PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: September 30, 2023

Investment Performance Review for

Illinois Police Officers’ Pension Investment Fund

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Executive Summary

- Total assets fell slightly from $9.4 billion to $9.2 billion over the quarter, as investment losses in a challenging market environment exceeded positive cash flow and investment income.
- Despite strong fundamentals, such as continued economic growth, labor market stability, and consumer resilience, stocks and bonds sold off, largely based on renewed concern over stubborn inflation and the potential Fed response. The S&P 500 returned -3.3% in the 3rd quarter, as the Bloomberg U.S. Aggregate Bond Index returned -3.2%. The IPOPIF struggled right along with the market, as the Total Fund[1] returned -2.4% (net-of-fees) in the 3rd quarter, which was right on top of the Policy Index. Diversification into credit and short-term fixed income helped the IPOPIF portfolio beat the Broad-Based Index, which returned -3.4% for the period.
- Since its inception in April of 2022, the IPOPIF Portfolio returned -2.7% through the end of the 3rd quarter, slightly better than the Policy Index of -2.8% and significantly ahead of the equity heavy Broad-Based Policy Index of -4.4%.
- As a primarily passively-invested investment strategy, the IPOPIF Portfolio experienced minimal variation to its Policy Index in the 3rd quarter. We would expect some tracking error to be introduced as the fund takes on more active managers. Individual managers also performed in line with their strategy-specific benchmarks during the quarter.
- The IPOPIF Portfolio ranked in the 12th percentile relative to a representative universe of Public Pensions with assets greater than $1 billion for the quarter. Like the relatively low rank in previous quarters, the favorable ranking in the 4th quarter continues to be largely attributable to a relatively high public markets equity allocation and an absence of alternatives, most notably private equity, compared to peers[3].
- The investment team actively monitors current asset allocations vs. policy targets and conducts rebalancing trades as appropriate. As of 9/30/23, nearly all asset classes were within policy target ranges with a few minor exceptions, resulting from the funds ongoing transition to the approved strategic asset allocation.

Notes
[1]Total Fund assets includes Member Fund and Transition accounts that have not yet been invested in the IPOPIF Investment Portfolio.
[2]The Broad-Based Policy Index represents a passively invested 70/30 global stock/bond portfolio.
[3]IPOPIF has implemented a short-term asset allocation which is primarily passively invested in public markets. Following the Transition Period IPOPIF will move toward the long-term asset allocation, including active management and private market assets.

Investment Landscape

3rd quarter summary

THE ECONOMIC CLIMATE

— Real GDP increased at a 2.9% pace from a year ago in Q3 (4.9% QoQ annualized rate). The large uptick was driven by consumption, which continues to show resiliency. A combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown.

— The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.

PORTFOLIO IMPACTS

— The U.S. consumer has shown resiliency, with ongoing moderate spending activity. However, personal savings rates are nearly the lowest on record. We believe depressed savings activity without a commensurate surge in spending, and very poor sentiment, suggests high inflation is squeezing household budgets.

— The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5 to end September. Market risk has been falling fairly consistently throughout the year, which may be at least partly attributed to the perception that certain risks, such as regional bank contagion and near-term recession, have eased.

THE INVESTMENT CLIMATE

— The 10-year U.S. Treasury yield increased during the quarter to 4.58%—a level not seen since 2007—likely supported by *higher for longer* interest rate expectations. This led to a flattening of the yield curve.

— U.S. headline inflation ticked up from 3.1% to 3.7% year-over-year. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September showing the largest rise since May, and along with rising energy prices have generated concerns of renewed inflation. A material weakening of the job market and U.S. economy will likely be needed to bring inflation down to a 2% level.

ASSET ALLOCATION ISSUES

— Nearly all asset classes produced materially negative performance during the quarter, including global equities (-3.4%), U.S. core fixed income (-3.2%) and U.S. Treasuries (-3.1%). Highly correlated markets created difficulties for investors, as diversification produced limited value.

— U.S. investors continue to face a difficult environment for style factor investing. Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance of growth stocks and large cap stocks. However, value investing has delivered exceptional results in international developed markets, outperforming growth stocks by 11.5%.

Nearly all asset classes produced materially negative performance during the quarter

A material weakening of the job market and/or U.S. economy will likely be needed to bring inflation down to a 2% level

What drove the market in Q3?

"Fed Signals Higher-for-Longer Rates with Hikes Almost Finished"

10-YEAR U.S. TREASURY YIELDS					
Apr	**May**	**June**	**July**	**Aug**	**Sep**
3.42%	3.64%	3.84%	3.96%	4.11%	4.57%

Article Source: Bloomberg, September 20th, 2023

"U.S. Inflation Rises in August as Petrol Prices Jump"

WTI CRUDE OIL PRICES (PER BARREL)					
Apr	**May**	**June**	**July**	**Aug**	**Sep**
$76.78	$68.09	$70.64	$81.80	$83.63	$90.79

Article Source: Financial Times, September 13th, 2023

"U.S. Growth Trimmed on Inventories; Retains Underlying Momentum"

FEDERAL RESERVE BANK OF ATLANTA Q3 2023 GDPNOW FORECAST					
July 28th	**Aug 15th**	**Aug 31st**	**Sept 15th**	**Sept 29th**	**Oct 10th**
3.5%	5.0%	5.6%	4.9%	4.9%	5.1%

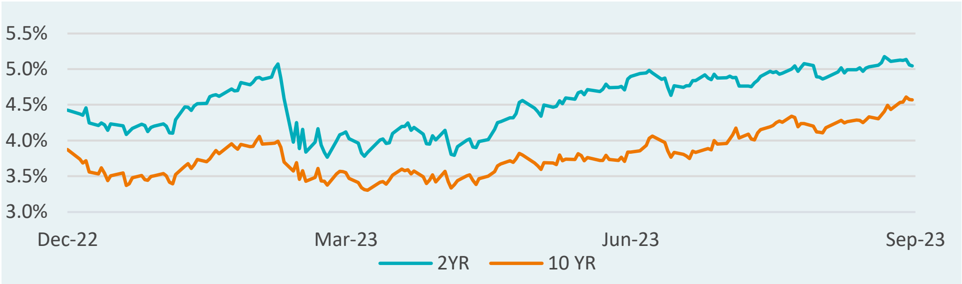
Article Source: Reuters, August 30th, 2023

"S&P 500 Q2 2023 Earnings Beat Wall Street Expectations"

S&P 500 YEAR-OVER-YEAR EARNINGS GROWTH (DECLINE)					
Q1 22	**Q2 22**	**Q3 22**	**Q4 22**	**Q1 23**	**Q2 23**
9.0%	6.0%	2.4%	(4.9%)	(6.6%)	(4.1%)

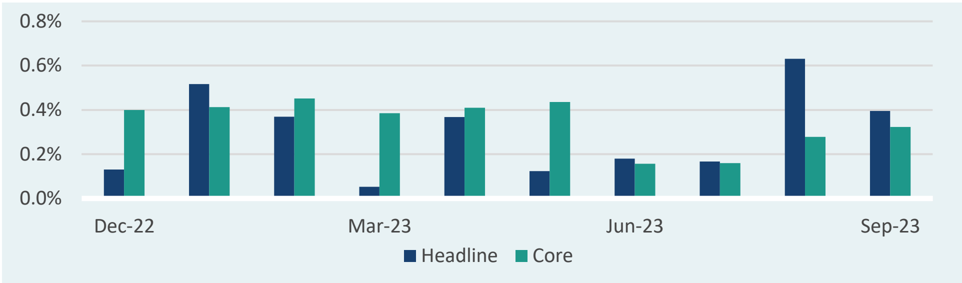
Article Source: Axios, August 18th, 2023

U.S. TREASURY YIELDS (YEAR-TO-DATE)



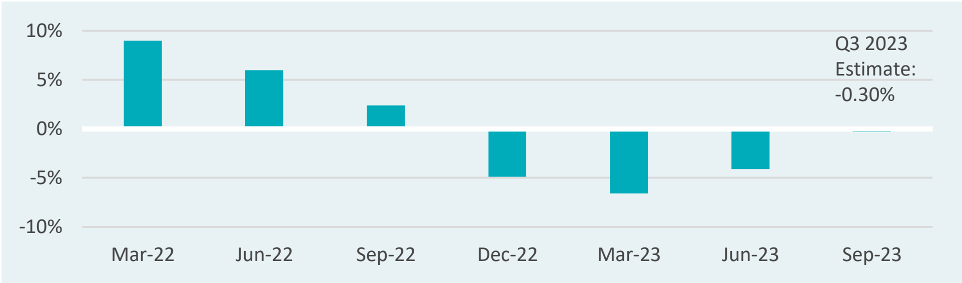
Source: Bloomberg, as of 9/30/23

HEADLINE VS. CORE CPI (MONTH-OVER-MONTH)



Source: BLS, as of 9/30/23

S&P 500 YEAR-OVER-YEAR EARNINGS GROWTH (DECLINE)



Source: FactSet, as of 9/30/23

U.S. economics summary

— Real GDP increased at a 2.9% pace from a year ago in the third quarter (4.9% quarter-over-quarter annualized rate). The large uptick was driven by consumption, which continues to show resiliency. While many investors have expected high inflation and weaker wage growth to impact spending, a combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown.

— U.S. headline inflation ticked up during the quarter, from 3.1% to 3.7% year-over-year in September. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September, which along with rising energy prices have generated fresh concerns of renewed inflation.

— The U.S. consumer has shown resiliency, with continued moderate spending levels. However, personal savings rates are nearly the lowest on record. We believe depressed savings activity, along with mild household spending and very poor sentiment, suggests high inflation is squeezing household budgets.

— The unemployment rate increased slightly during the quarter from 3.6% to 3.8%, though this appears to be due to more workers rejoining the labor force and seeking employment (a positive rather than negative development). The total size of the U.S. workforce grew by 580,000 in Q3.

— Consumer sentiment readings were mixed during Q3 but remain poor. According to the Conference Board survey, the future outlook for income, business, and labor conditions fell very sharply and are now at levels that historically have signaled recession within a year.

	Most Recent	**12 Months Prior**
Real GDP *(YoY)*	2.9% *9/30/23*	1.7% *9/30/22*
Inflation *(CPI YoY, Core)*	4.1% *9/30/23*	8.2% *9/30/22*
Expected Inflation *(5yr-5yr forward)*	2.4% *9/30/23*	2.1% *9/30/22*
Fed Funds Target Range	5.25–5.50% *9/30/23*	3.00–3.25% *9/30/22*
10-Year Rate	4.58% *9/30/23*	3.83% *9/30/22*
U-3 Unemployment	3.8% *9/30/23*	3.5% *9/30/22*
U-6 Unemployment	7.0% *9/30/23*	6.7% *9/30/22*

GDP growth

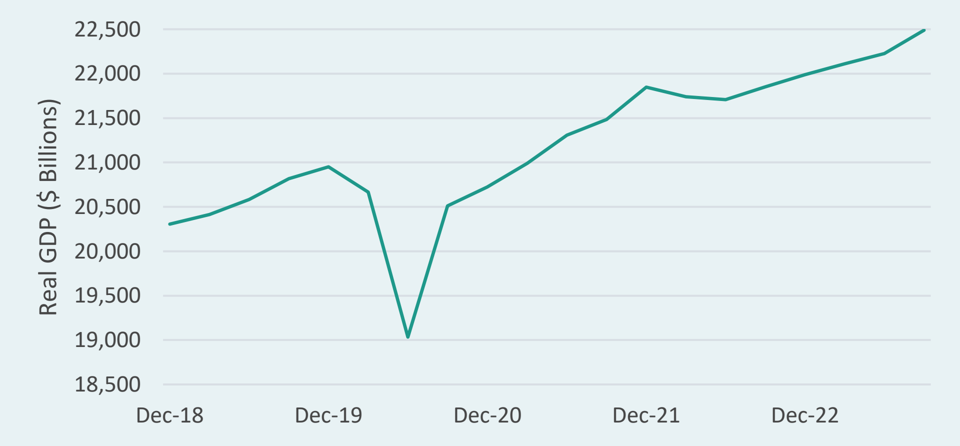
Real GDP increased at a 2.9% pace from a year ago in the third quarter (4.9% quarter-over-quarter annualized rate). The large uptick was driven by consumption, which continues to show resiliency. While many investors have expected high inflation and weaker wage growth to impact spending, a combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown. Outside of consumption, all major categories, besides net exports, positively contributed to GDP growth.

A strong economy continues to support the *higher for longer* interest rate narrative. This has also contributed to markets reacting negatively to positive economic news, as strong growth increases the likelihood of Federal Reserve hawkishness.

Despite healthy overall GDP growth, weakness is beginning to appear in the economy. Savings rates remain on the lower end of historical trends at 3.9%, while transitions into delinquency across credit card, auto, and mortgage lending has all moved higher. As savings and debt-driven consumption begins to recede, expectations are for weaker consumption in the fourth quarter.

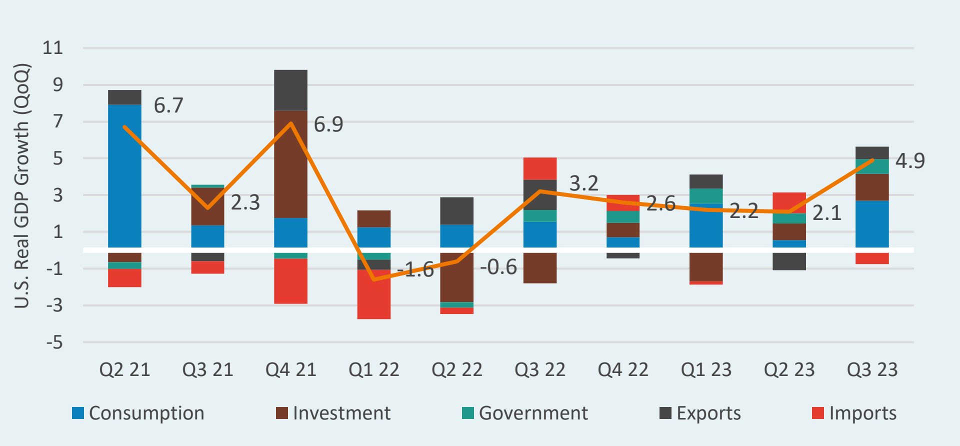
The U.S. economy continues to show resilience despite aggressive monetary tightening & low consumer confidence

U.S. REAL GROSS DOMESTIC PRODUCT



Source: FRED, as of 9/30/23

U.S. REAL GDP COMPONENTS (QOQ)



Source: FRED, as of 9/30/23

Inflation

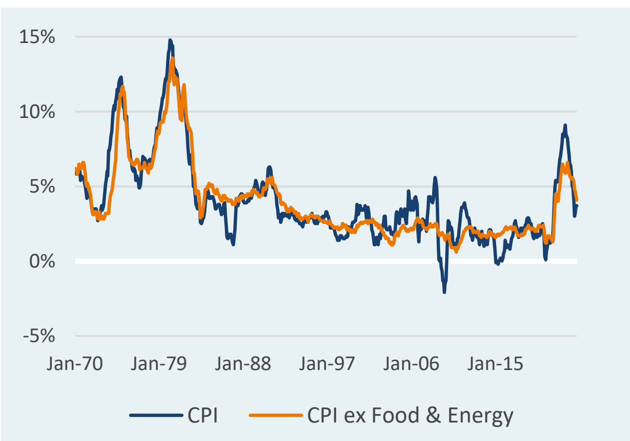
U.S. headline inflation ticked up during the quarter, from 3.1% to 3.7% year-over-year in September. Core CPI (ex-food & energy) continued to fall from 4.9% to 4.1%. Shelter costs jumped unexpectedly in September showing the largest rise since May, which along with rising energy prices have generated concerns of renewed inflation. Oil in particular saw material gains over the quarter (+24.3% for Brent, +28.5% for WTI), largely driven by supply dynamics.

The attack of Hamas on Israel in early October led to upward movement in oil prices on the risk of escalation into a broader conflict involving Iran. Nearly one-fifth of global oil supply is shipped through the Strait of Hormuz, on Iran's border, which means that a larger conflict would likely have major implications for inflation, and interest rates, and therefore the domestic economy.

Shorter-term inflation trends illustrate that the rate of inflation is still materially higher than the Federal Reserve's 2% target. Inflation appears to be stabilizing at a 3-4% range, and may not reach the Fed's 2% target without a material weakening of the job market and/or the U.S. economy.

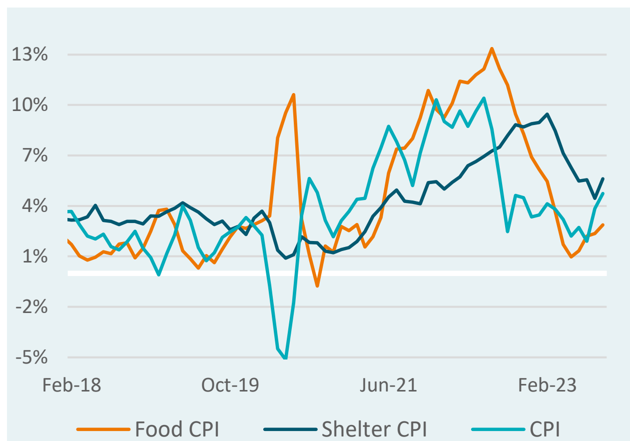
The recent jump in energy prices has reignited inflation concerns

U.S. CPI (YOY)



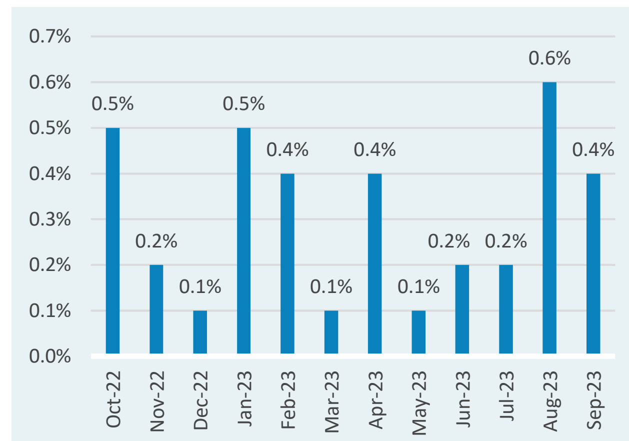
Source: BLS, as of 9/30/23

3-MONTH ANNUALIZED INFLATION RATE



Source: FRED, Verus, as of 9/30/23

MONTHLY PRICE MOVEMENT



Source: BLS, as of 9/30/23

The consumer

The U.S. consumer has shown resiliency, with real (inflation-adjusted) personal consumption expenditures moving along at a moderate pace—coming in at 2.3% year-over-year in August. However, much of this resilience appears to have been possible through the spending down of household savings accumulated during the pandemic. Recent estimates seem to suggest that this *excess savings* has now been mostly (or all) spent, which could lead to a downturn in spending in future months.

Personal savings rates have deteriorated further—now at 3.9%—nearly half the pre-pandemic savings level and one of the lowest levels on record. We believe depressed savings activity without a commensurate surge in spending, and very poor sentiment, suggests high inflation is squeezing household budgets.

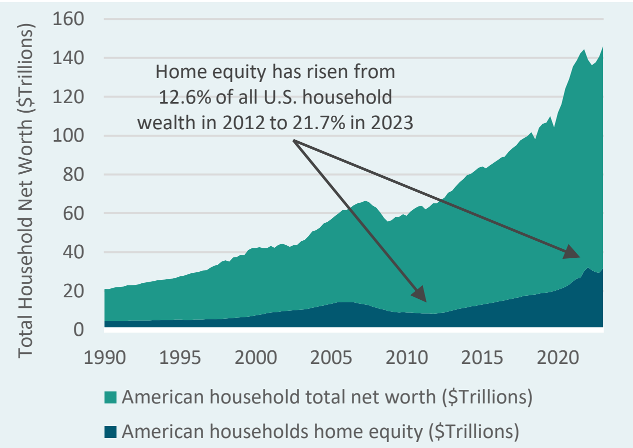
As mentioned last quarter, tighter household budgets should be contrasted with the fact that Americans have experienced a vast boom in wealth and prosperity over the past decade, fueled by a substantial bull market in stocks and in residential real estate, among other assets. This wealth may serve as somewhat of a unique buffer against economic weakness. A large portion of this wealth was created by the housing boom during the pandemic, which suggests more economic sensitivity than usual to downward house and asset price moves.

Higher home prices have played a major role in America's booming wealth over the past decade

REAL PERSONAL SPENDING

Source: FRED, as of 8/31/23

AVERAGE HOUSEHOLD NET WORTH



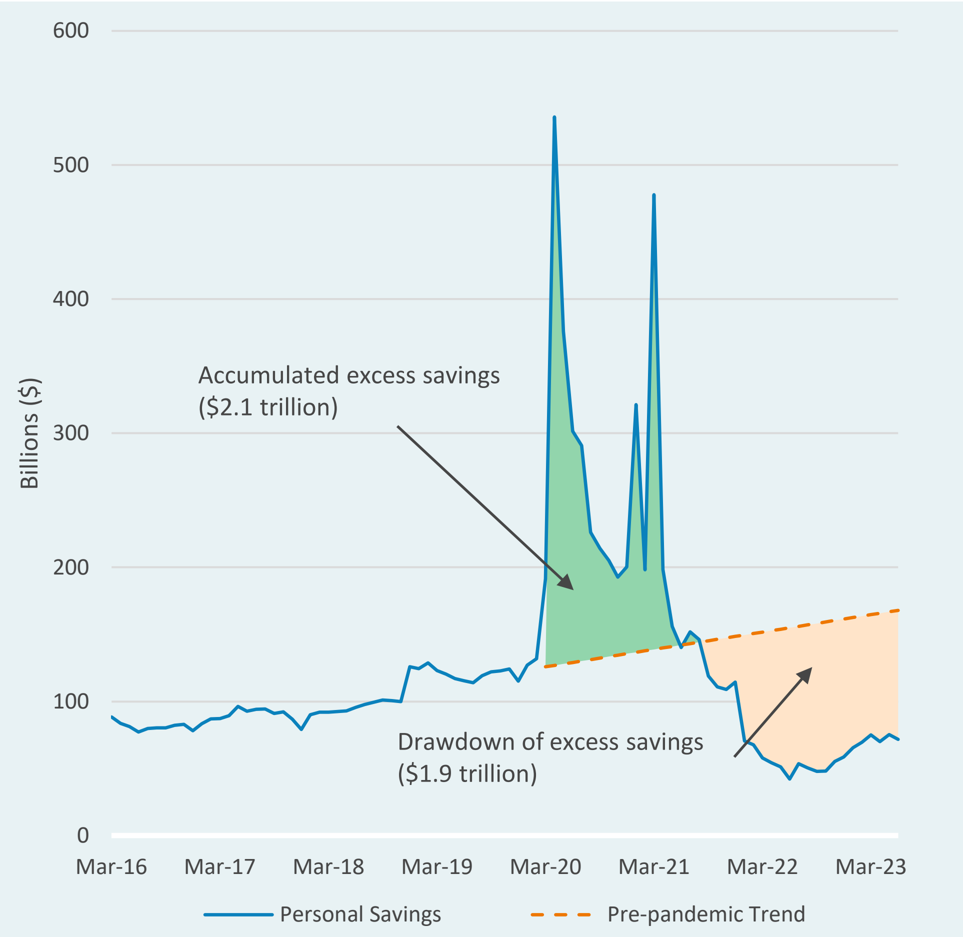
Source: FRED, Verus, as of 6/30/23

PERSONAL SAVINGS RATE

Source: BEA, as of 8/31/23

The consumer - excess savings wearing off

ACCUMULATED PERSONAL SAVINGS ABOVE PRE-PANDEMIC TREND



Source: BEA and San Francisco Federal Reserve, as of 8/16/23

The resilience of U.S. consumer spending has been driven at least partly by *excess household savings*, which accumulated during the pandemic as Americans were limited in their ability to spend (on vacations and dining, for example). While these excess savings have recently helped to fuel a stronger economy, savings drawdown rates across the past three, six, or even twelve months suggest that these excess savings were fully depleted by the end of Q3.

Above-average inflation continues to be a drag on the domestic consumer, which can be seen in economic data. Second quarter metrics from the New York Fed's Household Debt and Credit report show an uptick in credit delinquencies, which is likely to show an even higher rate at the Q3 2023 release on November 7th if the trend persists. Although delinquency rates have moved higher, these are at average levels relative to history.

Going forward, many expect consumer conditions to worsen, especially under a *higher for longer* interest rate environment. This would likely act as a headwind to future economic growth, and negatively impact markets in a variety of ways, ranging from corporate earnings to mortgage transactions.

Sentiment

Consumer sentiment readings were mixed in the third quarter but by most measures remain pessimistic.

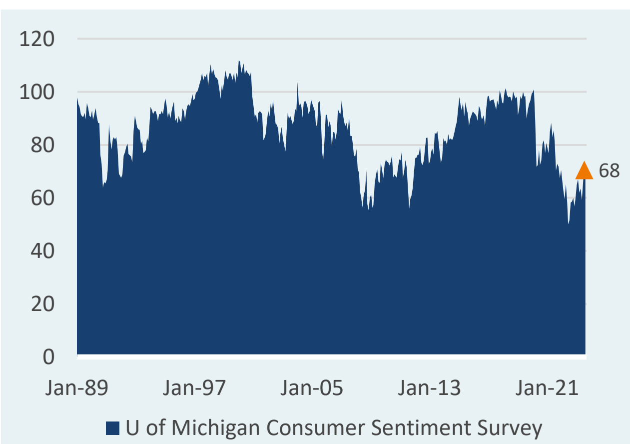
The University of Michigan Consumer Sentiment survey improved, reporting that expectations around personal finances have weakened, though this was offset by better business conditions. Americans feel uncertain about the future of the economy.

Consumer confidence as indicated by the Conference Board weakened. According to the Conference Board survey, current labor market and business conditions improved moderately, while the future outlook for income, business, and labor conditions fell very sharply. Consumer expectations are depressed and at levels that historically have signaled recession within one year.

The NFIB Small Business Optimism index was stable during the quarter, but further indicated a dire outlook for business conditions. Sales growth has reportedly slowed, profit margins are being squeezed, inflation continues to be a major concern, and qualified employees are difficult to find. A majority of businesses plan to raise prices, though fewer businesses expect sales revenues to keep up with inflation.

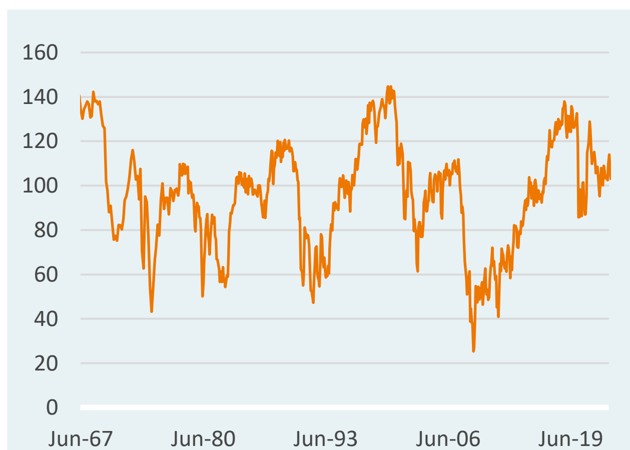
Sentiment was mixed during the quarter but remains poor by most measures

CONSUMER SENTIMENT



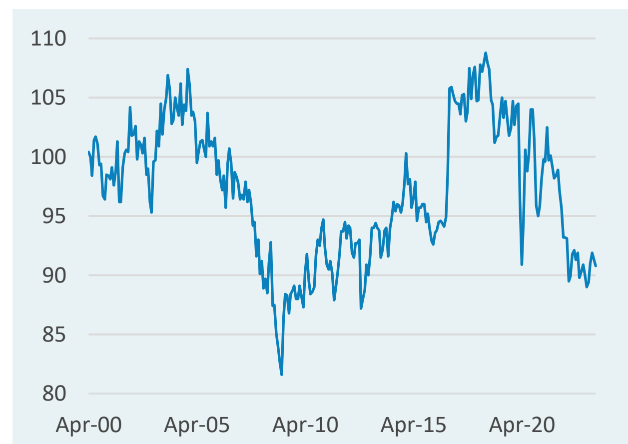
Source: University of Michigan, as of 9/30/23

CONFERENCE BOARD CONSUMER CONFIDENCE



Source: Conference Board, as of 9/30/23

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 9/30/23

Housing

Housing market conditions have deteriorated even further since last quarter. In late September mortgage rates climbed to a new 23-year high of 7.3%. Existing home sales have fallen -15.3% over the past year, as of August, while affordability remains the worst on record.

Despite higher mortgage rates and extremely poor affordability, home values have held up. This appears to be due to depressed housing inventories resulting from many years of underinvestment in new home construction following the 2000s U.S. housing bubble, an upward trend in U.S. homeownership, and an unwillingness of potential home sellers to sacrifice their existing low mortgage interest rates. Overall, very low supply seems to be balancing low demand and, for now, providing an ongoing support to elevated prices.

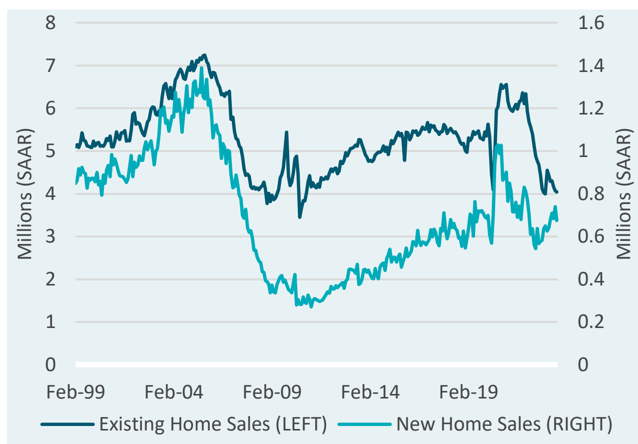
Despite higher interest rates, existing homeowners in this environment are, on average, well-capitalized. Many homeowners refinanced at ultra-low mortgage interest rates in recent years or purchased their homes with a low rate. Mortgage delinquency levels of single-family homeowners were materially below-average at 1.7%, as of Q2. However, borrowers with variable-rate loans, which is a small portion of borrowers overall, may face difficulties in covering much larger monthly mortgage payments.

Home sales have slowed to a crawl as affordability is poor, and potential sellers don’t want to lose their low interest rates

30-YEAR MORTGAGE RATE

Source: FRED, as of 9/30/23

HOME SALES: NEW & EXISTING (MILLIONS)



Source: FRED, as of 8/31/23

HOUSING AFFORDABILITY

Source: FRED, as of 6/30/23 – Housing affordability is calculated as the cost of a median priced single-family home at the current mortgage rate, as a percentage of the median family income

Fixed income environment

— The 10-year U.S. Treasury yield increased during the quarter from 3.81% to 4.58%—a level not seen since 2007—likely supported by *higher for longer* interest rate expectations. This has led to a flattening of the yield curve, though the curve remains inverted at -0.5% (defined as the 10-year Treasury yield minus 2-year Treasury yield).

— Rising interest rates combined with lower inflation have brought real (inflation-adjusted, based on the U.S. TIPS Inflation Breakeven Rate) 10- and 30-year Treasury yields to the highest levels in over a decade. Real yields for 10- and 30-year Treasuries finished the month at 2.24% and 2.33%, respectively. In March of 2022 these rates were negative.

— The Federal Reserve hiked interest rates by 0.25% in July but held rates steady at the September meeting as inflation moderated. Importantly, Chairman Powell signaled that additional rate hikes may be warranted if the economy remains strong and inflation above target.

— During Q3, higher quality bonds and U.S. Treasuries saw mild losses due primarily to their longer duration profile. Riskier credit performed well, with larger coupons and shorter duration contributing to positive performance.

— Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) performed very poorly, falling by -7.3% during the quarter as rising interest rates acted as a headwind.

— With inflation moderating during the quarter, investors expressed optimism that the Federal Reserve would soon pause interest rate hikes. However, interest rate volatility increased during the period as concerns related to the U.S. government's budget deficit and the amount of expected issuance contributed to higher long-term bond yields.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	(3.2%)	0.6%
Core Plus Fixed Income (Bloomberg U.S. Universal)	(2.9%)	1.6%
U.S. Treasuries (Bloomberg U.S. Treasury)	(3.1%)	(0.8%)
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	(13.0%)	(10.7%)
U.S. High Yield (Bloomberg U.S. Corporate HY)	0.5%	10.3%
Bank Loans (S&P/LSTA Leveraged Loan)	3.4%	13.0%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	(3.3%)	13.1%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	(2.2%)	10.0%
Mortgage-Backed Securities (Bloomberg MBS)	(4.1%)	(0.2%)

Source: Bloomberg, as of 9/30/23

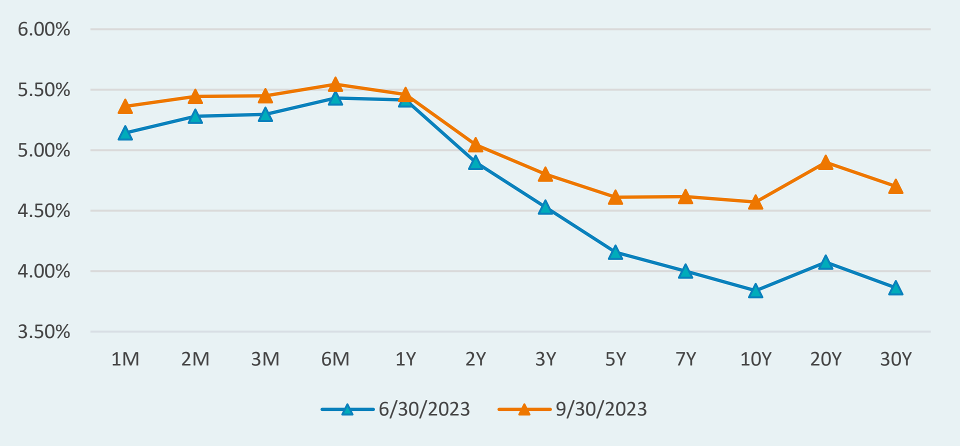
A *higher for longer* rate environment

The "higher for longer" narrative gained steam throughout the quarter, driven by better-than-expected economic and labor metrics, above target inflation, and rising energy costs. The bond market saw the largest impact, as yields on the 10-year Treasury rose from 3.84% to 4.57% throughout the quarter, resulting in a -13.0% loss for longer-term U.S. Treasuries (Bloomberg U.S. Treasury 20+ Year Index).

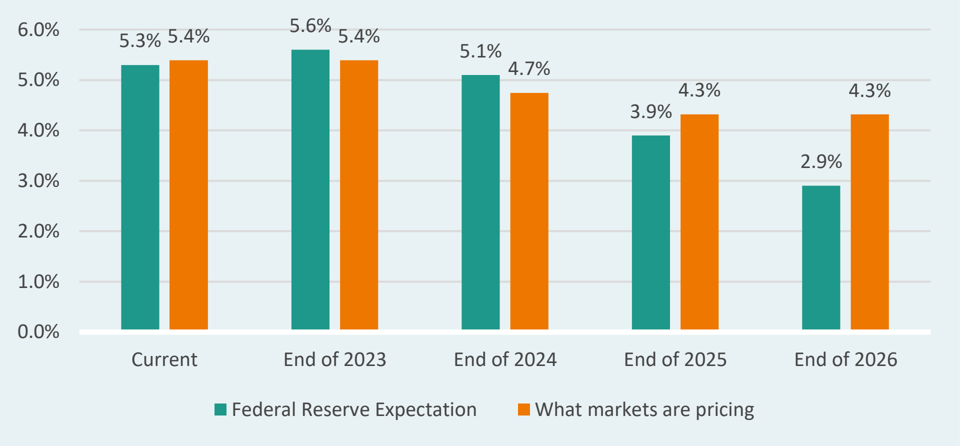
A floor regarding how far inflation can fall, given price dynamics of certain goods and services, has set inflation expectations closer to levels around three to four percent, outpacing the Federal Reserve's two-percent mandate. This has brought rates higher, while also extending the expected timeline for higher rates. Implied rates on Fed Funds Futures contracts show rates remaining above four percent throughout the start of 2025.

The yield of cash is expected to remain elevated for years into the future

U.S. TREASURY YIELD CURVE – CHANGE THROUGH Q3 2023



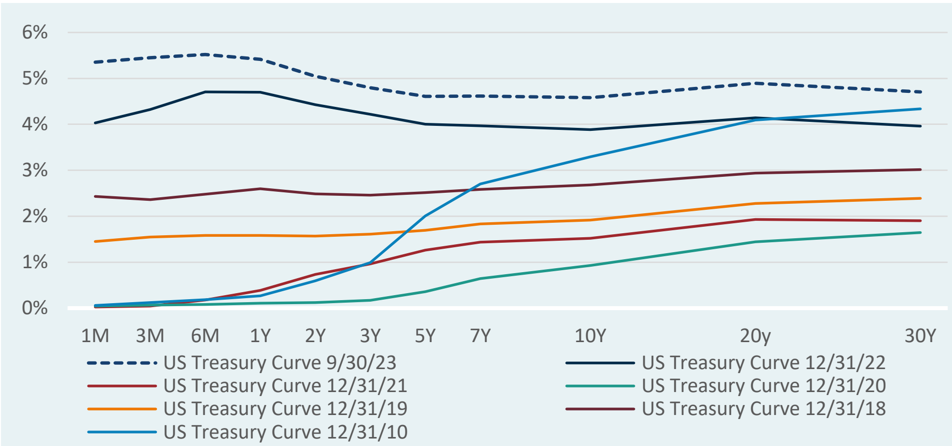
FUTURE EXPECTATIONS FOR THE % YIELD OF CASH



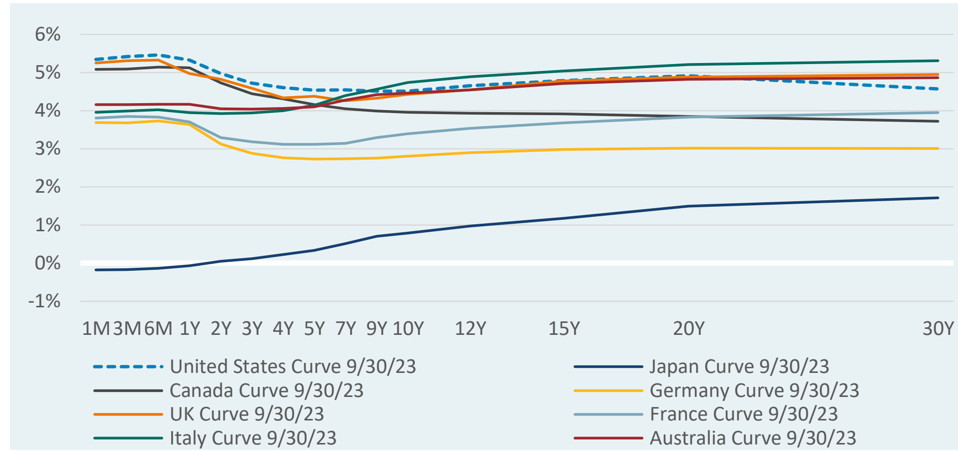
Source: Bloomberg, as of 9/30/23

Yield environment

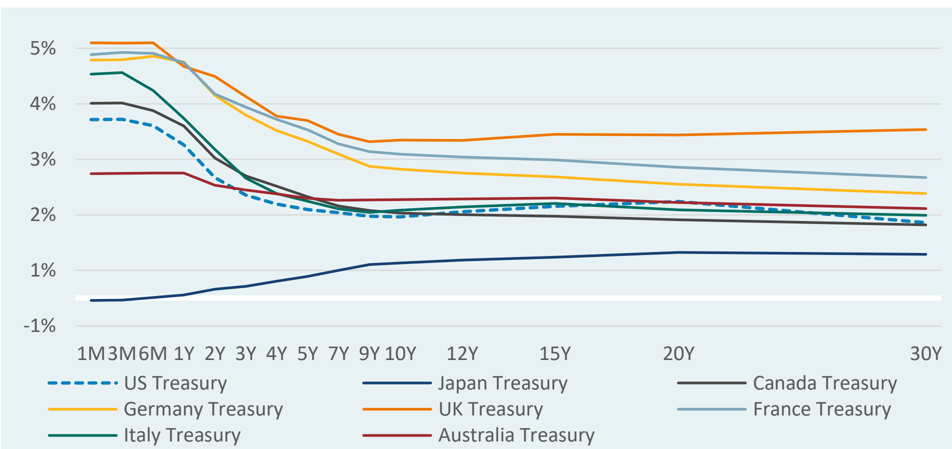
U.S. YIELD CURVE



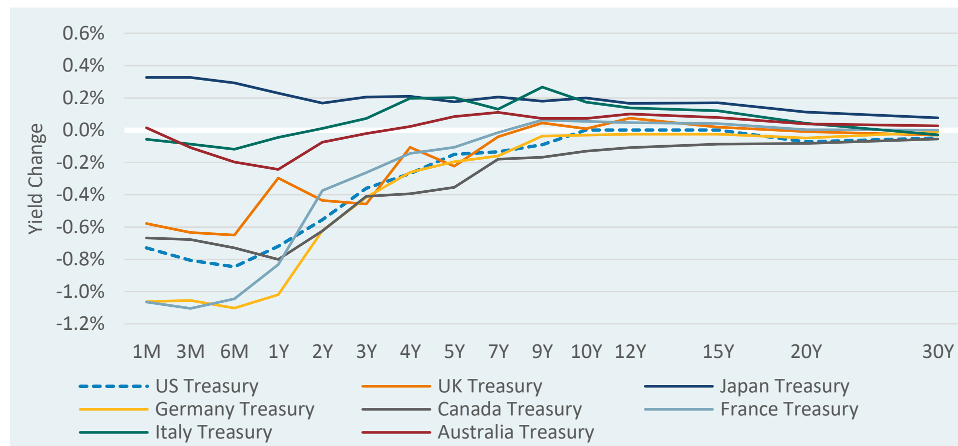
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/23

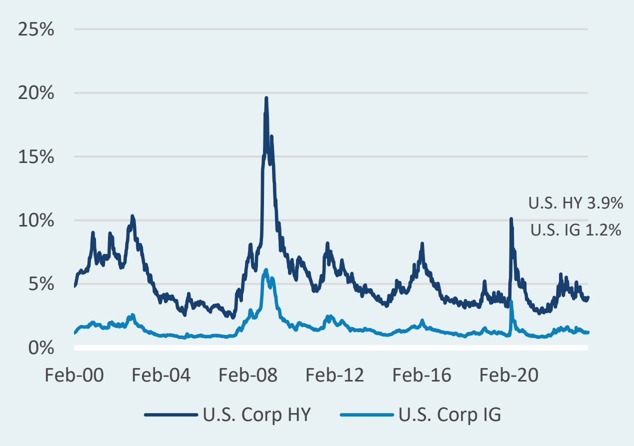
Credit environment

During the third quarter, fixed income markets delivered positive results with lower-quality credits such as high yield bonds and bank loans outperforming higher-quality credits. High yield bonds returned 0.5% (Bbg U.S. Corporate High Yield), while bank loans delivered a stronger 3.4% (CS Leveraged Loans), aided primarily by the lower duration of these bonds. Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) performed poorly, falling by -7.3% during the quarter as rising interest rates acted as a headwind.

Similar to Q2, lower quality CCC-rated bonds outperformed BB- and B-rated bonds during the period. CCC-rated bonds returned 2.8% for the quarter compared to 1.0% and -0.3% for B-rated and BB-rated bonds, respectively. Bank loans also delivered an impressive 3.4% return, with rising interest rates providing a mild tailwind to performance (floating rate bonds reprice as rates are rising, improving returns).

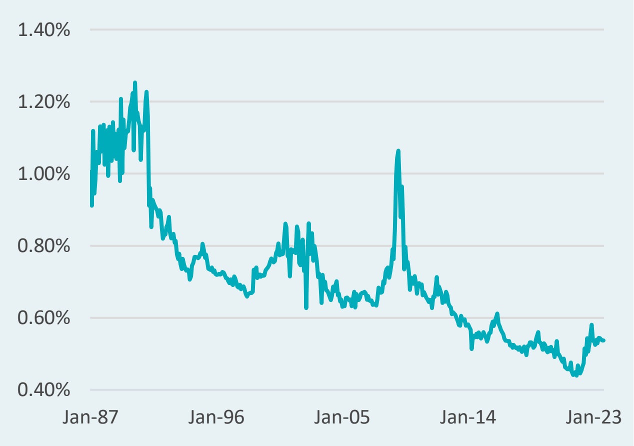
Credit spreads were broadly unchanged during the quarter despite concerns related to an economic slowdown, the potential for higher interest rates, increased credit stress, and lower equity prices. Lower-quality, CCC-rated high-yield bond spreads fell by 0.2% to 9.2%, while investment grade spreads decreased by roughly 0.1% to 1.3%. Broadly, spreads remain slightly below their long-term historical averages, which suggests that investors remain confident about the ability of those companies to service their debt. That said, should the U.S. economy begin to weaken, credit spreads could move higher as confidence fades.

SPREADS



Source: Barclays, Bloomberg, as of 9/30/23

HIGH YIELD BONDS MONTHLY INCOME RETURN



Source: Bloomberg, as of 9/30/23

CREDIT SPREAD (OAS)

Market	9/30/23	9/30/22
Long U.S. Corp	1.3%	2.0%
U.S. Inv Grade Corp	1.2%	1.6%
U.S. High Yield	3.9%	5.5%
U.S. Bank Loans*	5.2%	6.0%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/23
**Discount margin (4-year life)*

Equity environment

— Global equities delivered negative performance during the quarter (MSCI ACWI -3.4%). Weakness in markets was broad-based, with international developed (MSCI EAFE -4.1%) slightly underperforming domestic and emerging market equities (S&P 500 -3.3%, MSCI EM -2.9%).

— Over the quarter, the valuation gap between domestic and international equites grew even larger. An analysis of international developed Price/Earnings ratios shows that all sectors currently hold a valuation discount relative to U.S. shares, and that those discounts are generally much wider than the historical average.

— Currency movements dragged portfolio performance lower for investors with unhedged foreign currency exposure. Investors with unhedged international developed equity exposure saw losses of -3.6% due to currency volatility during the quarter.

— U.S. investors continue to face a difficult environment for style factor investing. Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance of growth stocks and large cap stocks. However, value investing has delivered exceptional results in international developed markets, with value stocks outperforming growth by 11.5%.

— The Cboe VIX implied volatility index remained below-average for most of the third quarter, before rising to 17.5% to end September. Market risk has been falling fairly consistently throughout the year.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(3.3%)		21.6%	
U.S. Small Cap (Russell 2000)	(5.1%)		8.9%	
U.S. Equity (Russell 3000)	(3.3%)		20.5%	
U.S. Large Value (Russell 1000 Value)	(3.2%)		14.4%	
US Large Growth (Russell 1000 Growth)	(3.1%)		27.7%	
Global Equity (MSCI ACWI)	(3.4%)	(2.3%)	20.8%	20.4%
International Large (MSCI EAFE)	(4.1%)	(0.5%)	25.6%	24.1%
Eurozone (EURO STOXX 50)	(7.7%)	(4.3%)	39.4%	33.0%
U.K. (FTSE 100)	(1.9%)	2.2%	25.3%	16.0%
Japan (TOPIX)	(1.0%)	4.0%	25.7%	36.6%
Emerging Markets (MSCI Emerging Markets)	(2.9%)	(1.3%)	11.7%	11.1%

Source: Russell Investments, MSCI, STOXX, FTSE, JPX, as of 9/30/23

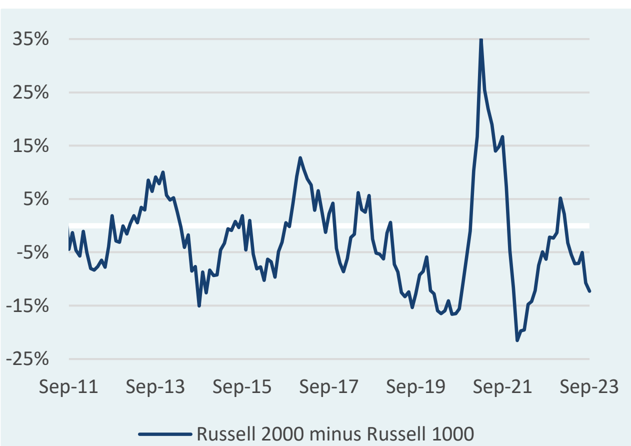
Domestic equity size & style

Investors continue to face a difficult environment for style factor investing. Value underperformed growth mildly during the quarter (-3.2% vs. -3.1%), with sector trends appearing to have had less of an impact on value vs. growth stocks during Q2. Small cap equities materially lagged large caps (-5.1% vs -3.3%). *Higher for longer* rate expectations likely contributed to a repricing of growth-focused assets that are more sensitive to interest rate fluctuations.

Over the past year, mega cap growth stocks have propelled the U.S. market higher, leading to dramatic outperformance of growth stocks and large cap stocks. Many of these market-leading stocks are concentrated in the Information Technology and Telecom sectors, which have outperformed the overall index (+41.1% and 38.5%, respectively).

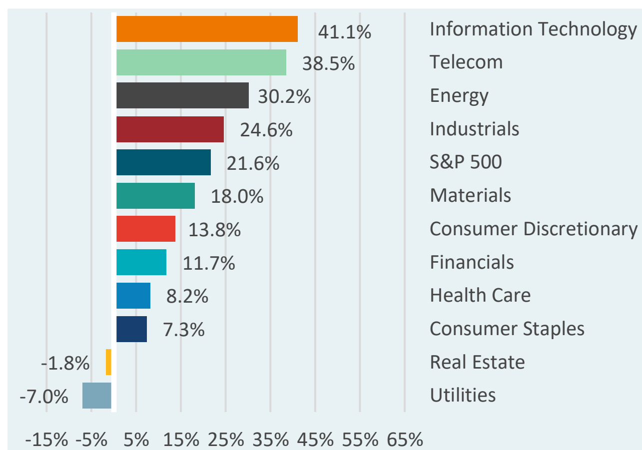
In recent years value stocks have been extremely cheap. Value has rarely been this discounted relative to growth, and during the few historical periods when this was the case, value outperformed significantly. However, value has failed to deliver similar outperformance during the current period.

SMALL CAP VS LARGE CAP (YOY)



Source: FTSE, as of 9/30/23

VALUE VS GROWTH (YOY)



Source: Morningstar, as of 9/30/23

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	14.4%	21.2%	27.7%
Mid Cap	11.0%	13.4%	17.5%
Small Cap	7.8%	8.9%	9.6%

Source: FTSE, as of 9/30/23

International developed equity

International developed shares fell -4.1% during Q3 in unhedged currency terms, underperforming U.S. and emerging markets. However, international developed equities in hedged currency terms were the best performing markets (returning -0.5%), as currency hedging would have avoided the U.S. dollar surge fueled by a *higher for longer* interest rate narrative.

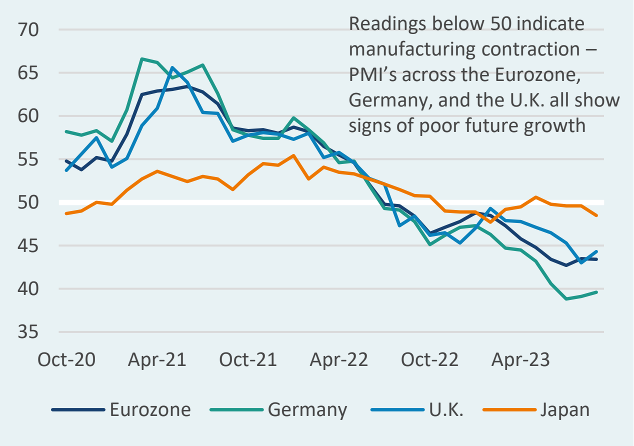
Underperformance within the Eurozone dragged the overall index lower, with the STOXX 50 Index falling -7.7% over the quarter in unhedged terms—the worst performer across regional indices. The broader bloc continues to struggle to bring down inflation, while policymakers also deal with stagnant economic growth. In contrast to weakness seen from European shares, Japanese equities delivered another quarter of positive performance in unhedged terms (TOPIX -1.0%), and significant outperformance in currency hedged terms (+4.0%). While a weaker Japanese Yen (JPY) hurt performance in U.S. dollar terms, the weak JPY has boosted local corporate earnings. These currency movements combined with meaningful inflation and equity reforms—meant to spark investment in wages, higher growth, and therefore shareholder value—have been a tailwind to strong year-over-year Japanese equity performance.

Overall, we believe international developed equities are less attractive in the near-term, specifically due to the economic headwinds facing the U.K. and broader Eurozone.

INTERNATIONAL DEVELOPED EQUITY

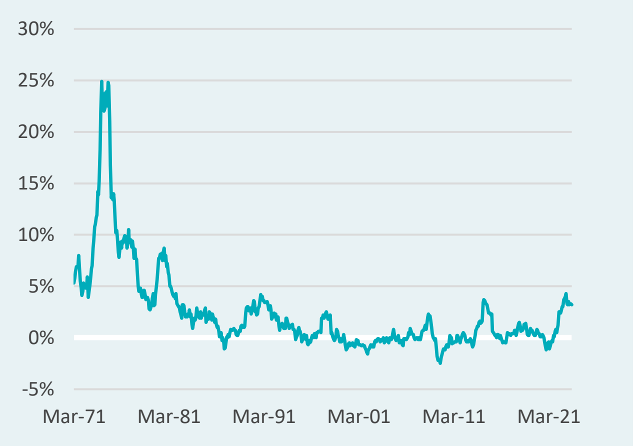
Source: MSCI, as of 9/30/23

MANUFACTURING PMI



Source: S&P Global, as of 9/30/23

JAPANESE CPI



Source: Japan MIC, as of 8/31/23

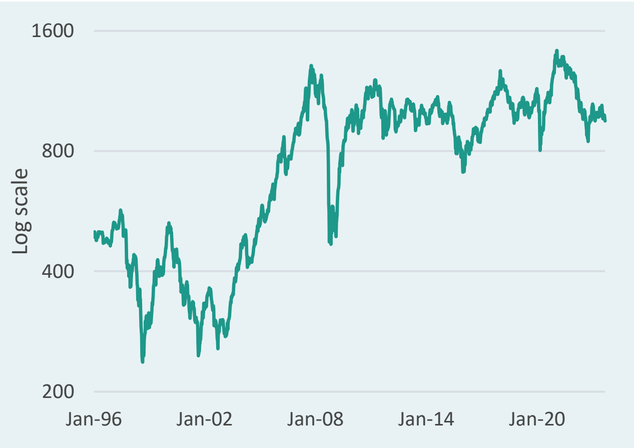
Emerging market equity

Emerging market equities outperformed domestic equities and international developed equities in Q3. The MSCI EM Index fell -2.9%, while the S&P 500 was -3.3% lower and the MSCI EAFE Index dropped -4.1%. Emerging markets have provided only a 2.1% annualized return over the past decade.

From an individual country perspective, the two largest weights in the index—China and India—outperformed, although Chinese equities were still -1.9% lower. This impact counterbalanced losses across other markets, since the combined weight of both countries makes up approximately 45% of the MSCI Emerging Markets Index.

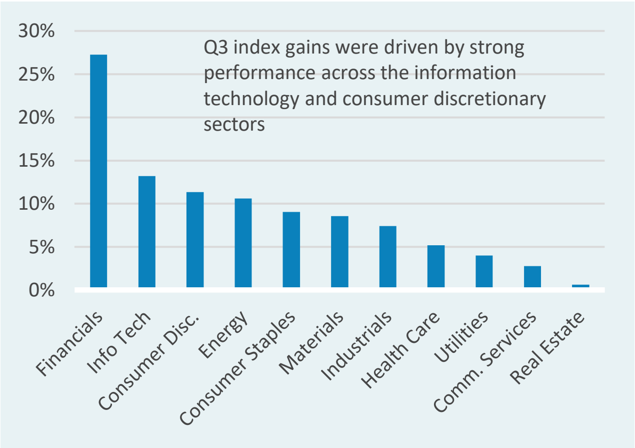
Emerging market equities continue to offer fairly cheap valuations, yet sentiment has grown negative, especially as concerns around China are now mainstream. Outside of geopolitical tensions, the Chinese economy continues to show signs of struggle despite some small government stimulus efforts. The property market remains a large pain point, evidenced by credit stress and falling contracted sales amongst large property developers such as Country Garden and Evergrande.

EMERGING MARKET EQUITY



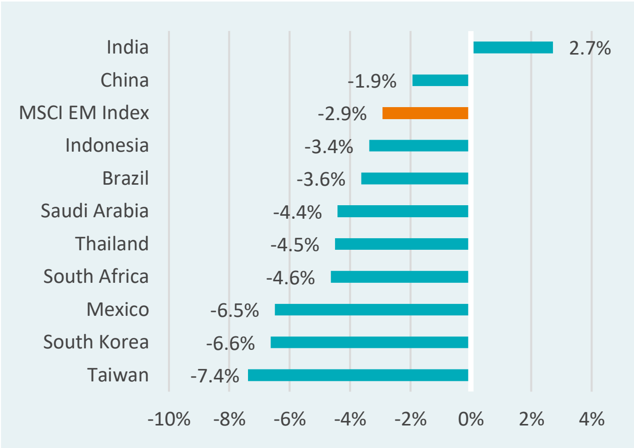
Source: MSCI, as of 9/30/23

MSCI INDIA SECTOR WEIGHTS



Source: MSCI, as of 9/30/23

Q3 2023 MSCI EM COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 9/30/23

Equity valuations

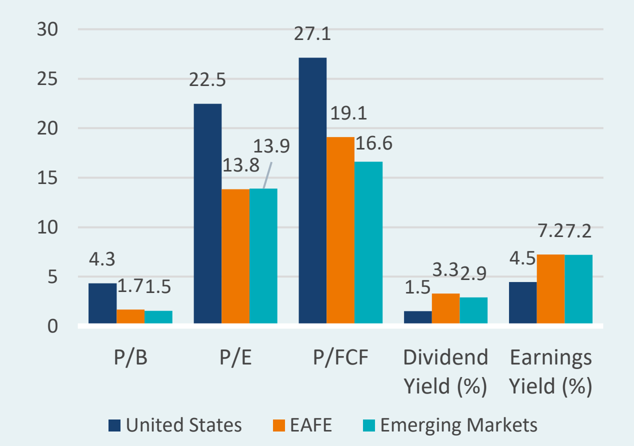
Equity valuation disparities have grown even wider. U.S. equities are now priced at more than a 60% valuation premium (Price/Earnings) over international developed, averaging 22.5 and 13.8, respectively, during the quarter. Some of this gap can be explained by the greater concentration of U.S. markets in the technology sector, which tends to command higher valuations. However, as we see on the next slide, nearly all sectors are materially more expensive in U.S. markets relative to international developed markets.

Despite very large valuation differences, we believe international developed equities currently provide lower growth potential and unique challenges which may lead to further near-term underperformance relative to U.S equities.

Core fixed income now offers a yield greater than U.S. equities for the first time in more than two decades. Quickly rising interest rates should have theoretically resulted in a sharp fall in equity valuations in order to maintain the "equity risk premium" of stock returns over bond returns. This effect has not yet occurred, which may lead many investors to view bonds as relatively attractive (and stocks relatively less attractive) in the current environment.

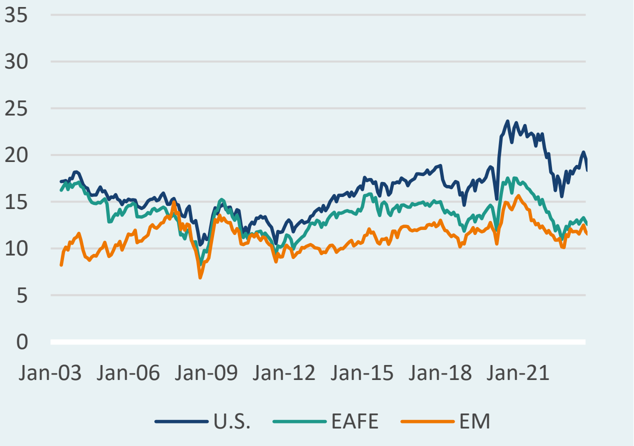
Core fixed income is yielding more than equities for the first time in two decades

MSCI VALUATION METRICS (3-MONTH AVG)



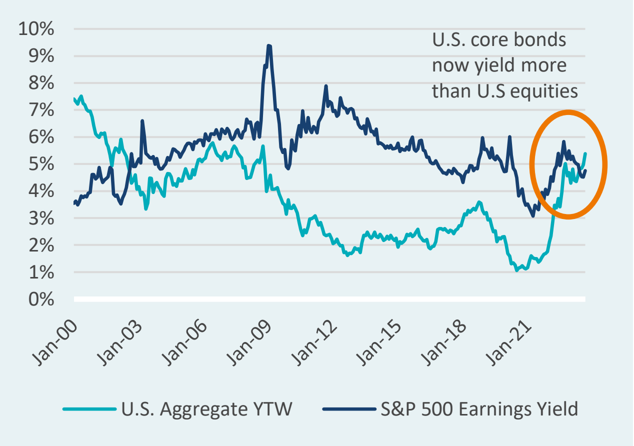
Source: Bloomberg, as of 9/30/23

FORWARD PRICE/EARNINGS RATIO



Source: MSCI, Bloomberg, as of 9/30/23

U.S. VALUATIONS: BONDS VS. STOCKS



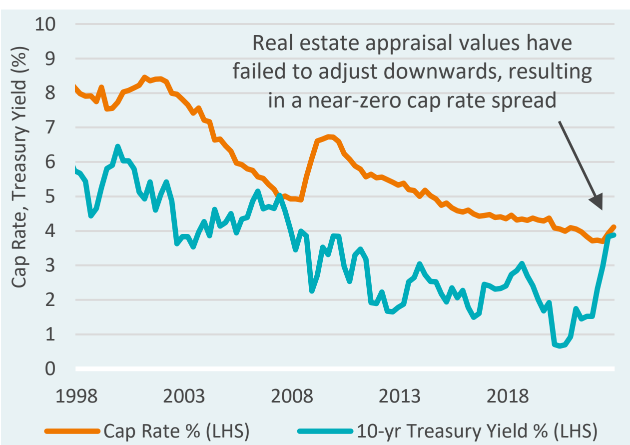
Source: Bloomberg, Standard & Poor's, as of 9/30/23

Private real estate stalemate?

As summer ends, the real estate market looks much like it did as it began. Real estate transaction activity continues to be frozen, as buyers and sellers disagree about pricing, leading to a very large bid-ask spread. Private valuations remain higher than public, and write-downs should continue over the next several quarters. While movement has been slow thus far, opportunities may pick up as a wall of low interest rate loan maturities will be coming due and asset owners will need to either refinance at much higher rates, provide additional capital, and/or sell assets.

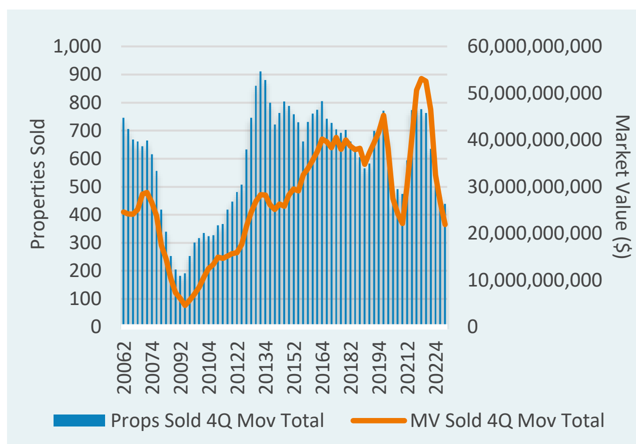
New capital should find a compelling environment to deploy in over the next several years at lower entry pricing. We are favoring managers experienced with investing in stressed and distressed environments and those with flexibility to invest across the debt and equity capital spectrum.

REAL ESTATE CAP RATE VS U.S. TREASURY YIELD



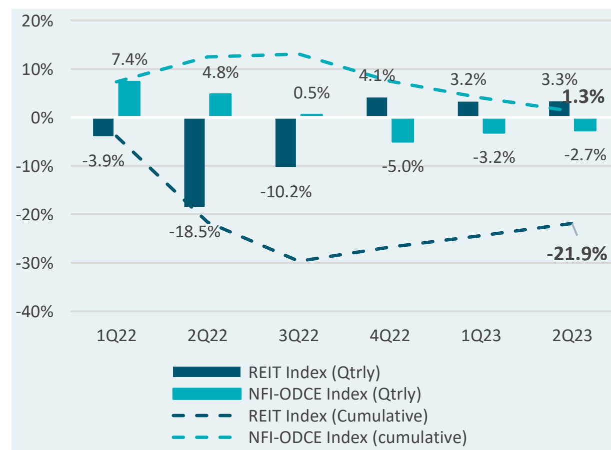
Source: NCREIF trends Report Q2

PROPERTY SALES (ANNUALIZED)



Source: NCREIF trends Report Q2 2023

PUBLIC VS PRIVATE REAL ESTATE PERFORMANCE

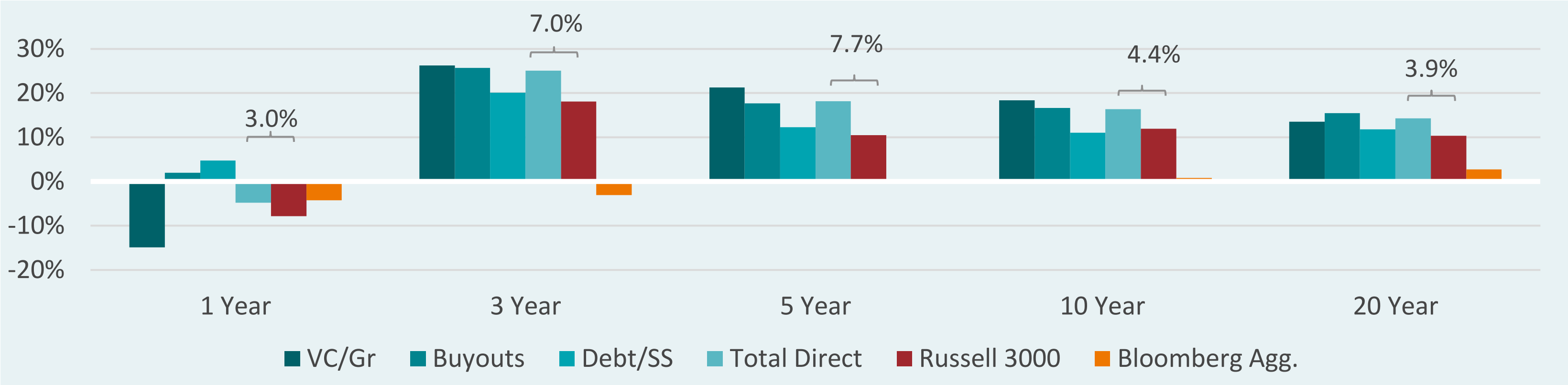


Source: NCREIF, Wilshire REIT Index

Verus

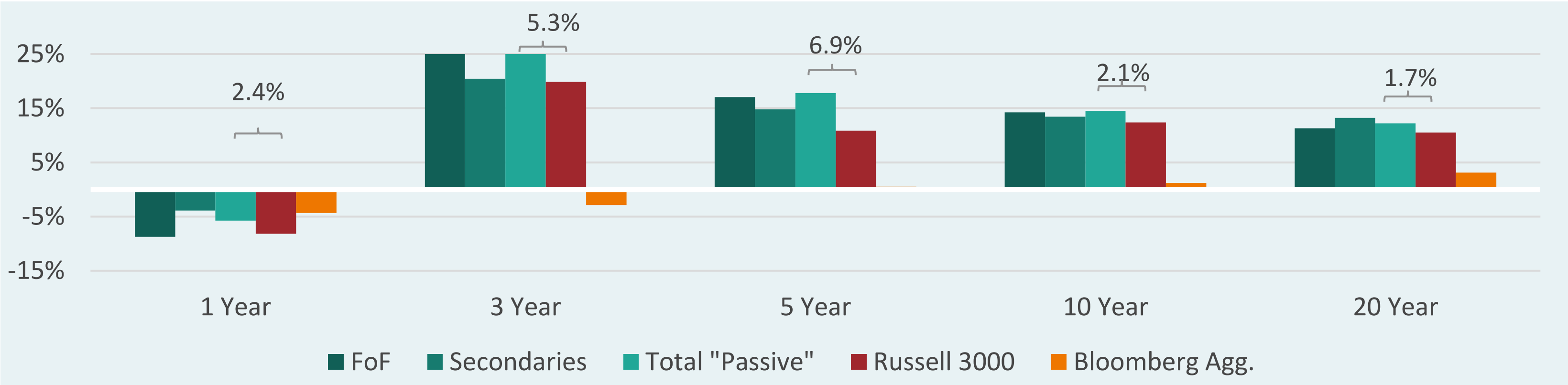
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed comparable public equites across all time periods.

"PASSIVE" STRATEGIES



"Passive" strategies outperformed comparable public equities across all time periods.

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of March 31, 2023. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

Detailed index returns

DOMESTIC EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	(4.8)	(3.3)	13.1	21.6	10.2	9.9	11.9
S&P 500 Equal Weighted	(5.1)	(4.9)	1.8	13.6	11.4	8.0	10.2
DJ Industrial Average	(3.4)	(2.1)	2.7	19.2	8.6	7.1	10.8
Russell Top 200	(4.6)	(2.7)	16.3	23.9	10.0	10.8	12.6
Russell 1000	(4.7)	(3.1)	13.0	21.2	9.5	9.6	11.6
Russell 2000	(5.9)	(5.1)	2.5	8.9	7.2	2.4	6.6
Russell 3000	(4.8)	(3.3)	12.4	20.5	9.4	9.1	11.3
Russell Mid Cap	(5.0)	(4.7)	3.9	13.4	8.1	6.4	9.0
Style Index							
Russell 1000 Growth	(5.4)	(3.1)	25.0	27.7	8.0	12.4	14.5
Russell 1000 Value	(3.9)	(3.2)	1.8	14.4	11.1	6.2	8.4
Russell 2000 Growth	(6.6)	(7.3)	5.2	9.6	1.1	1.6	6.7
Russell 2000 Value	(5.2)	(3.0)	(0.5)	7.8	13.3	2.6	6.2

INTERNATIONAL EQUITY

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	(4.1)	(3.4)	10.1	20.8	6.9	6.5	7.6
MSCI ACWI ex US	(3.2)	(3.8)	5.3	20.4	3.7	2.6	3.3
MSCI EAFE	(3.4)	(4.1)	7.1	25.6	5.8	3.2	3.8
MSCI EM	(2.6)	(2.9)	1.8	11.7	(1.7)	0.6	2.1
MSCI EAFE Small Cap	(4.4)	(3.5)	1.8	17.9	1.1	0.8	4.3
Style Index							
MSCI EAFE Growth	(6.0)	(8.6)	4.3	20.0	0.4	3.2	4.4
MSCI EAFE Value	(0.8)	0.6	9.9	31.5	11.1	2.8	3.0
Regional Index							
MSCI UK	(0.8)	(1.5)	6.8	24.9	12.1	2.9	2.5
MSCI Japan	(2.1)	(1.6)	11.2	25.9	2.8	2.1	4.4
MSCI Euro	(5.4)	(7.5)	10.9	36.4	7.3	3.7	3.8
MSCI EM Asia	(2.6)	(2.9)	1.0	11.9	(3.5)	1.0	3.8
MSCI EM Latin American	(2.3)	(4.7)	12.9	19.4	15.1	2.8	0.2

FIXED INCOME

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	(1.8)	(2.6)	(0.8)	1.2	(2.0)	2.1	1.7
Bloomberg US Treasury Bills	0.4	1.3	3.6	4.6	1.7	1.7	1.1
Bloomberg US Agg Bond	(2.5)	(3.2)	(1.2)	0.6	(5.2)	0.1	1.1
Bloomberg US Universal	(2.4)	(2.9)	(0.6)	1.6	(4.7)	0.3	1.4
Duration							
Bloomberg US Treasury 1-3 Yr	(0.0)	0.7	1.7	2.4	(0.9)	1.0	0.8
Bloomberg US Treasury Long	(7.3)	(11.8)	(8.6)	(9.1)	(15.7)	(2.8)	0.8
Bloomberg US Treasury	(2.2)	(3.1)	(1.5)	(0.8)	(5.8)	(0.1)	0.6
Issuer							
Bloomberg US MBS	(3.2)	(4.1)	(2.3)	(0.2)	(5.1)	(0.8)	0.6
Bloomberg US Corp. High Yield	(1.2)	0.5	5.9	10.3	1.8	3.0	4.2
Bloomberg US Agency Interm	(0.3)	0.2	1.6	2.5	(2.0)	0.7	0.9
Bloomberg US Credit	(2.6)	(3.0)	0.0	3.5	(4.8)	0.9	2.1

OTHER

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	(0.7)	4.7	(3.4)	(1.3)	16.2	6.1	(0.7)
Wilshire US REIT	(6.5)	(6.4)	(0.2)	3.9	5.7	2.9	6.0
CS Leveraged Loans	0.9	3.4	9.9	12.5	5.9	4.3	4.3
S&P Global Infrastructure	(4.7)	(7.3)	(3.7)	6.9	7.3	4.1	5.1
Alerian MLP	2.4	9.4	20.2	32.7	43.5	6.4	1.7
Regional Index							
JPM EMBI Global Div	(2.6)	(2.2)	1.8	10.0	(4.6)	(0.4)	2.5
JPM GBI-EM Global Div	(3.4)	(3.3)	4.3	13.1	(2.7)	(0.0)	(0.8)
Hedge Funds							
HFRI Composite	(0.2)	0.8	4.3	6.7	6.9	5.0	4.6
HFRI FOF Composite	(0.2)	0.7	3.0	4.8	3.8	3.4	3.3
Currency (Spot)							
Euro	(2.5)	(3.0)	(0.8)	8.1	(3.4)	(1.8)	(2.4)
Pound Sterling	(3.7)	(4.0)	1.5	9.3	(1.9)	(1.3)	(2.8)
Yen	(2.4)	(3.1)	(11.6)	(3.0)	(10.9)	(5.3)	(4.1)

Source: Morningstar, HFRI, as of 9/30/23.

Investment Performance

Illinois Police Officers' Pension Investment Fund

Investment Performance Review
Period Ending: September 30, 2023

Verus®

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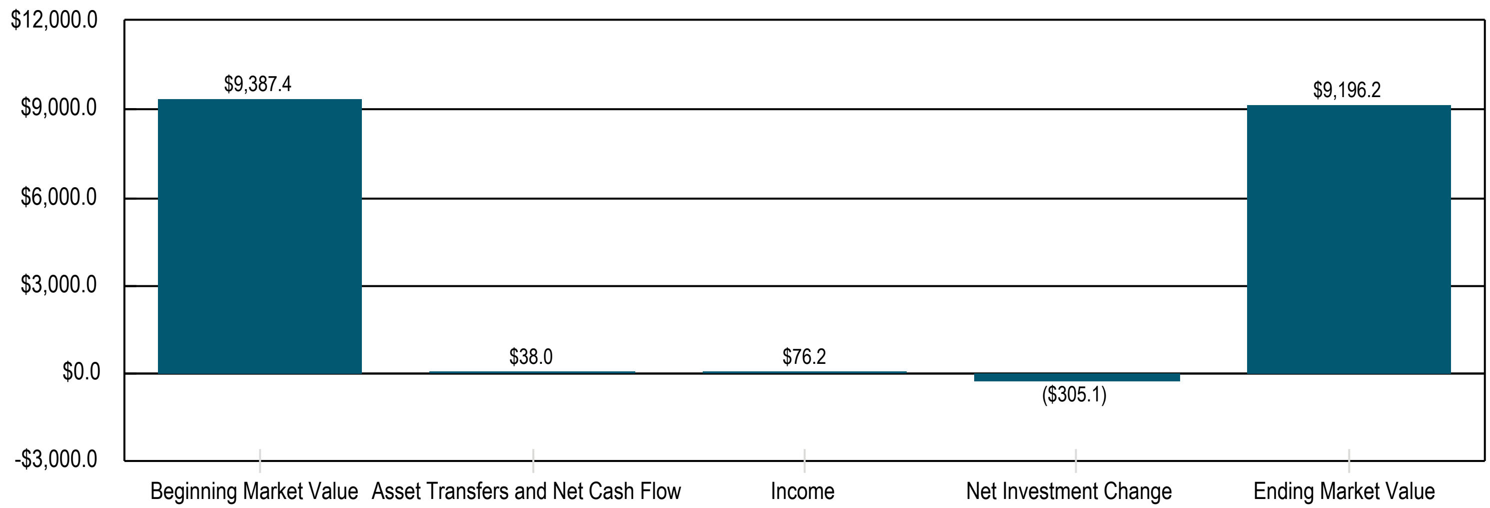
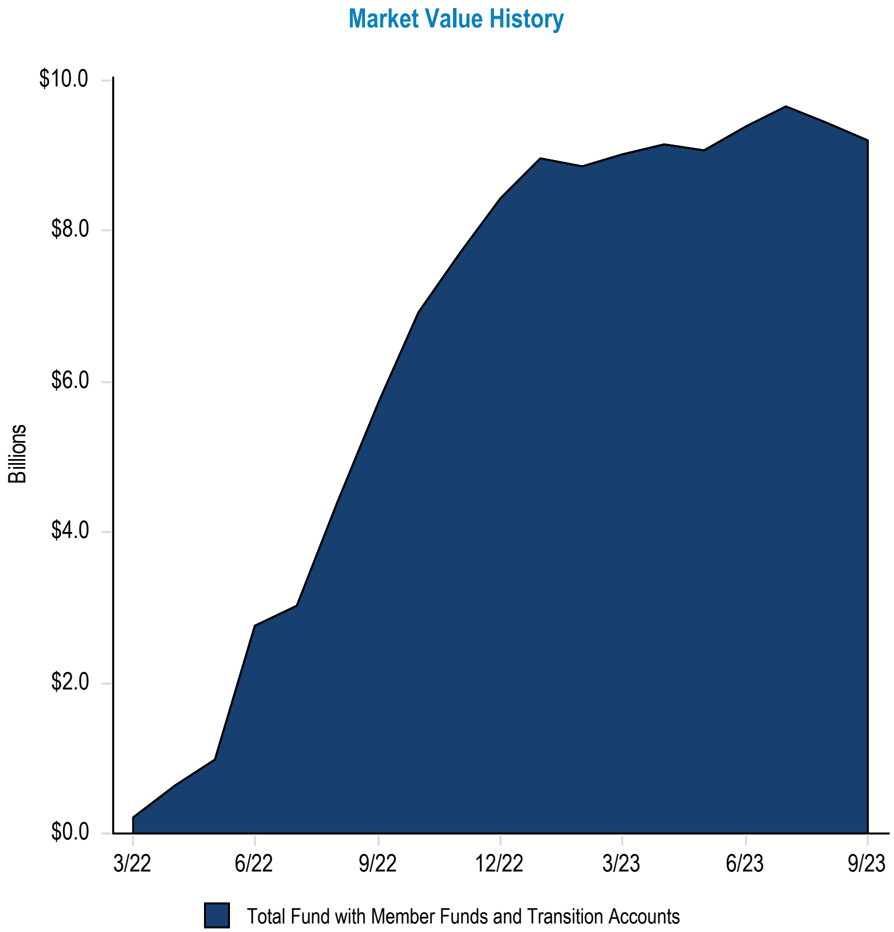
Portfolio Reconciliation

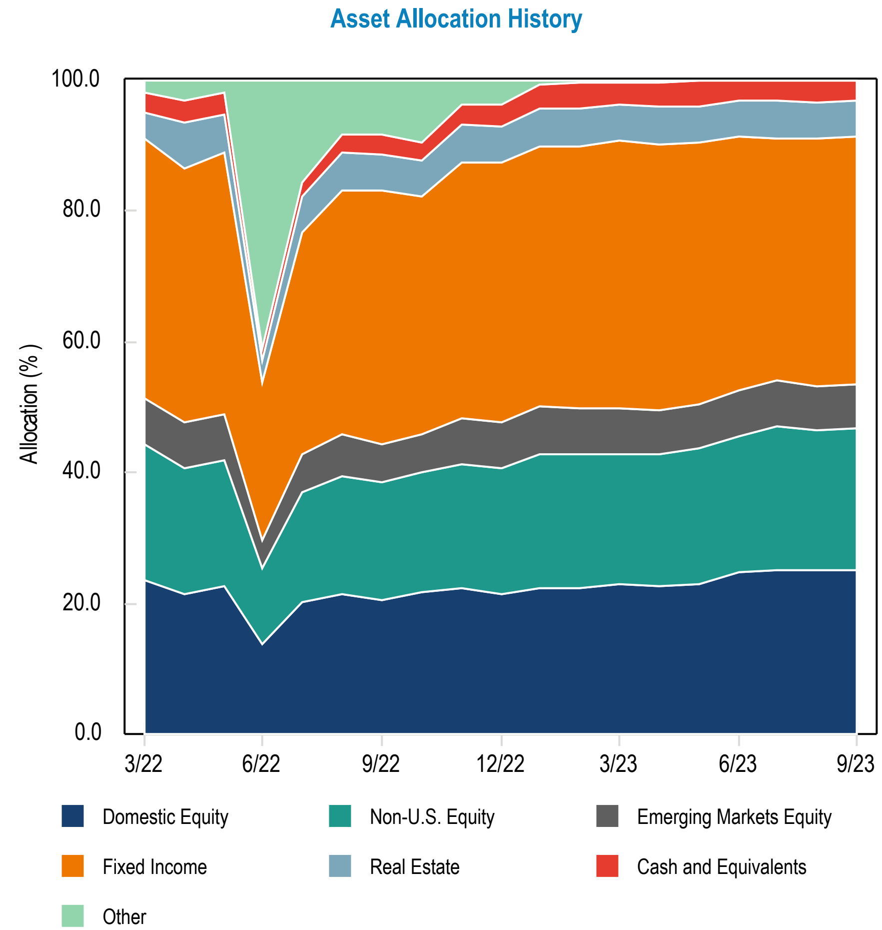
	Quarter-To-Date	Fiscal Year-To-Date
Beginning Market Value	$9,387,424,024	$9,387,424,024
Asset Transfers and Net Cash Flow	$37,994,040	$37,994,040
Income	$76,213,742	$76,213,742
Net Investment Change	-$305,119,094	-$305,119,094
Ending Market Value	**$9,196,231,760**	**$9,196,231,760**

Change in Market Value
Last Three Months

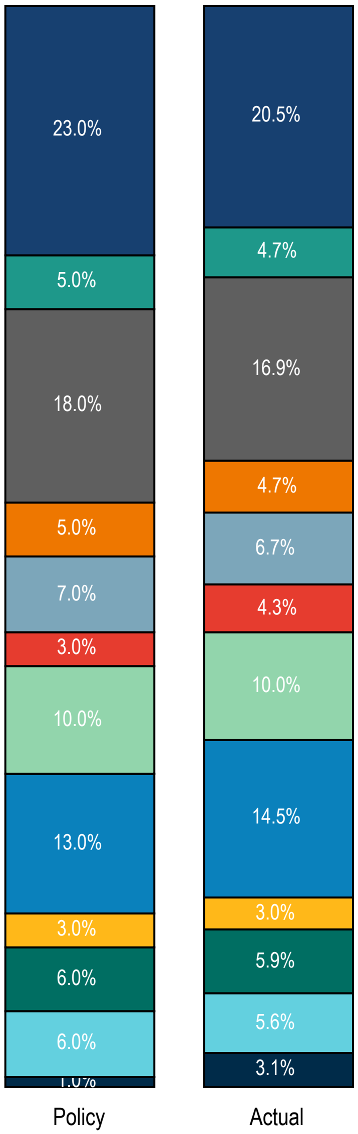


The portfolio reconciliation includes the Member Funds and Transition Account. Income excludes Member Funds and Transition Account. Income is calculated using the actual dividend and income received from separate accounts and estimated income and dividends for commingled funds. The income and dividends for RhumbLine Russell 1000 Index, RhumbLine Russell 2000 Index, SSgA US TIPS Index and Cash are sourced from State Street custodial reports. The income and dividends for the SSGA commingled funds are an estimate based on the current yield for bond funds and the dividend yield for equity funds. SSGA can use dividend and income to cover fund expenses, so the actual income that flows to the IPOPIF may be different than reported. Income for the Principal RE fund is based on a monthly income spreadsheet received from Principal via email.





Market value and asset class history includes Transition Accounts and Member Funds as represented by the Other category in the asset allocation history chart. The large allocation to the Other Category for 6/22 reflects assets in transition associated with the 6/24/22 Transfer Date.



	Current Balance ($)	Current Allocation (%)	Policy Allocation (%)	Excess Allocation (%)	Excess Allocation ($)	Policy Range (%)	Within IPS Range?
Domestic Equity Large Cap	1,884,842,515	20.5	23.0	-2.5	-230,290,790	21.0 - 25.0	No
Domestic Equity Small Cap	427,987,216	4.7	5.0	-0.3	-31,824,372	4.0 - 6.0	Yes
International Equity Large Cap	1,555,687,019	16.9	18.0	-1.1	-99,634,697	16.0 - 20.0	Yes
International Equity Small Cap	434,758,925	4.7	5.0	-0.3	-25,052,663	4.0 - 6.0	Yes
Emerging Markets Equity	620,688,961	6.7	7.0	-0.3	-23,047,262	6.0 - 8.0	Yes
Domestic Fixed Income Core	399,348,805	4.3	3.0	1.3	123,461,852	2.0 - 4.0	No
Domestic Fixed Income High Yield	923,848,187	10.0	10.0	0.0	4,225,011	9.0 - 11.0	Yes
Domestic Fixed Income Short Term	1,336,447,595	14.5	13.0	1.5	140,937,466	11.0 - 15.0	Yes
Domestic Fixed Income Real Return	272,872,066	3.0	3.0	0.0	-3,014,887	2.0 - 4.0	Yes
Emerging Markets Fixed Income	540,696,293	5.9	6.0	-0.1	-11,077,612	5.0 - 7.0	Yes
Real Estate	517,152,195	5.6	6.0	-0.4	-34,621,711	5.0 - 7.0	Yes
Cash and Equivalents	281,901,983	3.1	1.0	2.1	189,939,666	0.0 - 2.0	No
Total	**9,196,231,760**	**100.0**	**100.0**	**0.0**			

Asset Allocation reflects short-term policy targets and excludes the Transition Account and Member Funds.

	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
Total Fund with Member and Transition Accounts	**9,196,231,760**	**100.0**	**-2.4**	**4.5**	**-2.4**	**11.6**	**-2.7**	**03/01/22**
Policy Index			*-2.4*	*4.9*	*-2.4*	*11.8*	*-2.8*	
Policy Index- Broad Based			*-3.4*	*5.9*	*-3.4*	*14.8*	*-4.4*	
IPOPIF Investment Portfolio	**9,196,231,760**	**100.0**	**-2.4**	**4.5**	**-2.4**	**11.6**	**-3.3**	**04/01/22**
Policy Index			*-2.4*	*4.9*	*-2.4*	*11.8*	*-3.2*	
Policy Index- Broad Based			*-3.4*	*5.9*	*-3.4*	*14.8*	*-5.0*	
Growth	**4,923,964,636**	**53.5**	**-3.6**	**7.5**	**-3.6**	**19.4**	**-4.2**	**04/01/22**
Growth Benchmark			*-3.6*	*7.6*	*-3.6*	*18.8*	*-4.5*	
Income	**1,464,544,480**	**15.9**	**-0.5**	**4.5**	**-0.5**	**10.6**	**-3.4**	**04/01/22**
Income Benchmark			*-0.6*	*4.3*	*-0.6*	*10.3*	*-1.8*	
Inflation Protection	**790,024,261**	**8.6**	**-4.0**	**-2.3**	**-4.0**	**-1.6**	**-7.6**	**04/01/22**
Inflation Protection Benchmark			*-2.7*	*-0.6*	*-2.7*	*0.9*	*-8.2*	
Risk Mitigation	**2,017,600,856**	**21.9**	**-0.1**	**1.6**	**-0.1**	**2.7**	**-0.8**	**04/01/22**
Risk Mitigation Benchmark			*0.1*	*1.6*	*0.1*	*2.8*	*-0.8*	
IPOPIF Pool Fixed Income Transition	**97,527**	**0.0**						
Transition Accounts	-	0.0						
Member Accounts	-	0.0						

Effective 5/1/2023: Policy Index constituents include 1% 90 day T-bill, 13% Bloomberg 1-3 Year Gov/Credit Index, 3% Bloomberg U.S. Aggregate Index, 3% Bloomberg U.S. TIPS 0-5 Year, 10% Bloomberg U.S. Corporate High Yield Index, 6% JPM EMBI Global Diversified, 23% Russell 1000, 5% Russell 2000, 18% MSCI World Ex US (Net), 5% MSCI World Ex US Small Cap (Net), 7% MSCI Emerging Markets (Net), 4% Wilshire U.S. REIT Index and 2% NFI-ODCE Equal Weight. Broad Based Policy Index constituents: 70% MSCI ACWI IMI (Net), 30% Bloomberg Global Multiverse. The growth, income, inflation protection and risk mitigation benchmarks are underlying asset class benchmarks normalized for composite weights.

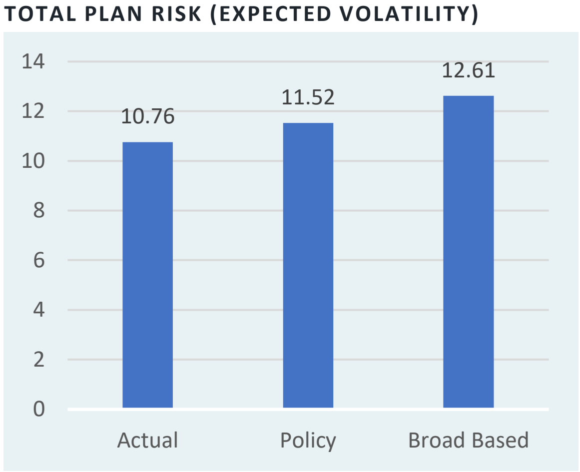
	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
Total Fund with Member and Transition Accounts	**9,196,231,760**	**100.0**	**-2.4**	**4.5**	**-2.4**	**11.6**	**-2.7**	**03/01/22**
Policy Index			*-2.4*	*4.9*	*-2.4*	*11.8*	*-2.8*	
Policy Index- Broad Based			*-3.4*	*5.9*	*-3.4*	*14.8*	*-4.4*	
All Public Plans > $1B-Total Fund Rank			*72*	*51*	*72*	*15*		
IPOPIF Investment Portfolio	**9,196,231,760**	**100.0**	**-2.4**	**4.5**	**-2.4**	**11.6**	**-3.3**	**04/01/22**
Policy Index			*-2.4*	*4.9*	*-2.4*	*11.8*	*-3.2*	
Policy Index- Broad Based			*-3.4*	*5.9*	*-3.4*	*14.8*	*-5.0*	
All Public Plans > $1B-Total Fund Rank			*72*	*51*	*72*	*14*		
Growth	**4,923,964,636**	**53.5**	**-3.6**	**7.5**	**-3.6**	**19.4**	**-4.2**	**04/01/22**
Growth Benchmark			*-3.6*	*7.6*	*-3.6*	*18.8*	*-4.5*	
RhumbLine Russell 1000 Index	1,884,842,515	20.5	-3.1	13.0	-3.1	21.2	3.0	03/15/22
Russell 1000 Index			*-3.1*	*13.0*	*-3.1*	*21.2*	*3.1*	
eV US Large Cap Core Equity Rank			*50*	*24*	*50*	*31*		
RhumbLine Russell 2000 Index	427,987,216	4.7	-5.1	2.5	-5.1	8.9	-4.2	03/15/22
Russell 2000 Index			*-5.1*	*2.5*	*-5.1*	*8.9*	*-3.8*	
eV US Small Cap Core Equity Rank			*64*	*66*	*64*	*79*		
SSgA Non-US Developed Index	1,555,687,019	16.9	-4.1	7.1	-4.1	24.4	1.8	03/10/22
MSCI World ex U.S. (Net)			*-4.1*	*6.7*	*-4.1*	*24.0*	*1.4*	
eV EAFE Core Equity Rank			*47*	*34*	*47*	*38*		
SSgA Non-US Developed SC Index	434,758,925	4.7	-3.3	2.0	-3.3	17.4	-4.8	03/10/22
MSCI World ex U.S. Small Cap Index (Net)			*-3.5*	*1.8*	*-3.5*	*17.3*	*-5.0*	
eV EAFE Small Cap Core Rank			*33*	*62*	*33*	*66*		
SSgA Emerging Markets Equity Index	620,688,961	6.7	-3.2	1.7	-3.2	12.2	-6.4	03/10/22
MSCI Emerging Markets (Net)			*-2.9*	*1.8*	*-2.9*	*11.7*	*-5.4*	
eV Emg Mkts Equity Rank			*51*	*66*	*51*	*63*		
Income	**1,464,544,480**	**15.9**	**-0.5**	**4.5**	**-0.5**	**10.6**	**-3.4**	**04/01/22**
Income Benchmark			*-0.6*	*4.3*	*-0.6*	*10.3*	*-1.8*	
SSgA High Yield Corporate Credit	923,848,187	10.0	0.5	6.1	0.5	10.8	-0.9	03/18/22
Spliced SSgA U.S. High Yield Index			*0.5*	*6.0*	*0.5*	*10.7*	*-0.9*	
eV US High Yield Fixed Inc Rank			*57*	*29*	*57*	*20*		
SSgA EMD Hard Index Fund	540,696,293	5.9	-2.2	1.8	-2.2	10.1	-4.1	03/14/22
JPM EMBI Global Diversified Index			*-2.2*	*1.8*	*-2.2*	*10.0*	*-3.9*	
Emerging Markets Bond Rank			*52*	*55*	*52*	*55*		

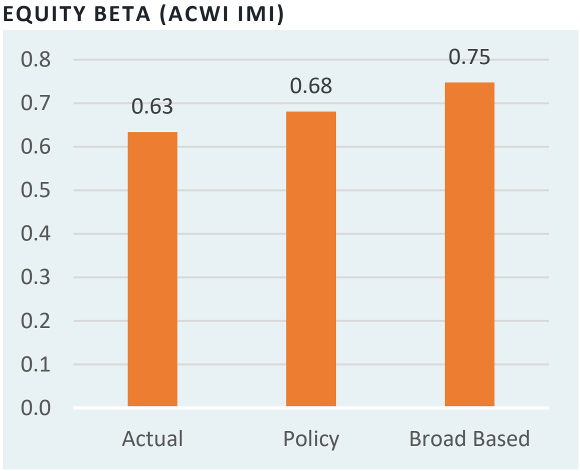
Effective 5/1/2023: Policy Index constituents include 1% 90 day T-bill, 13% Bloomberg 1-3 Year Gov/Credit Index, 3% Bloomberg U.S. Aggregate Index, 3% Bloomberg U.S. TIPS 0-5 Year, 10%Bloomberg U.S. Corporate High Yield Index, 6% JPM EMBI Global Diversified, 23% Russell 1000, 5% Russell 2000, 18% MSCI World Ex US (Net), 5% MSCI World Ex US Small Cap (Net), 7%MSCI Emerging Markets (Net), 4% Wilshire U.S. REIT Index and 2% NFI-ODCE Equal Weight. Broad Based Policy Index constituents: 70% MSCI ACWI IMI (Net), 30% Bloomberg Global Multiverse. Spliced SSgA U.S. High Yield Index consists of the Bloomberg U.S. High Yield Very Liquid Index thorugh 11/30/2022 and ICE BofA US High Yield Master II Constrained Index thereafter.

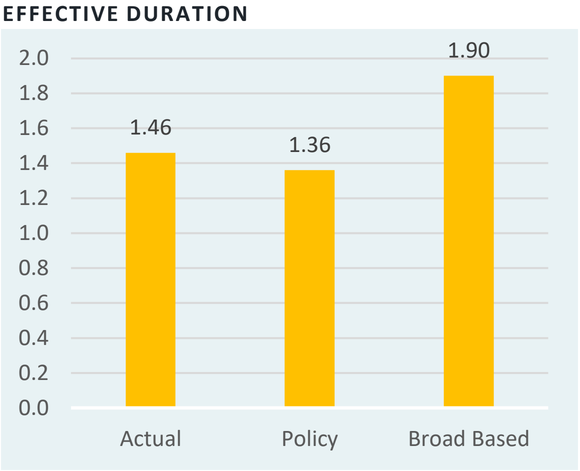
	Market Value	% of Portfolio	3 Mo	YTD	Fiscal YTD	1 Yr	Inception	Inception Date
Inflation Protection	**790,024,261**	**8.6**	**-4.0**	**-2.3**	**-4.0**	**-1.6**	**-7.6**	**04/01/22**
Inflation Protection Benchmark			*-2.7*	*-0.6*	*-2.7*	*0.9*	*-8.2*	
SSgA US TIPS Index	272,872,066	3.0	0.5	2.0	0.5	3.3	-1.4	03/17/22
Blmbg. U.S. TIPS 0-5 Year			*0.4*	*1.9*	*0.4*	*3.2*	*-1.2*	
eV US TIPS / Inflation Fixed Inc Rank			*6*	*3*	*6*	*9*		
SSgA REITs Index	350,899,762	3.8	-7.4	-2.1	-7.4	2.6	-14.1	03/16/22
Dow Jones U.S. Select REIT			*-7.4*	*-2.1*	*-7.4*	*2.6*	*-14.0*	
eV US REIT Rank			*32*	*35*	*32*	*27*		
Principal USPA	166,252,433	1.8	-3.9	-8.7	-3.9	-14.3	-7.8	04/06/22
NCREIF ODCE			*-2.1*	*-8.1*	*-2.1*	*-12.9*	*-5.9*	
Risk Mitigation	**2,017,600,856**	**21.9**	**-0.1**	**1.6**	**-0.1**	**2.7**	**-0.8**	**04/01/22**
Risk Mitigation Benchmark			*0.1*	*1.6*	*0.1*	*2.8*	*-0.8*	
SSgA Core Fixed Income Index	399,348,805	4.3	-3.2	-1.0	-3.2	0.7	-6.0	03/17/22
Blmbg. U.S. Aggregate Index			*-3.2*	*-1.2*	*-3.2*	*0.6*	*-6.0*	
eV US Core Fixed Inc Rank			*67*	*65*	*67*	*69*		
SSgA Short-Term Gov't/Credit Index	1,336,350,068	14.5	0.7	1.9	0.7	2.8	0.1	03/17/22
Blmbg. 1-3 Year Gov/Credit index			*0.7*	*1.9*	*0.7*	*2.8*	*0.1*	
eV US Short Duration Fixed Inc Rank			*52*	*68*	*52*	*73*		
Cash	281,901,983	3.1	1.3	3.6	1.3	4.2	2.9	03/22/22
90 Day U.S. Treasury Bill			*1.3*	*3.6*	*1.3*	*4.5*	*3.3*	
IPOPIF Pool Fixed Income Transition	**97,527**	**0.0**						
Transition Account	-	0.0						
Member Accounts	-	0.0						

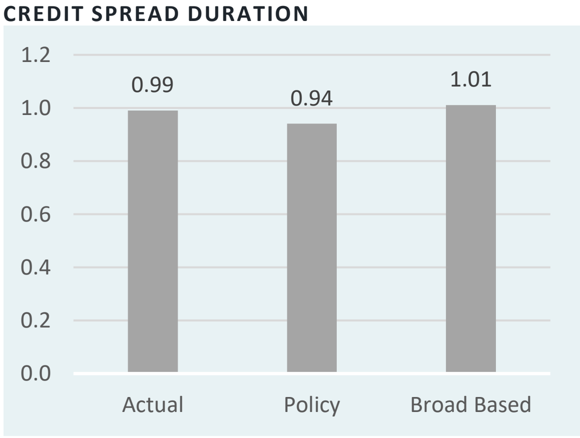
Effective 5/1/2023: Policy Index constituents include 1% 90 day T-bill, 13% Bloomberg 1-3 Year Gov/Credit Index, 3% Bloomberg U.S. Aggregate Index, 3% Bloomberg U.S. TIPS 0-5 Year, 10% Bloomberg U.S. Corporate High Yield Index, 6% JPM EMBI Global Diversified, 23% Russell 1000, 5% Russell 2000, 18% MSCI World Ex US (Net), 5% MSCI World Ex US Small Cap (Net), 7% MSCI Emerging Markets (Net), 4% Wilshire U.S. REIT Index and 2% NFI-ODCE Equal Weight. Broad Based Policy Index constituents: 70% MSCI ACWI IMI (Net), 30% Bloomberg Global Multiverse.

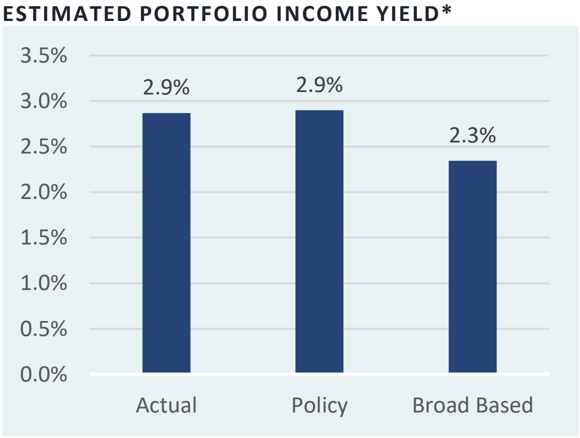
Portfolio Characteristics

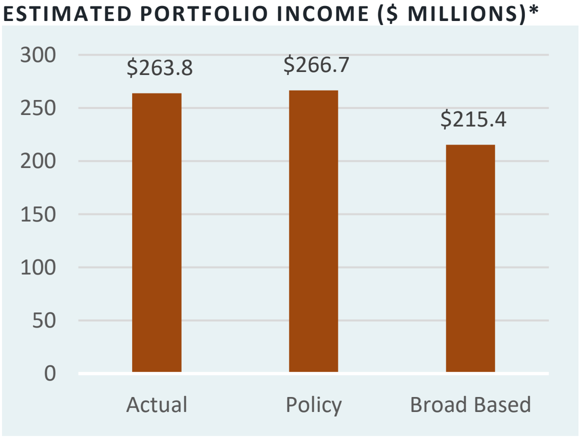












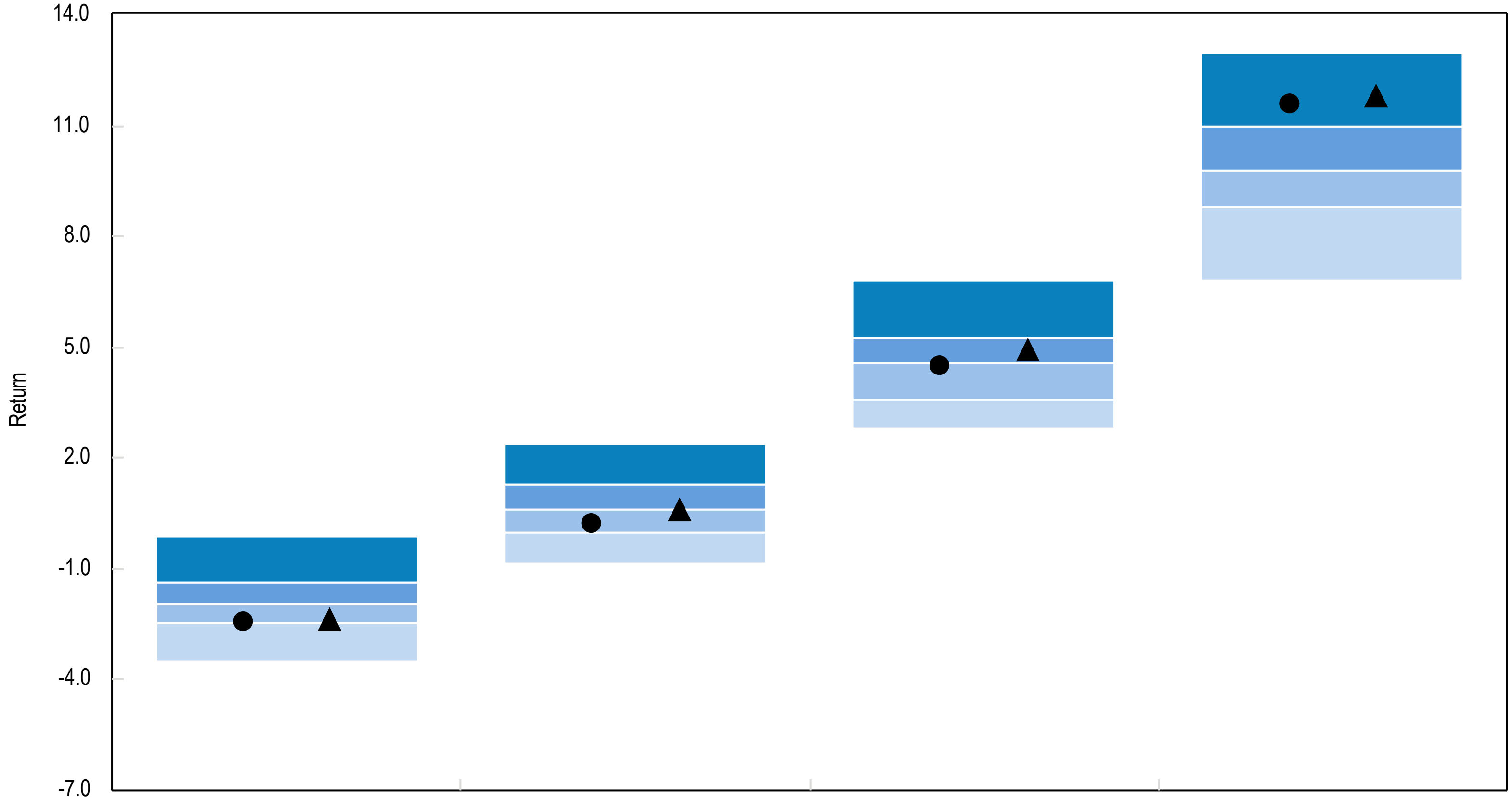
*Income Yield and Income are estimated based on dividend yields and coupon rates applied to benchmark weights and does not include factors such as dividend re-investment rates.
Source: Barra One using index holdings as representative proxies

Name	Asset Class	Vehicle Type	Market Value	% of Portfolio	Estimated Fee Value	Expense Fee (%)
RhumbLine Russell 1000 Index	Domestic Equity	Separate Account	$1,884,842,515	20.4958	$94,242	0.005
RhumbLine Russell 2000 Index	Domestic Equity	Separate Account	$427,987,216	4.6539	$21,399	0.005
SSgA Non-US Developed Index	Non-U.S. Equity	Commingled Fund	$1,555,687,019	16.9166	$248,910	0.016
SSgA Non-US Developed SC Index	Non-U.S. Equity	Commingled Fund	$434,758,925	4.7276	$69,561	0.016
SSgA Emerging Markets Equity Index	Emerging Markets Equity	Commingled Fund	$620,688,961	6.7494	$99,310	0.016
SSgA High Yield Corporate Credit	Fixed Income	Commingled Fund	$923,848,187	10.0459	$147,816	0.016
SSgA EMD Hard Index Fund	Fixed Income	Commingled Fund	$540,696,293	5.8795	$86,511	0.016
SSgA US TIPS Index	Fixed Income	Separate Account	$272,872,066	2.9672	$43,660	0.016
Principal USPA	Real Estate	Commingled Fund	$166,252,433	1.8078	$1,330,019	0.800
SSgA REITs Index	Real Estate	Commingled Fund	$350,899,762	3.8157	$56,144	0.016
SSgA Core Fixed Income Index	Fixed Income	Commingled Fund	$399,348,805	4.3425	$63,896	0.016
SSgA Short-Term Gov't/Credit Index	Fixed Income	Commingled Fund	$1,336,350,068	14.5315	$213,816	0.016
Cash	Cash and Equivalents	Commingled Fund	$281,901,983	3.0654		
IPOPIF Investment Portfolio			**$9,196,231,760**	**100.0000**	**$2,475,285**	**0.027**

SSGA charges a flat 0.0155% fee through 2Q 2023 and an aggregate asset-based fee thereafter.

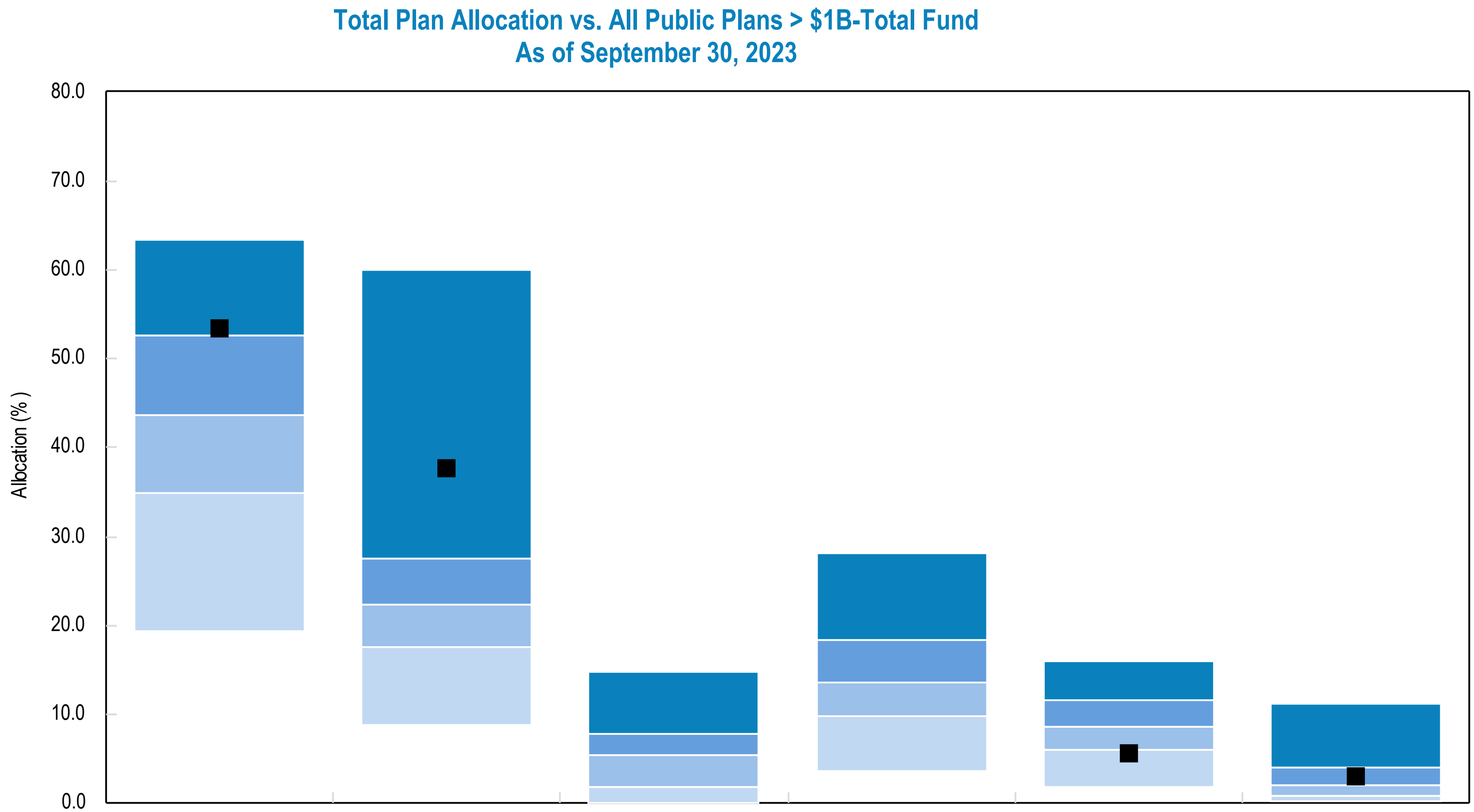
Name	Beginning Market Value	Contributions	Distributions	Net Cash Flows	Income	Fees	Net Investment Change	Ending Market Value
RhumbLine Russell 1000 Index	$1,880,266,517	$66,022,603	-	$66,022,603	$7,195,554	-$22,603	-$68,619,556	$1,884,842,515
RhumbLine Russell 2000 Index	$451,066,858	$5,600	-	$5,600	$1,736,108	-$5,600	-$24,815,750	$427,987,216
SSgA Non-US Developed Index	$1,501,340,863	$122,055,223	-	$122,055,223	$12,398,160	-$55,223	-$80,052,003	$1,555,687,019
SSgA Non-US Developed SC Index	$449,740,693	$17,414	-	$17,414	$3,432,751	-$17,414	-$18,414,519	$434,758,925
SSgA Emerging Markets Equity Index	$641,444,318	$24,515	-	$24,515	$4,563,313	-$24,515	-$25,318,670	$620,688,961
SSgA High Yield Corporate Credit	$919,511,235	$35,083	-	$35,083	$15,432,647	-$35,083	-$11,095,695	$923,848,187
SSgA EMD Hard Index Fund	$552,950,477	$20,990	-	$20,990	$8,347,480	-$20,990	-$20,601,664	$540,696,293
SSgA US TIPS Index	$271,520,898	$10,405	-	$10,405	$563,172	-$10,405	$787,997	$272,872,066
Principal USPA	$172,939,554	-	-	-	$1,763,169	-	-$8,450,290	$166,252,433
SSgA REITs Index	$356,432,029	$22,013,267	-	$22,013,267	$3,617,428	-$13,267	-$31,149,695	$350,899,762
SSgA Core Fixed Income Index	$545,434,819	$23,277	-$132,000,000	-$131,976,723	$4,014,702	-$23,277	-$18,100,715	$399,348,805
SSgA Short-Term Gov't/Credit Index	$1,356,222,079	$52,577	-$30,000,000	-$29,947,423	$9,375,412	-$52,577	$752,577	$1,336,350,068
Cash	$288,431,340	$166,083,792	-$176,375,746	-$10,291,954	$3,762,510	-	$87	$281,901,983
IPOPIF Pool Fixed Income Transition	$122,345	$13,017,868	-$13,095,095	-$77,227	$11,176	-	$41,232	$97,527
Transition Account	-	-	-	-	-	-	-	-
Member Accounts	-	$13,328,802	-$13,246,533	$82,268	$161	-	-$82,429	-
Total Fund with Member Funds and Transition Accounts	**$9,387,424,024**	**$402,711,415**	**-$364,717,375**	**$37,994,040**	**$76,213,742**	**-$280,953**	**-$305,119,094**	**$9,196,231,760**

IPOPIF Investment Portfolio vs. All Public Plans > $1B-Total Fund



	Quarter	2 Quarters	3 Quarters	1 Year
● IPOPIF Investment Portfolio	-2.4 (72)	0.2 (66)	4.5 (51)	11.6 (14)
▲ Policy Index	-2.4 (71)	0.6 (50)	4.9 (34)	11.8 (12)
5th Percentile	-0.1	2.4	6.8	13.0
1st Quartile	-1.4	1.3	5.2	11.0
Median	-1.9	0.6	4.6	9.8
3rd Quartile	-2.5	0.0	3.6	8.8
95th Percentile	-3.5	-0.9	2.8	6.8
Population	81	77	75	74

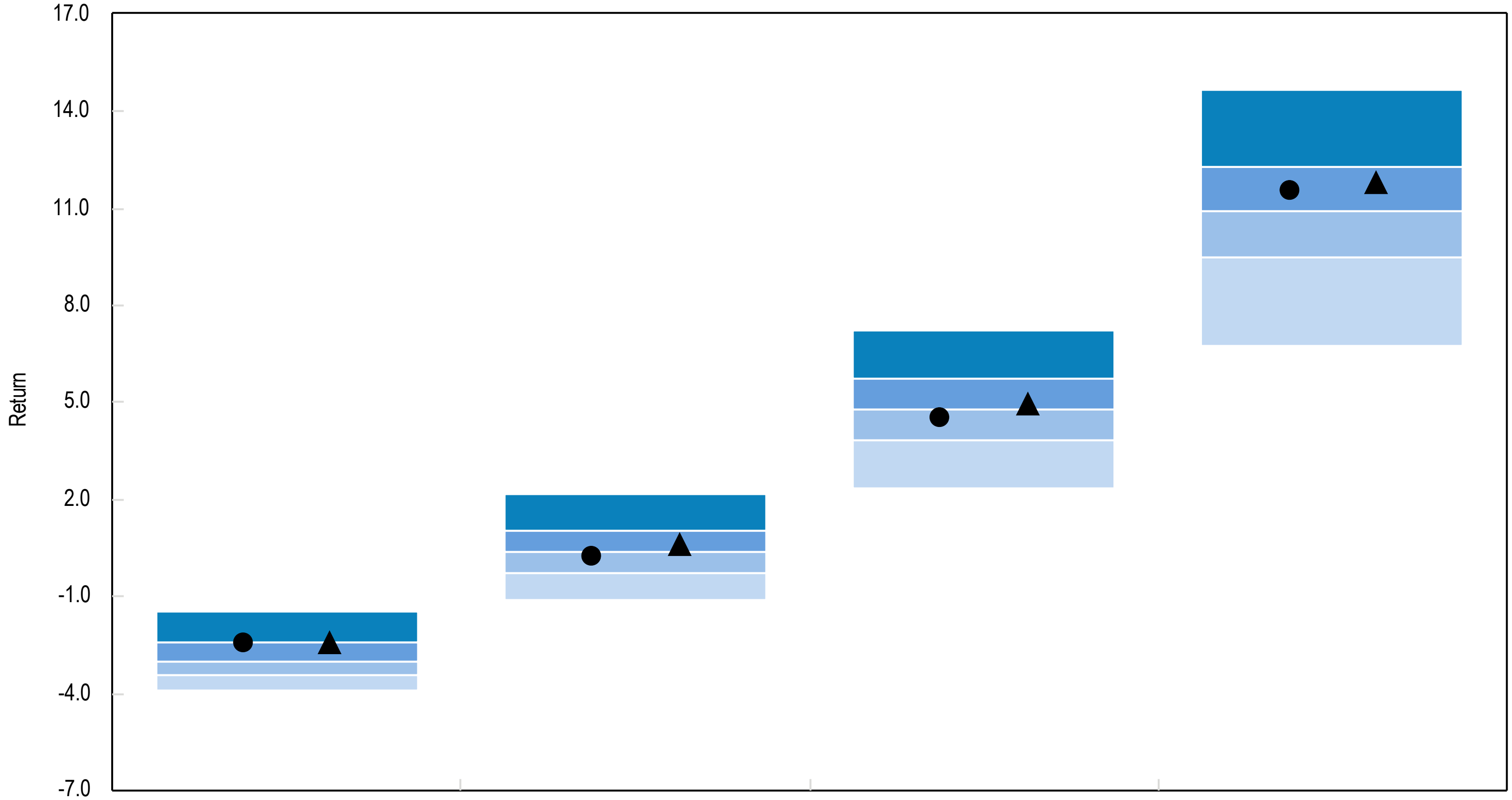
Parentheses contain percentile rankings. Performance shown for IPOPIF Investment Fund which excludes the Transition Account and Member Funds.



	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Total Real Estate	Cash & Equivalents
■ IPOPIF Investment Portfolio	53.5 (22)	37.8 (9)	-	-	5.6 (79)	3.1 (32)
5th Percentile	63.4	60.1	14.8	28.1	16.0	11.2
1st Quartile	52.6	27.5	7.7	18.3	11.5	4.0
Median	43.8	22.3	5.4	13.5	8.5	1.9
3rd Quartile	34.9	17.6	1.9	9.8	6.0	0.7
95th Percentile	19.4	8.9	0.1	3.6	1.8	0.2
Population	126	138	37	60	107	107

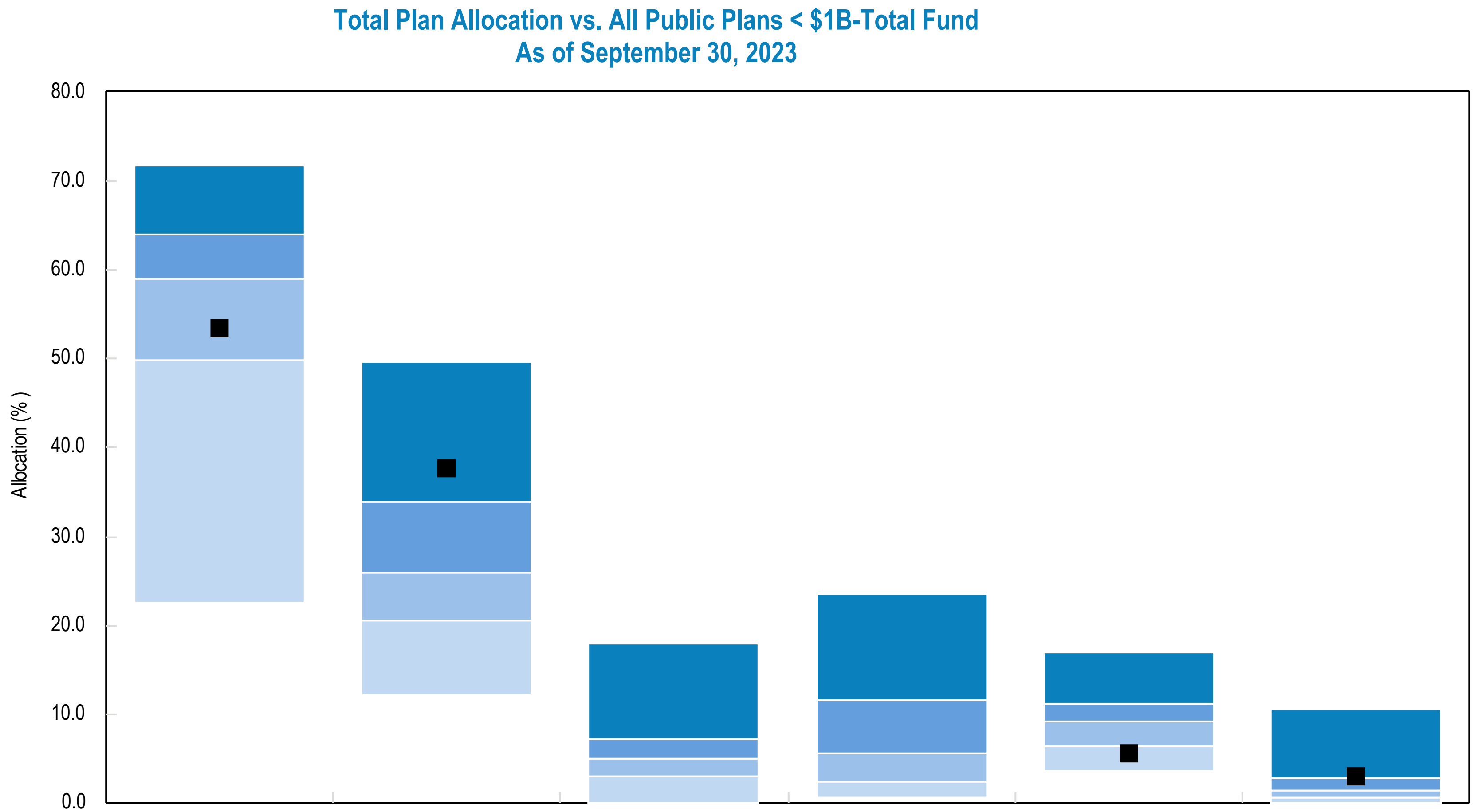
Parentheses contain percentile rankings. Excludes Transition Account and Member Funds. Real Assets contains Core Real Estate and REITs.

IPOPIF Investment Portfolio vs. All Public Plans < $1B-Total Fund



	Quarter	2 Quarters	3 Quarters	1 Year
● IPOPIF Investment Portfolio	-2.4 (25)	0.2 (56)	4.5 (57)	11.6 (38)
▲ Policy Index	-2.4 (23)	0.6 (43)	4.9 (46)	11.8 (34)
5th Percentile	-1.4	2.2	7.3	14.7
1st Quartile	-2.4	1.0	5.7	12.3
Median	-3.0	0.4	4.8	10.9
3rd Quartile	-3.4	-0.2	3.8	9.5
95th Percentile	-3.9	-1.1	2.3	6.7
Population	556	548	539	532

Parentheses contain percentile rankings.Performance shown for IPOPIF Investment Fund which excludes the Transition Account and Member Funds.



	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Total Real Estate	Cash & Equivalents
■ IPOPIF Investment Portfolio	53.5 (66)	37.8 (16)	-	-	5.6 (80)	3.1 (24)
5th Percentile	71.8	49.7	18.0	23.5	17.1	10.6
1st Quartile	64.1	33.9	7.2	11.6	11.1	2.9
Median	59.1	26.0	5.1	5.7	9.1	1.4
3rd Quartile	50.0	20.6	3.1	2.3	6.5	0.6
95th Percentile	22.5	12.2	0.1	0.6	3.6	0.1
Population	542	568	62	136	346	470

Parentheses contain percentile rankings. Excludes Transition Account and Member Funds. Real Assets contains Core Real Estate and REITs.

Performance Return Calculations

Performance is calculated using Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and

Manager Line Up

Manager	Inception Date	Data Source
RhumbLine Russell 1000 Index Fund	3/15/2022	State Street
RhumbLine Russell 2000 Index Fund	3/15/2022	State Street
SSgA Non-US Developed Index Fund	3/10/2022	State Street
SSgA Non-US Developed SC Index Fund	3/10/2022	State Street
SSgA Emerging Markets Equity Index Fund	3/10/2022	State Street
SSgA High Yield Corporate Credit	3/18/2022	State Street
iShares JPM Emerging Market Bond Index ETF	3/14/2022	State Street
SSgA US TIPS Index Fund	3/17/2022	State Street
Principal USPA	4/6/2022	State Street
SSgA REITs Index Fund	3/10/2022	State Street
SSgA Core Fixed Income Index Fund	3/17/2022	State Street
SSgA Short-Term Gov't/Credit Index Fund	3/17/2022	State Street
Cash	3/22/2022	State Street

Policy Index Composition

As of 5/1/2023	Policy Index	Growth	Income	Inflation Protection	Risk Mitigation
Russell 1000	23%	39.7%			
Russell 2000	5%	8.6%			
MSCI World ex U.S.	18%	31.0%			
MSCI World ex U.S. Small Cap	5%	8.6%			
MSCI Emerging Markets	7%	12.1%			
Bloomberg US Aggregate Index	3%				17.6%
Bloomberg 1-3 Year Gov/Credit Index	13%				76.5%
Bloomberg US Corporate High Yield Index	10%		62.5%		
Bloomberg US TIPS 0-5 Year	3%			33.3%	
JPM EMBI Global Diversified Index	6%		37.5%		
NFI-ODCE Equal-Weighted Index	2%			22.2%	
Wilshire US REIT Index	4%			44.5%	
90 Day US Treasury Bill Index	1%				5.9%

As of 1/1/2023	Policy Index	Growth	Income	Inflation Protection	Risk Mitigation
Russell 1000	18%	36.0%			
Russell 2000	5%	10.0%			
MSCI World ex U.S.	15%	30.0%			
MSCI World ex U.S. Small Cap	5%	10.0%			
MSCI Emerging Markets	7%	14.0%			
Bloomberg US Aggregate Index	7%				28.0%
Bloomberg 1-3 Year Gov/Credit Index	15%				60.0%
Bloomberg US Corporate High Yield Index	10%		62.5%		
Bloomberg US TIPS 0-5 Year	3%			33.3%	
JPM EMBI Global Diversified Index	6%		37.5%		
NFI-ODCE Equal-Weighted Index	2%			22.2%	
Wilshire US REIT Index	4%			44.5%	
90 Day US Treasury Bill Index	3%				12.0%

As of 3/31/2022	Policy Index	Growth	Income	Inflation Protection	Risk Mitigation
Russell 3000	23%	46.0%			
MSCI ACWI ex USA IMI	20%	40.0%			
MSCI Emerging Markets IMI	7%	14.0%			
Bloomberg US Aggregate Index	7%				28.0%
Bloomberg 1-3 Year Gov/Credit Index	15%				60.0%
Bloomberg US Corporate High Yield Index	10%		62.5%		
Bloomberg US TIPS 0-5 Year	3%			33.3%	
50% JPM EMBI GD/50% JPM GBI EM GD	6%		37.5%		
NCREIF Property Index	2%			22.2%	
Wilshire US REIT Index	4%			44.5%	
90 Day US Treasury Bill Index	3%				12.0%

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return [Risk free Rate + Portfolio Beta x (Market Return Risk free Rate)].

Benchmark R squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book to Market: The ratio of book value per share to market price per share. Growth managers typically have low book to market ratios while value managers typically have high book to market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of 1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price to Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price to earnings ratios whereas value managers hold stocks with low price to earnings ratios.

R Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from 1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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