

Investing Bond Proceeds

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PFM Asset Management LLC

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Let's Build Our Project!



When Should You Think About Investments?

Well BEFORE the bond pricing

- ▶ Allows time to implement the investment “game plan” at **bond closing**

When drafting bond documents

- ▶ Definition of “permitted investments”

When developing “net” costs in funding plan

- ▶ Critical when determining how much to raise/borrow

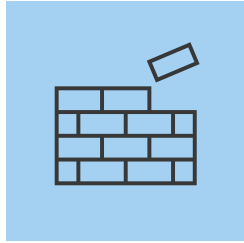


Why Is Having a Strategy Important?

- ▶ Increases the potential for higher earnings on the proceeds of a debt issue
- ▶ Reduces the amount you need to borrow
- ▶ Offers potential to lessen the amount you may need to spend from general fund
- ▶ Optimizes retainable earnings
- ▶ Plans for “best case scenario” positive arbitrage liability



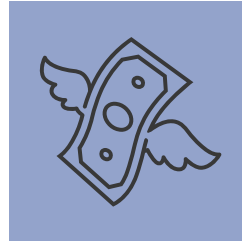
Factors Influencing Investment Decisions



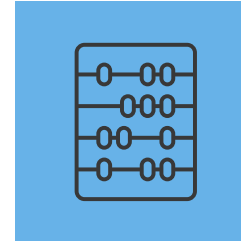
Structure of
the bonds



Arbitrage
rebate
requirements



Cash flow
schedules



Permitted
investments



Prevailing and
expected rate
environment



Why Is Bond Structure Important?

- ▶ General obligation bonds typically have one major fund
- ▶ Revenue bonds may have multiple funds

Debt-funded

- ▶ Construction/Project Fund
- ▶ Capitalized Interest Fund
- ▶ Debt Service Reserve Fund

Funded by project revenues or other sources

- ▶ Debt Service Fund
- ▶ Revenue Fund
- ▶ Other Reserve Funds



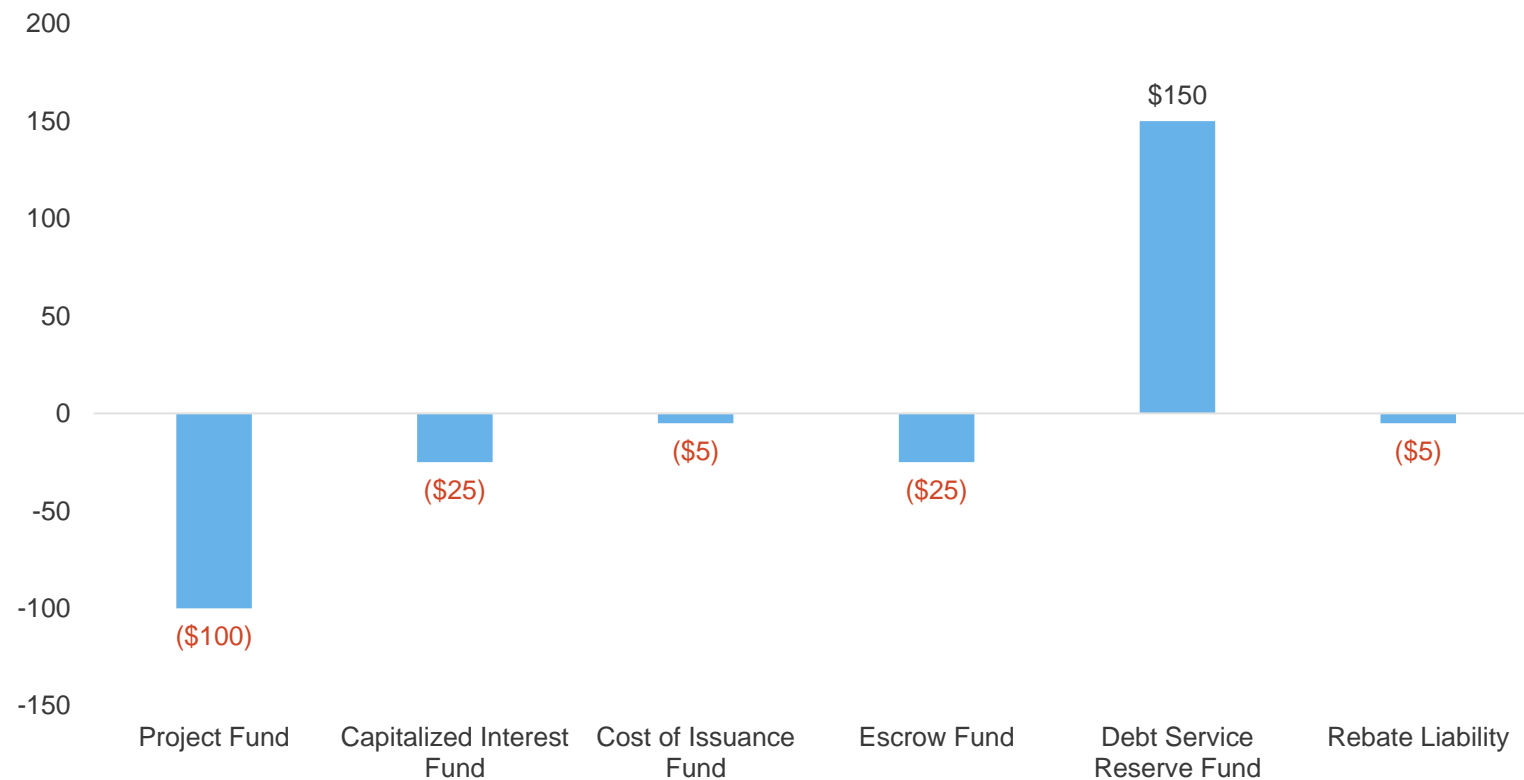
Arbitrage Impacts the Investment Strategy

- Arbitrage rules apply to every tax-exempt/tax-advantaged borrowing
- Limits earnings on gross proceeds to the bond yield
 - “Positive arbitrage”
 - “Negative arbitrage”



Arbitrage Rebate Liability Aggregated Amongst Issue Funds

- Arbitrage is cumulative over the life of a bond issue
- Negative arbitrage can blend away positive



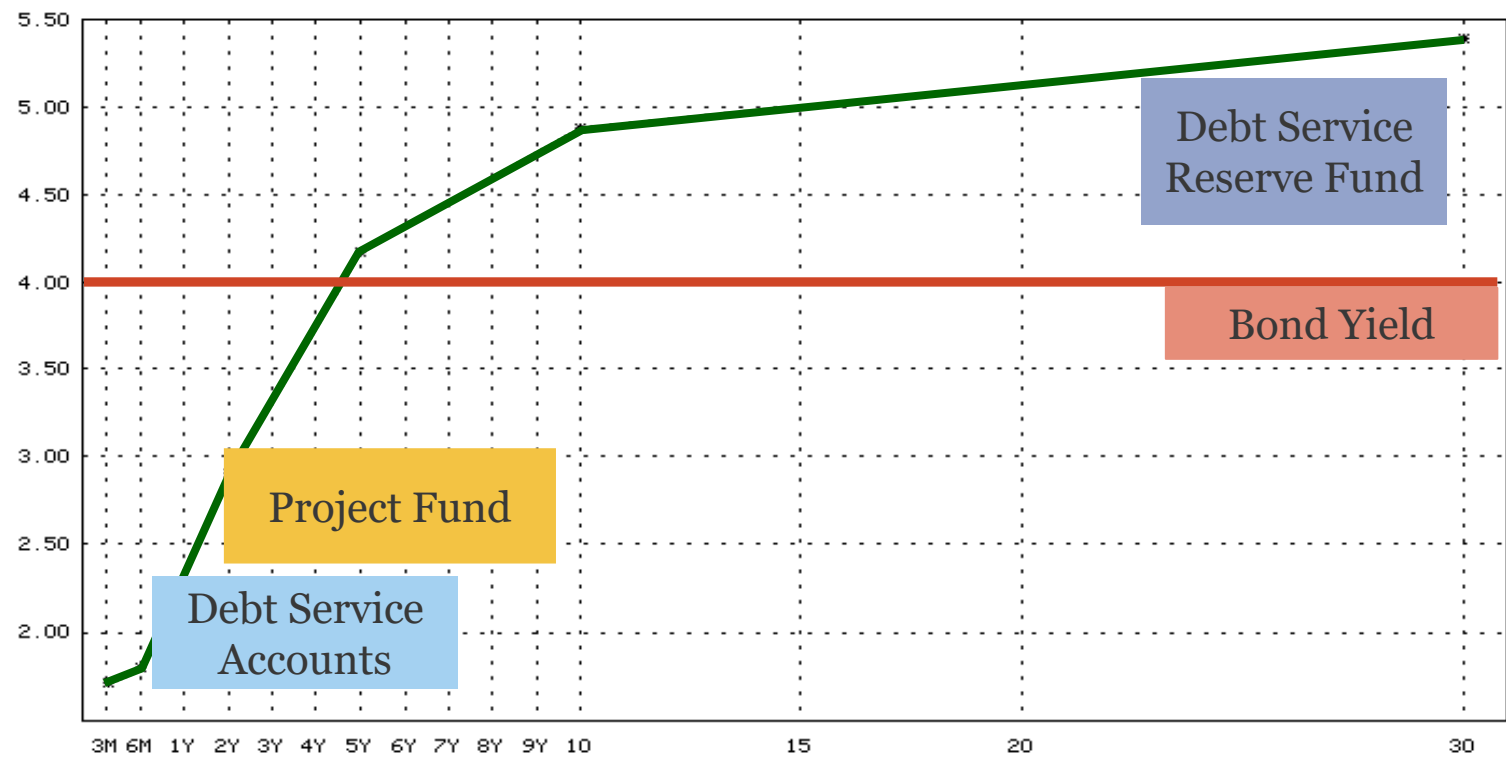
Arbitrage Considerations

- ▶ Yield restriction is also cumulative, but begins at the end of the so-called temporary period
- ▶ Waiving the temporary period may be a good idea to start the clock early in a low interest rate environment but not when earning positive arbitrage is a real possibility
- ▶ Pay particular attention to spending exceptions in this higher interest rate environment



Cash Flow Will Impact Return

“Normal” U.S. Treasury Yield Curve

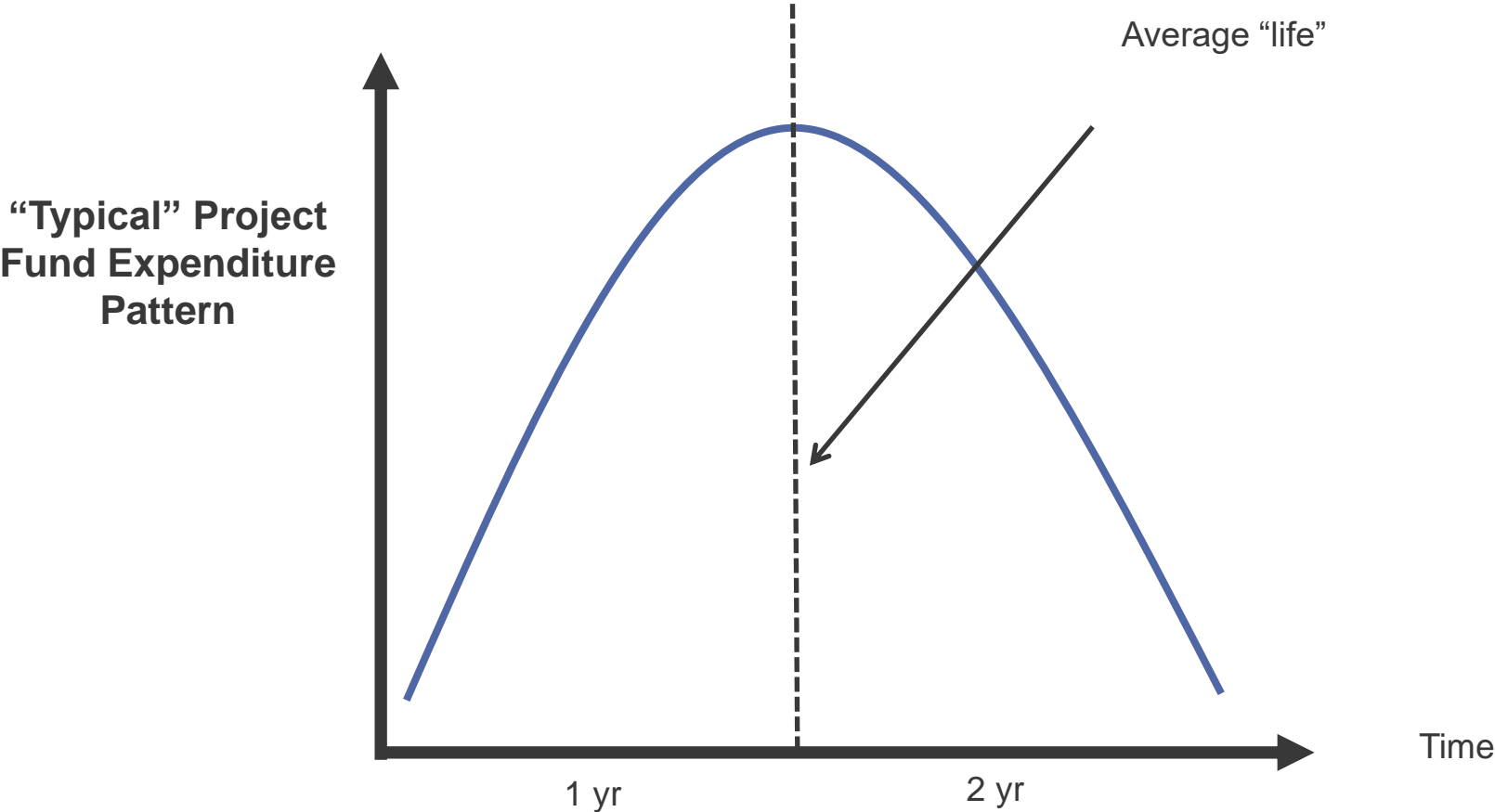


What Is a Draw Schedule?

- A schedule of anticipated funding needs for project or a series of projects
- May be funded entirely with bond proceeds or may be funded by cash and bond proceeds
- A draw schedule may apply to just one project, or it may apply to several projects



Typical Draw Schedule



If Draw Schedule Is Uncertain...



- ▶ Analyze historical capital spending patterns



- ▶ Structure investments around conservative estimates



- ▶ Build in additional liquidity



- ▶ Invest in securities that can be easily liquidated



- ▶ Rebalance based on changes in cash flows and/or market conditions



If Draw Schedule Is Rather Uncertain...



- Ladder investments, targeted to specific cash flow needs



- Monitor periodically to determine if actual expenditures are in line with expected project fund draws



- Rebalance based on changes in cash flows and/or market conditions



- Tax or non-arbitrage certificate
- Trust indenture or bond resolution
 - Permitted investments
 - Establishment of funds
 - Investment of funds
- Official statement
 - Description of the project



Permitted Investments

Investments determined by:

- Government Code
 - Section 53601(m)
- **Trust indenture/resolution**
- Investment policies
- Other requirements



Typical bond proceeds investments

Liquidity pools

Portfolio of securities

Investment agreements



Liquidity Pools

Vehicle	Type of Fund	NAV	Rating
Money Market Fund	<ul style="list-style-type: none">• Government• Prime	<ul style="list-style-type: none">• Stable NAV• Varies	Varies
LAIF	Hybrid	Hybrid	Not rated
County Pools	Varies	Varies	Varies
CAMP	Liquidity pool	Stable NAV	AAAm

Standard & Poor's fund ratings are based on analysis of credit quality, market price exposure, and management. According to Standard & Poor's rating criteria, the AAAm rating signifies excellent safety of invested principal and a superior capacity to maintain a \$1.00 per share net asset value. However, it should be understood that the rating is not a "market" rating nor a recommendation to buy, hold or sell the securities. For a full description on rating methodology, visit Standard & Poor's website.

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Features

- Liquidity within restrictions of investments
- Ease in administration

Issues to consider

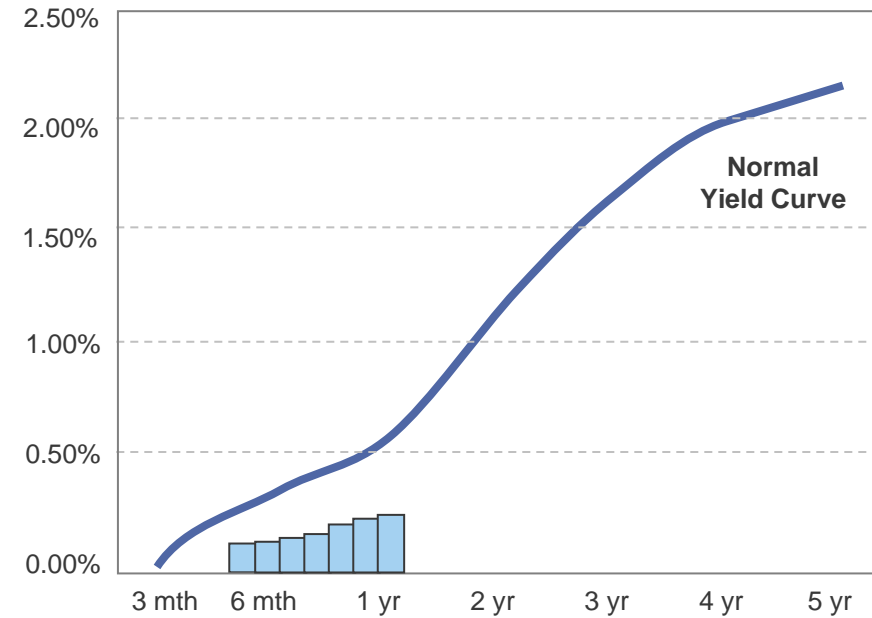
- Variable investment rate
- No customization to draws



Portfolio of Securities

- ▶ Laddered portfolio matched to draw schedule
- ▶ Fixed rate of interest
- ▶ Reinvestment risk if draw schedule is delayed
- ▶ Interest rate risk if the interest rate environment changes

Model Project Fund Portfolio in a
“Normal” Yield Curve Environment



U.S. Treasury Obligations

Issuer: U.S. Government
Credit Quality: Risk Free
Liquidity: High (active market)

Type	Term to Maturity	Interest
Bills	1, 3, 6, 12 months	Interest at Maturity
Notes	2 – 10 years	Coupon
Bonds	10 – 30 years	Coupon
Strips	3 months – 30 years	Interest at Maturity



Federal Agency/GSE Obligations

Issuer:	Federal agencies Government sponsored enterprises (GSE)
Credit Quality:	Most are highly rated Most do not carry explicit U.S. Government guarantee (full faith and credit)
Term of Maturity:	1 day to 20 years
Liquidity:	Generally high, but depends on structure
Return:	Higher than U.S. Treasury obligations
Caution:	May have complicated structures May be callable



Issuer:	Domestic and foreign corporations
Credit Quality:	Investment grade
Term of Maturity:	1 to 270 days
Liquidity:	Moderate to high
Return:	Moderate to high
Cautions:	Unsecured promissory note May be asset-backed Credit analysis required



Negotiable Certificates of Deposit

Issuer:	Domestic and foreign financial institutions
Credit Quality:	Based on NRSRO of issuing bank
Term of Maturity:	0 to 5 years
Liquidity:	Moderate
Return:	Moderate to high
Cautions:	Unsecured deposit Credit analysis required



Issuer:	Publicly owned corporations
Credit Quality:	Varies
Term of Maturity:	1 to 30+ years
Liquidity:	Moderate
Caution:	Unsecured promissory note Credit analysis required



Yield Environment as of August 31, 2022

Maturity	Treasury	Federal Agency	AA Corporate	A Corporate
3-Month	2.92%	3.18%	3.12%	3.30%
6-Month	3.31%	3.30%	3.25%	3.41%
1-Year	3.50%	3.54%	3.48%	3.61%
2-Year	3.49%	3.54%	3.65%	3.87%
3-Year	3.51%	3.51%	3.72%	3.97%
5-Year	3.35%	3.45%	3.84%	4.13%
10-Year	3.20%	3.52%	4.15%	4.50%

Source: Bloomberg BVAL yield curves for Treasury and Corporate yields, TradeWeb for Federal Agency yields. 3- and 6-month corporate yields from commercial paper; A-1+ for AA and A-1 for A.

Features

- ▶ Customized investment strategy
- ▶ Active trading can improve yield
- ▶ Portfolio restructured as draw schedule changes and to adjust to changes in market
- ▶ Ability to lock in higher yield on longer-term funds

Issues to consider

- ▶ Can be time consuming to monitor and manage
- ▶ Slightly higher transaction costs may be incurred
- ▶ Mark-to-market risk for reserve fund
- ▶ Reduced liquidity



Various types

**Guaranteed investment
contracts**

**Forward delivery
agreements**

Repurchase agreements



Considerations for Structured Investments

Benefits

- ▶ Fully customizable
- ▶ Agreements can be structured to include downgrade triggers and collateralization requirements
- ▶ May provide exposure to infrequent issuers
- ▶ Potential to utilize different coupon structures
- ▶ Typically valued at par, which may limit interest rate risk

Risk

- ▶ Credit and bankruptcy risk
- ▶ Lack of pricing transparency and limited liquidity due to reduced provider participation and lack of secondary market
- ▶ Customization premium reduces return, particularly for secured structures
- ▶ Two-way collateralization may be required based on creditworthiness of investor
- ▶ Requires extensive analysis to determine relative value versus other alternatives and in-depth conversations with counsel

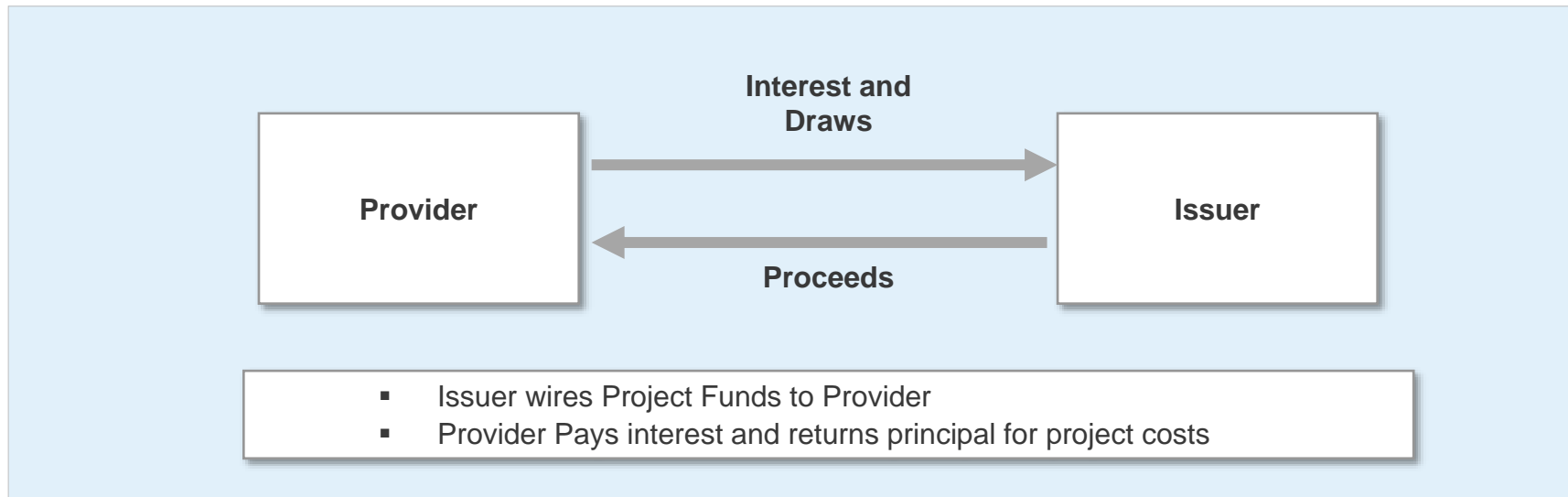
Applications

- ▶ Lock in rate of return on future cash flows and/or deposits
- ▶ Achieve exposure to an area of the yield curve potentially without taking on interest rate risk
- ▶ Use of floating- or variable-rate coupons, including potential exposure to different indices
- ▶ More complex coupon structures and/or underlying indices will have less provider participation



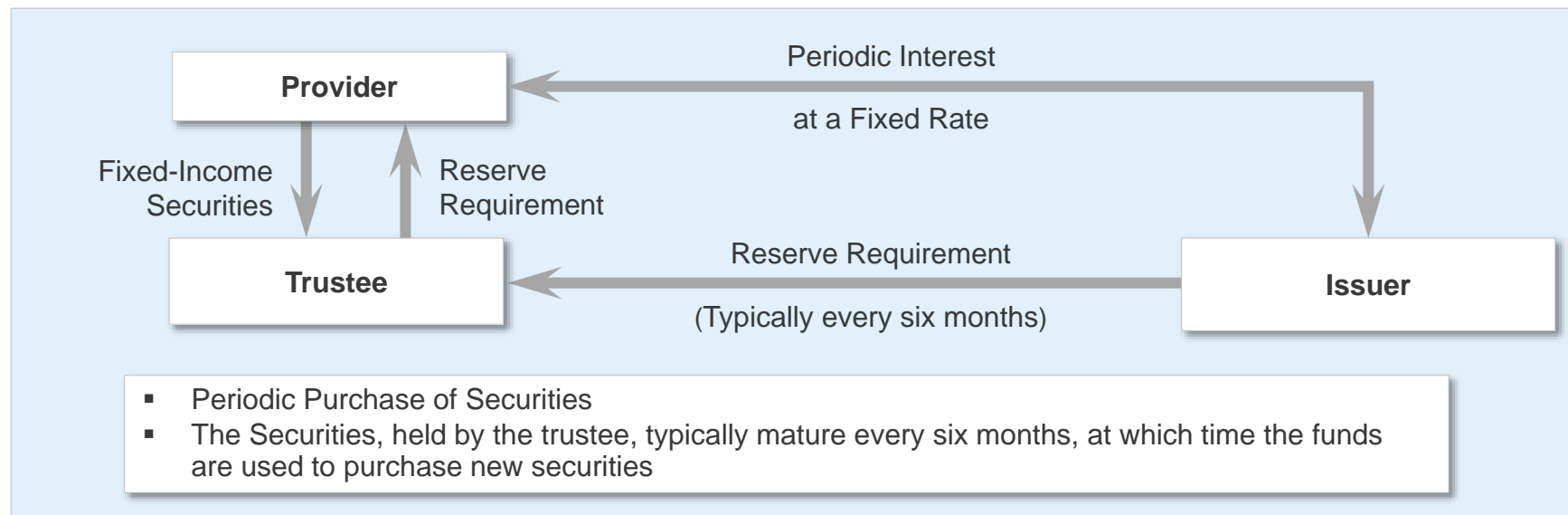
Uncollateralized Investment Agreements

- ▶ Provider guarantees a rate of return on all invested proceeds
- ▶ Security for investment is the pledge/guarantee of the counterparty



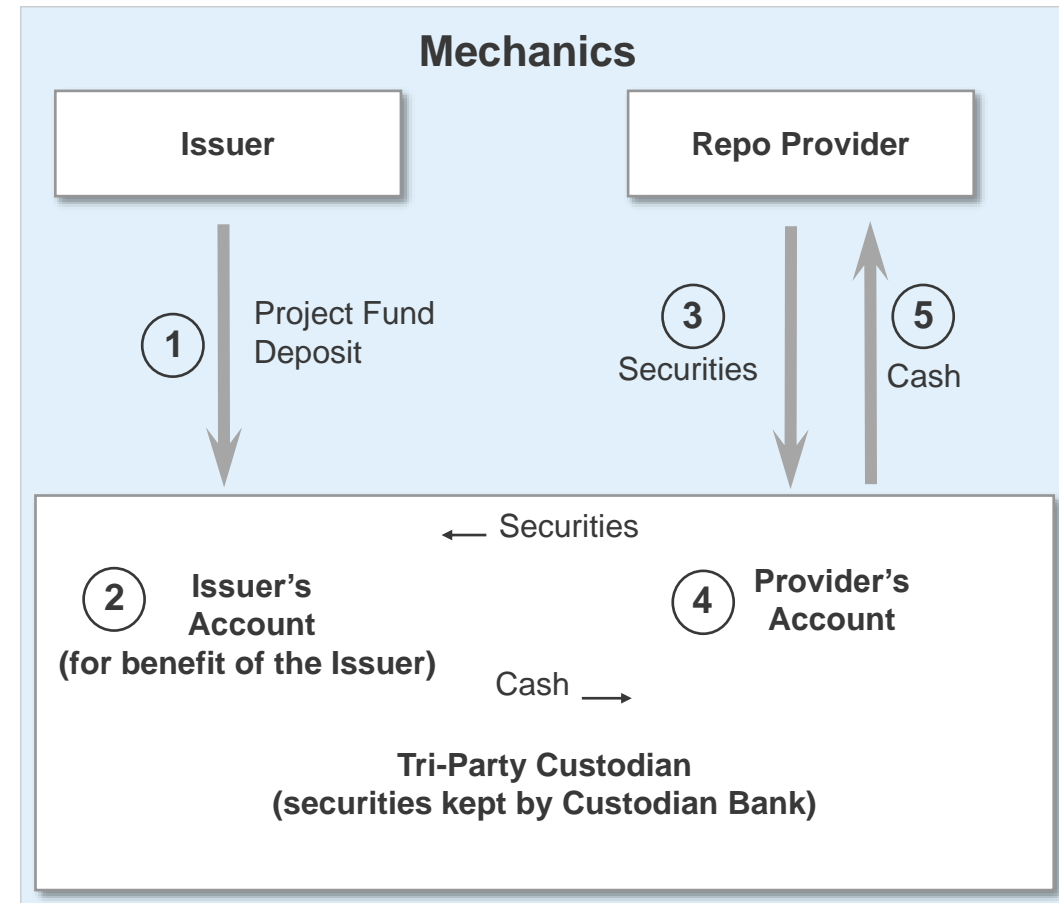
Forward Delivery Agreements

- ▶ Provider is required to sell eligible securities the investor based on a pre-set schedule



Flexible Repurchase Agreements

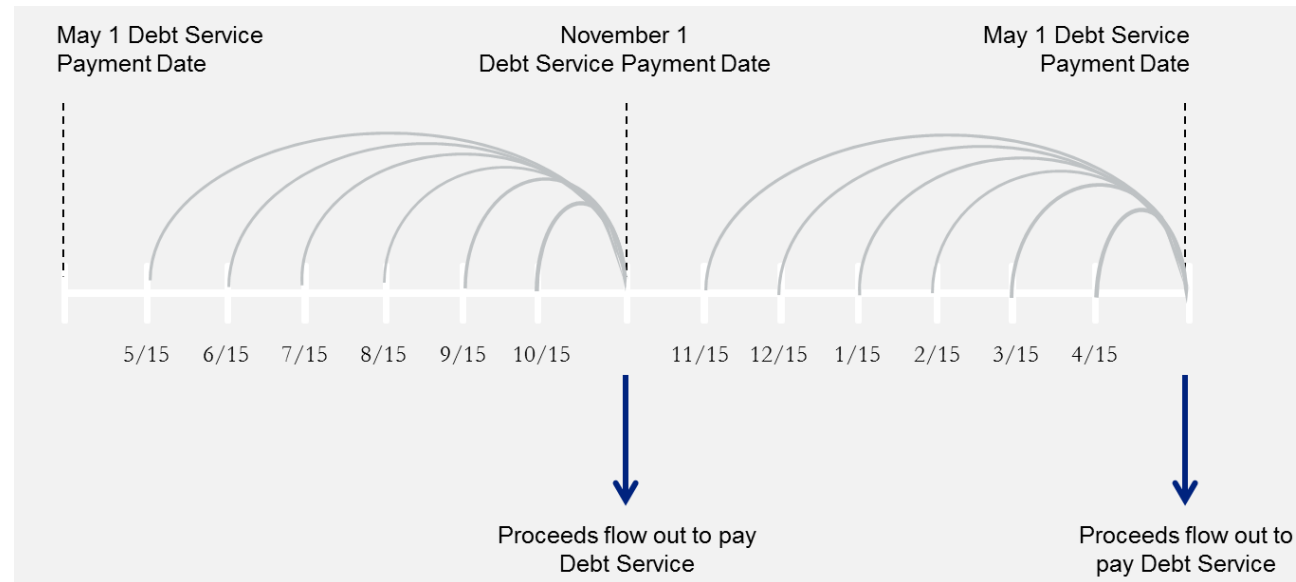
- ▶ Provider sells securities to an investor with a pledge to repurchase them in the future



Cash Flow Factors for Other Funds

- Debt Service Reserve
 - Mark-to-market
 - Amortization

- Capitalized Interest
- Debt Service
 - Bona Fide?



Know Your Risks and Remember Your Objectives

- Interest rate risk
- Reinvestment risk
- Credit/Default risk
- Call risk

Safety



Liquidity



Yield



Current Market Themes

Inflation

- ▶ The Consumer Price Index is increasing 8.5% year-over-year as of July 31, 2022.
- ▶ The Federal Reserve has increased the overnight federal funds target rate four times in 2022.
- ▶ The Federal Reserve is expecting to continue to hike interest rates to combat inflation.

Unemployment

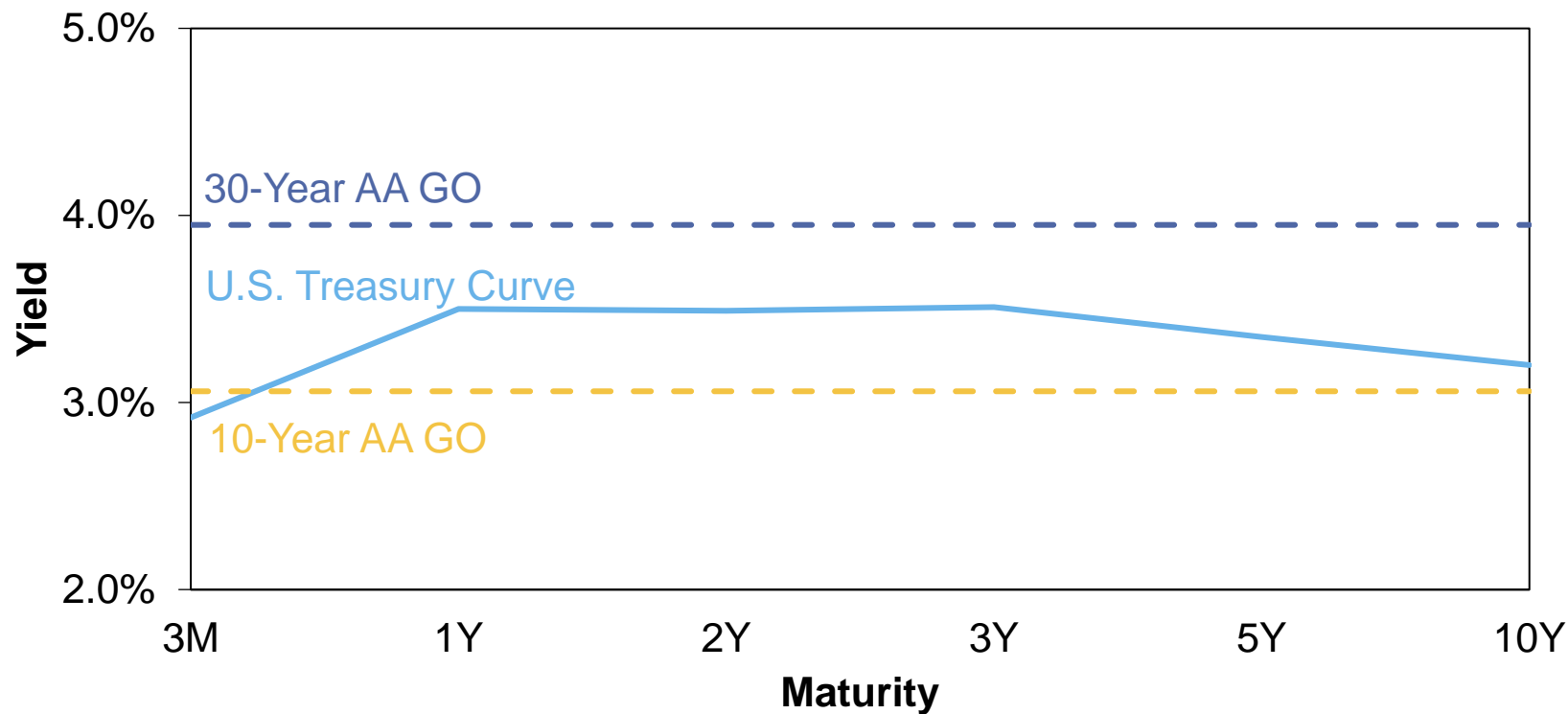
- ▶ The economy added 2.7 million new jobs this year.
- ▶ Unemployment remained at 3.6% while wage growth remains elevated and job openings remain plentiful.
- ▶ Job gains have begun to moderate, and the level of new weekly jobless claims has increased noticeably.

GDP

- ▶ The economy has downshifted as federal stimulus programs ended and rampant inflation cuts into consumer spending habits and corporate profits.
- ▶ Economists' estimates for future GDP reflect expectations for growth to normalize in the future.

Interest rates are on the rise!

Borrowing vs. Investment Rates
As of August 31, 2022



Source: Bloomberg, Municipal Market Data.

How Can a Registered Investment Advisor Help

- Serve as an integral member of the financing team
- Prepare investment analysis for “gross” and “net” funded analysis
- Review permitted investment language
- Recommend an investment strategy
- Implement investment strategy at bond closing
- Aid in preparing investment reports for record retention
- Support your tax compliance obligations



Case Study

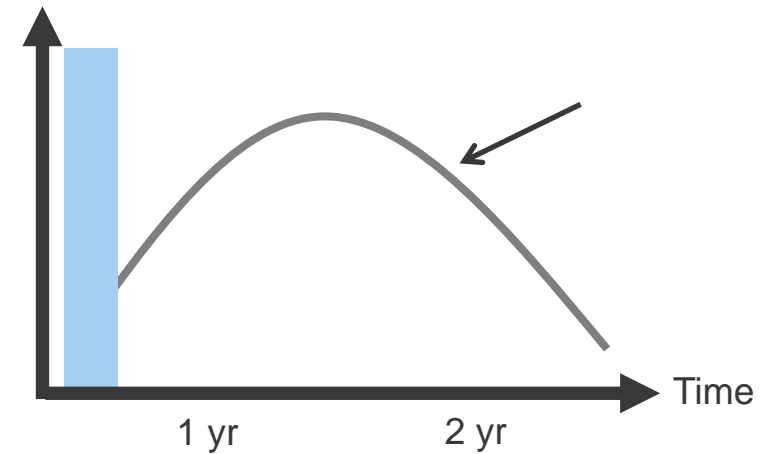
- ▶ Local agency needs to fund a \$100 million building project.
- ▶ Agency issues \$75 million in general obligation bonds to cover a portion of the project expenditures. The rest will be cash funded.
- ▶ The project manager is very certain of draw schedule.



Liquidity Vehicle Strategy

- Convenient
- Typically overnight liquidity
- Variable rate
- Net asset value (NAV)

Projected Expenditures



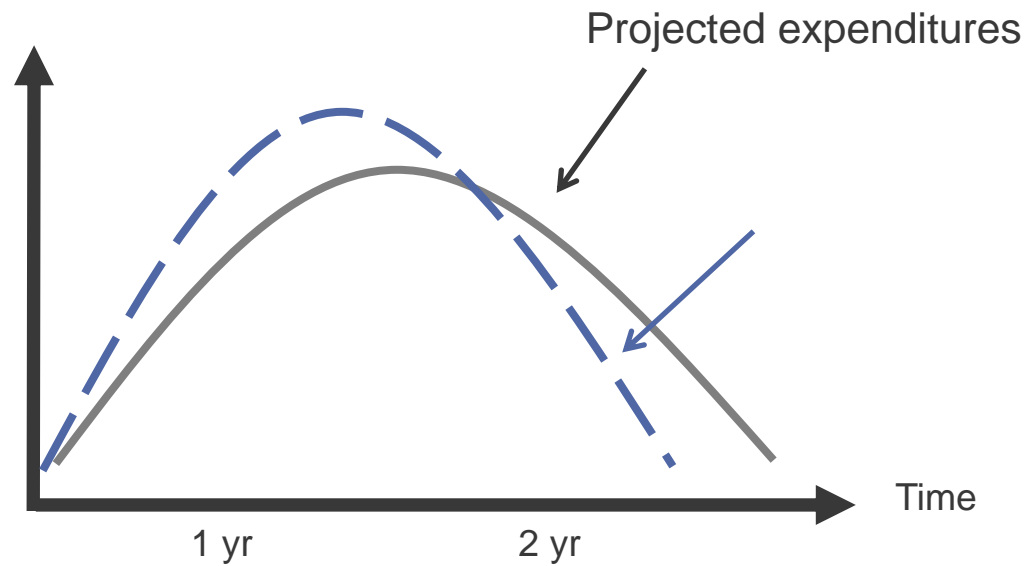
Structured Products Strategy – Current Market

- Difficult, if not impossible, to meet the safe harbor
 - GICs: 2 – 6 providers
 - Repo: 2 – 4 providers
 - FDAs: 1 – 2 providers



Portfolio of Securities Strategy

- Laddered to match project fund schedule
- Fixed rate of interest for life of the security
- Reinvestment risk, if draw schedule is delayed
- Interest rate risk if security must be sold prior to maturity



Sample Investment Strategy

Security Type	Coupon	Maturity Date	Par Amount	Estimated Gross Yield	Estimated Security Cost
Generic LGIP/MMF		8/27/2022	8,056,776	1.62%	8,056,776
U.S. Treasury Note	0.125%	9/30/2022	4,270,000	1.99%	4,264,536
Commercial Paper		10/25/2022	2,260,000	2.62%	2,250,169
U.S. Treasury Note	0.125%	10/31/2022	1,625,000	2.39%	1,619,085
Corporate Bonds	2.050%	11/1/2022	560,000	2.87%	562,827
Corporate Bonds	2.050%	11/21/2022	560,000	3.00%	561,764
Commercial Paper		11/24/2022	2,270,000	2.95%	2,253,372
U.S. Treasury Note	2.000%	11/30/2022	2,510,000	2.55%	2,518,244
Commercial Paper		12/24/2022	2,280,000	2.92%	2,258,036
U.S. Treasury Note	0.125%	12/31/2022	1,800,000	2.86%	1,783,534
Commercial Paper		1/23/2023	2,290,000	3.35%	2,258,513
Commercial Paper		1/23/2023	2,290,000	3.25%	2,259,371
Corporate Bonds	1.950%	2/1/2023	565,000	3.26%	562,612
...
...
U.S. Treasury Note	2.500%	1/31/2024	560,000	3.33%	554,570
U.S. Treasury Note	2.125%	2/29/2024	565,000	3.32%	560,992
U.S. Treasury Note	2.125%	3/31/2024	1,080,000	3.31%	1,069,528
U.S. Treasury Note	2.000%	5/31/2024	2,645,000	3.33%	2,597,842
U.S. Treasury Note	1.750%	6/30/2024	2,180,000	3.32%	2,125,109
U.S. Treasury Note	2.125%	7/31/2024	3,165,000	3.31%	3,100,117
U.S. Treasury Note	1.875%	8/31/2024	2,875,000	3.33%	2,820,468
U.S. Treasury Note	1.500%	9/30/2024	1,190,000	3.32%	1,153,671
U.S. Treasury Note	2.250%	10/31/2024	2,730,000	3.35%	2,687,280
Total			76,306,776		75,400,000
			Average Maturity	Modified Duration	Average Gross Yield
			Estimated Gross Earnings		
			289 Days	0.76 Years	3.29%
					\$2,028,010

Sample. Not a recommendation to buy or sell.

Source: Bloomberg, Estimated market yields as of August 24, 2022.

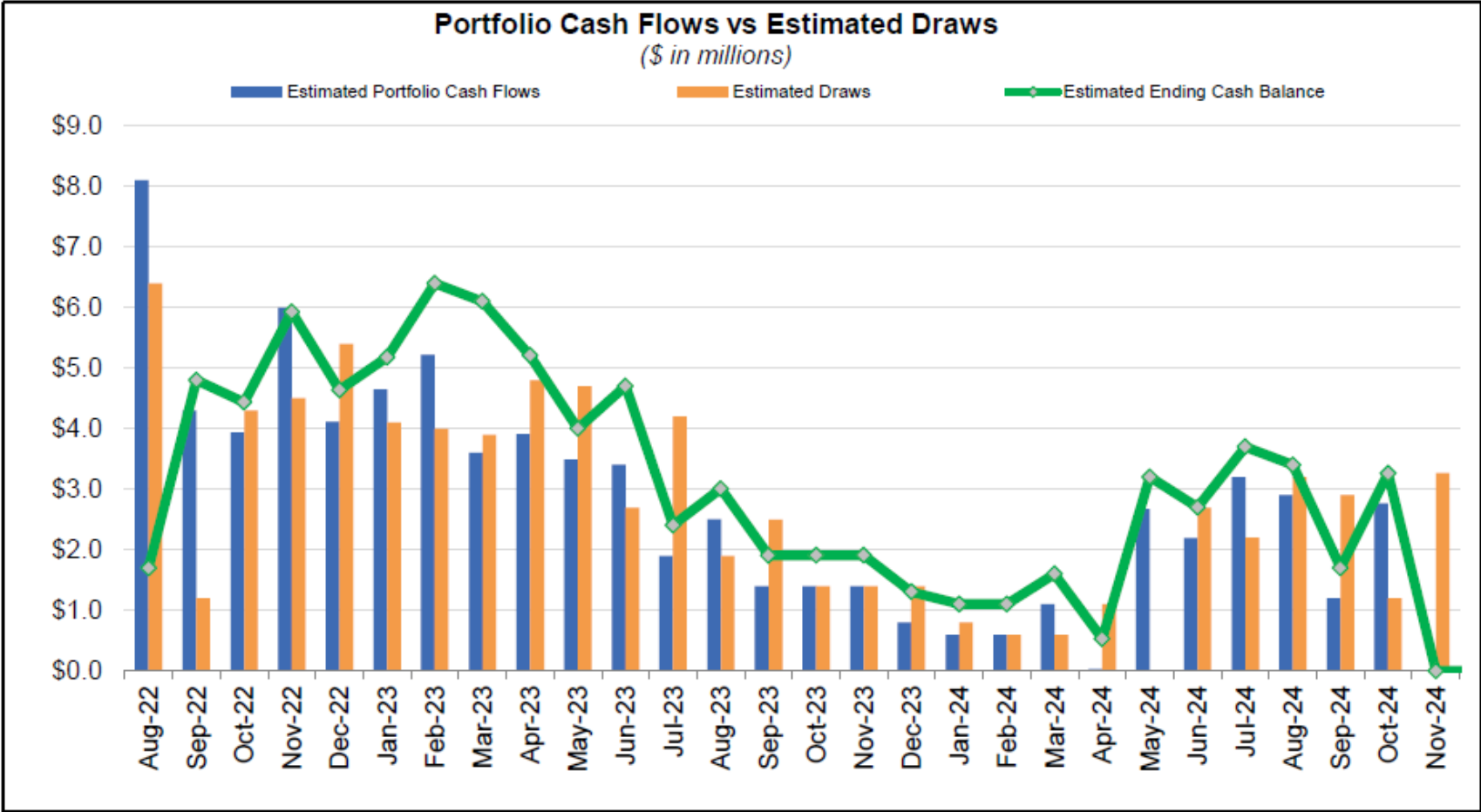
Investment Strategy Cash Flows

Date	Estimated Beginning Pool Balance	Estimated Portfolio Cash Flow	Projected Draw	Estimated Reinvestment Rate	Estimated Monthly Dividend	Estimated Ending Pool Balance
8/26/2022	75,400,000	(67,343,224)		1.620%		8,056,578
8/27/2022	8,056,578		(6,400,000)	1.620%		1,656,380
8/31/2022	1,656,380	45,813		1.620%	652	1,702,051
9/1/2022	1,702,051		(1,200,000)	1.620%		501,853
9/30/2022	501,853	4,304,719		1.620%	721	4,801,545
10/1/2022	4,801,545		(4,300,000)	1.620%		501,359
10/16/2022	501,359	10,922		1.620%		509,495
10/17/2022	509,495	4,520		1.620%		513,829
10/25/2022	513,829	2,260,000		1.620%		2,772,342
10/31/2022	2,772,342	1,663,834		1.620%	1,490	4,436,591
11/1/2022	4,436,591	565,740	(4,500,000)	1.620%		502,157
11/15/2022	502,157	10,129		1.620%		509,865
11/20/2022	509,865	10,823		1.620%		519,823
11/21/2022	519,823	565,740		1.620%		1,085,390
11/24/2022	1,085,390	2,270,000		1.620%		3,354,876
11/25/2022	3,354,876	10,080		1.620%		3,364,792
11/30/2022	3,364,792	2,563,563		1.620%	1,685	5,929,216
12/1/2022	5,929,216		(5,400,000)	1.620%		529,059
12/12/2022	529,059	2,156		1.620%		529,484
12/22/2022	529,484	1,294		1.620%		529,204
12/24/2022	529,204	2,280,000		1.620%		2,808,889
12/31/2022	2,808,889	1,830,250		1.620%	1,676	4,639,760
...
...
10/31/2024	502,240	2,760,713		1.620%	744	3,263,459
11/1/2024	3,263,459		(3,263,459)	1.620%		0
Total		1,990,508	(77,363,459)		37,502	

Sample. Not a recommendation to buy or sell.



Investment Strategy Cash Flows



Sample. Not a recommendation to buy or sell.



Stay Compliant and Monitor Your Investments

- Expenditures
 - Enforce requisition disbursement requirements dictated under indentures
 - Monitor authorized disbursements
 - Require authorized signers
- Arbitrage rebate liability
- Bond financing rules



- Understand cash flow needs
- Strategize about investment options during bond issuance process
- Assess current market environment
- Implement strategy
- Monitor proceeds throughout the life of the project and restructure, if needed



Any Questions?



Steps to Managing New Bond Proceeds

1. Understand the structure of the bond issue
2. Identify investment options
3. Determine if issue will meet spend-down exception from rebate
4. Formulate investment strategy (safety always paramount)
5. Implement strategy
6. Actively manage to maintain optimization
7. Monitor compliance with spend-down exception
8. Maintain all necessary records
9. Calculate arbitrage rebate, if needed

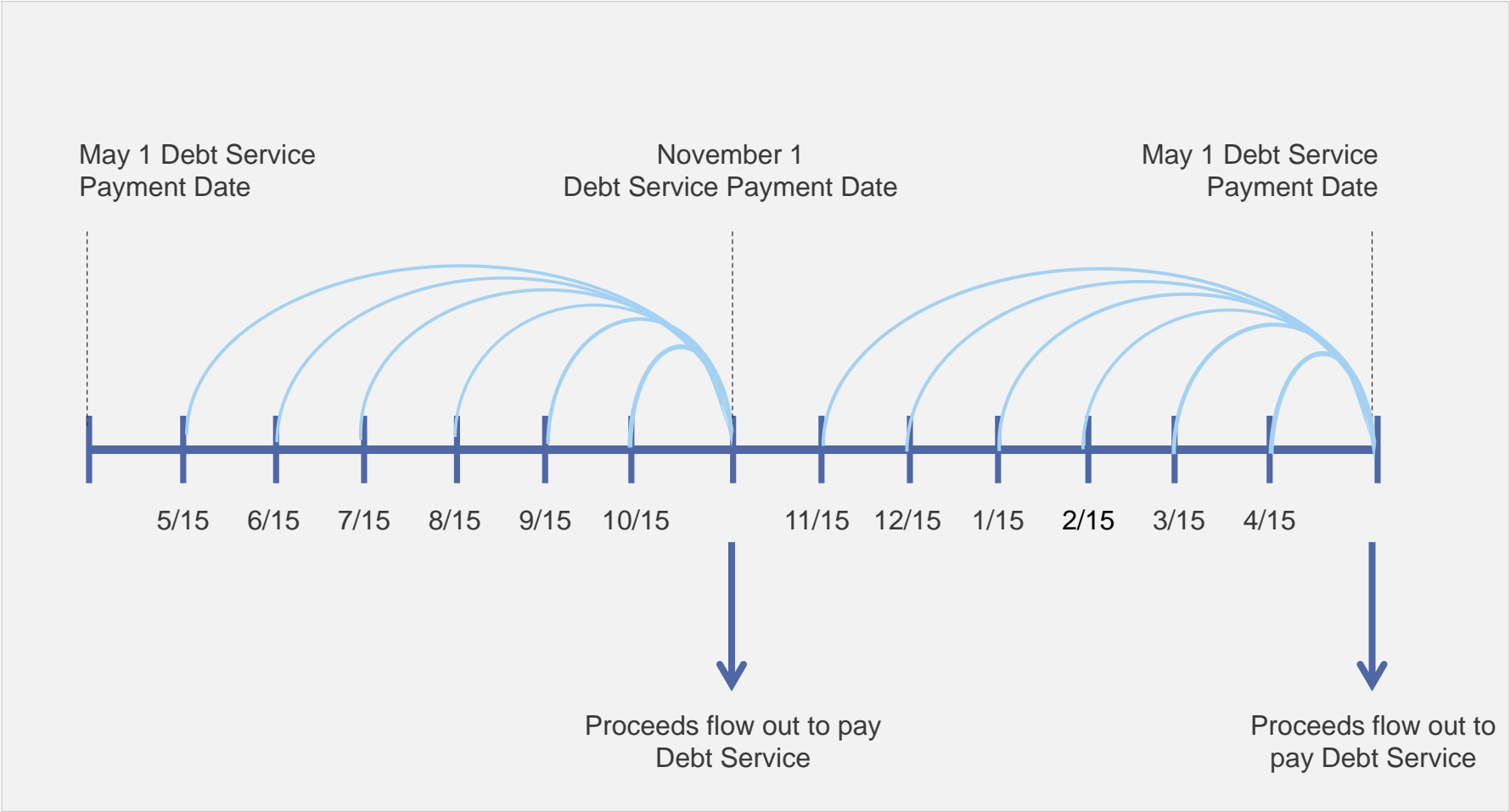


Structured Investment Product Strategy

	FDA	Guaranteed Investment Contract	Repurchase Agreement
Security for Investment	Purchased securities	Promissory note from counterparty	Collateral held at 3 rd party custodian
Mechanism for Interest Payments	Difference between purchase price and par amount of securities	Credited to account	Credited to account
Credit Risk	Limited to underlying deliverables; very low if UST	Depends on agreement counterparty	Depends on agreement counterparty; collateral reduces concerns subject to "J"-Risk
Bankruptcy Considerations	None - clean bankruptcy opinion is market standard	Subject to clawback and bankruptcy stay	Intended to be exempt; however, clean bankruptcy opinion not possible
Other Risks	Mark-to-market risk (auditors) and performance risk	Overnight bankruptcy risk – no collateral	"J"-Risk – interpretation of structure under Bankruptcy Code



Factor: Cash Flow Strategy



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