Welcome to the Teachers Retirement Board

March 27, 2025



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



Meeting Materials

- Scan the QR Code
- Available at etf.wi.gov



Please Silence your Cell Phone and Mute your Microphone

Announcements

Item 1 – No Memo

John Voelker, Secretary Office of the Secretary

Patti Epstein, Chief Benefits Officer Division of Benefits Administration



Consideration of Open Minutes of June 20, 2024, Meeting





Action Needed

Motion needed to accept the Open Minutes of June 20, 2024,
 Meeting as presented by the Board Liaison.

Election of Officers

Item 3 – Memo Only

Kimberly Schnurr, Board Liaison
Office of the Secretary



Action Needed

 The Department of Employee Trust Funds (ETF) requests the Teachers Retirement (TR) Board conduct its annual election of officers.

Appointment of TR Board Representative to the State of Wisconsin Investment Board





J. Michael Collins

https://www.youtube.com/watch?v=PZx1s75Xmzg

Action Needed

• ETF recommends the TR Board name its appointee to the State of Wisconsin Investment Board (SWIB).

Operational Updates

Items 5A – 5C – Memos Only



Informational Items Only

No Board action is required.

Future Items for Discussion

Item 6 – No Memo



Adjournment * Item 7 – No Memo



Welcome to the Wisconsin Retirement Board

March 27, 2025



WI-GUEST

No Password is needed



Meeting will begin at: 9:15 a.m.

- Please Sign In
- Who? All meeting attendees
- Sheet available at the door



Meeting Materials

- Scan the QR Code
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Announcements

Item 1 – No Memo

Patti Epstein, Chief Benefits Officer

Division of Benefits Administration



Consideration of:

Open and Closed Minutes of June 20, 2024, Meeting Open and Closed Minutes of September 4, 2024, Meeting Open and Closed Minutes of October 1, 2024, Meeting





Action Needed

 Motion needed to accept the Open and Closed Minutes of June 20, 2024; September 4, 2024; and October 1, 2024, Meetings as presented by the Board Liaison.

Election of Officers

Item 3 – Memo Only

Kimberly Schnurr, Board Liaison
Office of the Secretary



Action Needed

 The Department of Employee Trust Funds (ETF) requests the Wisconsin Retirement (WR) Board conduct its annual election of officers.

Appointment of WR Board Representative to the State of Wisconsin Investment Board



Item 4 – Wisconsin Retirement Board



Office of the Secretary



Action Needed

• ETF recommends the WR Board name its appointee to the State of Wisconsin Investment Board (SWIB).

Operational Updates

Items 5A – 5D – Memos Only



Informational Items Only

No Board action is required.

Future Items for Discussion

Item 6 – No Memo



Adjournment * Item 7 – No Memo



Welcome to the Employee Trust Funds Board

March 27, 2025



WI-GUEST

No Password is needed



Meeting will begin at: 9:30 a.m.

- Please Sign In
- Who? All meeting attendees
- Sheet available at the door



Meeting Materials

- Scan the QR Code
- Available at etf.wi.gov



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Announcements

Item 1 – No Memo

John Voelker, Secretary Office of the Secretary

Patti Epstein, Chief Benefits Officer Division of Benefits Administration



Consideration of: Open and Closed Minutes of December 12, 2024, Meeting





Action Needed

 Motion needed to accept the Open and Closed Minutes of the December 12, 2024, Meeting as presented by the Board Liaison.

Election of Officers

Item 3 – Memo Only

Kimberly Schnurr, Board Liaison
Office of the Secretary



Action Needed

 The Department of Employee Trust Funds (ETF) requests the Employee Trust Funds Board (Board) conduct its annual election of officers.

Questions?

Committee Reports

Items 4A – 4D – No Memos



WRS Investment Performance & 2025 Outlook

March 27, 2025

Edwin Denson

Executive Director/Chief Investment Officer

Rochelle Klaskin

Deputy Executive Director/Chief Operating Officer

Todd Mattina

Head Economist & Asset and Risk Allocation Chief Investment Officer



Agenda



Performance



Cost Benchmarking



Asset Allocation



SWIB News



Economic Outlook



Questions



Performance



WRS Core Fund Performance

As of December 31, 2024

Calendar YTD

8.55%

Benchmark: 7.44%

EVA: \$1.3B

5-Year

7.24%

Benchmark: 6.53%

EVA: \$4.1B

- AUM as of Dec. 31, 2024, was more than \$128 billion.
- The investment objective of the Core Fund is to meet or exceed an average nominal return of 6.8% over the long-term.
- 15 of 17 active strategies outperformed.
- Most excess return (111 bps) since 2009.



WRS Variable Fund Performance

As of December 31, 2024

Calendar YTD

18.77%

Benchmark: 18.27%

5-Year

11.00%

Benchmark: 11.08%

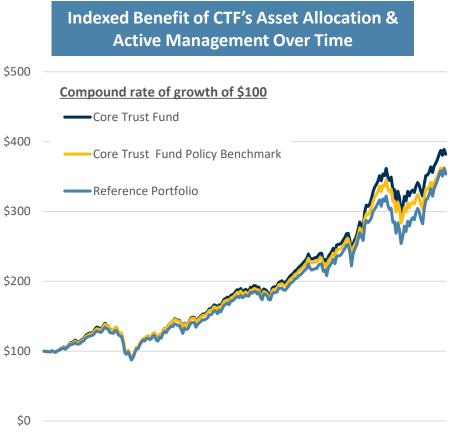
- AUM as of Dec. 31, 2024, was more than \$11 billion.
- The Variable Trust Fund is an optional all-stock fund as required by state statute.
- Approximately 7% of WRS assets are in the Variable Trust Fund.

Note: Returns are net of fees.



CTF NoF Performance vs. 60/40 Reference Portfolio

20-year cumulative return¹: January 1, 2004, to December 31, 2024



Net of External Manager Fee Return & EVA					
Portfolio / Benchmark	Annualized Return	Cumulative Return	Cumulative \$ Excess Value Added		
Reference Portfolio ² (60% equity/40% bonds)	6.5%	253.5%	= Passive Market Return		
Benefit of CTF Asset Allocation					
CTF Policy Benchmark	6.6%	256.7%	(+\$5.1B		
Benefit of CTF Active Management					
CTF Fund	6.9%	282.0%	+\$10.6B		
CTF Excess Return vs. Reference Portfolio	+0.4% pts	+28.5% pts	+\$15.7B		

\$0				
2004	2009	2014	2019	2024

¹ Core Trust Fund beginning market value, as of January 1, 2004, was \$63.7B and ending market value, as of December 31, 2024, was \$128.4B



² Reference Portfolio is composed of 60% MSCI World and 40% Bloomberg US Gov't / Credit (rebalanced monthly)

Asset Allocation



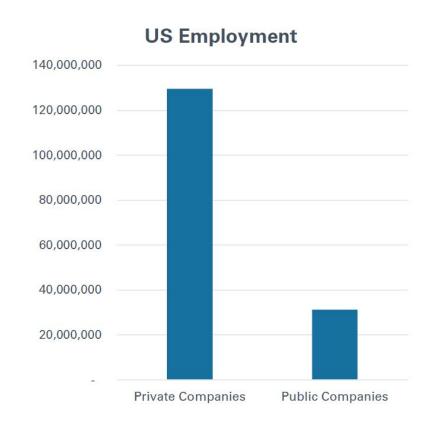
Current CTF Policy & Recommendation

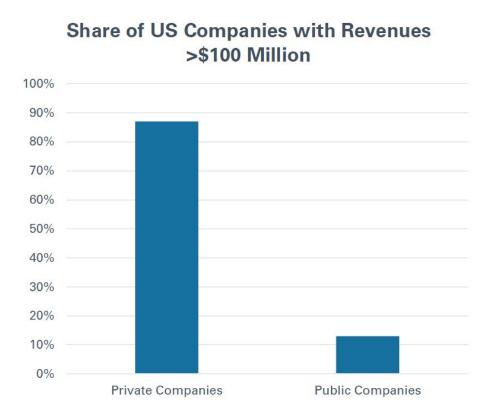
Decision	2024 Policy Targets	2025 Policy Targets
Public Markets Allocation	40% Equity 27% Fixed Income 19% TIPS	38% Equity 27% Fixed Income 19% Tips
Private Markets Allocation	18% Private Equity & Debt 8% Real Estate	20% Private Equity & Debt 8% Real Estate
Policy Leverage	12% of CTF	12% of CTF
Active Risk Target	1.2% of CTF	1.2% of CTF



Majority of U.S. Companies are Private

The universe is sizable as more than 85% of U.S. companies are privately held, representing a large share of employment and production not captured by listed stocks.



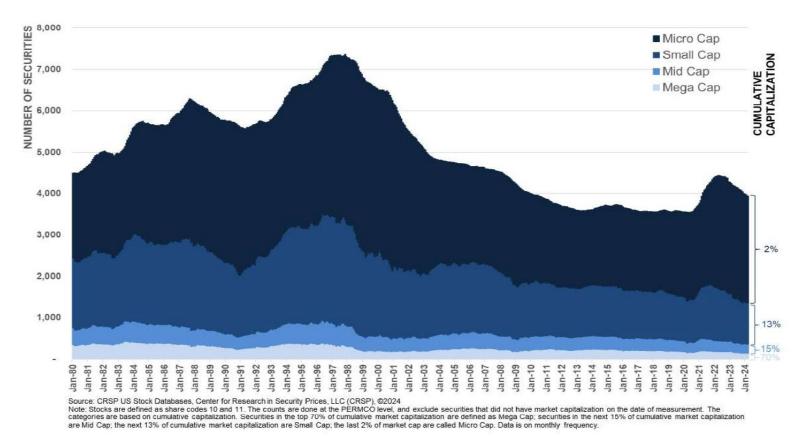






Reduction in Public Companies Continues

In 1996, there were over 7,000 public companies across all U.S. exchanges. Today, there are around 4,000.



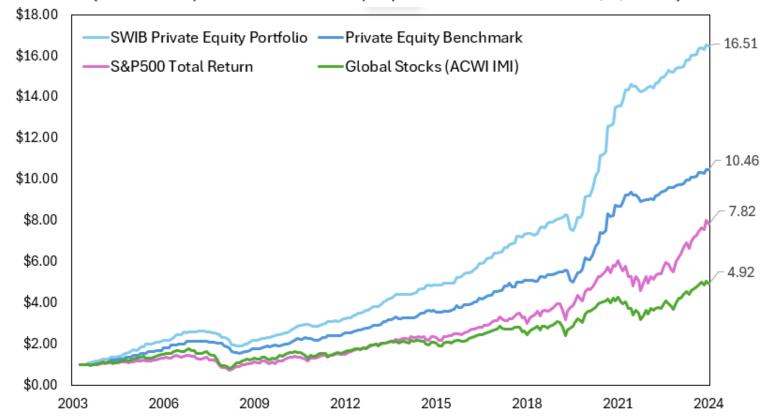




Private Equity Has Generated Significant Value

Growth of \$1 invested in SWIB Private Equity Portfolio vs. Benchmarks

(Since inception of Private Equity benchmark data in 4/1/2004)



Private equity outperformed the public equity benchmarks and SWIB's manager selection outperformed the broad benchmark.

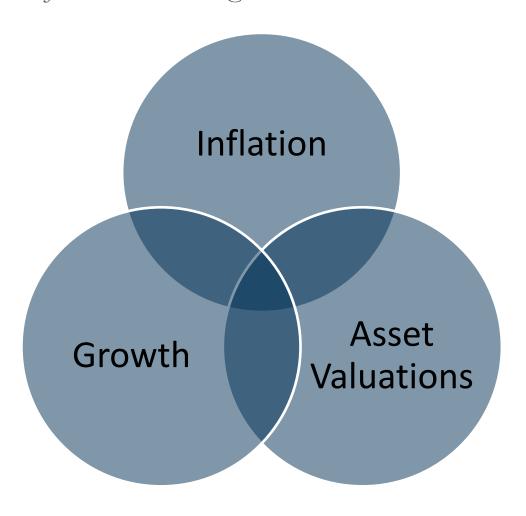


Economic Outlook



Economic Drivers of Long-Term WRS Stability

Growth, inflation & starting asset valuations drive contributions, discount rates & investment returns



- The long-term inflation trend is an important factor influencing payroll growth, plan contributions and investment returns.
- The long-term trend in growth reflects multiple factors, including productivity and demographics.
- Starting asset class valuations have an important influence on long-term investment returns.
- Together, these economic and fundamental factors influence contributions, the present value of liability cash flows and investment returns.

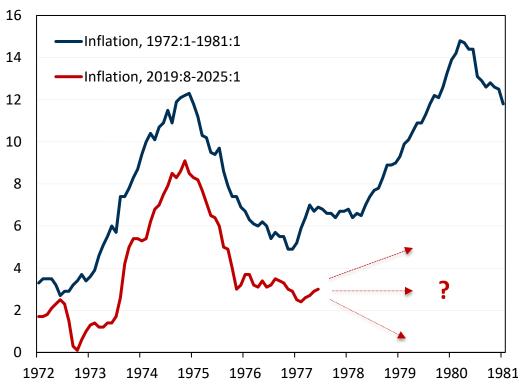


Long-Term Inflation Expectations Have Stabilized

Recent inflation trends rhyme with the 1970s. Could history repeat itself?

U.S. CPI Inflation Trends in the 1970s and Covid Period

(monthly CPI inflation, annualized rates)



Sources: U.S. CPI, all items, seasonally adjusted, year-over-year percent change. Data provided via Bloomberg. Based on John Cochrane, "Inflation Analogy", 13 February 2025.

- Inflation has declined sharply from its recent peak, but history reminds us that inflation can abruptly rebound.
- What could cause an increase in *long-term inflation*?
- 1. Fed loses credibility and expected inflation becomes "unanchored" from the 2% target.
- 2. Large structural budget deficits in a full employment economy cause inflationary pressures, especially if the Fed accommodates with looser financial conditions.
- 3. Higher import tariffs and restrictive immigration policies raise prices and wages over time.

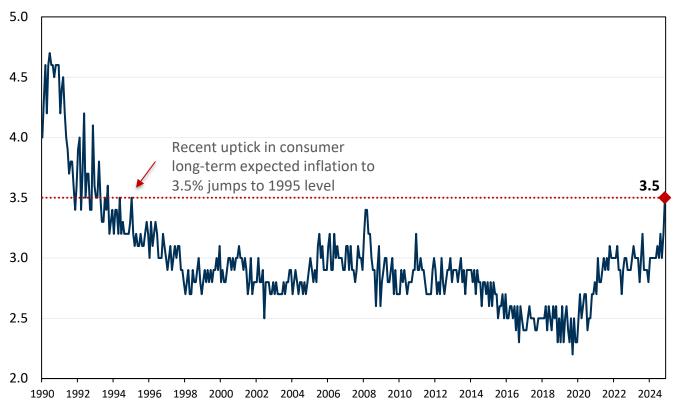


Consumers Expect Higher Long-Term Inflation

University of Michigan survey jumped to highest level since 1995

Consumer Long-Term Inflation Expectations Jump to Almost 30-Year High

(University of Michigan 5-10 year consumer inflation expectation in %)



- Concerning jump in consumer longterm inflation expectations.
- All five components of the survey index dropped, including big-ticket items.
- Survey also indicated weaker overall consumer sentiment and a higher expected unemployment rate in the next year.
- Unclear if the recent monthly report is a post-election blip or a shift in trend.

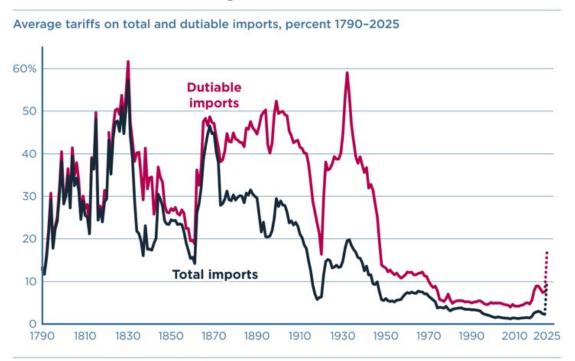
Source: University of Michigan Survey on Expected Change in Prices During the Next 5-10 Years: Median. Data provided via Bloomberg.



Proposed Trade Tariffs Will Increase Prices

Tariffs typically result in a one-time jump in the price level rather than ongoing inflation

Potential Return of Average Trade Tariff to World War 2 Levels



Notes: Dotted lines are projections.



Source: For 1790-1820: Douglas A. Irwin, "New Estimates of the Average Tariff of the United States, 1790-1820," Journal of Economic History 63, no. 2 (2003): 506-13. For 1821-1970: US Bureau of the Census, Historical Statistics of the United States (Washington, D.C., GPO, 1975), series U211-212, 1971-2023; US International Trade Commission, "US imports for consumption, duties collected, and ratio of duties to value, 1891-2023." May 2024.

- Recent research finds that imports affected by the proposed higher tariffs would amount to 4.8% of GDP. This compares to 1.3% to 2.7% of GDP in historical tariff-raising episodes. The average effective tariff on dutiable imports would rise from 7.4% to 17.3%.
- Higher tariffs have several impacts:
 - 1. *One-time price effects* including a direct rise in import prices and an indirect effect in raising the cost of imported intermediate inputs (e.g., steel and aluminum).
 - 2. *Stronger US dollar* could partially offset imported inflation from higher tariffs.
 - 3. *Slower economic growth* from reduced trade could also partially offset inflationary effects.

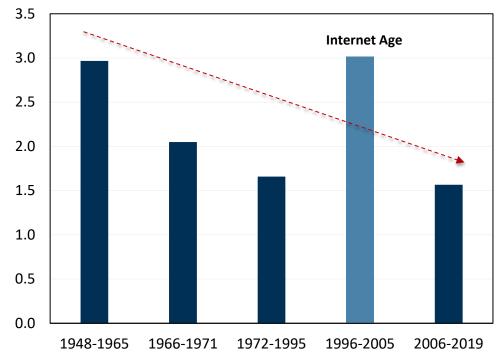


Long-Term Productivity Growth Trending Lower

Will AI reverse the trend or amount to a temporary boost versus the trend?

Long-term Decline in U.S. Labor Productivity Growth

(average growth rate in selected periods)



Sources: Chart based on U.S. nonfarm business sector output per hour worked, seasonally adjusted annualized rates. BLS data are provided via Bloomberg. Time periods and analysis are informed from Robert Gordon, 2012, "Is U.S. Economic Growth Over? Faltering Innovation Confronts the Six Headwinds". NBER Working Paper 18315.

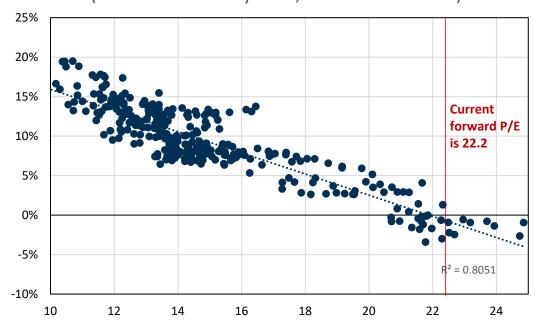
- Robert Solow famously quipped in 1987 that "You can see the computer age everywhere but in the productivity statistics."
- The "Internet Age" in 1996-2005 temporarily broke the long-term trend of falling average productivity growth.
- The 2020 pandemic makes post-2019 data hard to analyze. However, average productivity growth during 2021-2024 has declined further to about 1%.
- It's unclear if AI will be more like the post-1970s computer revolution (no obvious impact), Internet Age (temporary bump) or even reverse the long-term trend.



Rich U.S. Equity Valuations Suggest Lower Returns

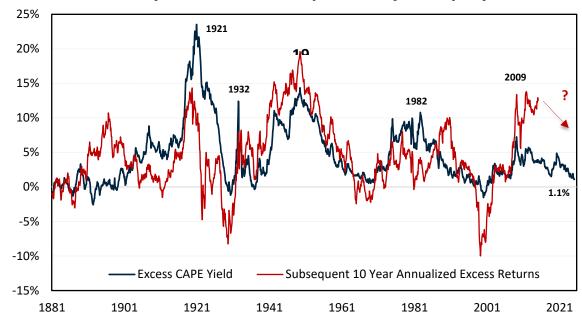
Public equities look rich based on 12m forward P/E & Shiller's cyclically-adjusted P/E

Forward P/E of S&P500 and Subsequent 10-year Return (based on monthly data, 1990M3-2025M1)



 Forward P/E multiple for the S&P500 is based on expected earnings in the next 12 months. At 22.2, the forward P/E suggests lower 10-year expected returns based on historical patterns.

Excess Cyclically-Adjusted Earnings Yield of S&P500 vs. 10-Year Real Treasury Yield and Subsequent 10-year Equity Return



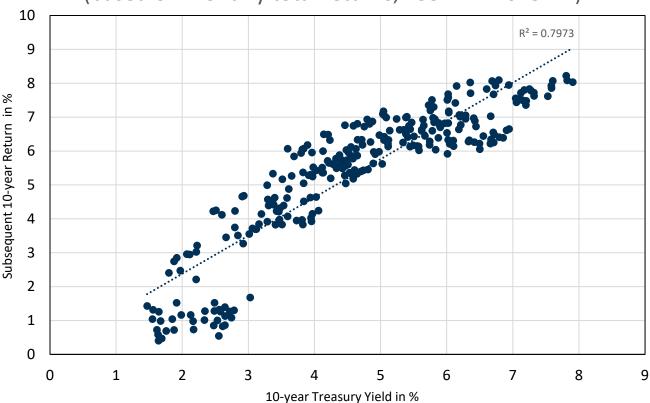
Shiller's excess cyclically-adjusted earnings yield of just 1.1% also points to a lower 10-year expected return for U.S. equities.

Higher Yields Support Higher Treasury Returns

Historically, starting yield is a large driver of subsequent 10-year realized returns

Higher Bond Yields Suggest Higher Expected Long-term Returns

(based on monthly total returns, 1992M1-2025M1)



- Higher starting yields to maturity in 10-year Treasuries are a major driver of the subsequent realized total return in the next 10 years.
- As government bond yields have increased sharply since 2021, expected long-term returns have also increased.

Sources: Subsequent 10-year returns based on the Bloomberg 7 to 10-year Treasury total return index. Treasury yields also provided via Bloomberg.



Conclusion

Inflation, economic growth & asset class valuations are key drivers of long-term WRS financial stability

- The long-term inflation trend is an important determinant of long-term payroll contributions, interest rates and investment returns
 - Expected long-term inflation appears to remain anchored near the Fed's 2% target based on market pricing. However, long-term consumer inflation expectations have recently ticked materially higher.
 - The Fed will need to proceed cautiously in lowering modestly restrictive interest rates to contain inflationary pressures.
- Long-term economic growth is an important driver that mainly reflects the trend in labor productivity and working age population growth
 - Productivity and demographic factors are key determinants of long-term growth in labor earnings, real interest rates and investment returns.
 - Productivity has trended lower for decades while working age population growth will continue declining.
- Historically, starting asset class valuations have been reliable predictors of long-term investment returns
 - Public equities are richly valued in developed markets, especially large cap U.S. equity.
 - The material upward shift in Treasury yields since 2021 has boosted long-term fixed income returns.

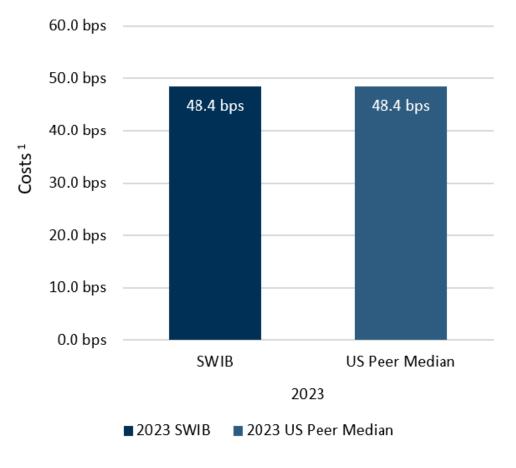


Cost Benchmarking



SWIB's Costs vs. U.S. Peer Median

SWIB's costs, excluding performance fees, equals SWIB's U.S. peer median.

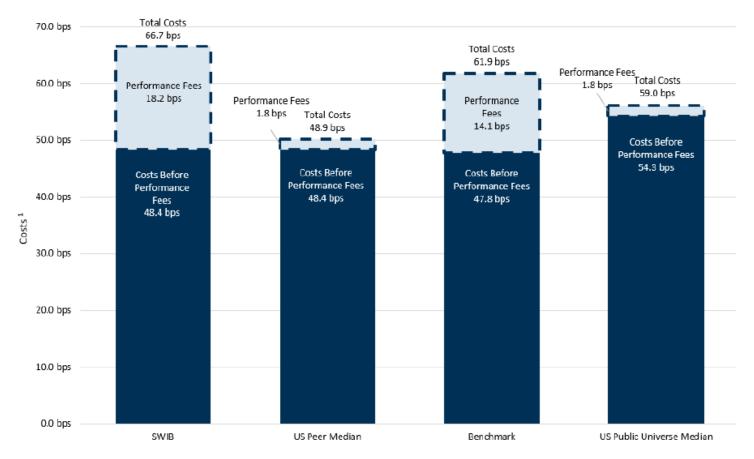


¹ Costs exclude external manger performance fees.



Median Costs Including Performance Fees

SWIB's total costs are higher than other CEM measures. However, when adjusted for performance fees, SWIB's costs are equal to the peer median, slightly higher than the CEM benchmark, and lower than the U.S. Public Universe.





SWIB News



Board of Trustees Update

- Trustee Jeff DeAngelis has been reappointed to 6-year term.
 - Former CIO of Northwestern Mutual Wealth Management Company and portfolio manager at Putnam Investments and Van Kampen Investments.
 - One of five members appointed by the Governor required to have at least 10 years of investment experience (Sec. 15.76(5)).
- Gov. Evers appointed Robert Scott to the Board.
 - Director of Finance & Administration for the City of Brookfield.
 - Appointed by the Governor as a representative of a local government that participates in the SIF through LGIP (local government investment pool) (Sec. 15.76 (1r)).



Jeff DeAngelis



Robert Scott



Pensions&Investments

2024 Influential Women in Institutional Investing

- The award recognizes women who are having an outsized impact on the professional investment and retirement market as well as driving positive change in the industry.
- Anne-Marie manages 29 investment and 12 operations professionals across 8 lines of business with an aggregate \$73 billion under management.
- Since joining SWIB in 2020, her teams have added over \$3.6 billion in outperformance to the WRS.



Anne-Marie Fink
Private Markets & Funds Alpha
Chief Investment Officer



INSTITUTIONAL INVESTOR

chief Investment officer

2024 Rising Star

Class of 2024 NextGens

 Rising Stars are recognized as distinguished allocators across several accomplishments including thought leadership, innovation, and alpha generation.

 NextGens are allocators who stand to become chief investment officers themselves someday and are known for their virtuous mixture of financial knowledge, interpersonal skills, and forward thinking.



Chase Nicholson
Senior Portfolio Manager



INSTITUTIONAL INVESTOR

Allocators' Choice Awards — 2024 Hedge Fund Allocator of the Year

- The eight-member Funds Alpha Team was nominated for growing SWIB's hedge fund portfolio through exceptional performance, innovation, and strategic vision, and positioning themselves as leaders in the hedge fund industry.
- The Funds Alpha Team has grown its hedge fund portfolio to an impressive \$8.3 billion, generating over \$1.4 billion in value add for the WRS from 2018-2023.



Derek Drummond
Head of Funds Alpha





www.swib.state.wi.us/podcasts

Some Recent Episodes:

Episode 33

An In-Depth Look at SWIB's Investments in Wisconsin, with Chris Prestigiacomo

Episode 32

A Look Back at 2024 and Ahead to 2025, with Edwin Denson

Episode 31

Small Cap Stock Play a Big Role in SWIB's WRS Investment Strategy, with Joy Mukherjee



Need More Information?



(800) 424-7942



www.swib.state.wi.us



info@swib.state.wi.us



www.linkedin.com/company/the-state-of-wisconsin-investment-board



www.swib.state.wi.us/podcasts



? Questions



BREAK

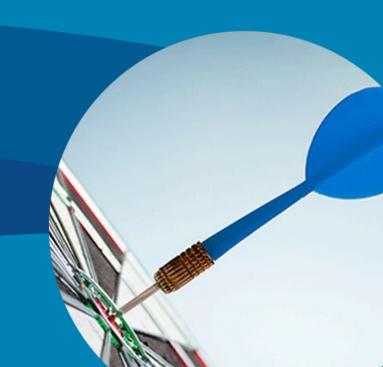
The Board is on a short break. Audio and visual feed will resume upon the Board's return.





Wisconsin Retirement System

42nd Annual Actuarial Valuation of Retired Lives
December 31, 2024



Operation of the System (Simplified Description)

	Core Annuities	Variable Annuities
Investment Return Hurdle to Trigger Annuity Adjustment	Returns over/under 5%	Returns over/under 5%
Ratio of Assets to Liabilities	If > 0.5%, dividend may be granted If <-0.5%, prior dividends reduced	If > 2%, variable annuity increased If <-2%, variable annuity decreased
Increase/Decrease Rounding Conventions	Rounded to nearest 0.1%	Truncated, carried to next year
Adjustment Effective Date	April following 12/31 valuation	April following 12/31 valuation



Smoothing Mechanisms

Core

- Undesirable for retirees to experience wide swings in monthly benefits from year to year (especially downward swings)
- Mitigated in Core division by asset smoothing process and portfolio mix
- Asset smoothing has worked well historically, but could not prevent negative dividends in 2009-2013



Smoothing Mechanisms

Variable

- Variable fund is marked to market each year and subject to wide swings
- Dropping fractions of a percent from the adjustment is a form of smoothing
- Usually has very little effect due to the magnitude of the gains and losses



Summary of Results – December 31, 2024

\$ Millions

	Core	Variable
Number of Annuitants	242,226	43,853
Annual Amount of Annuities Paid	\$ 6,986.1	\$ 521.1
Fund Balance	77,893.5	5,770.5
Actuarial Reserve	76,167.9	4,989.5
Ratio	1.023	1.157

Core effective earnings rate = 7.5%, dividend adjustment = 2.3%. Variable effective earnings rate = 20.0%, and the variable adjustment = 15.0%.

(Report-Cover Letter & Pages 6 and 16)



Summary of Results – Annuity Adjustments

- * 2.3% Core Dividend < 2.9% CPI Increase
- * 15.0% Variable Adjustment follows 15%/-21% Adjustments in previous two years
- Positive core dividend despite volatile investment markets
 - Provides inflationary protection
 - This is a byproduct of the dividend process and not a primary objective
- Positive variable adjustment
 - Previous four of five years had double digit positive variable adjustments



Summary of Results – Core Assets

Due to smoothing via Market Recognition Account, as of December 31, 2024 there are approximately \$3.4 billion in unrecognized **losses** in the Core fund

- Last year was \$4.7 billion in unrecognized losses
- Will be recognized over the next four years
- Roughly ½ of loss applies to the annuitant reserve, the other half shared by active members and employers
- May decrease probability of future positive annuity adjustments



Operation of Market Recognition Account (MRA) – \$ Millions 2023 Valuation 11.40% Core Return

	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>
Actual Investment Earnings	\$ 12,721				
Assumed Investment Earnings	8,082				
Gain/(Loss) to be phased-in	4,639				
Phased-in recognition					
Current year	\$ 928	?	?	?	?
First prior year	(5,068)	\$ 928	?	?	?
 Second prior year 	2,495	(5,068)	\$ 928	?	?
 Third prior year 	1,773	2,495	(5,068)	\$ 928	?
Fourth prior year	2,204	1,773	2,495	<u>(5,068</u>)	\$ 928
Total recognized gain (loss)	\$ 2,332	\$ 128	\$ (1,645)	\$ (4,140)	\$ 928

2024-2027: Expect \$4.7 billion in deferred asset *Losses* -- Shared by annuitants, actives and employers



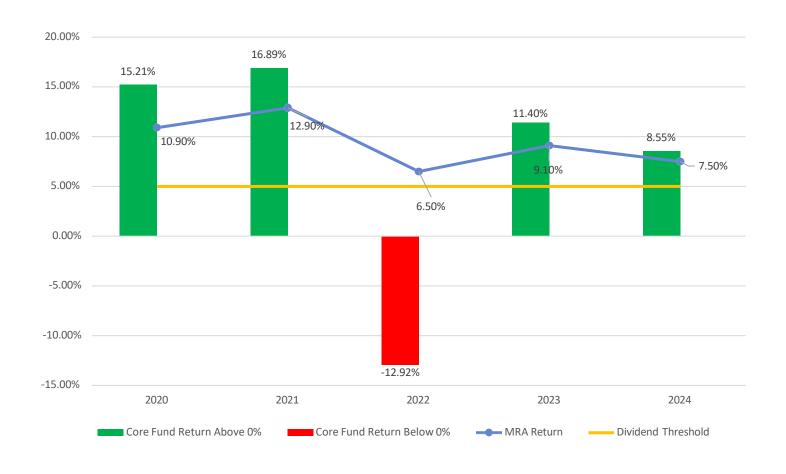
Operation of Market Recognition Account (MRA) – \$ Millions 2024 Valuation 8.55% Core Return

Actual Investment Earnings Assumed Investment Earnings Gain/(Loss) to be phased-in	2024 \$ 10,311 8,477 1,834	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>
Phased-in recognition					
 Current year 	\$ 367	?	?	?	?
 First prior year 	928	\$ 367	?	?	?
 Second prior year 	(5,068)	928	\$ 367	?	?
 Third prior year 	2,495	(5,068)	928	\$ 367	?
 Fourth prior year 	<u>1,773</u>	2,495	(5,068)	928	\$ 367
Total recognized gain (loss)	\$ 495	\$ (1,278)	\$ (3,773)	\$ 1,295	\$ 367

2025-2028: Expect \$3.4 billion in deferred asset *Losses* -- Shared by annuitants, actives and employers



Core Fund Returns – Market Value vs. Market Recognition Account





Asset Rate of Return Calculation

Rate of Return = Investment Earnings / Asset Value

- Rate of Return will vary based on calculation inputs:
 - Asset value could be smoothed or unsmoothed
 - Asset value could be beginning, middle or end of year
 - Timing of Contributions and Benefit Payments will vary
- Result is different Rate of Return calculated by:
 - SWIB (investment manager)
 - ETF (calculations governed by statute)
 - GRS (actuaries)

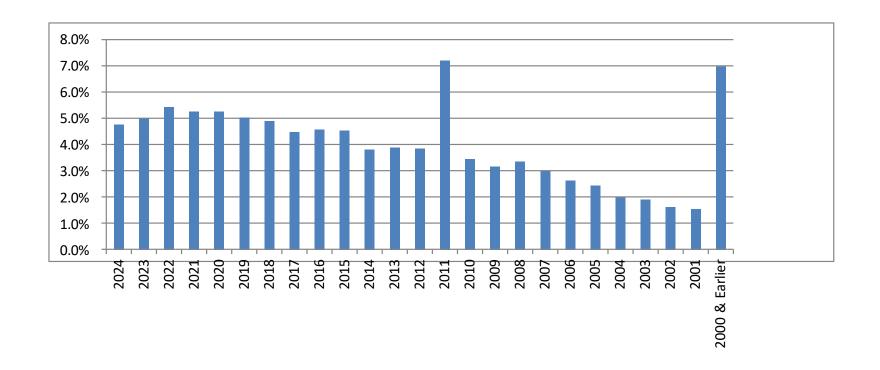


Primary Sources of Core Dividend

	% of APV ⁽¹⁾
1. SWIB net of fee investment return	8.55%
2. MRA adjustment	(1.05)%
3. Published effective earnings rate	7.50%
 Adjustment to relate earnings to average core annuity fund balance 	(0.35)%
5. Earnings rate based on average balance	7.15%
6. Expected dividend before adjustments: 1.0715/1.05-1	2.05%
7. Adjustment to relate average asset to ending liability	0.05%
Carryover from last year due to timing of dividend, accounting adjustments and rounding	0.16%
9. Experience study adjustment	0.00%
10. Experience and other effects	0.01%
11. Statutory adjustment to round to nearest one-tenth percent	0.03%
12. Computed average dividend rate: (6)+(7)+(8)+(9)+(10)+(11)	2.3%
13. Adjustment for members at or near the statutory floor	0.0%
14. Final computed dividend rate: (12)+(13), if greater than 0.5% (or less than -0.5%) of core annuities, otherwise 0%	2.3%
(1) Actuarial Present Value	



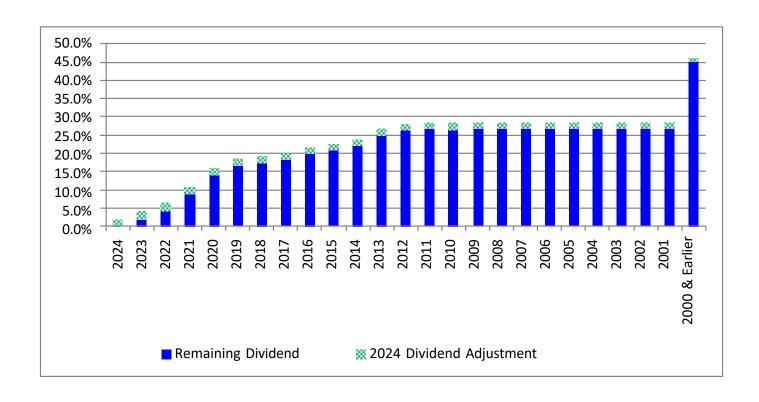
Liabilities (as a Percentage of Total) by Year of Retirement



(Report-7)



Dividend Remaining (as a Percentage of Total Benefit) by Year of Retirement



(Report-7)



Liability Attributable to Dividends – "Dividend Liability"

Valuation	Liability for Dividend Remaining (billions)	Liability for Dividend Adjustment (billions)	Liability after Dividend Adjustment (billions)
12/31/2015	\$5.5	\$0.2	\$5.7
12/31/2016	5.4	1.0	6.4
12/31/2017	6.1	1.3	7.4
12/31/2018	6.9	0.0	6.9
12/31/2019	6.5	1.0	7.5
12/31/2020	7.0	3.1	10.1
12/31/2021	9.4	4.8	14.2
12/31/2022	13.4	1.1	14.5
12/31/2023	13.7	2.7	16.4
12/31/2024	15.4	1.8	17.2

- "Liability for dividend remaining" = value of all previously granted dividends
 - (\$9.2 Billion at 12/31/2008 decreasing to \$3.0 Billion at 12/31/2013)
- 2025 "liability for dividend remaining" is >2008, BUT as a percentage of total liabilities, it is smaller
- Substantial asset losses could decrease the "liability for dividend remaining" to low levels

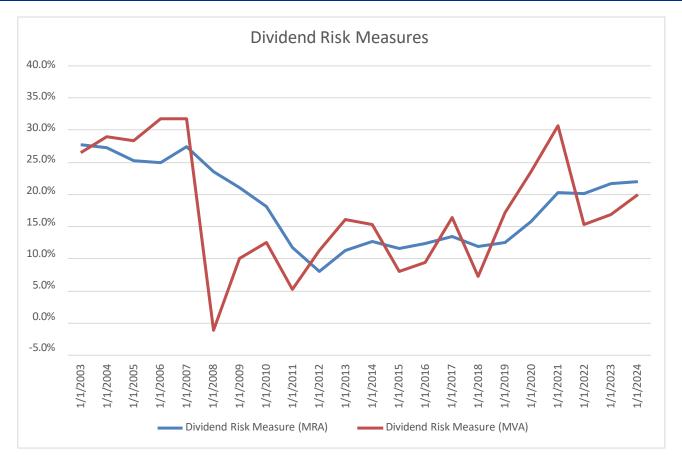


Dividend Risk Measure (MRA)

- Dividend Liability (after Dividend adjustment in April)
 / Total Core Retiree Assets
- Example (2024)
 - Dividend Liability = \$17.2 billion
 - Total Retiree Assets (Core) = \$77.9 billion
 - Dividend Risk Measure = 17.2/77.9 = 22.0%
- In other words, Retiree Assets (after MRA smoothing) would need to decrease by 22.0% to deplete the existing Dividend Liability by year end
- Dividend Risk Measure was 21.6% last year



Dividend Risk Measures History*

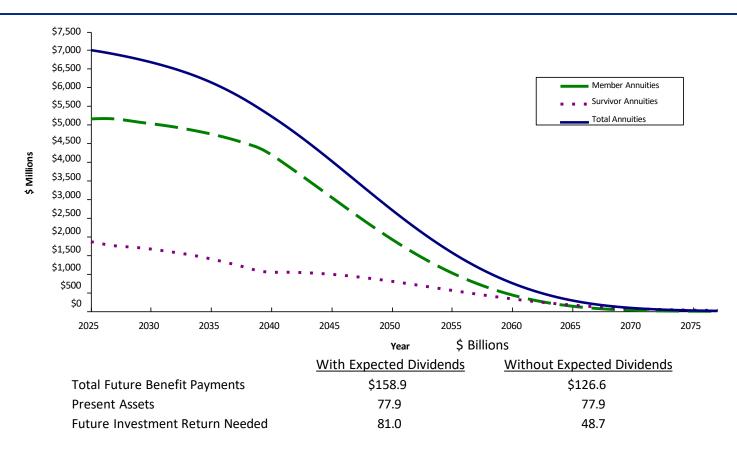


^{*}Higher values are desirable.

(Report-32)



Projected Future Core Annuities



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 (Report-13) investment return and the operation of the Market Recognition Account.



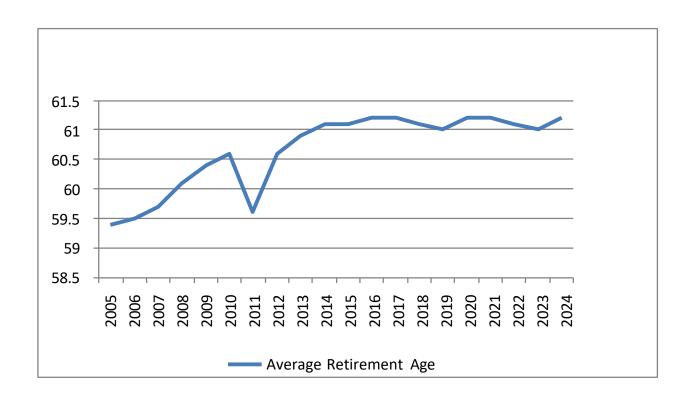
Primary Sources of Variable Adjustment

	% of APV ⁽¹⁾
1. SWIB net of fee investment return	18.7%
2. Adjustment to published effective rate	1.3%
3. Published effective earnings rate	20.0%
4. Adjustment to relate earnings to average variable	
annuity fund balance	(0.4)%
5. Earnings rate based on average balance	19.6%
6. Expected change before adjustments: 1.196/1.05-1	13.9%
7. Adjustment to relate average asset to ending liability	0.5%
8. Carryover from last year due to timing of distribution,	
accounting adjustments and truncation	0.9%
9. Experience study adjustment	0.0%
10. Experience and other effects	0.4%
11. Statutory adjustment: (truncate to whole percent)	(0.7)%
12. Variable annuity change: (6)+(7)+(8)+(9)+(10)+(11)	15.0%



(1) Actuarial Present Value

Average Retirement Age





Average Age at Death

Average age at death, while an interesting statistic, is not a proper measure of life expectancy, because it does not include people who have not yet died. The expected age at death for a healthy 65-year-old retiree is 87.0 for males and 89.0 for females.





Comparative Statement – Core

	-	\$ Millions Change in					
Valuation		Annual	Fund	Actuarial		Annuities	
Date	Number	Annuities	Balance	Reserve	Ratio	Average Maximum	CPI*
2015	101 705	ć 42C40	ć 40.447.0	ć 40.007.F	1.005	0.5.0/	0.7.0/
2015	191,795	\$ 4,364.9	\$ 49,147.0	\$ 48,897.5	1.005	0.5 %	0.7 %
2016	197,647	4,523.1	51,972.0	50,941.4	1.020	2.0 %	2.1 %
2017	203,202	4,747.0	54,900.0	53,590.0	1.024	2.4 %	2.1 %
2018	211,126	5,040.9	56,493.8	56,629.3	0.998	0.0 %	1.9 %
2019	216,944	5,183.7	59,138.4	58,157.0	1.017	1.7 %	2.3 %
2020	222,723	5,423.2	63,805.8	60,691.1	1.051	5.1 %	1.4 %
2021	228,161	5,842.6	69,910.7	65,085.4	1.074	7.4 %	7.0 %
2022	233,804	6,409.7	72,108.4	70,987.2	1.016	1.6%	6.5 %
2023	238,111	6,639.1	75,583.6	72,951.6	1.036	3.6%	3.4 %
2024	242,226	6,986.1	77,893.5	76,167.9	1.023	2.3%	2.9 %
35-Year Average	<u> </u>					3.2 %	2.7 %
20-Year Average)					1.6 %	2.6 %
10-Year Average	:					2.6 %	3.0 %
5-Year Average						4.0 %	4.2 %

^{*}Based on December CPI-U67 index.

(Report-21)



Comparative Statement – Variable

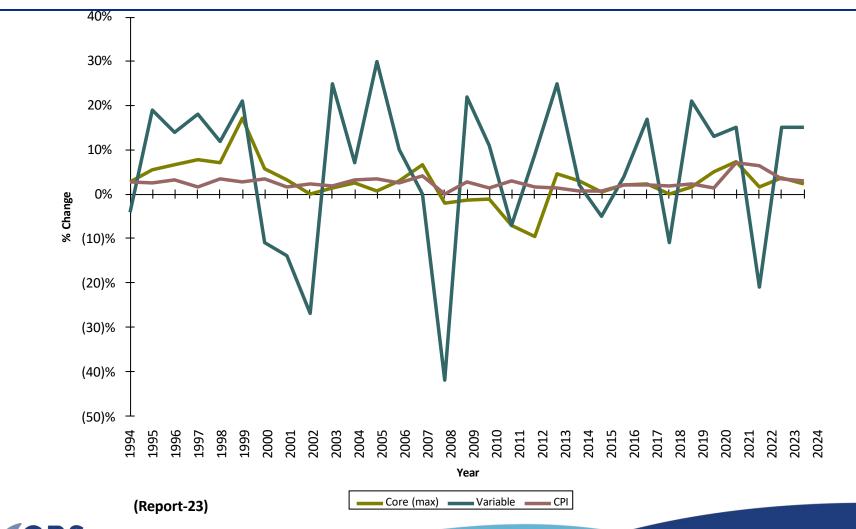
			\$ Millions				
Valuation		Annual	Annual Fund	Actuarial		Change in	
Date	Number	Annuities	Balance	Reserve	Ratio	Annuities	CPI*
2015	40,152	\$ 387.8	\$ 3,704.8	\$ 3,910.1	0.947	(5.0)%	0.7 %
2016	40,647	363.6	3,792.0	3,645.1	1.040	4.0 %	2.1 %
2017	40,877	369.9	4,324.9	3,682.1	1.175	17.0 %	2.1 %
2018	41,187	425.8	3,738.6	4,207.6	0.891	(10.0)%	1.9 %
2019	41,777	379.7	4,519.4	3,728.6	1.212	21.0 %	2.3 %
2020	41,753	449.7	4,954.0	4,383.0	1.130	13.0 %	1.4 %
2021	42,251	502.6	5,618.0	4,866.0	1.155	15.0 %	7.0 %
2022	43,007	578.5	4,403.0	5,586.5	0.788	(21.0)%	6.5 %
2023	43,560	457.8	5,089.2	4,404.8	1.155	15.0 %	3.4 %
2024	43,853	521.1	5,770.5	4,989.5	1.157	15.0 %	2.9 %
35-Year Average	<u> </u>					3.7 %	2.7 %
20-Year Average	2					3.4 %	2.6 %
10-Year Average	9					5.5 %	3.0 %
5-Year Average						6.3 %	4.2 %

^{*}Based on December CPI-U67 index.

(Report-22)



History of % Dividend Adjustments





Looking Ahead

- As of the December 31, 2024 valuation, there are roughly \$3.4 billion in unrecognized asset losses in the Core fund
 - About half of this will be applied to annuitant reserve
 - Will be recognized over the next four years
 - May decrease probability of future positive annuity adjustments
- We will continue monitoring various plan risks, including dividend liability risk



CURRENT EVENTS



- Society of Actuaries released a new mortality table in January 2025!
- "Pub-2016 Public Retirement Plans Mortality Tables Exposure Draft"
 - A comprehensive review of recent mortality experience of public retirement plans in the United States



First mortality update since the publication of Pub-2010



- Study based on 58 million life-years of exposure and 774 thousand deaths from public pension systems across the United States
- Data received from a total of 41 different public pension systems
 - Representing 100 plans and 3 job categories
 - Teachers, Public Safety personnel, or General employees



- Mortality experience collected from calendar years 2013–2020
 - To avoid using experience affected by the COVID-19 pandemic, data contributed for calendar year 2020 was excluded from the study



Study results show

- The amount-weighted deferred annuity values for all groups are less than those produced by the Pub-2010 tables, with the exception of
 - Male Safety members, which increased by 1.0% 1.3%

For WRS

- This new mortality table will be investigated during the 2024-2026 Experience Study
- WRS specific data will drive the final table



Questions



Disclaimers

- This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- This presentation is intended to be used in conjunction with the actuarial valuation report for retired lives issued on February 24, 2025. This presentation should not be relied on for any purpose other than the purpose described in the valuation report.
- Readers are cautioned to examine original source materials and to consult with subject matter experts before making decisions related to the subject matter of this presentation.
- This presentation expresses the views of the authors and does not necessarily express the views of Gabriel, Roeder, Smith & Company.







Item 5C – Employee Trust Funds Board

Steve Hurley, Director

Office of Policy, Privacy and Compliance



Action Item

The Department of Employee Trust Funds (ETF) recommends the Employee Trust Funds Board (Board) approve the revised Wisconsin Retirement System (WRS) Funding Policy.

Agenda

- Revisions
- Meaning of "Funding Policy"
- Financial Objective
- Funding Guidelines
- Funding Methods and Principles
- Risk Management



Revisions

- City and County of Milwaukee Participation in WRS
- ETF Board Approval of Assumed Rate of 6.8% on December 12, 2024
- Minor Text Edits

Funding Policy

A pension funding policy outlines how pension benefits are financed. The funding policy summarizes the objectives of the pension plan and the actuarial methods used to achieve those objectives.

Financial Objective

"...to fully fund the long-term cost of benefits provided by statute, through disciplined and timely accumulation of sufficient assets to deliver earned benefits on a continuing basis."

Funding Guidelines

- Contribution Adequacy
- Contribution Stability and Predictability
- Inter-generational Equity

Funding Methods

- Actuarial Cost Method
- Asset Smoothing Method
- Assumed Benefit Rate
- Funding Target
- Amortization
- Discount Rate



Risk Management

- Demographic Risk
- Economic Risk
- Benefit Risk
- Dividend Liability Risk
- Governance Risk
- Risk Measures



Action Item

The Department of Employee Trust Funds (ETF) recommends the Employee Trust Funds Board (Board) approve the revised Wisconsin Retirement System (WRS) Funding Policy.





Thank you











608-266-3285



Item 5D – Employee Trust Funds Board

Cindy Klimke-Armatoski, CPA, Chief Trust Financial Officer

Division of Trust Finance



Informational Item Only

No Board action is required.

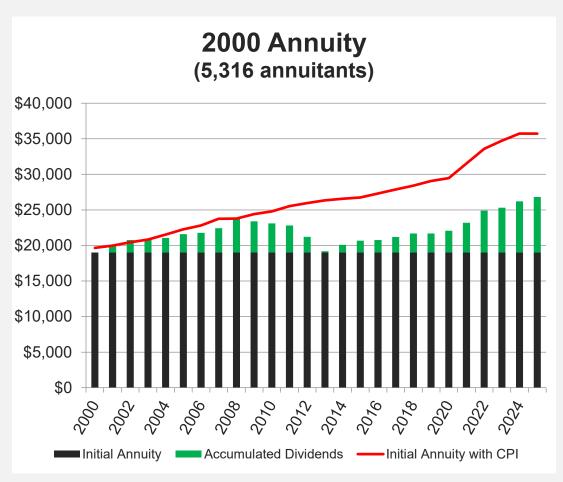
Current Value of Annuities*

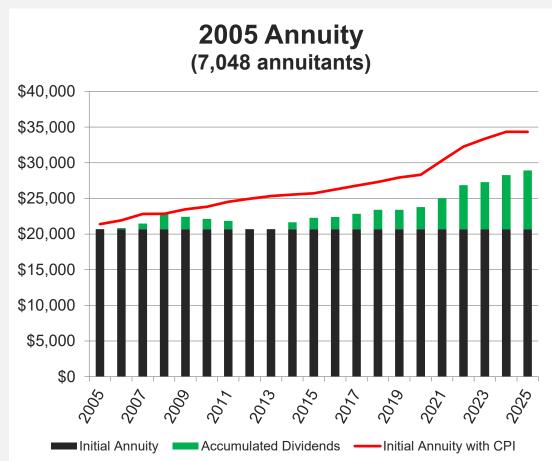
If You Retired in	A \$1,000 Core Annuity is Receiving	The Annual Rate of Increase is	A \$1,000 Variable Annuity is Receiving	The Annual Rate of Increase is	The Annual Change in CPI is
2020	\$1,215	4.0%	\$1,358	6.3%	4.2%
2015	\$1,298	2.6%	\$1,709	5.5%	3.0%
2010	\$1,398	2.3%	\$2,452	6.2%	2.6%
2005	\$1,398	1.7%	\$1,966	3.4%	2.6%
2000	\$1,411	1.4%	\$1,469	1.6%	2.6%

^{*}Including annuity adjustments to be made effective April 1, 2025

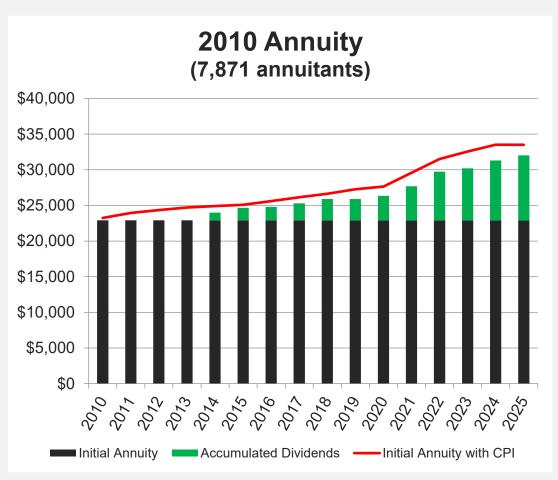


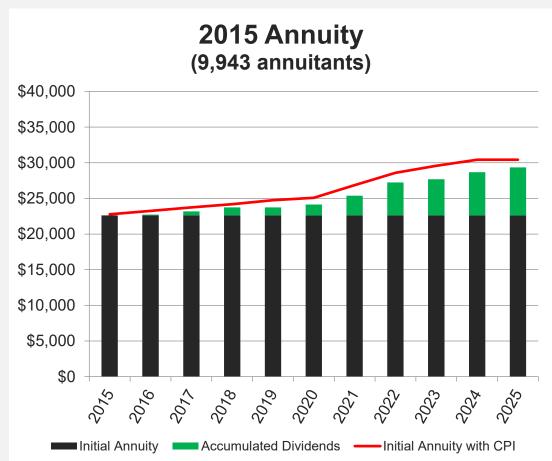
Change in Value of 2000 and 2005 Annuity



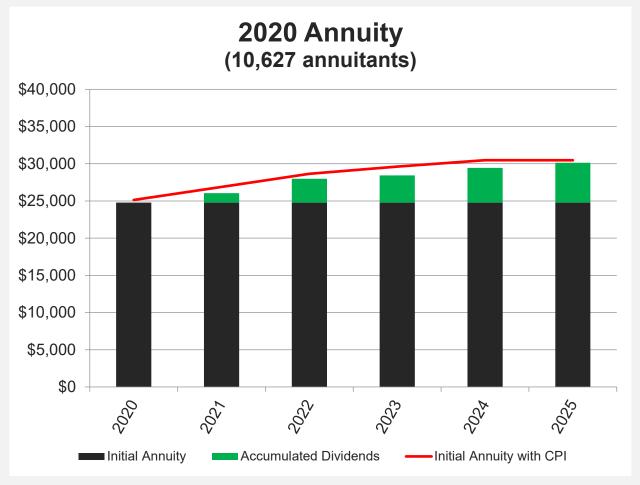


Change in Value of 2010 and 2015 Annuity





Change in Value of 2020 Annuity







Disclaimers

- Projections only. Several assumptions and estimates used.
- Only an actuarial valuation can accurately calculate the annuity adjustments.
- Useful for anticipating the magnitude, not exact amount, of future adjustments.

The Basics

- Annuities will be increased if annuity reserve surplus provides at least a 0.5% increase. Annuities will be reduced if annuity reserve shortfall would require at least a -0.5% adjustment.
- Negative adjustments can only reduce increases granted in prior years. A
 core annuity cannot be reduced below the original value.
- In calculating annuity adjustments, a 5.0% assumed investment return is used to fund the original benefit. Thus, in a world where experience matched assumptions each year perfectly, annuitants would receive a 1.8% adjustment each year (6.8% less 5.0%).

Assumptions

- Based on preliminary 2024 Core Trust Fund investment return, net of all fees and costs.
- Based on most recent WRS experience study (2021-2023 period), no longer reserving a percentage for mortality improvement.
- The projections include 2021 2024 investment gains and losses carried forward in the Market Recognition Account (MRA).

Market Recognition Account

- Investment gains / losses are "smoothed" through the Market Recognition Account (MRA):
 - The MRA is intended to give recognition to long-term changes in asset values while minimizing the impact of short-term fluctuations in the capital markets;
 - Investment gains equal to the assumed rate of 6.8%;
 - The difference between actual gains or losses and the assumed rate is spread equally over 5 years.

Investment Gain/Loss to be Recognized in Future Years

		Core Net of Fee Investment							
Year Earned	2024	2025	2026	2027	2028	Return			
2025	?	?	?	?	?	?			
2024	367	367	367	367	367	8.55%			
2023	928	928	928	928		11.40%			
2022	(5,068)	(5,068)	(5,068)			(12.92%)			
2021	2,495	2,495				16.89%			
2020	1,773					15.21%			
Totals (may not add due to rounding)	495	(1,278)	(3,773)	1,295	367				

Result of 6.8% Investment Return in 2025 - 2028

	2024	2025	2026	2027	2028
SWIB Net Investment Return	8.55%	6.8%	6.8%	6.8%	6.8%
Effective Rate	7.5%	5.8% to 6.2%	3.8% to 4.2%	7.9% to 8.3%	7.2% to 7.6%
Average Annuity Adjustment	2.3%	.7% to 1.1%	(1.2%) to (.8%)	2.3% to 2.7%	1.9% to 2.3%
Dividend Liability*	~\$17.2b	~\$16.8b	~\$14.9b	~\$16.1b	~\$16.9b

^{*} Dividend liability is the present value of previously granted post-retirement annuity adjustments. Some refer to this as the 'dividend reserve' although it is not a separate reserve. The funds are part of the annuity reserve.



Result of 0% Investment Return in 2025 and 6.8% in 2026 - 2028

	2024	2025	2026	2027	2028
SWIB Net Investment Return	8.55%	0%	6.8%	6.8%	6.8%
Effective Rate	7.5%	4.4% to 4.8%	2.3% to 2.7%	6.4% to 6.8%	5.7% to 6.1%
Average Annuity Adjustment	2.3%	0%	(3.0%) to (2.6%)	.9% to 1.3%	.5% to .9%
Dividend Liability*	~\$17.2b	~\$15.8b	~\$12.9b	~\$13.0b	~\$12.7b

^{*} Dividend liability is the present value of previously granted post-retirement annuity adjustments. Some refer to this as the 'dividend reserve' although it is not a separate reserve. The funds are part of the annuity reserve.



Result of 9.7% Investment Return in 2025 and 6.8% in 2026 - 2028

	2024	2025	2026	2027	2028
SWIB Net Investment Return	8.55%	9.7%	6.8%	6.8%	6.8%
Effective Rate	7.5%	6.4% to 6.8%	4.5% to 4.9%	8.5% to 8.9%	7.8% to 8.2%
Average Annuity Adjustment	2.3%	1.2% to 1.6%	0%	2.6% to 3.0%	2.4% to 2.8%
Dividend Liability*	~\$17.2b	~\$17.2b	~\$15.8b	~\$17.5b	~\$18.7b

^{*} Dividend liability is the present value of previously granted post-retirement annuity adjustments. Some refer to this as the 'dividend reserve' although it is not a separate reserve. The funds are part of the annuity reserve.





Thank you











608-266-3285

BREAK

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



Department of Employee Trust Funds Annual Comprehensive Financial Report Calendar Year 2023

Item 5E – Employee Trust Funds Board

Amelia Slaney, CPA, Financial Compliance Bureau Director

Division of Trust Finance

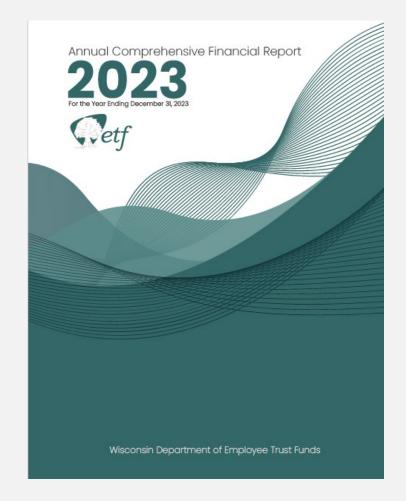


Informational Item Only

No Board action is required.

Agenda

- Annual Comprehensive Financial Report (ACFR) Contents
- Financial Highlights
- Audit Results
- Wisconsin Retirement System (WRS)
 Financial Statistics
- Looking ahead





ACFR Contents

ACFR Section	Areas of Interest
Introduction	Letter of transmittal, professional awards, board and management members
Financial	Independent auditors' report, management's discussion and analysis, basic financial statements, summary of significant accounting policies, notes to the financial statements, required supplementary information, other supplementary information
Statistical	Financial trends, demographic and economic information, and operating information. This section also shows a summary of administrative fees for programs
Actuarial	Shows information used in WRS actuarial funding valuations, including the actuary's certification letter, valuation data, plan provisions, actuarial assumptions, contribution rates, and number of covered individuals
Investment	Written by State of Wisconsin Investment Board (SWIB) and includes report on investment activities, investment policies, schedule of investment results, asset allocation, list of portfolios largest holdings, and schedule of income and fees
Contribution and Unfunded Liabilities	This is primarily a reference of payroll, contributions, and WRS unfunded liabilities by employer

Financial Highlights - Net Position by Fund

Fund	2023	2022	\$ Change	% Change
Wisconsin Retirement System	\$127,697,808	\$118,368,226	\$9,329,582	8 %
Supplemental Health Insurance Conversion Credit	1,234,863	1,148,788	86,075	7
Employee Reimbursement Accounts/Commuter Benefits	3,378	3,025	353	12
State Retiree Life Insurance	287,765	303,246	(15,481)	(5)
Local Retiree Life Insurance	235,936	241,630	(5,694)	(2)
Milwaukee Retirement Systems	208,590	200,505	8,085	4
Local Retiree Health Insurance	0	0	0	0
Duty Disability Insurance	154,029	153,152	877	1
Health Insurance	46,457	159,605	(113,148)	(71)
Income Continuation Insurance	121,097	103,206	17,891	17
State Retiree Health Insurance	0	0	0	0
Accumulated Sick Leave Conversion Credit	(734,204)	(702,846)	(31,358)	(4)
Total	\$129,255,719	\$119,978,537	\$9,277,182	8 %



Financial Highlights - Accounting Changes

 Implemented Governmental Accounting Standards Board (GASB) Statement 96, "Subscription-Based Information Technology Arrangements." SBITA commitments are reported as liabilities and the related assets along, with the amortization, are reported as intangible right-to-use assets. Previously, subscription payments were reported as expenses in the period in which the payment occurred, and no asset or liability was reported.

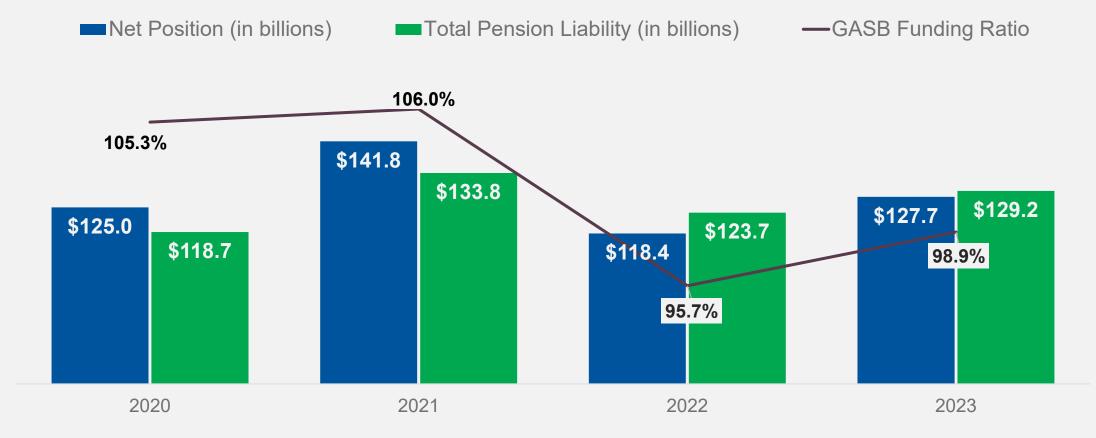
In conjunction with the implementation of GASB Statement No. 96, ETF reevaluated the
presentation of capital assets and concluded it would be more appropriate to blend
program specific capital assets and related activity within the applicable funds' financial
statements. Historically, all capital assets had been blended with the WRS fund for
financial presentation.

Audit Results

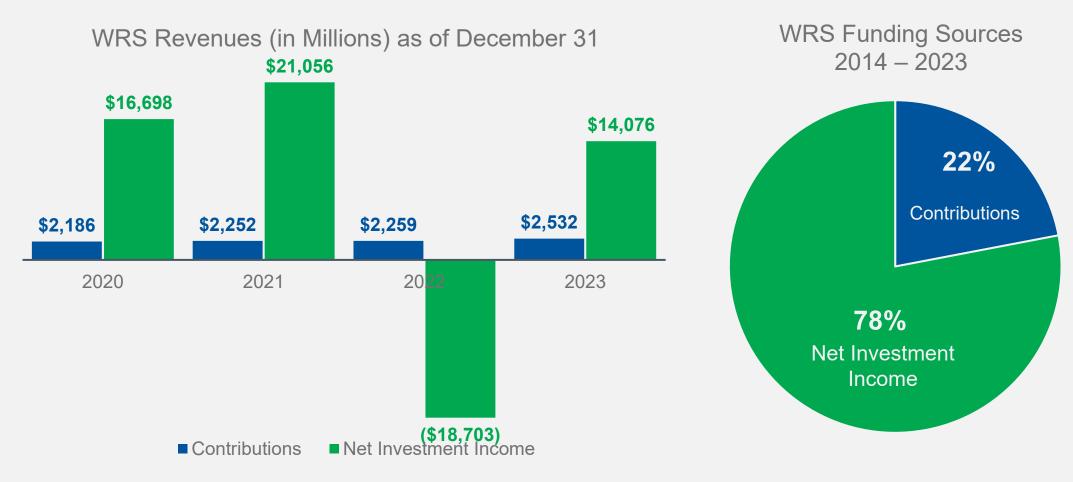
- Financial statements as of and for the year ending December 31, 2023
- Unmodified Opinion (clean) and no recommendations
- Standalone financial and employer schedule reports issued in September 2024
- Full ETF ACFR issued in January 2025

WRS Financially Strong

As of December 31



Investment Income 78% of WRS Revenue



Looking Ahead

- CY 2024 financial reporting is already underway
- Reporting changes for CY 2024
 - Implementing Governmental Accounting Standards Board (GASB) Statement 101, "Compensated Absences"
 - Not expected to have a significant impact
- Plan to issue Standalone Financial Reports in September 2025 and a full ETF ACFR after





Thank you











608-266-3285

Social Security and the Wisconsin Retirement System

Wisconsin's 218 Agreement and the Social Security Administration, Government Pension Offset, Windfall Elimination Program, and Social Security Fairness Act

Item 5F – Employee Trust Funds Board



Division of Benefit Administration



Informational Item Only

No Board action is required.

Wisconsin's 218 Agreement and the Social Security Administration

- Wisconsin's Section 218 Agreement is a voluntary agreement between the State and the Social Security Administration (SSA) to provide Social Security coverage for state and local government employees.
- Employers must be covered by the 218 Agreement to join the Wisconsin Retirement System (WRS).
- ETF houses the State Social Security Administrator for Wisconsin liaisons with the SSA.



Wisconsin's 218 Agreement and the SSA - Continued

- New employers are added to the 218 Agreement via modifications.
 - Wisconsin has done approximately 870 modifications to date.
- Modifications are subject to SSA review and final determination.
- New employers are covered for Social Security under "absolute coverage" modifications, which means all employees (with limited exception) of the employer are covered even if those employees aren't eligible to participate in the WRS.

Recent SSA Issues ETF has Encountered

Long wait times for SSA review

Lack of timely responses to inquires and communications

Responses may be incomplete and inconsistent when they review and deny a modification

Inconsistency in applying their own rules for joint entities (e.g., joint fire, police, EMS districts)



Impact of SSA Issues on ETF

Delays

 Long review and wait times may delay WRS participation and thus WRS benefits.

WRS Participation Errors

 Lack of consistent and timely responses may mean that employers are erroneously allowed to participate in the WRS.

Questions

 Frustration from employers can lead to questions and increased scrutiny from legislature, interest groups, and other interested parties.

ETF Actions and Responses to **Encountered Issues**

- Updating employer training materials that highlight identified issues for inquiring employers
- Providing sample agreements or other documents, which the SSA has previously accepted in hopes of future acceptance
- Meeting with local municipal organizations (LWM, WTA, WCA, etc.) to help ensure understanding of necessary actions
- Discussing with legislative staff on potential statutory changes to ensure joint districts are clearly labeled as governmental employers
- Regularly requesting SSA to review outstanding modifications and provide sufficient justification for denials



Questions?

SSA Benefit Reduction Programs and the Social Security Fairness Act

Windfall Elimination Program (WEP)

Government Pension Offset (GPO)

Social Security Fairness Act (SSFA)

SSFA impact on the WRS



WEP History and Background

- Enacted in 1983, WEP applies to individuals who receive both a pension from noncovered work and Social Security benefits based on fewer than 30 years of substantial earnings in covered employment.
- The Social Security benefit is reduced based on years of coverage (YOC) below 30.
- In Wisconsin, this mostly applies to firefighters who aren't covered for Social Security under the WRS but have worked in another position that is covered for Social Security.

GPO History and Background

- Enacted in 1977, the GPO reduces the Social Security spouse's or widow(er)'s benefits of most people who receive a pension based on government employment not covered by Social Security.
- The GPO reduces the spousal or widow(er) benefit by two-thirds of the monthly non-covered pension and can partially, or fully, offset an individual's spousal/widow(er) benefit.

Summary of WEP and GPO

Benefits that can be reduced:	Your own retirement and disability benefits and benefits payable to your spouse and children	Your benefits as a spouse, widow, or widower
Adjustment that may apply:	 WEP This reduces your retirement or disability benefit if you receive a retirement or disability pension from work not covered by Social Security. The reduction cannot be more than half the amount of your monthly pension that is based on work not covered by Social Security. The WEP adjustment is made before any adjustments for early or delayed retirement benefits. WEP does not affect survivors' benefits. WEP does not apply if you have 30 or more years of substantial earnings covered by Social Security. Visit our WEP calculator: www.ssa.gov/plannersIretirelanyPiaWepjs04.html 	 This reduces your benefits as a spouse, widow, or widower by two-thirds of the monthly retirement or disability pension amount you receive from your own work for a federal, state, or local government employer that was not covered by Social Security. GPO can reduce your benefit as a spouse partially or fully, depending on the amount of the pension. Visit our GPO calculator: www.ssa.gov/planners/retire/gpo-calc.html

SSFA

- President Biden signed the federal SSFA into law on Sunday, January 5, 2025.
- SSFA eliminates the GPO and WEP programs, impacting ~3 million works nationwide.
- The elimination of WEP and GPO is expected to result in increased Social Security benefits for those who worked in public service jobs not covered by Social Security.
- SSFA is retroactive to January 2024, meaning that eligible individuals could potentially receive retroactive benefit increases.

SSFA – Impact on the WRS

Impact for most WRS members and operations should be small

Two areas where it may impact some members

- 1) Duty disability (increased offset due to higher Social Security benefit)
- 2) Accelerated annuity

SSA has highlighted implementation challenges which may result in further communication delays between ETF and the SSA



Resources

SSA Calculators



- GPO Calculator
- WEP Calculator

Congressional Research Service Papers

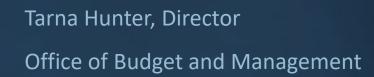






Legislative Update and 2025-2027 Biennial Budget Update

Item 6A - Employee Trust Funds Board





Questions?

Secretary's Report

Item 6B – Employee Trust Funds Board

John Voelker, Secretary
Office of the Secretary



Questions?

Operational Updates

Items 6C - 6O - Memos Only



Informational Items Only

No Board action is required.



Questions?

Tentative June 2025 Agenda

Item 7A – Memo Only

Patti Epstein, Chief Benefits Officer

Division of Benefits Administration



Informational Item Only

No Board action is required.

Questions?

Move to Closed Session





Action Needed

• The Board may meet in closed session pursuant to the exemption contained in Wis. Stat. § 19.85 (1) (a) for quasi-judicial deliberations. If a closed session is held, the Board may vote to reconvene into open session following the closed session.

The Board is meeting in closed session. Audio and visual feed will resume upon the Board's return.



Announcement of Action Taken on Appeal Deliberated During Closed Session

Item 11 - No Memo



Adjournment

Rem 12 – No Memo

