



Investing Bond Proceeds

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Let's Build Our Project!





When to Think About Investments?

- ◆ Developing “net” costs in funding plan
 - Critical when determining how much to raise/borrow
- ◆ When bond documents are being drafted
 - Definition of “permitted investments”
- ◆ Well BEFORE the bond pricing
 - Allows time to implement the investment “game plan” at bond closing



Why Having a Strategy Is Important

Increases the potential for higher earnings on the proceeds of a debt issue.

- ◆ Reduce amount you need to borrow
- ◆ Potential to lessen the amount you may need to spend from general fund
- ◆ Optimize retainable earnings
- ◆ Plan in place 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 investment/rate environment



Why Is Bond Structure Important?

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

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

Debt Funded

- Debt Service Funds
- Revenue Fund
- Other Reserve Funds

**Funded by
project
revenues or
other sources**



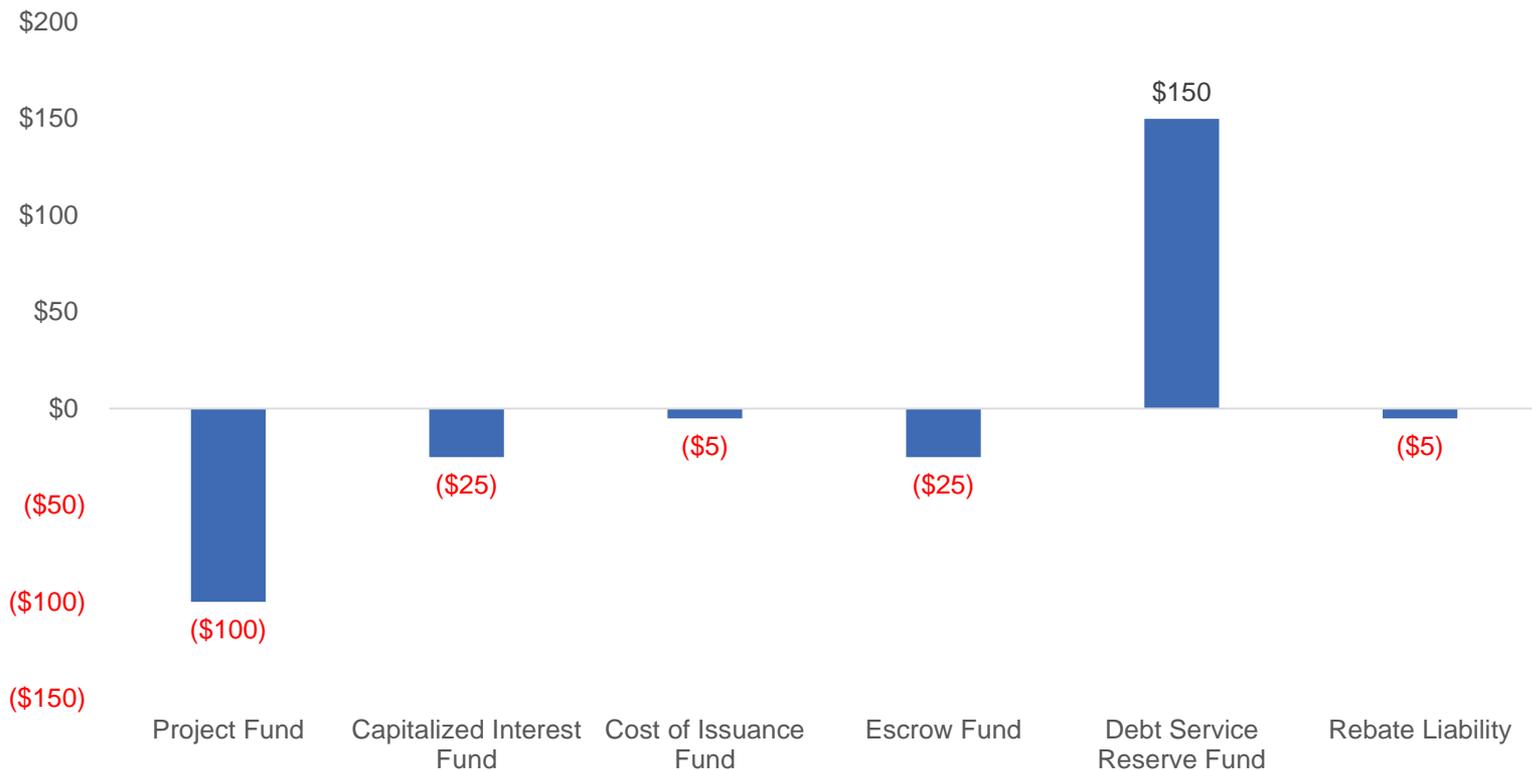
Arbitrage Impacts the Investment Strategy

- ◆ 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





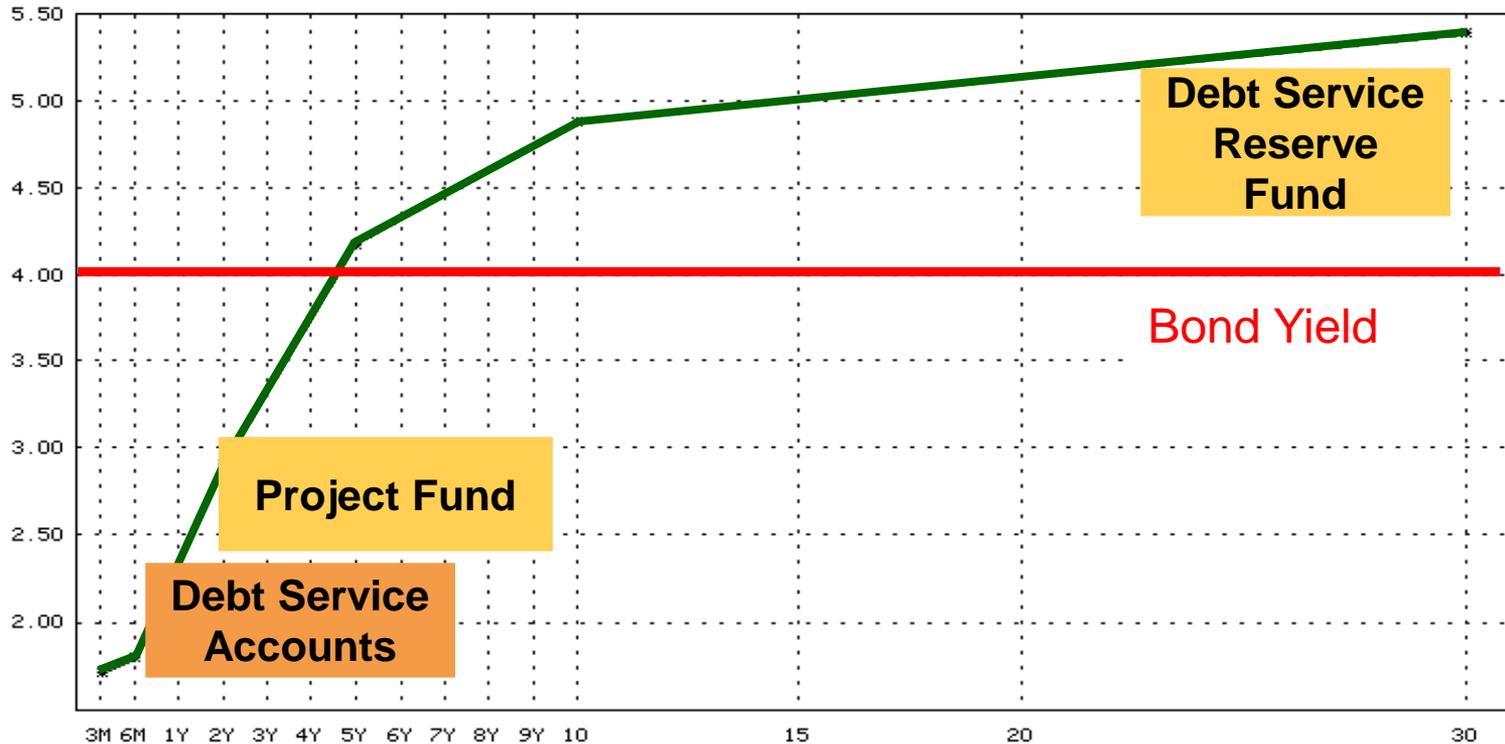
Arbitrage Considerations

- ◆ Yield restriction is also cumulative but begins at the end of the so-called temporary period
 - Waiving the temporary period starts the clock early in the low interest rate environment



Cash Flow Will Impact Return

“Normal” U.S. Treasury Yield Curve



Source: Bloomberg

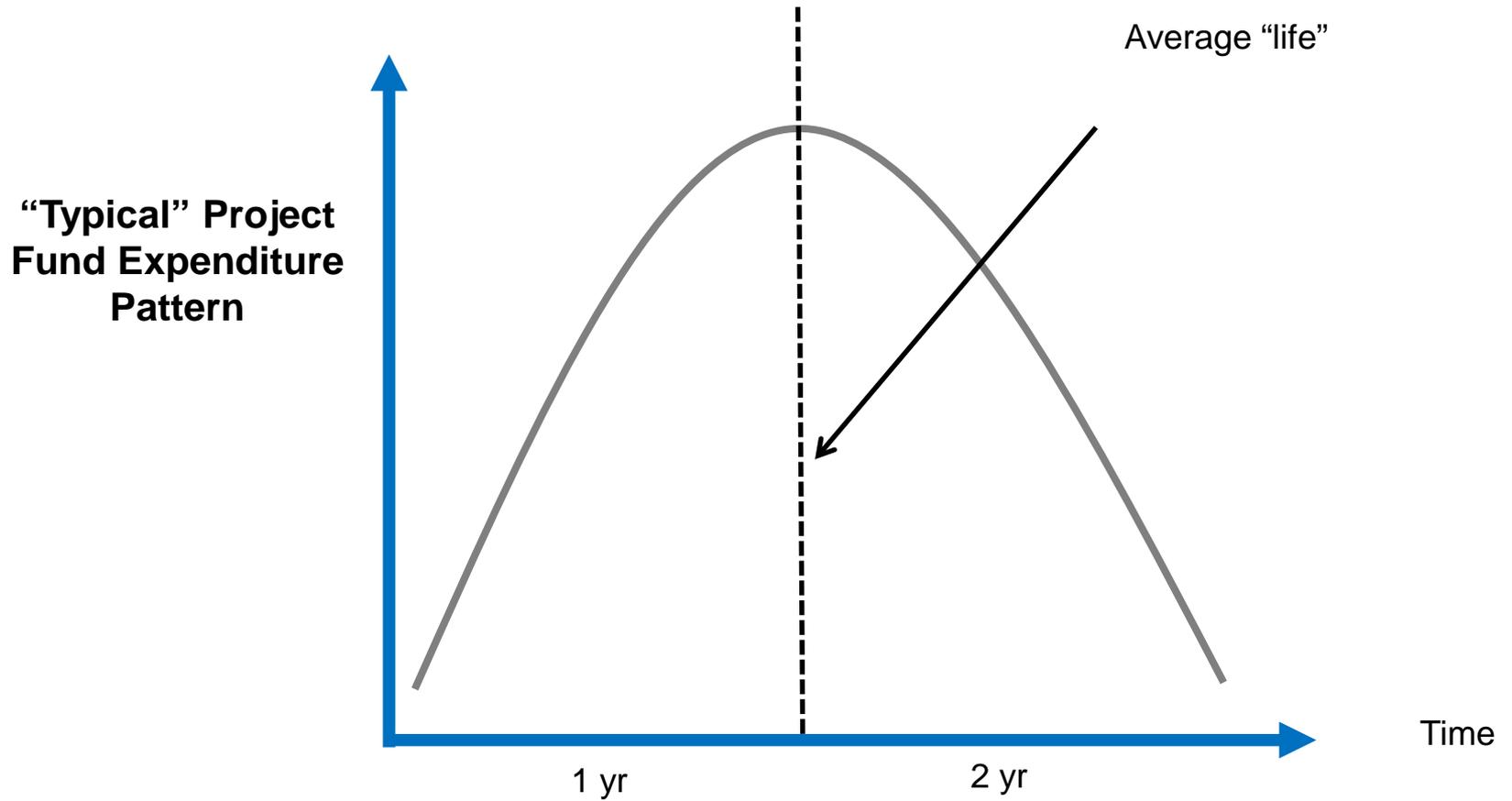


What Is a Draw Schedule?

- ◆ 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 Certain...

- ◆ 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



Bond Documents

- ◆ 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
 - CGC Section 53601(m)
- ◆ Trust indenture/resolution
- ◆ Investment policies
- ◆ Other requirements





Mixing and Matching Investments

- ◆ 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



Liquidity Pools – Summary

Features

- Liquidity within restrictions of investments
- Ease in administration

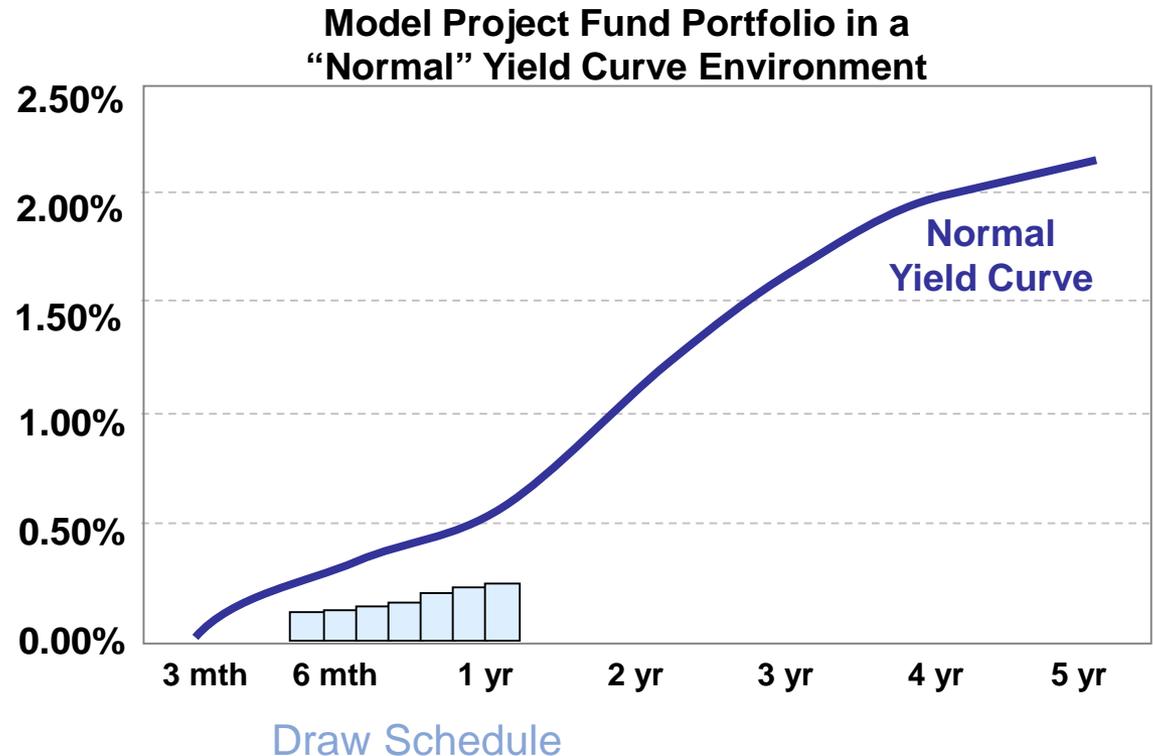
Issues to consider

- 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 securities must be sold prior to maturity





U.S. Treasury Obligations

Issuer: U.S. Government

Credit Quality: Risk Free

Liquidity: High (active market)

Treasuries

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

Agencies



Commercial Paper

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

EDS



Corporate Notes

Issuer: Publicly owned corporations

Credit Quality: Varies

Term of Maturity: 1 - 30+ years

Liquidity: Moderate

Caution: Unsecured promissory note

Credit analysis required

Corporates



Yield Environment as of July 31, 2017

Maturity	Treasury	Federal Agency	AA Corporate	A Corporate
3-Month	1.07%	1.05%	1.24%	1.29%
6-Month	1.13%	1.14%	1.36%	1.39%
1-Year	1.22%	1.26%	1.41%	1.58%
2-Year	1.35%	1.41%	1.65%	1.81%
3-Year	1.51%	1.54%	1.86%	2.04%
5-Year	1.84%	1.86%	2.25%	2.42%
10-Year	2.30%	2.45%	3.02%	3.17%

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.



Portfolio of Securities – Summary

Features

- ◆ Customized investment strategy
- ◆ Active trading can improve yield
- ◆ Portfolio restructured as draw schedule changes and to adjust to market changes
- ◆ 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



Investment Agreements

- ◆ Various types
 - Guaranteed investment contracts
 - Forward delivery agreements
 - Repurchase agreements



Investment Agreements – Summary

Features

- ◆ Laddered to match project fund schedule
- ◆ Fixed rate of interest for life of the investment
- ◆ No reinvestment rate risk

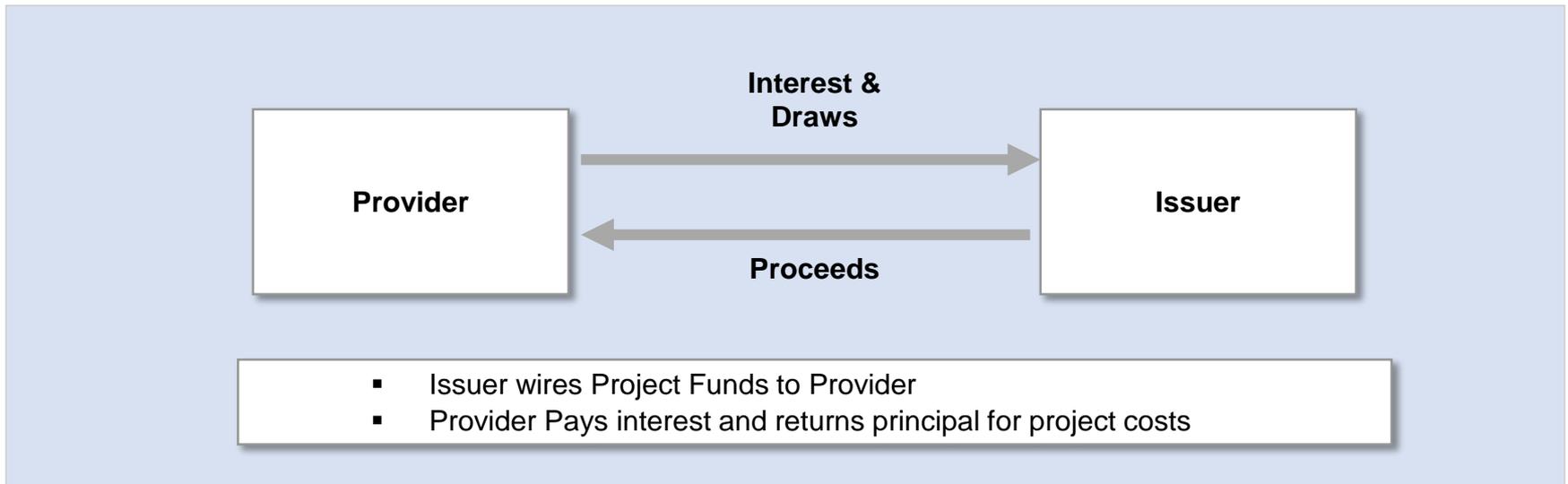
Issues to consider

- ◆ Interest rate risk
- ◆ Credit risk to provider



Uncollateralized Investment Agreements

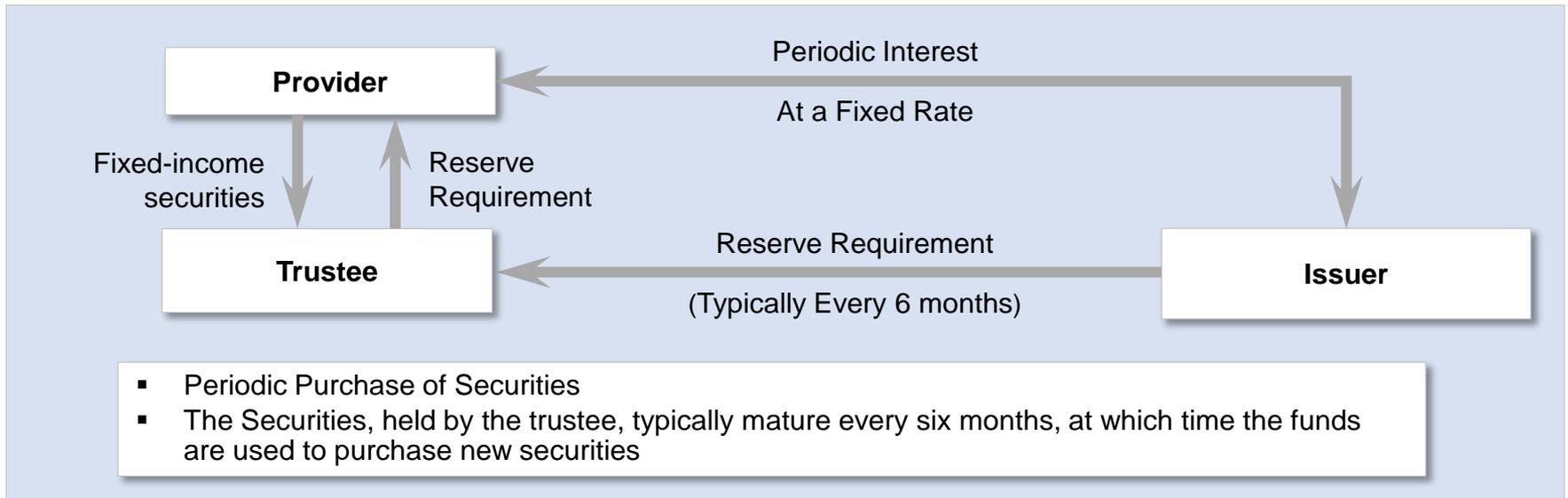
- ◆ Provider guarantees a rate of return on all invested proceeds
- ◆ Security for investment is the pledge/guarantee of the counterparty





Forward Delivery Agreements

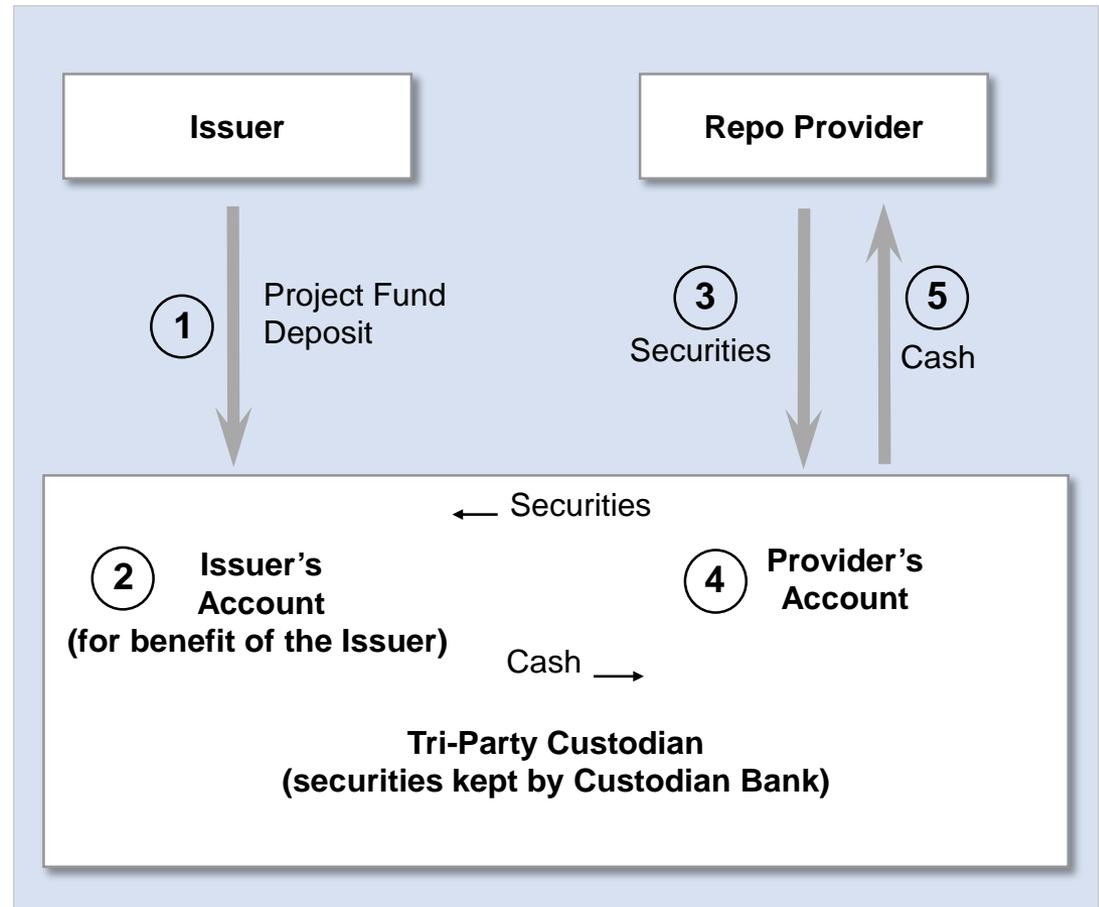
- Provider is required to sell eligible securities the investor based on a pre-set schedule





Flexible Repurchase Agreements

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





Cash Flow Factors for Other Funds

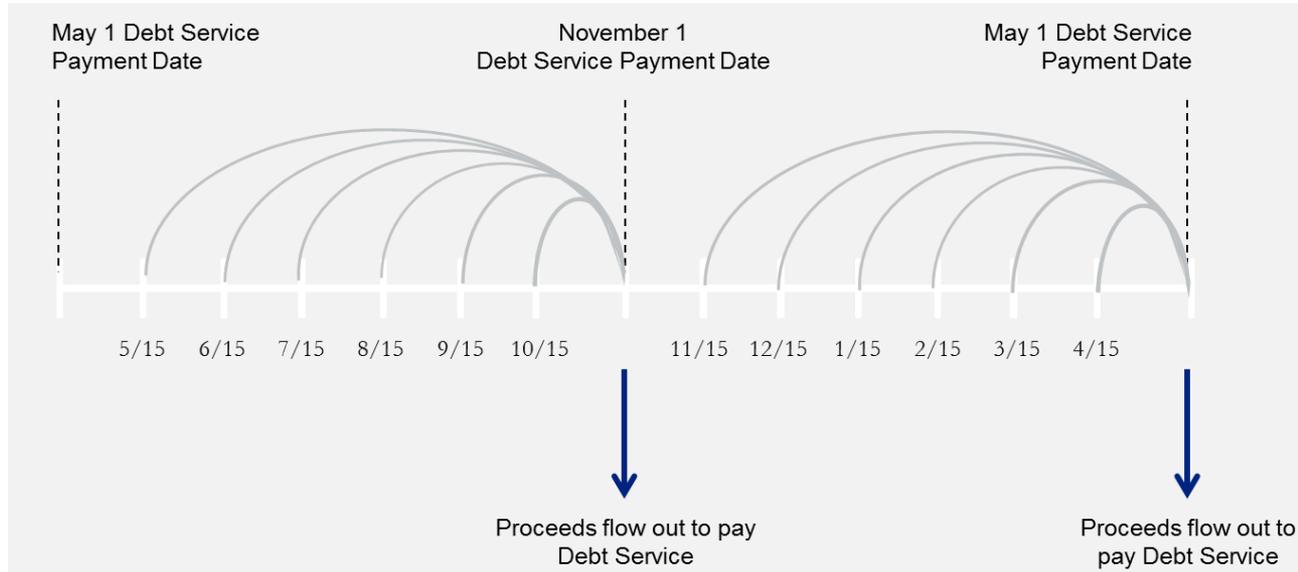
◆ Debt Service Reserve

- Mark-to-market
- Amortization

◆ Capitalized Interest

◆ Debt Service

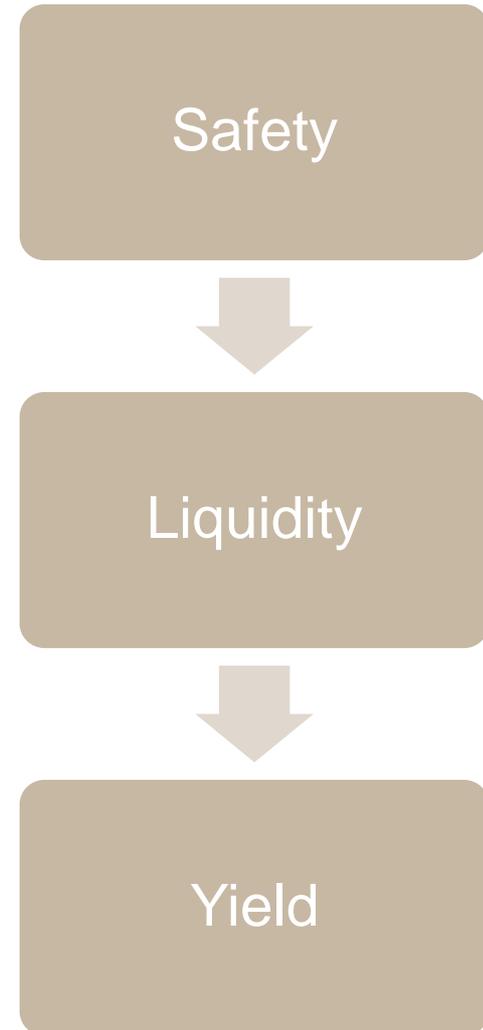
- Bona Fide?





Know Your Risks and Remember Your Objectives

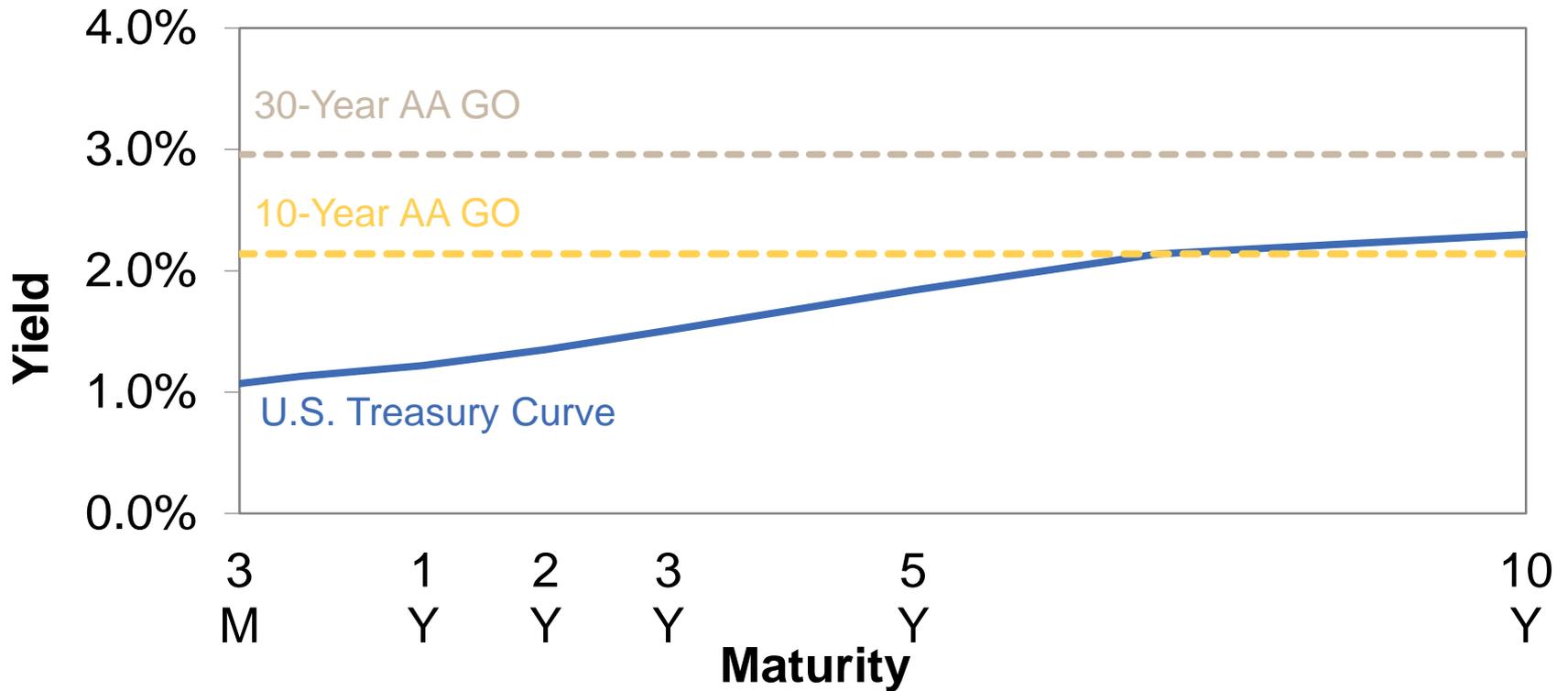
- ◆ Interest rate risk
- ◆ Reinvestment risk
- ◆ Credit/Default risk
- ◆ Call risk





Current Rate Environment

Borrowing vs. Investment Rates As of July 31, 2017



Bloomberg, Municipal Market Data.



Current Market Themes

- ◆ U.S. economic conditions are characterized by:
 - A pickup in GDP growth in Q2
 - Continuing labor market strength, but with modest wage growth
 - Muted inflation pressures
 - A weaker U.S. dollar
- ◆ Fed officials still forecast one more rate hike in 2017, according to the June “dot plot”
- ◆ The Fed plans to reduce the size of its balance sheet “relatively soon”
- ◆ Geopolitical risks continue to loom in the background



How Can A Registered Investment Advisor Help

- ◆ Be an integral member of the financing team
- ◆ Prepare investment scenarios 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

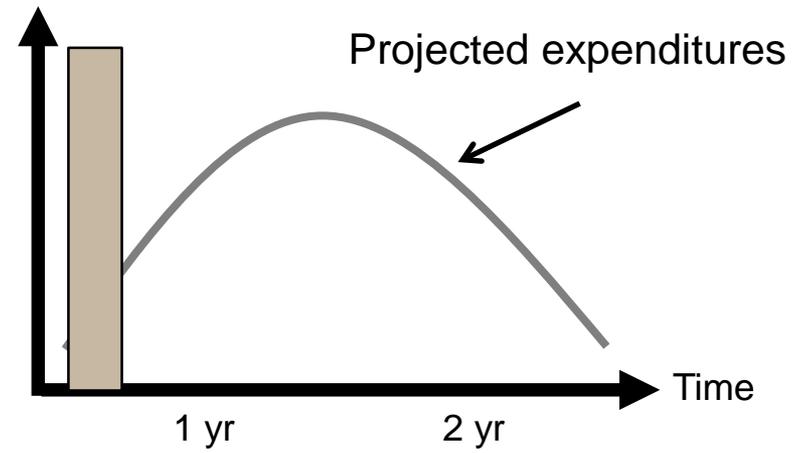
- Local agency needs to fund a \$100 million building project.
- Agency issues \$75 million in general obligation bonds to cover a portion of the project expenditures.
- The project manager is very certain of draw schedule.
- Arbitrage yield on the bond issue is 3.10%.

Draw Schedule	
Q4, 2017	\$13M
Q1, 2018	\$8M
Q2, 2018	\$4M
Q2, 2019	\$25M
Q3, 2019	\$25M



Liquidity Vehicle Strategy

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





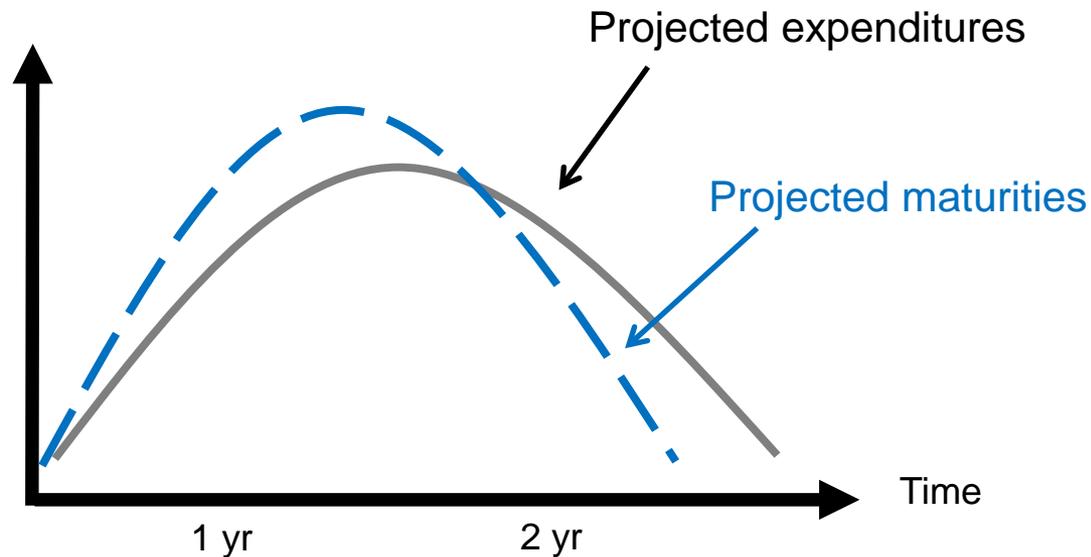
Structured Products Strategy – Current Market

- ◆ Difficult, if not impossible, to meet the safe harbor
 - GICs: 1 – 2 providers
 - Repo: 2 – 6 providers
 - FDAs: 2 – 4 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 Net Yield	Estimated Security Cost
Generic MMF		08/08/17	104,550	0.85%	0.85%	104,550
U.S. Treasury Note	0.625%	09/30/17	12,575,000	1.07%	0.97%	12,594,350
Commercial Paper		12/03/17	2,100,000	1.33%	1.23%	2,090,914
Commercial Paper		12/03/17	2,100,000	1.30%	1.20%	2,091,121
Commercial Paper		12/03/17	2,100,000	1.31%	1.21%	2,091,052
Commercial Paper		12/03/17	1,500,000	1.30%	1.20%	1,493,658
Commercial Paper		03/03/18	1,400,000	1.35%	1.25%	1,389,161
Commercial Paper		03/03/18	2,100,000	1.46%	1.36%	2,082,407
Federal Agency Note	3.750%	03/27/19	23,700,000	1.34%	1.24%	24,944,052
Federal Agency Note	1.750%	06/20/19	25,880,000	1.37%	1.27%	26,118,736
Total			73,559,550			75,000,000

Average Maturity	Modified Duration	Average Gross Yield	Average Net Yield
467 Days	1.24 Years	1.34%	1.25%

Estimated Gross Earnings	Estimated Portfolio Fees	Estimated Net Earnings
1,303,614	94,093	1,209,522

Sample. Not a recommendation to buy or sell.



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
08/07/17	75,000,000	(74,895,450)		0.850%		104,348
08/31/17	104,348			0.850%	58	99,556
09/27/17	99,556	444,375		0.850%		538,474
09/30/17	538,474	12,614,297	(13,000,000)	0.850%	100	152,265
10/31/17	152,265			0.850%	110	147,183
11/30/17	147,183			0.850%	103	142,261
12/03/17	142,261	7,800,000		0.850%		7,941,758
12/20/17	7,941,758	226,450		0.850%		8,165,726
12/31/17	8,165,726		(8,000,000)	0.850%	5,246	169,365
01/31/18	169,365			0.850%	122	164,960
02/28/18	164,960			0.850%	108	160,979
03/03/18	160,979	3,500,000		0.850%		3,660,541
03/27/18	3,660,541	444,375		0.850%		4,101,642
03/31/18	4,101,642		(4,000,000)	0.850%	2,439	103,535
04/30/18	103,535			0.850%	72	99,516
05/31/18	99,516			0.850%	72	95,359
06/20/18	95,359	226,450		0.850%		319,081
06/30/18	319,081			0.850%	119	317,835
07/31/18	317,835			0.850%	229	313,836
08/31/18	313,836			0.850%	227	309,834
09/27/18	309,834	444,375		0.850%		750,526
09/30/18	750,526			0.850%	247	750,364
10/31/18	750,364			0.850%	542	746,677
11/30/18	746,677			0.850%	522	743,107
12/20/18	743,107	226,450		0.850%		966,828
12/31/18	966,828			0.850%	594	965,922
01/31/19	965,922			0.850%	697	962,390
02/28/19	962,390			0.850%	628	959,199
03/27/19	959,199	24,144,375		0.850%		25,099,891
03/31/19	25,099,891		(25,000,000)	0.850%	2,941	102,547
04/30/19	102,547			0.850%	72	100,483
05/31/19	100,483			0.850%	73	98,348
06/20/19	98,348	26,106,450		0.850%		26,203,374
06/30/19	26,203,374		(26,209,522)	0.850%	6,148	0
Total		1,282,147	(76,209,522)		21,468	

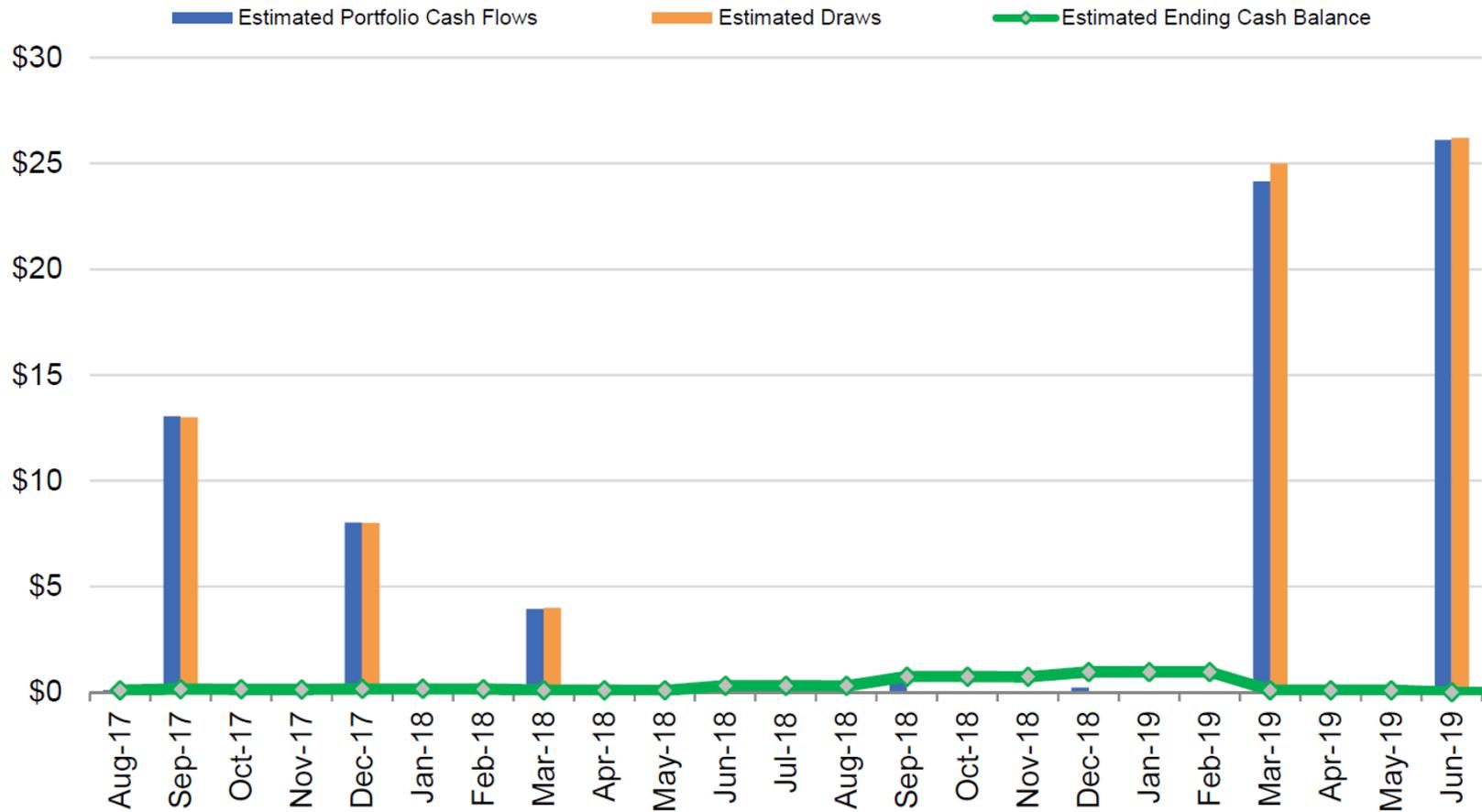
Sample. Not a recommendation to buy or sell.



Investment Strategy Cash Flows

Portfolio Cash Flows vs Estimated Draws

(\$ in millions)



Sample. Not a recommendation to buy or sell.



Stay Compliant and Monitor Your Investments

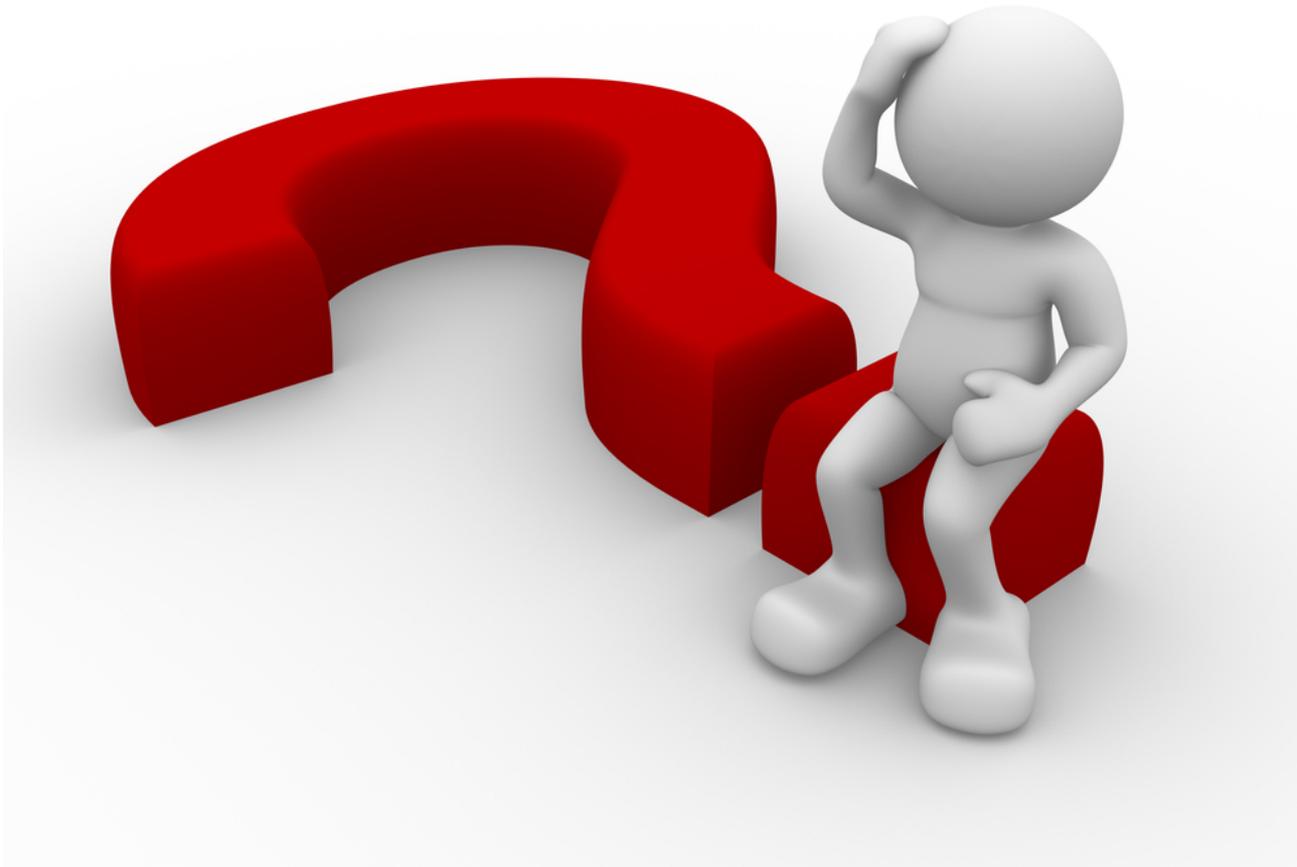
- ◆ Expenditures
 - Enforce requisition disbursement requirements dictated under indentures
 - Monitor authorized disbursements
 - Require authorized signers
- ◆ Arbitrage rebate liability
- ◆ Bond financing rules





Summary

- ◆ 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





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