



# Escrow Optimization with an Inverted Yield Curve

## Structured Products Group

Matthew Eisel, CFA, Managing Director  
John Crotty, Director  
Sarah Good, Senior Analyst

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PFM Financial Advisors LLC  
pfm.com

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1735 Market Street  
42<sup>nd</sup> Floor  
Philadelphia, PA 19103  
(215) 567-6100

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[pfm.com](https://www.pfm.com)



## Basics of Escrow Structuring and Procurement

- ◆ What is an escrow?
  - Portfolio of securities pledged to pay debt service on a specific set of liabilities.
- ◆ Why are escrows important?
  - Escrow yield is one of the two major drivers of savings on a refunding transaction.
  - Appropriate strategy might save millions of taxpayer dollars.
- ◆ What are “SLGS”?
  - United States Treasury Securities, State and Local Government Series (SLGS).
    - Designed to help issuers comply with arbitrage regulations while having easy access to Treasury securities.<sup>1</sup>
    - Purchased directly from U.S. Treasury Department via SLGSafe System.
      - Time Deposit (fixed rate).
      - Demand Deposit (variable rate and tax-exempt).
- ◆ Open-market securities are purchased in the secondary market from broker-dealers.
  - Important to run a competitive bidding process and show evidence of fair market value purchases.

<sup>1</sup> Source: [Treasury Direct](#), *About the State and Local Government Series Securities*.

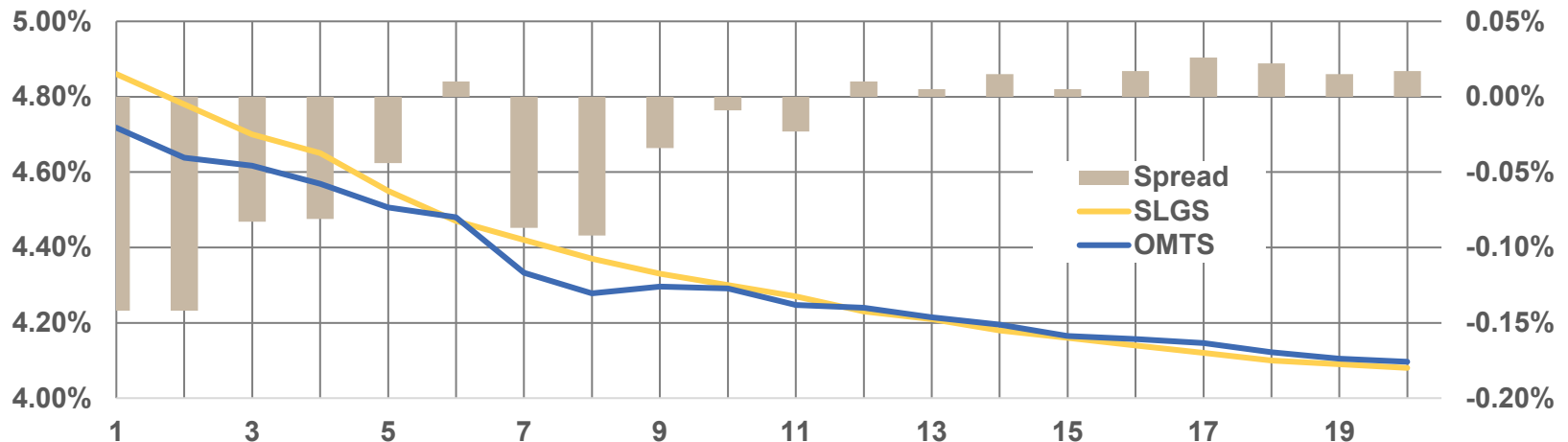


# Understanding SLGS and Open-market Treasuries



## Relationship Between Open-market Treasuries and SLGS

- SLGS rates are set daily by 10:00 a.m. Eastern and are fixed for the day regardless of market conditions.
- **SLGS Rate Interpolation**
  - The SLGS Regulations state that SLGS yields are set one basis point below open-market Treasuries, but the spread varies considerably due to a number of technical factors.
  - Interpolation of the SLGS curve is imperfect and should be carefully monitored.
- Open-market securities trade throughout the day and vary in yield – sometimes considerably.
  - The relationship between SLGS and open-market securities can dictate the optimal investment strategy for issuers.



Source: Bloomberg, yields as of October 24, 2024.



## Relationship Between Open-market Treasuries and SLGS (cont.)

- Intraday volatility can materially alter the spread between open-market Treasuries and SLGS.



Source: Bloomberg.



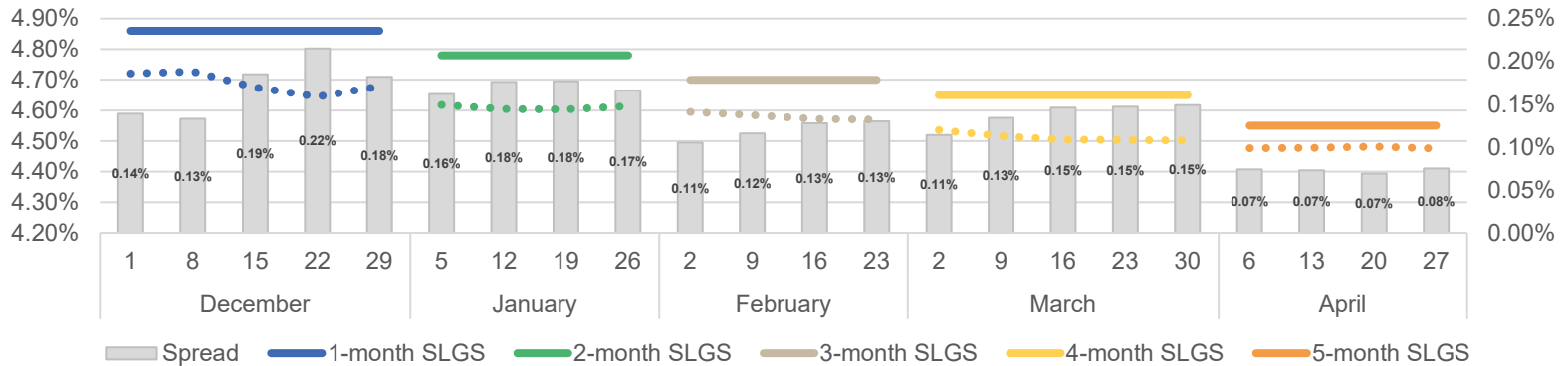
## Poll Question #1

- ◆ It is crucial to understand the relationship between SLGS and open-market securities in order to determine the optimal investment strategy for an escrow.
  - A. True
  - B. False



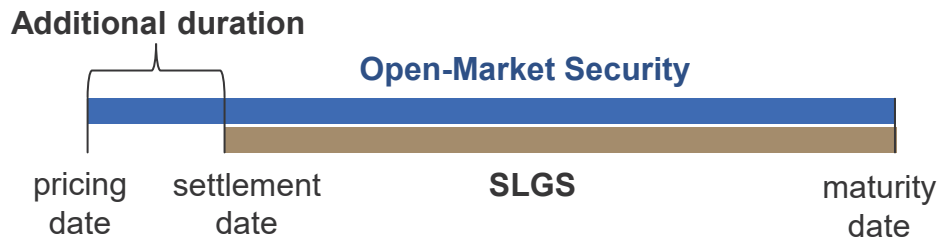
## Maturity Considerations – Comparing Apples & Oranges

- With the current inverted yield curve, the “maturity buckets” of SLGS may provide benefit relative to open-market securities. The opposite is true in a normal, upward sloping yield curve environment.



### “Phantom” duration from gap between pricing and settlement dates

- Due to the forward settlement of escrow security purchases, open-market securities often provide incremental yield compared to comparable maturity SLGS in an upward sloping (“normal”) yield curve environment.
- Opposite effect from the current yield curve, which is inverted.



Source: Bloomberg, rates as of October 24, 2024.



## Escrow Pricing – Impact of Forward Settlement

- **Example #1:** Two-year Treasury Note for one month forward settlement in an inverted yield curve environment.
- Opposite impact in an upward sloping (“normal”) yield curve environment.

T 1 1/4 11/30/26 Govt | 1) Send (VCON) | Forward Pricing Analysis

Type B/S Trade Date 10/30/24 CUSIP 91282CDK4 ISIN US91282CDK45

1) Forward Pricing Analysis 2) Forward Breakeven Pricing Table

**Trade Information**

Settlement Date 10/31/24  
 Settlement Price 94-12 1/4  
 Settlement Yield 4.091616  
 Repo Rate (ACT/360) 4.88%  
 Face Amount 1000M  
 Termination Date 12/02/24  
 B/E Repo Rate 4.88000

Bump Dates for Weekends/Holidays  
 Reinvest Coupons  
 Comp Method  CD  Proceeds  Scientific

Term (# Days) 32

**Profit/Loss Analysis**

Spread bp  
 Net Profit/Loss  
 Forward Price 94.685164 94-21 7/8  
 Price Drop -0.302351 -0-09 5/8

**Invoice Payment**

Settlement 949,053.53  
 Termination 946,920.32  
 Net Change -2,133.21

Fwd Yld Street 4.050676  
 Yield Drop 4.0940bp

Notes





## Escrow Pricing – Impact of Forward Settlement (cont.)

- **Example #2:** Three-month Treasury Bill for five months forward settlement in an inverted yield curve environment.
- Again, opposite impact in an upward sloping (“normal”) yield curve environment.

B 07/10/25 Govt | Send (VCON) | Forward Pricing Analysis

Type B/S Trade Date 10/30/24 CUSIP 912797LW5 ISIN US912797LW51

1) Forward Pricing Analysis 1) Forward Breakeven Pricing Table

Trade Information

Settlement Date 10/31/24

Settlement Discount 4.13

Settlement Yield 4.286682

Repo Rate (ACT/360) 4.88%

Face Amount 1000M

Termination Date 04/01/25

B/E Repo Rate 4.88000

Term (# Days) 152

Profit/Loss Analysis

Spread bp

Net Profit/Loss

Forward Discount 3.204443 3-06+

Price Drop -2.000877 -2-00

Discount Drop 0.925557

Fwd Yld Street 3.278128

Yield Drop 100.8554bp

Notes

Invoice Payment

Settlement 971,090.00

Termination 991,098.77

Net Change 20,008.77

Bump Dates for Weekends/Holidays  
 Reinvest Coupons  
 Comp Method  CD  Proceeds  Scientific



## Poll Question #2

- ◆ Forward settlement of open-market security escrows hurts pricing in an inverted yield curve environment and helps pricing in a normal, upward sloping yield curve environment.
  - A. True
  - B. False



## Potential Value In Escrows From Other Sectors

- **Permitted investments for escrows tend to be very conservative and are often limited to direct obligations of the U.S. Government, but consider other options if permitted:**
  - **Government Sponsored Enterprises (GSEs) – often referred to as “Agencies”.**
    - Usually created by an act of Congress and includes obligations of Fannie Mae, Freddie Mac, the Federal Home Loan Banks, etc.
  - **Resolution Funding Corporation Interest STRIPs.**
    - Securities created as part of the Savings & Loan bailout that are guaranteed by the U.S. Government.
  - **US Agency For International Development Bonds (US AIDs).**
    - Sovereign debt obligations that carry a U.S. Government guarantee.
      - Examples include bonds issued by Israel and Ukraine.
      - U.S. Government guarantee payment lag of 3 business days must be taken into account.
        - Consider adding an extra day or two to be conservative.
        - Can create challenges with date matches to corresponding liabilities.



## Other Potential Value Opportunities

- Two other ideas for enhancing value in cash defeasance escrows:
  - **Yield restriction blending**
    - Identify if any negative yield restriction liability exists from previous investments associated with the bonds (older cash defeasance, project fund with temporary period expired, etc.).
  - **Demand Deposit SLGS**
    - Tax-exempt investment that allows an issuer to keep all of the earnings even if the yield exceeds the arbitrage yield.
    - Consider reinvestment risk carefully because of potential Fed action.
      - Spread and time horizon are both very important.



## Effect of the Public Debt Limit on SLGS

- The Federal debt limit is set to be reinstated on **January 2, 2025**<sup>1</sup>, potentially triggering the suspension of the SLGS program.
- When the government approaches or hits the debt limit, the Treasury can enact extraordinary measures.
  - One of these measures is suspending the SLGS program.
- **Since 1995, the SLGS window has been closed sixteen times**, for periods ranging from 24 hours to 235 days.<sup>2</sup>
  - Most recent suspension was from May 2, 2023 – June 5, 2023.
  - SLGS subscriptions placed prior to window closure will be honored assuming no change to previous policy.
- Without access to SLGS, issuers are forced to structure escrows for refundings and defeasances with open-market securities or cash (very high opportunity cost in this interest rate environment).

<sup>1</sup> Source: CRS Report. (October 4, 2024). [A Binding Debt Limit: Background and Possible Consequences](#).

<sup>2</sup> Source: Treasury Direct. [FAQs for SLGS](#).



# Escrow Bidding Methodologies



## “Security-by-security”

- ◆ Strives to obtain the best price possible on each individual security.
  - Particularly valuable for portfolios containing multiple large securities and/or various security types because different broker-dealers sometimes specialize in different types of securities (e.g. T-Notes vs. T-STRIPs).
- ◆ Allows for optimal combination of SLGS and open-market securities (when SLGS program is available).
- ◆ Price transparency allows for allocations to specific sub-portfolios for accounting and/or tax purposes.
  - Fair market value established for each individual security rather than an entire portfolio.
- ◆ Allows for incremental competition from broker/dealers who do not participate in all-or-none bids.
- ◆ Competition may be lacking if you are buying many small securities and/or providers are very busy because of a SLGS program suspension or lower interest rate environment.



## “All-or-none”

- ◆ May allow for faster and more efficient execution depending on size, complexity, and how busy potential providers are.
  - SLGS suspension significantly increases volume.
- ◆ Securities deliveries only need to be coordinated with one broker/dealer.
- ◆ May achieve better pricing on smaller portfolios and/or portfolios with many small securities (“odd lots”).
- ◆ Bidding agent fee may be lower because modeling and execution are more straightforward.





## Poll Question #3

- ◆ Which of the following is not true about escrow bidding methodologies?
  - A. In all-or-none bidding, securities deliveries only need to be coordinated with one broker-dealer.
  - B. The bidding agent fee may be lower in an all-or-none bidding process because modeling and execution are more straightforward.
  - C. Security-by-security strives to obtain the best price possible on each individual security.
  - D. Issuers should choose a certain methodology and stick with it over the years.



# Call Date Optimization



## Maximizing NPV Savings via Call Date Optimization

- Due to the high-interest rate environment, unrestricted current refundings can potentially benefit from investing in SLGS at yields in excess of corresponding arbitrage yields.
  - Issuers should consider how to maximize their NPV savings.
- Common misconception: If the arbitrage yield is lower than the SLGS yield, an issuer should invest in Time Deposit SLGS for as long as possible.
  - **Why is this wrong?** Must consider the cost of keeping the refunded bonds outstanding vs. the interest earned on the SLGS.

Yield Restricted	Arbitrage Yield	Refunded Coupon	SLGS Yield	Best Solution
No	3.5%	5%	5.5%	Time Deposit SLGS for longest duration
No	3.5%	5%	4.5%	Call refunded bonds ASAP

- More challenging/dynamic now that short-term interest rates are dropping!
  - Can even consider different call dates for different individual bonds depending on coupon rates.
  - Always consult with advisors and legal team.



# Questions/Discussion



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