

SWIB Update

Wisconsin Coalition of Annuitants Virtual Conference

May 11, 2023



Edwin Denson

Executive Director/Chief Investment Officer

Rochelle Klaskin

Deputy Executive Director/Chief Administrative Officer

Todd Mattina

Head Economist & Asset and Risk Allocation Chief Investment Officer

Agenda



Performance



Cost Effectiveness



Asset Allocation



Economic Outlook



SWIB News



Questions

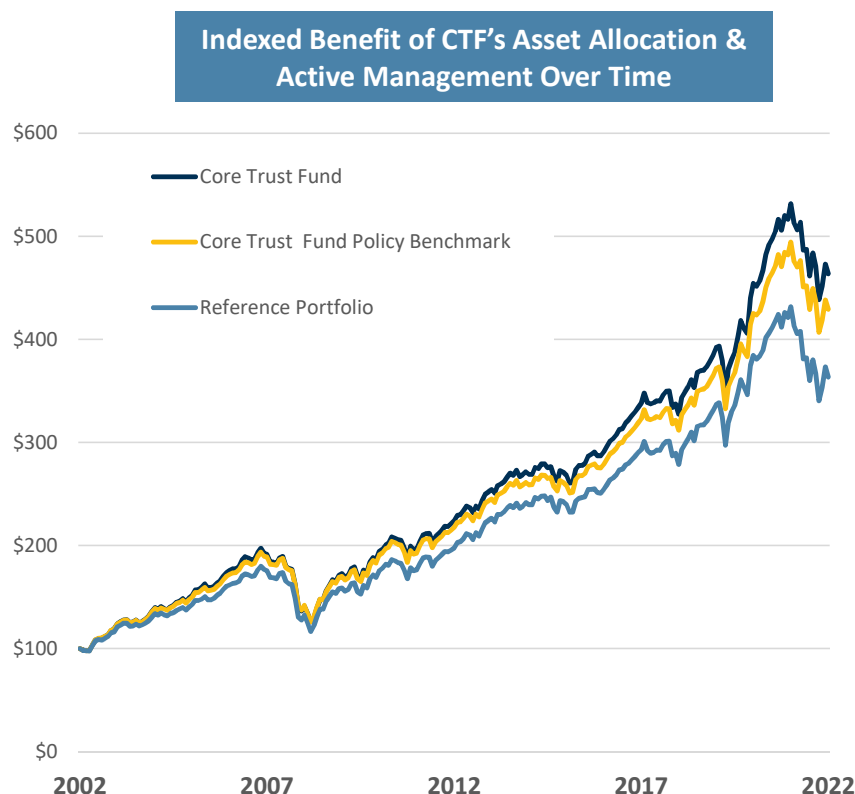


Performance



CTF Performance vs. 60/40 Reference Portfolio

20-year cumulative return¹: January 1, 2003, to December 31, 2022



Portfolio / Benchmark	Annualized Gross Return	Cumulative Gross Return	Cumulative \$ Value Added
Reference Portfolio ² (60% equity/40% bonds)	6.7%	263.2%	= Passive Market Return
Benefit of CTF Asset Allocation			
CTF Policy Benchmark	7.6%	329.1%	+\$22.9B
Benefit of CTF Active Management			
CTF Actual Results	8.0%	363.6%	+\$11.4B
CTF Excess Return vs. Reference Portfolio	+1.3%	+100.4%	+\$34.3B

¹ Core Trust Fund beginning market value, as of January 1, 2003, was \$46.3B and ending market value, as of December 31, 2022, was \$114.5B

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

WRS Core Fund Long-Term Performance

As of December 31, 2022

5-Year

6.16%

Benchmark: 5.68%

10-Year

7.25%

Benchmark: 6.84%

20-Year

7.68%

Benchmark: 7.38%

Note: Five-year returns are net of fees, and 10- and 20-year returns are net of external manager fees.

The investment objective of the Core Fund is to meet or exceed an average nominal return of **6.8% over the long-term.**

YTD as of 2/28/2023

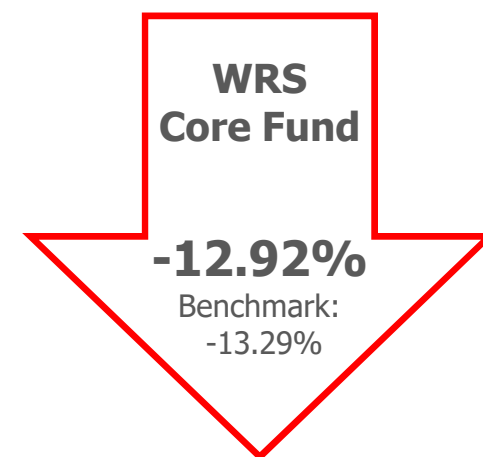
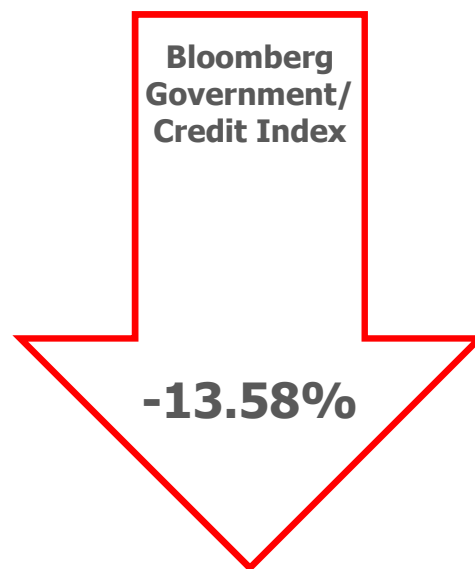
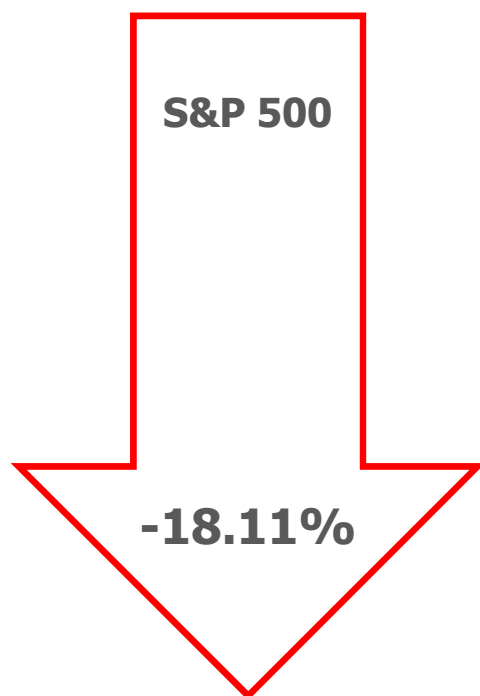
2.22%

Benchmark: 2.05%

Note: YTD returns as of 2/28/2023 are Net of All Fees.

Performance – WRS Core Fund

Year-to-Date as of December 31, 2022



Note: WRS CTF returns as of 12/31/2022 are Net of All Fees

Net Performance – WRS Variable Fund

As of December 31, 2022

- The Variable Trust Fund is an optional all-stock fund.
- Approximately 7% of WRS assets are in the Variable Trust Fund.

2022 1-Year Return

-17.83%¹

Benchmark: -18.06%

5-Year

6.48%²

Benchmark: 6.55%

10-Year

9.82%²

Benchmark: 9.75%

20-Year

8.83%²

Benchmark: 8.80%

YTD as of 2/28/2023

4.56%¹

Benchmark: 4.45%

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¹ Net of All Fee.

² Five-year performance is net of all fees and 10-year performance is net of external manager fees.



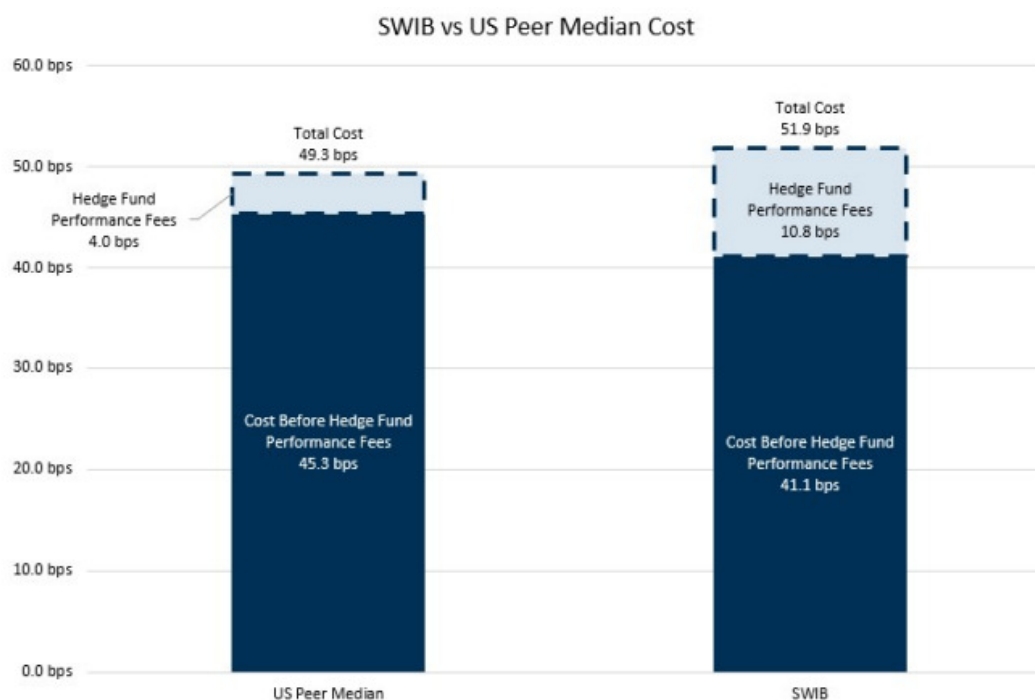


Cost Effectiveness



2021 SWIB Cost Compared to U.S. Peer Median

SWIB's cost of 51.9 bps is higher than the peer median of 49.3 bps. However, when adjusted for performance fees, SWIB's costs are lower than the peer median by 4.2 bps.



Note: According to CEM Benchmarking, SWIB's costs are 7 bps or \$91 million lower than the U.S. public fund average.

Internal Management Is More Cost Effective

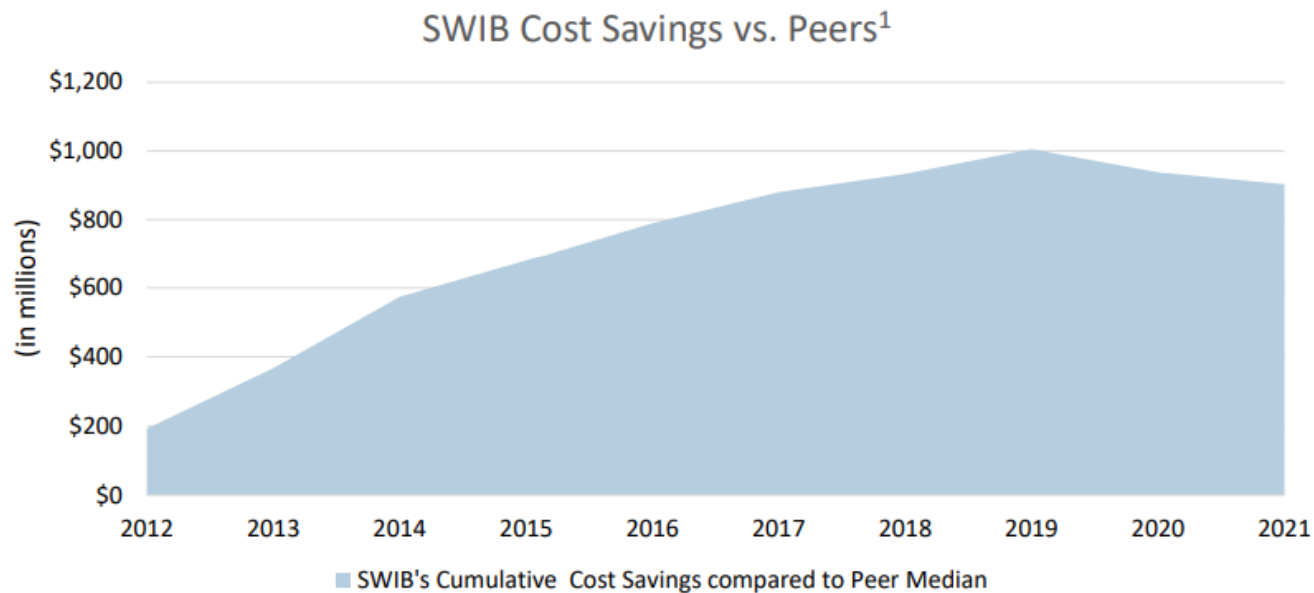
SWIB's costs for internal active management remains considerably lower than the cost for external active management.

Public Market Asset Type (Active Strategies)	Internal Management Cost (bps)	External Management Cost (bps) ¹
Global Large Cap Equity	11.2	40.8
Small Cap Equity	13.5	66.5
Domestic Fixed Income	8.7	11.3
High Yield Fixed Income	7.4	31.3

¹External management costs represent the median cost for SWIB's CEM public fund peers for each asset class. SWIB engages external managers for Global Large Cap Equity at a cost of 34.1 bps and Domestic Fixed Income at a cost of 13.3 bps.

Data source: CEM Benchmarking, Inc. 2020 Report

SWIB Saved \$903 Million vs. Peers from 2012-2021



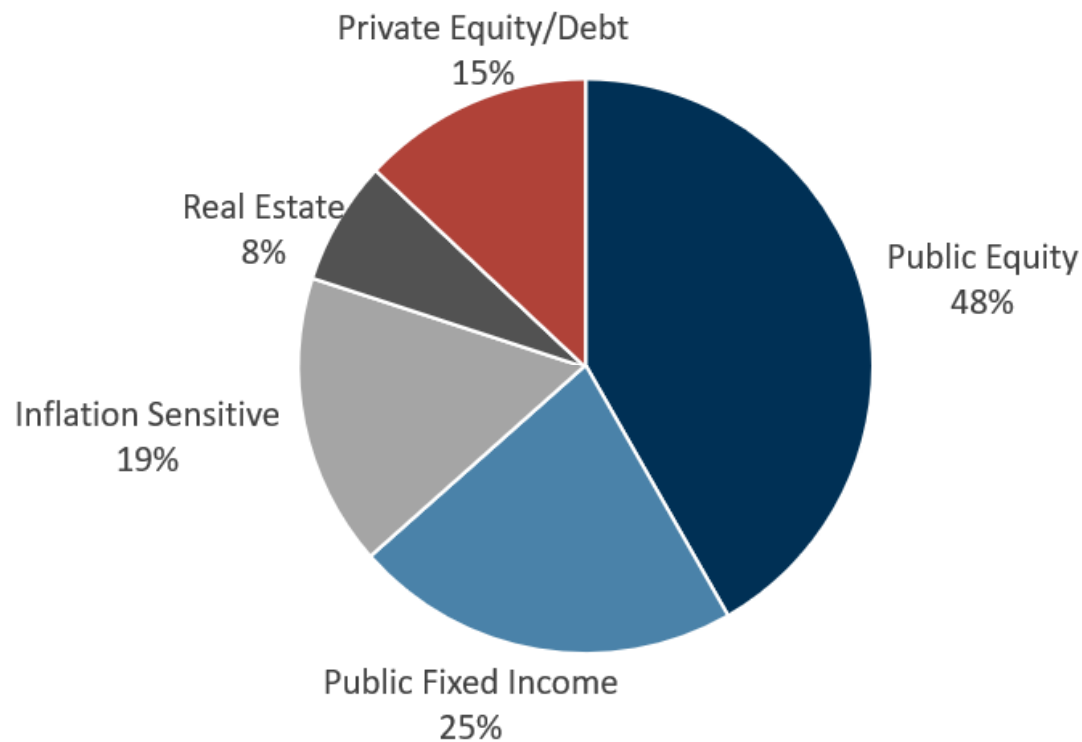
¹This analysis compares SWIB's savings vs. the peer group median costs for every \$100 under management and multiplies that average savings by SWIB's median assets under management.



Asset Allocation



2023 Asset Allocation Targets



Asset allocation target totals exceed 100% due to SWIB's overall leverage of Core Fund assets.

Long Term Target Returns and Risk	
	2023 Policy Portfolio
10-Year Expected Return	6.7%
30-Year Expected Return	7.4%
Standard Deviation	12.7%
Sharpe Ratio 10 Yr.	0.302
Target Active Risk	1.2%



Economic Outlook



Welcome, Todd Mattina

Head Economist, Asset & Risk Allocation Chief Investment Officer



- Joined SWIB in January 2023.
- Responsible for taking a broad view of economic conditions in developing, recommending, and implementing SWIB's asset allocation and other policies for allocating investments.
- Will support the agency's investment decisions and determine how best to leverage economic policy to address opportunities, risks and challenges.
- Has more than 20 years of experience in economic analysis and investments, including as senior vice president, chief economist, and co-lead of the multi-asset strategies team at Mackenzie Investments in Toronto and as the deputy division chief at the International Monetary Fund (IMF) in Washington D.C.
- PhD in Economics from Queen's University¹⁵ in Ontario.



Economic Outlook: **Weak Growth, Sticky Inflation**

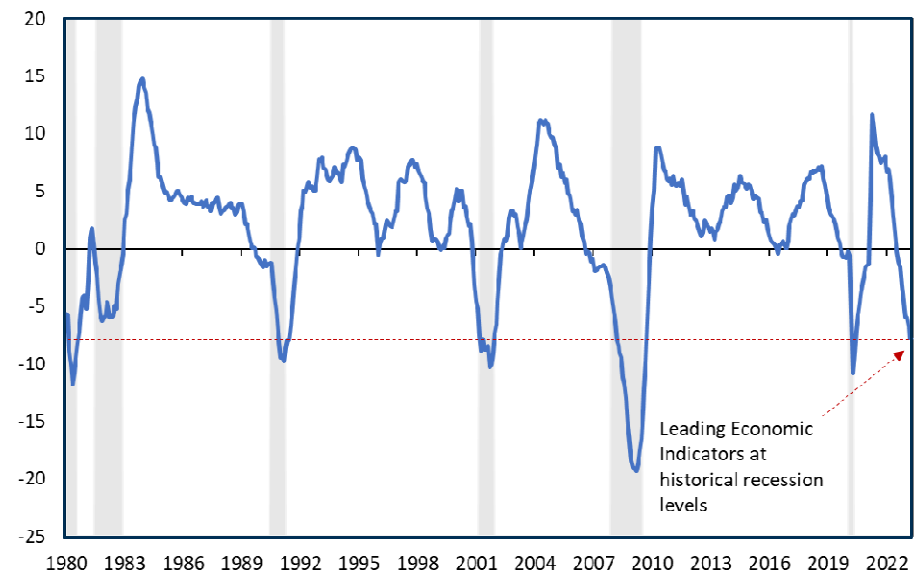
Cyclical Outlook:

- Leading economic indicators point to a deceleration in US and global growth, increasing recession odds.
- Inflation expected to remain high and sticky.
- Banking turmoil sets the stage for tighter credit, adding to downside risks to growth this year.
- The Fed faces a policy “trilemma” between inflation, unemployment and banking turmoil.

Long-Term Outlook:

- Elevated equity valuations in developed markets lower expected returns in the next decade.
- Uncertain outlook for risk-free interest rates given the breakout in inflation, higher debt levels and strong spending pressures.

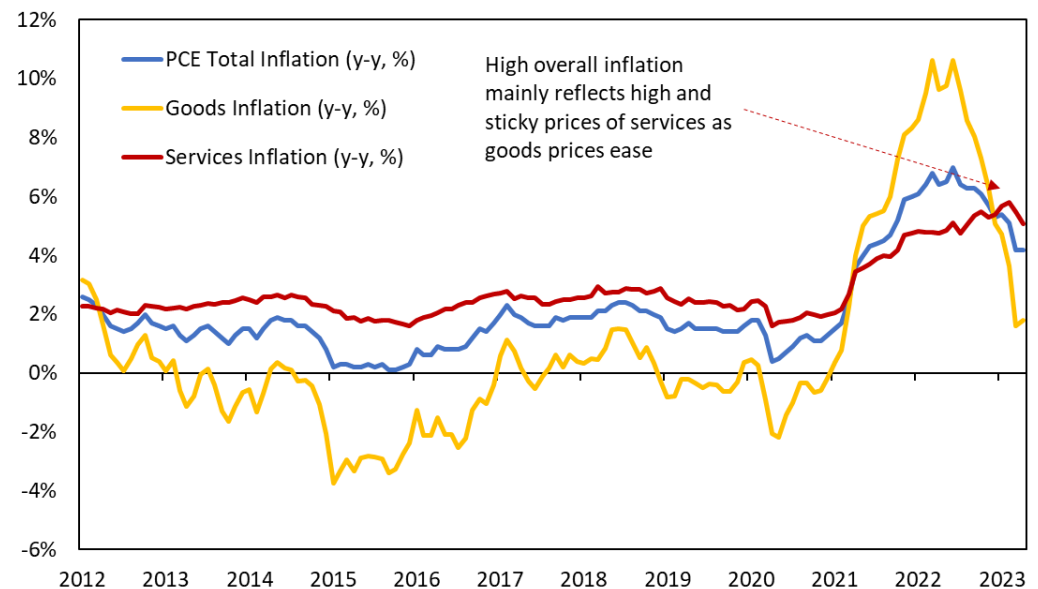
Leading Economic Indicators (LEI) at Recession Levels
(Conference Board LEI, year-over-year %-change)



Economic Outlook: **Sticky Inflation**

- U.S. inflation has likely peaked but remains well above the Fed's 2% target.
- Outlook is for moderating inflation in 2023, but at a slower pace than the consensus forecast.
- Supply chain pressures and goods price inflation have eased.
- Services inflation, including housing (rent), has yet to decelerate.

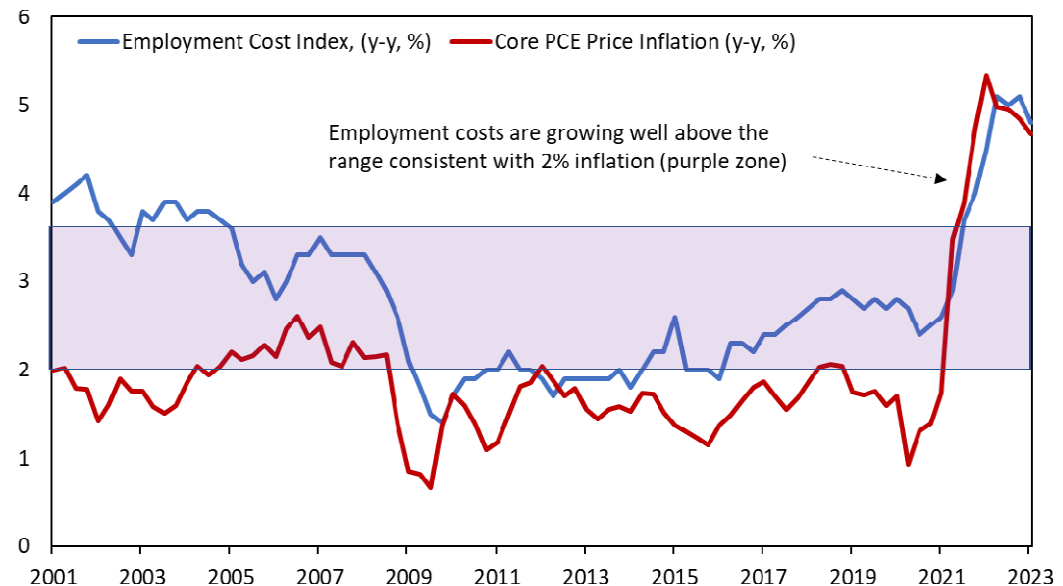
Services Driving High and Sticky Inflation
(PCE price inflation by component, year-over-year %-change)



Economic Outlook: **Labor Market**

- The labor market remains tight with sizeable employment gains, a persistently low unemployment rate and a large excess of vacancies relative to unemployed workers.
- Employment costs are growing too rapidly for the Fed to achieve 2% inflation (shaded zone is 2% inflation + average labor productivity).
- The recovery in labor force participation has stalled, remaining below pre-pandemic levels. Participation would help moderate wage gains.
- Cooling the overheating labor market is the key to reducing wage pressure and inflation.

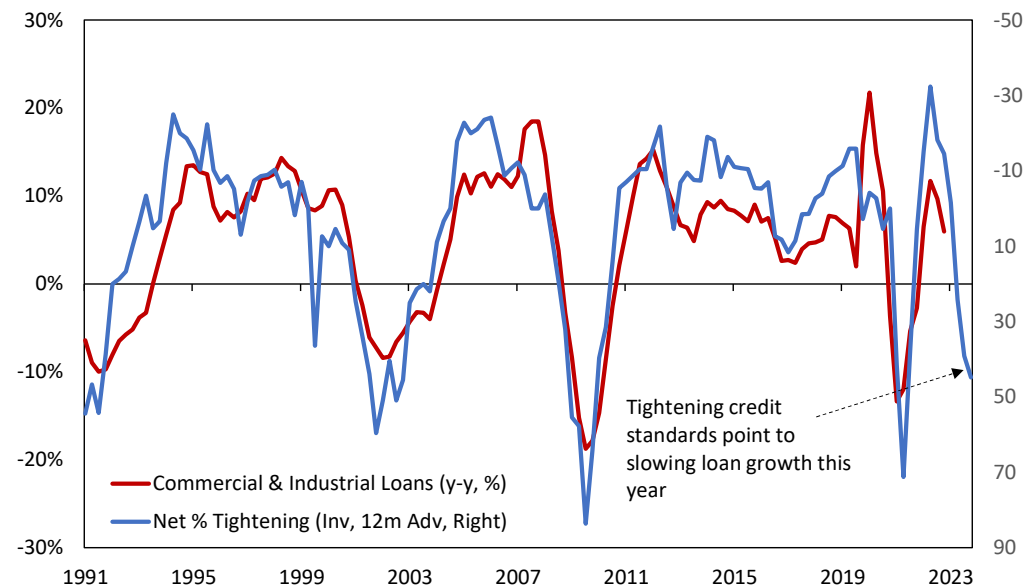
Slower Growth in Employment Costs is Key to Lower Inflation (Empl. Cost Index and Core PCE Price Index, year-over-year %-change)



Economic Outlook: Credit Standards Tightening

- Even before recent bank turmoil, credit standards were tightening, which has been associated with slower loan growth historically.
- Regional bank vulnerability has reflected rapid deposit growth, uninsured deposits and losses on financial securities. These factors range significantly across regional banks.
- Many small- and medium-sized banks also have sizable credit exposure to commercial real estate, which faces challenging conditions.
- Fed's "trilemma" is to keep interest rates restrictive to reduce inflation, but at the risk of further bank turmoil and higher unemployment.

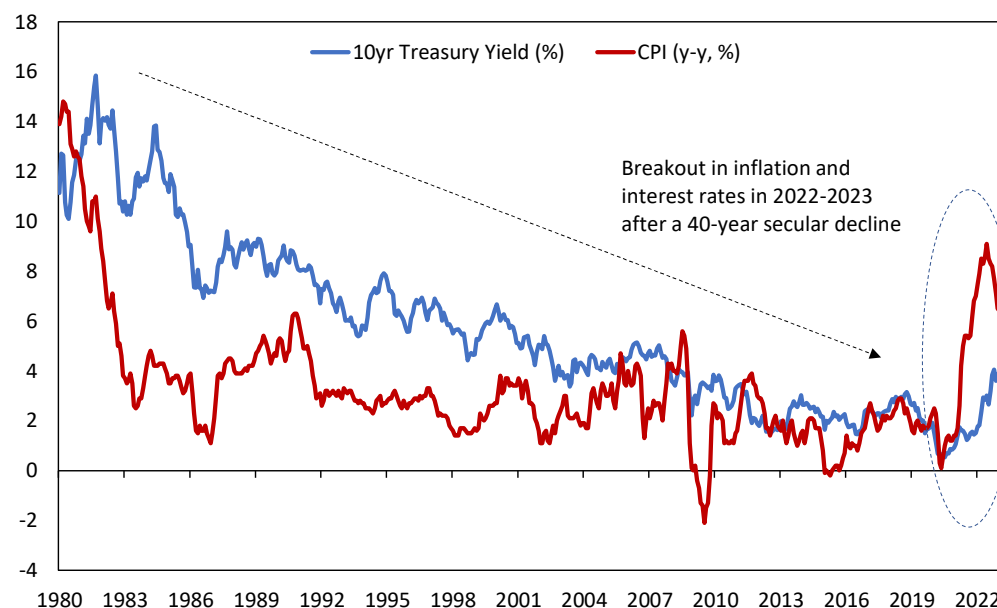
Tighter Credit Standards Point to Slower Loan Growth
(Commercial & Industrial Loans, year-over-year %-change, and)



Economic Outlook: **Long-Term Outlook**

- Long-term interest rates have followed inflation downward since the early 1980s. In each business cycle, average interest rates and inflation were lower than in the previous cycle.
- However, the breakout of inflation and interest rates in 2022-2023 broke the 40-year trend.
- For long-term investors, the future path of government risk-free interest rates is a key building block for expected portfolio returns.
- Greater inflation uncertainty, high spending relative to savings, and higher debt after the pandemic may keep upward pressure on interest rates after inflation (“real rates”).

Break in Trend: Breakout in Treasury Yields and Inflation
(10-year Treasury Yield in % and CPI Inflation, annual %-change)





SWIB News

Board of Trustees Update



Barbara Nick



Clyde Tinnen



Jeff DeAngelis



David Stein

- Gov. Evers appointed Barbara Nick as Board chair and Clyde Tinnen as vice chair.
- Gov. Evers appointed Jeff DeAngelis as a trustee as of June 2022.
- Trustee David Stein's term has ended.



www.swib.state.wi.us/podcasts

Some Recent Episodes:

Episode 14

Pensionomics: How the WRS Provides a Strong Economic Pillar for Wisconsin

Episode 16

An Inside Look at SWIB's Real Estate Portfolio with Jason Rothenberg, Head of Real Estate

Episode 20

Navigating Volatile Financial Markets: A Look Back at 2022 and Ahead to 2023 with Edwin Denson

Episode 21

Seeking Opportunities in Volatile Markets to Keep the WRS Positioned for Long-Term Success with Susan Schmidt, Head of Public Equities

2023 INVESTMENT FORUM



Tuesday, June 13 & Wednesday, June 14



1:30-4:40 p.m. Each Day



100% Online

For more information visit

www.swib.state.wi.us/investmentforum

Need More Information?



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? Questions