OFFICE OF THE

ARIZONA STATE TREASURER

EILEEN I. KLEIN

TREASURER

OCTOBER 2018

Presented To:

Arizona State Board of Investment

November 30, 2018

STATE BOARD OF INVESTMENT

A G E N D A

November 30, 2018

1. Call to Order; Opening Remarks ……Eileen I. Klein, Chair
2. Approval of Minutes of October 30, 2018 BOI Meeting
3. Investment Outlook and Summary Review of Treasurer's Monthly Reports
   A. State Agency Earnings Distributions ……... Dennis Stevenson, CIO
      State Agency Operating Average Invested Balances
      State Agency Investments and Performance Reports
   B. LGIP Yield Analysis …… Jake Richardson, Portfolio Manager
      LGIP Pools Investments and Performance Reports
   C. Endowment Earnings Distributions …….Tim White, Director of Endowments
      Land Sales Monthly Proceeds Endowment Funds
      Endowment Investments and Performance Reports
4. Approval of October 2018 Report
5. Treasurer's Report ……. Eileen I. Klein, Chair
6. Proposed Changes to the Investment Policy
   A. Review of Proposed Changes…….……..…….Eric Stivers, Investment Analyst
   B. Discussion and Action on Proposed Changes……..……..……..Eileen I. Klein, Chair
7. Budget Outlook……..Richard Stavneak, Director, Joint Legislative Budget Committee
8. Market Outlook.....Harry Papp, Board Member
9. Call to the Public
10. Notice of Next Meeting
11. Adjournment

REPORT OF THE STATE TREASURER

FOR

November 30, 2018

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Minutes of
BOARD OF INVESTMENT MEETING

The regular meeting of the State Board of Investment was held on October 30, 2018 in the Office of the State Treasurer, 1700 West Washington, State Capitol, West Wing, Treasurer's Conference Room, Phoenix, Arizona. Treasurer Klein called the meeting to order at approximately 1:30 p.m.

Members Present:

Eileen I. Klein, Chair, State Treasurer, Via-Teleconference
Harry A. Papp, CFA & Managing Partner, L. Roy Papp & Associate
Beth Ford, Treasurer, Pima County, Via-Teleconference
Robert Charlton, Superintendent, Department of Financial Institutions

Designee Present:

Clark Partridge, Comptroller, Arizona Department of Administration

Members Absent:

Gilbert Davidson, Interim Director, Arizona Department of Administration

1. **Call to Order; Opening Remarks:**
   Treasurer Klein called the October 30, 2018 BOI meeting to order at approximately 1:30 p.m.

2. **Approval of Minutes:**
   Mr. Papp made a motion to approve the September 26, 2018 minutes. Ms. Ford seconded the motion. Motion carried.

3. **Investment Outlook and Summary Review of Treasurer's Monthly Reports:**

   A. **State Agency Earnings Distributions, Operating Average Invested Balances, Investments and Performance Reports**
   Chief Investment Officer, Dennis Stevenson, distributed his outlook and highlighted the results of the State Agency performance for the month of September 2018. See memo.

   B. **LGIP Yield Analysis, Pools Investments and Performance Reports**
   Portfolio Manager, Jake Richardson, distributed his outlook and highlighted the results for the Local Government Investment Pools performance for the month of September 2018. See memo.

   C. **Endowment Earnings Distributions, Land Sales Monthly Proceeds, Investment and Performance Reports**
   Director of Endowments, Tim White, distributed his outlook and highlighted the results for the Endowment performance for the month of September 2018. See memo.

4. General Business

A. Review of Short-Term Fixed Income Benchmarks
Investment Analyst, Eric Stivers, presented to the Board the Review of Short-Term Fixed Income Benchmarks.

B. Update on Review of Assets and Asset Performance
Chief Investment Officer, Dennis Stevenson updated the Board on the Review of Assets and Asset Performance.

C. Approval of U.S. Bancorp Asset Management External Manager
Chief Investment Officer, Dennis Stevenson presented the IRMC recommendations on the approval of U.S. Bancorp Asset Management External Manager.

Mr. Papp made a motion to approve U.S. Bancorp Asset Management External Manager. Ms. Ford seconded the motion. Motion carried.

5. Approval of September 2018 Report:
Mr. Partridge made a motion to approve the August 2018 Report. Mr. Charlton seconded the motion. Motion carried.

6. Treasurers Report:
Treasurer Klein provided the Board with a brief Treasurer's Report which included an update on the operations of the office.

7. Market Update:
Mr. Papp provided the Board with a brief Market Update.

8. Call to the Public:
There was no Public comment.

9. Notice of Next Meeting:
Treasurer Klein advised the Board that the next regular meeting of the Board of Investment will be Friday, November 30, 2018 at 1:30 p.m. at 1700 West Washington, State Capitol, West Wing, Treasurer's Conference Room, Phoenix, Arizona.

10. Adjournment:
Mr. Partridge made a motion to adjourn the BOI meeting. Mr. Charlton seconded the motion. Upon unanimous approval the BOI Meeting was adjourned at 2:52 p.m.

Respectfully Submitted by:

_____
Christine Thurston
Executive Assistant

Approved by:

_____ _____
Eileen I. Klein Date
Chair

OFFICE OF THE
ARIZONA STATE TREASURER

EILEEN I. KLEIN
TREASURER

Investment Summary | October 2018

Overall Performance – Where We Are Now |

- State Agency Pools:
  - Total assets: $6,199,444,439
  - October earnings distributed: $10,485,736 (+69.93% YoY)
  - Fiscal YTD earnings distributed: $39,528,594 (+67.19%)

Outlook |

It's highly probable the Federal Reserve will raise the discount rate 25bps on December 19, 2018. This will be happening during historically low unemployment rates and high consumer confidence. This should move the US Treasury 2yr rate to the 3%+ range and the 10yr UST to 3.5%+/- range. This will cause mortgage and deposit rates to rise accordingly helping savers and simultaneously curtailing the domestic housing industry.

Negative economic headwinds will continue from both Europe and Asia. 1yr deposit rates for European savers are negative. European stock markets are down an average of 15% YTD. Their currency is down 6% YTD vs the USD. The German 10yr bonds only yield 0.34 and that is the strongest economy in Europe. All these changes combined with Britain leaving the European market, will likely cause capital flows to the American debt markets suppressing rates to some extent. We do not anticipate the Federal Reserve will raise rates multiple times during 2019 due to the economic drag caused by these and other world-wide forces including falling commodity prices.

Strategy: Monthly Commentary |

We have been short duration while short-term rates rewarded us for this position but now we continue to extend duration.

We will do this largely in the form of 2-year US Treasuries after the December FOMC meeting is priced into the debt market.

Alternative Scenarios |

If there is a large unexpected rise in commodity prices or significant decrease in the value of the US dollar we will adjust yield and duration accordingly.

Dennis Stevenson, CIO

State Agency Investment Pool Balances |

	October 31, 2018	October 31, 2017	FY Change
Pool 2 FF&C	$1,100,585,750	$1,031,450,779	+$69,134,971
Pool 3 Internal	$1,860,569,055	$1,335,159,065	+$525,409,990
Pool 3 External	$106,231,643	$104,761,735	+$1,469,908
Pool 4 Gov.	$1,231,613,154	$1,082,711,782	+$148,901,372
Pool 10 Internal	$1,066,998,829	$934,933,927	+$132,064,902
Pool 10 External	$108,149,630	$226,221,311	-$118,071,681
Pool 12 CAWCD	$399,970,692	$364,773,314	+$35,197,378
Pool 16 ECDHB	$325,325,685	$348,097,894	-$22,772,209
TOTAL STATE AGENCY	**$6,199,444,439**	**$5,428,109,808**	**+$641,726,042**

Dennis Stevenson, CIO

Local Government Investment Pools (LGIP) Summary

Overall Performance – Where We Are Now |

- Local Government Investment Pools:
  - Total assets: $3,297,540,010
  - Total earnings: $5,548,070; +$2.8MM over October 2017
  - Total fiscal year yields:
    - Pool 5: 2.11%; 104bps higher than October 2017
    - Pool 7: 1.93%; 99bps higher than October 2017
    - Pool 500: 2.30%; 62bps higher than October 2017
    - Pool 700: 1.91%; 44bps higher than October 2017

Strategy: Short-term Pools 5 & 7 |

We are now looking forward to the December 19th FOMC meeting, anticipating a 25bps rate hike. Securities that matured in early October were quickly reinvested into higher rates reflecting in the yields for both pools. We are targeting the next FOMC interest rate move for our securities in both Pools 5 and 7. The LGIP participant deposits increased over $457 million in October, with over $411 million flowing into Pool 5. We do expect Pool 5's balance to draw down over the next two months as they normally do before picking back up in January. We will be maintaining the 10-15% liquidity target for our participants in both pools, while taking advantage of increased rates. Pool 5 will invest in high-quality diversified assets while increasing our allocation of U.S. Treasury to 10% for safety and liquidity. Pool 7, our full faith and credit fund, will continue to ladder out its maturities. We did add the two-month U.S. Treasury bills in November which will now be another component of our strategy.

Strategy: Intermediate Pools 500 & 700 |

The intermediate LGIP pools will remain defensive with our current short-duration strategy. Global economic uncertainty has been impacting the market and has begun to wear on the FED's bullish outlook for 2019. Pool 500 will maintain its 5% monthly liquidity target We will begin to move a more significant weighting toward fixed-rate securities for the preservation of the coupon. The pool will continue to add U.S. Treasury notes to the portfolio for more safety, reducing some of the corporate exposures as they mature. Pool 700 will maintain its 10-15% monthly liquidity target. We have maintained higher cash balances in recent months to ensure we had appropriate liquidity for participants. As we move forward, the pool will initially be weighted heavier in U.S. Treasury bills on the short end of the curve, due to our short-duration strategy, but will shift to laddered out maturities using both bills and notes to create a more balanced maturity schedule.

LGIP Investment Pool Balances |

	October 31, 2018	October 31, 2017	FY Change
Pool 5 LGIP	$1,698,451,271	$1,478,433,179	+$220,018,092
Pool 7 LGIP FF&C	$1,116,752,949	$1,296,198,196	-$179,445,247
Pool 500 LGIP Med.	$346,848,727	$332,403,651	+$14,445,076
Pool 700 LGIP Med FF&C	$135,487,062	$147,168,890	-$11,681,828
TOTAL LGIP	**$3,297,540,010**	**$3,254,203,915**	**+$43,336,095**

Jake Richardson, Portfolio Manager

Endowment Summary

Overall Performance – Where Are We Now |

- Highlights:
  - PLETF 10-year annualized total return now 9.29%
  - PLETF 1-year annualized total return beats bench by 55bps
  - Prop 123 monthly distributions highest ever

Big Picture:

- PLETF fair market value at $5,755,472,536
- Monthly distributions continue at record levels of $28.8MM
- FYTD2019 distribution increased from $86.4MM to $115.1MM; up $9.1MM vs FYTD2018
- PLETF outperforming benchmark by +30bps FYTD; +55bps for the trailing 12 months
- Total annualized 1-Year return was 3.16% vs Benchmark 2.61% – better by +55bps overall
- Annualized 10-Year total return through October is 9.29% versus September at 8.73% - better by+ 56bps
- Fair Market Value down $339MM MoM; Down $27.7MM YoY
- Unrealized Gains: $2.94B (Up $61.5MM or 2.13% YoY)
- October Realized Gains: $19.5MM
- October TRR PLETF -5.11% vs Benchmark -5.33% - outperforming the benchmark by +22bps
- Pool 203 MidCap equities beat S&P 400 by +13bp
- Pool 205 significantly outperformed the FTSE BIG Index by +52bps; +172bps YTD
- All PLETF investment pools outperformed benchmarks in October

Equity Strategy: Stay the Course; Long-Term Horizon |

Following all-time highs in September, US Equity markets ended October in correction territory led lower by tech shares and SmallCaps, with SmallCaps giving back just over 10% and MidCaps not far behind. LargeCaps fared better this month as they had not realized as much of the run up prior to October. We view these periods of correction as normal in the long-term and we to continue our long-term strategy of being overweight in SmallCap stocks. SmallCap stocks have historically outperformed over long periods of time and our position has taken advantage of this return. Our 10% target is approximately three times more than the SmallCap exposure of the S&P 1500 total market cap. As this fund is invested in perpetuity, our goal is to take advantage of this historic outperformance over time. Since inception, our SmallCap exposure has returned 12.21% (-178bps MoM), still outperforming our MidCap exposure at 9.20% (-68bps MoM), our LargeCap exposure at 5.09% (-41bps MoM), and our fixed income return of 4.49% (-3bps MoM). We will continue to invest in the individual components of the various indices per our investment policy on a market capitalization-weighted basis, although we are still examining the merits of an equal capitalization-weighted component for future possible consideration in light of the large concentration in a few tech names due to stock price appreciation.

Fixed Income Strategy: Continue to Keep Duration Short; Lighten Corporates |

Strategy has been to be very defensively positioned on a duration basis such that Pool 205 performs well in a rising rate environment. Presently the portfolio is positioned to perform best in a "bear-steepener" scenario and a "bear-flattener" scenario. We will continue to be defensive in terms of both, credit and duration risk. While corporates have been performing well and we are still upbeat, we continue to pay close attention to OAS (option-adjusted spread) and CDS (credit default swaps) levels for hints of credit and liquidity stress. We are letting corporate note

Tim White, Director of Endowments

positions mature and will look to strategically lighten some positions in favor of higher quality paper and spreads where advantageous. This strategy has benefitted Pool 205 tremendously versus the benchmark for the month just ended, in fact for the trailing 12 months and we feel rates still have potential to move higher, albeit not in a straight line. To do this, we will hold well-structured mortgage-backed securities and CMO's which serve to provide nice cash flows for Prop 123 distribution requirements and incrementally add liquid US Treasuries and some longer fixed rate bond positions to hedge against an economic downturn, or any possible credit-driven market dislocations so we can continue to make timely K-12 distributions. Due to larger Prop 123 monthly distributions, pool duration may extend naturally if interest rates continue to increase and our equity portfolios do not realize large appreciation and subsequent cash rebalancing back into our fixed income portfolios. Bearing this in mind, we think interest rates will eventually rise but the curve will stay flat in line with wall street economists' consensus. Therefore, we have kept our duration shorter than the benchmark by 2.31 years at 3.64 years (-0.05 MOM) versus 5.95 (-0.11MOM) for the SBBIG Index. Note the forward-looking Bloomberg Bond Yield Forecast compiled by averaging 56 Wall Street economists' forecasts:

95) Chart 96) Export Page 1/3 Bond Yield Forecasts

Region G7 Spread 2 Year - 10 Year

	Rate	Market Yld	Q4 18	Q1 19	Q2 19	Q3 19	Q4 19	Q1 20	Q2 20	Q3 20	Q4 20	Q1 21
	United States											
1)	US 30-Year	3.32	3.39	3.50	3.57	3.63	3.68	3.74	3.77	3.77	3.74	3.74
2)	US 10-Year	3.06	3.20	3.30	3.36	3.41	3.44	3.47	3.49	3.49	3.46	3.48
3)	US 5-Year	2.89	2.95	3.05	3.14	3.20	3.26	3.32	3.30	3.32	3.35	
4)	US 2-Year	2.81	2.95	3.05	3.16	3.24	3.28	3.32	3.33	3.30	3.25	3.22
5)	US 3-Month Libor	2.65	2.68	2.85	3.04	3.20	3.27	3.30	3.29	3.28	3.25	3.27
6)	Fed Funds Rate - Upper Bound	2.25	2.45	2.70	2.95	3.10	3.15	3.15	3.10	3.10	3.05	3.00
7)	Fed Funds Rate - Lower Bound	2.00	2.29	2.49	2.70	2.87	2.92	2.90	2.89	2.87	2.84	2.74
	2 Year - 10 Year Spread	0.25	0.25	0.24	0.19	0.17	0.16	0.15	0.17	0.18	0.21	0.26

Endowment Monthly Land Sale Proceeds |

- +$24.8 MM in October.
- +$16.5 MM vs September.
- +$24.3 MM FYoY

Endowment Prop 123 Distributions |

- $28.8 MM total/$26.8 MM for K-12 successfully distributed on time from Pool 123
- FYTD K-12 distribution $107.1MM; up $8.4MM YoY
- Pool 123 mechanism working well (increasing to 3-4 months laddered liquidity)

Pool Performance |

Portfolio 3Yr standard deviation was 6.32 versus benchmark at 6.47; Portfolio is less risky/volatile versus benchmark.

Equity/Fixed Income Pools:

- Pool 201 LargeCap Equity beat the S&P 500 by 1/2bp MOM at -6.83%.
- Pool 203 MidCap Equity outperformed the S&P 400 by +13bps MOM at -9.41%.
- Pool 204 SmallCap Equity outperformed the S&P 600 by 11bps MOM at -10.37%.
- Pool 205 significantly outperformed the SBBIG Index by 52bps MOM; continues to outperform by +172bps YTD.
- Pool 123 returned +0.26% versus benchmark at +0.18% for October.

Tim White, Director of Endowments

EARNINGS DISTRIBUTION - INVESTMENT POOLS
OCTOBER 2018

Recipient	Earnings Distributed OCTOBER 2018	Fiscal YTD 18/19	Fiscal YTD 17/18	Change from Previous Year	Fiscal YTD Investment Management Fees Received
General Fund *	$3,291,507	$11,671,189	$6,294,952	85.4%	
2 State Agencies - Full Faith & Credit	1,522,378	5,726,709	3,079,764	85.9%	164,599
3 State Agencies - Diversified (Combined) **	1,821,193	7,292,160	4,806,404	51.7%	298,815
4 State Agencies - Gov	1,678,257	5,978,057	3,125,670	91.3%	192,912
5 LGIP	2,687,151	9,963,427	4,103,379	142.8%	259,074
7 LGIP Gov	1,881,199	7,385,397	3,792,131	94.8%	217,909
9A Public School Credit Enhancement ***	0	0	0	0	18,377
10 Restricted Operating	788,584	3,093,426	1,951,660	58.5%	218,940
12 CAWCD Medium-Term	804,244	3,062,133	2,041,732	50.0%	73,266
16 ECDH Medium-Term	686,303	2,704,921	2,204,137	22.7%	68,954
Subtotal	**$15,160,816**	**$56,877,419**	**$31,399,829**	**81.1%**	**$1,512,848**
NAV POOL					
500 LGIP - Med Term	689,077	2,677,755	1,853,324	44.5%	64,048
700 LGIP - FF&C Med Term	183,912	708,152	718,386	-1.4%	24,422
Total	**$16,033,805**	**$60,263,327**	**$33,971,539**	**77.4%**	**$1,601,319**
OCTOBER 2017 TOTALS	**$8,907,253**				**$1,490,083**

* Note: Pool 15 AHCCCS Operating Earnings are reported in General Fund
** Note: Pool 15 AHCCCS Operating Management Fees are reported in Pool 3 State Agencies Diversified (Combined)
*** Note: Pool 9A represents $80 million invested in School Funding Obligations; earnings on this investment revert to the General Fund

OPERATING MONIES
AVERAGE INVESTED BALANCE
Through October 31, 2018
(in millions)

Month	Fiscal Year 2016/2017	Fiscal Year 2017/2018	Fiscal Year 2018/2019
JULY	$2,012	$1,635	$1,824
AUGUST	1,504	1,303	1,495
SEPTEMBER	1,694	1,455	1,594
OCTOBER	1,672	1,473	1,813
NOVEMBER	1,633	1,417	
DECEMBER	1,693	1,400	
JANUARY	2,255	2,140	
FEBRUARY	2,306	2,244	
MARCH	1,968	1,937	
APRIL	1,961	1,980	
MAY	2,215	2,279	
JUNE	2,147	2,407	
Y-T-D Average	**$1,720**	**$1,467**	**$1,682**
Full Year Average	**$1,922**	**$1,806**	

STATE AGENCY POOLS
PORTFOLIO EARNINGS ANALYSIS
OCTOBER 2018

FUND	DESCRIPTION	Current Month 10/31/18	Prior Month 09/30/18	Prior Year 10/31/17	Net Asset Value Per Share
2	STATE AGENCIES - FULL FAITH & CREDIT	1,617,542	1,415,353	930,070	0.9896
3	STATE AGENCIES - DIVERSIFIED				
	INTERNAL MANAGERS	2,868,025	2,550,389	1,431,334	0.9950
	EXTERNAL MANAGERS	193,826	184,570	143,229	0.9952
	FUND 3 TOTAL	3,061,850	2,734,960	1,574,563	0.9950
4	STATE AGENCIES - GOV	1,922,669	2,008,214	1,012,497	0.9935
9A	PUBLIC SCHOOL CREDIT ENHANCEMENT	170,983	159,847	101,849	0.9896
10	RESTRICTED OPERATING				
	INTERNAL MANAGERS	2,003,518	1,894,923	1,229,150	0.9914
	EXTERNAL MANAGERS	138,727	144,589	181,145	1.0008
	FUND 10 TOTAL	2,142,245	2,039,512	1,410,295	0.9925
12	CAWCD MEDIUM-TERM	804,244	761,070	531,846	0.9936
15	AHCCCS OPERATING	79,898	105,124	33,513	N/A
16	ECDH MEDIUM-TERM	686,303	647,849	576,058	0.9849
	TOTAL STATE AGENCIES	10,485,736	9,871,928	6,170,692	

STATE AGENCY POOLS
PORTFOLIO YIELD ANALYSIS
OCTOBER 2018

FUND	DESCRIPTION	Current Month 10/31/18	Prior Month 09/30/18	Prior Year 10/31/17
2	**STATE AGENCIES - FULL FAITH & CREDIT**	2.03%	2.00%	**1.22%**
	50% Trailing 3-mo T-bill /	2.51%	2.40%	**1.30%**
	50% Bloomberg Barclays 1-3 year UST			
3	**STATE AGENCIES - DIVERSIFIED**			
	INTERNAL MANAGERS	2.24%	2.23%	**1.43%**
	EXTERNAL MANAGERS	2.14%	2.11%	**1.61%**
	COMBINED	2.23%	2.21%	**1.44%**
	50% 1 month T-bill /	2.59%	2.45%	**1.34%**
	50% Bloomberg Barclays 1-3 year US Agg			
4	**STATE AGENCIES - GOV**	1.87%	2.05%	**1.25%**
	50% Trailing 3-mo T-bill /	2.51%	2.40%	**1.30%**
	50% Bloomberg Barclays 1-3 year US Gov			
9A	**PUBLIC SCHOOL CREDIT ENHANCEMENT**	2.03%	2.00%	**1.22%**
10	**RESTRICTED OPERATING**			
	INTERNAL MANAGERS	2.21%	2.18%	**1.54%**
	EXTERNAL MANAGERS	1.39%	1.39%	**0.91%**
	COMBINED	2.13%	2.10%	**1.41%**
	50% Trailing 3-mo T-bill /	2.59%	2.48%	**1.38%**
	50% Bloomberg Barclays 1-3 year US Agg			
12	**CAWCD MEDIUM-TERM**	2.35%	2.31%	**1.73%**
	25% S&P LGIP Index /	2.78%	2.67%	**1.55%**
	75% Bloomber Barclays 1-3 year US Agg			
15	**AHCCCS OPERATING**	0.93%	0.63%	**0.34%**
16	**ECDH MEDIUM-TERM**	2.44%	2.39%	**1.95%**
	25% S&P LGIP Index /	2.78%	2.67%	**1.55%**
	75% Bloomber Barclays 1-3 year US Agg			

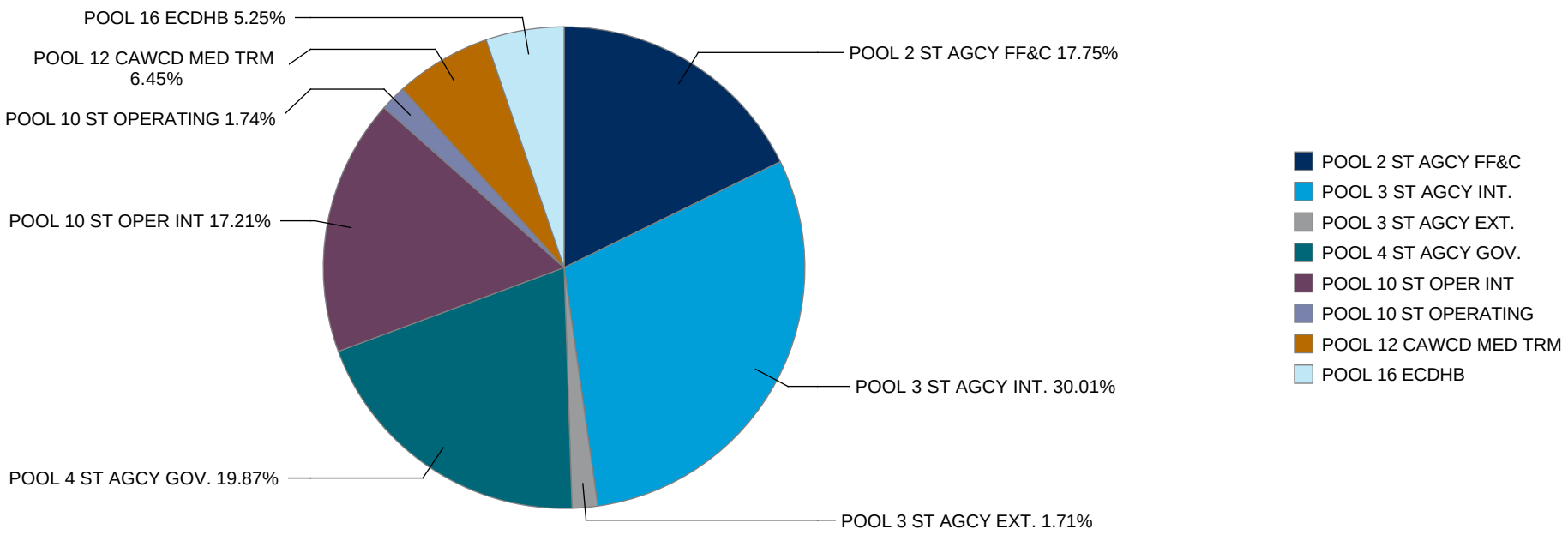
NOTE - all benchmark measurements were revised in October 2018; prior period benchmarks were also changed to reflect the revised measures

OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

STATE AGENCY

Manager Allocation



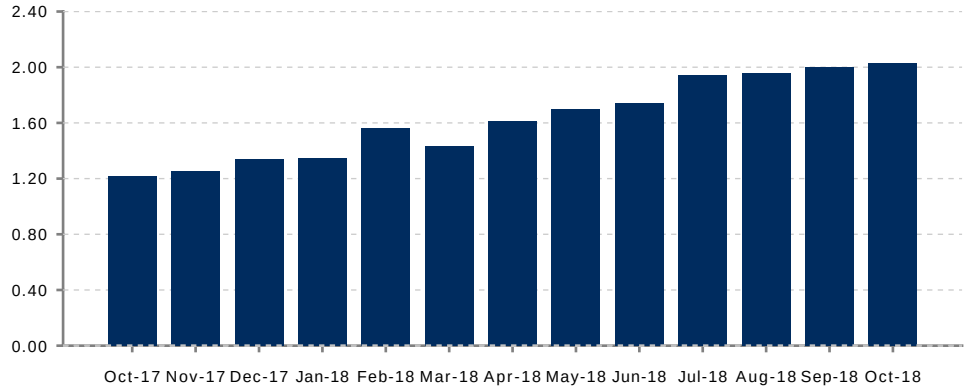
	Market Value	% of Portfolio
POOL 2 ST AGCY FF&C	1,100,585,750	17.8
POOL 3 ST AGCY INT.	1,860,569,055	30.0
POOL 3 ST AGCY EXT.	106,231,643	1.7
POOL 4 ST AGCY GOV.	1,231,613,154	19.9
POOL 10 ST OPER INT	1,066,998,829	17.2
POOL 10 ST OPERATING	108,149,630	1.7
POOL 12 CAWCD MED TRM	399,970,692	6.5
POOL 16 ECDHB	325,325,685	5.2
TOTAL STATE AGENCY	6,199,444,439	100.0

OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

POOL 2 ST AGCY FF&C

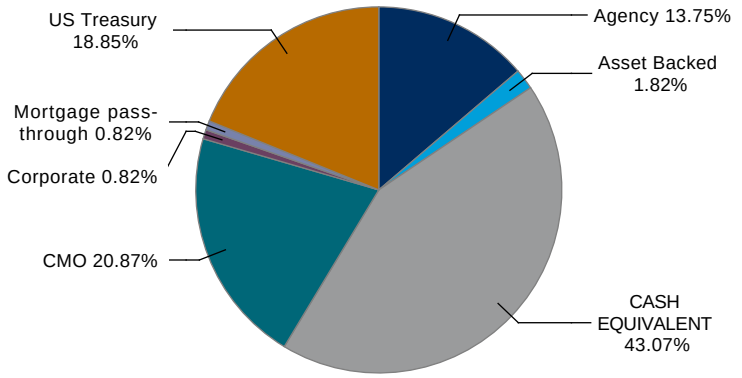
Net Yield



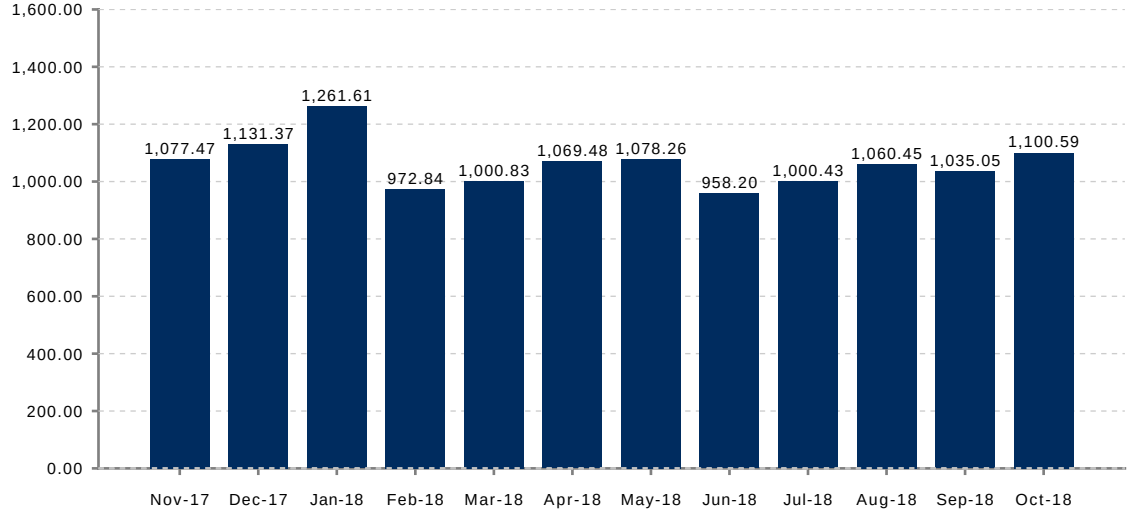
	Current Mth	Prior Mth	1 Year Ago
POOL 2 ST AGCY FF&C	2.03	2.00	1.22

Asset Allocation

	Ending Market Value
POOL 2 ST AGCY FF&C	1,100,585,750



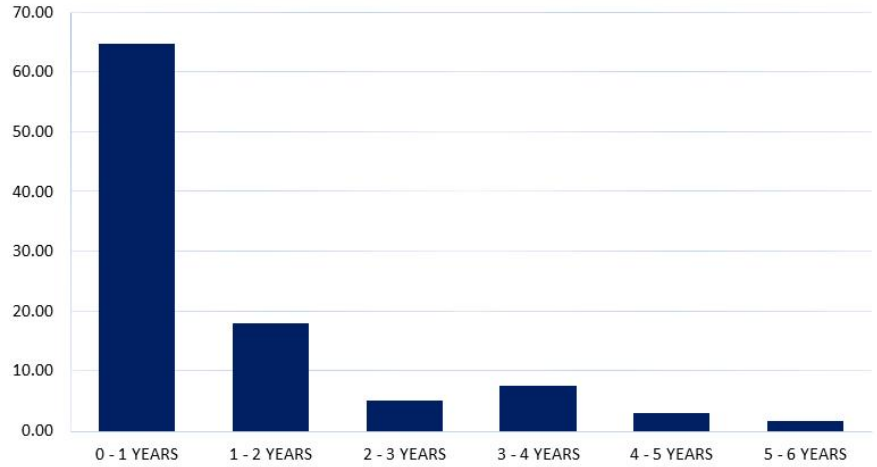
Net Asset Values over Time ($MM)



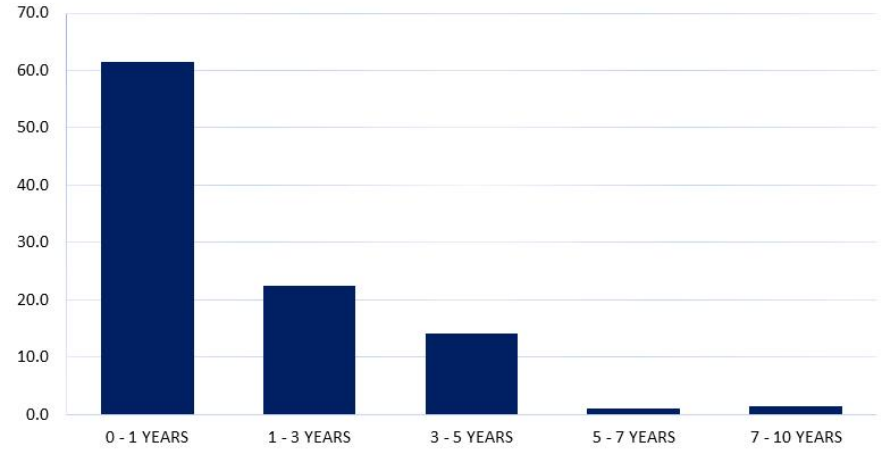
Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 2 ST AGCY FF&C		
DAIWA CAPITAL MARKETS	200,012,222	18.17
GUGGENHEIM SECURITIE	89,345,241	8.12
US TREASURY N/B	80,015,918	7.27
TREASURY BILL	69,037,203	6.27
WELLS FARGO REPO	55,006,631	5.00
TREASURY BILL	39,286,200	3.57
BMO TRIPARTY MTGE CLA	32,678,990	2.97
OVERSEAS PRIVATE INV C	25,071,562	2.28
US TREASURY N/B	25,065,090	2.28
TREASURY BILL	24,968,513	2.27

Duration Distribution



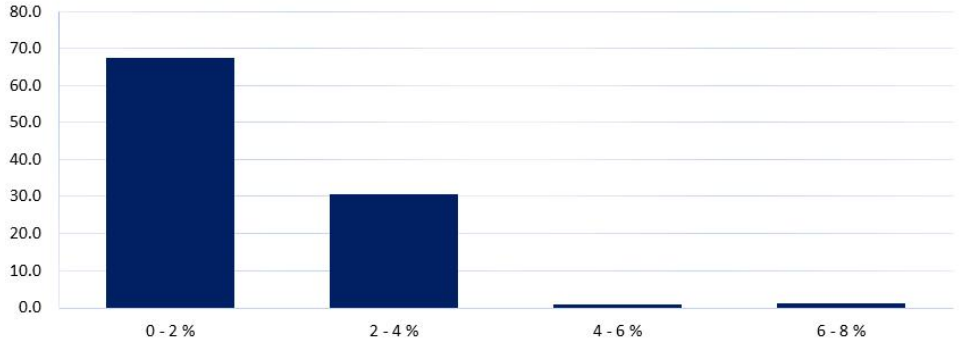
Expected Maturity Distribution



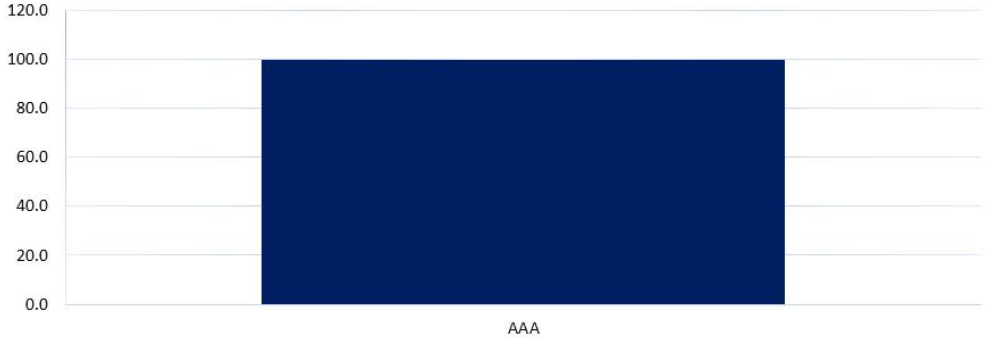
Portfolio Level Characteristics

	POOL 2 ST AGCY FF&C
Effective Maturity	1.22
Coupon	1.16
Effective Duration	1.04
Quality Rating (Moody's)	AAA

Coupon Distribution



Rating Distribution



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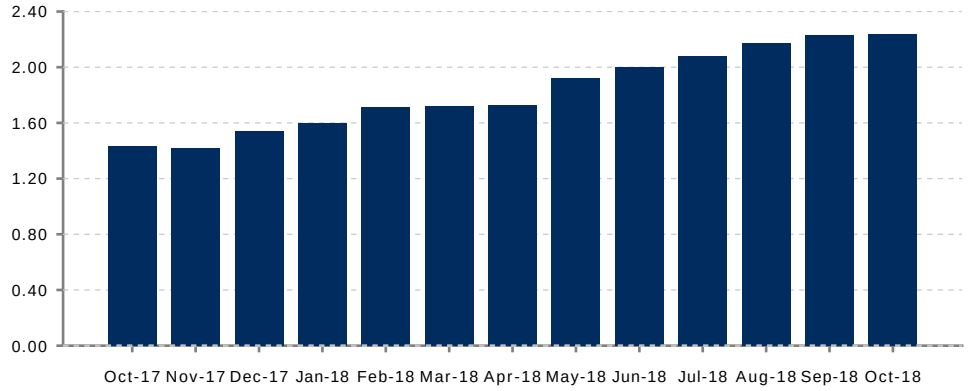
POOL 3 ST AGCY INT.

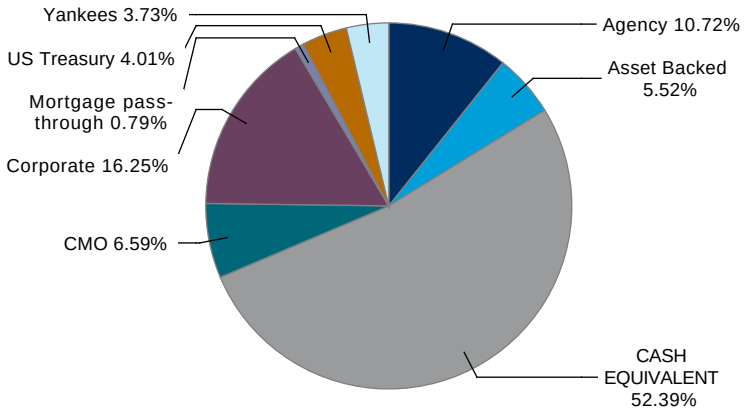
Net Yield



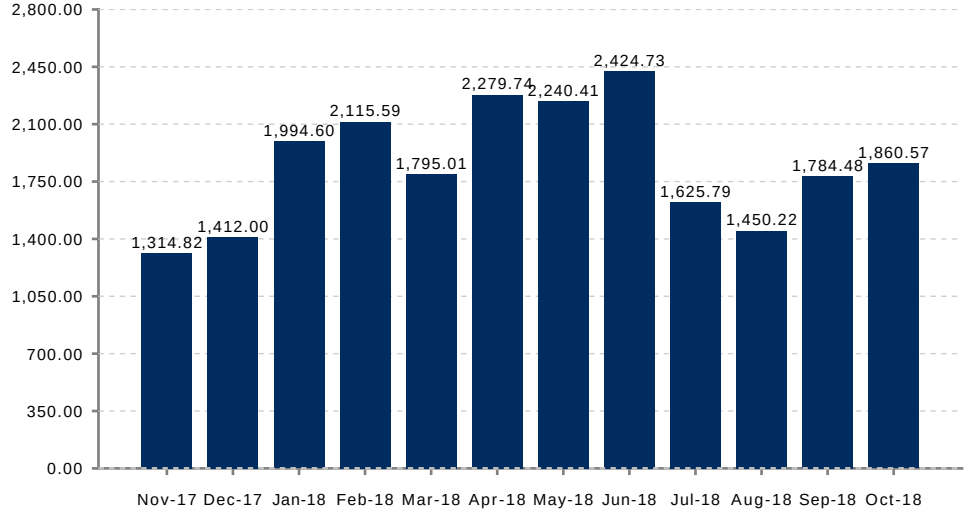
	Current Mth	Prior Mth	1 Year Ago
POOL 3 ST AGCY INT.	2.24	2.23	1.43

Asset Allocation

	Ending Market Value
POOL 3 ST AGCY INT.	1,860,569,055



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 3 ST AGCY INT.		
SOUTH STREET REPO	425,026,799	22.84
AMHERST PIERPONT	248,574,749	13.36
TREASURY BILL	78,741,389	4.23
US TREASURY N/B	40,002,953	2.15
IBM CORP	30,070,428	1.62
HALKIN FINANCE LLC USC	25,000,000	1.34
INSTITUTIONAL SECURED	25,000,000	1.34
MOUNTCLIFF	24,981,000	1.34
NESTLE FIN FRANCE S.	24,950,042	1.34
IBM CREDIT LLC	24,936,222	1.34

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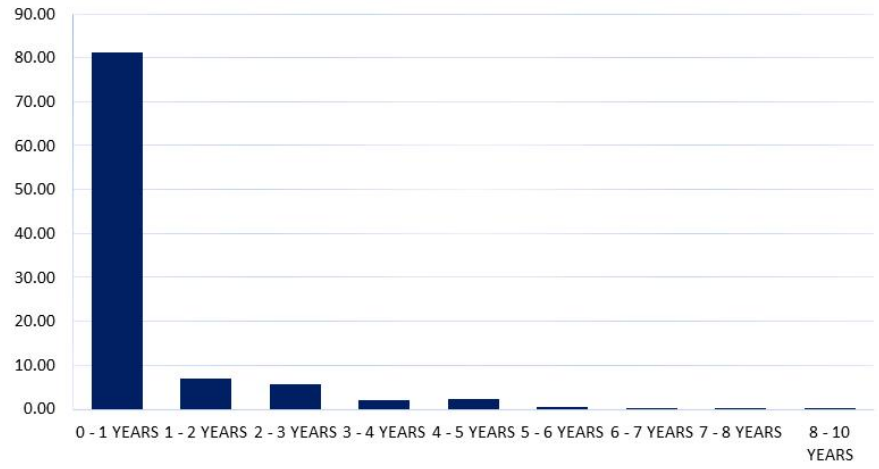
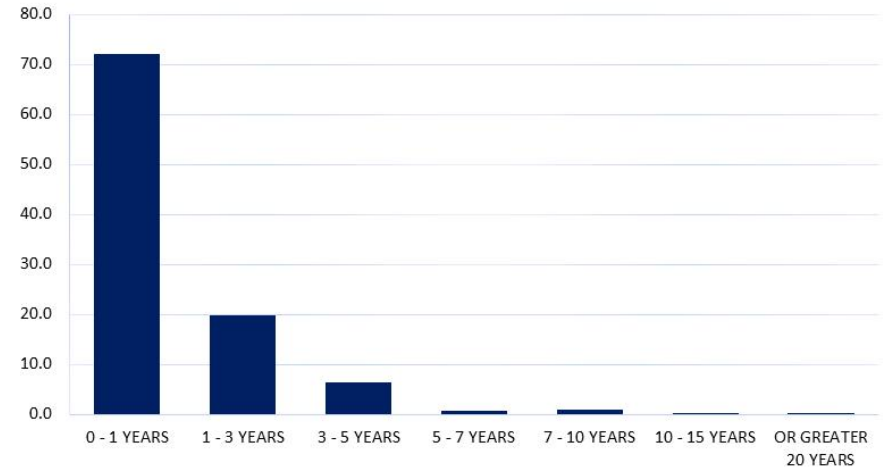
POOL 3 ST AGCY INT

Duration Distribution



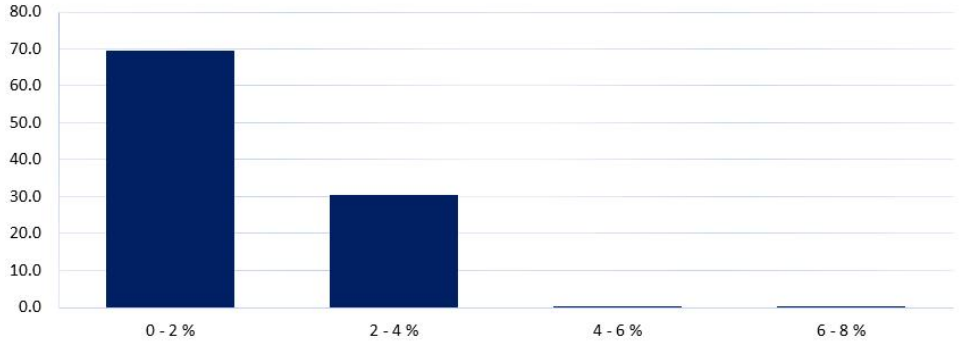
Expected Maturity Distribution



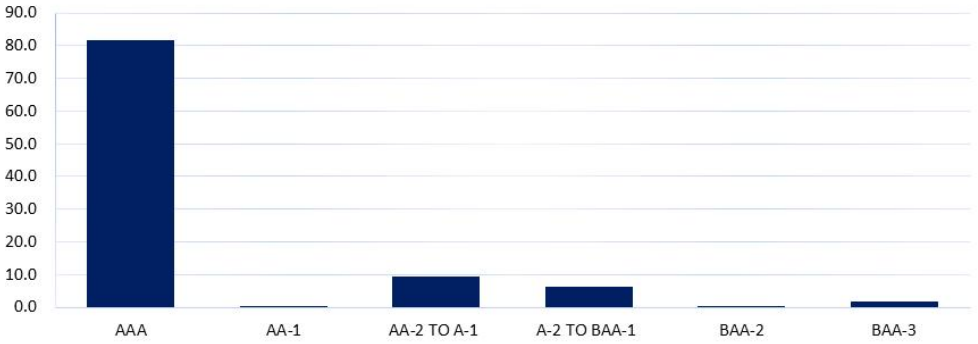
Portfolio Level Characteristics

	POOL 3 ST AGCY INT.
Effective Maturity	0.90
Coupon	1.11
Effective Duration	0.63
Quality Rating (Moody's)	AA-1

Coupon Distribution



Rating Distribution



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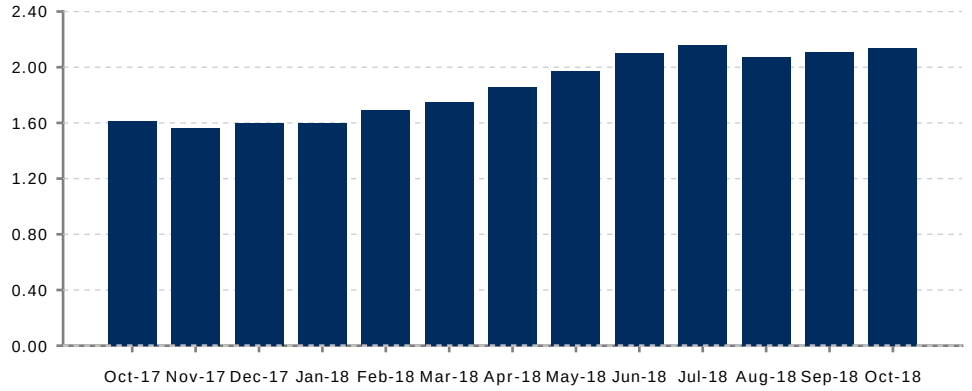
POOL 3 ST AGCY EXT.

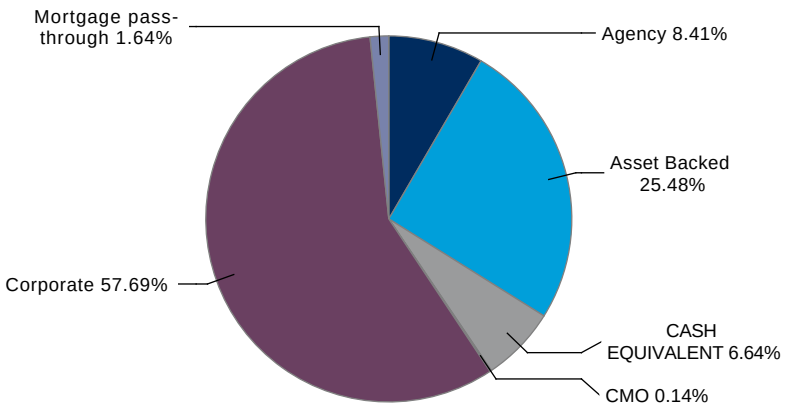
Net Yield



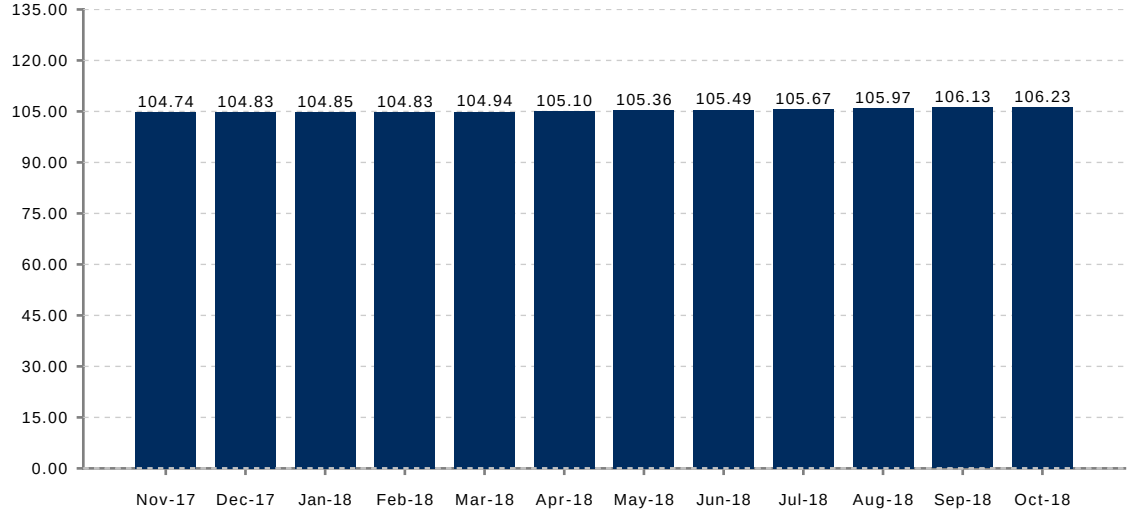
	Current Mth	Prior Mth	1 Year Ago
POOL 3 ST AGCY EXT.	2.14	2.11	1.61

Asset Allocation

	Ending Market Value
POOL 3 ST AGCY EXT.	106,231,643



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 3 ST AGCY EXT.		
FANNIE MAE	2,973,693	2.80
FREDDIE MAC	2,755,685	2.59
DISCOVER CARD EXECUTION NOTE T	2,092,672	1.97
AUSTR & NEW ZEALND B	2,005,439	1.89
CISCO SYSTEMS INC	1,998,922	1.88
FANNIE MAE	1,982,421	1.87
BANK OF AMERICA CREDIT CARD TR	1,906,999	1.80
BRANCH BANKING + TRUST	1,857,363	1.75
MANUF + TRADERS TRUST CO	1,815,464	1.71
CITIBANK NA	1,751,121	1.65

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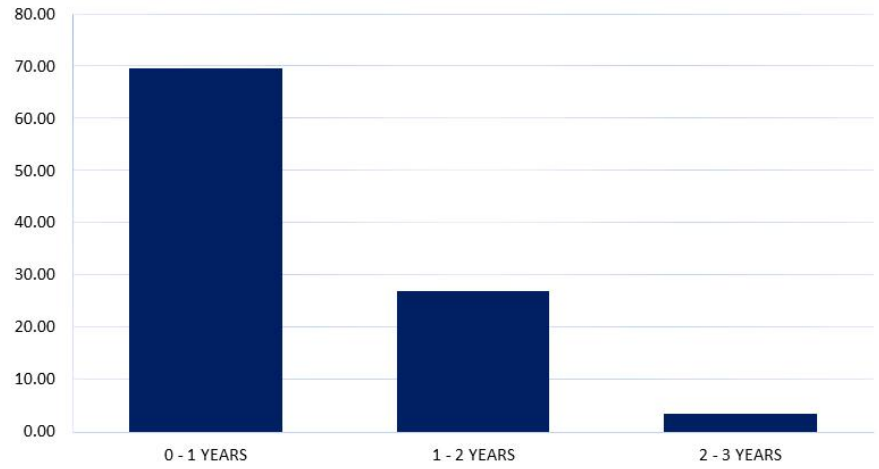
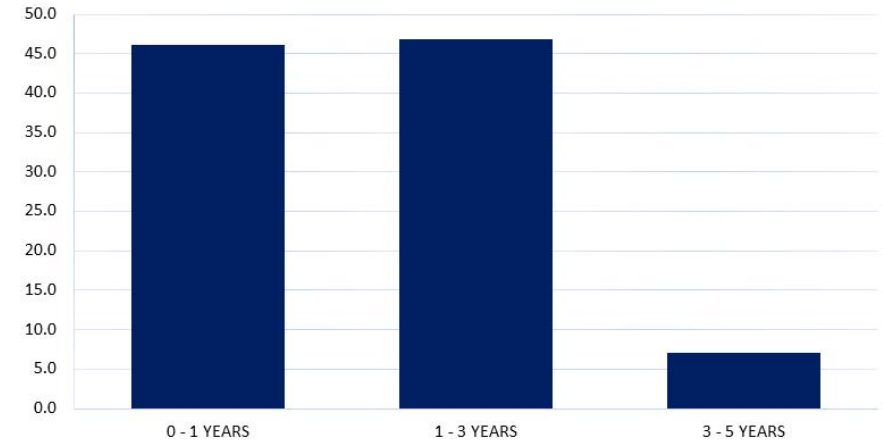
POOL 3 ST AGCY EXT

Duration Distribution



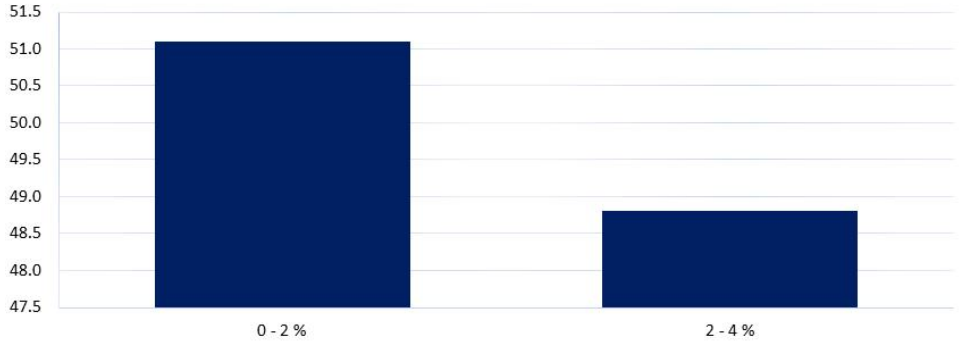
Expected Maturity Distribution



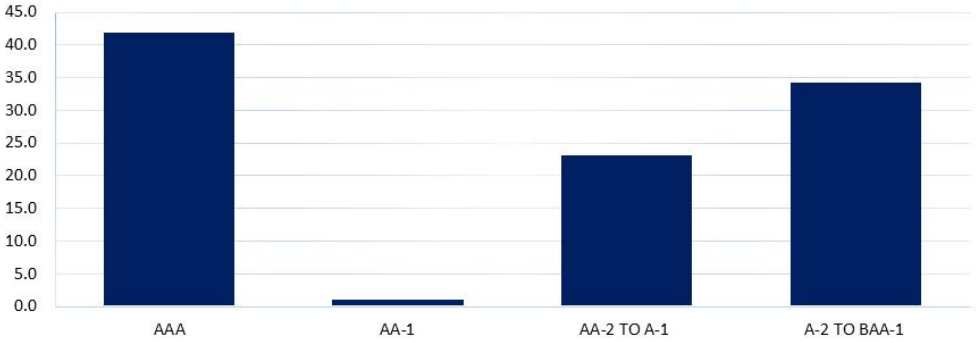
Portfolio Level Characteristics

	POOL 3 ST AGCY EXT.
Effective Maturity	1.31
Coupon	2.04
Effective Duration	0.72
Quality Rating (Moody's)	AA-3

Coupon Distribution



Rating Distribution



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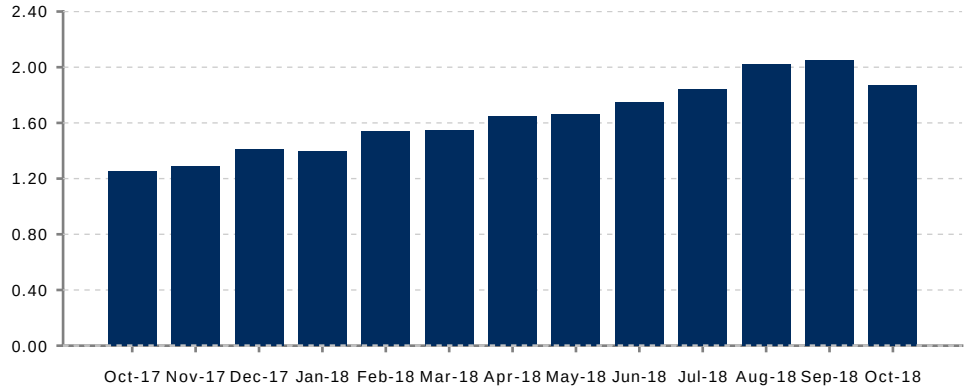
POOL 4 ST AGCY GOV.

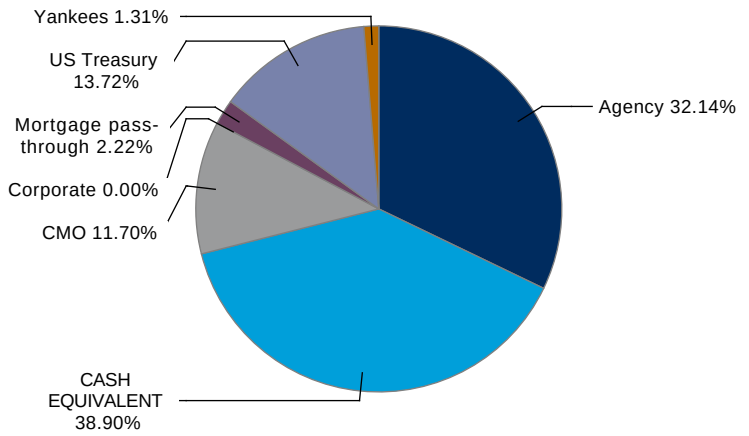
Net Yield



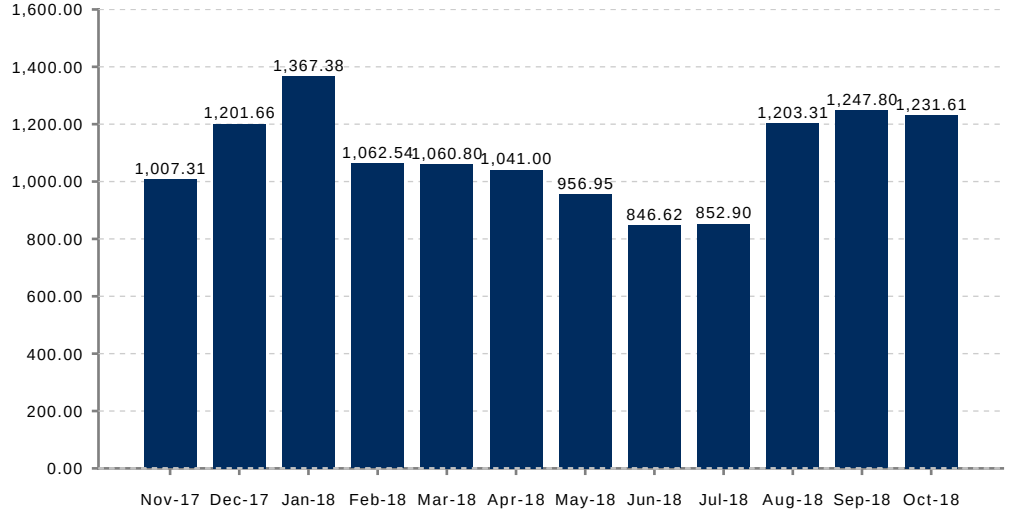
	Current Mth	Prior Mth	1 Year Ago
POOL 4 ST AGCY GOV.	1.87	2.05	1.25

Asset Allocation

	Ending Market Value
POOL 4 ST AGCY GOV.	1,231,613,154



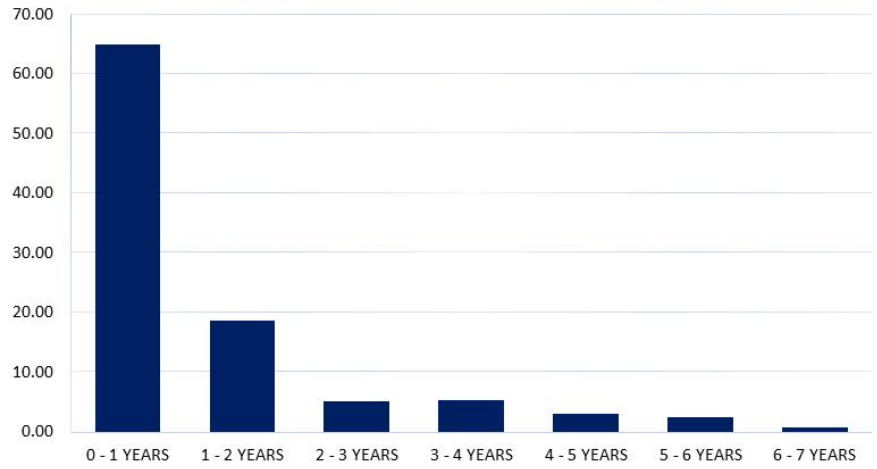
Net Asset Values over Time ($MM)



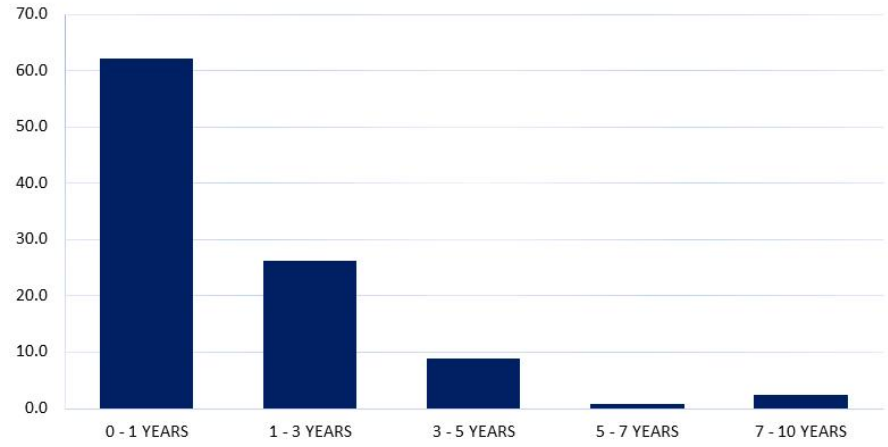
Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 4 ST AGCY GOV.		
AMHERST PIERPONT	201,453,551	16.36
TREASURY BILL	98,426,736	7.99
SOUTH STREET REPO	95,579,439	7.76
TREASURY BILL	78,572,400	6.38
US TREASURY N/B	65,012,933	5.28
WELLS FARGO REPO	55,006,631	4.47
FANNIE MAE	47,896,111	3.89
US TREASURY N/B	45,003,322	3.65
TREASURY BILL	39,984,505	3.25
PRIVATE EXP. FUNDING	29,966,433	2.43

Duration Distribution



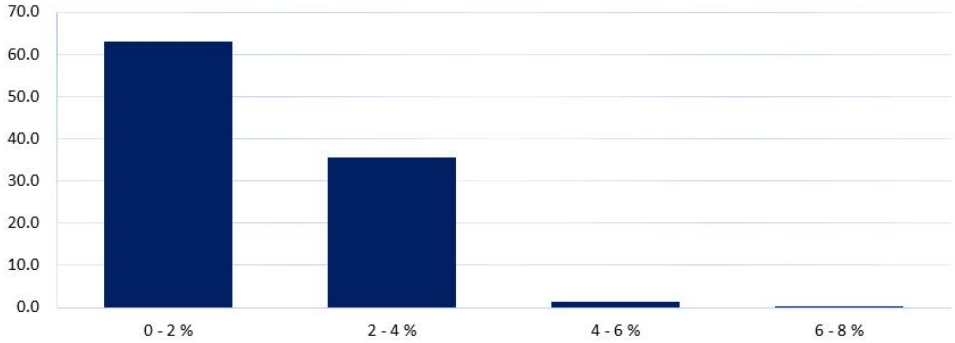
Expected Maturity Distribution



Portfolio Level Characteristics

	POOL 4 ST AGCY GOV.
Effective Maturity	1.20
Coupon	1.19
Effective Duration	1.07
Quality Rating (Moody's)	AAA

Coupon Distribution



Rating Distribution

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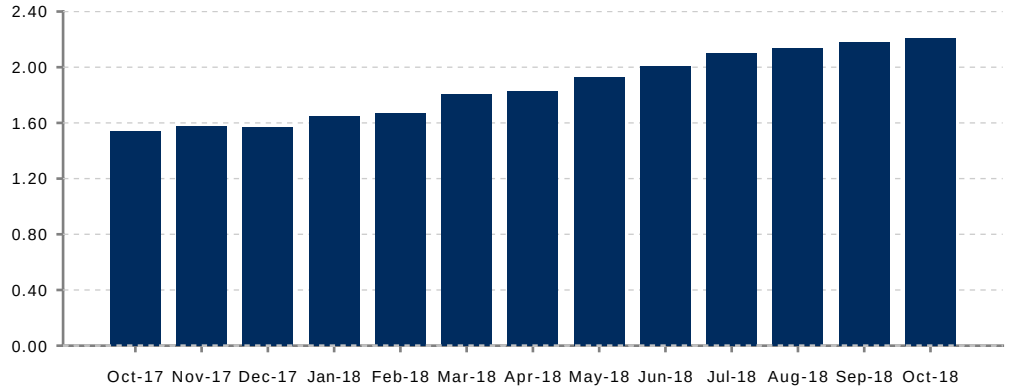
POOL 10 ST OPERATING INT

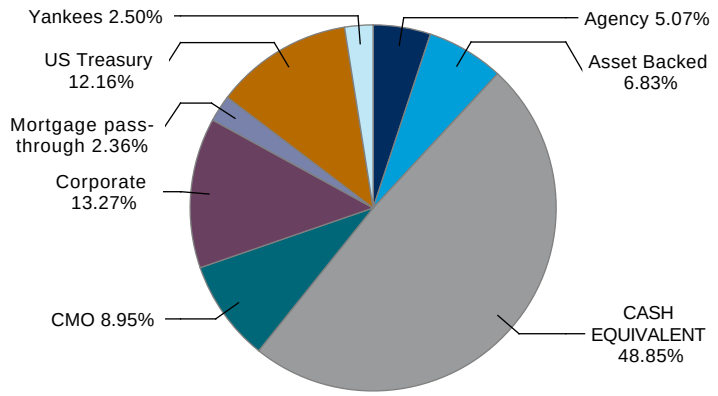
Net Yield



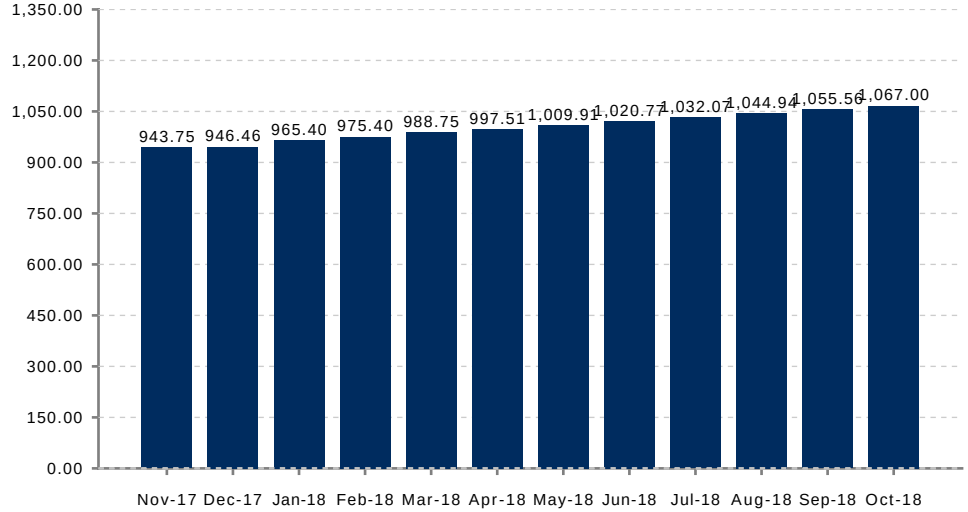
	Current Mth	Prior Mth	1 Year Ago
POOL 10 ST OPER INT	2.21	2.18	1.54

Asset Allocation

	Ending Market Value
POOL 10 ST OPER INT	1,066,998,829



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 10 ST OPER INT		
SOUTH STREET REPO	44,429,505	4.16
CONCORD MIN CPTL CO	29,964,375	2.81
US TREASURY N/B	29,826,854	2.80
RBC CAPITAL MARKETS REPO	25,657,455	2.40
COCA-COLA COMPANY	24,884,042	2.33
US TREASURY N/B	20,005,136	1.87
SANOFI	19,989,822	1.87
LEXINGTN PKR CAP CO LL	19,977,400	1.87
CRC FUNDING LLC	19,976,250	1.87
CAN AST & CAN LTD JT	19,968,750	1.87

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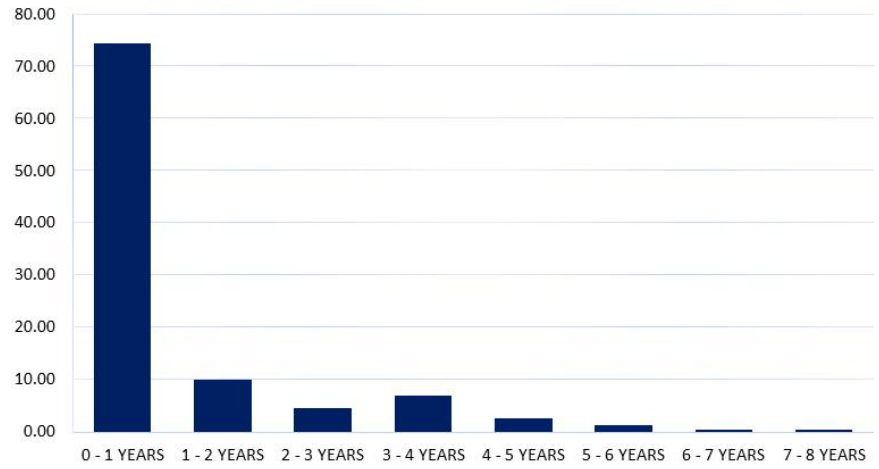
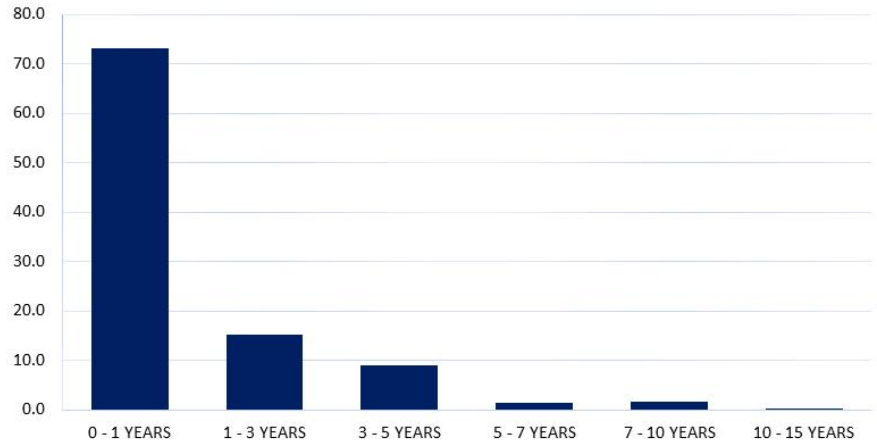
POOL 10 ST OPERATING INT

Duration Distribution



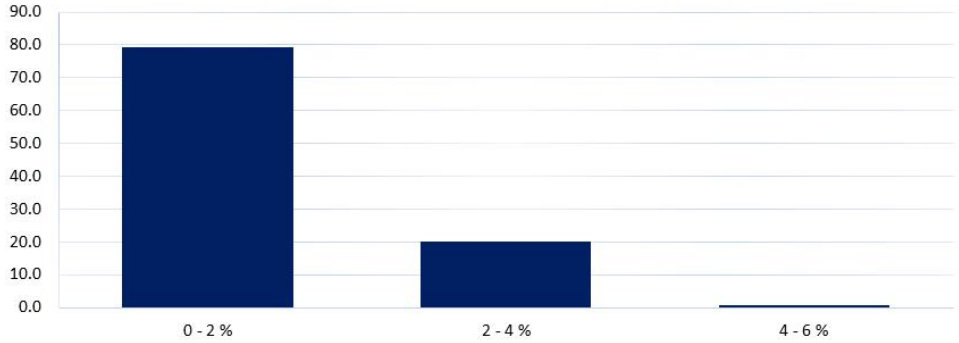
Expected Maturity Distribution



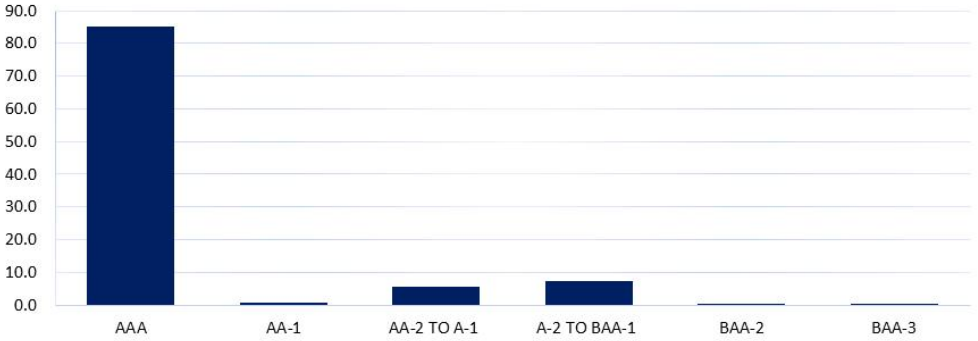
Portfolio Level Characteristics

	POOL 10 ST OPERATING INT
Effective Maturity	1.03
Coupon	0.99
Effective Duration	0.94
Quality Rating (Moody's)	AA-1

Coupon Distribution



Rating Distribution



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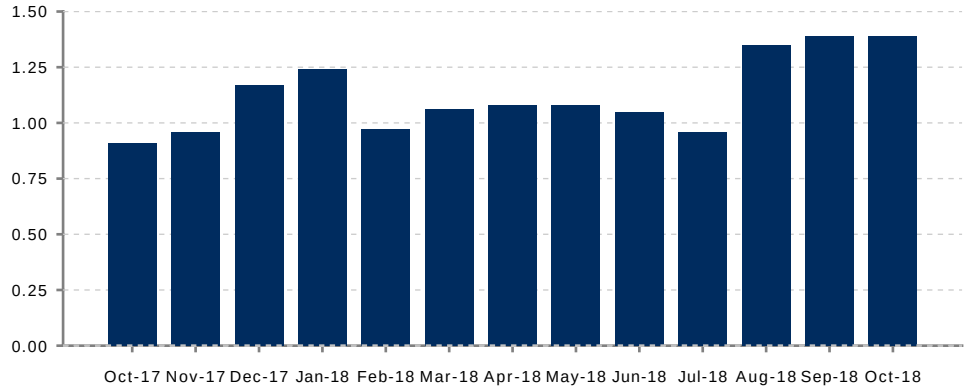
POOL 10 ST OPERATING Ext

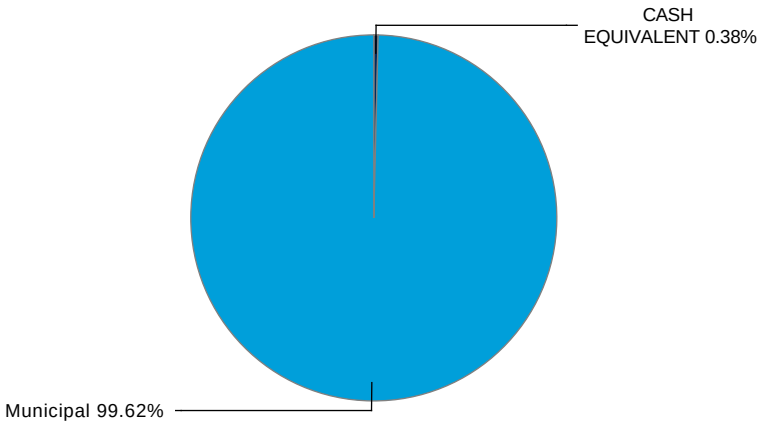
Net Yield



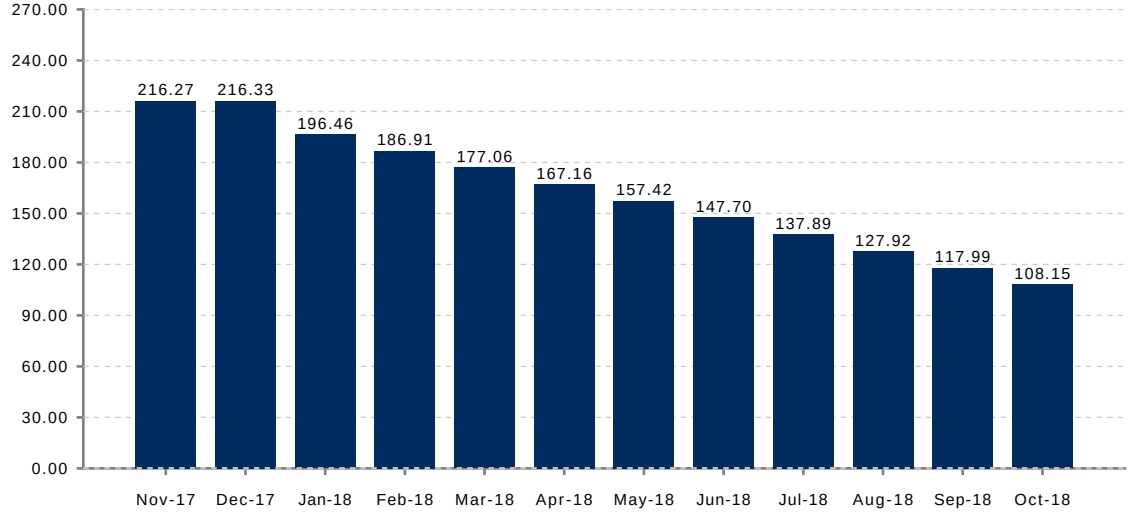
	Current Mth	Prior Mth	1 Year Ago
POOL 10 ST OPERATING	1.39	1.39	0.91

Asset Allocation

	Ending Market Value
POOL 10 ST OPERATING	108,149,630



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 10 ST OPERATING		
ALPINE UT SCH DIST	10,230,616	9.46
PRINCE GEORGES CNTY	10,206,371	9.44
SHELBY CNTY TN	9,641,143	8.91
WISCONSIN ST PETROLEU	8,787,778	8.13
GEORGIA ST ROAD TOLL	7,996,681	7.39
ROUND ROCK TX INDEP S	5,392,298	4.99
MARYLAND ST	5,123,943	4.74
TRIBOROUGH NY BRIDGE	5,006,512	4.63
ILLINOIS ST FIN AUTH REV	3,879,991	3.59
CONNECTICUT ST HLTH	3,704,645	3.43

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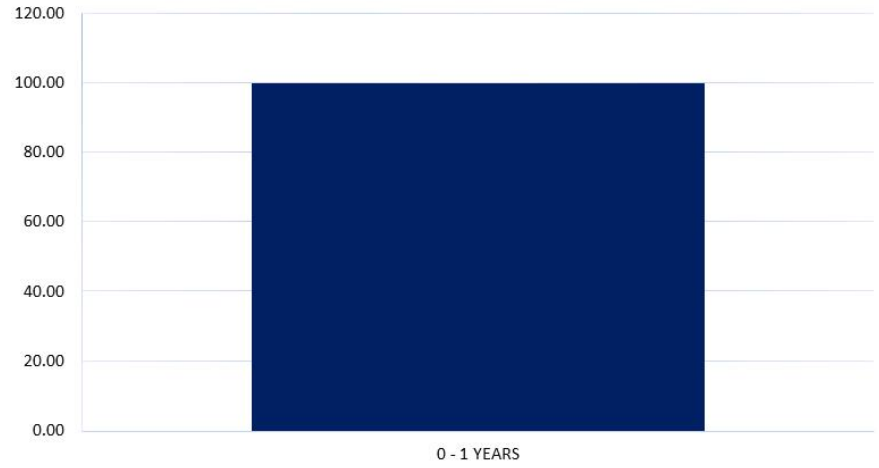
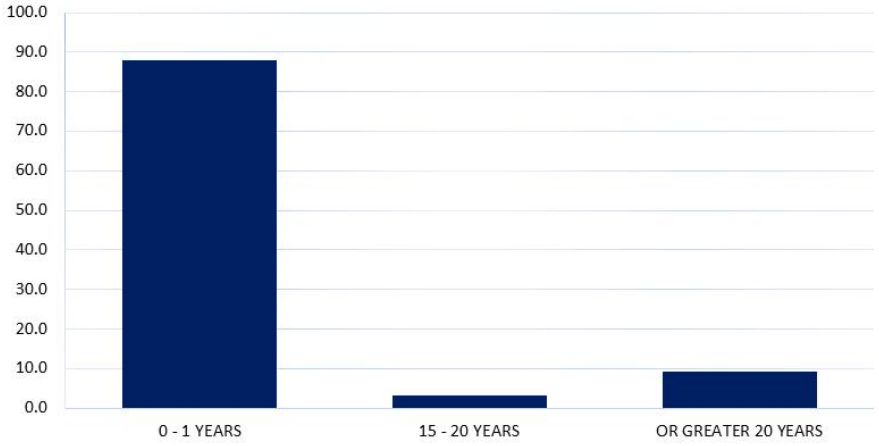
POOL 10 ST OPERATING Ext

Duration Distribution



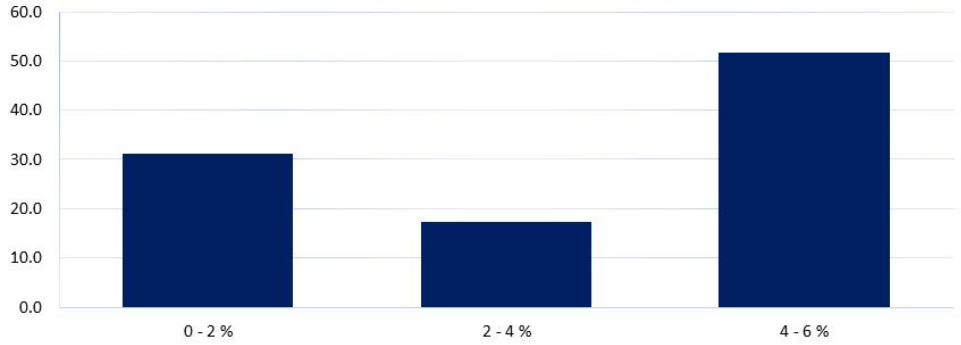
Expected Maturity Distribution



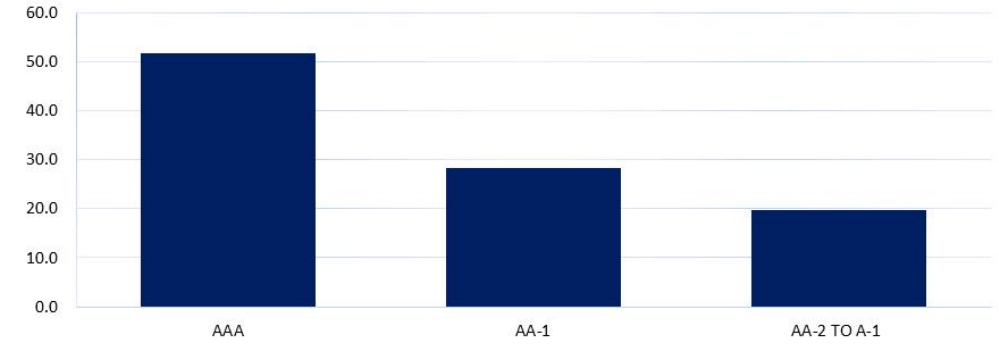
Portfolio Level Characteristics

	POOL 10 ST OPERATING
Effective Maturity	3.37
Coupon	3.73
Effective Duration	0.34
Quality Rating (Moody's)	AA-1

Coupon Distribution



Rating Distribution



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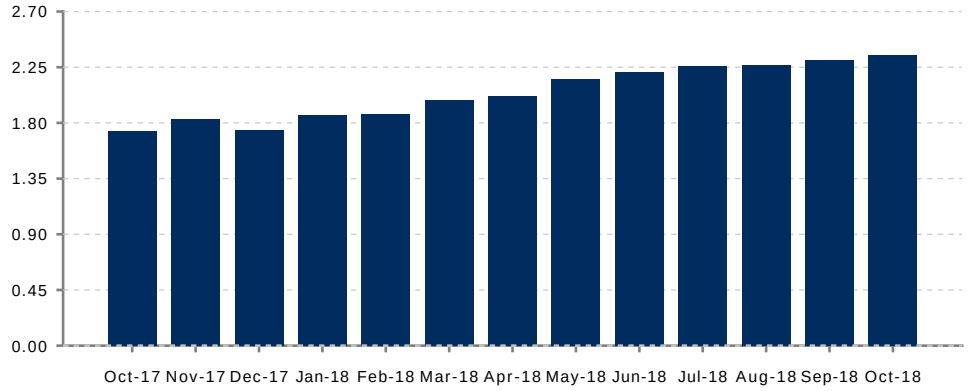
POOL 12 CAWCD MED TRM

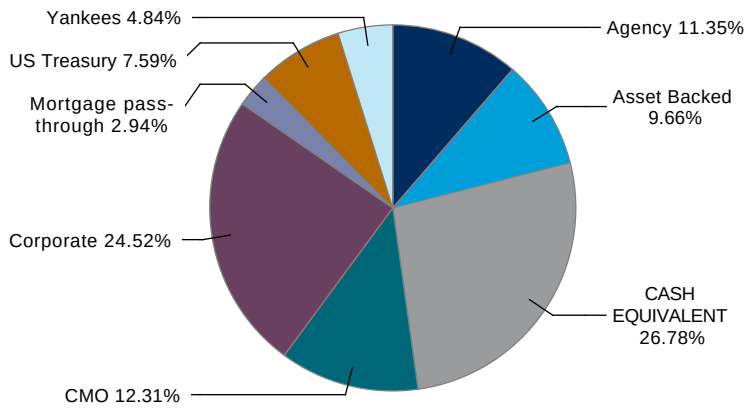
Net Yield



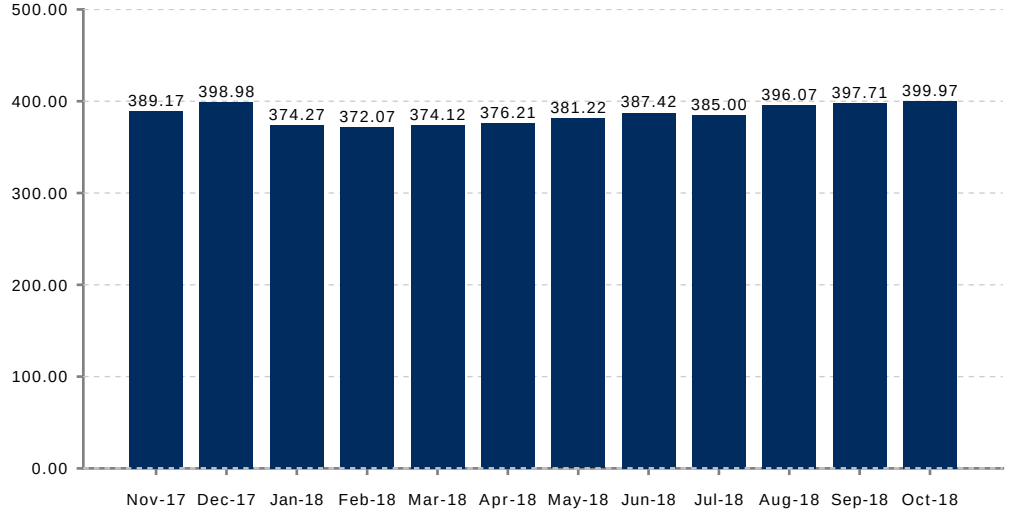
	Current Mth	Prior Mth	1 Year Ago
POOL 12 CAWCD MED TRM	2.35	2.31	1.73

Asset Allocation

	Ending Market Value
POOL 12 CAWCD MED TRM	399,970,692



Net Asset Values over Time ($MM)



Top 10 Holdings

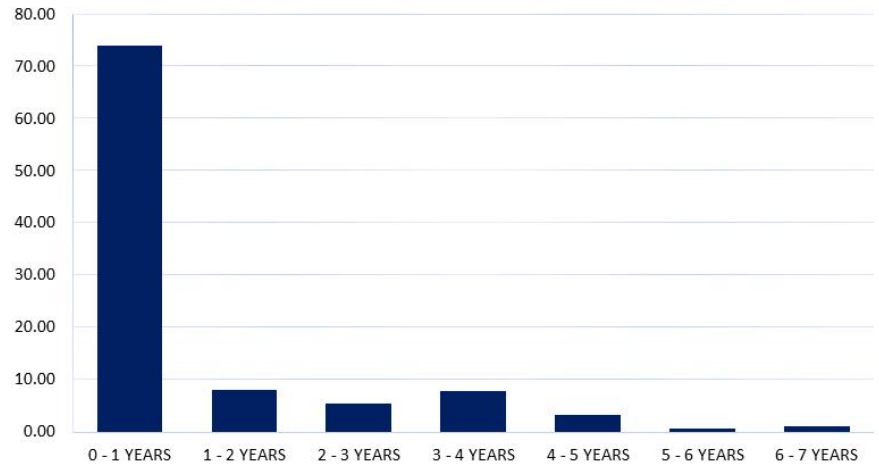
Security Name	Ending Market Value	% of Portfolio
POOL 12 CAWCD MED TRM		
WELLS FARGO REPO	23,001,450	5.75
ATLANTIC ASSET SECUR	9,988,019	2.50
GOTHAM FDG CORP	9,974,778	2.49
TREASURY BILL	9,883,758	2.47
TREASURY BILL	9,821,550	2.46
RBC CAPITAL MARKETS REPO	8,178,397	2.04
FANNIE MAE	5,440,050	1.36
FANNIE MAE	5,371,484	1.34
FREDDIE MAC	5,248,651	1.31
US TREASURY N/B	5,109,791	1.28

OFFICE OF THE ARIZONA STATE TREASURER

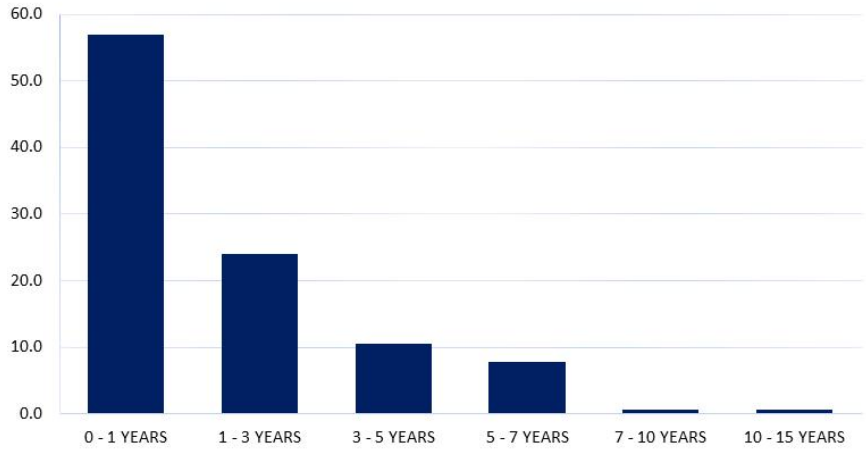
October 31, 2018

POOL 12 CAWCD MED TRM

Duration Distribution



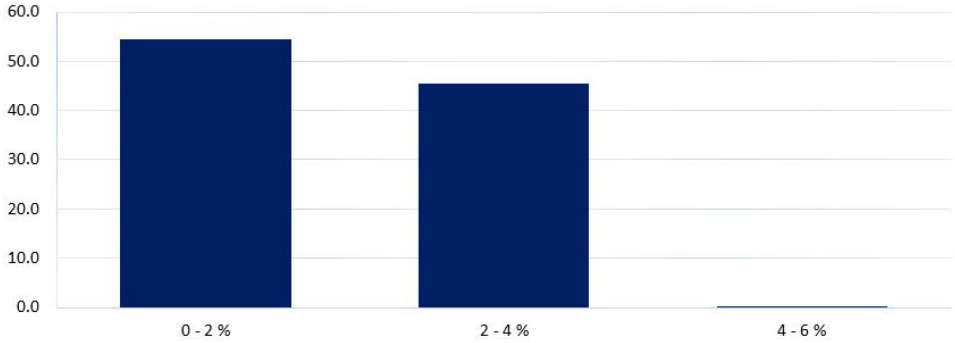
Expected Maturity Distribution



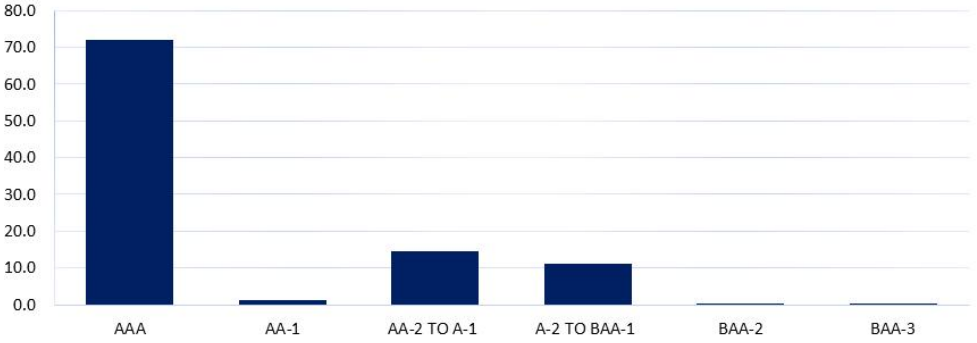
Portfolio Level Characteristics

	POOL 12 CAWCD MED TRM
Effective Maturity	1.53
Coupon	1.70
Effective Duration	0.90
Quality Rating (Moody's)	AA-1

Coupon Distribution



Rating Distribution



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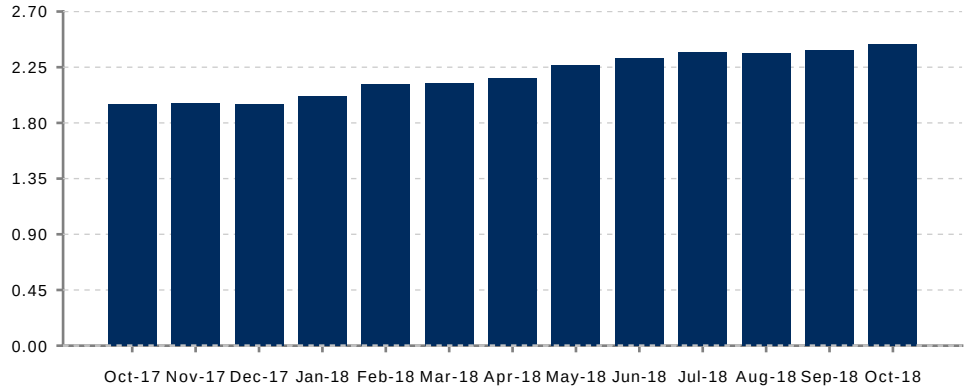
POOL 16 ECDHB

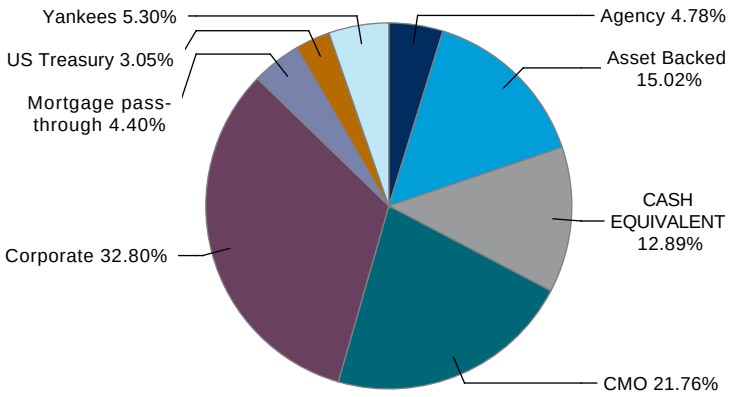
Net Yield



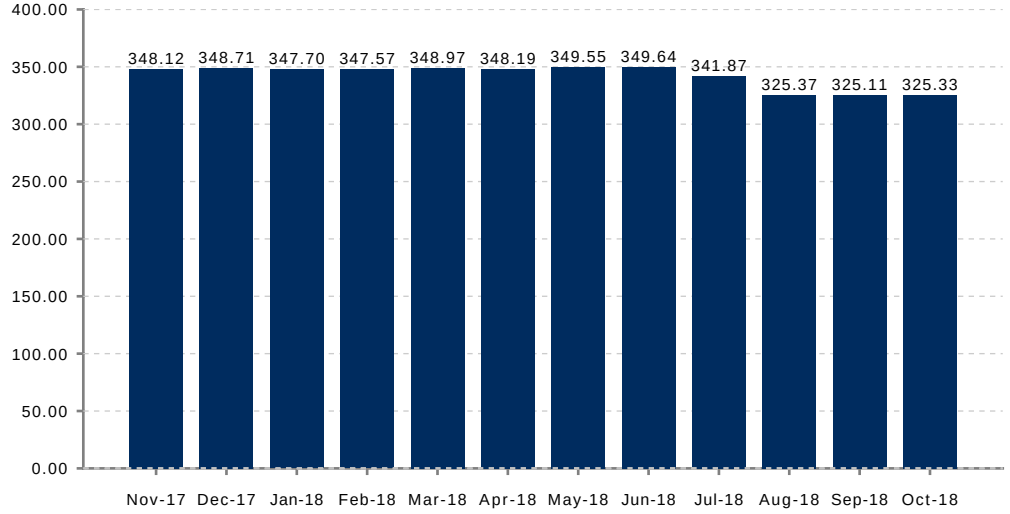
	Current Mth	Prior Mth	1 Year Ago
POOL 16 ECDHB	2.44	2.39	1.95

Asset Allocation

	Ending Market Value
POOL 16 ECDHB	325,325,685



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 16 ECDHB		
WELLS FARGO REPO	12,000,757	3.69
BMW VEHICLE LEASE TRUST	10,007,238	3.08
CAN AST & CAN LTD JT	9,977,931	3.07
FANNIE MAE	6,098,335	1.87
ANHEUSER BUSCH INBEV FIN	5,038,159	1.55
AMERICAN EXPRESS CREDIT	5,036,883	1.55
CAPITAL ONE NA	5,031,020	1.55
CHEVRON CORP	5,029,542	1.55
CISCO SYSTEMS INC	5,029,211	1.55
CAPITAL ONE MULTI ASSET EXECUT	5,027,754	1.55

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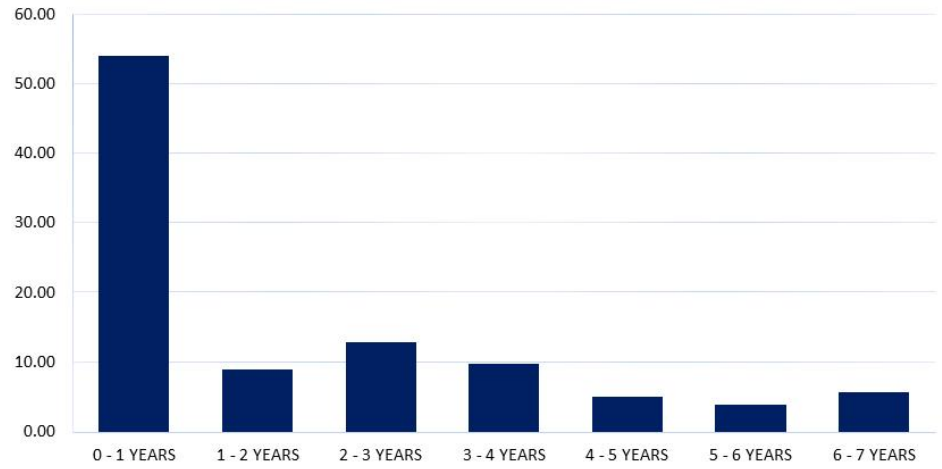
POOL 16 ECDHB

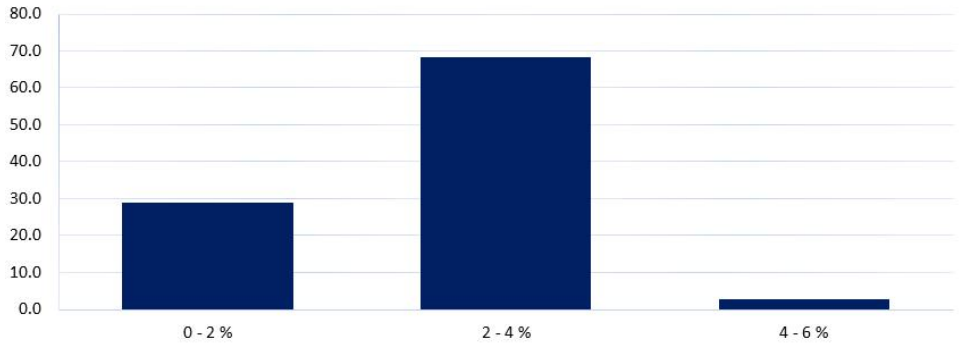
Duration Distribution



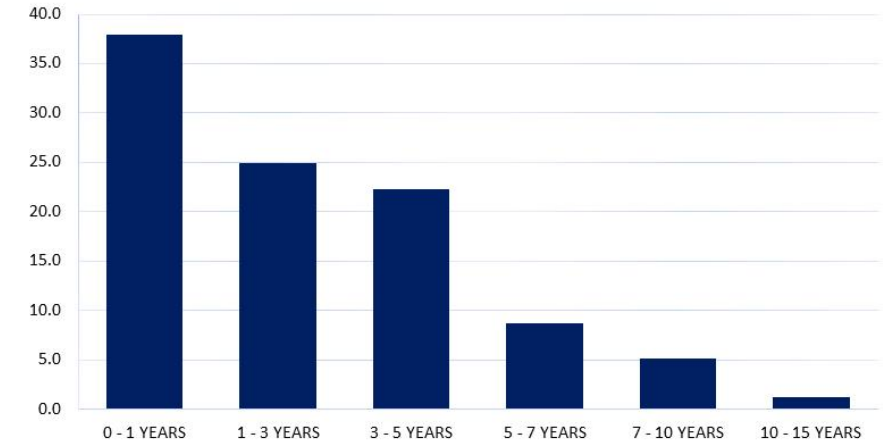
Portfolio Level Characteristics

	POOL 16 ECDHB
Effective Maturity	2.50
Coupon	2.40
Effective Duration	1.70
Quality Rating (Moody's)	AA-2

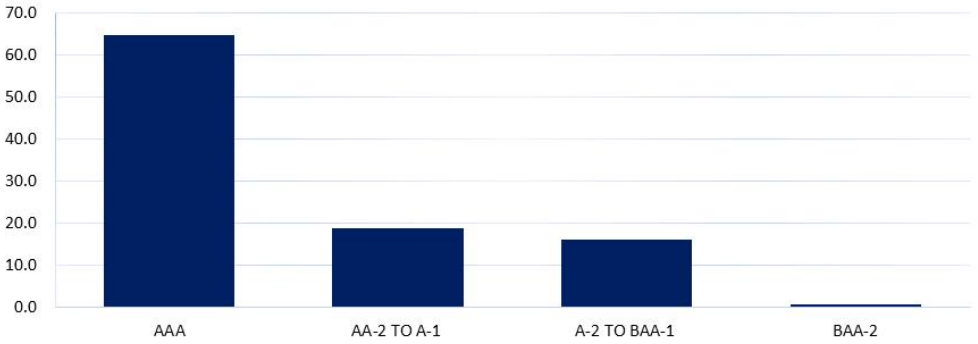
Coupon Distribution



Expected Maturity Distribution



Rating Distribution



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LGIP & LGIP- GOV
PORTFOLIO YIELD ANALYSIS
OCTOBER 2018

NET EARNINGS

FUND	DESCRIPTION	Current Month 10/31/18	Prior Month 09/30/18	Prior Year 10/31/17	Net Asset Value Per Share
5	LGIP	2,687,221	2,277,279	**1,103,075**	1.0000
7	LGIP - GOV *	1,935,682	1,783,944	**1,003,582**	1.0000
	TOTAL LGIP & LGIP-GOV	**4,622,903**	**4,061,223**	**2,106,656**	

YIELDS

	MONTHLY	Current Month 10/31/18	Prior Month 09/30/18	Prior Year 10/31/17
5	LGIP (NET)	2.20%	2.10%	**1.09%**
	S&P LGIP Index	2.07%	1.98%	**1.05%**
7	LGIP - GOV * (NET)	2.10%	1.93%	**1.00%**
	Trailing 3-mo T-bill	2.16%	2.05%	**1.04%**
	FISCAL YEAR TO DATE			
5	LGIP (NET)	2.11%	2.09%	**1.07%**
	S&P LGIP Index	1.98%	1.95%	**1.00%**
7	LGIP - GOV * (NET)	1.93%	1.88%	**0.94%**
	Trailing 3-mo T-bill	2.03%	1.98%	**1.02%**

NOTE - the Pool 7 benchmark measurement was revised in October 2018; prior period benchmarks were also changed to reflect the revised measure.

* The LGIP-GOV Pool consists of only securities explicitly backed by the full faith & credit of the US Government.

LGIP & LGIP- GOV MEDIUM TERM POOLS
PORTFOLIO YIELD ANALYSIS
OCTOBER 2018

NET EARNINGS

FUND	DESCRIPTION	Current Month 10/31/18	Prior Month 09/30/18	Prior Year 10/31/17	Net Asset Value Per Share
500	LGIP - MED TERM POOL	689,077	651,189	470,225	1.0188
700	LGIP - FF&C MED TERM POOL	236,089	211,411	159,680	0.9890
	TOTAL LGIP MEDIUM TERM POOLS	925,167	862,600	629,905	

YIELDS

	MONTHLY	Current Month 10/31/18	Prior Month 09/30/18	Prior Year 10/31/17
500	LGIP - MED TERM (NET)	2.34%	2.29%	1.67%
	20% S&P LGIP Index /	2.83%	2.72%	1.48%
	80% Bloomberg Barclays 1-3 year US Agg			
700	LGIP - FF&C MED TERM (NET)	2.05%	1.89%	1.28%
	20% Trailing 3-mo T-bill /	2.72%	2.61%	1.45%
	80% Barclay 1-3 year UST			
	FISCAL YEAR TO DATE			
500	LGIP - MED TERM (NET)	2.30%	2.29%	1.68%
	20% S&P LGIP Index /	2.70%	2.65%	1.48%
	80% Bloomberg Barclays 1-3 year US Agg			
700	LGIP - FF&C MED TERM (NET)	1.91%	1.86%	1.47%
	20% Trailing 3-mo T-bill /	2.57%	2.52%	1.34%
	80% Bloomberg Barclays 1-3 year UST			

NOTE - all benchmark measurements were revised in October 2018; prior period benchmarks were also changed

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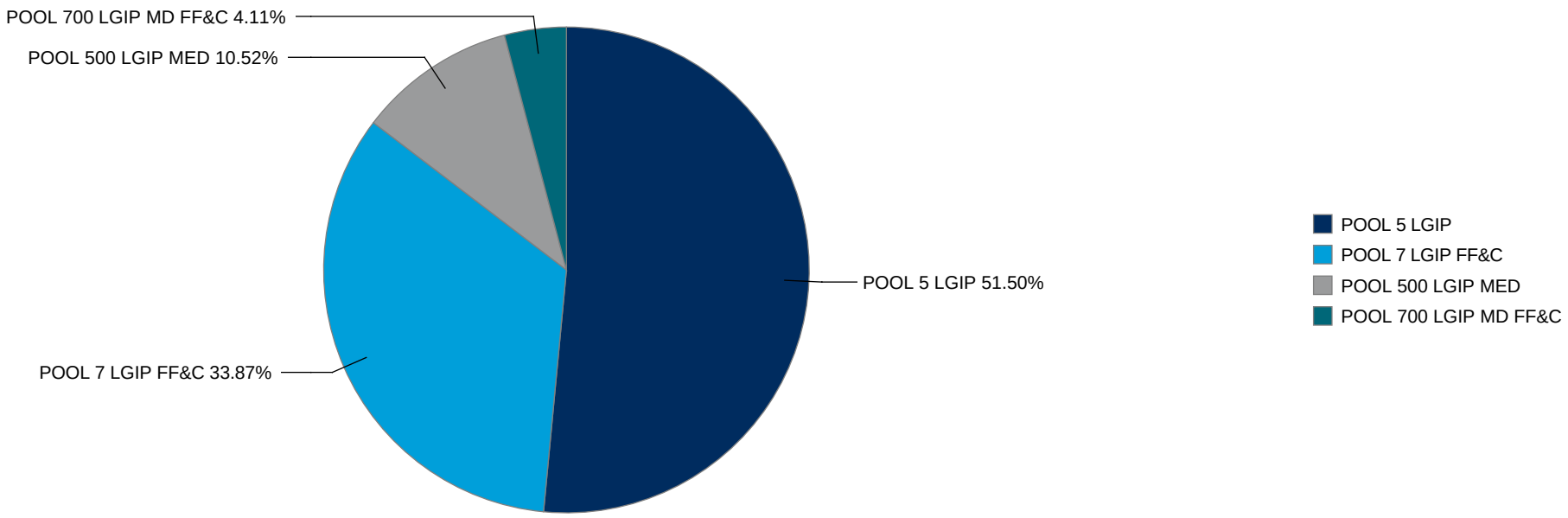
October 31, 2018

LGIP

Manager Allocation



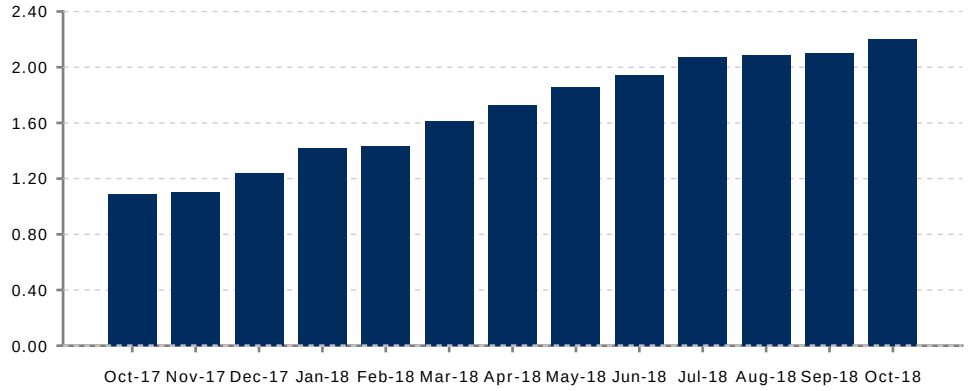
	Market Value	% of Portfolio
POOL 5 LGIP	1,698,451,271	51.5
POOL 7 LGIP FF&C	1,116,752,949	33.9
POOL 500 LGIP MED	346,848,727	10.5
POOL 700 LGIP MD FF&C	135,487,062	4.1
TOTAL LGIP	3,297,540,010	100.0

OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

POOL 5 LGIP

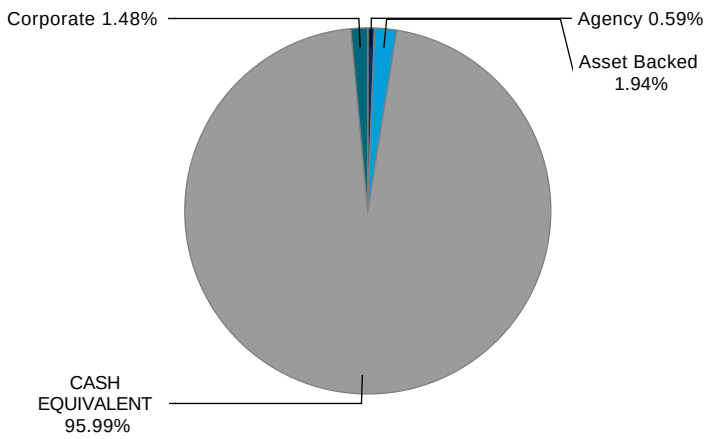
Net Yield



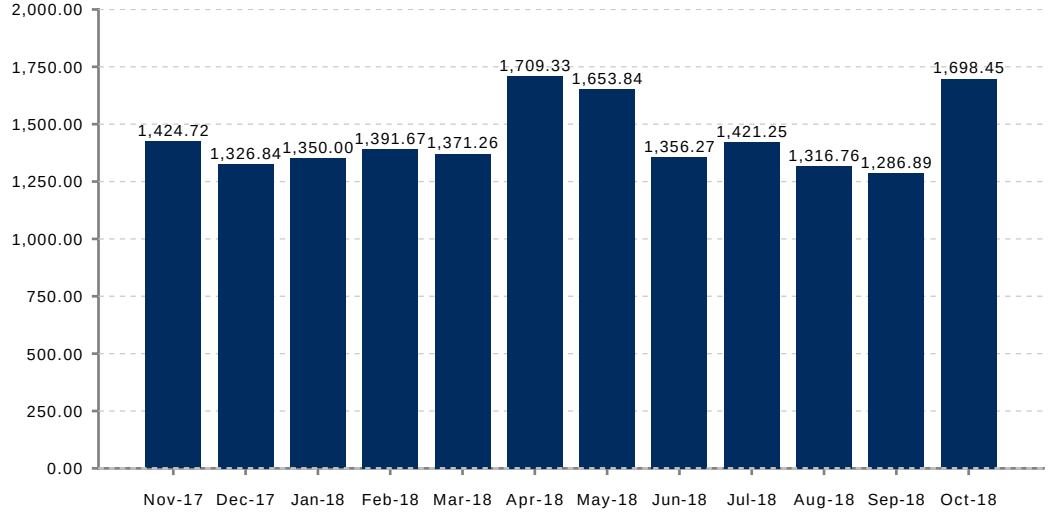
	Current Mth	Prior Mth	1 Year Ago
POOL 5 LGIP	2.20	2.10	1.09

Asset Allocation

	Ending Market Value
POOL 5 LGIP	1,698,451,271



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 5 LGIP		
CREDIT AGRICOLE REPO	150,009,125	8.83
BMO TRIPARTY MTGE CLAS/ISIT/RTRP MATU//20121224	117,330,093	6.91
BANK OF AMERICA REPO	100,005,694	5.89
TREASURY BILL	39,862,808	2.35
CEDAR SPRING CPTL CO	29,971,625	1.76
NORTHWESTERN UNIVERS	29,948,667	1.76
USAA CAPITAL CORP	29,854,333	1.76
INTL BK RECON + DEVELOP	25,122,597	1.48
VICTORY RECEIVABLES	24,993,722	1.47
GOTHAM FDG CORP	24,987,778	1.47

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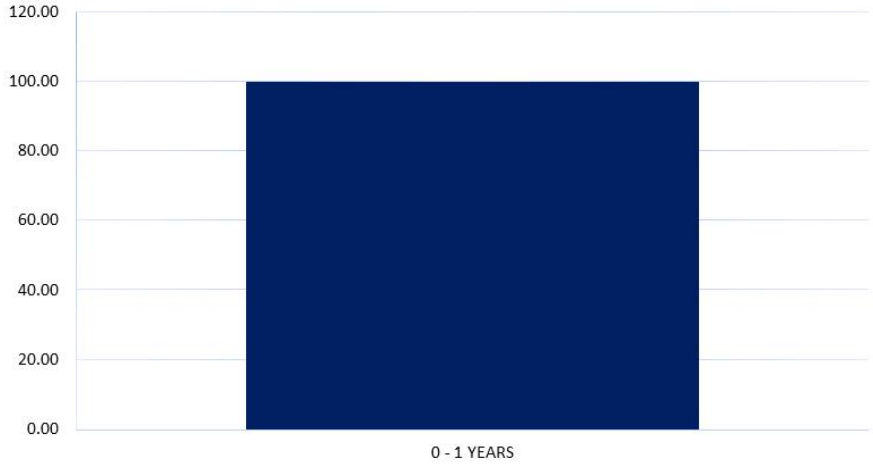
October 31, 2018

POOL 5 LGIP

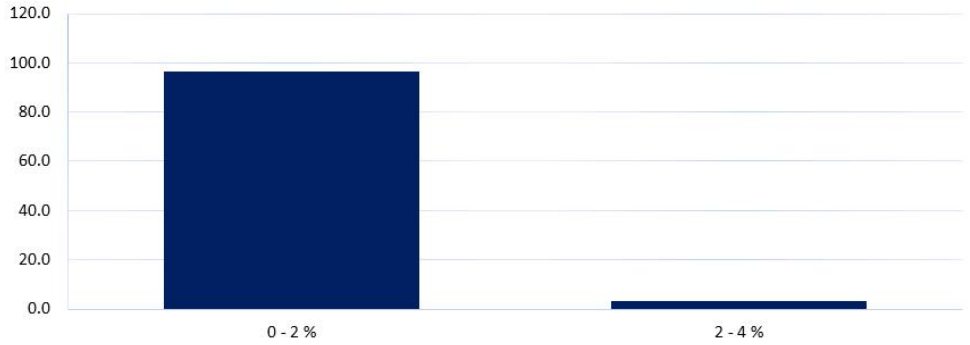
Duration Distribution



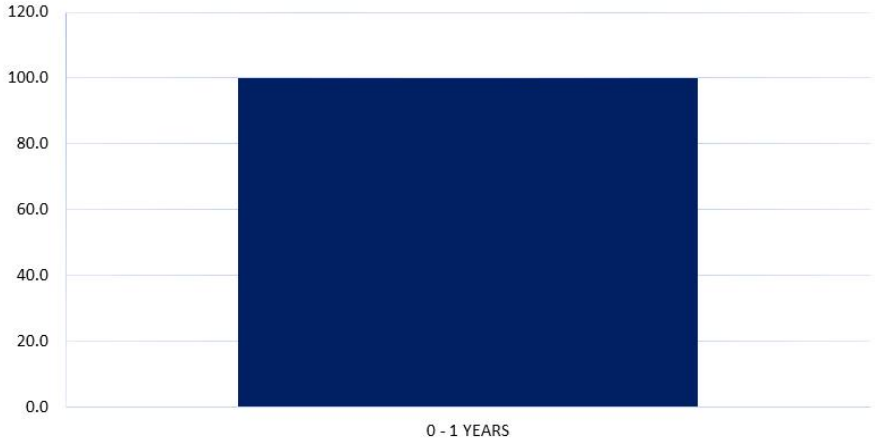
Portfolio Level Characteristics

	POOL 5 LGIP
Effective Maturity	0.09
Coupon	0.09
Effective Duration	0.08
Quality Rating (Moody's)	AAA

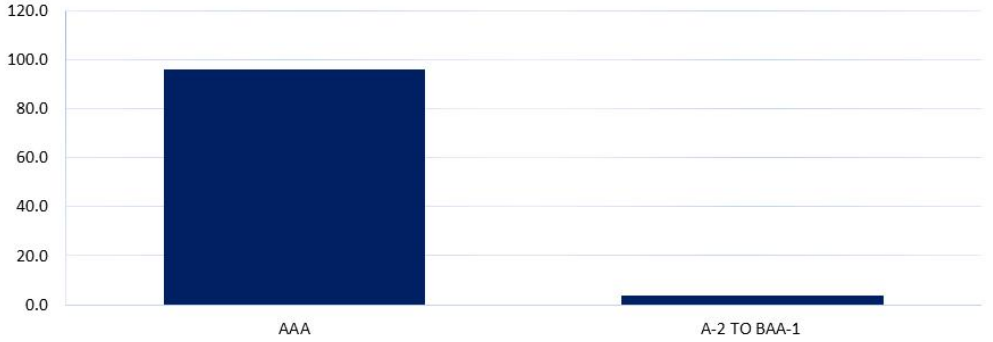
Coupon Distribution



Expected Maturity Distribution



Rating Distribution

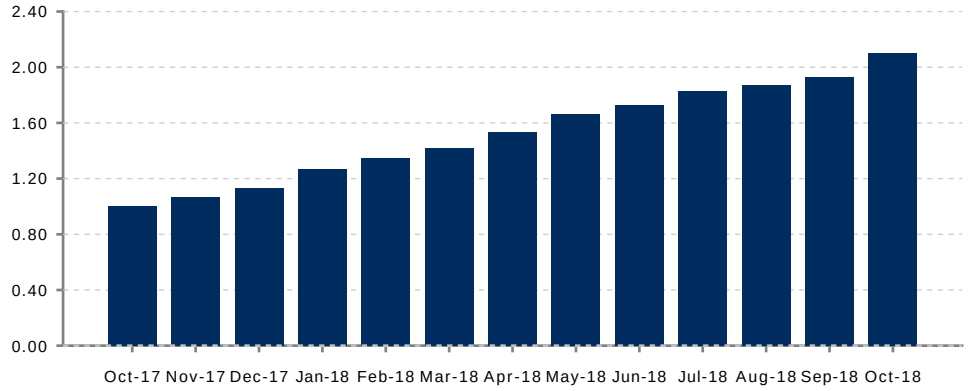


OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

POOL 7 LGIP FF&C

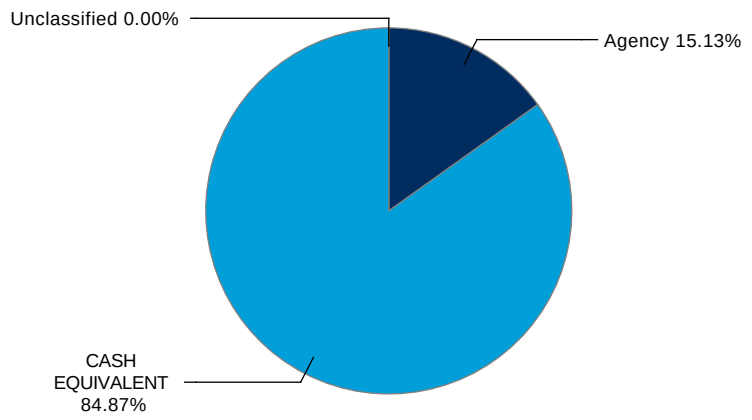
Net Yield



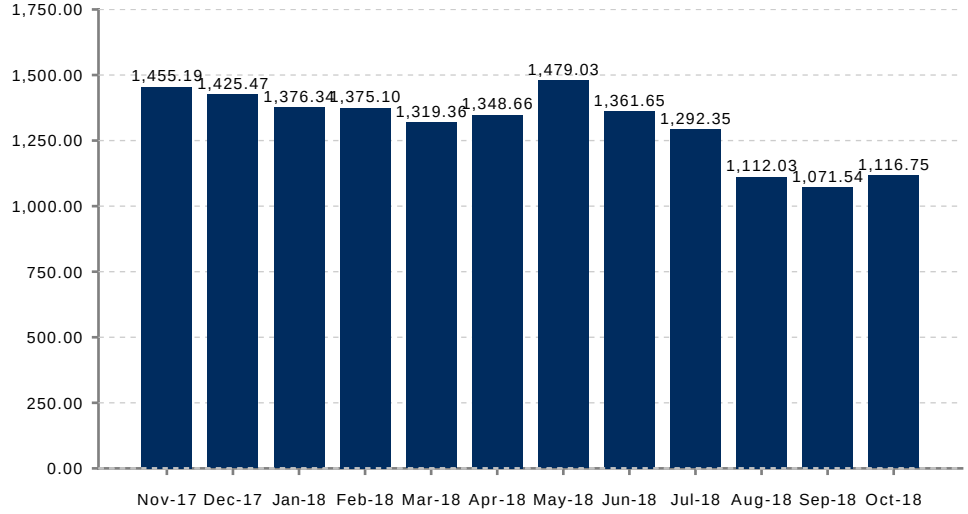
	Current Mth	Prior Mth	1 Year Ago
POOL 7 LGIP FF&C	2.10	1.93	1.00

Asset Allocation

	Ending Market Value
POOL 7 LGIP FF&C	1,116,752,949



Net Asset Values over Time ($MM)



Top 10 Holdings

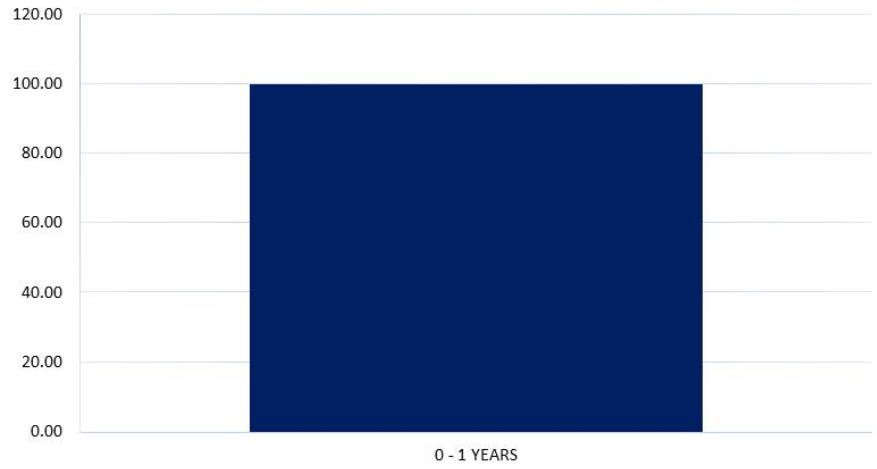
Security Name	Ending Market Value	% of Portfolio
POOL 7 LGIP FF&C		
GUGGENHEIM SECURITIES REPO	158,670,052	14.21
WELLS FARGO REPO	110,013,261	9.85
TREASURY BILL	107,629,582	9.64
AMHERST PIERPONT	80,153,622	7.18
RBC CAPITAL MARKETS REPO	66,170,176	5.93
TREASURY BILL	59,855,611	5.36
TREASURY BILL	59,740,553	5.35
TREASURY BILL	57,832,992	5.18
TREASURY BILL	50,000,000	4.48
WI TREASURY SEC	49,859,235	4.46

OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

POOL 7 LGIP FF&C

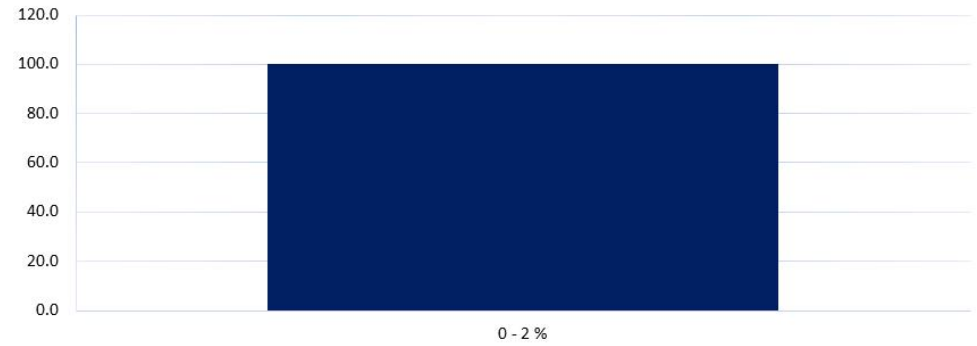
Duration Distribution



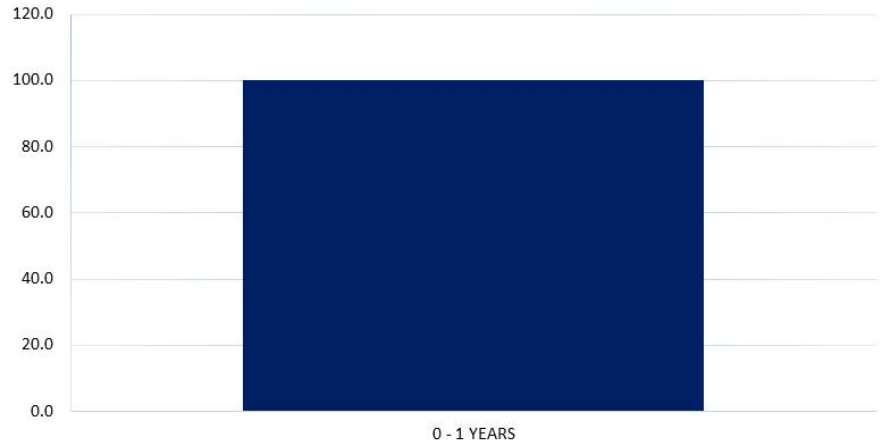
Portfolio Level Characteristics

	POOL 7 LGIP FF&C
Effective Maturity	0.09
Coupon	0.00
Effective Duration	0.09
Quality Rating (Moody's)	AAA

Coupon Distribution



Expected Maturity Distribution



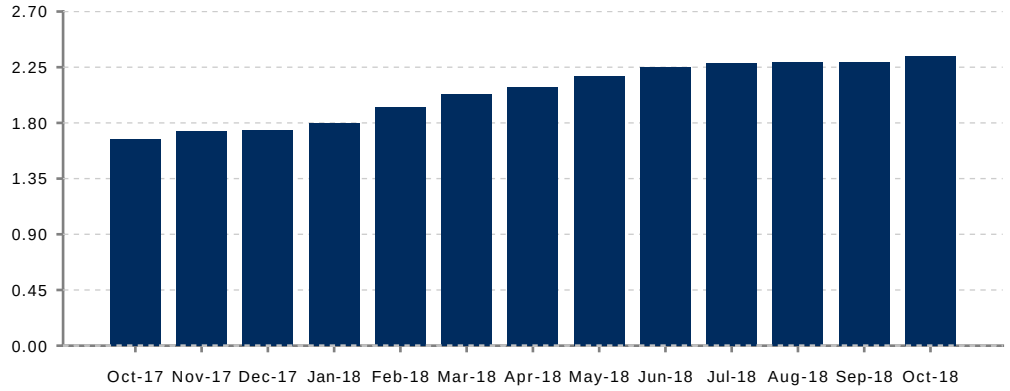
Rating Distribution

OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

POOL 500 LGIP MED

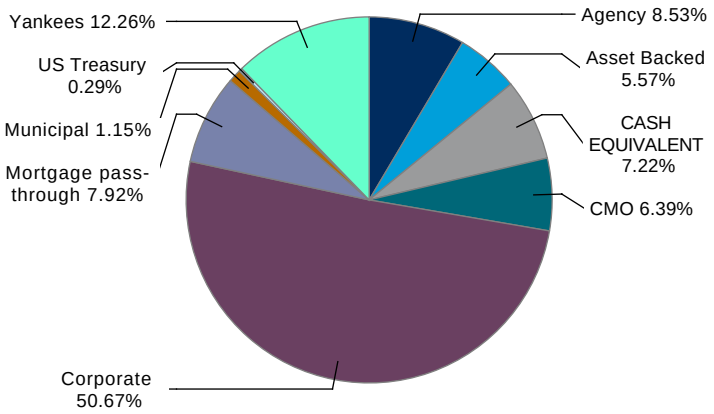
Net Yield



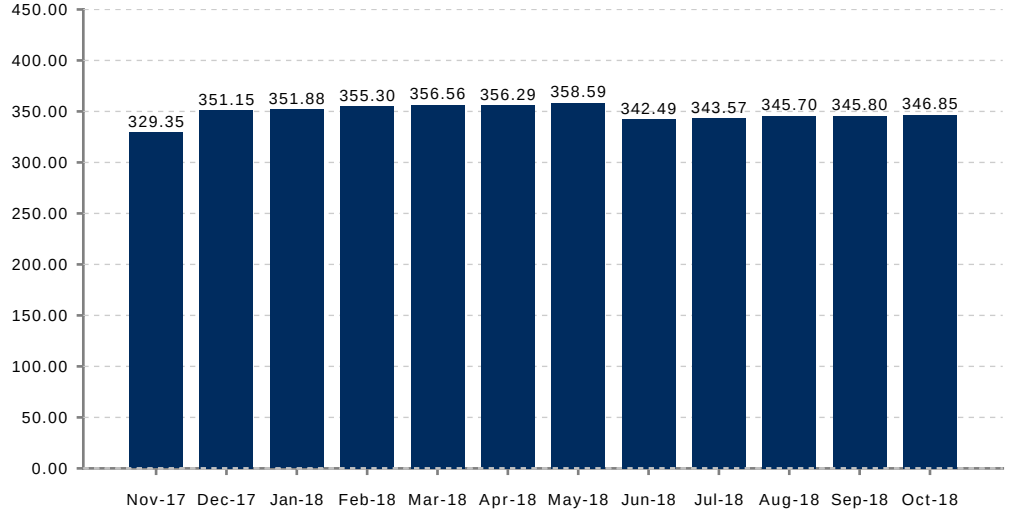
	Current Mth	Prior Mth	1 Year Ago
POOL 500 LGIP MED	2.34	2.29	1.67

Asset Allocation

	Ending Market Value
POOL 500 LGIP MED	346,848,727



Net Asset Values over Time ($MM)



Top 10 Holdings

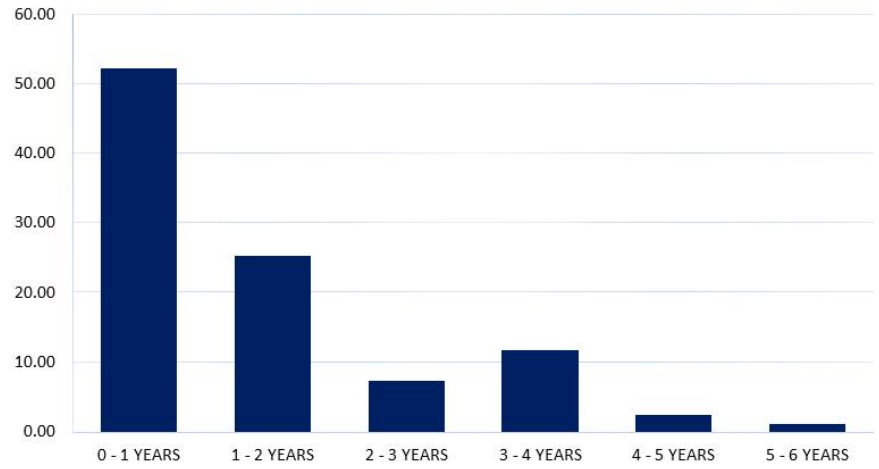
Security Name	Ending Market Value	% of Portfolio
POOL 500 LGIP MED		
AMHERST PIERPONT	20,039,094	5.78
GOLDMAN SACHS GROUP INC	7,931,911	2.29
MICROSOFT CORP	7,928,976	2.29
APPLE INC	7,095,366	2.05
MANUF + TRADERS TRUST CO	7,002,040	2.02
BANK OF AMERICA CORP	5,737,141	1.65
MERCK + CO INC	5,548,817	1.60
APPLE INC	5,049,162	1.46
FNMA POOL AB5991	5,043,954	1.45
BANK OF MONTREAL	5,037,825	1.45

OFFICE OF THE ARIZONA STATE TREASURER

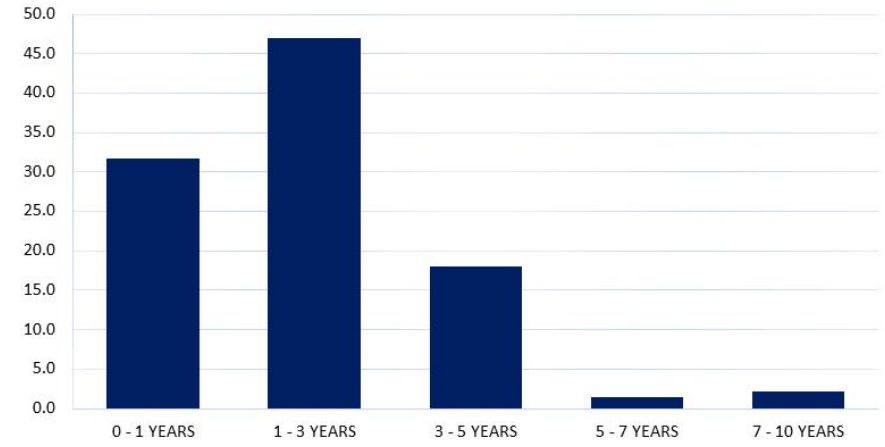
October 31, 2018

POOL 500 LGIP MED

Duration Distribution



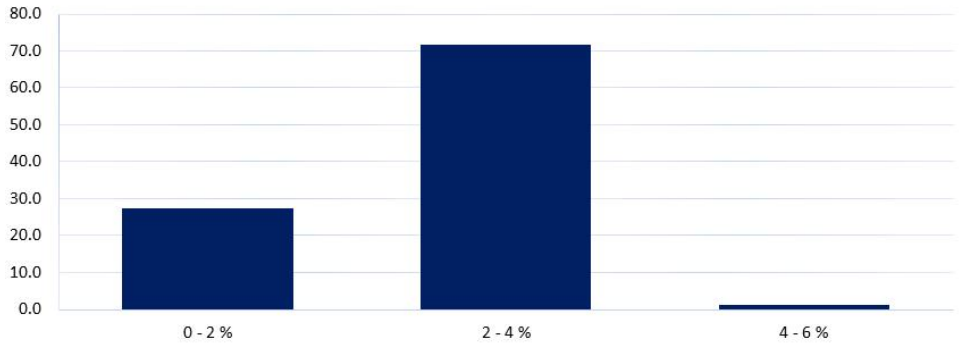
Expected Maturity Distribution



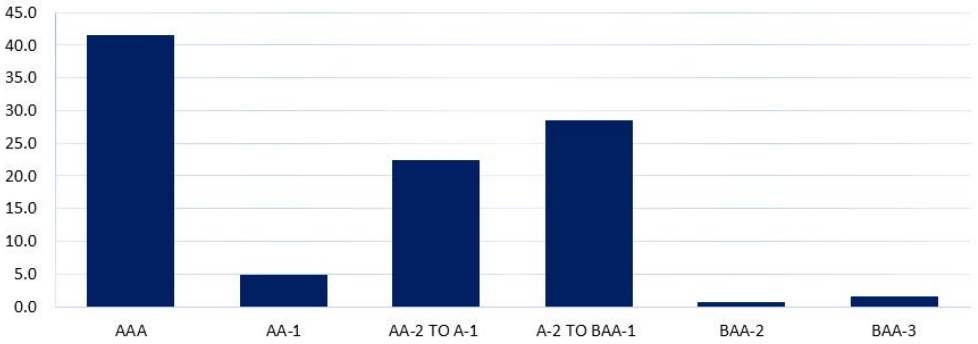
Portfolio Level Characteristics

	POOL 500 LGIP MED
Effective Maturity	1.82
Coupon	2.30
Effective Duration	1.23
Quality Rating (Moody's)	AA-3

Coupon Distribution



Rating Distribution

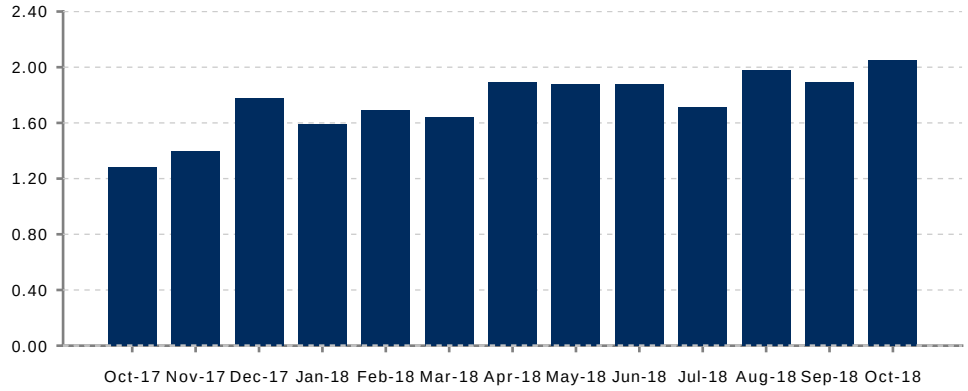


OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

POOL 700 LGIP MD FF&C

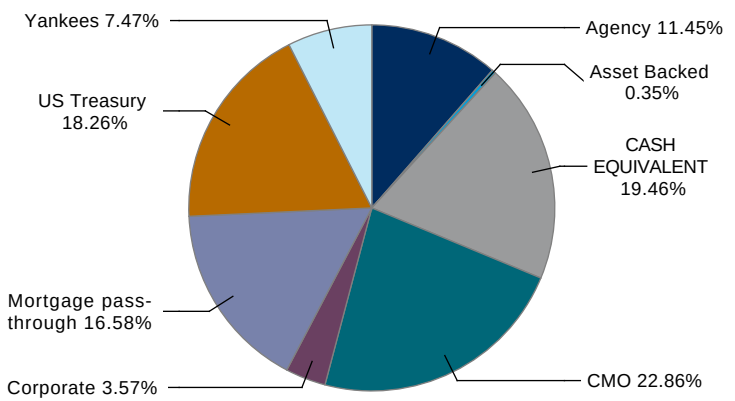
Net Yield



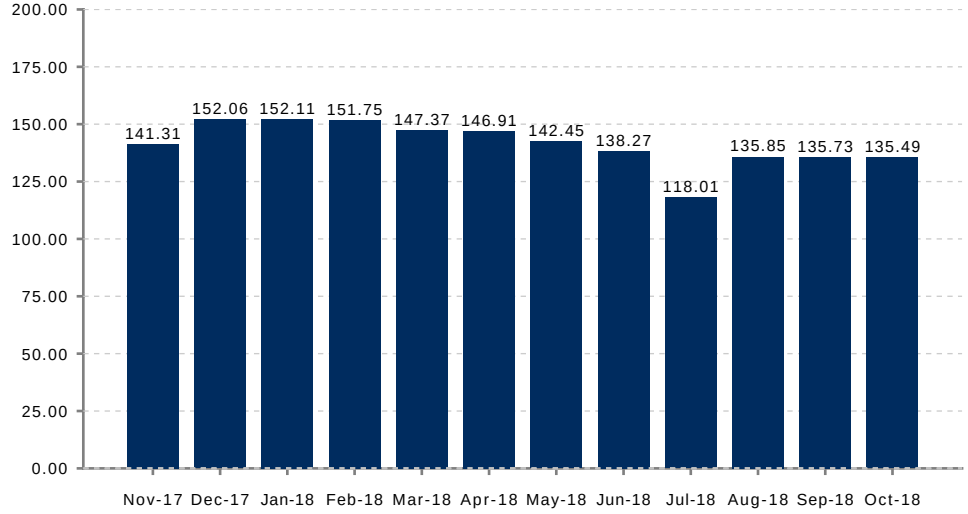
	Current Mth	Prior Mth	1 Year Ago
POOL 700 LGIP MD FF&C	2.05	1.89	1.28

Asset Allocation

	Ending Market Value
POOL 700 LGIP MD FF&C	135,487,062



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 700 LGIP MD FF&C		
AMHERST PIERPONT	20,038,406	14.79
GOVERNMENT NATIONAL MORTGAGE A	6,708,683	4.95
AID JORDAN	6,217,270	4.59
OVERSEAS PRIVATE INV COR	5,013,295	3.70
US TREASURY N/B	4,949,938	3.65
US TREASURY N/B	4,939,856	3.65
US TREASURY N/B	4,928,312	3.64
US TREASURY N/B	4,878,572	3.60
GNMA II POOL MA0213	3,597,436	2.66
PRIVATE EXPORT FUNDING	3,418,250	2.52

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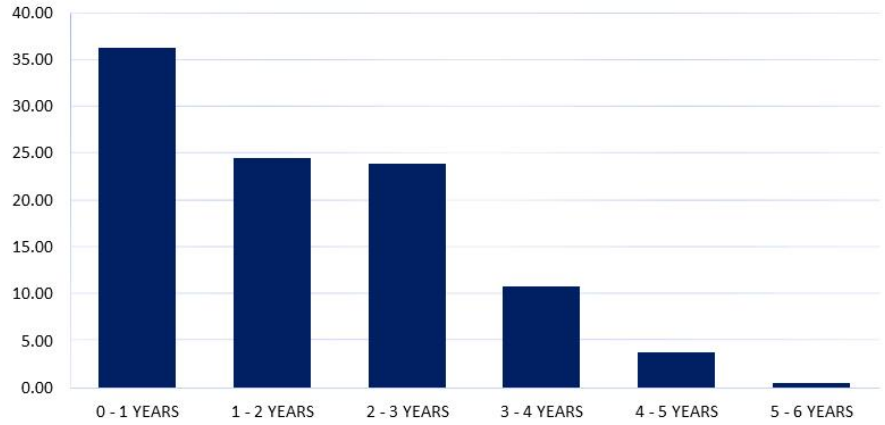
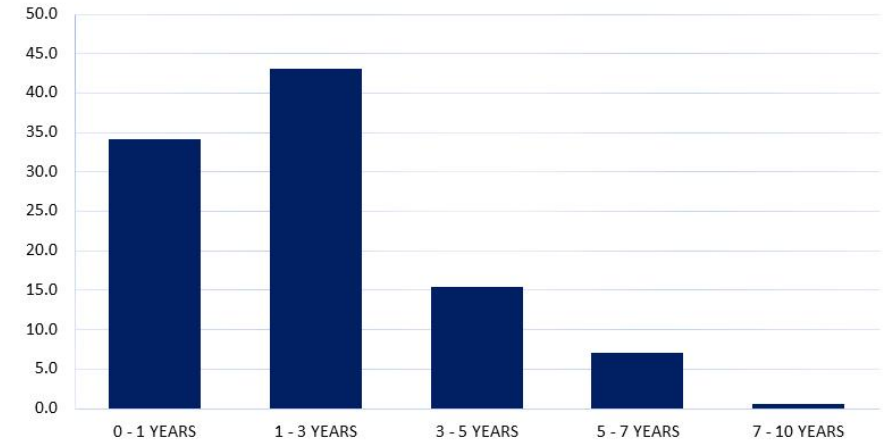
POOL 700 LGIP MD FF&C

Duration Distribution



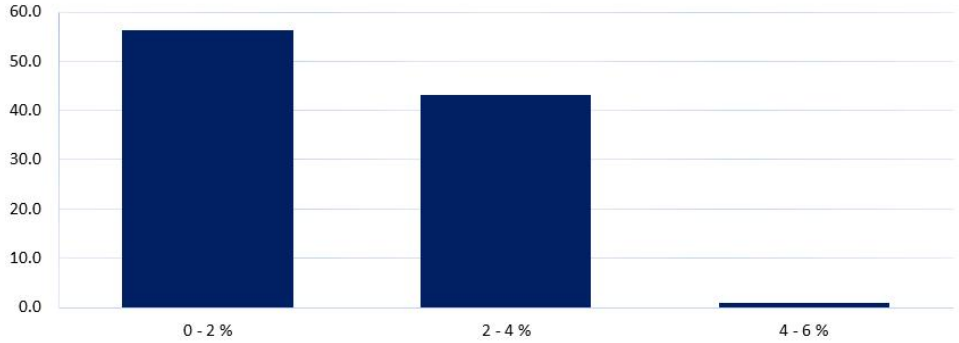
Expected Maturity Distribution



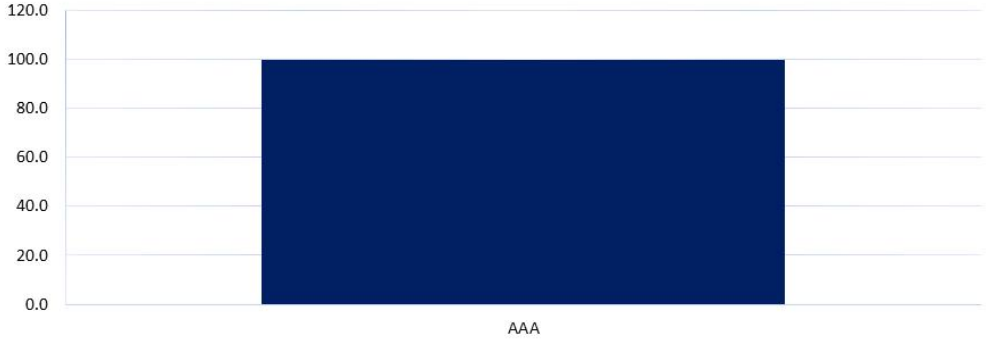
Portfolio Level Characteristics

	POOL 700 LGIP MD FF&C
Effective Maturity	1.91
Coupon	1.64
Effective Duration	1.65
Quality Rating (Moody's)	AAA

Coupon Distribution



Rating Distribution



EARNINGS DISTRIBUTED
ENDOWMENT FUNDS
OCTOBER 2018

Recipient		Distributed in Current Month OCTOBER 2018	Fiscal YTD 18/19	Fiscal YTD 17/18	Fiscal YTD Change
101	A & M Colleges	$70,405	$281,621	$265,950	$15,671
102	State Hospital	47,085	188,339	171,968	16,371
103	Leg., Exec., & Jud.	58,321	233,282	219,588	13,694
104	Military Institute	3,868	15,470	14,568	903
105	Miners Hospital	158,118	632,473	574,563	57,909
107	Normal School ASU/NAU	28,855	115,420	104,459	10,961
108	Penitentiaries	106,084	424,334	381,406	42,928
109	Permanent Common School	26,770,470	107,081,878	98,641,746	8,440,132
110	School for Deaf & Blind	38,606	154,425	142,380	12,045
111	School of Mines	79,866	319,463	301,094	18,369
112	State Charitable-Pioneers Home	394,116	1,576,463	1,480,579	95,885
112	State Charitable-Corrections	197,058	788,232	740,289	47,942
112	State Charitable-Youth Treatment	197,058	788,232	740,289	47,942
113	University Fund	143,386	573,545	531,985	41,560
114	U of A Land - 1881	492,037	1,968,147	1,732,734	235,412
	Total	**$28,785,331**	**$115,141,325**	**$106,043,599**	**$9,097,726**

Land Sales Monthly Proceeds
Endowment Funds

Month	2013	2014	2015	2016	2017	2018	2019
January	85,209,777	29,493,046	7,126,212	5,108,687	2,960,815	809,822	
February	24,412,865	33,969,801	2,535,244	1,083,178	1,103,303	744,295	
March	13,469,847	1,323,549	1,096,232	1,106,860	3,045,043	8,296,029	
April	4,599,024	2,252,527	1,968,281	28,981,969	78,134,289	22,707,772	
May	12,685,871	1,100,261	19,123,417	20,147,116	27,642,672	16,234,823	
June	6,493,351	4,564,719	33,179,898	31,844,678	2,451,110	6,799,100	
July	5,694,705	4,196,738	6,092,396	2,469,997	13,838,188	27,835,379	
August	2,304,138	24,838,430	1,038,971	13,094,287	5,746,802	6,932,754	
September	10,399,639	1,960,673	1,967,125	(12,580,728)	19,937,751	8,293,343	
October	1,240,497	3,150,170	2,366,519	10,614,885	480,710	24,823,636	
November	8,995,327	34,193,583	1,358,711	28,490,238	9,500,048		
December	3,574,631	1,136,538	4,264,354	6,127,407	3,869,818		
Calendar Year	179,079,672	142,180,034	82,117,360	136,488,573	168,710,549	123,476,953	-
Fiscal Year (July 1st to June 30th)	234,004,734	104,912,840	134,505,415	105,360,563	163,553,318	108,965,158	67,885,112

NET REALIZED CAPITAL GAINS / LOSSES - ENDOWMENT FUNDS

Endowment Fund	October 2018 NET GAIN(LOSS)	October 2017 NET GAIN(LOSS)
Fixed Income Pool	($400,043)	**($401,311)**
500 Large-Cap Fund	2,850,662	**$5,288,890**
400 Mid-Cap Fund	12,050,150	**$3,026,804**
600 Small-Cap Fund	4,971,086	**$4,629,222**
Totals	$19,471,855	**$12,543,604**

Endowment Fund	2018/2019 FISCAL YEAR TO DATE GAINS(LOSSES)	2017/2018 FISCAL YEAR TO DATE GAINS(LOSSES)
Fixed Income Pool	($1,513,199)	**($1,545,131)**
500 Large-Cap Fund	13,527,547	**11,082,114**
400 Mid-Cap Fund	16,844,654	**22,794,796**
600 Small-Cap Fund	12,271,762	**10,984,651**
Totals	$41,130,764	**$43,316,430**

ENDOWMENT FUNDS FIXED-INCOME POOLS
PURCHASES & SALES
OCTOBER 2018

I. Endowment Funds Purchases

POOL	SECURITY DESCRIPTION	RATE	MATURITY	*WAL YEARS	PAR VALUE	PURCHASE COST	YIELD	MOODY'S RATING
205	BMW	2.50	10/21/2019	NA	$5,000,000	$5,000,000	2.50%	P-1
205	MOUNTCLIFF	0.00	11/30/2018	NA	10,000,000	9,972,528	2.31%	P-1
123	CHEVRON	2.12	10/22/2018	NA	10,000,000	9,989,400	2.12%	P-1
123	CROWN POINT	2.54	01/23/2019	NA	5,000,000	5,000,000	2.54%	P-1
123	GOTHAM	0.00	11/23/2018	NA	5,000,000	4,989,867	2.28%	P-1
123	GOTHAM	0.00	12/21/2018	NA	5,000,000	4,975,510	2.30%	P-1
123	HALKIN	0.00	11/21/2018	NA	5,000,000	4,984,375	2.26%	P-1
123	HALKIN	0.00	11/21/2018	NA	3,500,000	3,493,572	2.28%	P-1
123	MANHATTAN	0.00	11/23/2018	NA	5,000,000	4,989,778	2.30%	P-1
123	NIEUW AMSTERDAM	0.00	11/23/2018	NA	5,000,000	4,990,097	2.30%	P-1
123	OLD LINE	0.00	02/22/2019	NA	5,000,000	4,958,675	2.63%	P-1
123	SUMITOMO MITSUBISHI	0.00	11/23/2018	NA	5,000,000	4,989,867	2.28%	P-1
	TOTAL ENDOWMENT FUNDS PURCHASES				**$68,500,000**	**$68,333,668**		

II. Endowment Funds Sales

POOL	SECURITY DESCRIPTION	RATE	MATURITY	PAR VALUE	AMORTIZED COST/PROCEEDS	SALES GAINS/(LOSSES)	MOODY'S RATING
	TOTAL ENDOWMENT FUNDS SALES			**$0**	**$0**	**$0**	

* WAL is the weighted average life of the security based on the Bloomberg calculation at the time the trade is executed. The calculation is used only with mortgage-backed pass-through/CMO securities.

EQUITY FUNDS
PURCHASES & SALES
OCTOBER 2018

I. Equity Fund Purchases

	SHARES	PURCHASE COST	COMMISSIONS
400 Mid-Cap Fund	606,947	$22,921,859	$3,838
500 Large-Cap Fund	27,211	$3,018,944	$39
600 Small-Cap Fund	737,354	12,484,036	5,480
TOTAL EQUITY PURCHASES	**1,371,512**	**$38,424,839**	**$9,357**

II. Equity Funds Sales

	SHARES	SALES AMOUNT	COMMISSIONS
400 Mid-Cap Fund	326,149	$19,705,693	$2,212
500 Large-Cap Fund	17,955	321,911	0
600 Small-Cap Fund	482,050	15,024,283	2,985
TOTAL EQUITY SALES	**826,154**	**$35,051,887**	**$5,197**

ENDOWMENT FUNDS
INVESTMENTS OUTSTANDING
OCTOBER 31, 2018
(In Thousands)

FUND	NAME OF FUND	SHARES OUTSTANDING	BOOK VALUE	MARKET VALUE	UNREALIZED GAINS (LOSSES)	**Mkt Value/ Book Value**
101	A & M Colleges					
	Shares in Equity Pools	386	$2,712	$7,819	$5,107	
	Shares in Fixed Income Pools	3,850	2,756	5,070	2,314	
	Total	4,235	5,468	12,890	7,422	**2.357**
102	State Hospital					
	Shares in Equity Pools	304	2,638	6,166	3,528	
	Shares in Fixed Income Pools	3,125	2,596	4,116	1,520	
	Total	3,429	5,234	10,282	5,048	**1.964**
103	Leg., Exec, & Jud					
	Shares in Equity Pools	315	2,382	6,396	4,014	
	Shares in Fixed Income Pools	3,372	2,417	4,442	2,025	
	Total	3,688	4,798	10,838	6,040	**2.259**
104	Military Institute					
	Shares in Equity Pools	21	166	431	264	
	Shares in Fixed Income Pools	232	163	306	142	
	Total	253	330	736	407	**2.233**
105	Miners Hospital					
	Shares in Equity Pools	937	8,320	19,009	10,689	
	Shares in Fixed Income Pools	9,414	8,204	12,399	4,195	
	Total	10,351	16,524	31,409	14,884	**1.901**
107	Normal School ASU/NAU					
	Shares in Equity Pools	181	1,561	3,661	2,101	
	Shares in Fixed Income Pools	1,862	1,493	2,453	960	
	Total	2,043	3,053	6,114	3,061	**2.003**
108	Penitentiaries					
	Shares in Equity Pools	622	5,272	12,618	7,346	
	Shares in Fixed Income Pools	6,359	5,237	8,376	3,139	
	Total	6,981	10,510	20,994	10,485	**1.998**

ENDOWMENT FUNDS
INVESTMENTS OUTSTANDING
OCTOBER 31, 2018
(In Thousands)

	NAME OF FUND	SHARES OUTSTANDING	BOOK VALUE	MARKET VALUE	UNREALIZED GAINS (LOSSES)	**Mkt Value/ Book Value**
109	Permanent Common School					
	Shares in Equity Pools	159,803	1,300,090	3,241,250	1,941,160	
	Shares in Fixed Income Pools	1,608,074	1,315,940	2,118,033	802,094	
	Total	1,767,877	2,616,030	5,359,283	2,743,254	**2.049**
110	School for Deaf & Blind					
	Shares in Equity Pools	225	1,867	4,559	2,692	
	Shares in Fixed Income Pools	2,526	1,986	3,327	1,341	
	Total	2,751	3,853	7,886	4,033	**2.047**
111	School of Mines					
	Shares in Equity Pools	436	3,274	8,848	5,573	
	Shares in Fixed Income Pools	4,482	3,328	5,903	2,575	
	Total	4,918	6,602	14,751	8,149	**2.234**
112	State Charitable					
	Shares in Equity Pools	4,566	35,754	92,617	56,863	
	Shares in Fixed Income Pools	44,393	35,783	58,471	22,688	
	Total	48,959	71,537	151,088	79,551	**2.112**
113	University Fund					
	Shares in Equity Pools	797	6,317	16,165	9,848	
	Shares in Fixed Income Pools	8,215	6,263	10,821	4,557	
	Total	9,012	12,580	26,986	14,406	**2.145**
114	U Of A Land - 1881					
	Shares in Equity Pools	3,023	29,436	61,311	31,875	
	Shares in Fixed Income Pools	31,056	26,817	40,904	14,088	
	Total	34,079	56,252	102,215	45,963	**1.817**
	TOTALS - ALL FUNDS					
	Shares in Equity Pools	171,616	1,399,789	3,480,851	2,081,062	
	Shares in Fixed Income Pools	1,726,960	1,412,982	2,274,621	861,639	
	Grand Total	$1,898,576	$2,812,771	$5,755,473	$2,942,702	
	PRIOR YEAR: OCTOBER 2017 BALANCES	**$1,961,861**	**$2,901,979**	**$5,783,203**	**$2,881,224**	

ENDOWMENT FUNDS
INVESTMENTS OUTSTANDING
OCTOBER 31, 2018

ASSET ALLOCATION PERCENTAGE

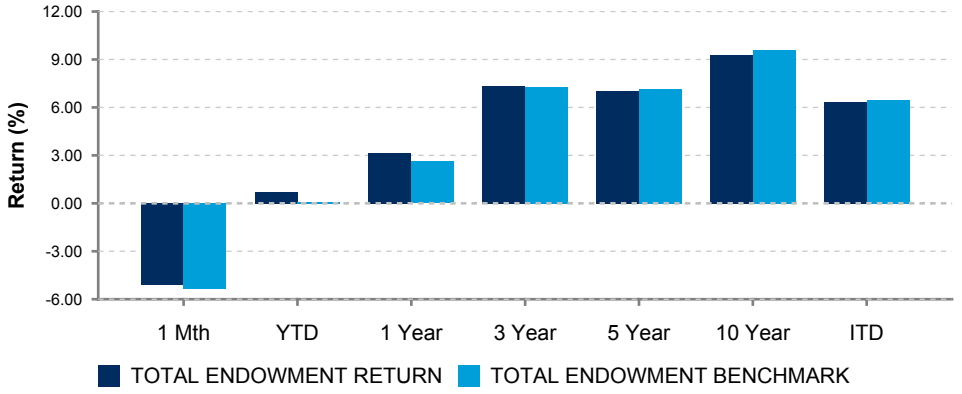
	SHARES OUTSTANDING	**BOOK VALUE**	MARKET VALUE	OCTOBER 2017 MARKET VALUE
Shares in Equity Pools	9.04%	**49.77%**	60.48%	61.35%
Shares in Fixed Income Pools	90.96%	**50.23%**	39.52%	38.65%
Total	100.00%	**100.00%**	100.00%	100.00%

OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

Total Endowment Summary

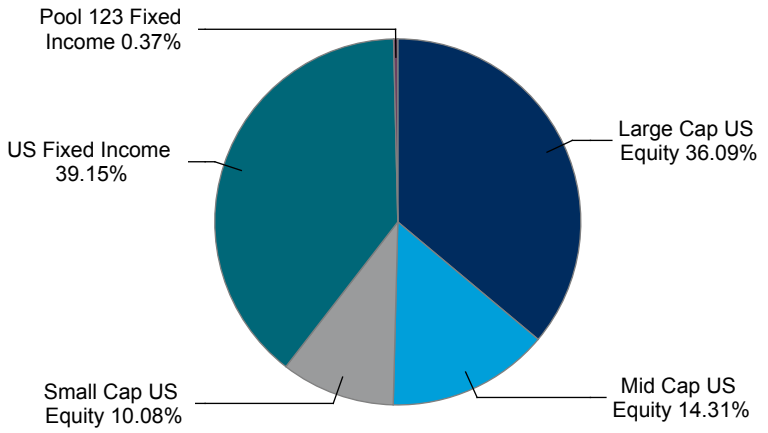
Performance



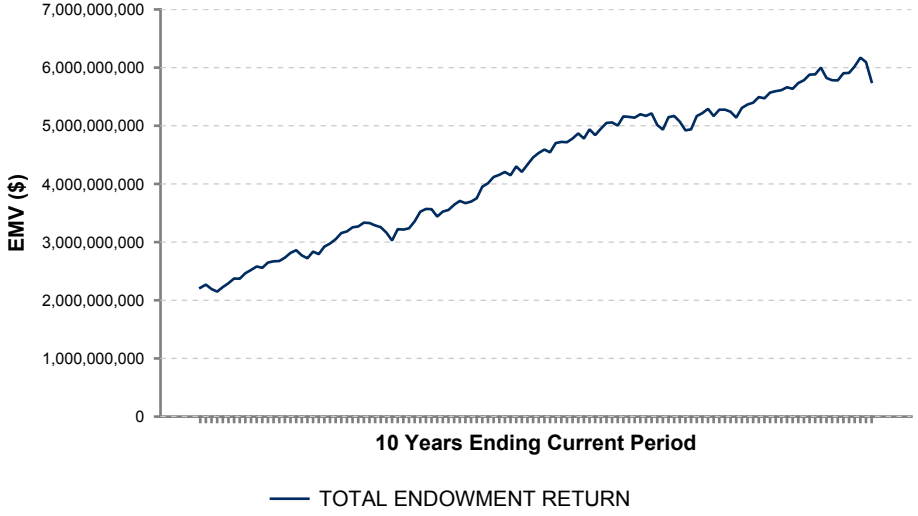
	1 Mth	YTD	1 Year	3 Year	5 Year	10 Year	ITD	Incept Date
TOTAL ENDOWMENT RETURN	-5.11	0.71	3.16	7.34	7.04	9.29	6.33	07/99
TOTAL ENDOWMENT BENCHMARK	-5.33	0.07	2.61	7.28	7.15	9.59	6.47	07/99
	0.22	0.64	0.55	0.05	-0.11	-0.30	-0.15	

Asset Allocation

	Ending Market Value
TOTAL ENDOWMENT RETURN	5,755,472,536

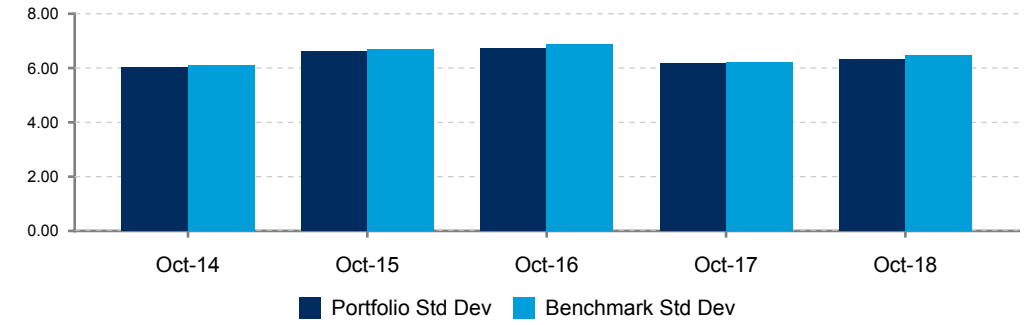


Ending Market Value



3 Year Risk Statistics

	Return	Portfolio Std Dev	Benchmark Std Dev	Sharpe Ratio	Beta	Tracking Error	Information Ratio
TOTAL ENDOWMENT RETURN	7.34	6.32	6.47	1.02	0.97	0.37	0.14



OFFICE OF THE ARIZONA STATE TREASURER

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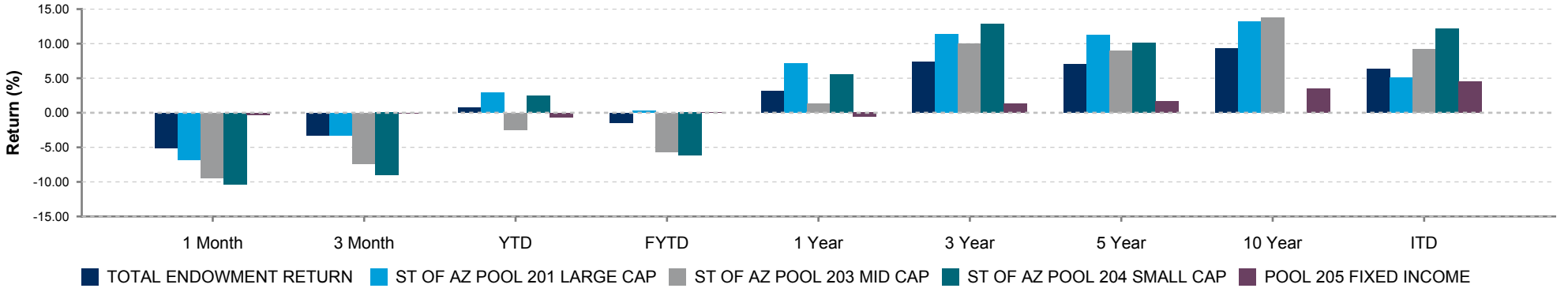
Total Returns Net Mgr

Return Comparison



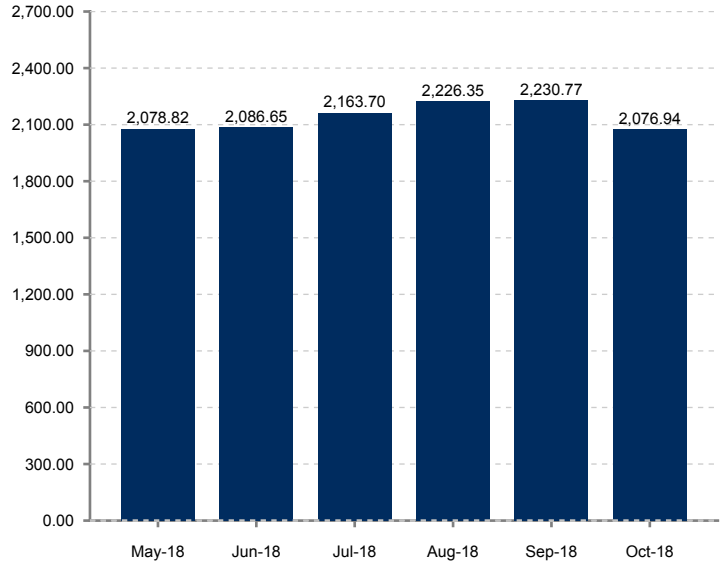
	Market Value	Actual Weight	1 Mth	3 Mth	YTD	FYTD	1 Year	3 Year	5 Year	10 Year	ITD	Inc Date
TOTAL ENDOWMENT RETURN	5,755,472,536	100.00	-5.11	-3.27	0.71	-1.42	3.16	7.34	7.04	9.29	6.33	Jul-01-99
TOTAL ENDOWMENT BENCHMARK			-5.33	-3.58	0.07	-1.72	2.61	7.28	7.15	9.59	6.47	Jul-01-99
			0.22	0.30	0.64	0.30	0.55	0.05	-0.11	-0.30	-0.15	
ST OF AZ POOL 201 LARGE CAP	2,076,941,689	36.09	-6.83	-3.30	2.89	0.28	7.18	11.42	11.26	13.21	5.09	Jul-01-99
S&P 500 INDEX (DAILY)			-6.84	-3.25	3.01	0.35	7.35	11.52	11.34	13.24	5.59	Jul-01-99
			0.00	-0.05	-0.12	-0.07	-0.17	-0.10	-0.08	-0.03	-0.49	
ST OF AZ POOL 203 MID CAP	823,555,404	14.31	-9.41	-7.38	-2.46	-5.70	1.37	10.03	9.01	13.77	9.20	Aug-01-01
S&P 400 MIDCAP INDEX (DAILY)			-9.55	-7.68	-2.77	-6.05	1.02	9.85	8.89	14.13	9.18	Aug-01-01
			0.13	0.30	0.31	0.35	0.35	0.19	0.13	-0.36	0.02	
ST OF AZ POOL 204 SMALL CAP	580,354,112	10.08	-10.37	-9.03	2.47	-6.18	5.50	12.80	10.07		12.21	Mar-01-11
S&P SM 600 TR			-10.48	-9.13	2.54	-6.26	5.60	12.84	10.06		12.21	Mar-01-11
			0.11	0.10	-0.07	0.08	-0.10	-0.03	0.01		0.01	
POOL 205 FIXED INCOME	2,253,492,399	39.15	-0.26	-0.03	-0.67	-0.02	-0.58	1.26	1.71	3.49	4.49	Jul-01-99
FTSE BIG (DAILY)			-0.78	-0.79	-2.39	-0.75	-2.06	1.05	1.83	3.93	4.71	Jul-01-99
			0.52	0.76	1.72	0.73	1.48	0.22	-0.12	-0.44	-0.22	
POOL 123 FIXED INCOME	21,128,932	0.37	0.26	0.53	1.48	0.69	1.69				1.23	Jun-01-16
ASTO-POOL 5 BENCHMARK			0.18	0.53	1.55	0.71	1.75				1.14	Jun-01-16
			0.07	-0.01	-0.06	-0.02	-0.06				0.09	

OFFICE OF THE ARIZONA STATE TREASURER

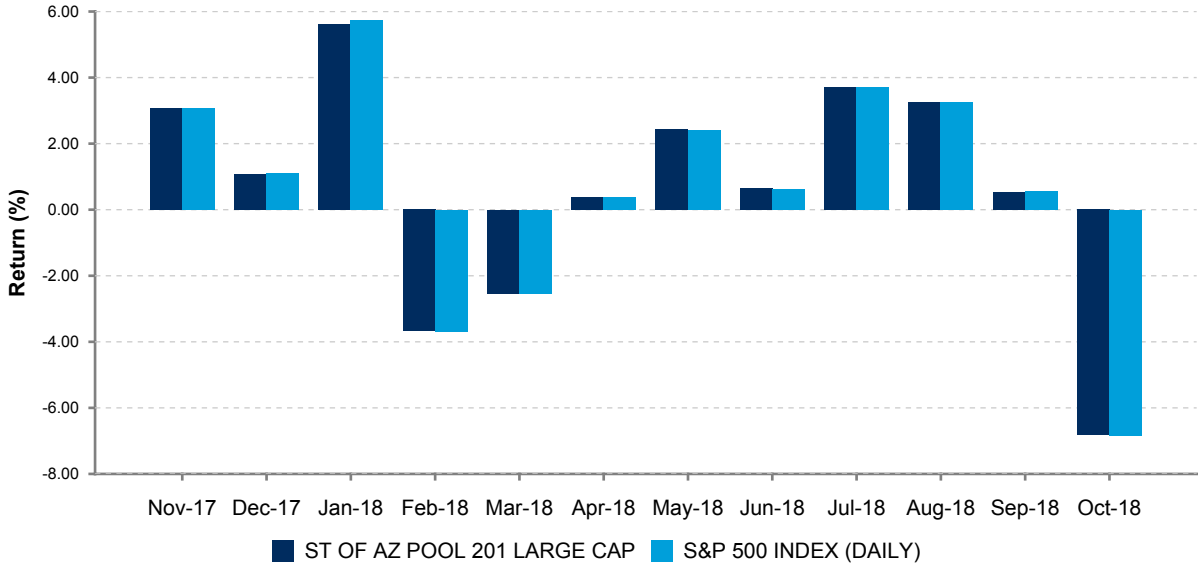
October 31, 2018

ST OF AZ POOL 201 LARGE CAP

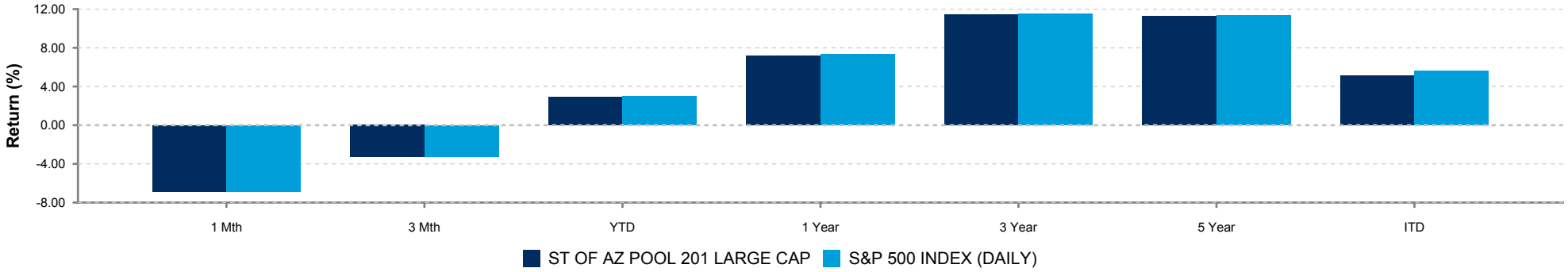
Net Asset Values over Time ($MM)



Monthly Returns



Rates of Return

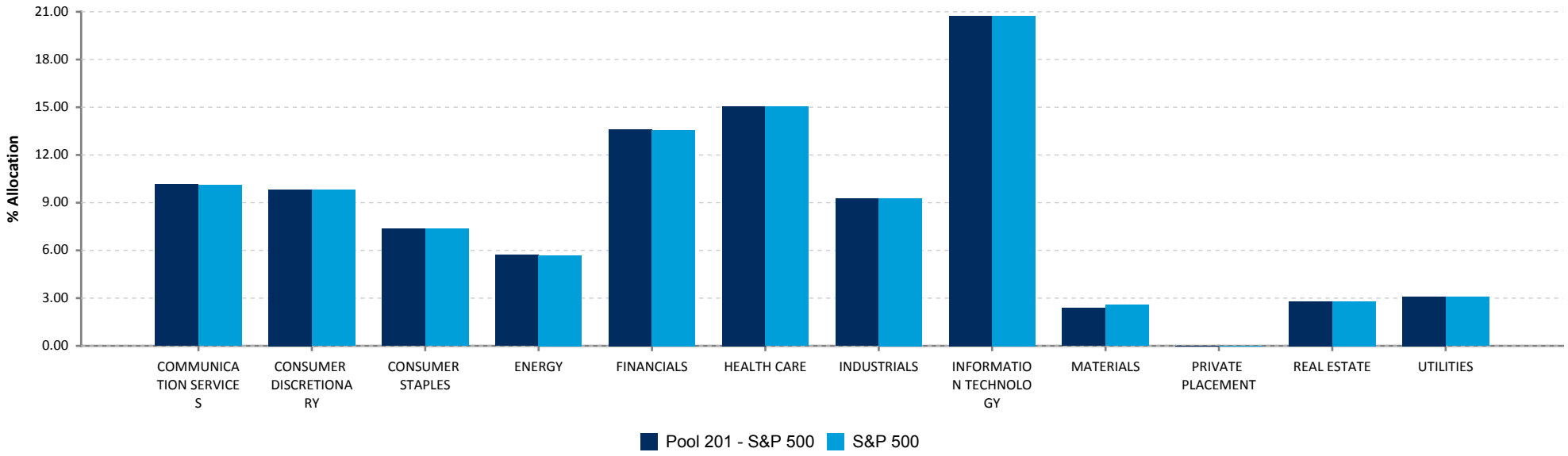


	1 Mth	3 Mth	YTD	1 Year	3 Year	5 Year	ITD	Oct 31 2016	Oct 31 2017	Oct 31 2018
ST OF AZ POOL 201 LARGE CAP	-6.83	-3.30	2.89	7.18	11.42	11.26	5.09	4.39	23.62	7.18
S&P 500 INDEX (DAILY)	-6.84	-3.25	3.01	7.35	11.52	11.34	5.59	4.51	23.63	7.35
	0.00	-0.05	-0.12	-0.17	-0.10	-0.08	-0.49	-0.12	-0.01	-0.17

OFFICE OF THE ARIZONA STATE TREASURER

October 31, 2018

ST OF AZ POOL 201 LARGE CAP
Sector Allocation vs S&P 500



	Fund Weight	Benchmark Weight	Relative Weight
ST OF AZ POOL 201 LARGE CAP	100.00	100.00	0.00
COMMUNICATION SERVICES	10.02	10.03	-0.00
CONSUMER DISCRETIONARY	10.31	10.30	0.02
CONSUMER STAPLES	6.72	6.71	0.02
ENERGY	6.00	6.00	0.00
FINANCIALS	13.31	13.31	-0.00
HEALTH CARE	15.05	15.05	-0.00
INDUSTRIALS	9.68	9.70	-0.02
INFORMATION TECHNOLOGY	20.98	20.99	-0.01
MATERIALS	2.43	2.43	0.00
PRIVATE PLACEMENT	0.00	0.00	0.00
REAL ESTATE	2.66	2.65	0.01
UTILITIES	2.83	2.83	0.00

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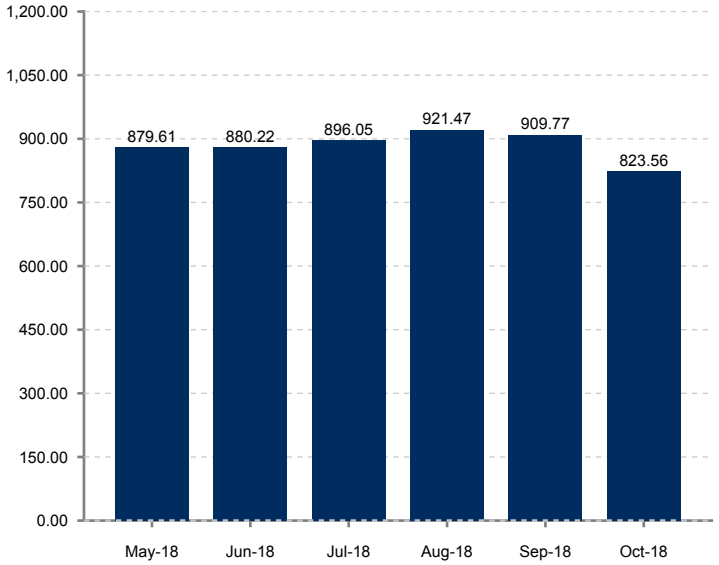
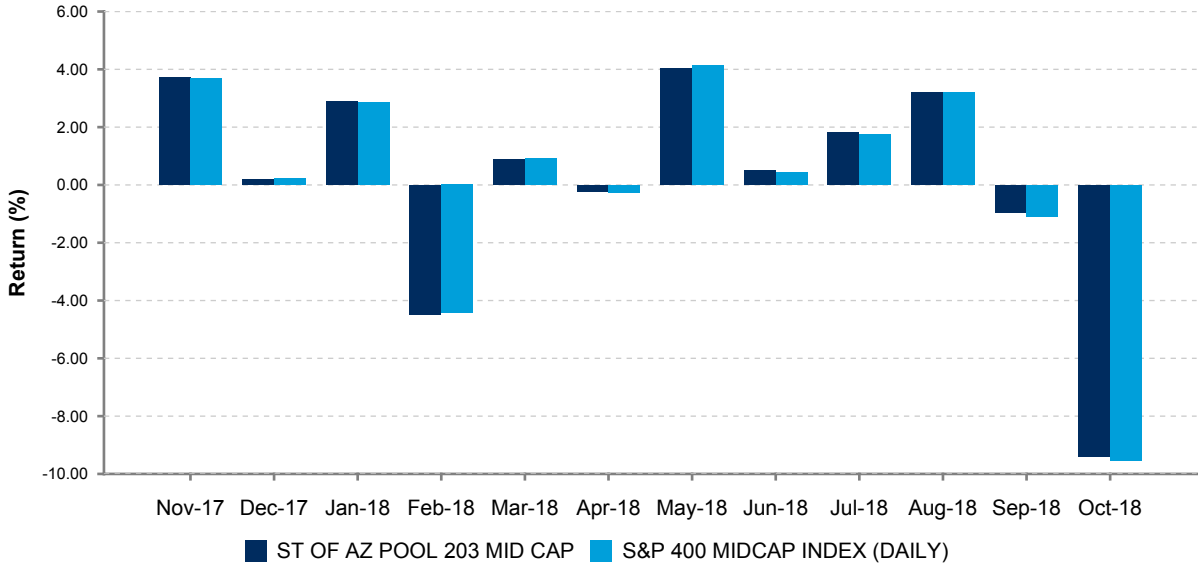
ST OF AZ POOL 203 MID CAP

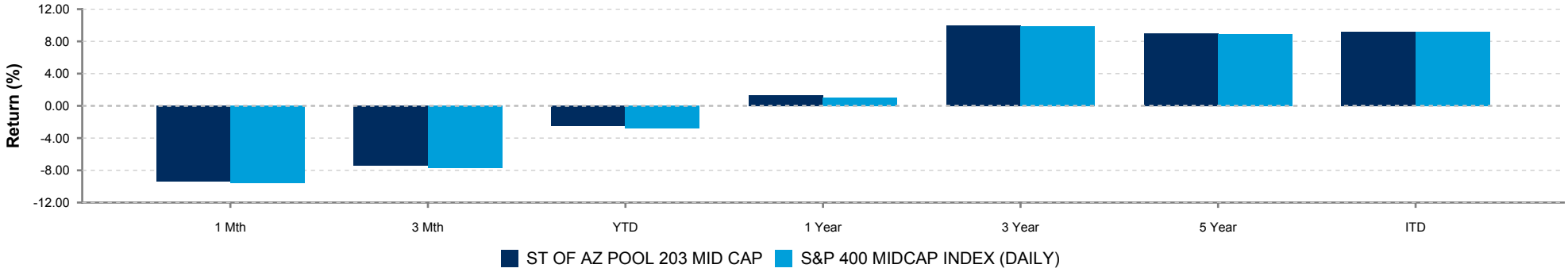
Net Asset Values over Time ($MM)



Monthly Returns



Rates of Return



	1 Mth	3 Mth	YTD	1 Year	3 Year	5 Year	ITD	Oct 31 2016	Oct 31 2017	Oct 31 2018
ST OF AZ POOL 203 MID CAP	-9.41	-7.38	-2.46	1.37	10.03	9.01	9.20	6.34	23.59	1.37
S&P 400 MIDCAP INDEX (DAILY)	-9.55	-7.68	-2.77	1.02	9.85	8.89	9.18	6.26	23.48	1.02
	0.13	0.30	0.31	0.35	0.19	0.13	0.02	0.09	0.11	0.35

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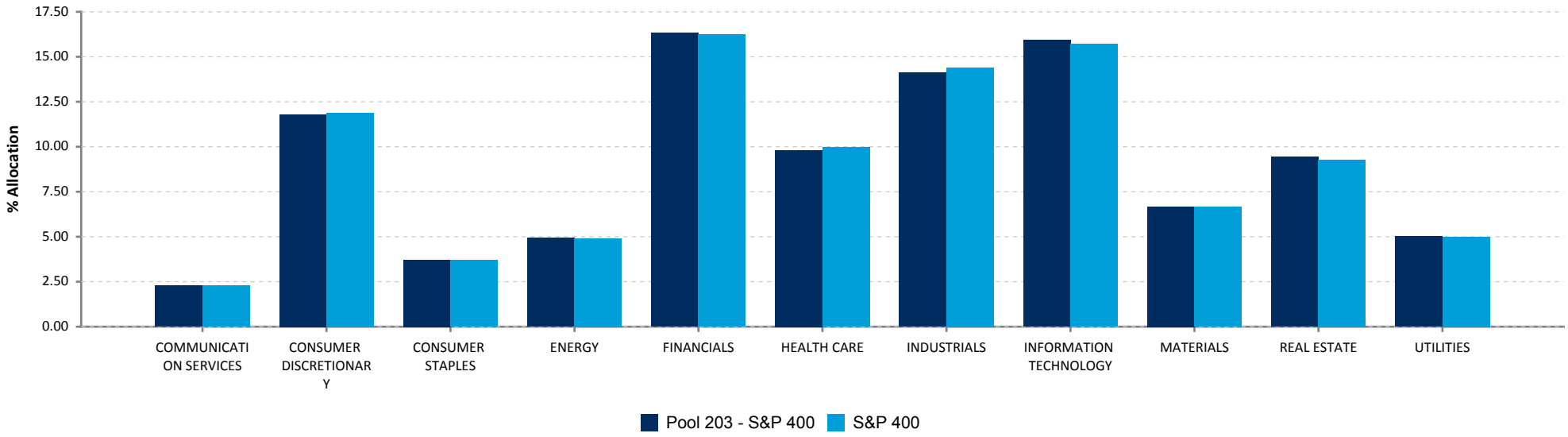
October 31, 2018

ST OF AZ POOL 203 MID CAP
Sector Allocation vs S&P MID CAP 400



	Weight Fund	Weight Benchmark	Weight Relative
ST OF AZ POOL 203 MID CAP	100.00	100.00	0.00
COMMUNICATION SERVICES	2.09	2.12	-0.04
CONSUMER DISCRETIONARY	11.44	11.64	-0.19
CONSUMER STAPLES	3.37	3.33	0.04
ENERGY	5.40	5.31	0.08
FINANCIALS	15.96	15.96	-0.00
HEALTH CARE	10.13	9.91	0.22
INDUSTRIALS	14.92	14.86	0.06
INFORMATION TECHNOLOGY	16.59	16.62	-0.03
MATERIALS	6.82	6.79	0.03
REAL ESTATE	8.67	8.84	-0.17
UTILITIES	4.62	4.62	0.00

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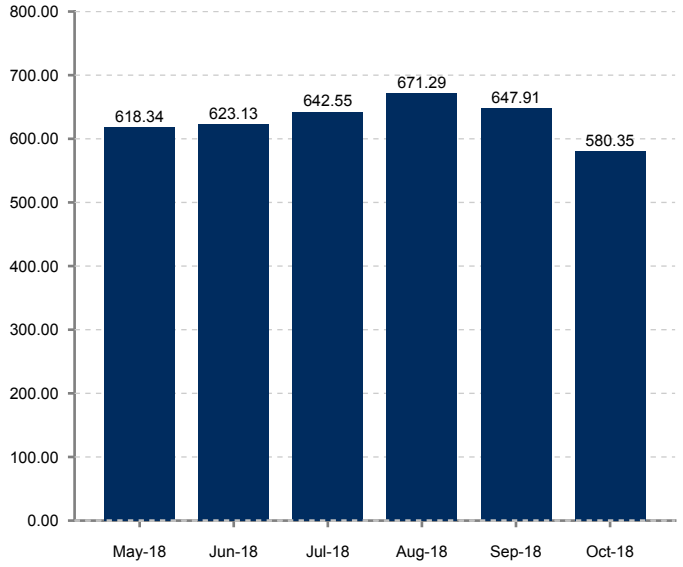
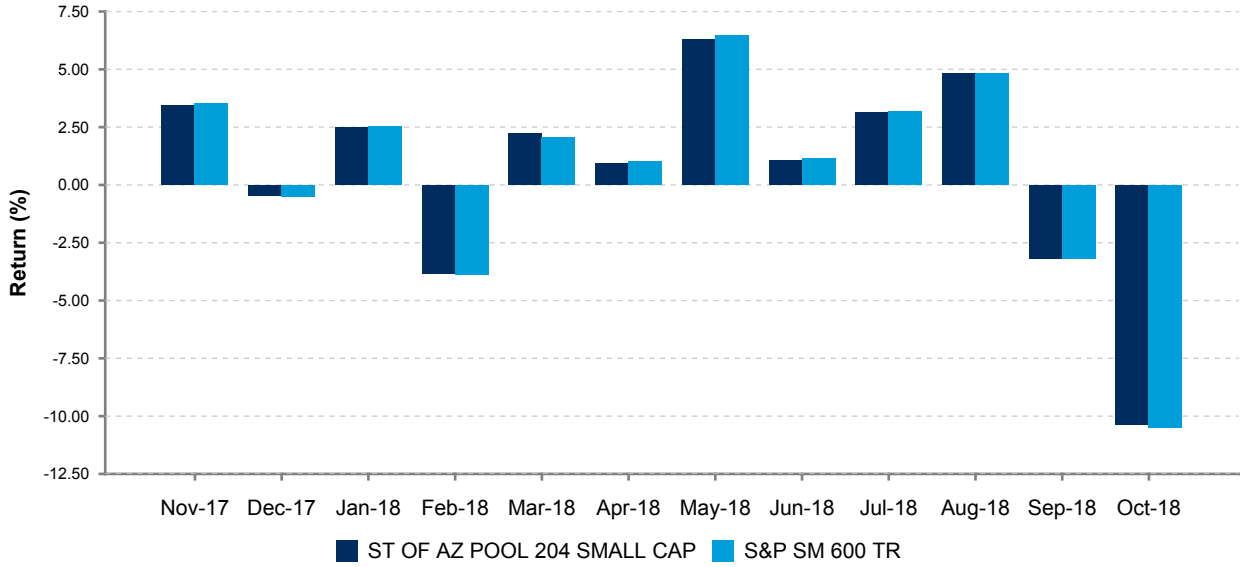
ST OF AZ POOL 204 SMALL CAP

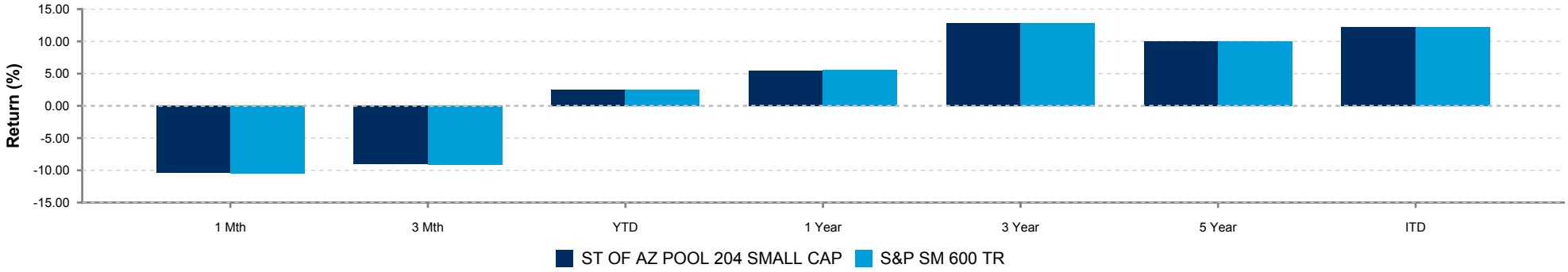
Net Asset Values over Time ($MM)



Monthly Returns



Rates of Return



	1 Mth	3 Mth	YTD	1 Year	3 Year	5 Year	ITD	Oct 31 2016	Oct 31 2017	Oct 31 2018
ST OF AZ POOL 204 SMALL CAP	-10.37	-9.03	2.47	5.50	12.80	10.07	12.21	6.47	27.79	5.50
S&P SM 600 TR	-10.48	-9.13	2.54	5.60	12.84	10.06	12.21	6.35	27.92	5.60
	0.11	0.10	-0.07	-0.10	-0.03	0.01	0.01	0.12	-0.14	-0.10

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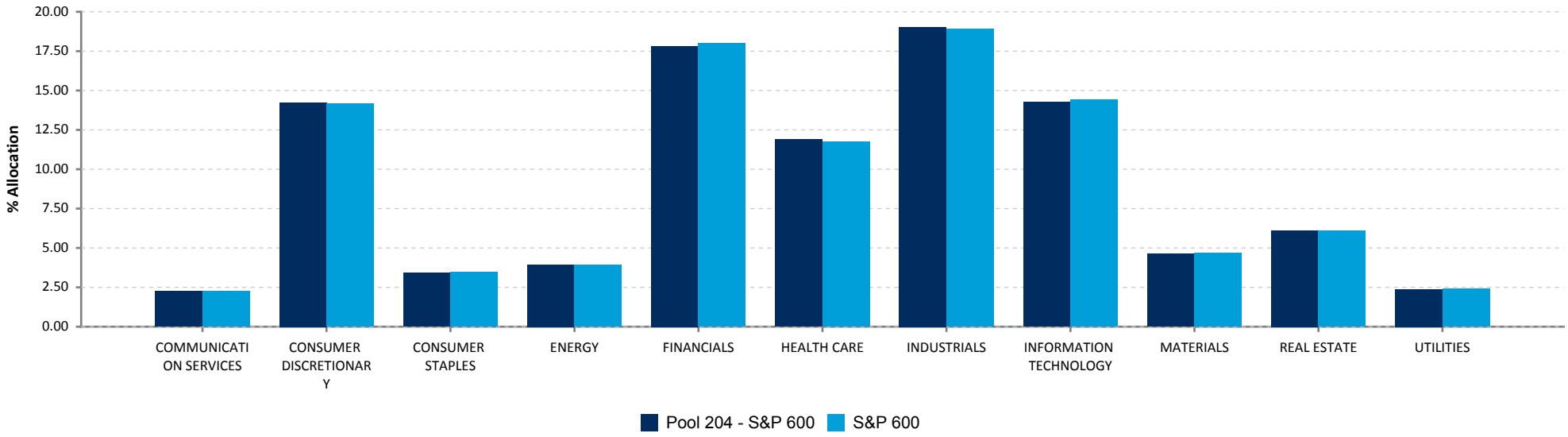
ST OF AZ POOL 204 SMALL CAP
Sector Allocation vs S&P SMALLCAP 600



	Weight Fund	Weight Benchmark	Weight Relative
ST OF AZ POOL 204 SMALL CAP	100.00	100.00	0.00
COMMUNICATION SERVICES	2.02	2.07	-0.05
CONSUMER DISCRETIONARY	14.32	14.17	0.14
CONSUMER STAPLES	3.18	3.19	-0.01
ENERGY	4.09	4.30	-0.22
FINANCIALS	16.99	17.12	-0.13
HEALTH CARE	12.47	12.22	0.25
INDUSTRIALS	19.83	19.81	0.03
INFORMATION TECHNOLOGY	14.19	14.33	-0.14
MATERIALS	4.88	4.87	0.02
REAL ESTATE	5.81	5.72	0.09
UTILITIES	2.22	2.20	0.02

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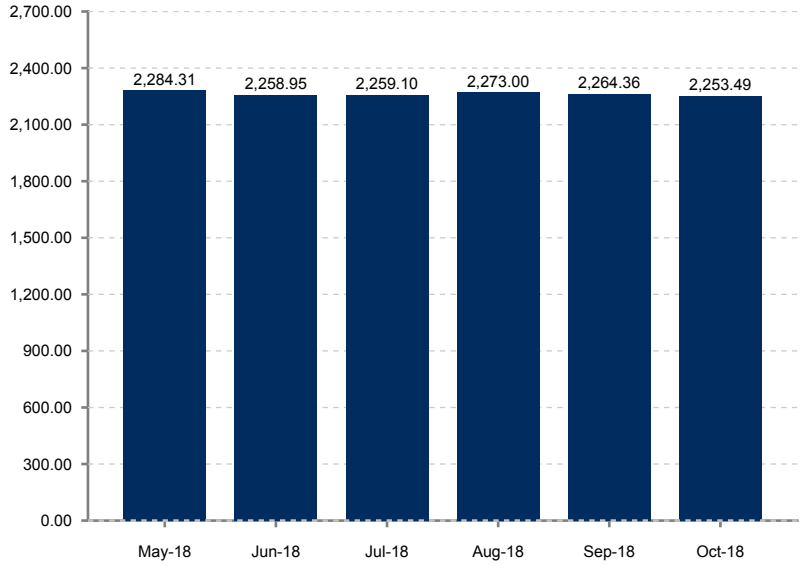
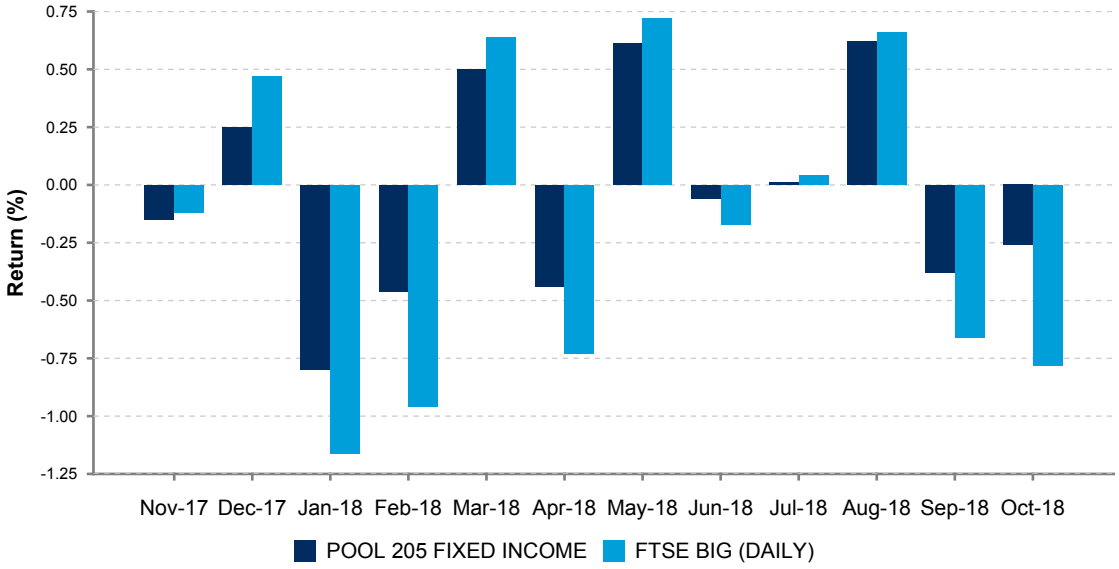
October 31, 2018

POOL 205 FIXED INCOME

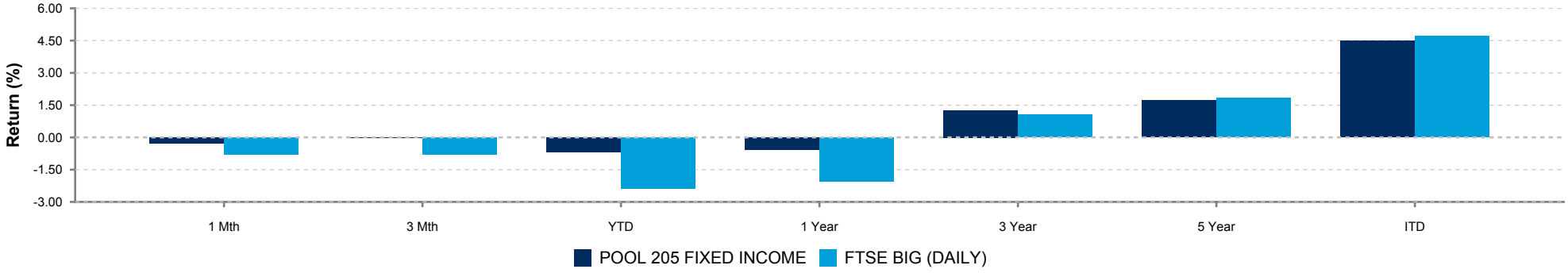
Net Asset Values over Time ($MM)



Monthly Returns



Rates of Return



	1 Mth	3 Mth	YTD	1 Year	3 Year	5 Year	ITD	Oct 31 2018	Oct 31 2017	Oct 31 2016
POOL 205 FIXED INCOME	-0.26	-0.03	-0.67	-0.58	1.26	1.71	4.49	-0.58	0.99	3.41
FTSE BIG (DAILY)	-0.78	-0.79	-2.39	-2.06	1.05	1.83	4.71	-2.06	0.87	4.44
	0.52	0.76	1.72	1.48	0.22	-0.12	-0.22	1.48	0.13	-1.03

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OFFICE OF THE ARIZONA STATE TREASURER

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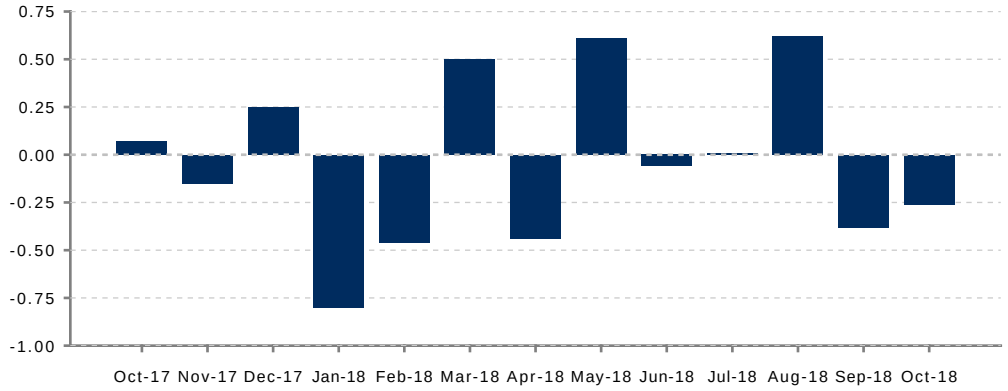
POOL 205 FIXED INCOME

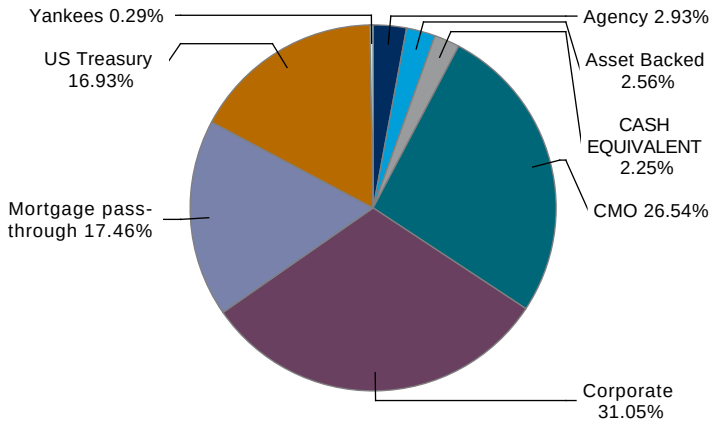
Net Mgr Return



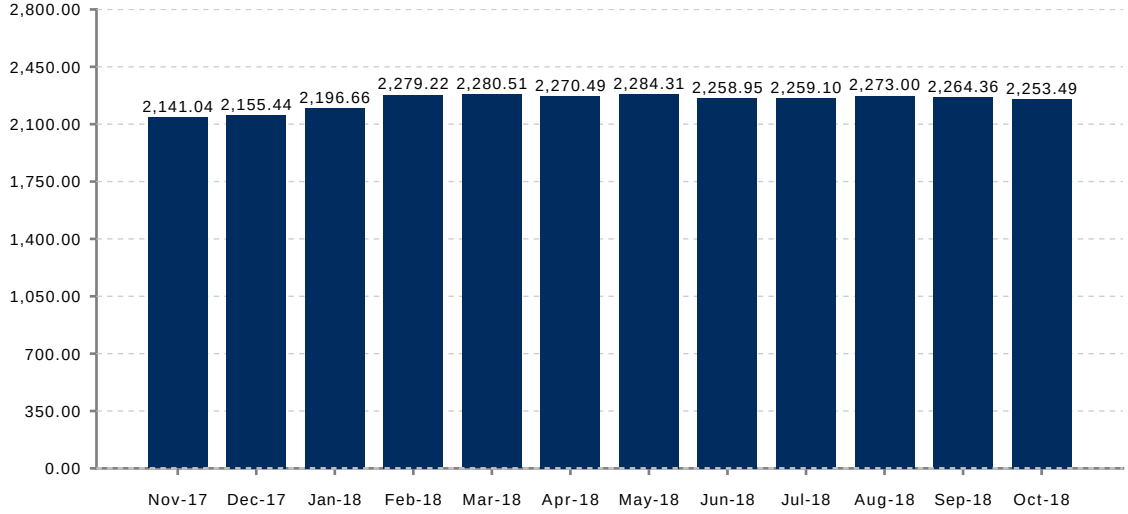
	Current Mth	Prior Mth	1 Year Ago
POOL 205 FIXED INCOME	-0.26	-0.38	0.07

Asset Allocation

	Ending Market Value
POOL 205 FIXED INCOME	2,253,492,399



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
POOL 205 FIXED INCOME		
US TREASURY N/B	33,192,752	1.47
US TREASURY N/B	25,605,741	1.14
US TREASURY N/B	25,339,266	1.12
US TREASURY N/B	23,841,304	1.06
US TREASURY N/B	23,161,613	1.03
US TREASURY N/B	21,031,356	0.93
PEPSICO INC	20,276,070	0.90
PNC BANK NA	20,145,113	0.89
FORD MOTOR CREDIT CO	20,015,143	0.89
US TREASURY N/B	18,928,660	0.84

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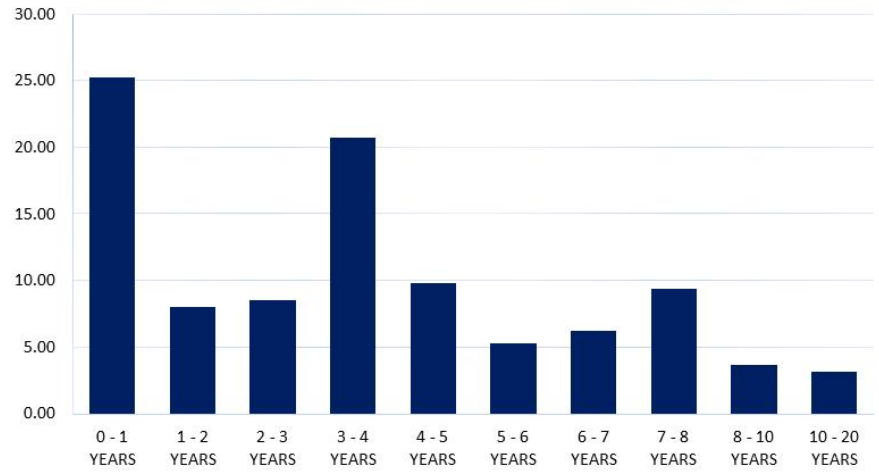
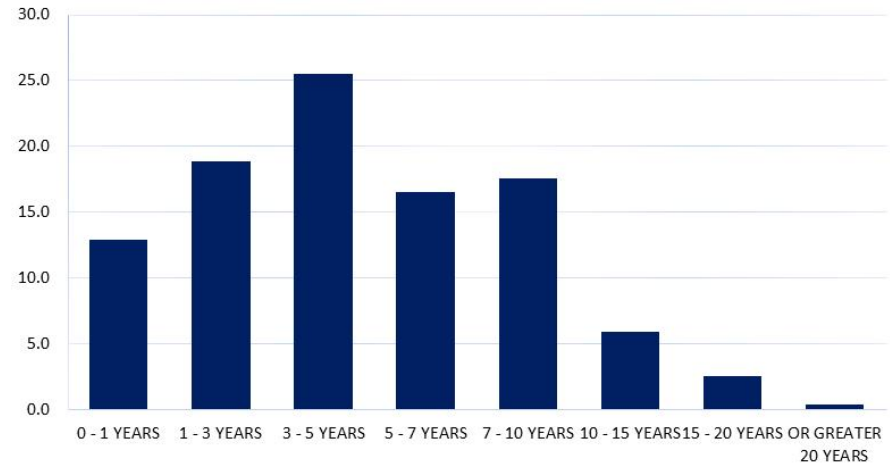
POOL 205 FIXED INCOME

Duration Distribution



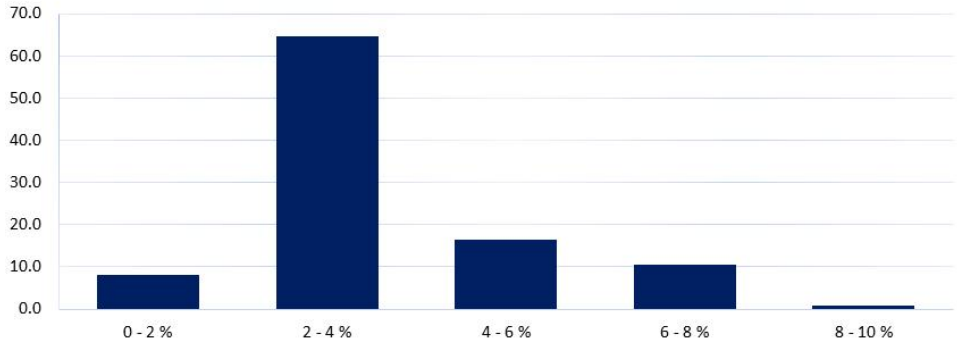
Expected Maturity Distribution



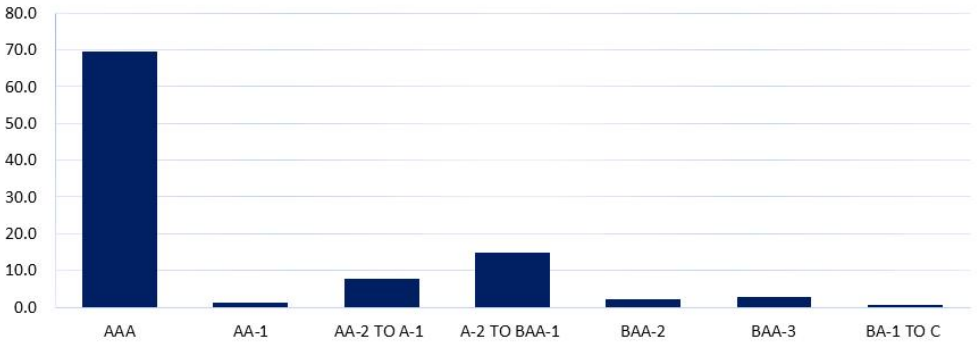
Portfolio Level Characteristics

	POOL 205 FIXED INCOME
Effective Maturity	5.12
Coupon	3.65
Effective Duration	3.64
Quality Rating (Moody's)	AA-2

Coupon Distribution



Rating Distribution



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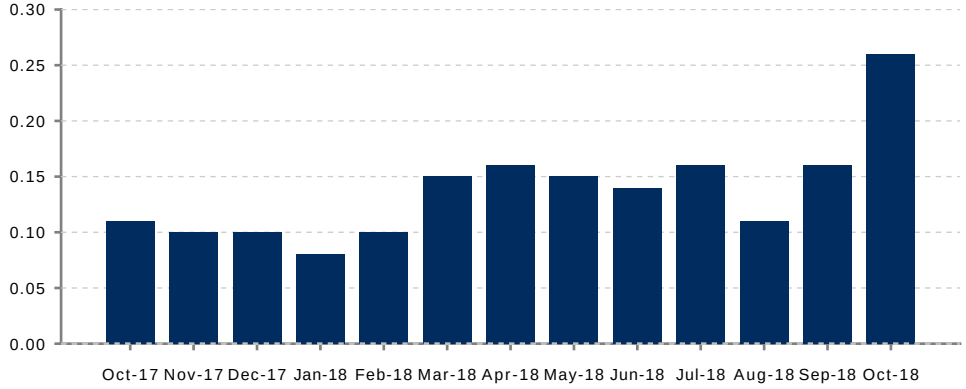
POOL 123 ST

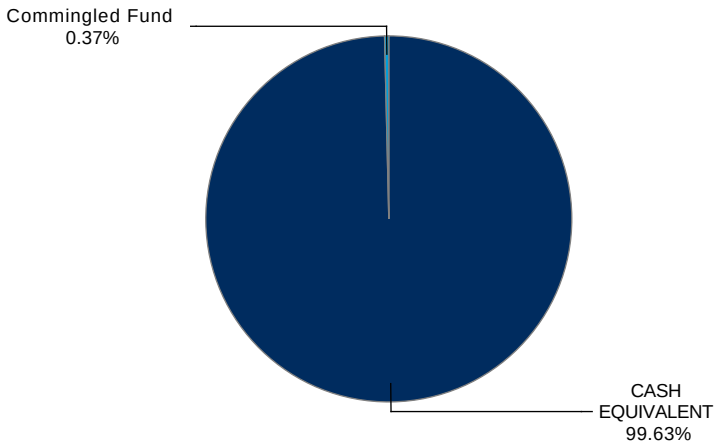
Net Yield



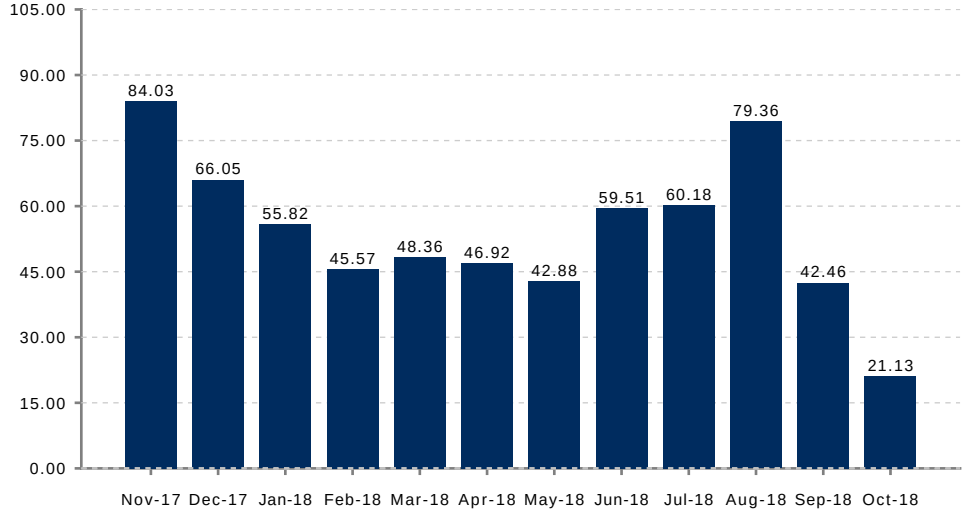
	Current Mth	Prior Mth	1 Year Ago
ST OF AZ POOL 123 ST FIXED INC	0.26	0.16	0.11

Asset Allocation

	Ending Market Value
ST OF AZ POOL 123 ST FIXED INC	21,128,932



Net Asset Values over Time ($MM)



Top 10 Holdings

Security Name	Ending Market Value	% of Portfolio
ST OF AZ POOL 123 ST FIXED INC		
CROWN POINT CAP CO.	5,004,586	23.69
HALKIN FINANCE LLC USC	4,993,750	23.63
GOTHAM FDG CORP	4,993,033	23.63
SUMITOMO MITSUI TRUST NY	4,993,033	23.63
NIEUW AMSTERDAM RECV	4,992,972	23.63
MANHATTAN ASSET FDG.	4,992,972	23.63
GOTHAM FDG CORP	4,984,097	23.59
OLD LINE FUNDING LLC	4,959,038	23.47
HALKIN FINANCE LLC USC	3,495,567	16.54
CAN AST & CAN LTD JT	1,995,586	9.44

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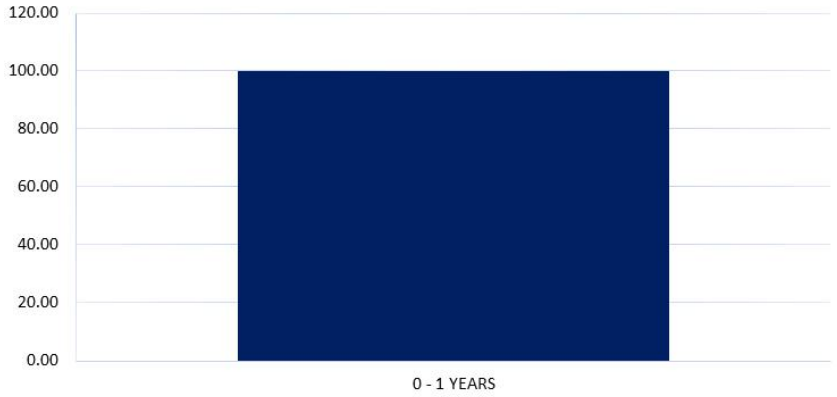
POOL 123 ST

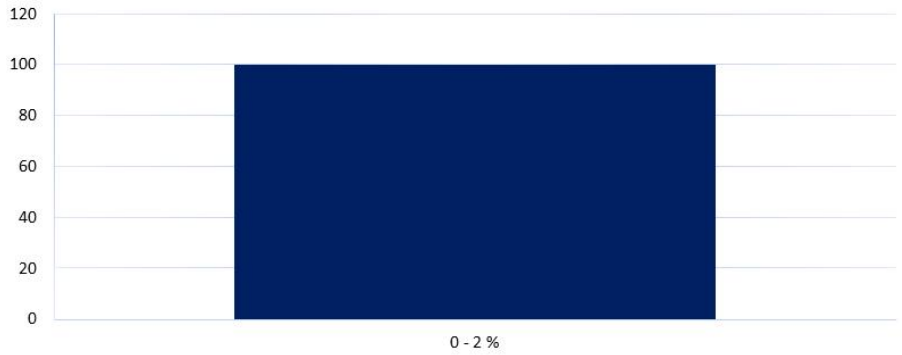
Duration Distribution



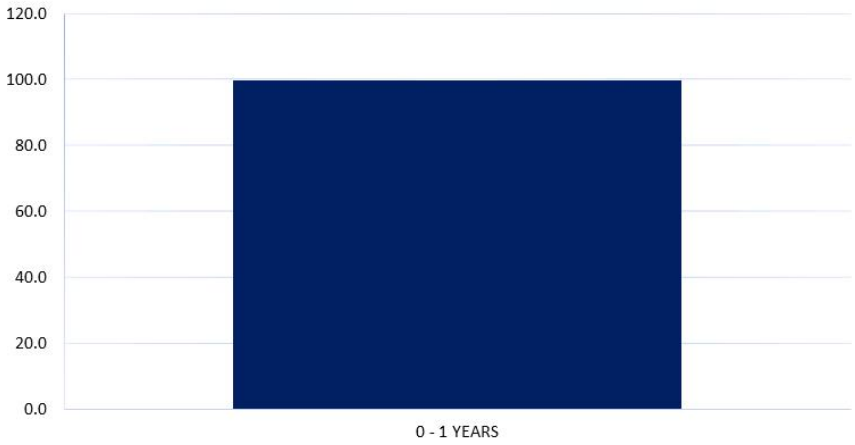
Portfolio Level Characteristics

	POOL 123 ST
Effective Maturity	0.12
Coupon	0.00
Effective Duration	0.12
Quality Rating (Moody's)	AAA

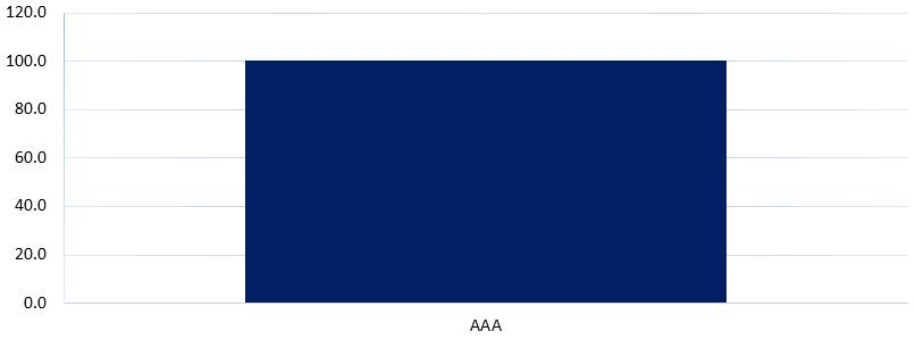
Coupon Distribution

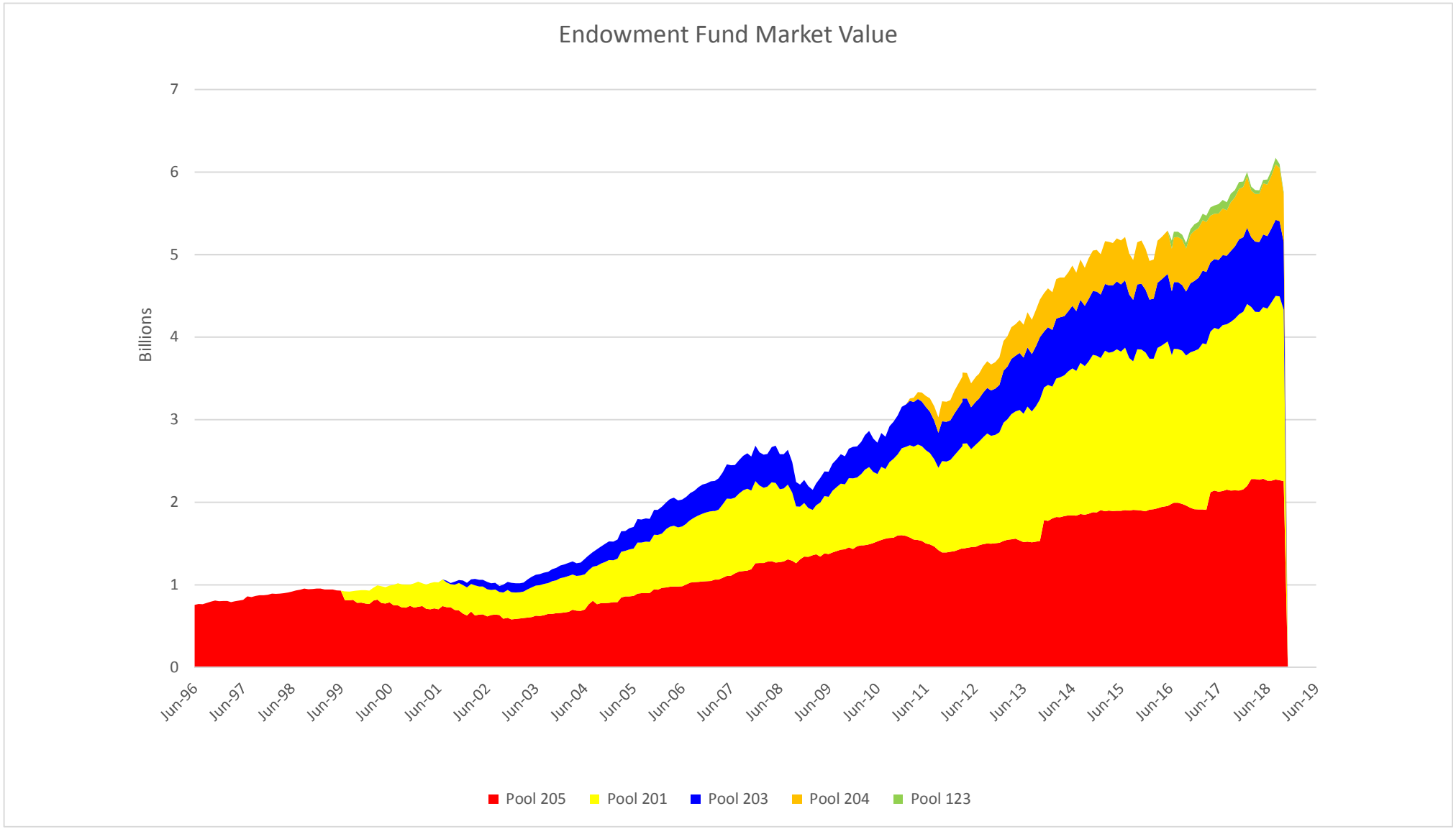


Expected Maturity Distribution



Rating Distribution




Endowment Fund Market Value
Billions
7
6
5
4
3
2
1
0
Jun-96
Jun-97
Jun-98
Jun-99
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Jun-01
Jun-02
Jun-03
Jun-04
Jun-05
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Jun-17
Jun-18
Jun-19
Pool 205
Pool 201
Pool 203
Pool 204
Pool 123