Call Me Bond, *Municipal* Bond

Part 2: Investing Bond Proceeds & Understanding Arbitrage Rebate

Presented By:

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About the Moderator

Kyle Tanaka

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Kyle joined PFM in 2019 after working closely with local government trade associations and municipalities throughout California. As a relationship manager for the California Asset Management Program (CAMP*), he focuses on providing investment resources to cities, counties, special districts and other local agencies to help them manage their liquidity needs.

Prior to joining PFM, Kyle worked for the California Special District Association (CSDA) and the California State Association of Counties (CSAC) Finance Corporation. While working at the CSAC Finance Corporation, he managed the day-to-day client services of their local government investment pool.

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About the Speakers

Christopher Harris, CFA, CAIA

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As a project manager in the Structured Products Group, Chris focuses on the technical analysis and structuring and procurement of asset-liability matching portfolios. In this capacity, Chris has provided investment advisory services on over $185 billion of related assets. Chris is also a founding member of PFM's Reserve Fund Committee and assists with the firm's management of reserve fund proceeds.

Chris also manages projects related to structured investments and is the firm's primary liaison to the structured investment community. In this capacity, he advises clients on the implementation, amendment, valuation and termination of various investment agreements. He has provided investment advisory services related to structured investments on over $25 billion of assets.

Michael Steinbrook

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Mike manages client relationships nationally, including arbitrage rebate compliance services provided to participants in the local government investment pools (LGIPs) for which PFM serves as investment advisor. He has prepared and reviewed thousands of analyses, including arbitrage rebate and yield restriction calculations, spending exception analyses, cash flow analyses, transferred proceeds calculations, commingled funds analyses, variable-rate yield computations, liability optimization strategies, and other arbitrage related services. He also assists issuers in the development and implementation of post-issuance compliance policies and procedures and investment strategies for tax-exempt bond proceeds.

Additionally, Mike is the leader of PFM's verification practice, providing verification agent services for refunding and defeasance escrow transactions. Mike provides on-site group and individual client staff training regarding arbitrage rebate and post-issuance compliance and is a frequent speaker at conferences.

Steps to Managing New Bond Proceeds

- ❑ Understand the sources and uses of the bond issue
- ❑ Identify investment options
- ❑ Determine if issue will meet spend-down exception from rebate
- ❑ Formulate investment strategy (safety always paramount)
- ❑ Implement strategy
- ❑ Actively manage to maintain optimization
- ❑ Monitor compliance with spend-down exception
- ❑ Maintain all necessary records
- ❑ Calculate arbitrage rebate, if needed

Arbitrage Rebate

Arbitrage Rebate and Yield Restriction – The Basics

To **prevent abuses**, the tax code limits the permitted uses of tax-exempt bonds

Prevents:

1. Issuance of more bonds than are necessary
2. Issuance of bonds earlier than is necessary
3. Bonds from being outstanding longer than is necessary

In other words, **borrow what you need, when you need it**, for an appropriate duration based on what is being financed.

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

- Measured on an issue-by-issue basis
- **Arbitrage Rebate** begins on the issue date
- **Yield Restriction** begins at the expiration of a temporary period

Positive and Negative Arbitrage

Actual investment earnings yield

– Average borrowing rate (aka, the *arbitrage yield*)

= Arbitrage %

"Positive Arbitrage" = Actual Earnings > Earnings @ arbitrage yield

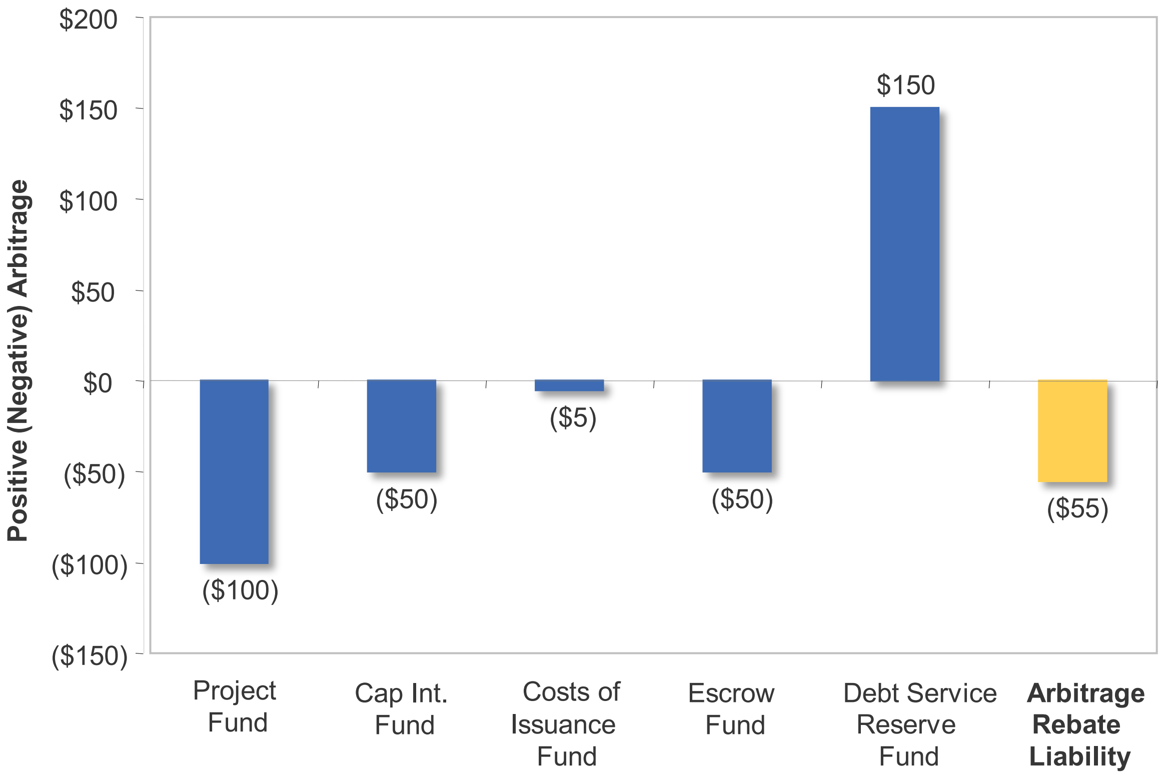
"Negative Arbitrage" = Actual Earnings < Earnings @ arbitrage yield

What is Arbitrage Rebate?

ARBITRAGE	REBATE	ARBITRAGE REBATE
• When the yield on taxable investments exceeds the tax-exempt restricted rate	• Essentially a 100% tax • Issuer's "rebate" or pay excess earnings to the IRS	• Financial disincentive to violate the rules • Non-compliance could result in taxable bonds

Arbitrage Liability Example

- Arbitrage is measured <u>issue-by-issue</u>, in aggregate and over time
- For each bond issue, all funds subject to arbitrage are blended together
- Negative arbitrage in a fund can be used to offset positive arbitrage in other funds



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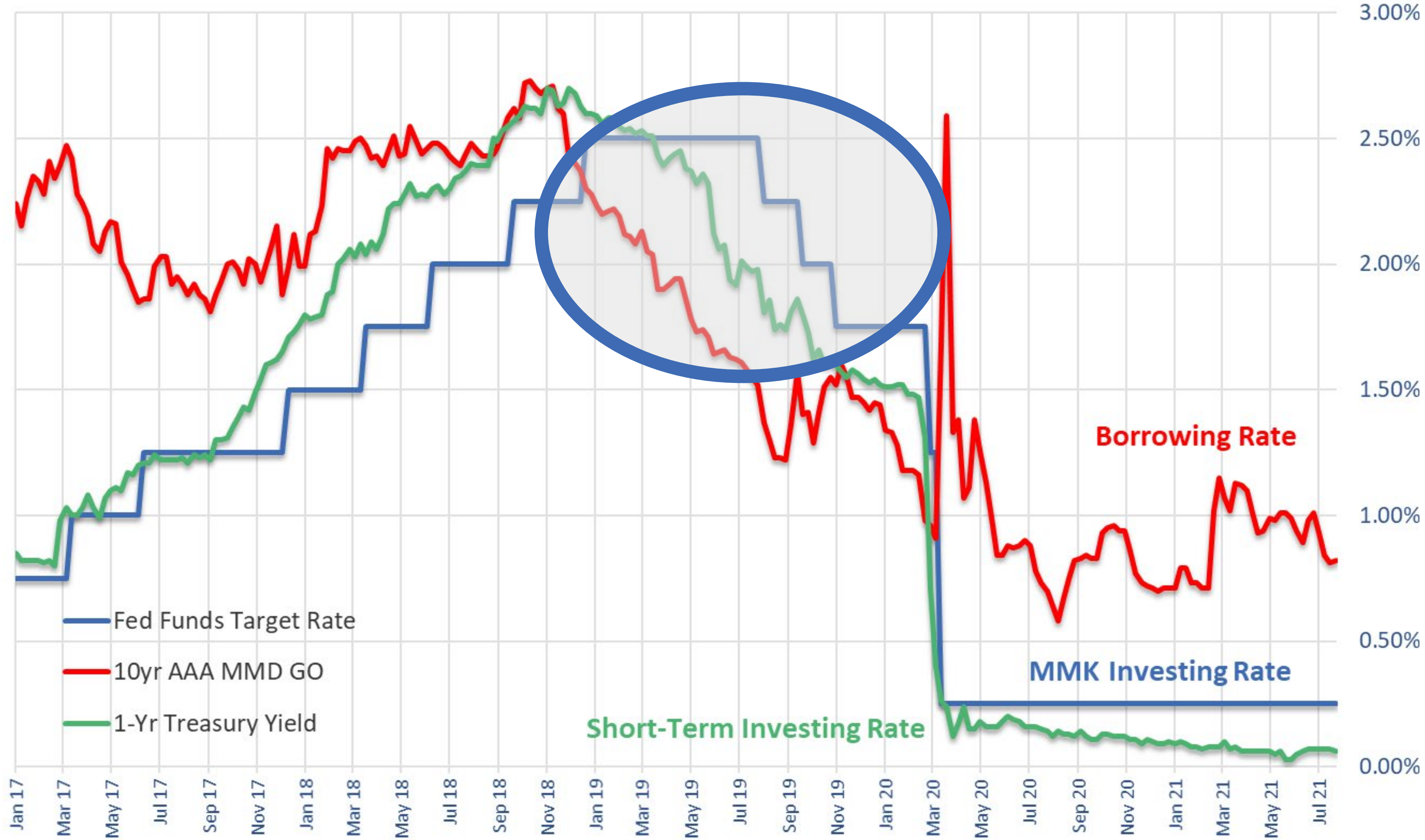
Arbitrage Environment



Sources: Bloomberg, Thomson Reuters.

Tax Considerations Timeline

- Arbitrage rebate requirements apply to **every** tax-exempt borrowing and certain taxable subsidy obligations
- Compliance begins with pre-issuance planning and continues with post-issuance policies and procedures (does it ever end…)

Pre-Issuance

- Timing (how financing schedule affects investment rates)
- Project draw schedule
- Evaluate available exceptions and elections
- Identify investment options

Issuance

- Invest bond proceeds
- Purchase securities, establish fair market value
- Revise draw schedule
- Make elections in tax certificate

Post-Issuance

- Arbitrage reporting
- Monitor draw schedule
- Monitor investments
- Record retention

Calculation and Filing Requirements

- Payment due no later than 60 days after the computation date
  - No later than 5 years after the issue date, and 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
- Refund requests

Exceptions to Arbitrage Rebate

- Small Issuer exception
- Spending exceptions
  - 6-month
  - 18-month
  - 2-year
- “Bona Fide” Debt Service Fund exception
- Electing to pay the 1.5% penalty in lieu of rebate
- Investing in tax-exempt obligations (eliminating the “arbitrage”)

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

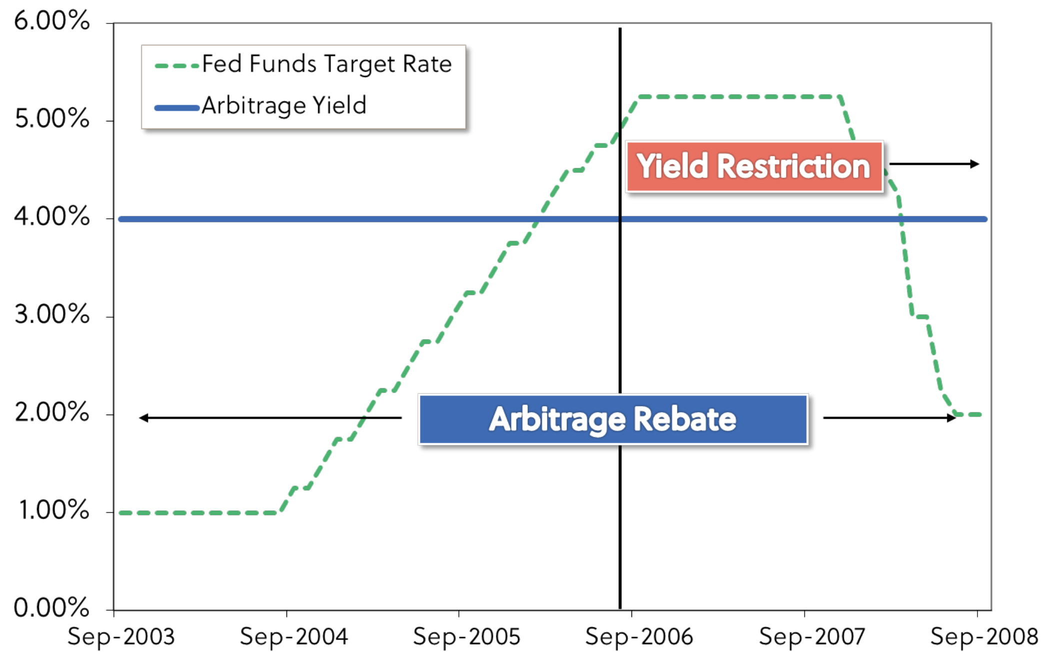
6-Month		18-Month		2-Year (ACP)
All gross proceeds		All new money		Construction issues
✓ 6 months 100% *		✓ 6 months 15%		✓ 6 months 10%
		✓ 12 months 60%		✓ 12 months 45%
		✓ 18 months 100% **		✓ 18 months 75%
				✓ 24 months 100% **

**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.*

Arbitrage Rebate vs. Yield Restriction

- Arbitrage Rebate and Yield Restriction are separate calculations
- Yield Restriction only applies to proceeds that are subject to yield restriction
- Cannot blend positive arbitrage of yield-restricted proceeds with negative arbitrage of unrestricted proceeds
- Exceptions apply:
    - Exception for “reasonably required” reserve fund
    - Minor portion
    - Temporary periods



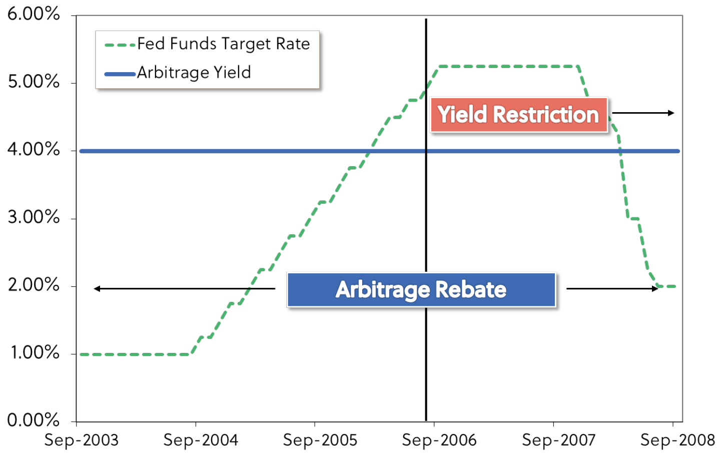
Could the next 5 years produce a similar interest rate environment?

Yield Restriction: Impact of Waiving 3-Year Temporary Period

Situational Awareness: flat yield curve and interest rate uncertainty

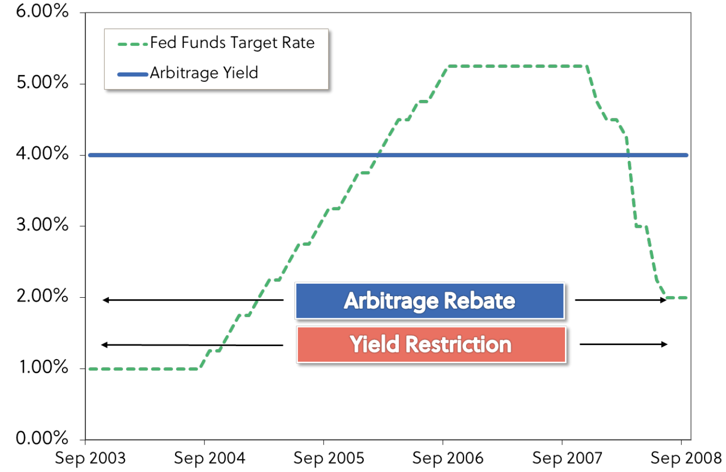
No Waiver

- No rebate liability at year 5
- **Yield restriction liability at year 5**
- Pay IRS excess interest earned in years 4 and 5



Waiver

- No rebate liability at year 5
- **No yield restriction liability at year 5**
- Keep excess interest earned in years 4 and 5



To Waive or Not to Waive?

- Even in an uncertain interest rate environment, this may still make sense
- Consider the following:

DRAW SCHEDULE	ARBITRAGE YIELD		
	Low	Mid	High
Short (<18 mos.)	NO	NO	MAYBE
Medium (18-24 mos.)	NO	MAYBE	YES
Long (>24 mos.)	MAYBE	YES	YES

- **Each bond issue should be examined separately with your advisors and bond counsel. Representation above is based on current market conditions and current expectations of borrowing rates and investment rates for bond proceeds.**
- Tax election to waive the temporary period must be made by the issuer in writing at settlement – no ability to change election after the bonds are issued.

Strategies to Optimize Earnings and Minimize Liabilities

Spending exceptions

- APPLY when positive arbitrage, DO NOT APPLY when negative arbitrage

Expenditure allocations

- Different permitted allocation methods may produce significantly different rebate outcomes

Investing bond proceeds

- Explore options beyond money market funds; make sure gross proceeds are INVESTED

Investment valuations

- Analyze valuation methods beyond present value to reduce rebate liabilities

Yield restriction monitoring

- Pay attention to expiring temporary periods and consider waivers

Computation Dates

- Don’t have to wait for 5th year dates; earlier computation dates could produce better results

Bond Proceeds Investment Strategy

An Optimal Bond Proceeds Reinvestment Strategy Should…

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

Key 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?

Typical Permitted Investments for Bond Proceeds

Money market/short-term investments

- Local Government Investment Pools (LGIPs) such as the California Asset Management Program (CAMP®)*
- Overnight repurchase agreements

Open-market securities

- U.S. Treasuries and direct obligations (examples: Treasury Bills, Treasury Notes)
- Federal Agency securities (examples: Fannie Mae, Freddie Mac)
- Commercial paper (examples: JPMorgan, Toyota)
- Supranationals (examples: International Bank for Reconstruction and Development, African Development Bank)

Structured investments

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

**Please see important disclosures at the end of this presentation.*

Active Management vs. Passive Strategies

Active Management

- Ideal 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
  - Enhanced ability to take advantage of benefit from near-constant duration exposure

Passive Strategies

- Ideal for funds with **conservative**, straightforward permitted investments and **predictable** liquidity needs
  - One-time engagements with subsequent opportunities to restructure in the future
  - May require significant change to market conditions and/or cash flow requirements for restructurings to add value

ACTIVE MANAGEMENT	PASSIVE STRATEGIES
Real-time monitoring of holdings through time	Periodic/ad-hoc monitoring
More frequent trades to manage duration and/or liquidity	Wholesale restructurings to rebalance to target
Greater ability to take advantage of short-term securities mispricings	No ability to take advantage of short-term opportunities
Enhanced ability to add incremental net value	May require substantial changes in market conditions to add value
Advisor has fiduciary responsibility	No fiduciary responsibility once portfolio is structured

Types of Risk to Manage in Bond Proceeds Investments

CREDIT RISK

- Is there a government guarantee?
- Who is the ultimate obligor?
- Is my investment secured or unsecured, and is it senior or subordinated?

LIQUIDITY RISK

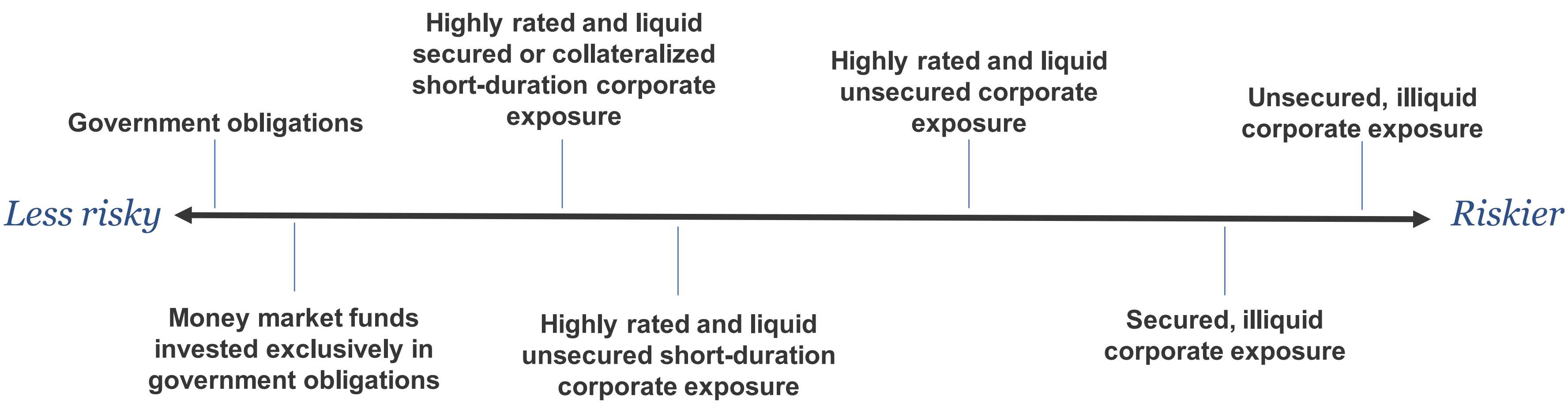
- How quickly and easily can I access the proceeds?
- Are there redemption fees or gates?
- Is there a secondary market that I can access in the event of emergency?

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 given yield or return a rational investor will choose the least risky investment
  - Given the choice between a 30-day Treasury Bill at 0.20% or 30-day commercial paper at 0.20%, a rational investor would choose the Treasury Bill because it is less risky
- By extension, investors require more yield or return for riskier investments



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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 one- or two-day notice period; official notice may need to come from trustee	**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 Development

Project Fund Investment Process

DEFINE UNIVERSE OF INVESTMENTS

- Bond indentures, state law, investment policy
- Sector specialist recommendations
- Approved issuer list of credit issuers

DEFINE CONSTRAINTS & OBJECTIVES

- Draw schedule expectations
- Liquidity buffer

INITIAL PORTFOLIO OPTIMIZATION

- Meet initial expected cash flow needs
- Horizon and relative value analyses

Project Fund Sample Portfolio – Active Management

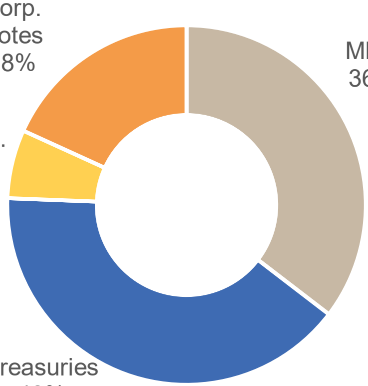
Portfolio Statistics

Invested Amount	$175MM
Portfolio Duration	1.37 years
Average Gross Yield*	0.15%
Average Credit Quality	AA-/Aa3
Gross Earnings (Proj.)	$265K

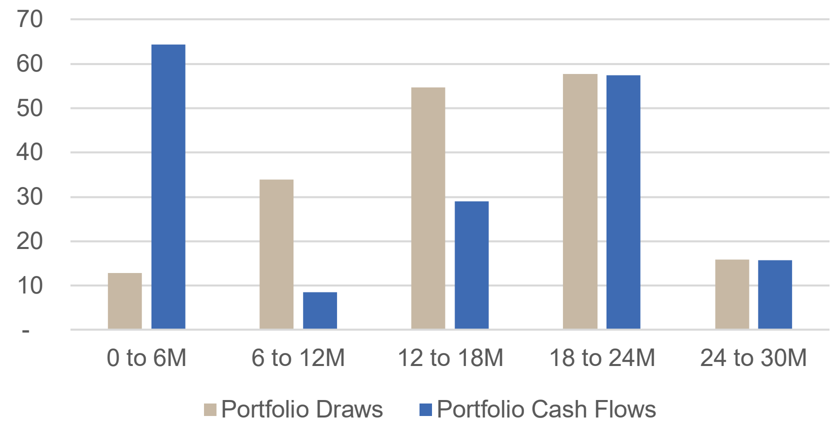
Strategy Overview

- Seek to structure portfolio that generally produces cash flows in line with scheduled project draws with buffer to account for unexpected liquidity needs
- Money market fund used extensively on the short end of the curve due to historically low yields
- Commercial paper and corporate notes selectively purchased where spreads are wider
- Does not take into account benefit from future rolling commercial paper purchases, which may be significant

Sector Allocation Snapshot



Portfolio Cash Flows vs. Draws



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Managing Downside (Replenishment) Risk in Reserves

- Reserve funds are typically funded for the benefit of the underlying bondholders
  - Most indentures require reserve funds to be valued periodically with any shortfalls due to investment losses made up
- In addition to credit, liquidity, and tax risk, the management of reserves also requires focusing on mitigating risk that losses in market value of investments will require additional deposits into reserves
- Sensitivity and breakeven analyses to determine potential outcomes under different interest rate assumptions

Investing Debt Service Funds

- 1/6th of semi-annual interest payment and 1/12th of principal payment is deposited into debt service fund monthly
- Bona fide debt service funds are typically not subject to rebate
- Investment alternatives include:
  - Ultra-short duration bias: money market fund
  - Short duration bias: managed portfolio of securities
  - Long duration bias: structured investments such as FDAs

STRATEGY	NET YIELD*	KEY BENEFITS	KEY LIMITATIONS
Money market fund	0.01% to 0.02%	Can take advantage of increases in interest rates; administrative simplicity	Ultra- short duration
Managed portfolio	0.03% to 0.10%	Extends duration while retaining flexibility to reinvest at higher rates	Duration cannot be extended beyond upcoming principal and interest payment dates
FDA – 5-year term	0.11%	Synthetically extends duration beyond upcoming liquidity needs	Locks in earnings for life of the agreement and therefore cannot take into account increases in interest rates

**Yields as of July 30, 2021, and subject to change based on underlying market conditions.*

Thank You

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