



To: Cash Management Policy Board

From: Jennifer Appel, Kevin Leonard, and John Krimmel

Date: August 25, 2021

Subject: Delaware Budget Reserve Account Reserve Analysis

Background

NEPC was asked to update the Delaware Budget Reserve Account (Rainy Day Fund) analysis to ensure that an adequate reserve or cushion above the statutorily required amount was maintained. The minimum amount that must be maintained in the Budget Reserve Account, for Fiscal Year 2022 is \$280,285,000, which is an increase of \$27,930,000 from the Fiscal Year 2021 level of \$252,355,000. The reserve or cushion for Fiscal Year 2021 was \$5,000,000 bringing the total for Fiscal Year 2021 to \$257,355,000.

Consistent with the prior year review, JP Morgan and NEPC prepared analyses that considered increases in interest rates and other market shocks. The results of these separate analyses are presented in the following section and result in a recommendation for consideration by the Cash Management Policy Board.

Analysis

JP Morgan prepared the following analysis of the reserve based upon interest rate increases of 0.25%, 0.50%, and 1.00%.

Impact of Rate Changes on JPM Reserve Portfolio
(and pro-rated impact on Rainy Day Fund)

As of July 31, 2021

<u>Entire Portfolio</u>		<u>Rainy Day Portion</u>	<u>% of Total</u>
Market Value	\$ 984,995,400	\$ 280,285,000	28.46%
Duration	1.57	1.57	
Interest Rate Shock (bps)			
25	\$ (3,861,182)	\$ (1,098,717)	
50	\$ (7,722,364)	\$ (2,197,434)	
100	\$ (15,444,728)	\$ (4,394,869)	



NEPC conducted a second analysis using NEPC's 2021 Capital Market Assumptions to determine expected volatility and confidence intervals. The analysis, presented below, mirrors the JP Morgan analysis in that the first result (labeled "Gross Decline") presents the immediate results of a market shock and the second result (labeled "Net Decline") presents the results (gain or loss) one-year forward.

State of Delaware
Budget Reserve Account "Rainy Day Fund"
Data as of July 31, 2021

Required Balance \$280,285,000

	<u>Return</u>	<u>Volatility</u>	<u>Gross Decline with a</u>		
			<u>1 SD Event</u>	<u>2 SD Event</u>	<u>3 SD Event</u>
NEPC Capital Market Assumptions	1.41%	2.32%	\$ (2,550,594)	\$ (9,053,206)	\$ (15,555,818)

	<u>Return</u>	<u>Volatility</u>	<u>Net Decline with a</u>		
			<u>1 SD Event</u>	<u>2 SD Event</u>	<u>3 SD Event</u>
NEPC Capital Market Assumptions	1.41%	2.32%	\$ (1,709,739)	\$ (8,212,351)	\$ (14,714,963)

Net Decline is a 1-year forward looking decline assuming the portfolio earns a 0.30% yield.

The table below summarizes the results of the two analyses. Historically we have found that JP Morgan's Interest Rate analysis (50 bps and 100 bps increase) and NEPC's Net Decline (1 Standard Deviation and 2 Standard Deviation) results have been reasonably consistent. This year, the results at the outer bands deviate more than in the past due to NEPC's capital market assumptions embedding a slightly higher credit widening event.

State of Delaware
Budget Reserve Account "Rainy Day Fund"
Comparative Analysis

	<u>25 bps</u>	<u>50 bps</u>	<u>100 bps</u>
JP Morgan Results	\$ (1,098,717)	\$ (2,197,434)	\$ (4,394,869)

	<u>1 SD Event</u>	<u>2 SD Event</u>	<u>3 SD Event</u>
NEPC Gross Decline	\$ (2,550,594)	\$ (9,053,206)	\$ (15,555,818)
NEPC Net Decline	\$ (1,709,739)	\$ (8,212,351)	\$ (14,714,963)

In recent meetings with JP Morgan and other fixed income investment managers, the consensus outlook is that interest rates will likely remain unchanged during the remainder of fiscal year 2022. However, several of the managers did note a concern about the potential for credit spread widening, consistent with NEPC's increased volatility (risk) estimates.



Summary & Recommendation

Given the differences at the outer bands of JP Morgan and NEPC's analysis results, coupled with a ~ 11% increase in the Budget Reserve Account level, NEPC recommends that the additional reserve amount should be increased from \$5 million to \$6 million for Fiscal Year 2022.

We look forward to discussing this recommendation with the Board.