

The State Treasurer Needs an Intermediate Maturity Fund

A Discussion of Investment Options Needed to Compliment the PTIF

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The Treasurer's office has focused on the performance of the PTIF while its participants have been depositing long-term cash in the in the Treasurer's short-term investment vehicle. Sophisticated state entities invest longer-term on their own. It is time for the Treasurer to put together an intermediate maturity fund that would create a higher return investment option for counties, cities, school districts, universities, charter schools, and other entities of the state that do not have the ability to manage a similar long-term investment strategy. The combination of the existing PTIF and a new intermediate maturity fund could materially increase cash dividends to the fund participants without requiring the Treasurer to take on additional credit risk.

Contents

The Public Treasurer's Investment Fund 2

All Invested Funds are not Short-Term..... 2

Some State Entities Successfully Invest in Longer Term Investments..... 3

The Treasurer Should Create an Intermediate Maturity Fund..... 4

What Would Be the Impact of the Fund?..... 4

We Should Manage Risk 5

Conclusion..... 5

EXHIBIT A: University of Utah Fund Management 7

EXHIBIT B: PTIF Intermediate Fund Scenarios 8

The Public Treasurer's Investment Fund

The State Treasurer currently manages the \$10 billion Public Treasurer's Investment Fund (PTIF). The PTIF is comprised of the State's surplus cash reserves plus cash reserves from municipalities, universities, school districts, charter schools, and other qualified subdivisions of the State.

According to the Utah State Treasurer's website, "The PTIF invests primarily in investment-grade corporate notes, top tier commercial paper, money market mutual funds and U.S. government agency obligations. The PTIF invests only in securities authorized by the Utah Money Management Act." (<http://treasurer.utah.gov/investments/investments-overview/> as of May 7, 2016).

Given the current low interest rate environment, the PTIF pays an attractive annual return for investing in very short-term, liquid investments. It is much better than the US 90 day T-Bill with an equivalent duration. For comparison, the PTIF yield is approximately the same as the 3 year US Treasury note.

Sound reasoning justifies the PTIF holding very short-term investments. The purpose of the fund is to protect the principal balance, provide liquidity (the ability to convert the investment into cash), and last to provide an attractive return. If return were the first objective, then the Treasurer would invest in riskier assets with less liquidity. None of the state entities depositing money in the PTIF are required to, but most utilize the PTIF because of the ease of depositing and withdrawing funds, compliance with the money management act, and the interest rate they receive. Frequently, state entities deposit amounts that are too small to justify the time and expertise required to manage the investment on their own or hire independent asset managers.

Although millions of dollars may seem like large sums of money, in institutional finance and cash management, these are small amounts. It takes hundreds of millions of dollars to comprise a small investment fund.

All Invested Funds are not Short-Term

Given the relative performance of the PTIF, we should be happy with its management, correct? Yes, but that doesn't mean there is no opportunity for improvement. To the extent that the money invested has a short-term investment focus, the PTIF is doing well. But what about money invested in the PTIF with a long-term investment horizon, such as five years or more? It seems that some of the funds invested in the PTIF could be invested differently and earn better returns.

What government entities are investing money in the PTIF with an investment horizon of more than five years? It is surprising, but there are legitimate reasons for the long-term perspective. In most cases the longer investment horizon is connected to existing or planned capital investments.

Many of the bonds issued by municipalities, school districts, universities, and others require the borrower to create a debt service reserve. The debt service reserve is typically equal to the principal and interest payments for one year. These funds are set aside until the last year of the bond, at which time the reserve funds are used pay off the bond, similar to a security deposit. These reserves may have a life of 30 years or more.

In other instances, entities are saving for a future project. They may need to contribute funds to new buildings, equipment, improvements, or other large projects. While the money is set aside for a future need, it may be five, ten, or more years away.

When this longer-term money goes in the PTIF, it is underinvested. Of course it is better than just depositing the money a savings account at the bank, but the PTIF pays much less than a typical fund with an investment horizon that matches the longer deposit timeframe. Further, when there are many state entities with sums that are being held in this way, the opportunity cost of not properly investing these funds increases proportionately.

Some State Entities Successfully Invest in Longer-Term Investments

The Treasurer's office has objected to a fund that would allow for longer term investments because technically each entity can follow the rules of the Money Management Act and invest the money on their own. Technically, the Treasurer is correct, but practically it is inefficient for many of the entities who invest in the PTIF. Large entities with substantial resources can successfully work under this framework, but small entities are at a significant disadvantage.

For example, the University of Utah takes a proactive approach to its portfolio by managing cash on its own rather than putting all of the money in the PTIF. As of year ended June 30, 2015 The university had \$539 million in cash and \$799 million in short-term investments. Of that, \$309 million was invested in the PTIF and the balance of over \$1 billion was managed independently. Of the \$1 billion in additional short-term investments the University of Utah managed, 60% was held in US Agency debt. These are just the University's short-term investments. It has an additional \$1.5 billion in longer-term investments that it manages, bringing the total to over \$2.8 billion in short and long-term investments managed by the University.

Short-term Investment Maturities (less than 1 year)

	<i>in millions</i>	
Cash Equivalents	\$	230
PTIF	\$	309
Other short-term investments	\$	799
Total Short-Term Investments	\$	1,337
Not Managed by Treasurer	\$	1,028

Longer-term investment Maturities (greater than 1 year)

	<i>in millions</i>	
1-5 Year Maturities	\$	598
5+ Year Maturities	\$	289
Total Longer-Term Investments	\$	887
Not Managed by Treasurer	\$	887

Total Investments	\$	2,224
Not Managed by Treasurer	\$	1,915

Exhibit A, excerpted from the University of Utah's 2015 Annual Financial Report, shows additional details of how the fixed income portion of the portfolio is allocated among maturity and credit quality. Please note that the total is not equal to \$2.8 billion because some of the investments are in equities and alternative investments, not fixed income.

Note that \$1.338 billion of the \$2.224 billion portfolio is invested in assets that will mature in less than 1 year. The safe, liquid investment of \$1.338 billion at the university is similar to the current strategy used by the Treasurer in the PTIF. On the other hand, there is nearly \$900 million or just under 40% of the portfolio invested in maturities longer than 1 year. Note also from Figure 1 and 2 in Exhibit A that the largest single investment type is US Agencies.

While the University of Utah manages both the short-term and the longer-term investments well, most of the other participants in the PTIF do not have the management expertise or portfolio size to replicate the University of Utah's investment strategy. To the extent they have reserves they are holding for a longer period of time, they potentially earn less investment returns and are disadvantaged as a result.

The Treasurer Should Create an Intermediate Maturity Fund

If the Treasurer were to build an investment fund with a longer maturity focus, state entities could allocate funds between the current version of the PTIF focused on liquidity and principal protection and an intermediate maturity fund that was also a safe investment, but provided higher returns.

The higher returns would be consistent with key principles in finance. If you put your money in a savings account where it is accessible on demand, then it will not earn as much interest as if it were in a certificate of deposit (CD), which requires the investor to leave the money invested for a specific duration. Early redemption has a penalty attached to it.

Conceptually, the intermediate maturity fund would charge an early redemption fee that would incentivize depositors to wait until maturity to request their proceeds. Early redemption requests have a real cost because they force the manager to prematurely liquidate investments and incur transaction costs or hold excessive cash reserves that can't be invested. Both untimely investment sales and high cash reserves reduce returns and should be avoided.

What Would Be the Impact of the Fund?

I did an initial analysis on December 26, 2015. On that date, the PTIF rate was 0.68%, the 90 day T-Bill was 0.20%, the 5-year Treasury Bill was 1.7%, the 5-year "A" rated corporate debt was 2.51%, and the 10-year "A" rated corporate debt was 3.43%.

While the University of Utah invests 40% of its fixed income portfolio in assets that will mature in more than 1 year, I used 33% as my assumption. The full scenarios are shown in Exhibit B. Following are a summary of the results:

	Current Holdings in millions	90 Day T-Bills, ONLY in millions	1/3 in 5 YR Treasury in millions	1/3 in 5 Yr A Corporate Debt in millions	1/3 in 10 Yr A Corporate Debt in millions
PTIF Principal Amount	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
\$ Amount in INT MAT Fund	\$0	\$0	\$3,333	\$3,333	\$3,333
Total Dividend	\$67	\$20	\$101	\$128	\$158
Return as a % of principal	0.67%	0.20%	1.01%	1.28%	1.58%

Data as of 12/31/2016 Yields as of 12/26/2015. Source Bondsonline.com, treasurer.utah.gov

At the 12/26/2015 PTIF pool rate of 0.68% with \$200 million in cash reserves and \$9.8 billion invested, the PTIF would generate \$66,640,000 to distribute to participants. If the fund were invested in T-Bills

instead of corporate paper, etc., it would only generate \$19,600,000--a reduction of \$47 million. If 1/3 of the portfolio were invested in 5 year treasuries (an improvement in credit over the existing investment) then the total portfolio would produce 50% more dividends cash flow than the current scenario, an increase of \$34 million dollars to fund participants. If 1/3 were invested in 5 year "A" rated corporate debt, then the PTIF would double its cash distributions to participants.

For those state entities depositing money in the PTIF willing to pay a penalty for early redemption, pooling money to invest in longer duration investments can significantly increase their portfolio performance as shown above. Even if only 15% of the portfolio is invested in the intermediate maturity fund, we can significantly increase dividends to participants.

This is not a recommendation to buy poor credit quality and very long dated maturities in order to chase yield. It is a recommendation to consider matching investment duration to portfolio duration for those funds that have a longer investment horizon than the current investments in the PTIF. In implementing the intermediate fund, we should buy investments with credit quality similar to or better than the investments currently in the PTIF.

Initially, it would be a burden to the Treasurer to operate a small fund with limited investments as participants considered whether or not to participate. As the intermediate maturity fund grew, it would become an increasingly effective use of taxpayer money and the incremental dividends would substantially outweigh the costs of fund oversight and management.

We Should Manage Risk

The Treasurer doesn't calculate risk metrics in the same way a private sector fund would. They typically will have drawdown metrics, portfolio Value at Risk (VAR), daily P&L calculations, etc. While these metrics would be good to institute in the Treasurer's office for the management of state funds, the most important risk management tool will be carefully create an appropriate investment policy statement and manage to it.

Creating an appropriate investment policy statement requires first, identifying clear objectives for the intermediate maturity fund. Second, determine what credit quality is appropriate and not appropriate for the fund. Third, determine which maturities are appropriate and not appropriate for the fund. Fourth, determine liquidity requirements. Last, within the context of the other objectives, minimize trading and transaction costs. Last, there are lots of highly qualified fixed income funds out there, and at a minimum choose an appropriate benchmark and consider outsourcing the portfolio selection and management.

Eliminating risk should not be the objective. If we eliminate risk, we will eliminate return. The goal should not be zero risk. Even the PTIF does not have zero risk. Rather, determine the risks that are appropriate and manage the portfolio within that context.

Conclusion

Small Municipalities, school districts, charter schools, water districts, and others have long-term money invested in the PTIF, which has a very short-term investment horizon. We should create an intermediate maturity fund that does a better job of matching the timing of the cash need with the investment

duration. Doing so requires a pooled resource that will result in a large enough fund that can effectively invest capital while avoiding excessive fees and reduce management expense. Redemptions that may disrupt the investment strategy can be minimized through an early redemption penalty, much like we currently see with a certificate of deposit (CD) at a bank. Effective implementation of the intermediate maturity fund has the potential to double the distributions to PTIF participants. Building an intermediate maturity fund to complement the PTIF should be given serious consideration as a step toward better governance.

EXHIBIT A: University of Utah Fund Management

Source: University of Utah Annual Financial Report 2015

Figure 1.

Investment Type	Fair Value	Investment Maturities (in years)				
		Less than 1	1 - 5	6 - 10	More than 10	
Money market mutual funds	\$ 166,545,112	\$ 166,545,112				
Repurchase agreements	62,900,000	62,900,000				
Utah Public Treasurers' Investment Fund	308,595,629	308,595,629				
Time certificates of deposit	4,696,190	249,979	\$ 4,446,211			
U.S. Treasuries	210,208,960	159,979,280	50,229,680			
U.S. Agencies	1,138,854,765	604,353,847	487,019,259	\$ 47,481,659		
Corporate notes	55,883,041	34,426,864	21,456,177			
Municipal bonds	4,201,953		980,714			\$ 3,221,239
Mutual bond funds	272,224,115		33,415,630	238,808,485		
Totals	\$ 2,224,109,765	\$ 1,337,050,711	\$ 597,547,671	\$ 286,290,144	\$ 3,221,239	

Figure 2.

Investment Type	Fair Value	Quality Rating				
		AAA/A-1	AA	A	Unrated	No Risk
Money market mutual funds	\$ 166,545,112	\$ 56,350,579			\$ 110,194,533	
Repurchase agreements – underlying:						
U.S. Agencies	62,900,000		\$ 62,900,000			
Utah Public Treasurers' Investment Fund	308,595,629				308,595,629	
Time certificates of deposit	4,696,190			\$ 988,551	3,707,639	
U.S. Treasuries	210,208,960					\$ 210,208,960
U.S. Agencies	1,138,854,765	584,370,027	521,488,319	32,996,419		
Corporate notes	55,883,041	2,908,642	52,772,525	201,874		
Municipal bonds	4,201,953	3,221,239	980,714			
Mutual bond funds	272,224,115		81,875,843	190,348,272		
Totals	\$ 2,224,109,765	\$ 643,941,845	\$ 670,153,518	\$ 53,761,076	\$ 646,044,366	\$ 210,208,960

EXHIBIT B: PTIF Intermediate Fund Scenarios

Yields as of 12/26/2015. Source Bondsonline.com, treasurer.utah.gov

	Current Holdings		90 Day T-Bills, ONLY		1/3 in 5 YR Treasury		1/3 in 5 Yr A Corporate Debt		1/3 in 10 Yr A Corporate Debt	
	In millions	as a %	In millions	as a %	In millions	as a %	In millions	as a %	In millions	as a %
PTIF Principal Amount	\$10,000	100%	\$10,000	100%	\$10,000	100%	\$10,000	100%	\$10,000	100%
\$ Amount in Cash	\$200	2.0%	\$200	2.0%	\$200	2.0%	\$200	2.0%	\$200	2.0%
\$ Amount in PTIF	\$9,800	98.0%	\$9,800	98.0%	\$6,467	64.7%	\$6,467	64.7%	\$6,467	64.7%
\$ Amount in INT MAT Fund	\$0	0.0%	\$0	0.0%	\$3,333	33.3%	\$3,333	33.3%	\$3,333	33.3%
Cash Dividend	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%	\$0	0.00%
PTIF Dividend	\$67	0.68%	\$20	0.20%	\$44	0.68%	\$44	0.68%	\$44	0.68%
INT MAT Fund Dividend	\$0	0.00%	\$0	1.70%	\$57	1.70%	\$84	2.51%	\$114	3.43%
Total Dividend	\$67	0.67%	\$20	0.20%	\$101	1.01%	\$128	1.28%	\$158	1.58%
Increase (decrease) relative to current holdings	\$0 million		(\$47) million		\$34 million		\$61 million		\$92 million	