Welcome to the Employee Trust Funds Board

June 22, 2023



WI-GUEST

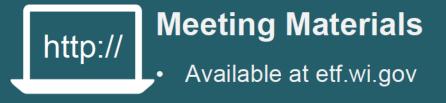
No Password is needed

Meeting will begin at: 9:00 a.m.



Please Sign In

- Who? All meeting attendees
- Sheet available at the door





Please Silence your Cell Phone and Mute your Microphone

Announcements

Item 1 - No Memo

Matt Stohr, Administrator

Division of Retirement Services



Consideration of March 23, 2023, Open Session Meeting Minutes





Action Needed

 Motion needed to accept the Open Minutes of March 23, 2023, meeting as presented by the Board Liaison.

Committee Reports

Item 3A-3C - No Memo



Wisconsin Retirement System (WRS) 42nd Annual Valuation of **Active Lives and Gain/Loss** Analysis – December 31, 2022



Item 4A – Employee Trust Funds Board

Mark Buis, FSA, EA, FCA, MAAA Rich Koch, FSA, EA, MAAA Brian Murphy, FSA, EA, FCA, MAAA, PhD Gabriel, Roeder, Smith & Company (GRS)

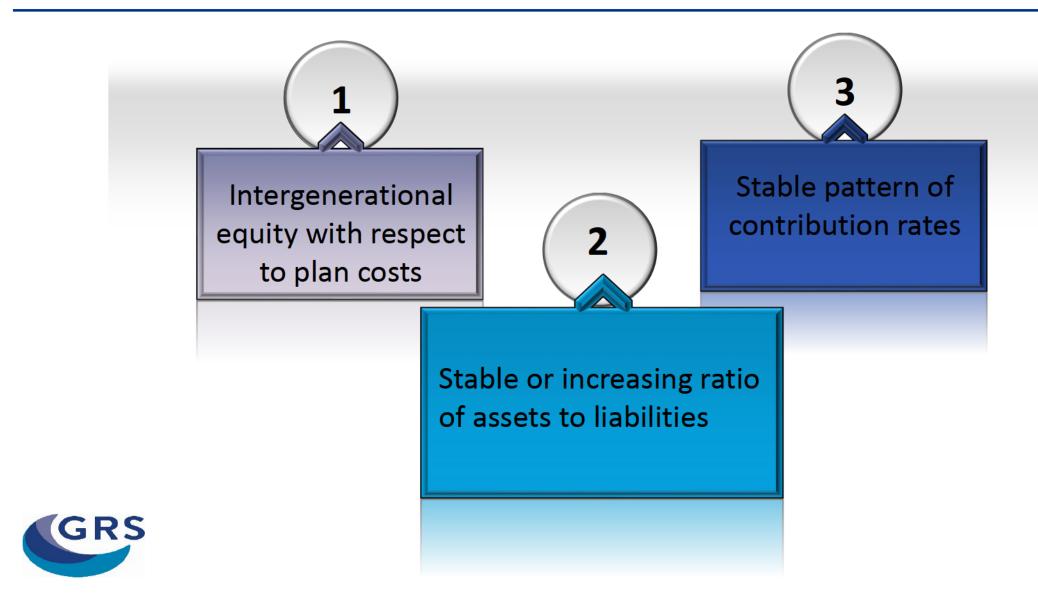


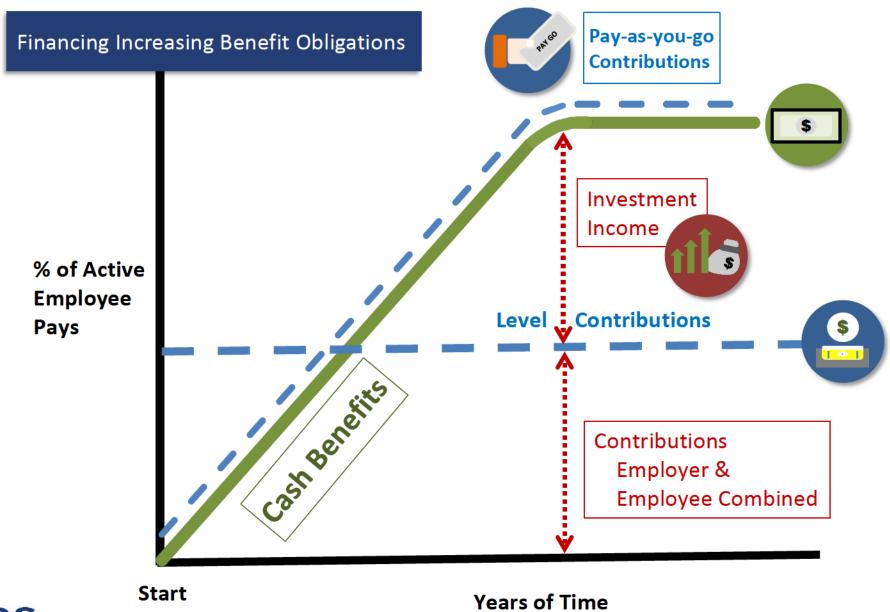
Action Needed

 Motion needed to approve the WRS Annual Actuarial Valuation and Gain/Loss Analysis as of December 31, 2022.



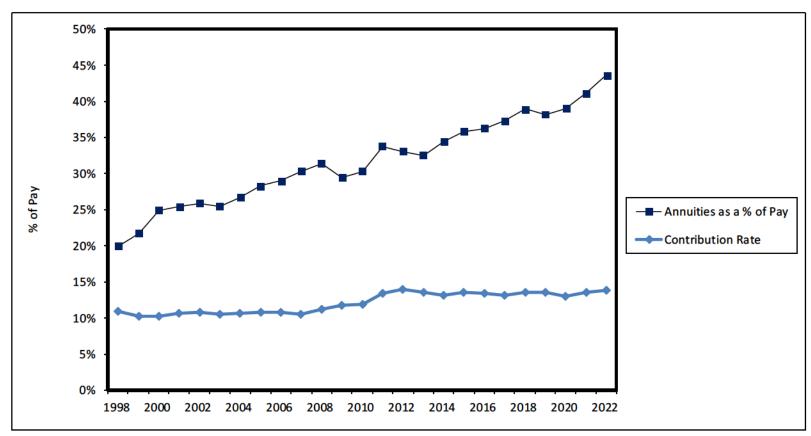
Funding Objectives







Annuities as a % of Payroll and WRS Average Total Contribution Rate*

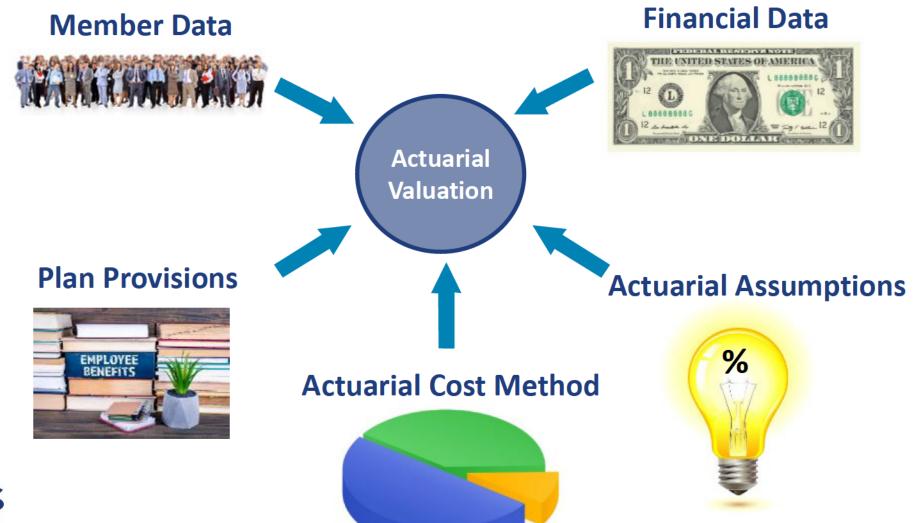


Annuities are expected to continue to increase as a percent of payroll for several more decades.

^{*}Average total rate shown is for General Participants.



Actuarial Valuation Process





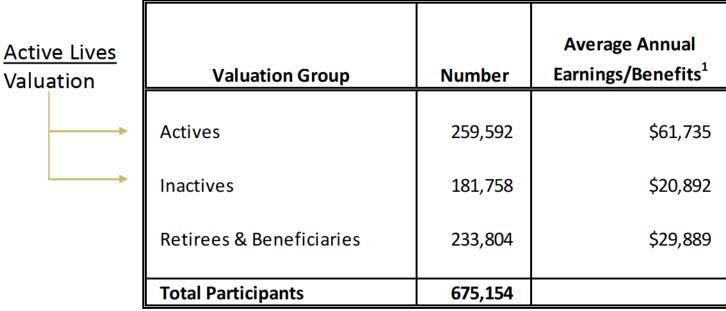
Active Participants at December 31, 2022

		Annual	Group Averages			
Valuation Group	Number	Earnings (\$ Millions)	Earnings	Age	Years of Service	Contribs.
General	236,592	\$14,148.7	\$59,802	44.8	10.8	\$68,070
Executive Group & Elected Officials	1,234	120.0	97,250	55.0	14.5	135,438
Protective Occupation with Social Security	18,961	1,501.5	79,189	39.5	11.9	81,660
Protective Occupation without Social Security	2,805	255.7	91,155	39.9	13.1	98,476
Total Active Participants	259,592	\$16,025.9	\$61,735	44.4	10.9	\$69,712
Prior Year	257,683	\$15,410.0	\$59,802	44.6	11.1	\$69,680



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All Participants at December 31, 2022



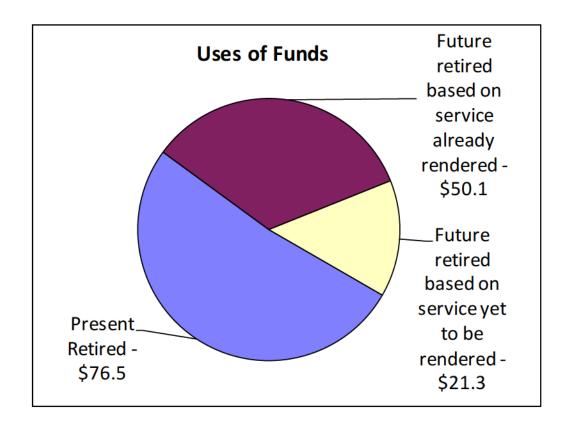
For inactives, average money purchase balance.



Retired Lives

Valuation

\$147.9 Billion* of Benefit Promises to Present Active and Retired Members

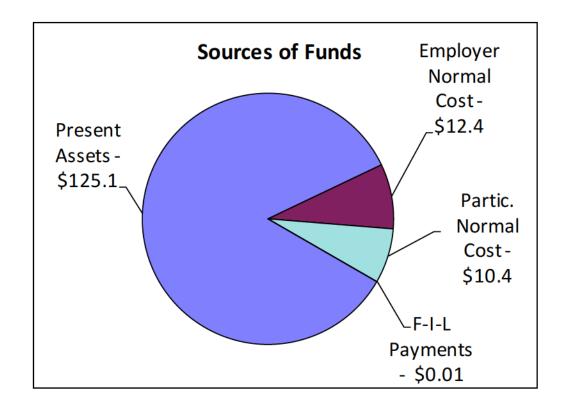


^{*} Present value of future benefits; all divisions combined.



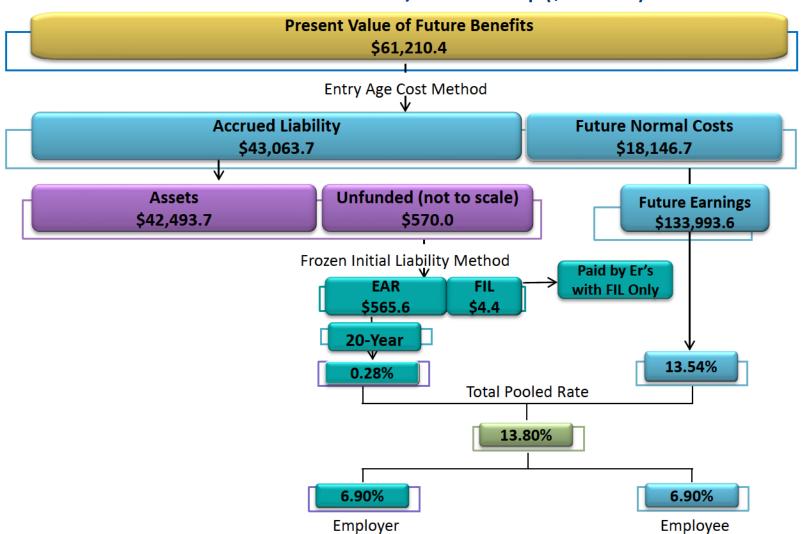
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Sources of Funds for Financing \$147.9 Billion of Benefit Promises





Actuarial Valuation Process Illustration for General/Elected Group (\$ Millions)





Summary of December 31, 2022 Valuation Results

			Protective Occupation				
	General, Executive & Elected Officials		With Soc. Sec.		Without Soc. Sec.		
							Average
	2024	2023	2024	2023	2024	2023	2024
Employer Normal Cost	6.90%	6.80%	14.30%	13.20%	19.10%	18.10%	7.80%
Participant Normal Cost	6.90%	6.80%	6.90%	6.80%	6.90%	6.80%	6.90%
Total Normal Cost	13.8%	13.6%	21.2%	20.0%	26.0%	24.9%	14.7%
Estimated Total NC (\$ millions)*	\$2,089.0	\$2,058.7	\$337.7	\$318.6	\$70.5	\$67.5	

^{*} Based on payroll projected from valuation date to fiscal year using the payroll growth assumption.



Comparative Statement of Total Average Contribution Rates

Valuation 12/31	General	Executive & Elected	Protective with Soc. Sec.	Protective without Soc. Sec.
2002	10.82%	11.51%	12.52%	15.01%
2007	10.58%	11.55%	13.15%	14.09%
2012	14.00%	15.50%	17.10%	21.00%
2017	13.12%	13.12%	17.10%	21.59%
2018	13.54%	13.54%	18.41%	23.02%
2019	13.53%	13.53%	18.51%	23.11%
2020	13.00%	13.00%	18.52%	23.86%
2021	13.60%	13.60%	20.03%	24.90%
2022	13.81%	13.81%	21.20%	26.00%

Executive and Elected employee and employer rates for CY 2016 and beyond are made in accordance with the combined General/Exec & Elected results.



Protective Contribution Rate Levels

- Higher contribution rates compared to General Employees
 - Higher Benefit Multipliers
 - Protective = 2% or 2.5% (with or without Soc. Security)
 - General & Executive/Elected = 1.6%
 - Earlier Normal Retirement Eligibility
 - Protective at Age 54 or Age 53 with 25 years of service
 - General & Executive/Elected at Age 65/62 or Age 57 with 30 years of service



Protective Contribution Rate Levels

- More volatile contribution rates compared to General Employees
 - Asset/Payroll ratios¹
 - Protective = 317% 420% (with or without Soc. Security)
 - General & Executive/Elected = 298%
 - Liability/Payroll ratios²
 - Protective = 369% 467% (with or without Soc. Security)
 - General & Executive/Elected = 302%



¹ Line 8 divided by line 2 from page B-2 in the active lives valuation

² Line 7 divided by line 2 from page B-2 in the active lives valuation

Reasons for Contribution Changes

General, **Protective** Protective Executive & with without Soc. Sec. **Elected** Soc. Sec. 2023 Normal Cost Rate 13.60% 20.00% 24.90% Effect of Benefit Change 0.00% 0.00% 0.00% Effect of Assumption Change 0.00% 0.00% 0.00% Effect of Asset Performance 0.03% 0.21% 0.31% Effect of Salary Experience 0.05% 0.89% 0.49% Effect of Money Purchase Benefit 0.07% 0.03% 0.01% Demographic and Other Experience 0.05% 0.07% 0.29% 2024 Normal Cost Rate 13.80% 21.20% 26.00%

The effect of Asset Performance is different for each group because the ratio of assets to payroll is different for each group.



Generally

zero when

experience

study year

not an

Impact of Asset Gains/Losses



- Asset gains and losses above or below the assumed rate of return are smoothed in over the current year and four future years
- Four years after a valuation date, all asset gains or losses known at valuation date are fully recognized
- Statutory smoothing method in WRS is referred to as the Market Recognition Account (MRA)



Operation of Market Recognition Account (MRA) - \$ Millions

	2022	<u>2023</u>	<u>2024</u>	<u> 2025</u>	<u> 2026</u>
Actual Investment Return	\$ (17,445)				
Assumed Investment Return	7,894				
Gain/(Loss) to be phased-in	(25,339)				
Phased-in recognition					
 Current year 	\$ (5,068)	?	?	?	?
 First prior year 	2,495	\$(5,068)	?	?	?
 Second prior year 	1,774	2,495	\$(5,068)	?	?
 Third prior year 	2,204	1,774	2,495	\$(5,068)	?
 Fourth prior year 	(2,049)	2,204	1,774	2,495	\$ (5,068)
Total recognized gain (loss)	\$ (644)	\$ 1,405	\$ (799)	\$(2,573)	\$ (5,068)



Reconciliation of Market Recognition Account (MRA)

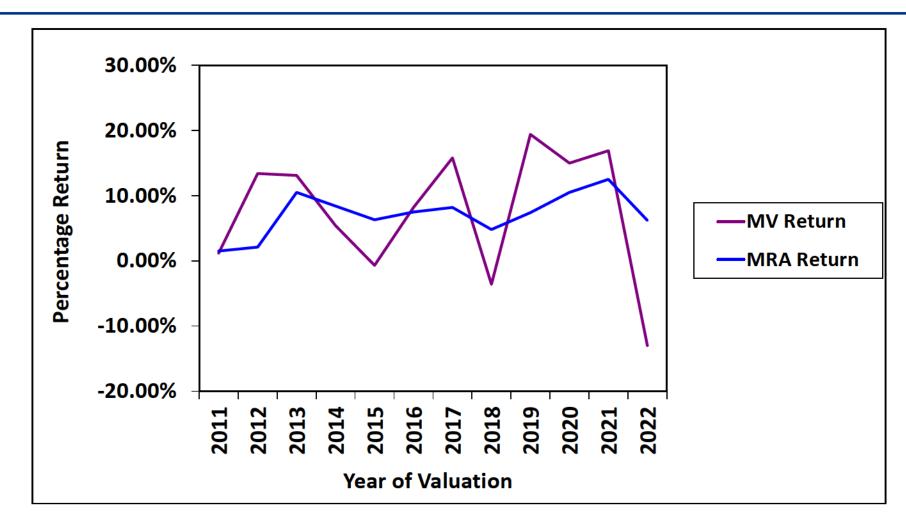
	\$ Millions
MRA at Beginning of Year	\$118,333.8
Non-Investment Cash Flow	(4,483.2)
Assumed Return (at 6.8%)	7,894.3
Phase-in of Gains/(Losses)	(644.3)
MRA at End of Year	\$121,100.6
MRA Rate of Return	6.20%
Market Value Rate of Return	-13.00%

Assets in MRA include non WRS programs such as Sick Leave, Duty Disability, etc.

Market value rate of return shown as calculated by GRS and may differ from returns calculated by SWIB and/or ETF.

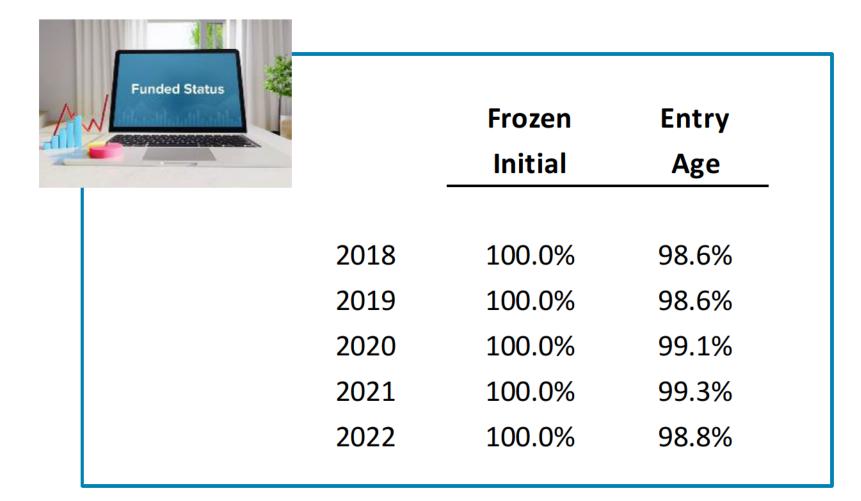


Market Value Return vs. Market Recognition (Actuarial) Return





WRS Funded Status





Concluding Remarks

- There are \$7.0 billion of unrecognized losses in the MRA
- Due to the cost sharing nature of WRS, asset gains/losses have been traditionally shared by:

Employees	Employers	Retirees
↑↓ Money Purchase Benefits	↓↑ Contributions	↑↓ Dividends
↓↑ Contributions		







2022 Gain/Loss Analysis



A Gain/Loss Analysis measures differences between actual and assumed experience in each Risk Area.



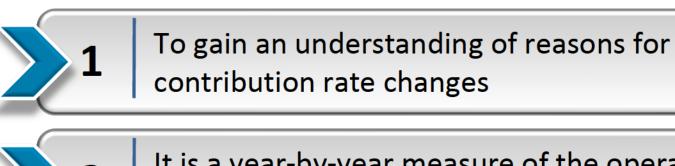
WRS Assumption Risk Areas

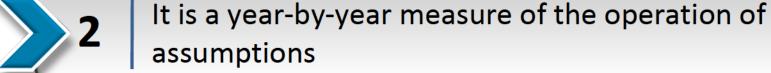
RISKS

Primary Risks				
Demographic	Economic			
Normal retirement	Salary increases			
Early retirement	Investment return			
Death-in-service				
Disability				
Other separations				



Why Have a Gain/Loss Analysis?







To understand the nature of risk



The Nature of Defined Benefit Plan Risk

Investment Risk

 The risk that actual returns will differ from assumed returns.

Asset/Liability Mismatch

 The potential that changes in assets are not offset by changes in liabilities. Because of the way assets are invested in most public plans, this is almost synonymous with investment risk.

Contribution Risk

 The risk that actual contributions will differ from expected contributions. This could occur, for example, if the plan's funding policy is not followed, or if there are changes in the covered population.



Retirement Sustainability Equation

Asset/Liability Mismatch

$$C + I = B + E$$

B depends on

- ▶ Plan Provisions at retirement, member receives x% of Final Average Pay times years of service
- Participant Experience tenure, pay increases, etc.

Most Systems do not have asset changes offset by liability changes



Retirement Sustainability Equation

- Smaller Asset/Liability Mismatch in WRS

$$C + I = B + E$$

B depends on plan provisions, which incorporates | Experience

- Money Purchase DC benefit (changes with I results)
- Annual post-retirement adjustments to the monthly annuity benefit are based solely on investment returns
 - Dividends can increase or decrease



The Nature of Defined Benefit Plan Risk

Salary and Payroll Risk

 Individual pays and/or total covered payroll may not grow at the assumed rate.
 If covered payroll grows more slowly than assumed, or shrinks, actual contributions may fall short of expected contributions.

Longevity Risk

 Members may live for more or fewer years than expected, affecting the amount of pension income they will receive from the plan.

Other Demographic Risks

 Members may terminate, retire, or become disabled at rates other than expected, affecting both contribution rates and funded status.



Population Development During 2022

		Actual	Expected
Begir	nning Census	257,683	
(-)	Normal Retirement	4,444	4,812
(-)	Early Retirement	3,998	4,061
(-)	Death	108	275
(-)	(-) Disability Retirement		
	- Total Approved	254	155
	- Less Pending	86	_
	- Net New	168	_
(-)	Other Separations	18,628	13,857
(-)	Transfers Out	3,179	
(+)	Transfers In	3,179	
(+)	New Entrants	29,255	
Ending Census		259,592	



Population Development During 2022

Normal Retirements	Varied by group and gender. Overall, lower than expected, but net result on liabilities is a small loss
Early Retirements	Lower than expected, overall producing a small loss
Deaths	Among active participants were lower than expected. The net result for the past year was a small loss
Disabilities	Slightly higher than expected, producing a small gain
Other Separations	Varied by group, gender and service. Overall, higher than expected. The net result was a small gain



Comparative Schedule of Experience Gains/Losses by Decrement

Divisions Combined (Millions)

	2021	2022
Normal Retirement Early Retirement Disability Retirement Death with Benefit Other Separations	\$ (27.4) (20.9) 4.2 (3.0) 20.1	\$ (36.4) (24.2) 2.0 (2.0) 37.5
Total As % of Liabilities	\$ (27.0) -0.06%	\$ (23.1) -0.05%



Components of Total Gain/(Loss)

	Gain/(Loss) in Millions	
	2021	2022
Economic Risk Areas	\$1,288	\$(489)
Decrement Risk Areas	(27)	(23)
Other Activity	(90)	(76)
Total Gain/(Loss)	\$1,171	\$(588)



Investment Earnings in 2022 (Active Participants)

	\$ Millions
A. Average balance on Participant and Employer Accumulation Reserves	\$47,663
B. Expected earnings: 6.8%	3,241
C. Earnings credited to Participant and Employer Accumulation Reserves	1,868
D. Gain (loss) from earnings: C - B	\$(1,373)



Investment Earnings in 2022 (Active Participants)

- \$1,373 million is the total recognized asset loss for the year for active participants
- However, part of the total gain/loss is allocated to Variable Excess accounts
- Some of the gain/loss flows through to members via the operation of Money Purchase minimum benefits
- Must net these out to determine remaining core fund gain or loss
- Remaining portion affects contribution rates



Investment Earnings in 2022 (Active Participants)



\$ Millions	S
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Gross Gain/(Loss) for the Year (for Actives) \$(1,373)

Less Estimated Gain/(Loss) due to Money Purchase (45) Less Estimated Gain/(Loss) due to Variable Excess (1,196)

Net Core Fund Asset Gain/(Loss) \$ (132)



Salary Related Gain/Loss

 Pay increases were overall higher than expected, resulting in a loss



General, Executive & Elected Protective w/Soc. Sec.

Protective w/o Soc. Sec.

	Gain/Loss	% of Group	
\$ Millions		Liabilities	
	\$(117.1)	(0.3)%	
	(221.3)	(4.7)%	
	(18.6)	(1.7)%	
	\$(357.0)	(0.7)%	



Concluding Remarks

Recognition of remaining prior asset gains and losses are expected over the next few years

This Gain/Loss Analysis is the second in a regular 3-year experience cycle

This study, together with the 2021 and 2023 results, will form the basis for the next experience study to be performed after the December 31, 2023 valuation cycle

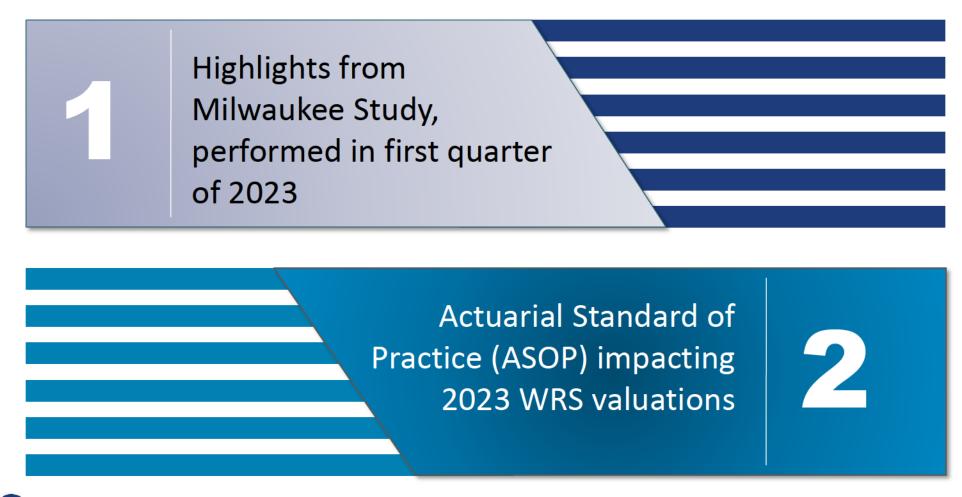




Current Events



Current Events





Legislature requested an evaluation of closure of Milwaukee City and County plans with new hires entering WRS prospectively

- City and County actuaries provided initial analyses
 - Based on assumptions specific to City and County
 - Unfunded liabilities, projections of plan closure
- Both actuaries assumed 7.5% investment return
- GRS reviewed the retained actuaries' work and provided additional requested information.



Comparative Census Counts

	Milwaukee		
	City	County	WRS*
General	7,768	3,060	234,494
Protective			
With Social Security	265	-	19,175
Without Social Security_	-	2,326	2,762
Total	8,033	5,386	256,431

Since only new hires would go into the WRS, the WRS census would be projected to increase very gradually, reaching an ultimate count of approximately 270,000 in 30 to 50 years.



^{*}WRS figures from the 2021 valuation.

Comparative Asset Amounts

\$ Millions at December 31, 2021			
Milwaukee			
City	County	WRS	
\$6,367.9	\$1,970.4	\$141,847.8	



GRS delivered 70+ page report in March that:

- Confirmed Unfunded Actuarial Accrued Liability (UAAL) amounts for each of the Milwaukee City and County retirement systems
 - Provided recommendations on approaches to paying the unfunded liability
- Reviewed soft close projections
- Reviewed certain plan closure issues



GRS delivered 70+ page report in March that:

- Provided information requested by the Legislative Fiscal Bureau
 - For the Milwaukee plans:
 - Amortization schedule of UAAL payments
 - Projected annual normal cost payments
 - Projected annual employee contributions
 - Projected annual employer/employee Milwaukee
 WRS contributions before and after change



GRS delivered 70+ page report in March that:

- Compared status quo with bringing Milwaukee new hires into WRS, based on 7.0% and 6.8% assumed rates of return
- Investigated projected contribution rates, normal cost rates and UAAL rates

The result of all this analyses? ...



How Does this Impact WRS?

From WRS Perspective:

- For General and Protective w/Social Security groups, adding relatively very small Milwaukee groups unlikely to have any material impact on normal cost rates
- For <u>Protective w/out Social Security group</u>, Milwaukee of similar size to the WRS, but with similar entry age – unlikely to impact normal cost rates



Milwaukee...More to Come!

We express our thanks to Matt Stohr

Matt was extremely responsive in gathering information and helping guide the project





Actuarial Standards "ASOPs" Generally





Main Pension ASOPS

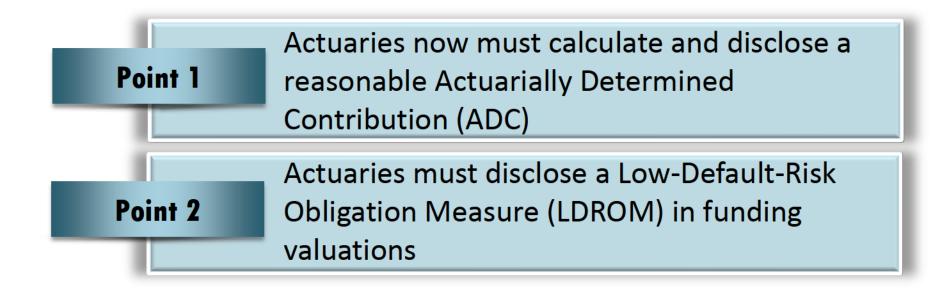
- ASOP 4: Measuring Pension Obligations
- ASOP 27: Selection of Economic Assumptions
- ASOP 35: Selection of Demographic and other non-economic Assumptions
- ASOP 44: Selection and use of Asset Valuation Methods
- ASOP 51 Assessment and disclosure of Risk

Today's discussion focuses on ASOP 4





Summary of Notable Changes to ASOP 4



Revised standard effective for WRS' 12/31/2023 valuations



Summary of Notable Changes to ASOP 4

Reasonable ADC

- Generally, plans which already develop an ADC following prior ASOP guidance are expected to meet the new reasonable ADC standard
- Plans which do not currently develop an ADC (some fixed rate plans, and some plans using statutory assumptions or methods) will be required to calculate a reasonable ADC.



Summary of Notable Recent Changes to ASOP 4

Reasonable ADC -- Amortization

- Must amortize the UAAL within a reasonable time or
- Must reduce the UAAL by a reasonable amount each year.
- Actuary must assess whether or not UAAL will be fully amortized if all assumptions are met.



ASOP 4 – LDROM

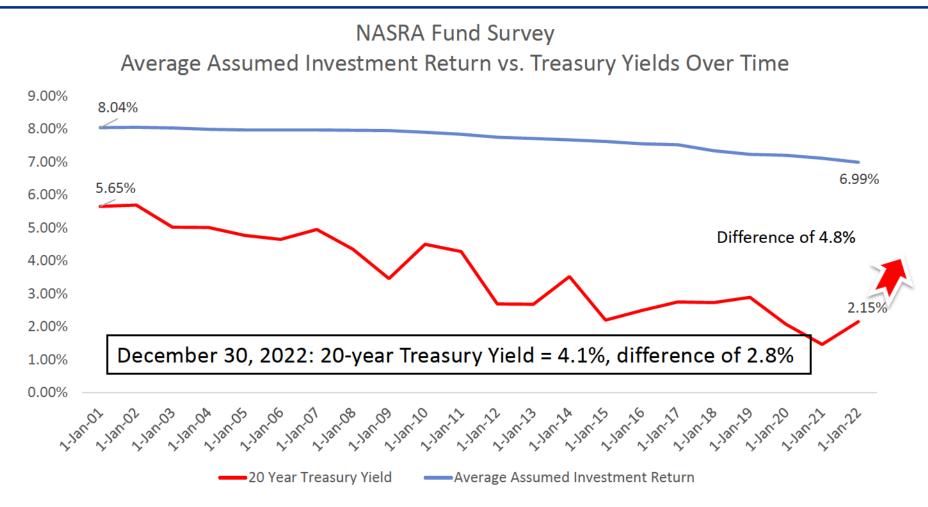
Most Attention Getting Addition to ASOP 4



- Actuaries must calculate and disclose a liability using a discount rate or rates derived from
 - Low-default-risk fixed income securities
 - Whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future



Assumed Investment Returns vs. Risk-Free Yields





Understanding LDROM

Provides a more complete picture of the funded status and information regarding the security of benefits



- The LDROM itself can be viewed as the cost of significantly reducing risk.
 - In the late 1990's this cost might have looked quite affordable.
 - Maybe it will again someday
 - Reducing risk can enhance benefit security



Understanding LDROM

Provides a more complete picture of the funded status and information regarding the security of benefits



- Difference between LDROM and the valuation AAL can be seen as a measure of the expected savings generated by taking investment risk.
 - Do the expected savings justify the risk?
 - If not consider what action should be taken



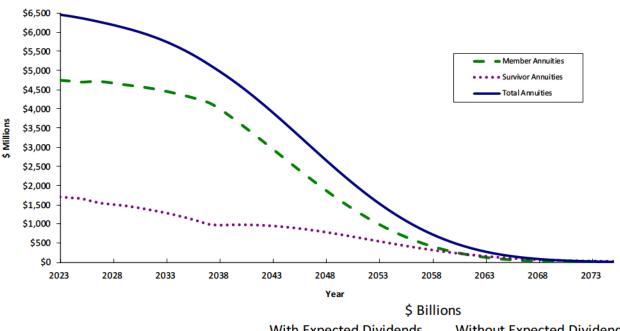
LDROM Summary



- Additional Liability measure based on a Low default risk investment program
- Will NOT impact contributions, UAAL, funded ratio, or funding period
- Intended to help stakeholders better understand the funded status of the plan and the risks involved.



WRS has been disclosing similar risk measures for years (Total Future Benefits = PV @ 0%)



	With Expected Dividends	Without Expected Dividends
Total Future Benefit Payments	\$149.6	\$118.8
Present Assets	72.1	72.1
Future Investment Return Needed	77.5	46.7

Based upon the assumptions used in the valuation, future dividends are expected to be approximately 1.7% per year. Of course actual dividends will be based upon actual future investment return and the operation of the Market Recognition Account.





QUESTIONS



Disclaimers

- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- Brian Murphy, Mark Buis and Rich Koch are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.
- This is one of multiple documents comprising the actuarial report. Additional information regarding actuarial assumptions and methods, and important additional disclosures are provided in the full report entitled "Forty-Second Annual Actuarial Valuation and Gain/Loss Analysis."
- If you need additional information to make an informed decision about the contents of this presentation or the contents of the full report, or if anything appears to be missing or incomplete, please contact us before making use of the information.



Action Needed

 Motion needed to approve the WRS Annual Actuarial Valuation and Gain/Loss Analysis as of December 31, 2022.

Wisconsin Sick Leave Conversion Credit Programs Annual Valuation – December 31, 2022



Item 4B – Employee Trust Funds Board

Rich Koch, FSA, EA, MAAA Brian Murphy, FSA, EA, FCA, MAAA, PhD Gabriel, Roeder, Smith & Company (GRS)



Action Needed

Motion needed to approve the Sick Leave Conversion Credit Programs
 Actuarial Valuation as of December 31, 2022.





Wisconsin Sick Leave Conversion Credit Programs - Valuation

- Benefit provided to State of Wisconsin employees and eligible dependents
 - Covers cost of health insurance premiums until sick leave credits are exhausted
- Assets based on 5-year smoothing of investment earnings in connection with the Market Recognition Account developed for Wisconsin Retirement System (WRS) valuation
- Assumptions and actuarial cost method consistent with the WRS valuation



Accumulated Sick Leave Conversion Credit Program (ASLCC/Basic)

	ASLCC Plan
Eligibility	Termination with 20 or more years of WRS creditable service (not necessarily all State Service) or eligible for an immediate annuity
ASLCC Credits	Credit computed at time of retirement, disability, or death while employed = (# days unused sick leave) x (highest basic pay rate)

Conversion credits used to cover cost of Health Insurance premiums for Employee and Dependents. Unused portion carried forward without interest and may be continued to an insured spouse after the death of the primary annuitant.

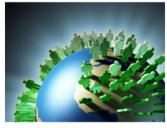


Supplemental Health Insurance Conversion Credit Program (SHICC/Supplemental)

	SHICC Plan		
Eligibility	Termination with at least 15 years of continuous service with State of Wisconsin (not the same as WRS creditable service)		
	Employment <u>Category</u>	First 24 Years of <u>Service</u>	Over 24 Years of <u>Service</u>
SHICC	Protective	78 Hours/year	104 Hours/year
Matching Credits	Non-Protective	52 Hours/year	104 Hours/year
Conversion credits used to cover cost of Health Insurance premiums for Employee and Dependents. Unused portion carried forward without interest and may be continued to an insured spouse after the death of the primary annuitant.			



Summary of Participant Data Report Page 3



Active Participants

State Employees

			• • • • • • • • • • • • • • • • • • • •	
	(Non-University)	University	Hospital	Total
<u> </u>				
Number	32,102	31,787	10,065	73,954
Annual Payroll	\$2,167,949,202	\$2,635,489,737	\$768,457,061	5,571,896,000
Accrued Unused Sick Days	2,672,790 days	2,820,096 days	357,956 days	5,850,542 days
Averages: Age	44.8 years	45.8 years	40.6 years	44.7 years
Service	11.3 years	10.7 years	7.9 years	10.5 years
Sick Leave Days	83.3 days	88.7 days	35.6 days	79.1 days

University

Terminated Vested Participants

Number	Basic Sick	Supplemental Sick	Total Sick Leave
	Leave Balance	Leave Balance	Balance
530	\$21,890,667	\$14,266,526	\$36,157,193



Summary of Participant Data Report Page 3

Retirees & Beneficiaries

		ASLCC Sick	SHICC Sick	Total Sick
Status	Number	Leave Balance	Leave Balance	Leave Balance
Active Annuitants with 1-Person Coverage	9,625	\$271,401,382	\$ 447,230,907	\$ 718,632,289
Active Annuitants with Multi-Person Coverage	9,436	410,575,321	629,060,513	1,039,635,834
Escrowed/On-Hold Annuitants	5,927	270,241,649	195,049,789	465,291,438
Total	24,988	952,218,352	1,271,341,209	2,223,559,561

In addition to the counts above, annuitants provided in the data with any of the following were excluded from the valuation:

- An account status other than active, escrowed or on-hold (i.e., closed, canceled, ineligible, etc.); or
- A \$0 sick leave balance.



Blended Net Premium Calculation Report Page 5

Retirees and Beneficiaries

	Rate Category	
	Non-Medicare	Medicare
 Number of 1-Person Contracts⁽¹⁾ Total Monthly Premium of 1-Person Contracts Average 1-Person Premium as of 1/1/2023 (2./1.) 	2,121 \$1,885,000 \$ 888.73	7,496 \$2,662,289 \$ 355.16
 4. Number of Multiple-Person Contracts⁽¹⁾ 5. Total Monthly Premium of Multiple-Person Contracts 6. Average Multiple-Person Premium as of 1/1/2023 (5./4.) 	1,874 \$3,612,002 \$ 1,927.43	7,352 \$5,275,659 \$ 717.58
7. Blended Net Premium as of 1/1/2023 (50%*3. + 50%*6.) ⁽²⁾	\$ 1,408.08	\$ 536.37
First Prior Year	\$ 1,341.73	\$ 553.78

⁽¹⁾ Retirees with an account status of active, a premium populated in the data provided and a sick leave balance greater than \$0. The number counts above were used strictly for developing blended net premiums and may be different from retiree counts shown throughout this presentation.



⁽²⁾ Used in the valuation of all non-active annuitants (i.e., current actives, preserved members and on-hold/escrowed annuitants). For active annuitants, the actual premiums provided in the data are used. Blended net premium is a blend of the 1-person and 2-person average premiums based on the 50% 1-person/2-person election percent assumption.

Summary of Sick Leave Asset Data Report Page 6

	ASLCC	SHICC	
	Program	Program	Total
Beginning Balance	\$1,840,946,943	\$1,189,675,742	\$3,030,622,685
Adjustment	(55,849)	(145,862)	(201,711)
Adjusted Beginning Balance	\$1,840,891,094	\$1,189,529,880	\$3,030,420,974
Revenues			
Contributions	\$ 38,022,713	\$ 5,437,688	\$ 43,460,401
Investment Income	113,162,027	73,280,371	186,442,398
Total Revenues	\$ 151,184,740	\$ 78,718,059	\$ 229,902,799
Expenses			
Insurance Premiums	\$ 114,397,925	\$ 52,511,215	\$ 166,909,140
Other	0	0	0
Administration	716,551	678,378	1,394,929
Total Expenses	\$ 115,114,476	\$ 53,189,593	\$ 168,304,069
Ending Balance - December 31, 2022	\$1,876,961,358	\$1,215,058,346	\$3,092,019,704
Internal Rate of Return	6.3%	6.3%	6.3%



Based on Market Recognition Account and provided by ETF.

December 31, 2022 Sick Leave Valuation Results – Employer Contribution Rates Report Page 1

Fiscal Year Ending	ASICC	SHICC	Total	UAAL ⁽¹⁾ Amortization Years
December 31	ASLCC	эпісс	TOtal	Tears
2015 2016	0.8%	0.4%	1.2% 1.2%	12 11
2017	0.9%	0.4%	1.3%	10
2018	0.8%	0.4%	1.2%	9
2019	0.8%	0.3%	1.1%	8
2020	0.9%	0.3%	1.2%	7
2021	0.8%	0.3%	1.1%	6
2022	0.7%	0.1%	0.8%	5
2023	0.7%	0.2%	0.9%	4
2024	0.7%	0.2%	0.9%	3
	Year Ending December 31 2015 2016 2017 2018 2019 2020 2021 2022 2023	Year Ending December 31 ASLCC 2015 0.8% 2016 0.8% 2017 0.9% 2018 0.8% 2019 0.8% 2020 0.9% 2021 0.8% 2022 0.7% 2023 0.7%	Year Ending December 31 ASLCC SHICC 2015 0.8% 0.4% 2016 0.8% 0.4% 2017 0.9% 0.4% 2018 0.8% 0.4% 2019 0.8% 0.3% 2020 0.9% 0.3% 2021 0.8% 0.3% 2022 0.7% 0.1% 2023 0.7% 0.2%	Year Ending December 31 ASLCC SHICC Total 2015 0.8% 0.4% 1.2% 2016 0.8% 0.4% 1.2% 2017 0.9% 0.4% 1.3% 2018 0.8% 0.4% 1.2% 2019 0.8% 0.3% 1.1% 2020 0.9% 0.3% 1.2% 2021 0.8% 0.3% 1.1% 2022 0.7% 0.1% 0.8% 2023 0.7% 0.2% 0.9%

⁽¹⁾ Unfunded Actuarial Accrued Liabilities are for one employer (Beyond Vision, formerly Wiscraft)



⁽²⁾Assumption change

Concluding Remarks

During 2022, the increase in the average premiums was lower than anticipated based on actuarial assumptions

During 2022, investment return on a market value basis was less than the assumed level of 6.8%

The Market Recognition Account phases-in gains and losses over 5 years -- resulting in a 6.3% return on a smoothed basis

- This put upward pressure on contribution rates
- If actuarial assumptions are realized, there will be upward contribution pressure in future years
- This is a big "if" given the current volatility in the investment markets



Disclaimers

- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- Brian Murphy, Mark Buis and Richard Koch Jr. are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.
- This is one of multiple documents comprising the actuarial report. Additional information regarding actuarial assumptions and methods, and important additional disclosures are provided in the full report entitled "Wisconsin Accumulated Sick Leave Conversion Credit Programs Annual Actuarial Valuation, December 31, 2022."
- If you need additional information to make an informed decision about the contents of this
 presentation or the contents of the full report, or if anything appears to be missing or
 incomplete, please contact us before making use of the information.



Action Needed

Motion needed to approve the Sick Leave Conversion Credit Programs
 Actuarial Valuation as of December 31, 2022.

Questions?

Experience Studies for the State of Wisconsin Duty Disability Program

Paul Correia, FSA, MAAA Milliman, Inc. June, 2023



Duty Disability Experience Studies

Study	Experience Period
Claim termination rate study – disabled members	2017 through 2Q 2022
Claim termination rate study – survivors	2017 through 2Q 2022
Benefit offset study	2017 through 2021
Future death benefit study – spouses	As of 12/31/2022
Future death benefit study – children	As of 12/31/2022
Overpayment recovery study	As of 12/31/2022

- The results were used to update Duty Disability valuation assumptions.
 - Claim termination rates
 - Probabilities of being approved for offsetting benefits from other sources
 - Estimated offset amounts
 - Estimated overpayment recoveries



Duty Disability Impact of New Valuation AssumptionsAs of December 31, 2021

Liability Component	Prior	New
Open Claims – Disabled Members	\$435,774,770	\$424,878,607
Open Claims – Survivors	\$24,013,847	\$28,068,374
Future Death Benefits – Spouses	\$26,056,203	\$30,897,797
Future Death Benefits – Children	N/A	\$1,294,959
Overpayment Recovery	N/A	(\$208,016)
Total	\$485,844,820	\$484,931,721

New components for future death benefits for dependent children and overpayment recovery.



Duty Disability Liability Runout Study

Experience	Average Annual Margin		
Year	Members	Survivors	
2017	0.63%	2.99%	
2018	0.04%	0.91%	
2019	0.57%	0.99%	
2020	0.54%	-0.57%	
2021	0.72%	2.47%	
Average	0.50%	1.36%	

Positive overall margins (0.50% and 1.36%) indicate the liabilities provide adequate funding for the runout of open claims during the study period.



Questions



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 and may need to be revised.
- The experience studies use 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 objectives and requirements. 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.



Actuarial Valuation of the State of Wisconsin Duty Disability Program

As of December 31, 2022

Paul Correia, FSA, MAAA Milliman, Inc. June, 2023



Duty Disability Liabilities As of December 31, 2022

Liability Component	Estimated Liability
Open Claims	\$481,530,420
Future Survivors	\$34,830,670
IBNR Claims	\$29,686,049
Loss Adjustment Expenses	\$10,968,617
Overpayment Recovery	\$(251,942)
Total	\$556,763,814

- 1,013 open claims as of December 31, 2022
 - 958 disabled members
 - 55 survivors (spouses and domestic partners)



Duty Disability Liabilities Comparison to Prior Year

Liability Component	12/31/2021	12/31/2022
Open Claims	\$459,788,617	\$481,530,420
Future Survivors	\$26,056,203	\$34,830,670
IBNR Claims	\$27,607,638	\$29,686,049
Loss Adjustment Expenses	\$10,307,749	\$10,968,617
Overpayment Recovery	NA	\$(251,942)
Total	\$523,760,207	\$556,763,814

The number of open claims decreased from 1,021 as of 12/31/2021 to 1,013 as of 12/31/2022.

Benefits increased by 8.9% (national wage index) or 7.4% (core annuity index) on 1/1/2023. New valuation assumptions based on experience studies performed in 2023.

- Large impact on estimated liability for future survivors.
- New Overpayment Recovery component.



Duty Disability Funding Status as of December 31, 2022

Balance Sheet Component	2022	
Beginning of Year Fund Balance	\$744,537,327	
Plus: Smoothed Investment Income	\$45,637,204	
Plus: Premium Contributions	\$1,983,711	
Less: Insurance Claims	\$37,234,267	
Less: Administrative Expenses	<u>\$864,045</u>	
End of Year Fund Balance	\$754,059,930	
Estimated Liability as of December 31, 2022	\$556,763,814	
Surplus (\$)	\$197,296,116	
Fund Ratio (% of Estimated Liability)	135.4%	

The fund ratio of 135.4% is slightly higher than the target of 125% to 135%.



Duty Disability Funding Analysis

	Assumed	Assumed	Assumed Payroll	Projected Fund Ratio	
Scenario			Increase from Wisconsin Act 4	12/31/2023	12/31/2031
Baseline	Current rates are held level in all years	6.8% in all years	1.7%	135%	137%
1	Current rates are held level in all years	-1.0% in 2023 then 6.8% in 2024 and beyond	1.7%	125%	120%
2	Current rates are held level in all years	6.8% in all years	6.9%	135%	135%
3	Premium holiday in 2024 then current rates in 2025+	6.8% in all years	1.7%	135%	136%

- The fund is sensitive to investment income and not very sensitive to premiums.
- The projected fund ratio reduces to 125% when we assume -1.0% investment income in 2023 and remains below target in future years.



Questions

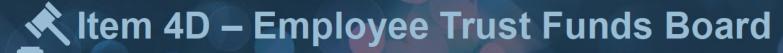


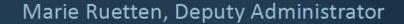
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- I, Paul Correia, am a Consulting Actuary with Milliman. I am a member of the American Academy of Actuaries, and I meet its Qualification Standards to render the actuarial opinion contained herein.



2024 Duty Disability Insurance Employer Contribution Rates





Division of Trust Finance



Action Needed

 Motion needed to approve the Duty Disability Insurance Program Actuarial Valuation as of December 31, 2022, and set 2024 contribution rates the same as 2023 rates.

Duty Disability Program Reserves

	2021	2022
Actuarial Liability	\$523,760,207	\$556,763,814
Reserve Balance	\$744,560,957	\$754,059,930
Surplus / (Deficit)	\$220,800,750	\$197,296,116
Funded Ratio *Target Range 125%-135%	142%	135%



Duty Disability Rates

- Employer paid contributions
- Contribution rates based on experience-rated tier schedule

Tier	Number of Claims	Claims as a % of Covered Payroll	2023 Contribution Rate as a % of Covered Payroll	
1	1	<=1.5%	0.02%	
2	2	>1.5% but ≤ 3.0%	0.04%	
3	3	>3.0% but ≤ 4.5%	0.09%	
4	4	>4.5% but ≤ 6.0%	0.15%	
5	5	>6.0% but ≤ 7.5%	0.24%	
6	6	>7.5% but ≤ 9.0%	0.35%	
7	7	>9.0% but ≤ 10.5%	0.48%	
8	8 or more	Claims > 10.5%	0.57%	



Recommended 2024 Rates (no change from 2023 rates)

Tier	Base Contribution Rate	Actuarial Adjustment Rate	Recommended 2024 Contribution Rate	# of Employers
1	0.25%	-0.23%	0.02%	423
2	0.50%	-0.46%	0.04%	44
3	1.00%	-0.91%	0.09%	26
4	1.75%	-1.60%	0.15%	10
5	2.75%	-2.51%	0.24%	7
6	4.00%	-3.65%	0.35%	3
7	5.50%	-5.02%	0.48%	2
8	6.60%	-6.03%	0.57%	1

Action Needed

 Motion needed to approve the Duty Disability Insurance Program Actuarial Valuation as of December 31, 2022, and set 2024 contribution rates the same as 2023 rates.

Questions?

2022 Member Engagement Survey Results

Item 4E - Employee Trust Funds Board



Office of Communications

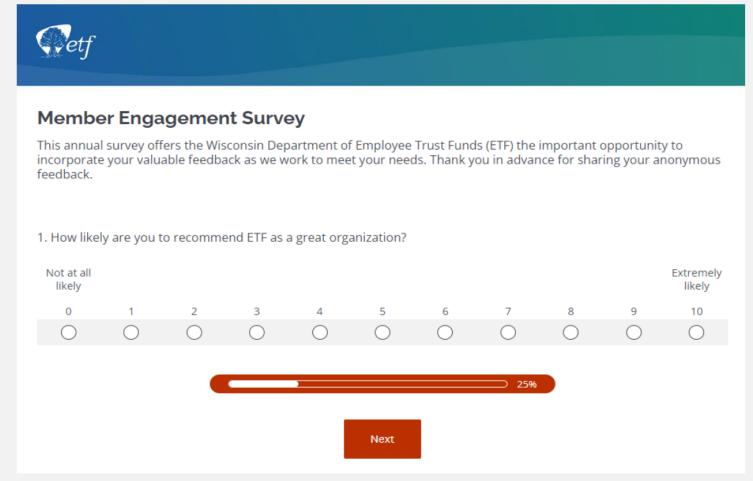


Informational item only

No Board action is required.



Member Engagement Survey



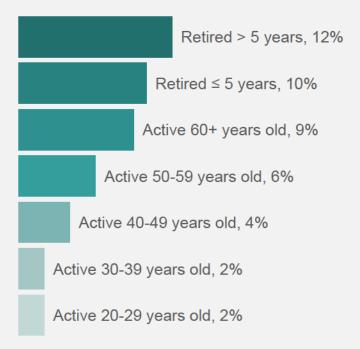
Responses





9% response rate

Response rate by group

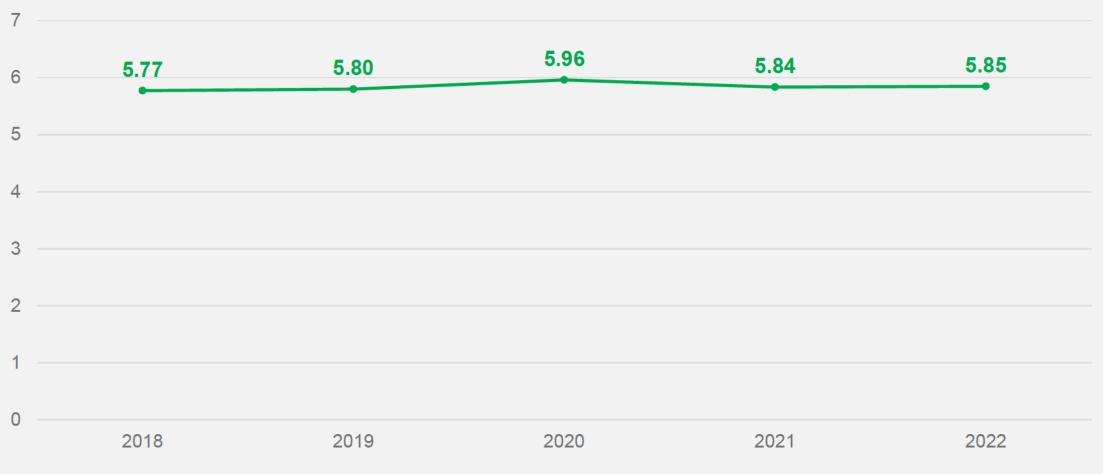






Total Engagement Score

Change Over Time



Change from 2021 to 2022

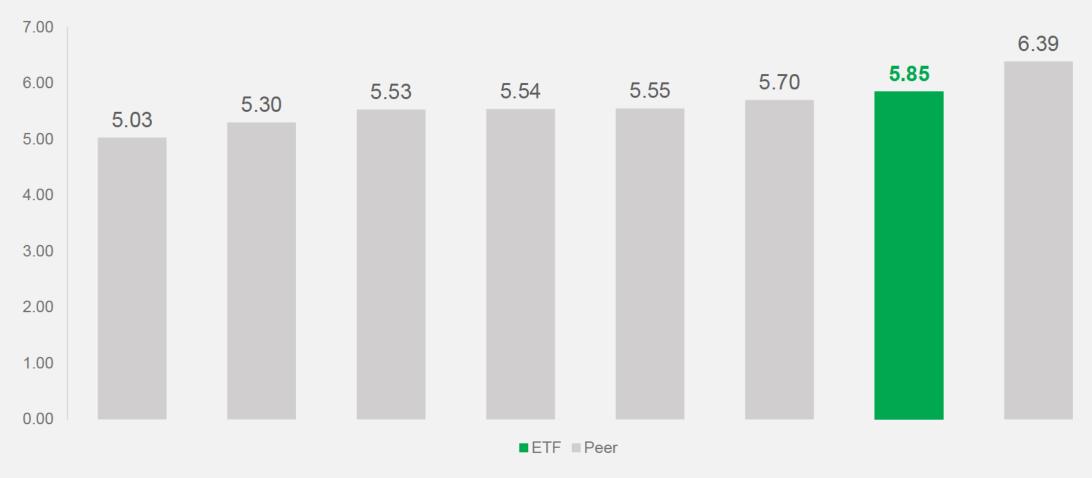
Compared to Peers





Total Engagement Score

Compared to Peers

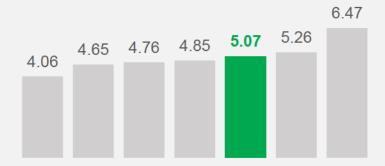




Engagement Score by Age Group

Compared to Peers

Active Members Ages 20 - 59

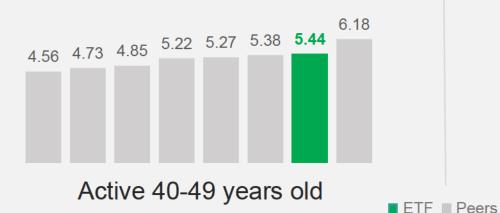


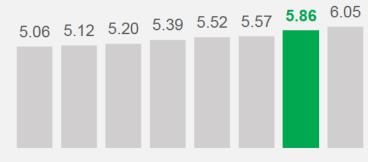
Active 20-29 years old

*one peer didn't get survey responses for this age group



Active 30-39 years old





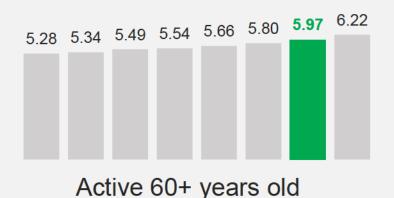
Active 50-59 years old

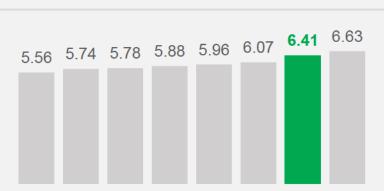


Engagement Score by Age Group

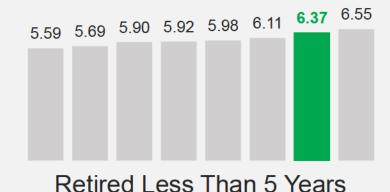
Compared to Peers

Active members 60 years and older, Retirees





Retired More than 5 Years



■ ETF ■ Peers

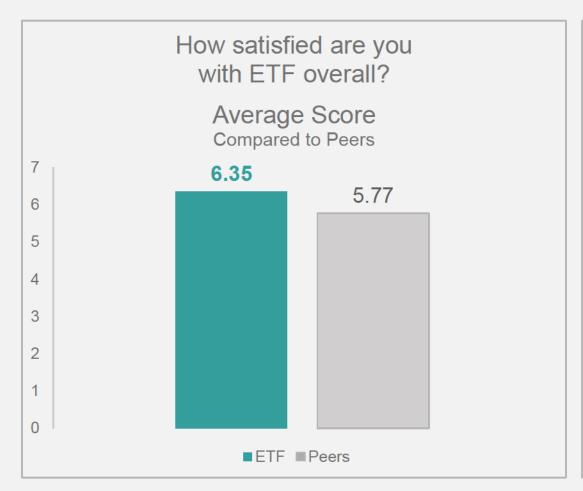


Score Breakdown by Required Question

Required Questions

- How satisfied are you with ETF overall?
- I feel confident my retirement is secure with ETF.
- I know ETF operates in my best interest.
- ETF sends communications that are relevant to my needs.
- ETF acts ethically.

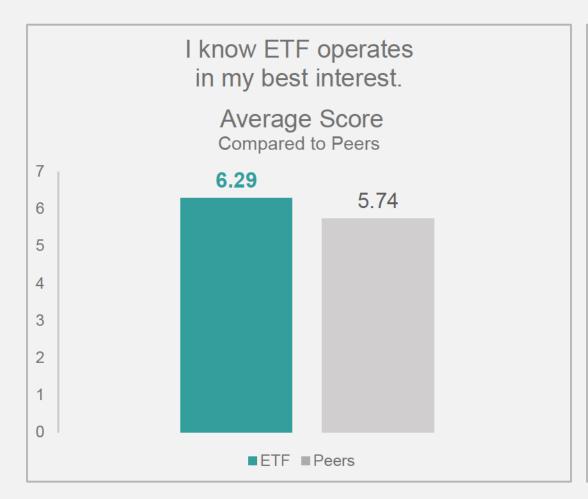
Satisfaction Overall and Retirement Security

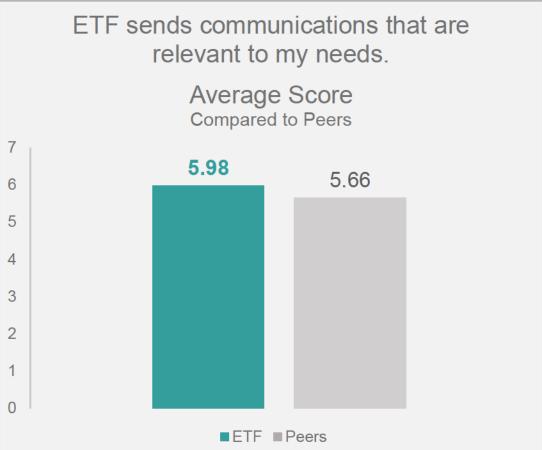






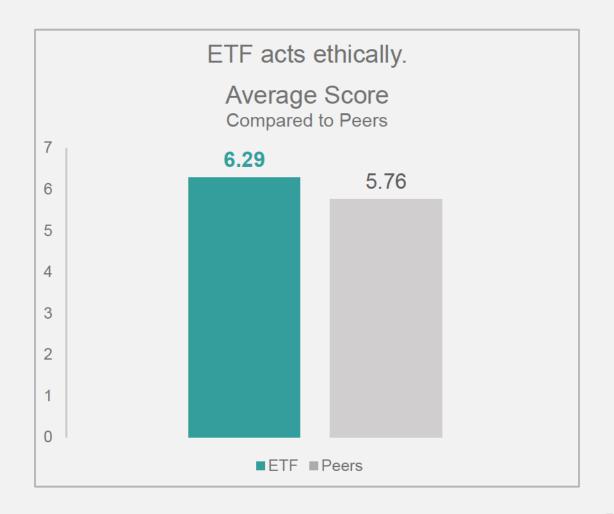
Operates in Best Interest and Relevant Communications







ETF Ethics





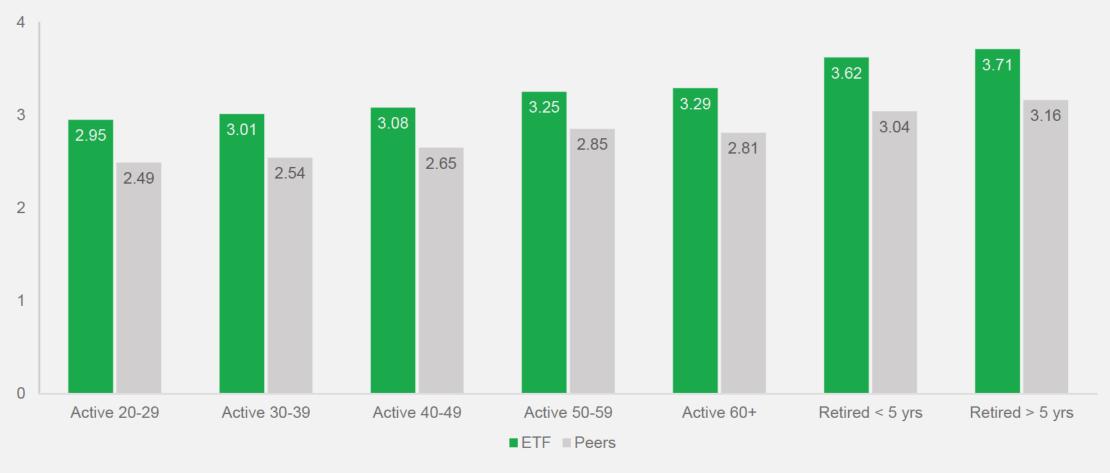
Score Breakdown by Optional Question

Optional Questions

- I am confident that I will have enough money to live comfortably throughout my retirement years.
- Information provided by ETF is easy to understand.
- How likely are you to recommend ETF as a great organization?

I am confident that I will have enough money to live comfortably throughout my retirement years.

(Rank 1 - 4)





Information provided by ETF is easy to understand.

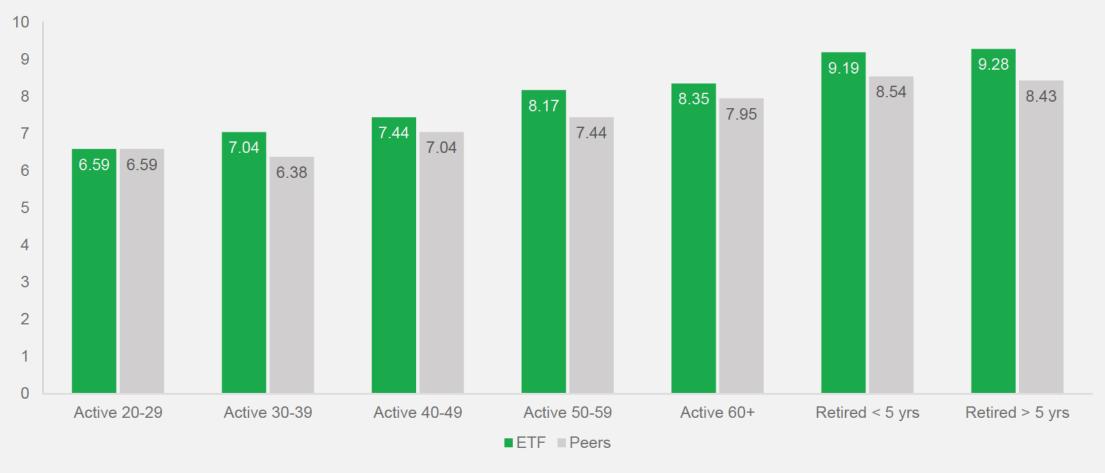
(Rank 1 - 7)





How likely are you to recommend ETF as a great organization?

(Rank 0 - 10)





Responses to Free-Response Question

Free-Response Question

- "What is the one thing that we can do differently to improve our score?"
- Presented if a member rated us 6 or lower for "How likely are you to recommend ETF as a great organization?"
- 1,011 responses



Top Response Categories

Online Access:

- Portal or app to manage benefits
- Ability to monitor contributions and balances

Health Insurance:

- Limited provider networks
- High cost of health insurance

Retirement Planning:

- Information to support financial stability in retirement
- More tools to help plan



Top Response Categories (cont.)

Communication:

- More frequent communication about benefits
- More transparency on how funds are invested

Website/User Experience:

Make website easier to navigate and search for information

Expectations of ETF's Role:

- More about what ETF does and how they can help
- Clarity about ETF's services and benefits



Similarities to 2021 Responses

- Online account access
- More frequent communications
- More transparency on investments



Differences from 2021

- Lack of awareness of what ETF does and how ETF can help
- Website navigation and search improvement
- More tools to manage their account and benefits



Questions?

BREAK

The Board is on a short break. Audio and visual feed will resume upon the Board's return.



ETF Customer Experience (CX) Story

Item 5A - Employee Trust Funds Board

Bonnie Cyganek, Manager CX & Business Initiatives

Heidi Murphy, Benefit Initiation Section Lead Worker

Division of Retirement Services



Informational item only

No Board action is required.



Begins with our longstanding traditions

Employee Passion



OUR MISSION

To develop and deliver quality benefits and services to our customers while safeguarding the integrity of the Trust.



VISION: Enhance the well-being of our members by delivering expert guidance, strong sustainable benefit programs, and an exceptional customer experience.



Strong Customer Service Focus

Wisconsin Retirement System Average Wait Times



Group Health Insurance Performance Measure

Performance Measure	Performance Target	2022 Average Performance	2022 Average Variance
(CP=Claims Processing, CS=Customer Service)	rarget	Periormanice	variance
CP: Processing Accuracy	97%	99.4%	2.4%
CP: Claims Processing Time	95% processed within 30 days	98.8%	3.8%
CS: Call Answer Timeliness	80% ≤ 30 seconds	89.0%	9.0%
CS: Call Abandonment Rate	< 3% of calls abandoned	0.9%	-2.1%
CS: Open Call Resolution Turn- Around Time	90% resolved within 2 days	97.0%	7.0%
CS: Electronic Written Inquiry Response	98% response within 2 days	99.5%	1.5%

Wisconsin Deferred Compensation Program Performance Standards Report 4th Quarter 2022

State of Wisconsin Deferred Compensation Program Performance Standards Report 4Q 2022 - 98971-01



Participant Services

= 100% Standards met

trend: no change



Field Staff Services

= 100% Standards met

trend: no change



Administrative Services

= 100% Standards met

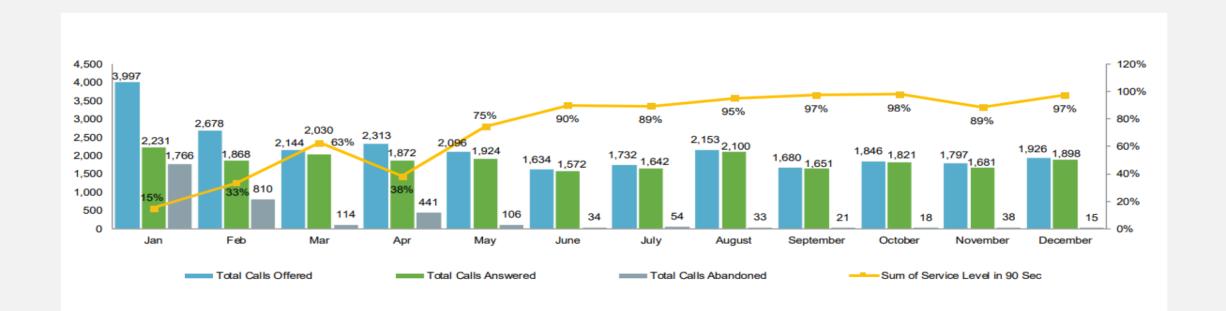
trend: no change

Participant Services

% Met Standard		Contract Provision	Requirement	Number Processed	Standard
100%	Exhibit 1, 11	Enrollment Applications	Process enrollment applications		Processed within 5 days; established within 31 days or later, if requested.
100%	Exhibit 1, 11	Deferral Changes	Process deferral increases/decreases		Processed within 5 days; established within 31 days or later, if requested.
100%	Exhibit 1, 11	Allocation Changes	Process allocation changes		Processed within 5 days; effective next pay or later, if requested.
100%	Exhibit 1, 11	Transfers between funds	Process transfer requests - All sources, including Web, VRU and manual requests		Processed same day if received in good order prior to 3:00 PM Central Time; otherwise, next business day
100%	Exhibit 1, 11	Lump Sum Distributions	Process lump sum distribution requests		Processed same day if received in good order prior to 3:00 PM Central Time; otherwise, next business day
100%	Exhibit 1, 11	Complaints Error Resolution	Resolve complaints forwarded by participants		Respond to participants within 10 days for written complaints



Wisconsin Deferred Compensation Program Customer Care Center and VRU Statistics

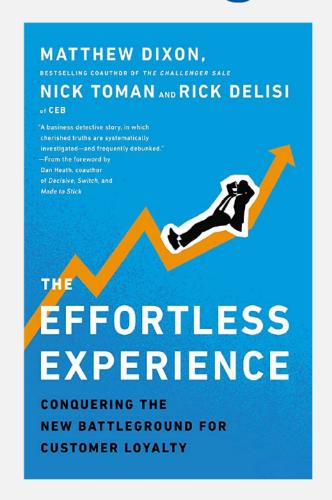


Performance Guarantees: All telephone calls to the Wisconsin and Home Office Client Service Representatives and the automated voice response system combined will be answered within ninety (90) seconds on average at least ninety percent (90%) of the time on an on-going average annual calendar year basis. On average for the calendar year, there will be less than one percent (1%) of calls that receive a busy signal, and the abandoned call rate will average less than five percent (5%) for the calendar year.



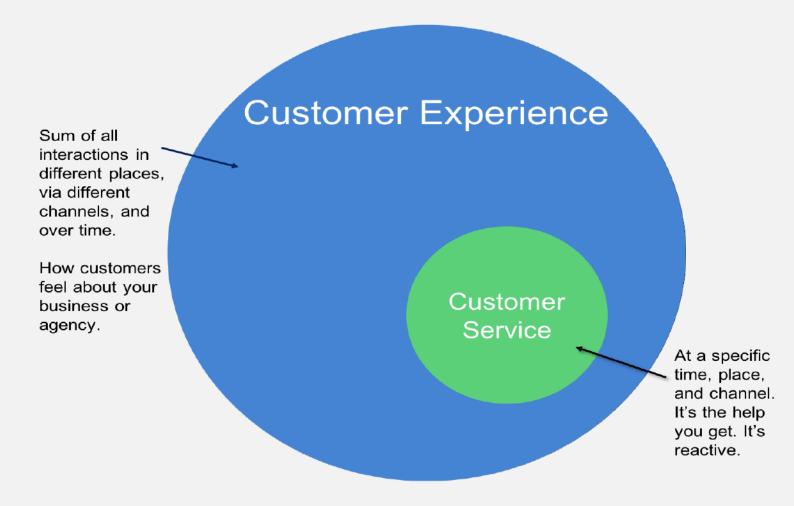
From a solid service foundation A CX movement has emerged

An agency-wide book read, Strategic Goal #1 and North Star





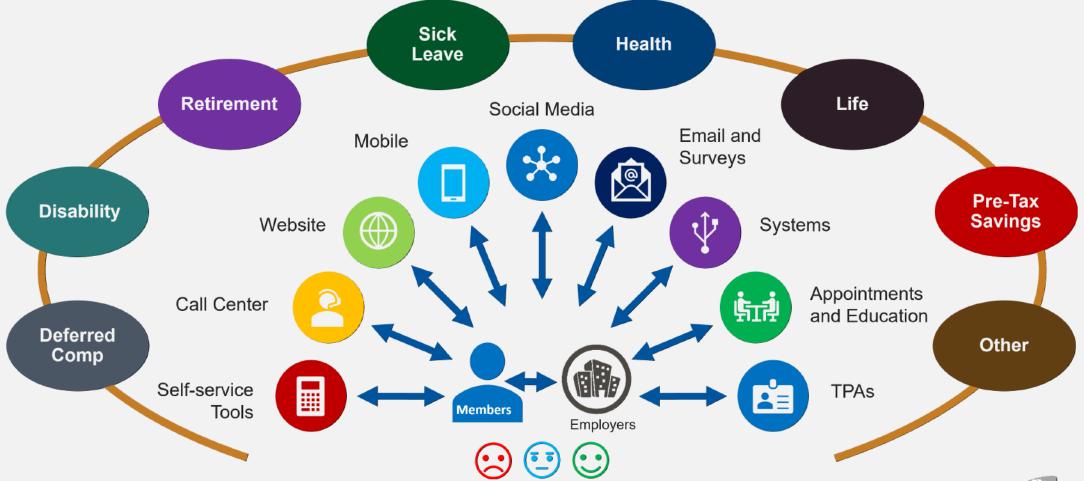
Distinction between customer service and broader CX focus



Continuous incremental improvements as we strategically build for the future-One ETF Voice.



Customer Interactions



Strategic Goal #3 Updated core competencies

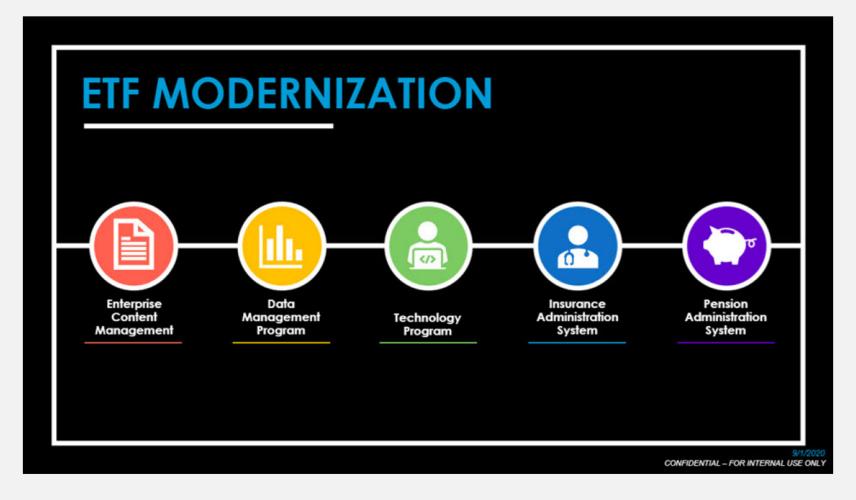
Attributes of Customer Centricity:

- Customer perspective always considered.
- Customers treated with empathy.
- Customers are listened to and their feedback responded to.
- Focus on the long-term customer relationship and their whole experience.
- Continuous improvement is realized in delivering value and personalized solutions to customers' needs and preferences across all channel, all touchpoints, all benefit programs.





Continued Focus on Strategic Goal #4 Improving Technology to Improve CX



CX Workgroup Convened Interdisciplinary Team

- ☐ WRS Retirement & Disability
- Insurances
- □ WDC

- Member Services
- ☐ Employer Services
- ☐ Program & Policy Management
- □ Communications
- □ Transition Manager
- ☐ Strategic Initiative Project Manager



CX Research



Source: Medallia, Inc., 2020



CX vision



Our customers feel empowered and trust us to meet their needs through personalized, convenient and helpful interactions.

Shift from inside-out to outside-in thinking.



CX Analysis

Current State

- Customer understanding based on inside-out, from employee experience, limited surveys and analytics
- Customer service focused, but siloed by program and touchpoints
- Info resources and processes are too complex for customers
- Service levels are below customer needs and expectations

Future State

- Outside-in approach to understanding customers based on direct feedback or solid analytics
- Customer centric design of experiences that meet customer needs from their point of view
- Customer understanding and confidence in managing and utilizing their benefits
- Online on-demand access and selfserve options, channel of choice



Case Study

Better CX
Less administrative effort for ETF
Sustained program integrity



Our customers feel empowered and trust us to meet their needs through personalized, convenient and helpful interactions.

Member requests to expedite lump sum benefit payment



CX Roadmap

- 50 recommendations under multiple components.
- Planned over 3 phases.
- Integrating stronger CX into existing work.





Roadmap Phase 1 (Jan-Jun 2023)

- Governance CX Manager assigned, CX integrated in existing governance structure
- Customer Centric Culture Internal newsletter and meetings for sharing CX info & stories
- Employee Experience link to CX Gathering Voice of Customer-Facing Employees
- Policies & Processes Publish Power of Attorney information for members & their agents
- Technology & Data Exploring voice to text translation & sentiment analysis with current call system vendor





CX Roadmap Phase 2 Planning Underway

- Continue work in all components.
- Continue supporting work on the technology modernization roadmap and other transformation efforts.





Journey to our North Star To be continued...



Summary take-away, Why CX in 30 seconds



Questions?

Customer Service Improvements and Trends

Item 5B - Employee Trust Funds Board

Anne Boudreau, Deputy Administrator

Division of Retirement Services



Informational item only

No Board action is required.



ETF Work Volume and Retirement Trends

North Star Dashboards

A) Beneficiary Designation B) Contacts with ETF (Calls) B) Contacts with ETF (Email) (8) SLA 012022 012023 01 2022 01 2023 SLA SLA 01 2022 01 2023 52.3% 51.9% 70% 100.0% 100.0% 95% 90% 99.8% 99.6% C) Retirement Estimates D) Retirement Applications E) Appointments 6 Q1 2022 Q1 2023 SLA Q1 2022 Q1 2023 SLA Q1 2022 Q1 2023 15 87.0% 71.0% 90% 24.9 4.5 36.6 11.2 F) Payment Set-up G) Death Benefit Estimates 01 2022 012023 SLA Q1 2022 SLA Q1 2023 100.0% 100% 100% 97% 91% 90%

Retirement Data - Quarter 1





Customer Service - Quarter 1





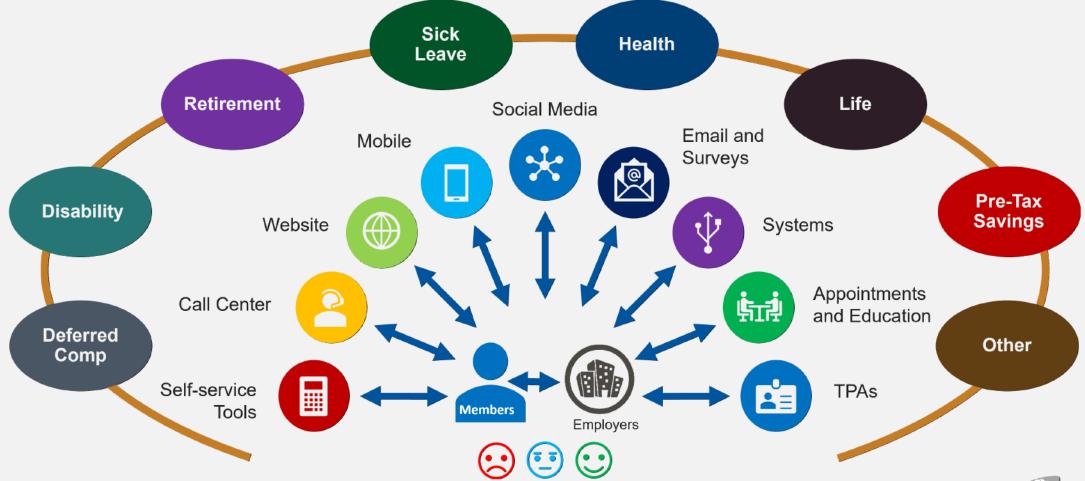
ETF Operational Improvements



Continuous incremental improvements as we strategically build for the future-One ETF Voice.



Customer Interactions



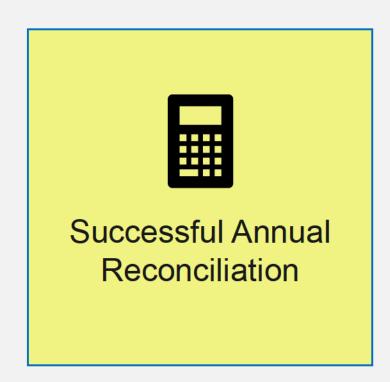
Customer Service Improvements



Better Interface for Member Meetings



Process Improvements





More Accurate Death Information



Questions?

Government Relations Updates: Legislative Update and 2023-25 Biennial Budget Update





Informational items only

No Board action is required.



Questions?

Secretary's Report

Item 5D - No Memo

John Voelker, Secretary
Office of the Secretary



ETF North Star Metrics Report

Item 5E – Employee Trust Funds Board

Pam Henning, Assistant Deputy Secretary

Office of the Secretary



Informational item only

No Board action is required.



Questions?

Operational Updates

Items 5F-5L - Memos Only



Informational items only

No Board action is required.

Questions?

September 2023 Meeting Agenda Topics

Item 6A – Memo Only



Division of Retirement Services



Informational item only

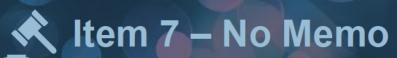
No Board action is required.



Questions?

CLOSED SESSION

The Board may meet in closed session pursuant to the exemption contained in Wis. Stats. § 19.85 (1) (c) to discuss employment, promotion compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercises responsibility. If a closed session is held, the Board may vote to reconvene into open session following the closed session.





Announcement of Business Deliberated and Action Taken During Closed Session

Item 11 - No Memo



Bill Ford, Chair

Employee Trust Funds Board

Adjournment * Item 12 - No Memo



Inank you











608-266-3285