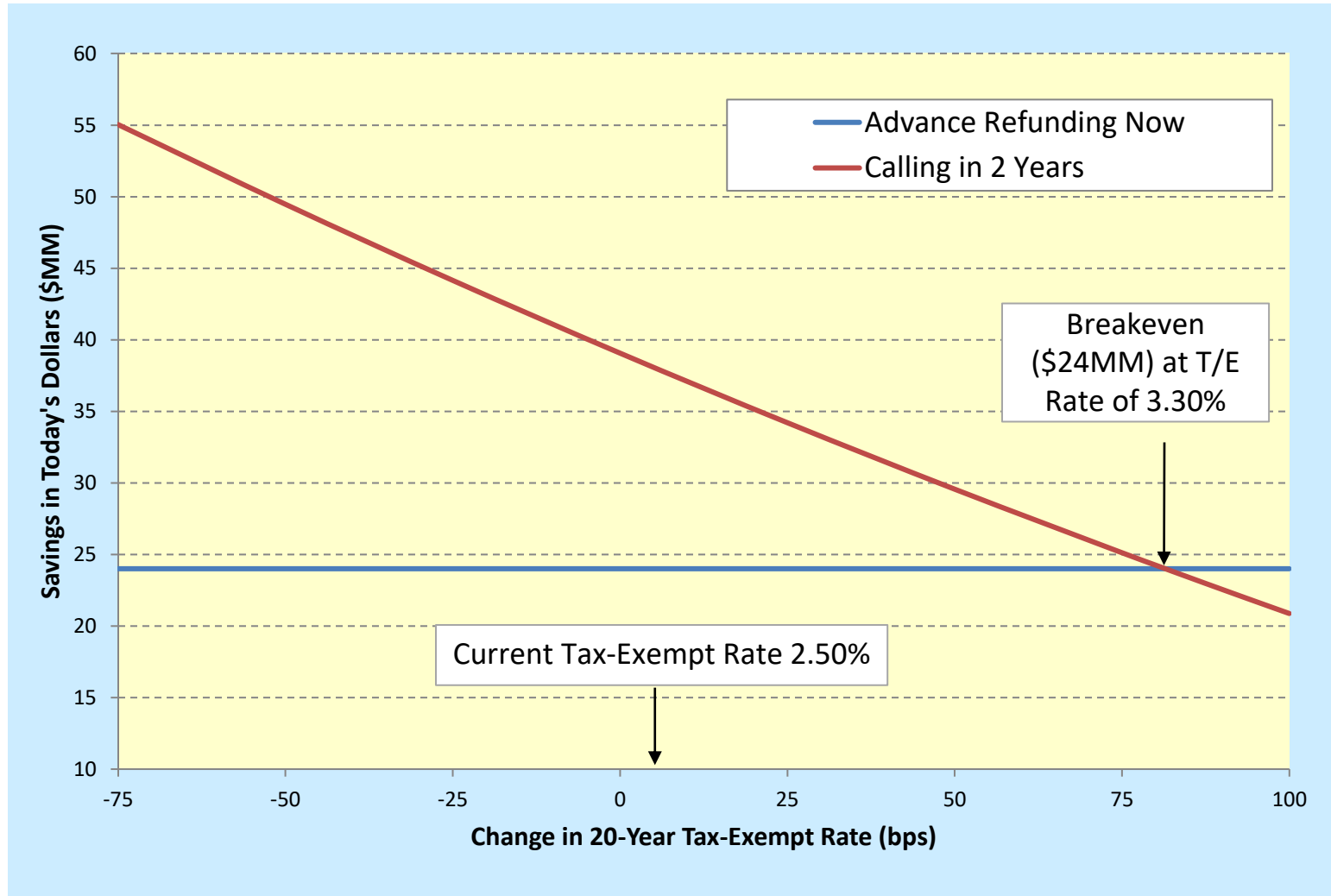
* MSBA 2019 Series B Taxable Advance Refunding Bonds – Final Results

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 26%, not mentioned
 - **Net loss: 26% - 18% = 6%, or \$6MM per \$100MM principal**
 - Brainteaser: Who benefits from the waste?
- **Refunding Efficiency: Savings/Forfeited Option Value**
 - $18/26=69\%$, pathetically low

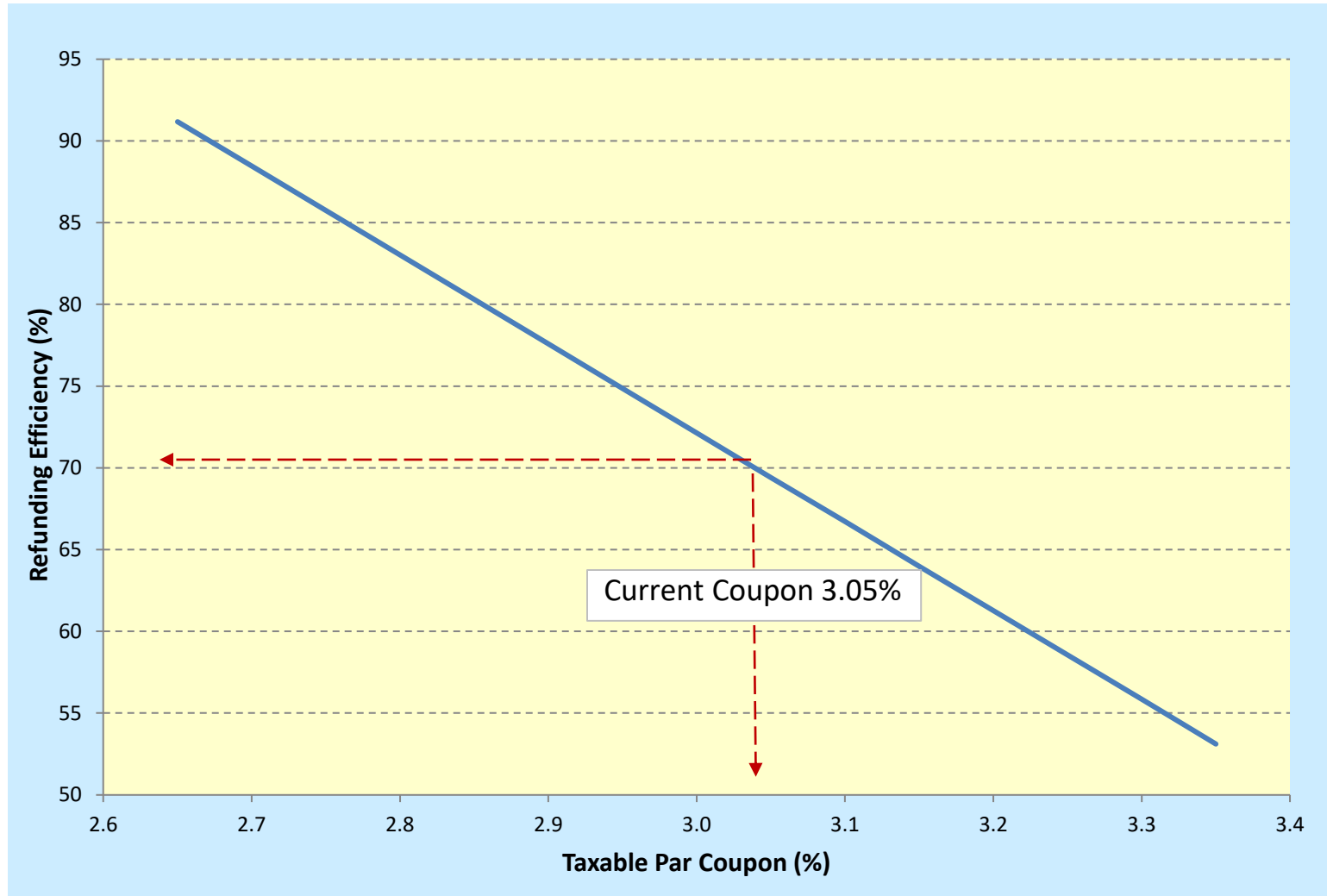
Waiting to Call vs. Advance Refunding Now (\$100MM Par Amount)

\$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 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

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