Bond Borrowing Rates, Investing Bond Proceeds & Understanding Arbitrage Rebate

Middle Michigan School Business Officials

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The Life Cycle of a Bond Dollar

PHASE 1

INCEPTION & BORROWING

PHASE 2

INVESTMENT

PHASE 4

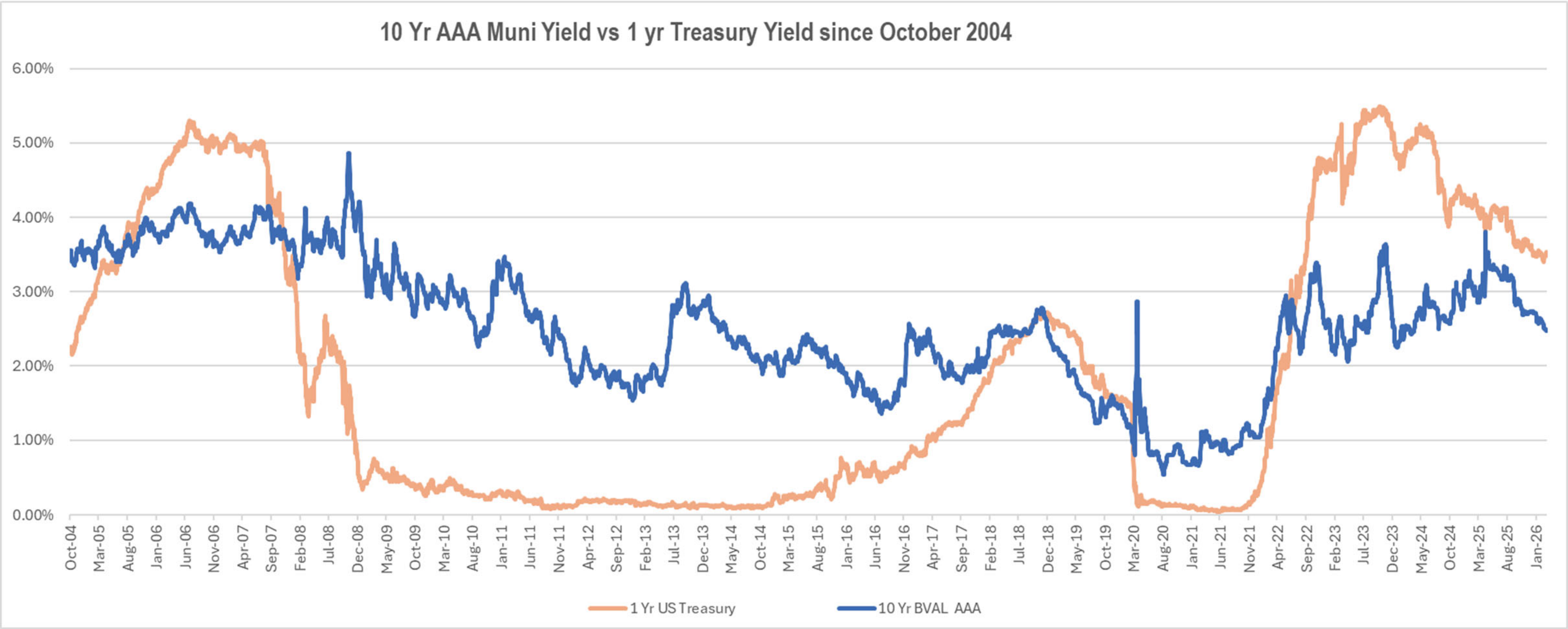
COMPLIANCE & OVERSIGHT

PHASE 3

SPEND DOWN

Reporting & Potential Payment to the IRS

Positive Arbitrage Environment



Source: Bloomberg

Implication: The Small Issuer Exceptions

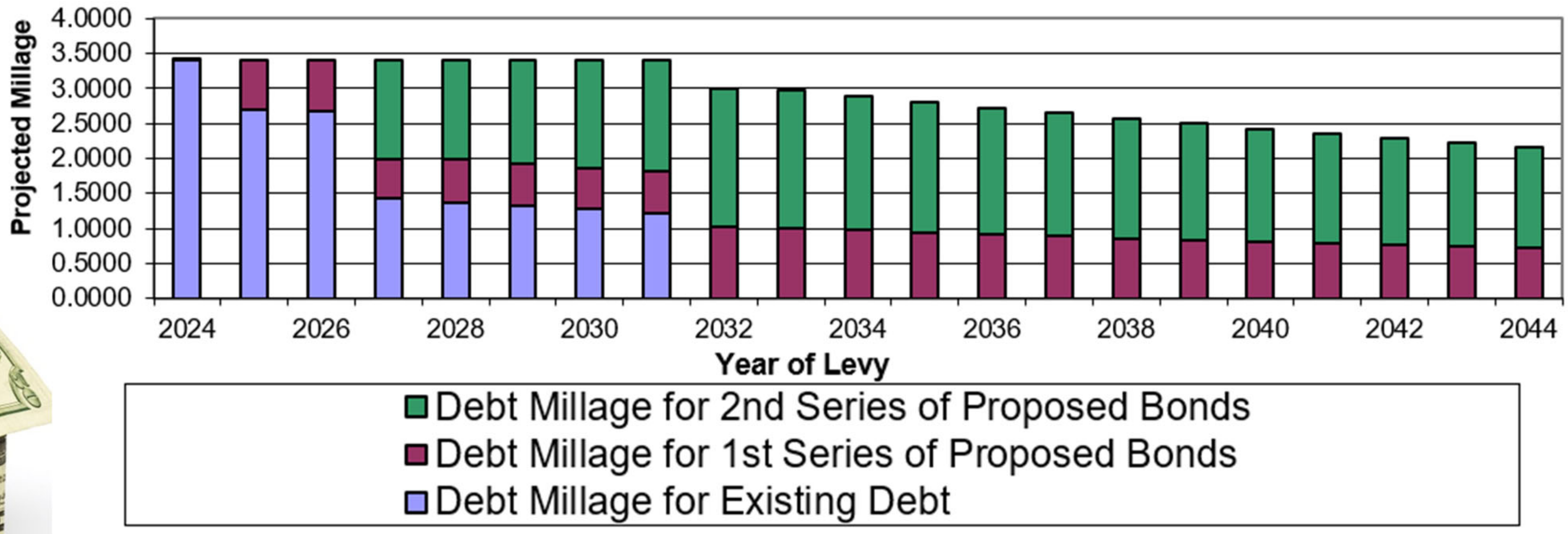
Consideration: Smaller bond series with no rebate liability vs. larger bond series locking in rates now and paying a potential arbitrage rebate.

Implication: Construction Fund Time-Based Spending Exceptions

Consideration: Project draw schedule & allocation of projects between series to meet minimum spend-down requirements.

Voted Bonds Issued in Series

- **Why have bonds issued in more than one (1) series?**
  - **Compliance** with federal spending requirements
    - The school district must have a reasonable expectation at the time of issuing the bonds to spend at least 85% of bond proceeds within 3 years, and 100% within 4 years (or 5 years in certain cases).[1]
  - **Lower millage impact**, depending on existing debt structure
  - **Increase bond capacity** / amount at desired millage rate, depending on existing debt structure
  - **Reduce** the need or **amount of capitalized interest** in certain circumstances
  - **May allow** the issuer to qualify for the small issuer exception to arbitrage rebate under federal tax rules
  - **Financing shorter life assets** such as technology, buses, etc.



NOTE: Chart above is for illustrative purposes only.
[1]Source: Internal Revenue Code of 1986, as amended

Considerations for Voted Bonds Issued in Series

- **Ballot language** -- not-to-exceed amount to be issued in one or more series.

- **Timing and amount --** of each series is estimated at time of election but may change from the original plan based on actual needs and timing but must be within the original voted not to exceed amount.

- The **actual projects funded** by each series could change from original plan as long as they are still within the project description in ballot and included in scope of the Preliminary Qualification application (for State Qualified bonds).
  - These changes from original plan could be based on <u>future needs</u> or millage objective or limitation.

- Bond amounts less than $1 million have lower issuance costs since no official statement or rating are required.

Specific requirements for State Qualified bonds can be found at:
Michigan Department of Treasury – School Bond Qualification & Loan Program website: michigan.gov/treasury

Pro Tips & Best Practices

1. Structuring optimization to take advantage of a Small Issuer Exemption (if possible)
2. When possible, update Project Draw Schedule Before Investment of Bond Proceeds
3. Monitor potential arbitrage rebate liability, when applicable, <u>prior</u> to spending all project funds for each series.

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Investing Bond Proceeds

May 8, 2026

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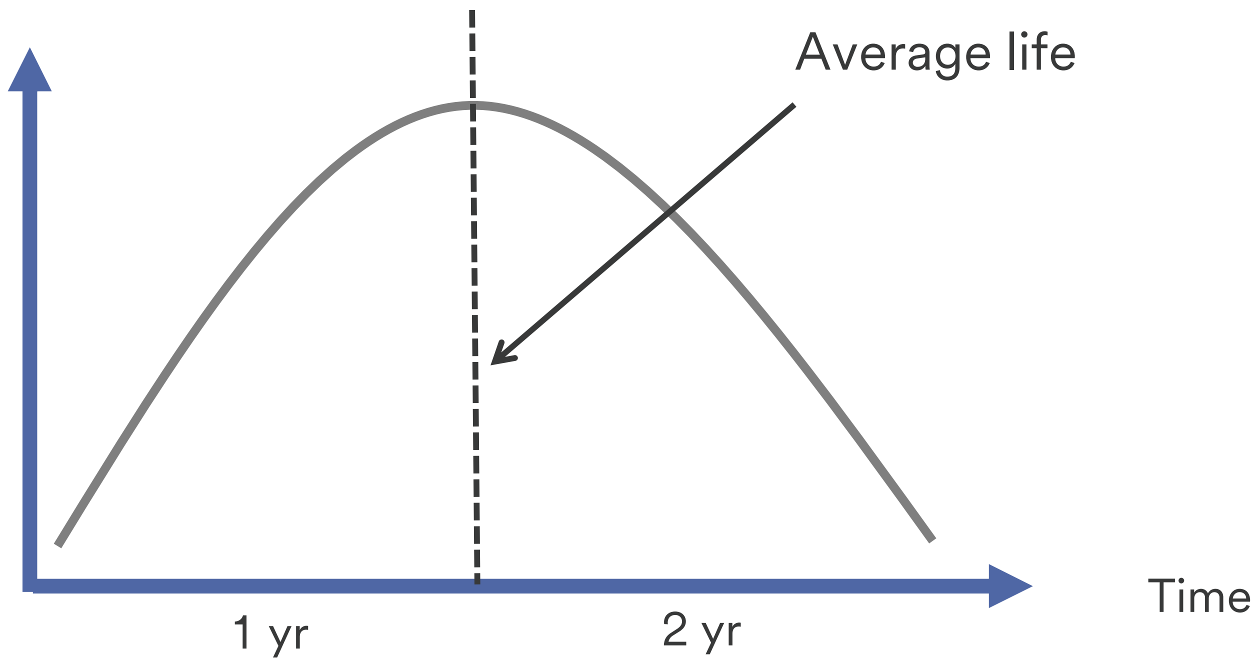
Strategy Development

General Project Fund Structure

- Project proceeds typically spent within 3 years
- Average life of approximately 1–1 ½ years

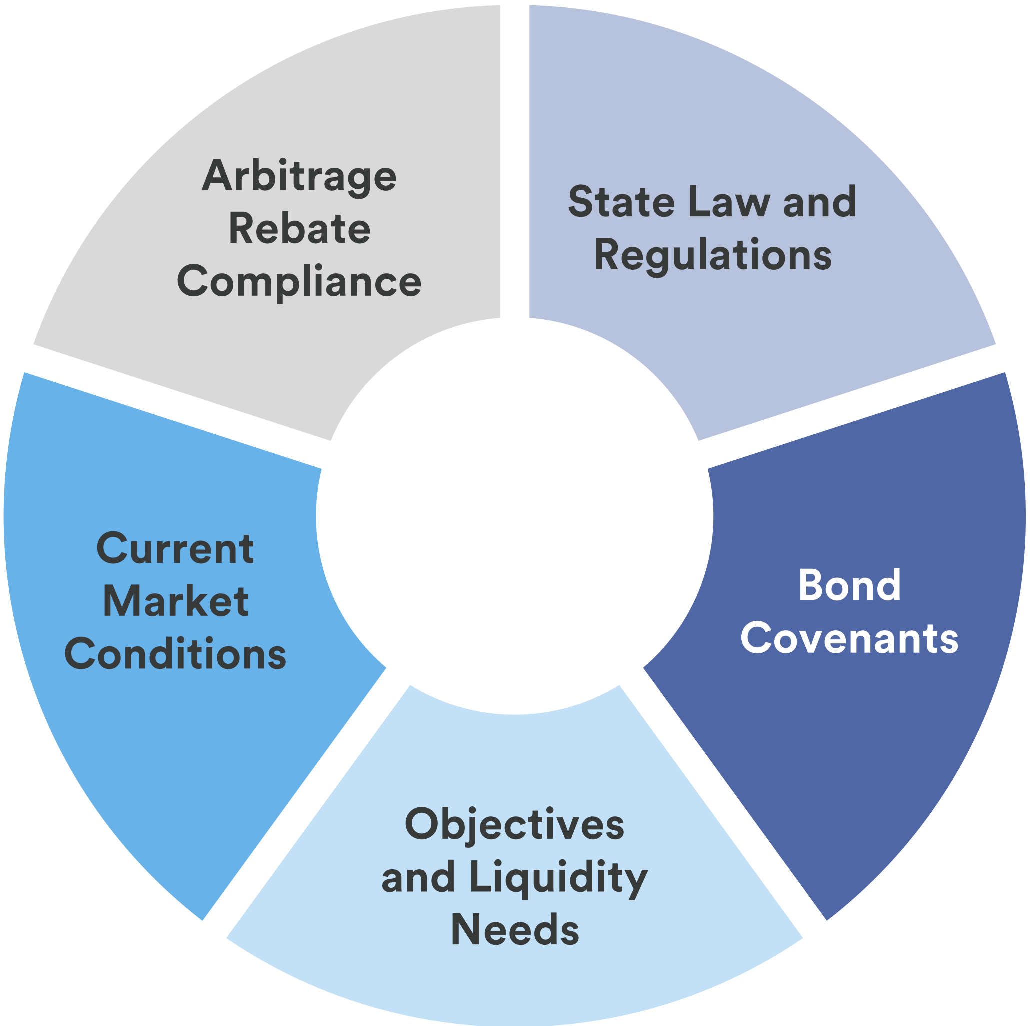
"Typical" Project Fund Expenditure Pattern



For illustrative purposes only.

An Optimal Bond Proceeds Investment Strategy Should Seek to...

- Ensure safety of principal while providing adequate liquidity
- Consider current and future interest rate expectations
- Take into account any applicable arbitrage rebate regulations
- Provide a reasonable risk-adjusted return



Questions to Consider When Investing Bond Proceeds

- ? What is my credit risk, and how can I manage it?
- ? How does this instrument or investment strategy provide liquidity for both expected and unforeseen draws?
- ? What are the rebate implications of my reinvestment strategy?
- ? What is the yield of the instrument or investment strategy, and how can my return change through time? Does this reflect my view of market conditions?
- ? How does this instrument or investment strategy manage market and reinvestment risk?

Project Fund Cash Flow Factors

Strength of Draw Schedule

- Number of projects
- Estimated completion
- Ability to update projections

Payment Approach

- Invoiced
- Reimbursement

Liquidity Cushion
(if any)

- Predictability of needs

Typical Permitted Investments for Bond Proceeds

Money market/short-term investments

- Money market funds
- Local Government Investment Pools (LGIPs)

Open-market and Custom securities

- U.S. Treasuries and direct obligations (examples: Treasury Bills, Treasury Notes)
- Federal Agency securities (examples: Fannie Mae, Freddie Mac) (includes both open-market and reverse-inquiry securities)
- Commercial paper (examples: JPMorgan, Toyota)

Structured investments

- Guaranteed investment contracts (GICs)
- Flexible repurchase agreements (Flex Repos)
- Forward delivery agreements (FDAs)

Portfolio Management – Active Management and Passive Strategies

<table>
<tr><th colspan="2">Active Management</th><th colspan="2">Passive Strategies</th></tr>
<tr><td rowspan="5">May be beneficial for funds with expansive permitted investments and/or uncertain liquidity needs

Advisor goal: generate incremental earnings via swapping amongst individual CUSIPs, sectors, and duration buckets to attempt to offset advisory fees</td><td>Real-time monitoring of holdings through time</td><td>Periodic/ad-hoc monitoring</td><td rowspan="5">May be beneficial for funds with conservative, straightforward permitted investments and predictable liquidity needs

One-time engagements with subsequent opportunities to restructure in the future</td></tr>
<tr><td>More frequent trades to manage duration and/or liquidity</td><td>Wholesale restructurings to rebalance to target</td></tr>
<tr><td>Greater ability to take advantage of short-term securities’ mispricings</td><td>Reduced ability to take advantage of short-term opportunities</td></tr>
<tr><td>Enhanced ability to add incremental net value</td><td>May require substantial changes in market conditions to add value</td></tr>
<tr><td>Advisor has fiduciary responsibility</td><td>No fiduciary responsibility once portfolio is structured</td></tr>
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Types of Risk to Manage in Bond Proceeds Investments

Credit Risk

- Is there a government guarantee?
- Who is the ultimate obligor?
- What type of credit?

Liquidity Risk

- How quickly and easily can I access the proceeds?
- Are there redemption fees or gates?
- Is there a secondary market that I can access in the event of emergency?

Reinvestment Risk

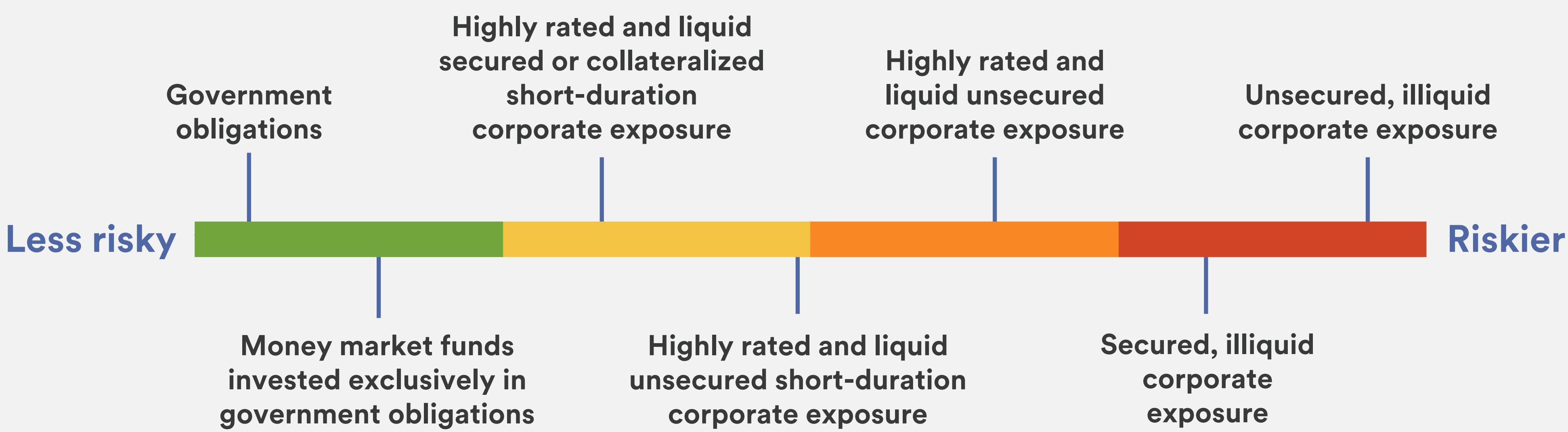
- What might happen to my return if interest rates go up or down?
- Does the strategy give me any ability to take advantage of changes in interest rates?

Credit Risk: Risk Aversion and Yield

For any yield or return, a rational investor will choose the least risky investment.

For example: A rational investor would choose the less-risky 30-day Treasury Bill at 3.55% over a 30-day commercial paper at 3.60%.

By extension, investors require more yield or return for riskier investments.



Yields for illustrative purposes only

Liquidity Considerations of Various Investment Alternatives

Strategy	Liquidity Considerations	Additional Points of Consideration
Money Market Fund	Typically offer same-day liquidity which is a function of cut-off times	Are there redemption fees or gates?
Passively Structured Portfolio	Underlying investments offer same-day liquidity, but logistical considerations may cause delays	Requires trustee to sell investments or advisor to be engaged which may take time to put into place
Managed Portfolio	Underlying investments offer same-day liquidity; function of advisors to access capital markets	How are liquidity needs communicated to advisor?
Structured Investment	Typically have a notice period; official notice may need to come from trustee	Typically, no secondary market

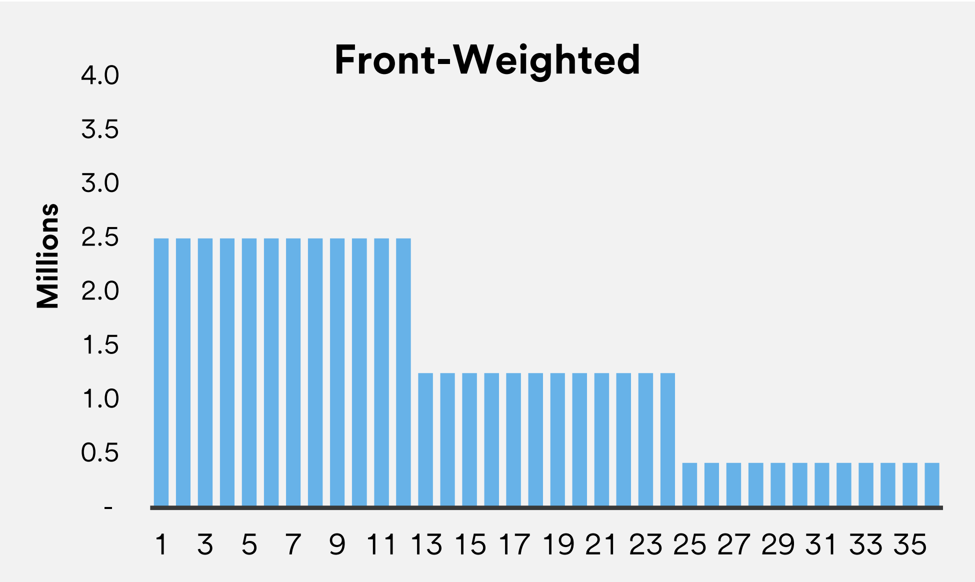
Reinvestment Risk: Impact of Interest Rate Movements on Return/Yield of Instrument

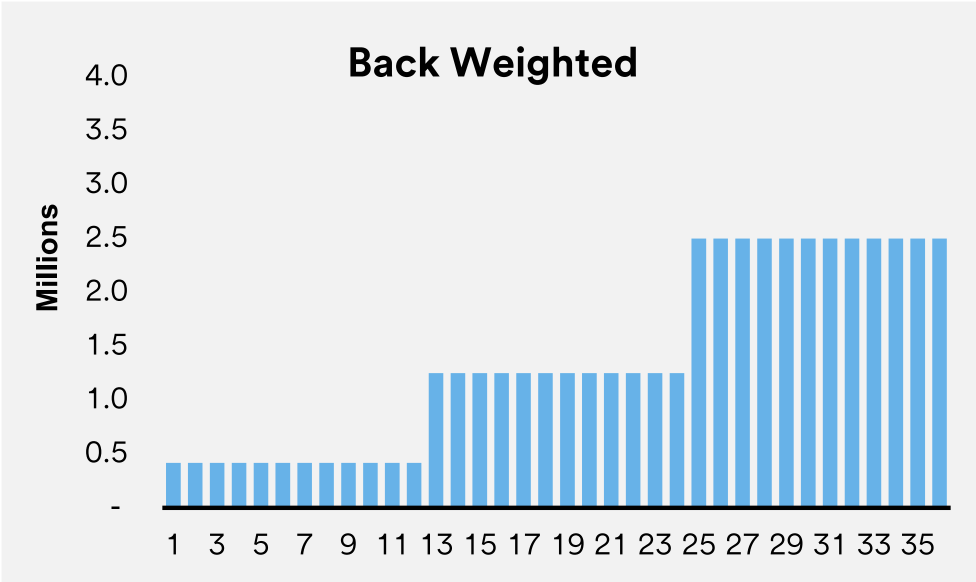
Does the strategy give me any ability to take advantage of changes in interest rates or am I "locked in"?

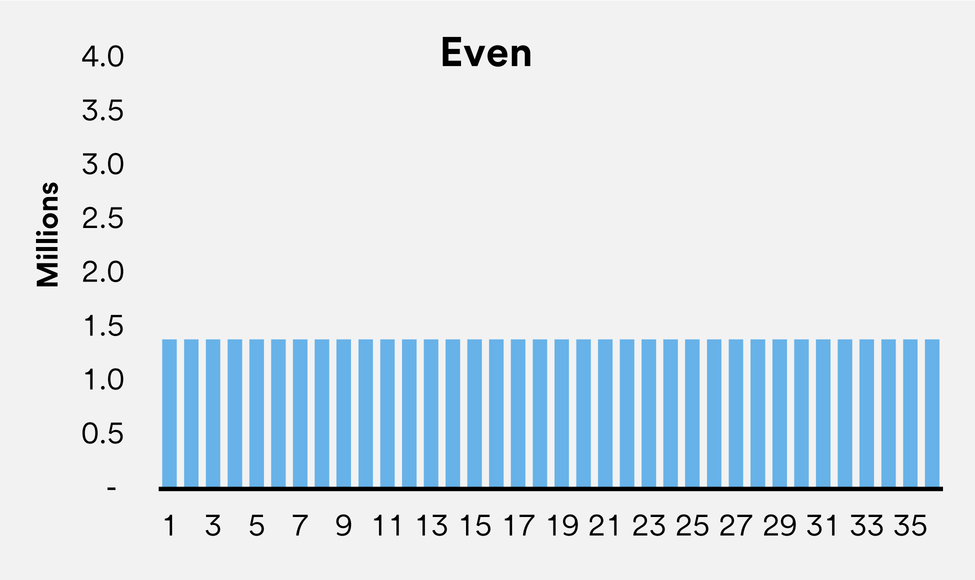
Strategy	Interest Rate Scenario		
	Rising Rates	**Falling Rates**	**Stable Rates**
Money Market Fund	Yield of fund tends to follow short-term rates (with lag)	Yield of fund tends to follow short-term rates (with lag)	Yield of fund will tend to remain stable
Passively Structured Portfolio	Yields locked in; reinvestments will occur at higher rates	Yields locked in; reinvestments will occur at lower rates	Yields locked in
Managed Portfolio	Yields locked in; manager has ability to alter portfolio to take advantage of opportunities	Yields locked in; reinvestment at lower rates	Yields locked in
Structured Investment	Yields locked in	Yields locked in	Yields locked in

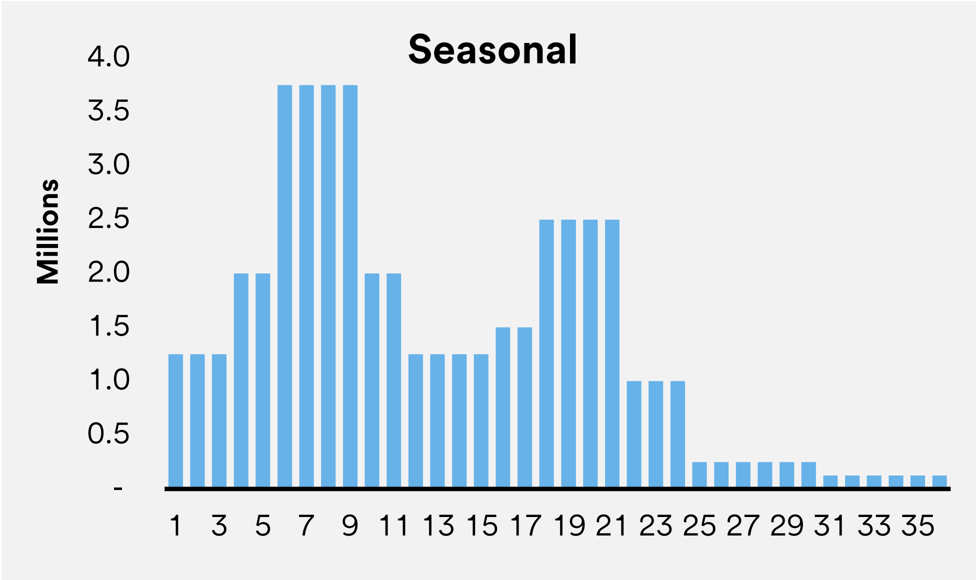
Strategy Implementation

Variations in Draw Schedules









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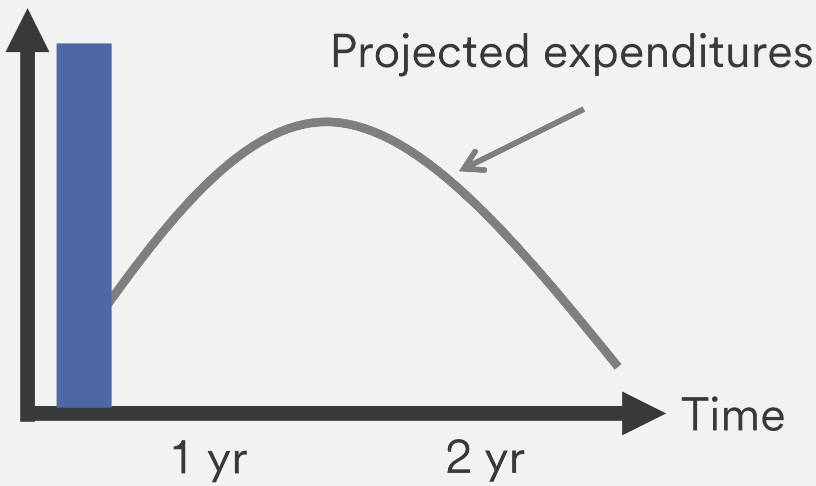
Bond Proceeds Strategy Options

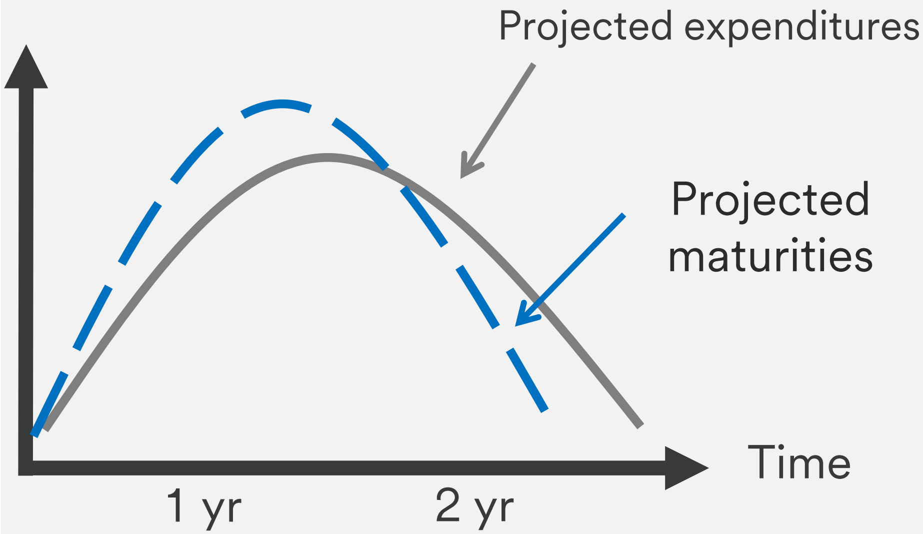
Liquidity Strategy

- Typical Overnight Liquidity
- Convenient
- Rate-dependent
- Inherently taking view that rates will rise during construction period

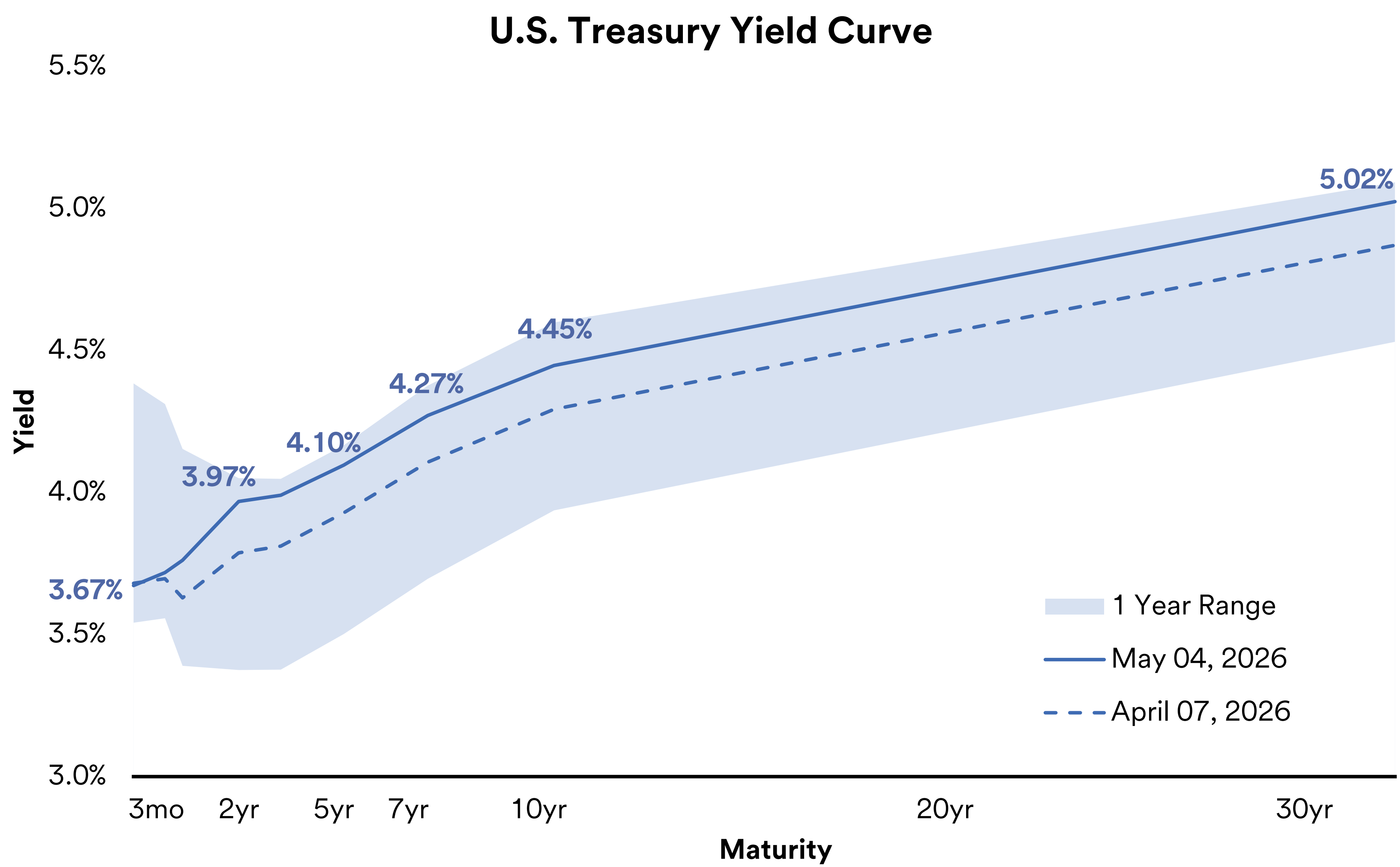


Portfolio Strategy

- Laddered to match fund schedule
- Fixed interest rate for securities
- Inherently taking view that rates will not rise quickly during construction period
- Reinvestment risk if delay in draw schedule
- Interest rate risk if security sold prior to maturity



U.S. Treasury Yield Curve



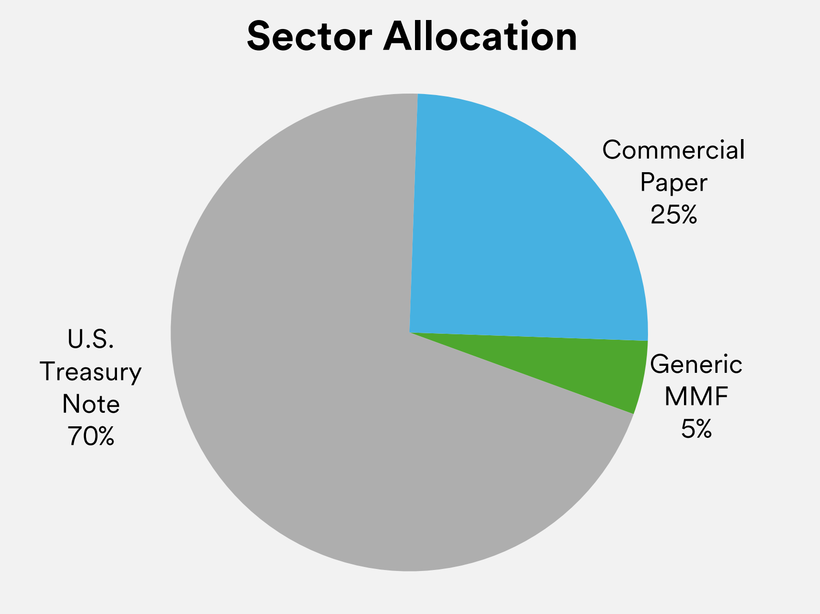
Source: Bloomberg Finance L.P., as of May 4, 2026.

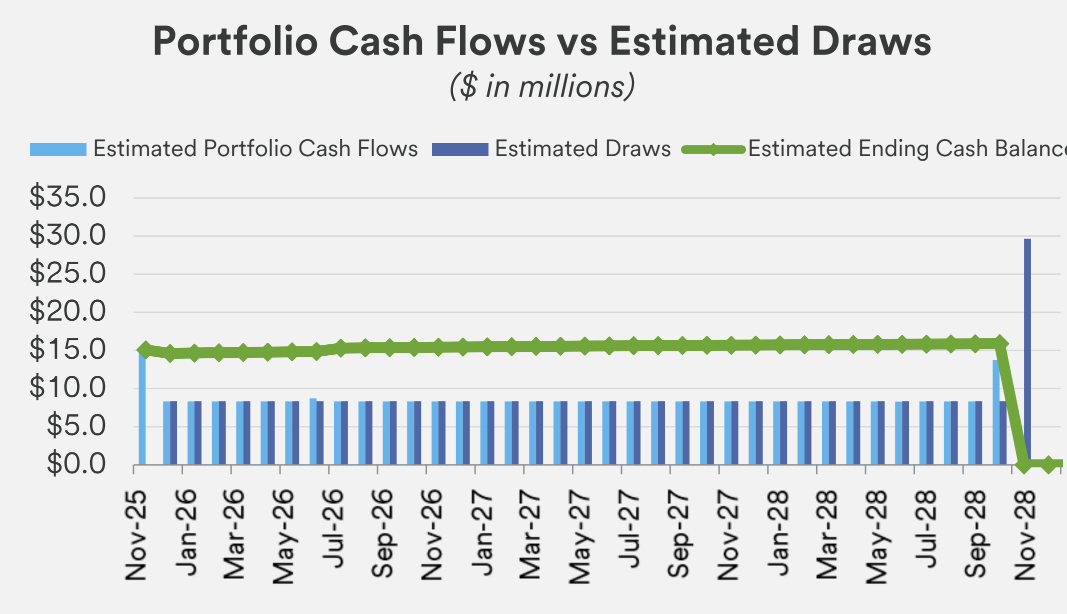
Sample Treasury and Credit Portfolio

Portfolio Statistics Summary	
Approximate Cash Balance (Total)	$15,000,000
Approximate Par Amount (Investments)	$285,000,000
Weighted Average Maturity	544 days
Average Life of Draw Schedule	564 days
Average Gross Initial Yield	3.70%
Estimated Gross Initial Earnings	$16,634,000

Strategy Overview

- Approximately 70% allocation to Treasuries, 25% to commercial paper, with the balance in a money market fund
- Commercial paper structured to meet draws inside of nine months
- Treasury maturities laddered to closely match the remaining draws
- Treasuries can be swapped into higher-yielding commercial paper as securities near maturity





[1] For illustrative purposes.
[2] Rates as of November 3, 2025.
[3] Please see important disclosures at the end of this presentation.

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Understanding Arbitrage Rebate

May 8, 2026

David Walters, CFA, CAIA
Senior Manager – Arbitrage
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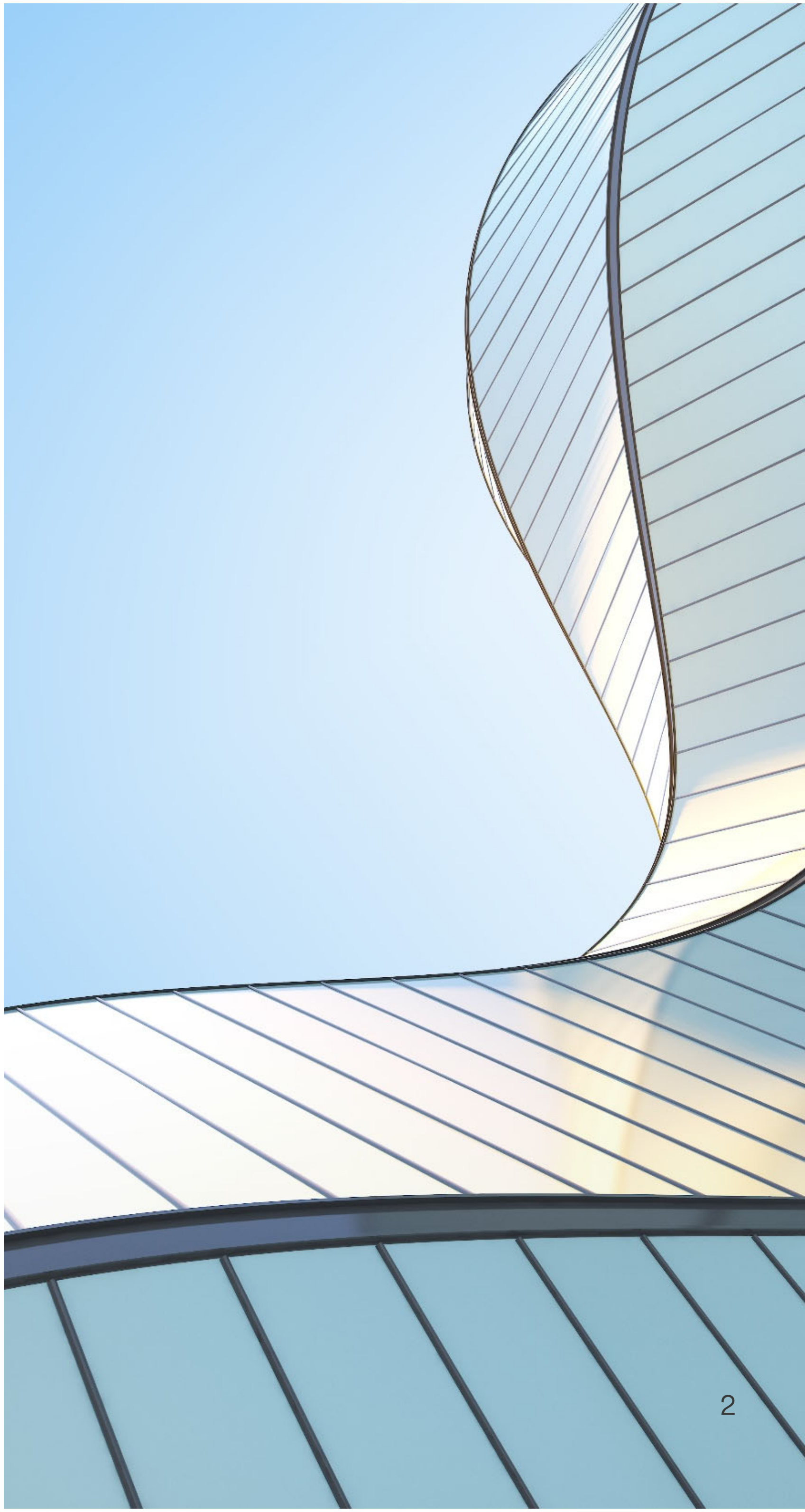
What is Arbitrage Rebate?



Understanding Arbitrage Rebate

Arbitrage	Rebate	Purpose
When the yield on taxable investments exceeds the tax-exempt restricted rate	Issuer's "rebate" or pay excess earnings to the IRS	Financial disincentive to violate the rules Prevent issuance of tax-exempt debt for profit-driven reasons

Positive and Negative Arbitrage

$$\begin{array}{ll} & \text{Actual investment earnings yield} \\ - & \text{Average borrowing rate or “arbitrage yield”} \\ \hline = & \text{Arbitrage \%} \end{array}$$

“Positive Arbitrage” =

Actual earnings > Earnings @ arbitrage yield

(positive earnings yield spread)

“Negative Arbitrage” =

Actual earnings < Earnings @ arbitrage yield

(negative earnings yield spread)

- **Arbitrage Rebate Liability =**
- Earnings of bond proceeds invested in taxable securities less (-)
- Earnings of bond proceeds invested at the arbitrage yield
  - Future value methodology
  - Measured on an issue-by-issue basis
  - Cumulative from the issue date

Arbitrage Rebate and Yield Restriction

Applies to every tax-exempt borrowing and some taxable subsidy obligations

- Measured on an issue-by-issue basis
- Non-compliance could result in taxable bonds
- Overlapping requirements – "Belt & Suspenders"

    1. **Arbitrage Rebate – IRC Section 148(f):**
       Arbitrage Rebate begins on the issue date
    2. **Yield Restriction – IRC Section 148(b):**
       Yield Restriction begins at the expiration of a temporary period

Requirement #1

Arbitrage Rebate

Exceptions to Arbitrage Rebate

Small Issuer Exception

Exception to Arbitrage Rebate Only

- Calendar year exception
  - $5 million of governmental bonds for municipalities
  - $15 million per year for public school construction
- Requirements
  - General taxing powers
  - Governmental bonds (not private activity bonds)
  - At least 95% of the proceeds must be used for local governmental activities
- Exclusion of current refunding issue in certain circumstances

Source: IRC Section 148(f)(4)(D).

Exceptions to Arbitrage Rebate

Spending Exceptions (Can Be Internally Monitored)

- "Reward" for spending bond proceeds quickly
- Allowed to keep positive arbitrage
- Simple way to establish compliance (no future value, no yields)
- Must meet each benchmark, no catch-up allowed

Exception to Arbitrage Rebate Only

6-Month	18-Month	2-Year (ACP)
All gross proceeds	**All new money**	**"Construction" issues only**
✓ 6 months 100%*	✓ 6 months 15%	✓ 6 months 10%
	✓ 12 months 60%	✓ 12 months 45%
	✓ 18 months 100%**	✓ 18 months 75%
		✓ 24 months 100%**

** Exceptions for 5% of the proceeds of the issue if spent within one year.*
*** De minimis (lesser of 3% or $250K) and reasonable retainage (5% spent in 12 months) exceptions may apply for last benchmark.*

Requirement #2

Yield Restriction

Dual Requirements

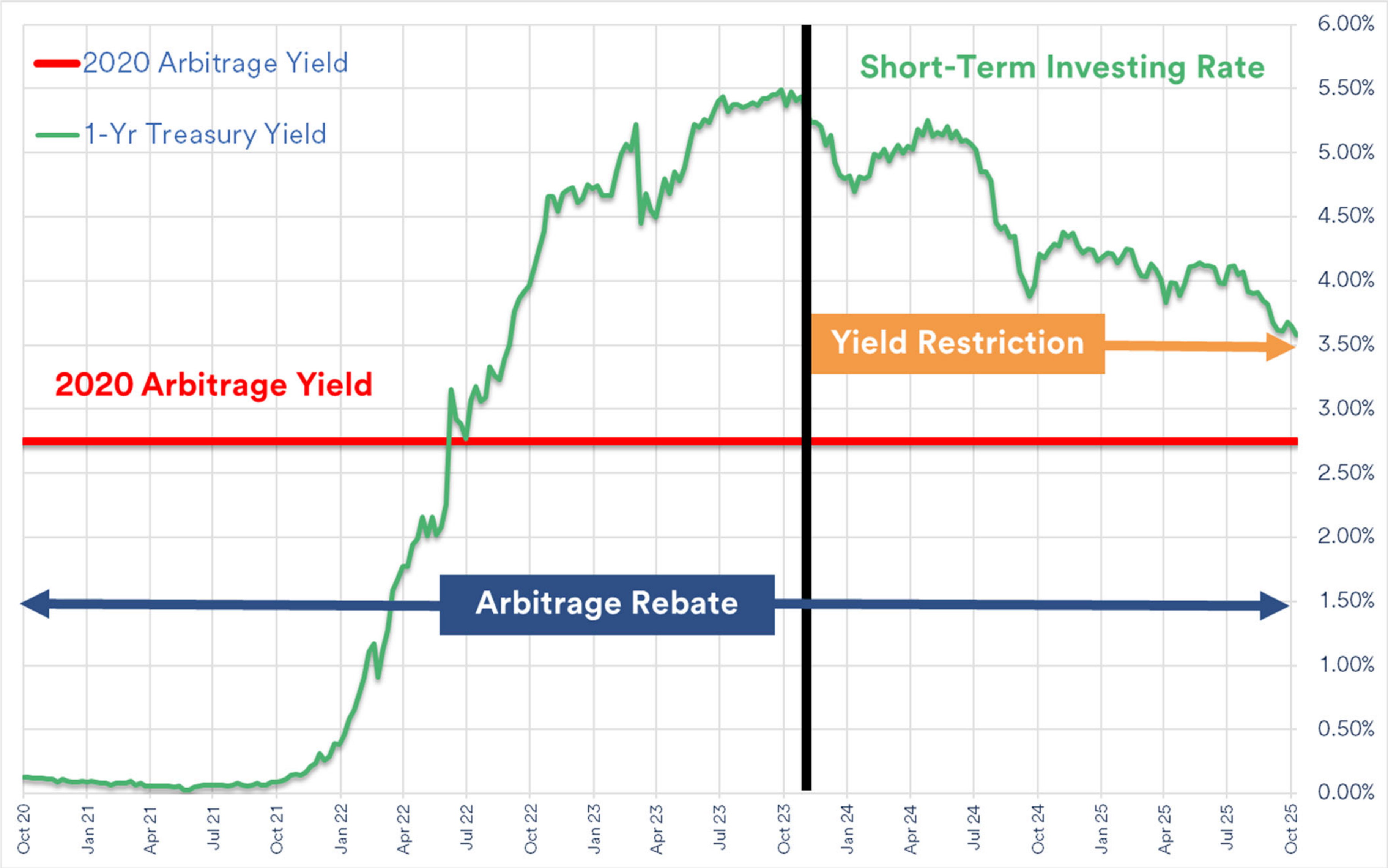
Key differences are timing and amounts restricted

Separate requirements require separate calculations

- Cannot blend arbitrage rebate and yield restriction liabilities
- Common situation to end up with negative arbitrage rebate but positive yield restriction or vice versa

	Construction Funds	
	Arbitrage Rebate	**Yield Restriction**
Requirement Begins	Issue date	Typically, after a 3-year temporary period (May be waived or extended to 5-years)
Amounts Restricted	Sale proceeds	Unspent proceeds

Arbitrage Rebate vs. Yield Restriction



Source: U.S. Treasury. Rates as of October 14, 2025.

Yield Restriction Compliance Methods

Active Yield Restriction

- Investments must be purchased at fair market value
- Tax exempt investments

Yield Reduction Payments

- Rebate-like payments
- Limited availability for advance refunding issues and defeasance escrows

Other Options

- Longer construction fund temporary period (5-years vs. 3-years)
- Waiver of temporary period at issuance

Calculation Preparation & Requirement

Preparing for Arbitrage

Collect and store bond sale documents

- IRS form 8038
- Tax or arbitrage certificate
- Verification report

Establish a plan for tracking compliance

- Internal monitoring
- LGIP-provided
- Contract for support

Establish separate bond accounts

- Non-bond proceeds
- Other bond issue proceeds
- Project or fund-level

Calculation and Filing Requirement

- Payment due no later than 60 days after the computation date
  - No later than 5-years after the issue date
  - Every 5-years thereafter until the final maturity date
  - At least 90% of the liability
  - As of final maturity date, 100% of the liability
- Submit check and IRS Form 8038-T
- Do not submit calculations
- No filing required if no payment is due
- Late Payments
  - Require explanation and payment of late interest
  - May also require payment of a penalty (50%)
- Overpayment
  - Refunds can be requested if liability reverses
  - IRS will not pay interest on overpayment

Questions?

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