

LIFE WITHOUT ADVANCE REFUNDING

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KalotayAnalytics

FIXED INCOME INNOVATION, PRECISION & PERFORMANCE

How Did Advance Refunding Work?

For Not-Yet-Callable Issue With Above-Market Coupon

- 1 Sell replacement issue
- 2 Buy escrow of Treasury bonds with proceeds to defease outstanding issue to call date

Outstanding issue redeemed on call date

Example:

- *Outstanding issue: 5% coupon, 25 years to maturity, 5 years to call*
- *Current 25 year rate 4%, Yield of 5-year T escrow 3%*
- *Cost of leaving issue outstanding to maturity: 115.71 (based on 4% current rate)*
- *Cost of escrow: 109.22 (based on 3% Treasury yield)*
- *Savings: 6.49% of par (115.71 – 109.22)*

Advance refunding resulted in proliferation of tax-exempt bonds — two issues supporting the same project until the call date



The Way We Were

- Dominant bond structure: 5% NC-10 at par
 - *Sold at significant premiums over par*

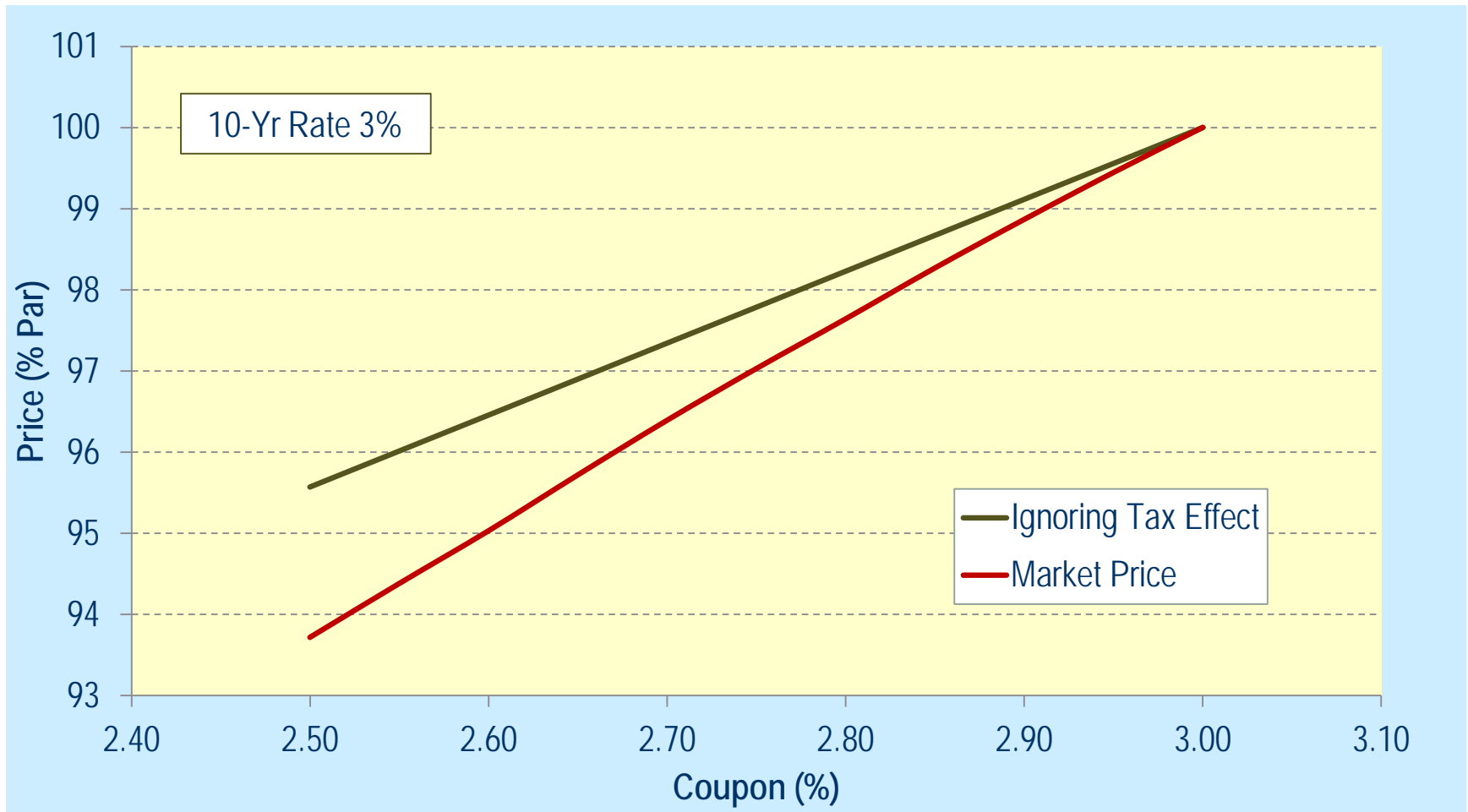
- 5% coupon minimized likelihood of price falling below par
 - *When rates rise, discounts underperform premiums (the so-called de minimis effect)*

- 5% NC-10 at par tailor-made for advance refunding
 - *Issuers: substantial savings appealed to constituents*
 - *Investors: benefited from premature option exercise and resulting AAA rating*
 - *Primary market infrastructure: churning produced revenue stream*

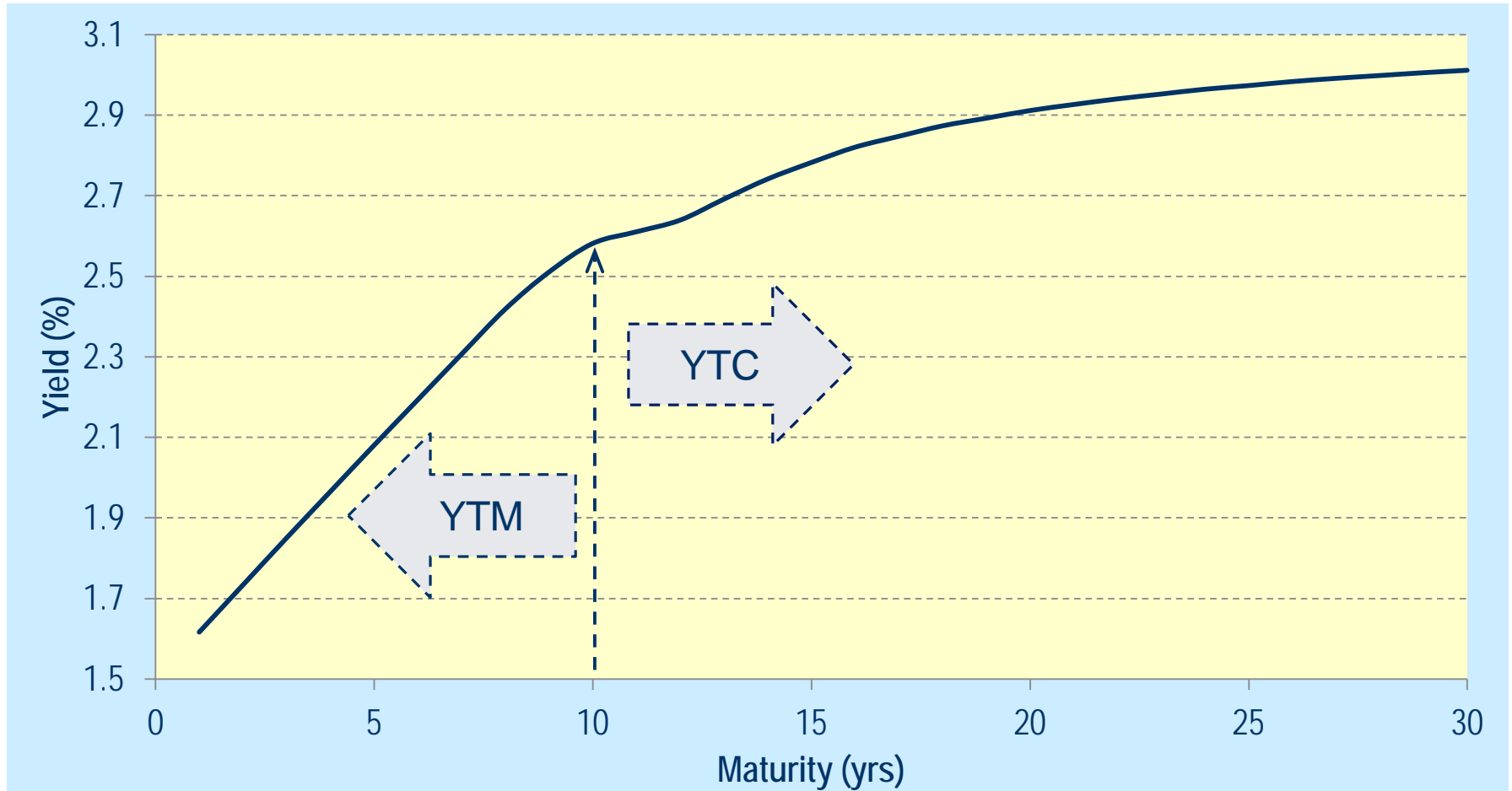


Tax at Maturity Depresses Prices of Discount Munis

10-year Bonds of Various Coupons



5% NC-10 Yield Curve Became the Benchmark



Source: MBIS May 29, 2018



The Advance Refunding Feature Provided Value

- *Free option to the issuer*
 - *Investors charge only for the call option (lower price/higher coupon)*
- *Worth roughly 1% of the proceeds*
- *Reduced the cost of long-term borrowing by roughly 3 bps*
 - *Assuming optimal refunding*

Without advance refunding the cost of long-term municipal debt will be higher, possibly by as much as 3 bps

Value lost can't be restored by proposed alternatives, such as forward swaps, forward delivery bonds, Cinderella bonds



Life Without Advance Refunding

- Call protection less than 10 years
 - *Primary market infrastructure wants action*
 - *Issuers desire flexibility*



Life Without Advance Refunding (continued)

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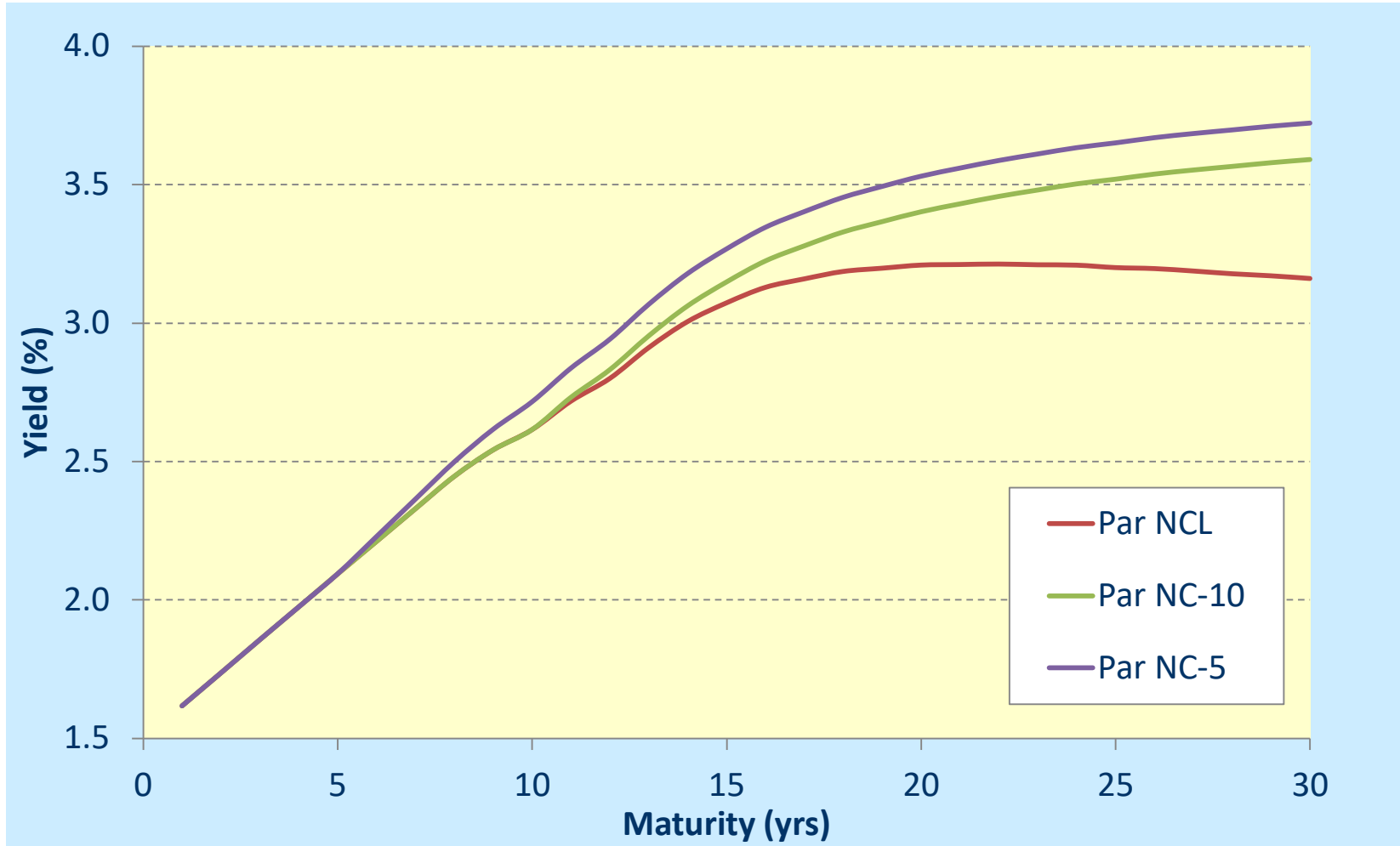
- New yield curves
 - *5% NC-10 will not suffice*



The Shape of Things to Come



The Shape of Things to Come (Part 2)



Life Without Advance Refunding (continued)

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- Option-based analytics critical for debt management
 - *Why continue to be the laggard of the fixed income markets?*
 - *“Munis are different” is a poor excuse*



Calling It Right: Refunding Efficiency

Used for Corporate Bonds Since 1976

$$\text{Refunding Efficiency} = \frac{\text{Cashflow Savings}}{\text{Net Loss of Option Value}}$$

Act at or near 100% (maximum)



Muni Advisors Will Feel the Heat

- Must use option-based analysis
 - *Rules of thumb to trigger refundings not adequate — they never were*
- Relying on TIC to choose best deal not acceptable — it never was
 - *To compare bonds with different coupons and call protection periods, use option-adjusted TIC*
- Series 50 syllabus should be updated to include option-based analysis — long overdue

