

Actuarial Valuation of the State of Wisconsin Duty Disability Program As of December 31, 2021

**State of Wisconsin Employee Trust Funds
Board Meeting
June 23, 2022**

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Actuarial Valuation of Duty Disability Program

Limitations of Analysis

- We relied on information provided by the Department of Employee Trust Funds (ETF). If any of this information is inaccurate or incomplete, our results may be affected.
- The valuation uses actuarial assumptions that are individually reasonable and that, in combination, offer our best estimate of anticipated experience.
- To the extent that actual experience varies from the assumptions, the emerging costs of the plan will vary from the projections we have prepared.
- The calculations in this presentation are consistent with our understanding of Duty Disability funding requirements and goals. Additional determinations may be needed for other purposes.
- Milliman's work product was prepared exclusively for ETF for a specific and limited purpose. It is not for the use or benefit of any third party for any purpose.
- I, Paul Correia, am a Consulting Actuary with Milliman. I am a member of the American Academy of Actuaries, and I meet its Qualification Standards to render the actuarial opinion contained herein.

Duty Disability Liabilities as of December 31, 2021

Liability Component	Estimated Liability
Open Claims	\$459,788,617
Future Survivors	\$26,056,203
IBNR Claims	\$27,607,638
Loss Adjustment Expenses	\$10,307,749
Total	\$523,760,207

- Liability for open claims represents the present value of expected future benefit payments.
 - 1,021 open claims as of December 31, 2021
 - 963 disabled members
 - 58 survivors (i.e., spouses and domestic partners)
- Liability for future survivors represents the present value of expected future benefit payments to survivors of currently disabled members as of December 31, 2021.
- Liability for incurred but not reported (IBNR) claims represents the present value of expected future benefit payments to members and survivors whose claims were incurred but had not been reported as of December 31, 2021.
- Liability for loss adjustment expenses represents the present value of future expenses related to the ongoing management and payment of Duty Disability claims.

Duty Disability Comparison to Prior Year

Liability Component	12/31/2020	12/31/2021
Open Claims	\$413,524,714	\$459,788,617
Future Survivors	\$21,037,538	\$26,056,203
IBNR Claims	\$23,966,544	\$27,607,638
Loss Adjustment Expenses	\$9,191,378	\$10,307,749
Total	\$467,720,173	\$523,760,207

- The December 31, 2021 liabilities were calculated using the same claim termination and estimated offset assumptions as last year. A lower discount rate assumption (6.8%) was used to compute the liabilities as of December 31, 2021, resulting in higher liabilities with all else equal.
- The number of open claims decreased slightly from 1,026 as of December 31, 2020 to 1,021 as of December 31, 2021, and the average monthly benefit amount decreased from \$2,933 as of December 31, 2020 to \$2,914 as of December 31, 2021.
- The increase in liabilities was primarily driven by an adjustment to the timing of annual cost-of-living adjustment benefits (COLA) in our projection of future benefits.

Duty Disability Waterfall Analysis for Open Claim Liability

Change in Valuation Assumption or Methodology	Estimated Liability	% Change from Above Row
1. Liability as of 12/31/2020	\$413,524,714	NA
2. Liability as of 12/31/2021 – same assumptions as above	\$409,296,922	-1.0%
3. Liability as of 12/31/2021 based on 6.8% Interest	\$417,866,655	2.1%
4. Liability as of 12/31/2021 with updated COLA	\$459,788,617	10.0%

- The December 31, 2021 liability would have decreased by 1.0% under the same assumptions used as of December 31, 2020 (row 2) due, in part, to reductions in the number of open claims and the average monthly benefit amount.
- The change in the discount rate assumption from 7.0% to 6.8% resulted in a 2.1% increase in the open claim liability as of December 31, 2021 (row 3).
- The change in the COLA methodology moved the open claim liability up another 10.0% (row 4)

Duty Disability Retrospective Adequacy Study

Experience Period	Average Annual Margin	
	Disabled Members	Survivors
2017	1.06%	2.44%
2018	0.48%	0.21%
2019	0.99%	0.31%
2020	0.96%	-1.21%
2021	1.15%	1.67%
Total	0.93%	0.69%

- Experience: Claims from disabled members and survivors from the period 2017 - 2021
- Positive overall margins (i.e., 0.93% and 0.69%) indicate the liabilities were adequate to cover the runoff of open claims during the study period

Duty Disability Funding Status as of December 31, 2021

Balance Sheet Component	2021
Beginning of Year Reserve Balance	\$693,237,197
+ Investment Income	\$84,590,183
+ Premium Contributions and Miscellaneous Income	\$4,036,165
- Insurance Claims	\$36,364,150
- <u>Administrative Expenses</u>	\$938,438
End of Year Reserve Balance	\$744,560,957
Actuarial Liability as of December 31, 2021	\$523,760,207
Surplus as of December 31, 2021	\$220,800,750
Surplus as a Percentage of Actuarial Liability	42%

- The surplus in the Duty Disability reserve was \$220.8 million as of December 31, 2021, representing 42% of the actuarial liability as of December 31, 2021.
- The surplus ratio as of December 31, 2021 is higher than the target range of 25% to 35% of the actuarial liability.

Duty Disability Funding Analysis

Scenario	Contribution Rate	Expected Surplus 12/31/2023	Expected Surplus 12/31/2030
Baseline	Current rates in 2023 and beyond	\$234M (43% of 2023 liability)	\$283M (48% of 2030 liability)
Scenario 1	Reduced by 50% in 2023 then held level	\$233M (43% of 2023 liability)	\$271M (46% of 2030 liability)
Scenario 2	Waived in 2023 and beyond	\$232M (43% of 2023 liability)	\$259M (44% of 2030 liability)
Scenario 3	Waived in 2023 then resume current rates in 2024 and beyond	\$232M (43% of 2023 liability)	\$278M (47% of 2030 liability)

- Different contribution rates do not have a large impact on the **surplus ratio** because contributions are significantly lower than the investment income assumed over the projection period (6.8%).
- Fund and surplus projections take into consideration potential future contributions and claims for active employees.

Duty Disability Conclusions

- Duty Disability liabilities as of December 31, 2021 are approximately 12% higher than the estimated liabilities as of December 31, 2020 due, in part, to a reduction in the discount rate assumption and adjustments to the timing of COLA benefits.
- The funding analysis suggests that the surplus in Duty Disability reserves is expected to grow in every scenario, because expected income on investments exceeds benefit payments and expenses in every year.
- The surplus ratio as of December 31, 2021 (42% of actuarial liability) is higher than the target range of 25% to 35% of the actuarial liability.
- We will be performing a detailed experience study prior to the next valuation which is likely to result in some updates to assumptions.