2023

For the Fiscal Year Ended June 30, 2023

INPRS

INDIANA PUBLIC RETIREMENT SYSTEM

ANNUAL COMPREHENSIVE FINANCIAL REPORT

Prepared through the joint efforts of INPRS's team members. Available online at www.in.gov/inprs

The Indiana Public Retirement System is a component unit and a pension trust fund of the State of Indiana.

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

For the Fiscal Year Ended June 30, 2023

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INPRS is a trust and an independent body corporate and politic. The system is not a department or agency of the state, but is an independent instrumentality exercising essential governmental functions (IC 5-10.5-2-3).

	FUNDS MANAGED BY INPRS	ABBREVIATIONS USED
	Defined Benefit	**DB Fund**
1.	Public Employees' Defined Benefit Account	PERF DB
2.	Teachers' Pre-1996 Defined Benefit Account	TRF Pre-'96 DB
3.	Teachers' 1996 Defined Benefit Account	TRF '96 DB
4.	1977 Police Officers' and Firefighters' Retirement Fund	77 Fund
5.	Judges' Retirement System	JRS
6.	Excise, Gaming and Conservation Officers' Retirement Fund	EG&C
7.	Prosecuting Attorneys' Retirement Fund	PARF
8.	Legislators' Defined Benefit Fund	LE DB
	Defined Contribution	**DC Fund**
9.	Public Employees' Defined Contribution Account	PERF DC
10.	My Choice: Retirement Savings Plan for Public Employees	PERF MC DC
11.	Teachers' Defined Contribution Account	TRF DC
12.	My Choice: Retirement Savings Plan for Teachers	TRF MC DC
13.	Legislators' Defined Contribution Fund	LE DC
	Other Post Employment Benefit	**OPEB Fund**
14.	Special Death Benefit Fund	SDBF
15.	Retirement Medical Benefits Account Plan	RMBA
	Custodial	**Custodial Fund**
16.	Local Public Safety Pension Relief Fund	LPSPR

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INPRS
INDIANA PUBLIC RETIREMENT SYSTEM

2023 ANNUAL COMPREHENSIVE FINANCIAL REPORT

For the Fiscal Year Ended June 30, 2023

Investment Section

$39.8 Billion

Fair value of defined benefit assets

$6.5 Billion

Fair value of defined contribution assets

2.48%

Annualized time-weighted rate of return on defined benefit investments

INPRS

INDIANA PUBLIC RETIREMENT SYSTEM

August 25, 2023

Board of Trustees
Indiana Public Retirement System
One North Capitol Avenue
Indianapolis, IN 46204

Dear Trustees:

Verus is pleased to provide the Board of Trustees of the Indiana Public Retirement System ("INPRS") with an overview of the market environment and a summary of recent developments for the fiscal year ended June 30, 2023.

Market Environment

Risk assets delivered a strong start to calendar year 2023, building off the positive momentum seen towards the end of 2022. Year-to-date performance was positive across all major asset classes outside of commodities, as was performance on a one-year basis. Despite the challenging outlook presented in our last letter, economic growth proved to be resilient, despite an ending to the large amount of stimulus introduced in response to the pandemic, and quickly rising interest rates. While earlier in 2023 many economists had forecast a U.S. recession in mid to late summer (especially after a series of regional bank failures, notably Silicon Valley Bank and First Republic), sentiment eased considerably as the prospect of a "soft-landing" was revived. Falling headline inflation, resilient labor market data, and the first rate pause from the Federal Reserve all contributed to a more positive macroeconomic outlook.

Despite the strong first half of calendar 2023, challenges remain going forward. Within the U.S., inflation is still a concern. The Federal Reserve continues to face difficult policy decisions as inflation, while lower, sits above the two-percent target and economic and labor market strength persists. The FOMC briefly paused rate hikes in June only to further hike the benchmark rate again in July. Markets are pricing as many as two additional hikes before the end of the current tightening cycle. Overseas, growth in advanced economies remains stunted as many central banks continue their battle against inflation. Within emerging markets, the loudest narrative has centered on China. Reopening after the pandemic provided a material boost to activity, though positive momentum has been overshadowed by mounting geopolitical tension with the United States, a lack of broader accommodative stimulus from Beijing, and a hobbling real estate market.

U.S. Equity

Shares in the U.S. outperformed relative to international developed and emerging market counterparts across both the calendar year-to-date and fiscal year timeframe. The S&P 500 index rose by an outstanding 19.6% over the trailing one-year period, driven by a 16.9% 2023 year to date gain. Many expected a higher rate environment and slowing domestic consumer to be a ceiling on domestic equity prices, especially following the aforementioned regional bank failures. This ceiling was quickly shattered as the prospect and development of artificial intelligence (AI) technology boosted the already technology-heavy S&P 500 index.

The significant movements of heavyweight technology names is apparent when looking at size and style factors. Large-cap equities significantly outperformed over the one-year, with the Russell 1000 index gaining 19.4% relative to a 12.3% increase in the Russell 2000 index. Growth handily outperformed value, with the Russell 1000 Growth index rising 27.1% from last year compared to an 11.5% gain from the Russell 1000 Value index.

While U.S. shares have outperformed, the earnings story remains uncertain. Per FactSet, S&P 500 companies are on track for their third straight quarter of year-over-year earnings decline. The expected decline of -7.0% in Q2 2023 reflects a volatile business environment. While earnings expectations are rosier going forward, recent gains seen from U.S. equities are by no means an indicator that the Federal Reserve has successful achieved a “soft-landing” for the economy.

International Equity

International share performance lagged that of the U.S. shares as technology-related gains were primarily captured by large U.S. firms. Despite this relative underperformance, both international developed and emerging market shares saw absolute gains on a one-year horizon. The MSCI EAFE index increased 18.8% year-over-year, while the MSCI EM index posted a meager 1.7% gain.

International developed shares rebounded in Q4 of 2022, and this momentum carried into 2023, driven by strength from both European and Japanese shares. The STOXX 50, which represents the 50 largest companies in Europe, rose 36.3% from the prior year. While Europe continues to face tighter central bank policies due to high inflation (June 2023 CPI came in at 5.5% year-over-year), resilience was much better than expected, especially in comparison to the negative sentiment following Russia’s invasion of Ukraine. Japanese equities also saw strong performance due to a combination of positive economic growth, inflation (Japan has sought higher inflation for many years), and a potential shift to foreign shareholder prioritization. Gains in Japanese equities were mostly achieved in 2023. The TOPIX index increased 25.9% over the year-to-date, making up most of the 31.2% one-year gain.

China dominated the narrative in emerging markets, as emerging market shares initially outperformed on enthusiasm around the country’s reopening. This reopening momentum turned out to be short-lived, as negative sentiment quickly overshadowed the move away from an almost three-year “zero-covid” policy. It appears that two primary factors contributed to losses for Chinese shares. The first was a smaller-than-expected reopening wave of economic activity, with no substantial monetary or fiscal stimulus used to accelerate the reopening. This contrasted sharply to the large amounts of stimulus used in the U.S. and Europe. This smaller-than-expected reopening wave provided no reprieve to the already struggling real estate market. The second factor was growing geopolitical tension with the United States. A series of events, including a spy balloon being shot down over U.S. airspace, continued to bolster negative relations between the two global leaders, which likely hurt foreign investor sentiment. The MSCI China index fell -5.5% over the year-to-date, further adding to the -16.8% loss seen over the one-year period.

Fixed Income

Inflation and Federal Reserve action continued to be the dominant driver of fixed income performance over the past year. With the bulk of Federal Reserve rate hikes occurring in the second half of 2022, bonds received the brunt of the pain over the 2022 calendar year (Bloomberg U.S. Aggregate down -13.0%). The Federal Reserve continued to increase rates in response to inflation in

2023, but at a considerably slower pace. The upper bound of the Fed's target rate moved from 4.50% to 5.25% over the 2023 year-to-date period. Smaller hikes were likely in response to strong signs of falling inflation, as headline CPI fell to 3.0% in June of 2023.

Positive performance in 2023 has helped to improve one-year performance for the fixed income complex. Core fixed income (Bloomberg U.S. Aggregate) saw a 2.1% gain over the year-to-date period, bringing the one-year loss to -0.9%. In terms of duration, short maturity U.S. treasuries outperformed, with the Bloomberg U.S. Treasury 1-3 Year index gaining 0.1% over the one-year, compared to -2.1% and -6.8% losses from the U.S. Treasury index and U.S. Treasury Long index, respectively.

Expectations for worsening credit conditions may have reached a peak earlier in the year following the regional bank failures, as many investors expected a material pull back in credit availability. While high-yield bond and leveraged loan default rates have reached a two-year high per J.P. Morgan, the broader credit spectrum has performed strongly over the one-year period. Emerging market debt in local currency (+11.4%) was the best performer, followed by leveraged loans (+10.1%), high-yield bonds (+9.1%), and hard currency emerging market debt (+7.4%). Credit spreads compressed in the first half of calendar 2023, with the average option-adjusted spread for high-yield and investment grade bonds sitting at 390 basis points and 123 basis points, respectively. It has been surprising to see credit spread remain at low levels, despite recent rises in bond default activity, and expectations that defaults will continue to rise into 2024.

Commodities

In 2022, there was two major stories in the commodities space. First, the rapid increase in energy and grain prices — much of this due to Russia's invasion of Ukraine — was an igniting factor for global inflation issues. The second story was commodity performance. Commodities were one of the few asset classes to post a positive return during the 2022 calendar year, and the asset dominated the narrative in 2022 with some market participants calling for a new booming commodity cycle. However, commodities ended up playing a much smaller role in 2023, as a combination of easing supply pressures and lower demand hurt price performance. The Bloomberg Commodity index fell -7.8% over the first half of 2023, driving the -9.6% one-year loss in the index.

Outlook

The first half of 2023 has been a strong period for most risk assets, especially across the equity and credit spectrum. Despite this strength, investor views of the future have diverged regarding whether the economy has achieved a new equilibrium ("soft landing"), or whether a material recession is in imminent. Domestic investor sentiment remains positive as inflation has shown signs of easing, real earnings growth has moved back into positive territory, and the labor market remains resilient despite the quick rise in interest rates. While strong asset performance has further boosted sentiment, risks including regional banks, commercial office real estate, and sticker inflation remain. It is important to remember that rising interest rates tend to impact the economy *with a lag*. We believe many effects of interest rate rises have yet to be felt, and that the economy and markets may feel some pain by early 2024. Across international developed markets, we believe growth will continue to face headwinds until inflation is under control, but for the moment, these markets have shown greater resilience than expected. Lastly, emerging markets are set to grow faster than advanced economy counterparts, but China may continue to overshadow the narrative, especially as the U.S. China relationship remains tenuous.

Verus

Plan Activity

During the 2023 fiscal year, Verus and INPRS' staff collaborated on several different initiatives. Together we completed a comprehensive analysis of the Plan's domestic equity structure focused on identifying areas where active management will likely have the highest probability of success. Verus and INPRS also conducted an in-depth review of INPRS' international equity structure including an assessment of the advantages and disadvantages of investing in certain countries. Verus recommended a preferred go forward structure for the international equity portfolio based on anticipated legislative changes.

At the request of staff, Verus examined the asset allocation of the TRF Pre-96 Plan and summarized the potential effects of de-risking given the rise in yields throughout the fiscal year. Verus also collaborated with staff to update INPRS RFP questionnaires for various asset classes to streamline future manager search activity.

Additional ongoing work involved public market asset class reviews, annual fee benchmarking, investment and operational due diligence on existing managers, investment policy statement revisions, and natural collaboration with staff on a smaller projects and issues.

Conclusion

Verus values our relationship with INPRS, and we appreciate the privilege of working with the Board and staff in designing policies and supporting decisions aimed at meeting the Plan's investment objectives. We remain confident in the direction of the Portfolio given the System's demographics, fiscal strength, and well-designed investment strategy. We look forward to continuing our partnership as we navigate ever-changing capital markets.

Sincerely,

Jeffrey J. MacLean
Chief Executive Officer

INPRS's Defined Benefit Investment Imperatives

Established in fiscal year 2012, three long-term imperatives that are vital to the continued health of the System's defined benefit plans have served as the guide for the investment team. Every strategic, tactical, and operational decision that is made must have the expectation of positively contributing to at least one of these imperatives.

1. **Achieve the long-term rate of return assumption.** Effective fiscal year 2013, INPRS's Board set the long-term rate of return assumption at 6.75 percent. Following the fiscal year 2021 Asset-Liability Study, the Board then approved 6.25 percent as the appropriate long-term assumption. In order for the System to maintain a healthy funded status, it is essential to achieve this rate of return over the long-term (defined as 10+ years in INPRS's Investment Policy Statement).

2. **Accomplish the first imperative as effectively and efficiently as possible.** While it is important to establish an asset allocation that is expected to meet the target rate of return over a long-time horizon, as fiduciaries, it is also important to maintain focus on maximizing the return per unit of risk, limiting return volatility, and maximizing cost efficiency.

3. **Maintain enough liquidity to make retirement payments on time.** As the System matures, retirement payments will be a greater cash outflow each year. As a result, it is critical to maintain an appropriate level of liquidity to ensure payments are made on time and without causing undue stress to the investment portfolio.

The Fiscal Year in Review (Defined Benefit Portfolio)[1]

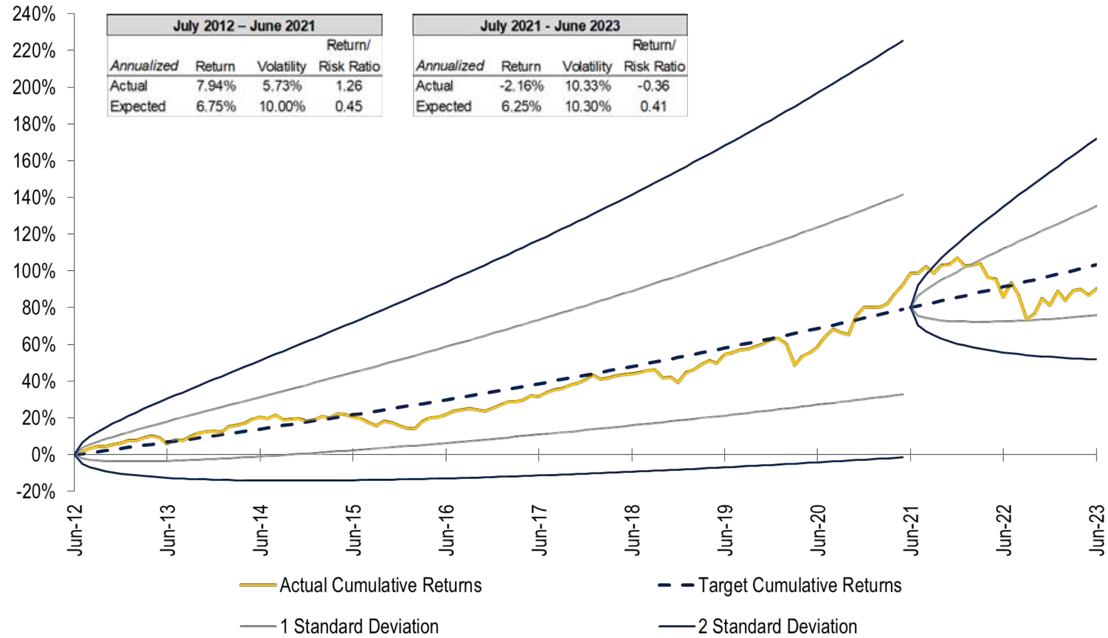
Fiscal year 2023 was shaped by both global and domestic economic factors including global supply shocks, the ongoing Russia-Ukraine conflict, aggressive monetary policies, a banking sector crisis, interest rate hikes, and the most rapid increase in inflation in four decades. Decisive actions from the Federal Reserve and other central banks to tame inflation significantly influenced market dynamics. Monetary policy became increasingly aggressive, with a series of rate hikes leading to heightened economic volatility. Despite restrictive monetary policy and lingering inflation, the economy demonstrated resilience. Investors remained bullish about the prospects of U.S. economic growth and strong corporate earnings, contributing to a rally that extended well into the second half of fiscal year 2023.

The consolidated defined benefit assets returned 2.48 percent net of all fees over the fiscal year, falling short of the 6.25 target return, and ended with a fair market value of $39.8 billion. The rise in U.S. real yields, one of the largest in history, and the associated tightening by the Fed, was a major detractor for all asset classes. However, public equities proved resilient, delivering a return of 16.67 percent. Investor optimism over successful inflation control and potential interest rate cuts fueled a rally from late 2022 into the first half of 2023. Private markets and absolute return posted positive returns of 3.24 percent and 3.00 percent, respectively. Inflation-Linked bonds had a return of -2.66 percent, attributed to the spike in real yields relative to the discount rate. Similarly, Fixed Income (excluding Inflation-Linked) registered a -0.12 percent return, largely driven by the sell-off in developed world bond yields due to rising discount rates. Commodities negatively impacted the portfolio due to decelerating inflation but increasing interest rates in 2023. Fortunately, the strong rally from equities offset these losses.

Based on the research of various asset classes and their performance in different economic environments over time, it was determined in 2012 that a new risk-balanced framework better fit our first two imperatives. Developed from this research, the following chart illustrates the projected range of outcomes for INPRS's asset allocation around the former 6.75 percent and current 6.25 percent return targets (represented by the blue dotted line). This visual is intended to track the cumulative performance of the actual portfolio (shown by the yellow solid line) versus those expectations. After outperforming the target rate of return from the start of fiscal year 2013 through the end of fiscal year 2021, the portfolio underperformed the target rate of return during the challenging market environment the past two fiscal years.

[1] Rates of return and market values are specific to INPRS's portfolio are based on calculations made by INPRS's custodian, Bank of New York Mellon, and are presented using a time-weighted rate of return methodology based upon fair value.

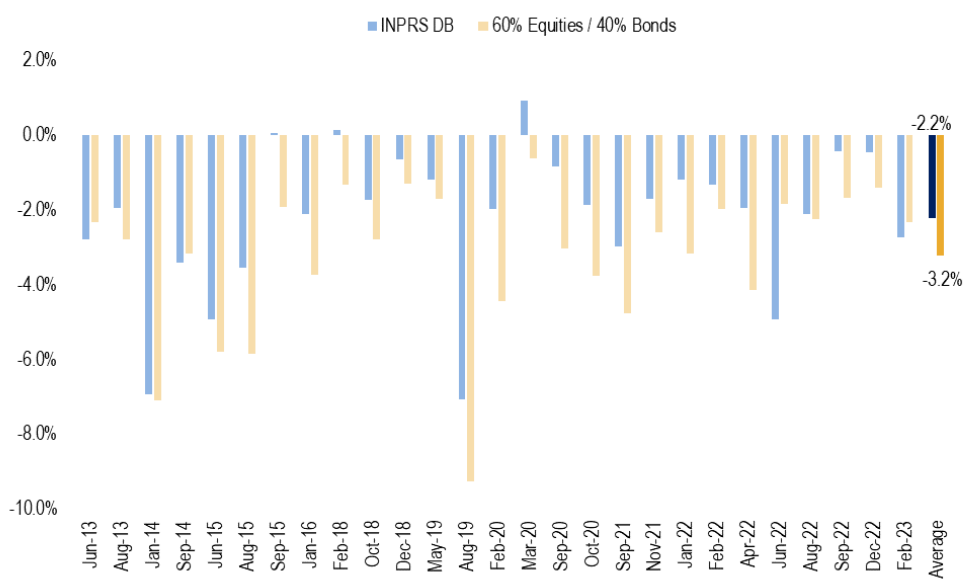
INPRS Defined Benefit Net of Fee Cumulative Return



Since inception of the revised strategy in 2012, the portfolio has generated an annual return of 5.13 percent above the return of cash. The current economic environment presents both challenges and opportunities. While the rise in inflation and interest rates has negatively impacted our investment performance, the portfolio has benefited from strong equities returns over the short-term and should benefit from higher interest rates, and thus cash flow, longer term.

Due to our long-term focus, it remains crucial to consistently monitor the portfolio's performance across different market conditions. Diversification is a key strategy to reduce the impact of economic headwinds and to position the portfolio for future growth. To assess this, we analyzed historical data from months since July 2012 when global equities experienced losses of 2 percent or worse. The chart demonstrates that INPRS's defined benefit portfolio has consistently performed favorably in comparison to such market downturns. As anticipated, our portfolio experienced significantly lower losses on average than a 60 percent equity and 40 percent bond portfolio. This reinforces the effectiveness of our diversification approach and aligns with our expectations.

Defined Benefit Performance During Equity Drawdowns >2% Since July 2012

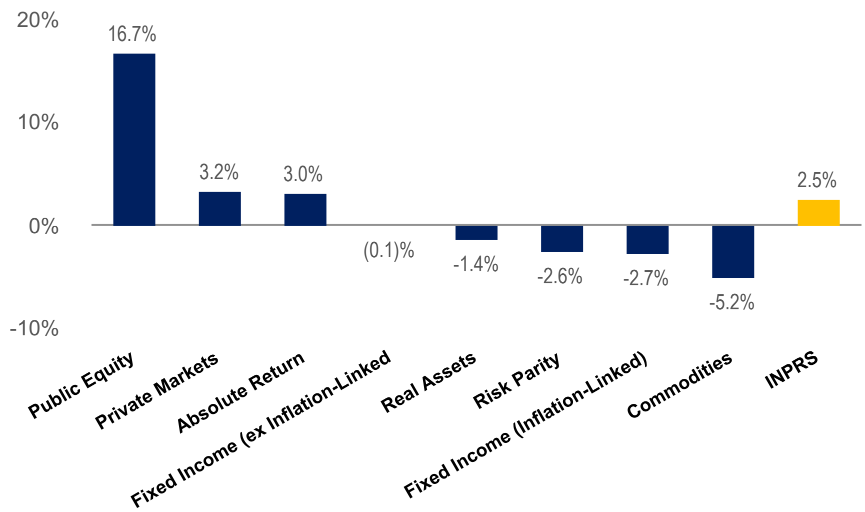


Performance Attribution

The 2023 fiscal year was marked by some of the most significant shifts in macroeconomic conditions that developed world countries have experienced in decades. Geopolitical tensions escalated with the war in Eastern Europe, and pandemic-induced monetary and fiscal stimulus led to rapidly increasing, above-target inflation, not seen in over 30 years. As a response, the Fed hiked rates from 0 percent in the Spring of 2022 to over 5 percent in early 2023, causing monetary tightening that negatively impacted rate-sensitive assets. Despite the tumultuous year, certain sectors experienced growth, demonstrating market resilience and the benefits of portfolio diversification amidst economic volatility.

In the second half of the fiscal year, inflation began to fade while growth remained resilient, leading to some bear market rallies. With investor sentiment leaning towards expected continued growth and stable inflation, public equities anchored the portfolio with a 16.67 percent return. Absolute return portfolios modestly gained 3.00 percent, as there was a shift towards "risk-off" strategies and alpha was gained from equities. Even with positive equity returns, the significant underperformance from commodities and fixed income weighed down the overall Risk Parity portfolio, resulting in a negative return of 2.59 percent. The underperformance in Fixed Income (Inflation-Linked) was caused by the sharp rises in discount rates and risk premiums, while high rates and slowing inflation led to a 5.18 percent drawdown in Commodities

1-Year Defined Benefit Asset Class Returns as of June 30, 2023



In fiscal year 2023, we observed a shift in economic trends as asset classes traditionally favoring higher growth and lower inflation conditions outperformed. As the markets shifted towards pricing in a soft landing, the asset classes that discounted falling inflation and rising growth (e.g., equities and nominal government bonds) outperformed those that perform well under higher inflation (e.g., commodities and inflation-linked bonds). The table that follows illustrates the similarities between the fiscal year 2023 environment and the dominant trend observed since 2012. Both periods predominantly benefited from the higher growth and low inflation economic environment.

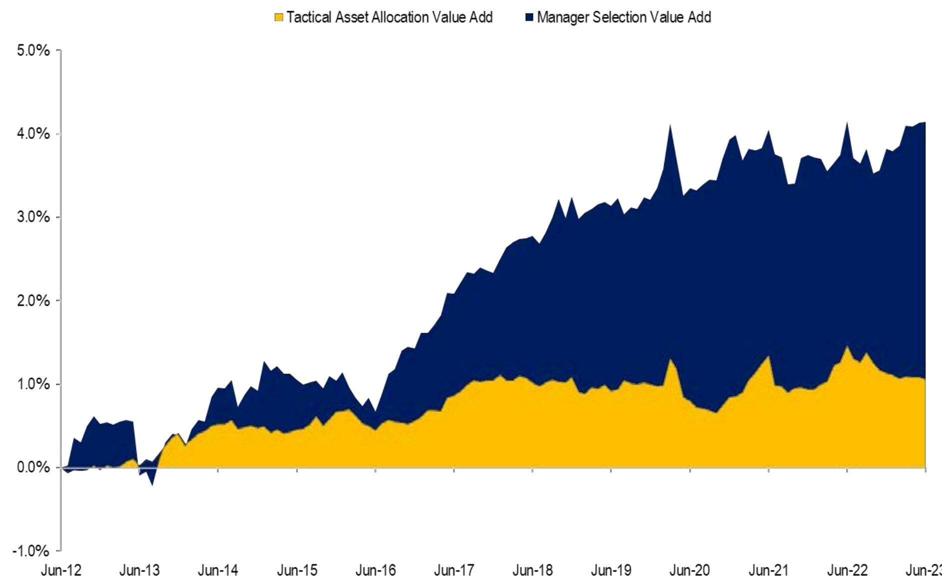
DB Public Asset Class Returns as of June 30, 2023

Asset Class Returns	Economic Environmental Bias	FY 2023	Since July 2012
Commodities	Higher Growth/Higher Inflation	-5.18%	-2.53%
Public Equity	Higher Growth/Lower Inflation	16.67%	10.01%
Fixed Income (Inflation-Linked)	Lower Growth/Higher Inflation	-2.66%	2.48%
Fixed Income (ex Inflation-Linked)	Lower Growth/Lower Inflation	-0.12%	2.17%
Risk Parity	Balanced Across Environments	-2.58%	3.47%

Performance Relative to the Benchmark

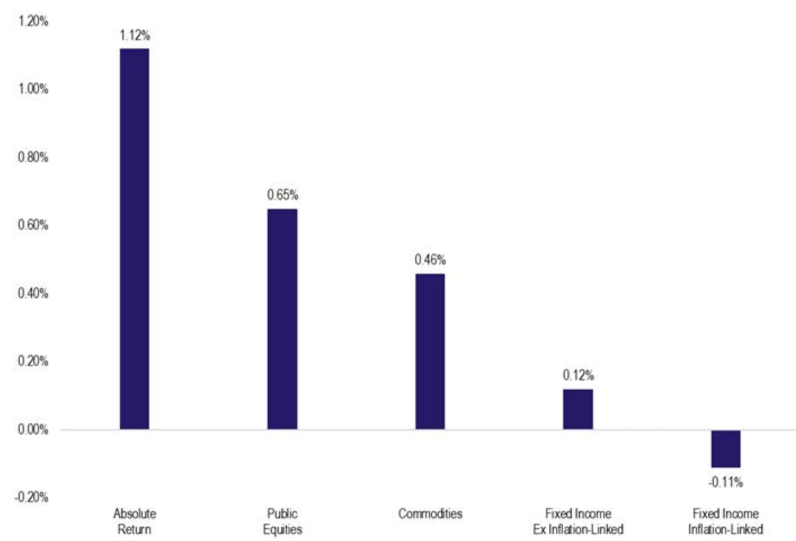
In fiscal year 2023, our investment team achieved a return that exceeded the Passive Target with Notional benchmark by 0.01 percent, after accounting for all fees. The benchmark is designed to represent the portfolio's performance if it had maintained target weights in each asset class throughout the entire year and invested solely in passive strategies like index funds. The value added in fiscal year 2023 came from the team's asset allocation, which positively contributed to the portfolio's performance. Our consistent outperformance since July 2012 has resulted in approximately $1.2 billion in added value (comprising asset allocation and manager selection) compared to a portfolio consisting solely of passive investments.

Cumulative Excess Returns over the Defined Benefit Target Allocation (Net of Fees)



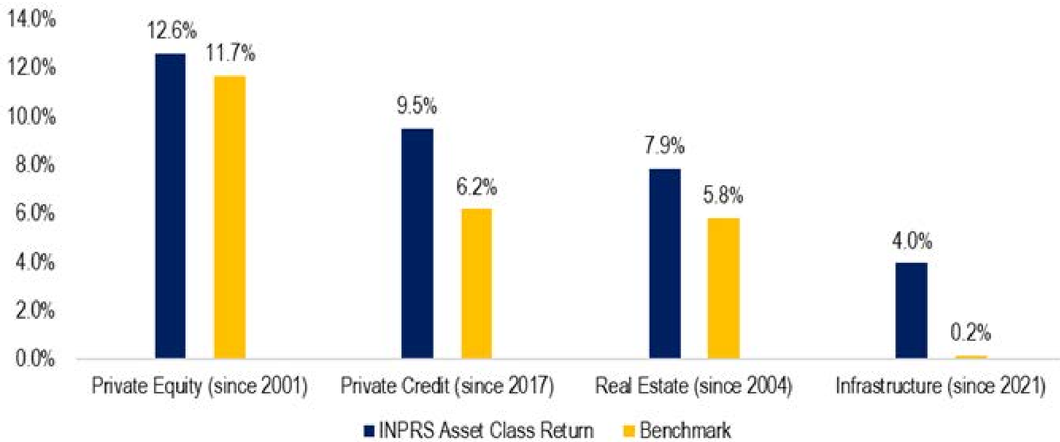
Breaking that result down further, you can see that manager selection has created a large portion of the outperformance over the past ten years because most public asset classes have outperformed their benchmarks.

Annualized Performance Relative to Benchmarks (Public Markets) - July 2012 to June 2023



INPRS's investments in private markets and real assets are not included in the value-add chart above because the managers in these asset classes control the timing of cash flows and, thus, we believe a different measure better captures their performance relative to a benchmark (i.e. internal rate of return or IRR). The chart below gives some perspective on their outperformance since inception.

Annualized Performance (IRR) Relative to Benchmarks (Private Markets)
Since Inception of Each Asset Class[2]

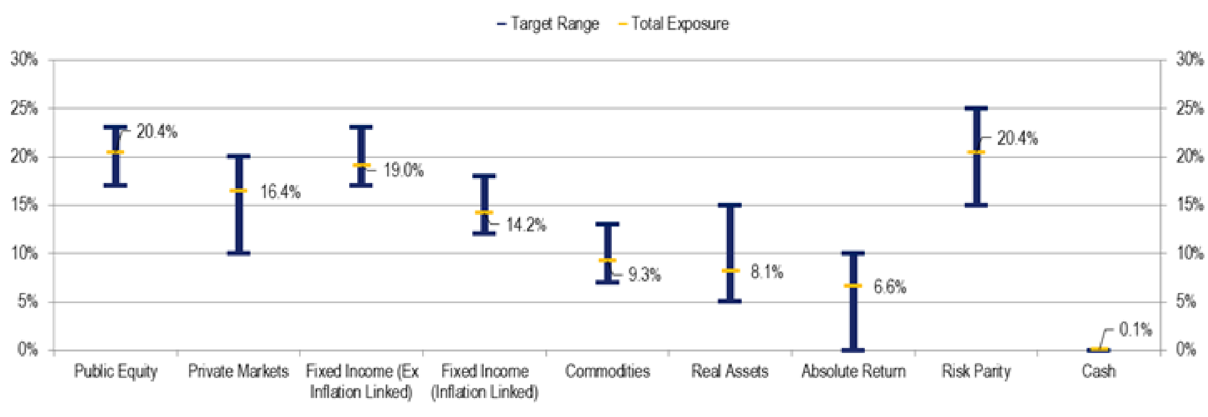


The year commenced against a backdrop of heightened economic volatility, largely driven by aggressive rate hikes by central banks and persistent inflation. Despite these challenges, the private equity portfolio continued its robust performance, returning an annualized 12.6 percent since 2001. This performance outpaced the benchmark return of 11.7 percent, reaffirming the resilience of the portfolio even in the face of market volatility and macroeconomic uncertainties. The portfolio's benchmark[3] outperformance can be attributed to the consistent pacing of investments through different market environments, the selection of a core group of quality managers, and a constant focus on lowering fees. The private credit portfolio, yielding an annualized return of 9.5 percent since 2017, has greatly surpassed its benchmark of 6.2 percent. The real estate portfolio also had another strong year, leading to a 7.9 percent return since 2004 and outperforming its 6.0 percent benchmark. The infrastructure portfolio returned 4.0 percent since its inception in 2021 and outperforming its benchmark by 3.4 percent highlighting a strong year.

Current Portfolio Exposures

As previously mentioned, INPRS set out on a course seeking more balance across economic and market environments starting in fiscal year 2012 with the approval of a new asset allocation strategy. Despite slight revisions to the asset allocation during the last asset-liability study in fiscal year 2021, the outcome reaffirmed the path of diversification that INPRS had previously chosen and continues to pursue. The allocation as of June 30, 2023 can be found in the chart below.

Defined Benefit Asset Allocation as of June 30, 2023



[2]As of June 30, 2023. Based on the first capital calls made by INPRS: Private Equity inception date is 5/14/2001; Private Credit inception date is 10/17/2017; and Real Estate inception date is 2/26/2004; and Infrastructure inception date is 7/30/2021.. The Private Equity custom benchmark is comprised of the following components lagged one quarter plus 3.00%: 60% Russell 2000 Index, 20% EAFE Small Cap Index, 15% CS High Yield Index, and 5% CS Western European High Index (Hedged). The Private Credit custom benchmark is comprised of the following components lagged one quarter plus 1.50%: 50% Credit Suisse Leveraged Loan Total Return, 33% S&P BDC Index, and 17% Credit Suisse Western European Leveraged Loan. The Real Assets custom benchmark is comprised of the following components lagged one quarter: 54.5% FTSE NAREIT All Equity REITS Index and 23.3% Barclays CMBS Index, 22.2% Global Property Research Index (Rounded).

[3] Source: INPRS's Aksia 1Q 2023 Private Equity Report. As of March 31, 2023. 10-year performance: INPRS = 14.2% and Cambridge (median) = 14.9%. Since 2001 inception: INPRS = 12.6% and Cambridge (median) = 12.1%.

Liquidity

In light of the ongoing uncertainty surrounding the extent and impact of inflation, coupled with the implications of stringent monetary policy on economic expansion, our team at INPRS has consistently emphasized the importance of liquidity throughout fiscal year 2023. The investment team maintains a liquidity metric designed to evaluate the System's capacity to manage illiquidity risk at any given moment. This is done by measuring cash flow risk, comparing the liquid assets and anticipated cash inflows over the next five years against the projected cash outflows (such as retirement disbursements, plan expenditures, etc.) within the same period.

Through rigorous stress testing, our investment team is confident in the sufficiency of liquidity, even under various adverse market conditions. As of June 30, 2023, INPRS's liquid assets and forecasted inflows stand at 2.4 times the estimated outflows for the next five years. This sharp emphasis on liquidity management has empowered INPRS to maintain substantial exposure to less liquid asset classes. Currently, 31.0 percent is allocated across private markets, real assets, and absolute return, each of which, in our perspective, fulfills a distinct role within the allocation framework.

INPRS’s Defined Contribution Investment Imperatives

Known as the defined contribution account of the Public Employees Hybrid retirement plan, the defined contribution account of the Indiana State Teachers Hybrid retirement plan, the My Choice: Retirement Savings Plan (“My Choice”), and the Legislator’s Defined Contribution Plan, the defined contribution plans at INPRS provide members the ability to select their own asset allocation from a line-up of investment options approved by the Board. Established in fiscal year 2017, three long-term imperatives that are vital to the continued health of the System’s defined contribution plans have served as the guide for the investment team.

1. **Provide a simple and diversified default option (“Allocate it for me” – Target Date Options)**. Effective fiscal year 2011, INPRS’s Board changed the default investment option for the ASA and My Choice plans to target date funds. This fund line-up was established to provide members with an auto-pilot allocation that targets an appropriate risk and return profile for their particular time horizon and automatically becomes more conservative as they approach retirement. Given how many members rely on INPRS to manage their asset allocation for them by defaulting to this option, it is crucial that we construct a target date fund line-up that is easy to understand yet sophisticated enough to help members achieve their savings goals.

2. **Provide a simple and diversified menu of stand-alone options (“Allocate it myself” – Core and Specialty Options)**. For those members that want to select an allocation that is different than those offered in the target date funds, INPRS offers investment options for individual asset classes. This line-up of options allows members to construct an asset allocation that better suits their specific needs and objectives.

3. **Leverage the defined benefit asset base to provide low cost investment options**. One reason the multiple retirement plans under INPRS’s management were originally consolidated was to reduce fees for all plans. As a result, it is critical that we maintain focus on utilizing the large asset base across the defined benefit and defined contribution plans to continually drive costs lower.

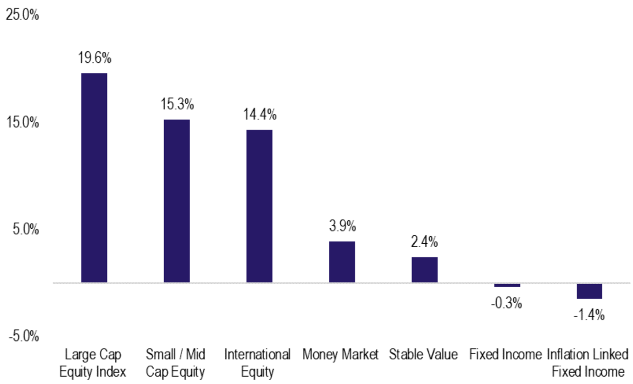
Performance Attribution

The defined contribution lineup is constructed using the basic building blocks of an asset allocation, which include various equity and fixed income portfolios. As such, INPRS's investment options were influenced by the same forces mentioned in the defined benefit section above. The large cap equity index emerged as the top performer in the defined contribution lineup, with an impressive return of 19.58 percent, while the small/mid cap equity and international equity portfolios also registered strong performances with returns of 15.26 percent and 14.35 percent, respectively. In contrast, the fixed income fund and inflation-linked bonds weathered challenges due to rising bond yields and underperformed, with slight losses of -0.31 percent and -1.43 percent. Amid the turbulence, INPRS's capital preservation options, the stable value and money market funds, proved reliable, delivering modest but positive returns.

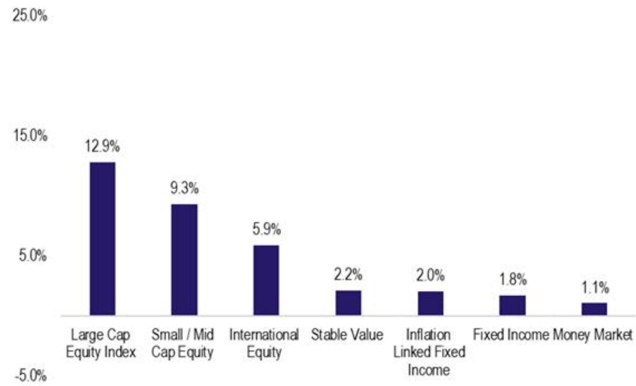
Over a longer time period going back to July 2011, each stand-alone investment option has generated strong performance (right chart below). As expected, the higher-risk equity options have been the best performers while the fixed income related options have provided steady, positive returns.

Defined Contribution Investment Option Returns as of June 30, 2023

DC Stand-Alone Investment Options
1-Year Return (Net of Fees)



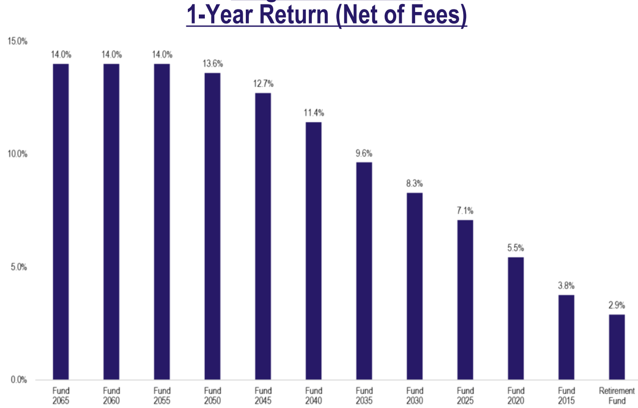
DC Stand-Alone Investment Options
July 2011 – June 2023 (Net of Fees)



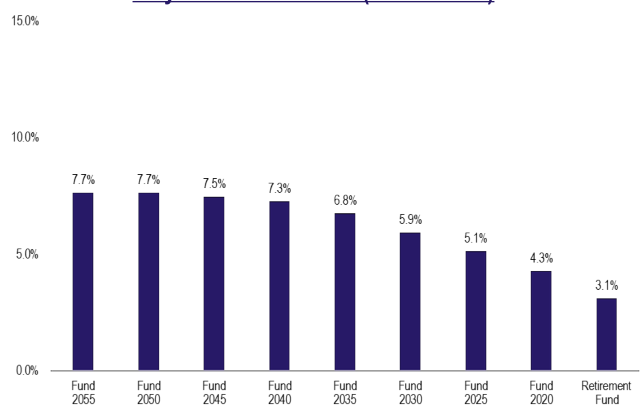
Given that INPRS's target date funds are constructed using different mixes of the INPRS stand-alone investment options, each such fund's return is merely an amalgamation of the returns shown above. The target date funds further from retirement have historically shown higher returns due to a larger equity allocation. The following charts illustrate these performance differences for INPRS's Target Date Funds.

Defined Contribution Target Date Fund Returns as of June 30, 2023

Target Date Funds
1-Year Return (Net of Fees)



Target Date Funds
July 2011 - June 2023 (Net of Fees)

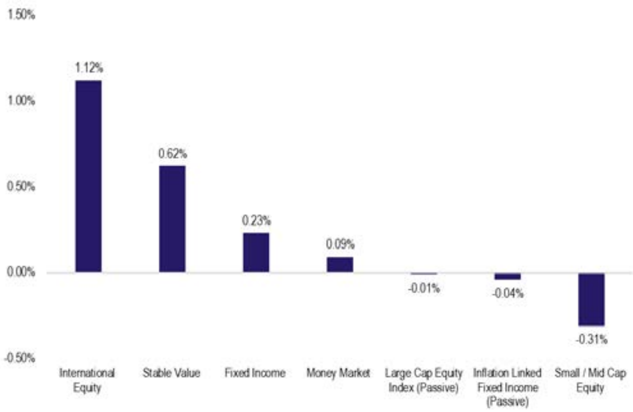


INPRS's active management strategy continued to demonstrate its effectiveness, with four of the five funds outperforming their benchmarks over a ten-year period. Most notably, the International Equity fund outperformed its benchmark by 1.12 percent. Additionally, the Stable Value, Fixed Income, and Money Market funds surpassed their benchmarks, underscoring the success of active management[4] in volatile and uncertain economic conditions. On the other hand, the Small/Mid Cap Equity fund underperformed its benchmark by 0.31 percent. The Target Date funds continued their trend of outperformance across the glide path, further affirming the effectiveness of including diversified active management within the funds.

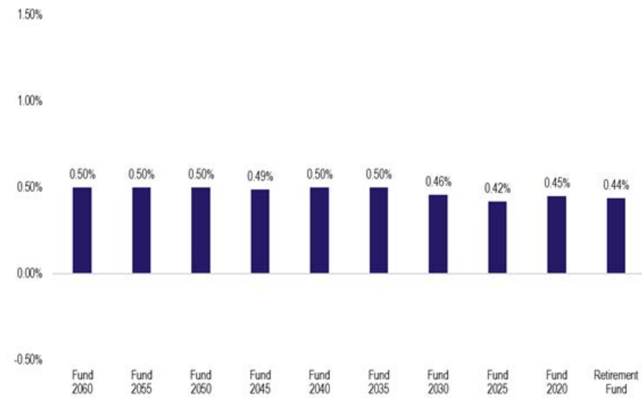
[4] *The following DC investment options are only passively managed: Large Cap Equity Index Fund and Inflation-Linked Fixed Income Fund.*

Defined Contribution Annualized Performance Relative to Benchmarks
as of June 30, 2023

DC Standalone Investment Options
Outperformance vs. Benchmarks (Net of Fees)
July 2011 – June 2023



Target Date Funds
Outperformance vs. Benchmarks (Net of Fees)
July 2011 – June 2023



Blocking Out the Noise

In fiscal year 2023, short-term economic and market trends proved highly unpredictable, shaped extensively by domestic and international dynamics. Central banks, led by the Federal Reserve, implemented firm measures to manage inflation, leading to mark to market changes and increased economic volatility. Despite the restrictive monetary policy and persistent inflation, the economy showed its resilience. Fiscal year 2023 once again underscored the criticality of considering a broad range of economic and market scenarios when strategizing portfolio management

As we look toward the future, INPRS intends to strategically expand the asset allocation team, an initiative aimed at continuously improving and reaching our long-term investment goals. The expansion of the asset allocation team will address the critical influence economic trends has on long-term asset performance and risk exposure relative to our portfolio.

Key areas of focus for the team include:

- **Scenario Analysis/Stress Testing**: Forecast portfolio resilience under diverse economic conditions for adaptability and robustness.
- **Inter-Relation of Economics and Markets:** Analyze macroeconomic, policy, and market trends in real-time to determine if assets are behaving as we would have expected or if changes to our strategy are needed.
- **Portfolio Monitoring/Rebalancing:** Continuously evaluate risk and market influences on assets to maintain strategy alignment with short and long-term goals.

This strategic enhancement underscores INPRS's commitment to maximizing our target returns. We emphasize risk-adjusted decision-making, considering all costs and complexities, to navigate the fluctuating economic landscape effectively. As we continue to evolve, our investment philosophy still remains the same: generating sustainable, long-term returns to benefit all our stakeholders and beneficiaries.

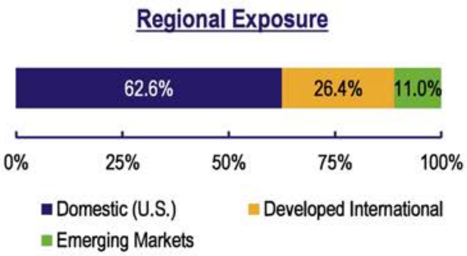
Sincerely,

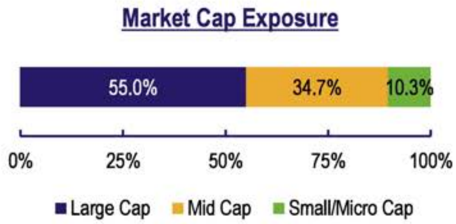
Scott B. Davis, CFA

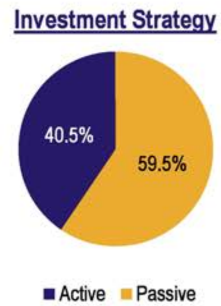
Chief Investment Officer

Public Equity[1]

The public equity portfolio seeks to provide long-term capital appreciation and income through exposure to public equity securities. INPRS uses a variety of external managers to create a globally diversified portfolio within the asset class. Historically, public equities have performed well in environments when actual economic growth came in higher than expectations and/or when actual inflation came in lower than expectations.

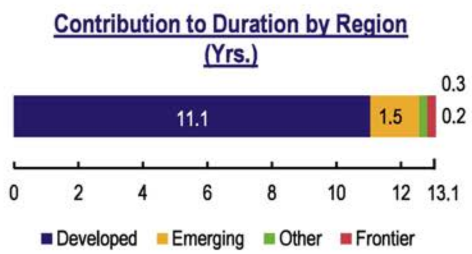


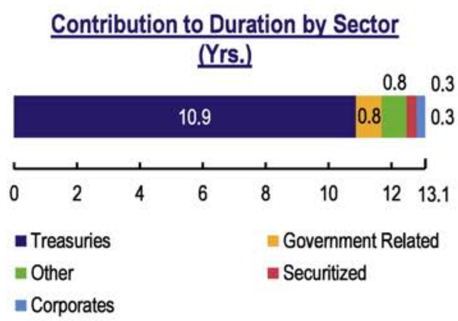


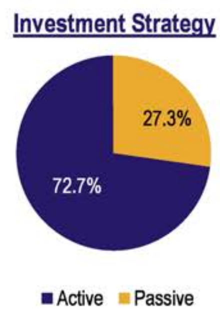


Fixed Income (ex Inflation Linked)[2]

The fixed income - ex inflation-linked portfolio seeks to provide current income and long-term risk-adjusted return, in excess of the custom benchmark ("Benchmark"), through the investment in debt securities. A focus is placed on preservation of capital. To minimize the probability of substantial principal loss, INPRS staff seeks to reduce the volatility of the portfolio and enhance return from both contractual income and capital appreciation--in part, by investing in certain actively managed strategies.

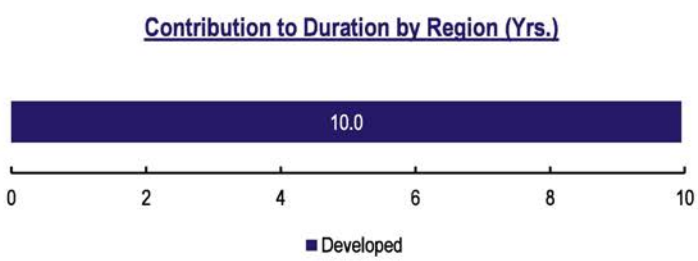


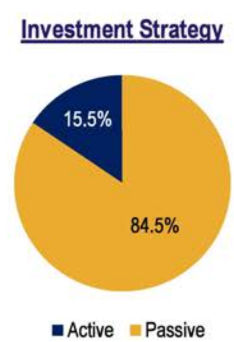




Fixed Income (Inflation-Linked)[2]

The fixed income - inflation-linked portfolio seeks to provide a long-term risk-adjusted return similar to that of the custom global inflation index ("Benchmark") and to, more broadly, provide protection against unanticipated inflation.

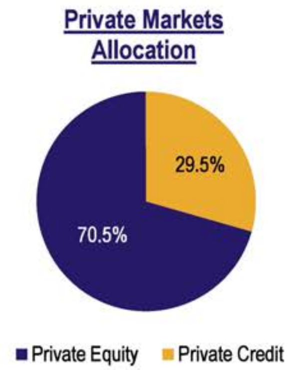


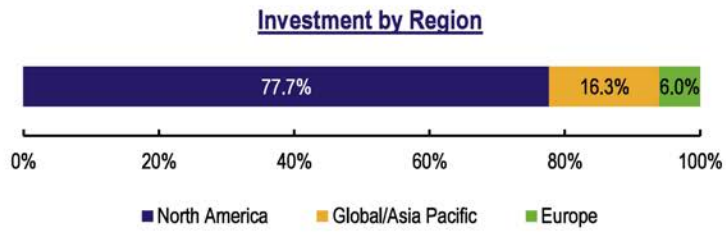


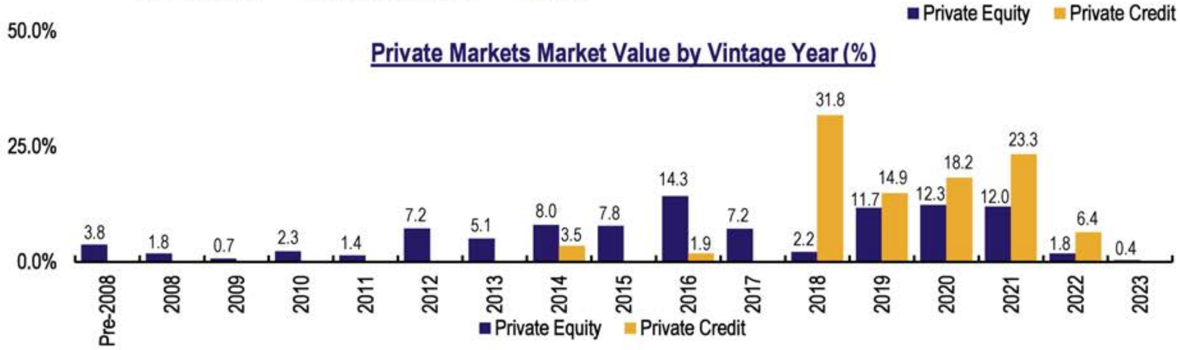
[1] Notional portfolio data provided by portfolio managers and BNY Mellon, INPRS's Custodian
[2] Notional portfolio data provided by MSCI Barra One and BNY Mellon, INPRS's Custodian

Private Markets[3]

The private markets portfolio is comprised of Private Equity and Private Credit. More information on these asset classes is listed below.

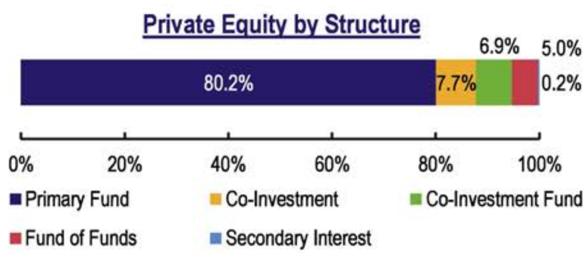


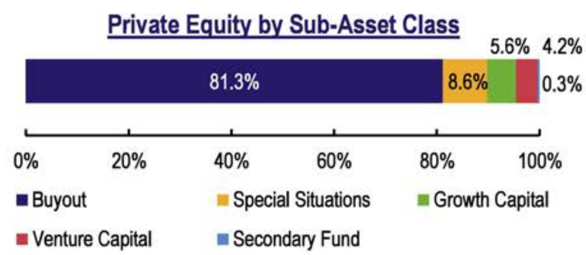




Private Equity[3]

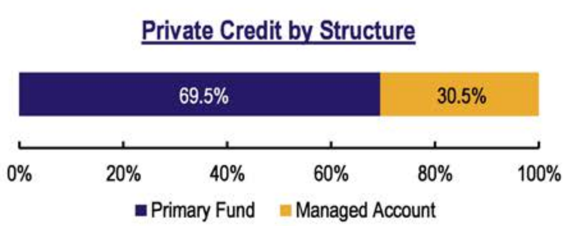
The private equity portfolio seeks to provide attractive risk-adjusted returns by investing in opportunities not typically available through public markets. These investments have historically delivered returns that are higher than public markets while attempting to reduce risk through diversification.

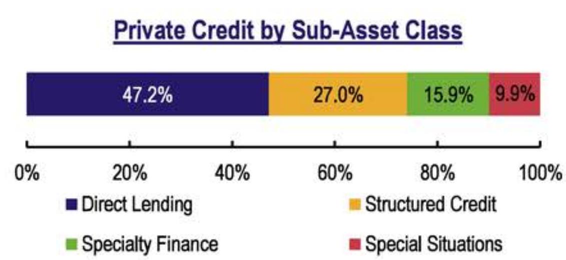




Private Credit[3]

The private credit portfolio seeks to provide attractive risk-adjusted returns by acquiring the debt of private companies. Private credit, which is characterized by predictable and contractual returns, is relatively low risk compared to other alternative asset classes and offers a viable alternative to fixed income investing. These investments also seek to decrease the volatility of the investment portfolio through diversification.

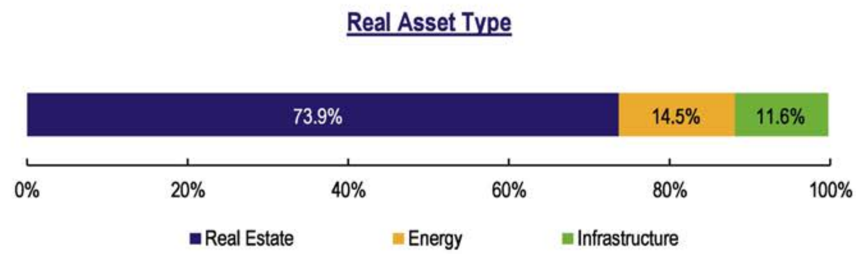




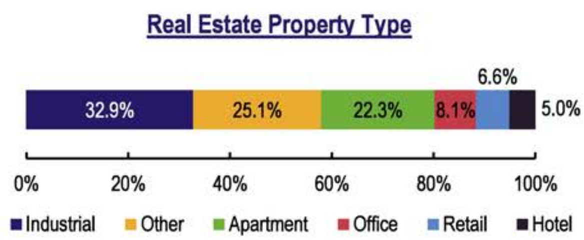
[3] Portfolio data provided by Aksia, INPRS's Private Markets consultant

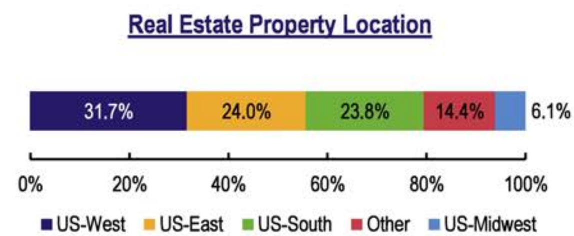
Real Assets[4]

The real assets portfolio is comprised of real estate and infrastructure and seeks to provide attractive risk-adjusted returns by providing stable current income and preserving investment capital. The portfolio should also reduce volatility by providing a hedge against inflation and through the diversification benefits provided by real asset investments. The real asset portfolio is mostly comprised of investments in private real estate and infrastructure partnerships (energy is a sector of infrastructure), and the underlying exposures are a mix of debt and equity holdings.



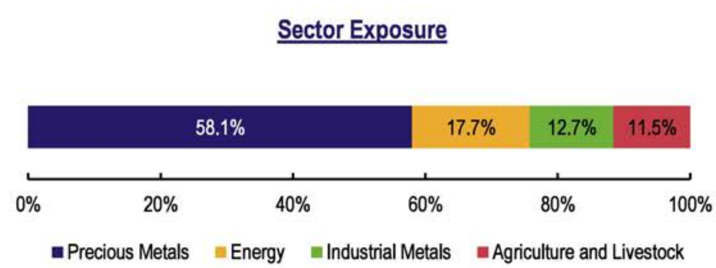
Breakdown of Real Estate:

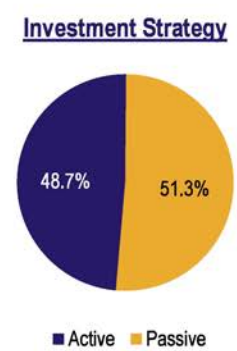




Commodities[5]

The commodities portfolio seeks to provide long-term risk-adjusted returns by preserving investment capital and lowering overall volatility. The portfolio should also act as a hedge against unanticipated inflation. Commodity investments have historically delivered returns that are less correlated with equity and fixed income markets which may provide an opportunity to enhance returns and/or reduce volatility.

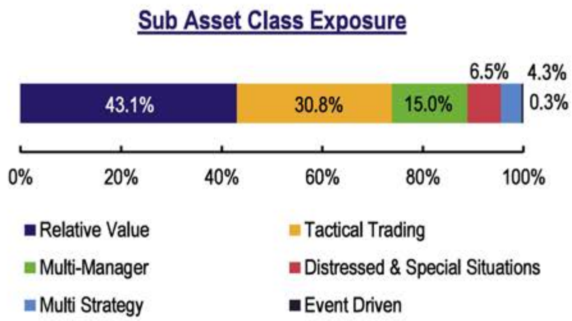


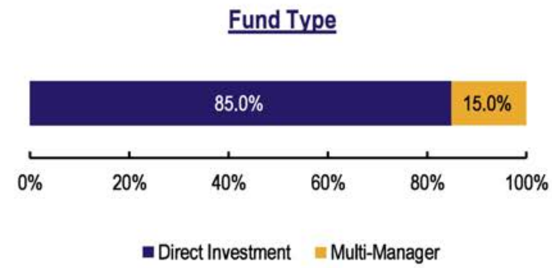


[4] Portfolio data provided by Mercer, INPRS's Real Assets consultant
[5] Portfolio portfolio data provided by portfolio managers and BNY Mellon, INPRS's Custodian

Absolute Return[6]

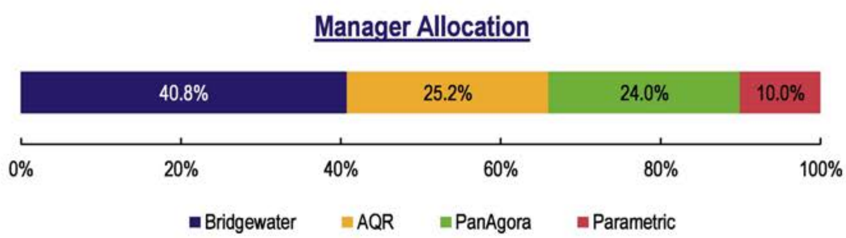
The absolute return portfolio seeks to enhance the long-term risk adjusted returns of the plan by delivering alpha, providing diversification benefits, and preserving capital. Absolute return strategies generate returns by exploiting mispricing and inefficiencies in global capital markets, while attempting to reduce exposures to primary market factors (e.g. interest rates and equities) through various hedging techniques.





Risk Parity[7]

The risk parity portfolio seeks to provide consistent and high risk-adjusted rates of returns as a standalone investment through the allocation of capital that equalizes risks across a myriad of macroeconomic environments. While traditional asset allocation is highly dependent on favorable equity returns, risk parity can be considered an “all weather” portfolio to garner consistent, risk-balanced returns from multiple asset classes without long-term inclination towards any single asset class.



[6] Portfolio data provided by Aksia, INPRS's Absolute Return consultant
[7] Portfolio data provided by BNY Mellon, INPRS's Custodian

Outline of Investment Policies

Objective and Guiding Principles

The Indiana Public Retirement System's (INPRS) Board serves as the ultimate fiduciary of INPRS. The Board establishes investment policies while the State of Indiana enacts guidelines on the investment of the System's assets. At all times, INPRS must invest its assets according to the "Prudent Investor" standard.

The Investment Policy Statement (IPS) ensures that INPRS will maintain funding for each retirement fund to pay the benefits or actuarially determined liabilities over time in a cost-effective manner. It is a dynamic document and periodic reviews are undertaken. The Investment Policy Statement was last revised on June 23, 2023.

Core tenets of the IPS are:

- Set investment policies that the Board judges to be appropriate and prudent.
- Develop clear, distinctive roles and responsibilities of the Board, staff and each service provider.
- Serve as a guide for continual oversight of the invested assets.
- Establish formal criteria to measure, monitor and evaluate the performance results of the investment managers.
- Communicate investment policies, directives and performance criteria to the external and internal stakeholders.

Consolidated Defined Benefit Assets Objectives and Structure

The Board recognizes that the allocation of defined benefit assets is the most important factor of investment returns over long periods of time. An asset liability study is conducted every five years to analyze the expected returns of various global asset classes, projected liabilities, risks associated with alternative asset mix strategies and their effect on the projected fair value of assets, funded status and contributions to the funds. With a long-term investment focus, the current defined benefit portfolio was invested across diverse asset classes.

To maximize the probability of achieving the target rate of return over a 30-year time horizon, INPRS's Board of Trustees approved a new asset allocation on May 7, 2021 that included the increased use of leverage. The explicit leverage enables the Plan to obtain additional investment exposure, which results in an asset allocation that exceeds 100% of invested assets. Beginning in fiscal year 2022, the plan's target allocation for total exposure is 115%. Further details of INPRS's leverage policy are available in the IPS:

Global Asset Class:	Current Target Allocation		Current Target Range	
Public Equity	20.0	%	17.0 to 23.0	%
Private Markets	15.0		10.0 to 20.0	
Fixed Income - Ex Inflation-Linked	20.0		17.0 to 23.0	
Fixed Income - Inflation-Linked	15.0		12.0 to 18.0	
Commodities	10.0		7.0 to 13.0	
Real Assets	10.0		5.0 to 15.0	
Absolute Return	5.0		0.0 to 10.0	
Risk Parity	20.0		15.0 to 25.0	

Defined Contribution Assets Objectives and Structure

The defined contribution plans are structured to provide members with a choice of diverse investment options that offer a range of risk and return characteristics appropriate for members. Members can self-direct their investment options or leave their contributions invested in the default target date retirement fund. The investment options undergo periodic reviews by the Board. The defined contribution investments are outlined in Investment Results - Consolidated Defined Contribution Assets. Additional DC Fund Facts are available online at: https://www.in.gov/inprs/publications/investment-fact-sheets/.

Other Funds

Other plans under the administration of the Board include the Special Death Benefit Fund (SDBF), Retirement Medical Benefits Account Plan (RMBA) and Local Public Safety Pension Relief Fund (LPSPR). The assets of SDBF and RMBA are invested in intermediate U.S. government and U.S. credit bonds. The assets of LPSPR are invested in short-term money market instruments, including but not limited to, commercial paper and securities issued or guaranteed by the U.S. government.

Notes to the Investment Schedules

Accompanying Notes to the Actual and Benchmark Returns

- Returns are time-weighted based on calculations made by the System's custodian, Bank of New York Mellon.
- Returns are net of fees.
- Defined Benefit asset class custom benchmark descriptions are as follows:

Global Asset Class	Benchmark Description
Public Equity	MSCI All Country World Investable Market Net Index
Private Markets	Benchmark comprised of two custom benchmarks for Private Equity and Private Credit. 100% Private Equity from July 2008-September 2017 and 96% Private Equity and 4% Private Credit from October 2017-Present. October 2017 marked the inception of Private Credit. Private Equity Benchmark is comprised of the following components: 60% Russell 2000 Index, 20% MSCI EAFE Small Cap Index, 15% CS High Yield Index, and 5% Credit Suisse Western European High Yield Index (Hedged) plus 3.00%. Private Credit Benchmark is comprised of the following components : 50% CS Leverage Loan Index, 33% S&P Business Development Company ("BDC") Index, and 17% CS Western European Leveraged Loan Index plus 1.50%.
Fixed Income - Ex Inflation-Linked	Benchmark comprised of 28.6% BB US Long Government, 28.6% WGBI ex-US 25% Japan Cap (USD Hedged), 14.3% JPM GBI EM, 14.3% JPM EMBI, 5.7% CS Leveraged Loan Total Return Index, 3.6% BofA ML US High Yield Total Return Index, 3.6% BofA ML Non-Financial Developed Markets High Yield Constrained Total Return Index, 1.4% CS Western Europe Leveraged Loan Total Return Index.
Fixed Income - Inflation-Linked	Benchmark comprised of 34.5% ICE BofA ML Treasury Inflation-Linked 15+ years, 34.5% BB US Treasury Inflation Notes 1-10 years, 17.2 % BlackRock: Bloomberg Global Inflation Linked 1 and 13.8% Custom weighted mix of country indices within the Barclays Capital World Government Inflation-Linked Bond Index, 100% Hedged to USD (Country weights: 45% US, 20% UK, 10% Canada, 10% France, 7% Germany, 5% Sweden, and 3% Australia).
Commodities	Benchmark comprised of 50% Bloomberg Commodity Excess Return Index and 50% Bloomberg Gold Excess Return.
Real Assets	Benchmark comprised of two benchmarks for Real Estate and Infrastructure. 100% Real Estate from February 2015 – June 2021, 87.5% Real Estate and 12.5% Infrastructure from July 2021 – June 2022, and 78% Real Estate and 22% Infrastructure from June 2022 – Present. July 2021 marked the inception of Infrastructure. Real Estate benchmark comprised of the following components: 70% FTSE NAREIT All Equity REITS and 30% Barclays CMBS. Infrastructure benchmark is 100% Global Property Research Index.
Absolute Return	Benchmark comprised of 40% HFRI Macro (Total) Index, 45% HFRI Relative Value (Total) Index, 5% HFRI Event Driven Index, 10% HFRI Fund of Funds Composite Index.
Risk Parity	Benchmark comprised of 60% MSCI ACWI IMI Index (equities) and 40% Barclays Global Aggregate Bond Index (bonds).
Cash + Cash Overlay	Benchmark comprised of the allocation to sub-asset class targets for the cash overlay starting in April 2016; prior to that, the 3-month LIBOR was the benchmark for cash.
Consolidated Defined Benefit Assets	The target index weights for each asset class benchmark are set by the target asset allocation. The return for Risk Parity, Real Assets, and Private Markets are equal to the asset class returns and not the benchmark.

- Defined Contribution Target Date Fund benchmarks are comprised of performance data using a passive strategy with the same asset allocation glide path of each Target Date Fund.
- Defined Contribution Target Date Fund 2065 was added to the investment line-up May 1, 2020. Historical performance for the 5-year period is not available.
- Defined Contribution Target Date Fund 2015 was added to the investment line-up July 1, 2019. Historical performance for the 5-year period is not available.
- Defined Contribution International Equity Fund benchmark changed to MSCI ACWI ex US IMI Index on 02/01/2019. The prior benchmark was MSCI ACWI ex US Index.

Investment Results - Consolidated Defined Benefit Assets

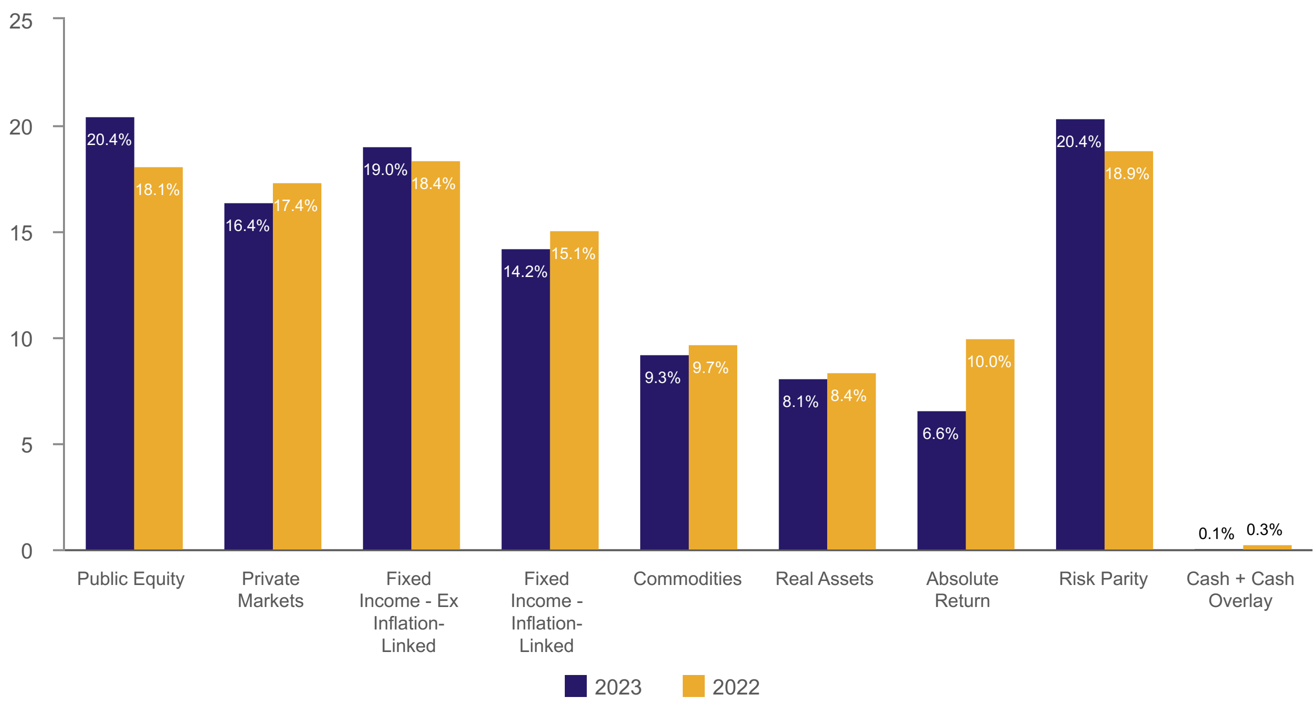
Asset Allocation Summary: June 30, 2023 Actual vs. June 30, 2022 Actual

The Total Consolidated Defined Benefit Investments shown below are grouped by global asset classes approved in the Investment Policy Statement, whereas the investments in the Statement of Fiduciary Net Position are grouped in assets and liabilities according to GASB and the security type assigned to each investment.

(dollars in thousands)	June 30, 2023			Allowable Range for Investments	June 30, 2022	
Global Asset Class	Amount[1]	Percent	Target %		Amount	Percent
Public Equity	$ 8,129,954	20.4 %	20.0 %	17.0 to 23.0 %	$ 6,545,173	18.1 %
Private Markets	6,530,975	16.4	15.0	10.0 to 20.0	6,279,811	17.4
Fixed Income - Ex Inflation-Linked	7,573,894	19.0	20.0	17.0 to 23.0	6,627,681	18.4
Fixed Income - Inflation-Linked	5,653,470	14.2	15.0	12.0 to 18.0	5,446,942	15.1
Commodities	3,690,114	9.3	10.0	7.0 to 13.0	3,504,850	9.7
Real Assets	3,236,138	8.1	10.0	5.0 to 15.0	3,014,102	8.4
Absolute Return	2,642,593	6.6	5.0	0.0 to 10.0	3,595,968	10.0
Risk Parity	8,113,999	20.4	20.0	15.0 to 25.0	6,829,025	18.9
Cash and Cash Overlay	25,836	0.1	N/A	N/A	104,165	0.3
Consolidated Defined Benefit Assets	**$ 39,758,306**	**114.7 %**	**115.0 %**		**$ 36,082,903**	**116.3 %**

[1] *The defined benefit plans target allocation for total exposure is 115%. Asset Classes are presented using exposure/notional amounts for Public Equity, Fixed Income - Ex Inflation-Linked, and Commodities.*

Percent of Total Investments by Asset Class



Time-Weighted Rate of Return by Asset Class vs. Benchmark Returns [1]

For the Year Ended June 30, 2023

Global Asset Class	Actual Return	Benchmark Return	Actual Over / (Under) Benchmark
Public Equity	16.7 %	16.1 %	0.6 %
Private Markets	3.2	(0.6)	3.8
Fixed Income - Ex Inflation-Linked	(0.1)	2.0	(2.1)
Fixed Income - Inflation-Linked	(2.7)	(2.0)	(0.7)
Commodities	(5.2)	(5.6)	0.4
Real Assets	(1.4)	(11.1)	9.7
Absolute Return	3.0	2.3	0.7
Risk Parity	(2.6)	9.9	(12.5)
Cash and Cash Overlay	3.0	2.9	0.1
Consolidated Defined Benefit Assets	**2.5 %**	**2.4 %**	**0.1 %**

Historical Time-Weighted Investment Rates of Return

For the Years Ended June 30

(dollars in thousands)	Fair Value of Assets	Rate of Return [1]	Target Return
2023	$ 39,758,306	2.5 %	6.25 %
2022	36,082,903	(6.6)%	6.25
2021	38,561,657	25.5 %	6.75
2020	30,657,831	2.6 %	6.75
2019	30,370,574	7.4 %	6.75
2018	28,475,760	9.3 %	6.75
2017	26,364,510	8.0 %	6.75
2016	24,775,551	1.2 %	6.75
2015	24,629,820	— %	6.75
2014	24,560,323	13.7 %	6.75

[1] *See Accompanying Notes to the Actual and Benchmark Returns.*

Time-Weighted Rates of Return by Asset Class vs Benchmark Returns [1]

As of June 30, 2023

Global Asset Class	1-Year	Annualized 3-Years	Annualized 5-Years
Public Equity	16.7 %	11.2 %	8.3 %
Benchmark	16.1	11.0	7.7
Private Markets	3.2	18.9	15.7
Benchmark	(0.6)	22.9	9.9
Fixed Income - Ex Inflation - Linked	(0.1)	(5.0)	0.6
Benchmark	2.0	(4.4)	1.0
Fixed Income - Inflation - Linked	(2.7)	(1.4)	3.0
Benchmark	(2.0)	(1.6)	3.3
Commodities	(5.2)	17.7	1.9
Benchmark	(5.6)	15.4	1.2
Real Assets	(1.4)	11.3	9.0
Benchmark	(11.1)	8.0	5.7
Absolute Return	3.0	7.4	5.3
Benchmark	2.3	7.3	4.4
Risk Parity	(2.6)	0.2	2.4
Benchmark	9.9	5.5	5.3
Cash + Cash Overlay	3.0	(5.3)	(0.3)
Benchmark	2.9	3.4	4.3
Consolidated Defined Benefit Assets	2.5	6.3	5.8
Target Index	2.4	6.3	5.6

[1] See Accompanying Notes to the Actual and Benchmark Returns.

Statistical Performance

As of June 30, 2023

Statistic	1-Year	Annualized 3-Years	Annualized 5-Years	Annualized 10-Years
Time-Weighted Rate of Return	2.5 %	6.3 %	5.8 %	6.0 %
Standard Deviation	12.1	9.8	9.0	7.0
Sharpe Ratio [1]	—	0.5	0.5	0.7
Beta [2]	0.6	0.5	0.4	0.4
Correlation [2]	0.9	0.9	0.9	0.9

1 *Risk Free Proxy is the Citigroup 3 Month T-Bill.*

2 *Market Proxy is the S&P 500.*

Definition of Key Terms:

Standard Deviation: A statistic used to measure the dispersion in a distribution. Dispersion is measured relative to the mean, or average of the distribution. The greater the dispersion, the higher the risk associated with the pattern of observations. One standard deviation describes two-thirds of the observations in a normal or bell-shaped distribution. In an asset allocation context, standard deviation is a conventional proxy for risk or volatility.

Sharpe Ratio: Ratio used to measure risk-adjusted performance. The Sharpe Ratio is calculated by subtracting a risk-free rate (proxy) from the rate of return for a portfolio and dividing the result by the standard deviation of the portfolio returns. The Sharpe Ratio provides insight on excess risk held in the portfolio. The greater a portfolio's Sharpe Ratio, the better its risk-adjusted performance has been. A negative Sharpe Ratio indicates that a risk-less asset would perform better than the security being analyzed.

Beta: A measure of the volatility, or systematic risk, of a security or portfolio in comparison to the market as a whole. Beta is the tendency of a security's return to respond to swings in the market. A Beta of less than one indicates less volatility than the market. A Beta of greater than one indicates greater volatility than the market.

Correlation: A statistical measure of how two securities move in relation to each other. A correlation of positive 1.0 indicates similar magnitude and direction of change. A correlation of negative (1.0) indicates similar magnitude, but opposite direction. A correlation of zero indicates the relationship is purely random.

Investment Results - Consolidated Defined Contribution Assets

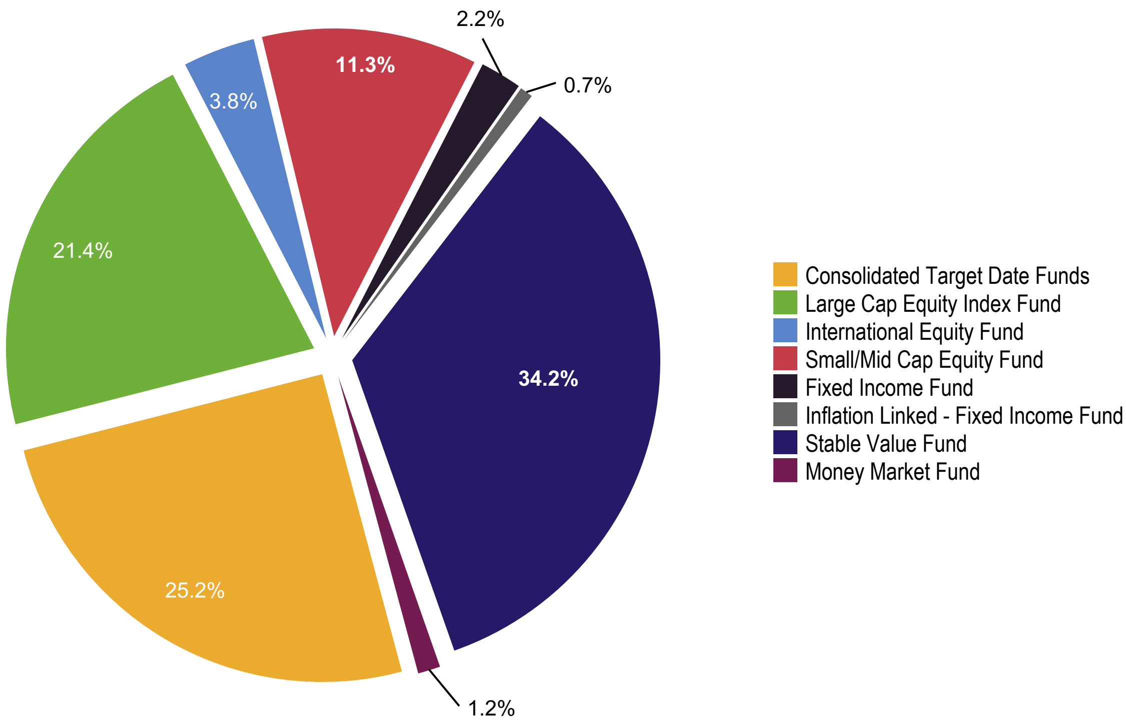
Assets by Investment Option

As of June 30, 2023

The Total Consolidated Defined Contribution Investments shown below are grouped by asset classes approved in the Investment Policy Statement, whereas the investments in the Statement of Fiduciary Net Position are grouped in assets and liabilities according to GASB and the security type assigned to each investment.

(dollars in thousands)

Investment Option	Plan Assets	Percent of Total Self-Directed Investments
Consolidated Target Date Funds	$ 1,640,279	25.2 %
Large Cap Equity Index Fund	1,392,165	21.4
International Equity Fund	247,947	3.8
Small/Mid Cap Equity Fund	745,331	11.3
Fixed Income Fund	143,486	2.2
Inflation Linked - Fixed Income Fund	43,798	0.7
Stable Value Fund	2,227,788	34.2
Money Market Fund	76,569	1.2
Total Defined Contribution Assets	**$ 6,517,363**	100.0 %



Rate of Return by Investment Option vs. Benchmark Returns [1]

For the Year Ended June 30, 2023

Investment Option	1-Year	Annualized 3-Year	Annualized 5-Year
Target Date Funds:			
Fund 2065	14.0 %	9.1 %	n/a
2065 Fund Index	13.3	8.8	n/a
Fund 2060	14.0	9.1	7.6
2060 Fund Index	13.3	8.8	7.0
Fund 2055	14.0	9.1	7.6
2055 Fund Index	13.3	8.8	7.0
Fund 2050	13.6	9.0	7.5
2050 Fund Index	12.9	8.8	7.0
Fund 2045	12.7	8.4	7.2
2045 Fund Index	12.1	8.2	6.7
Fund 2040	11.4	7.7	6.9
2040 Fund Index	10.9	7.5	6.4
Fund 2035	9.6	6.5	6.4
2035 Fund Index	9.2	6.2	5.9
Fund 2030	8.3	5.3	5.9
2030 Fund Index	7.8	5.0	5.4
Fund 2025	7.1	4.6	5.5
2025 Fund Index	6.7	4.4	5.0
Fund 2020	5.5	3.5	4.7
2020 Fund Index	5.1	3.2	4.3
Fund 2015	3.8	2.2	n/a
2015 Fund Index	3.8	2.0	n/a
Retirement Fund	2.9	1.2	3.4
Retirement Fund Index	2.7	0.9	3.0
All Other Funds:			
Large Cap Equity Index Fund	19.6	14.6	12.3
S&P 500 Index	19.6	14.6	12.3
International Equity Fund	14.4	7.7	4.6
MSCI ACWI ex US IMI Index	12.5	7.3	3.5
Small/Mid Cap Equity Fund	15.3	10.2	6.4
Russell Small Cap Completeness Index	15.3	10.1	6.6
Fixed Income Fund	(0.3)	(3.5)	1.0
Bloomberg Barclays U.S. Aggregate Bond Index	(0.9)	(4.0)	0.8
Inflation - Linked Fixed Income Fund	(1.4)	(0.1)	2.5
Bloomberg Barclays U.S. TIPS Index	(1.4)	(0.1)	2.5
Stable Value Fund	2.4	2.2	2.3
Federal Reserve 3 Yr Constant Maturity	3.9	1.9	1.9
Money Market Fund	3.9	1.4	1.6
FTSE 3 Month U.S. T-Bill Index	3.8	1.3	1.6

[1] *See Accompanying Notes to the Actual and Benchmark Returns.*

Investment Results - Consolidated Defined Contribution Assets, continued

Historical Annual Interest Crediting Rates

For the Years Ended June 30

Interest crediting rates are used to calculate a return on contributions made by members who are exiting the fund prior to attaining eligibility for a pension benefit payment. Interest rates are approved by the Board on an annual basis.

	Annual Interest Crediting Rate			
	77 Fund	JRS	EG&C	PARF
2023	1.98 %	1.98 %	1.98 %	1.98 %
2022	1.43	1.43	1.43	1.43
2021	1.11	1.11	1.11	1.11
2020	2.59	2.59	2.59	2.59
2019	2.78	2.78	2.78	2.78
2018	2.40	2.40	2.40	2.40
2017	1.82	1.82	1.82	1.82
2016	1.87	1.87	1.87	1.87
2015	2.69	2.69	2.69	2.69
2014	1.90	1.90	1.90	1.90

Top 10 Holdings

For the Year Ended June 30, 2023

Equity Holdings by Fair Value [1]

(dollars in thousands)

Company	Shares	Fair Value
APPLE INC	664,258	$ 128,846
MICROSOFT CORP	338,993	115,441
TAIWAN SEMICONDUCTOR MANUFACTU	4,100,853	104,845
SAMSUNG ELECTRONICS CO LTD	1,418,246	77,712
SAP SE	402,931	55,011
ASML HOLDING NV	74,545	53,921
AMAZON.COM INC	397,881	51,868
MERCADOLIBRE INC	42,128	49,905
NVIDIA CORP	110,235	46,632
CIE FINANCIERE RICHEMONT SA	222,518	37,718

Fixed Income Holdings by Fair Value [1]

(dollars in thousands)

Description	Coupon Rate	Maturity Date	Par Value	Fair Value
U.S. Treasury Bond	4.000 %	11/15/52	$ 253,230	$ 255,262
U.S. Treasury - CPI Inflation Index Bond	2.125	2/15/41	204,084	218,850
U.S. Treasury - CPI Inflation Index Bond	0.750	2/15/42	184,028	173,202
U.S. Treasury - CPI Inflation Index Bond	0.625	2/15/43	190,698	161,923
U.S. Treasury - CPI Inflation Index Bond	1.375	2/15/44	186,488	152,863
U.S. Treasury - CPI Inflation Index Bond	0.750	2/15/45	182,116	150,370
U.S. Treasury Bond	3.125	8/15/44	168,020	145,108
U.S. Treasury - CPI Inflation Index Bond	1.000	2/15/46	130,752	140,206
U.S. Treasury - CPI Inflation Index Bond	1.000	2/15/48	160,238	138,876
U.S. Treasury - CPI Inflation Index Bond	2.125	2/15/40	141,315	121,433

[1] *A complete list of portfolio holdings is available upon request.*

Investment Fees

Investment Management Fees

For the Year Ended June 30, 2023

Private Markets and Real Asset managers provide account valuations on a net of fee basis. While management fees are disclosed in the Investment Management Fees schedule, for greater transparency, INPRS makes a good faith effort to provide realized carried interest and expenses that would not otherwise be disclosed. INPRS's consultants Aksia Torrey Cove and Mercer provided additional fee information on a calendar year basis as of December 31, 2022 resulting in reported realized carried interest and expenses for Private Markets of $115.0 million and Real Assets of $31.9 million. Reported realized carried interest and expenses exclude funds where data was not provided by the general partners.

(dollars in thousands)

Asset Class	Fees Paid
Consolidated Defined Benefit Assets	
Public Equity[1]	$ 14,116
Private Markets	56,766
Fixed Income - Ex Inflation-Linked[1]	28,930
Fixed Income - Inflation-Linked[1]	(1,895)
Commodities[1]	3,355
Real Assets	34,110
Absolute Return[1]	54,775
Risk Parity	20,893
Cash + Cash Overlay	139
Total Consolidated Defined Benefit Assets	**211,189**
Defined Contribution Assets	8,112
OPEB Assets	27
Total Investment Management Fees	**$ 219,328**

[1] *Includes both management fees and performance-based fees*

Brokers' Commission Fees

For the Year Ended June 30, 2023

(dollars in thousands)

Broker	Fees Paid
Morgan Stanley & Co. Inc.	$ 750
Goldman Sachs & Co.	629
J P Morgan Securities Ltd., New York	603
Newedge USA LLC	130
Merrilly Lynch International Equities	128
Instinet Clearing Services Inc.	116
Jefferies & Co. Inc.	72
Pershing LLC, Jersey City	61
J P Morgan Securities Ltd., London	58
Exane, Paris	55
Top Ten Brokers' Commission Fees	**2,602**
Other Brokers	1,453
Total Brokers' Commission Fees	**$ 4,055**

Investment Professionals

As of June 30, 2023

Consolidated Defined Benefit Assets

Custodian

Bank of New York Mellon

Consultants

Aksia (Absolute Return, Private Equity, and Private Credit)

Mercer (Real Assets)

Verus (General: Defined Benefit)

Strive (Investment Policy Statement Review)

Public Equity Managers

Altrinsic Global Advisors, LLC

Arrowstreet Capital, LP

Baillie Gifford & Company

BlackRock Inc.

Disciplined Growth Investors

Leading Edge Investment Advisors

Parametric

RhumbLine Advisers

TimesSquare Capital Management, LLC

Private Markets Managers

352 Capital

400 Capital Management

A.M. Pappas & Associates

ABRY Partners

Accel-KKR

Accent Equity Partners AB

Actis Capital

Advanced Technology Ventures

Advent International

Aisling Capital

AlpInvest Partners

Apax Partners

Apollo Global Management

ARCH Venture Partners

Ares Management

Ascribe Capital

Austin Ventures

Bain Capital Partners

Baring Private Equity Asia (BPEA)

Bertram Capital

Black Diamond Capital Management

BlackFin Capital Partners

Blackstone Group

Bregal Sagemount

Brentwood Associates

Butterfly Equity Partners

Caltius Capital Management

Cardinal Partners

Carlyle Group

Centerfield Capital Partners

Cerberus Capital Management

Charterhouse Capital Partners

CID Capital

Cinven

Coller Capital

Columbia Capital

Crescent Capital Group

Crestview Partners

CVC Capital Partners

Doll Capital Management (DCM)

Escalate Capital Partners

Falcon Investment Advisors

Forbion Capital Partners

Fortress Investment Group

Francisco Partners

Gamut Capital Management

Gilde Buyout Partners

Globespan Capital Partners

Goldman Sachs Asset Management

GSO Capital Partners

GTCR Golder Rauner

H2 Equity Partners

Hamilton Lane

HarbourVest

Hellman & Friedman

Herkules Capital

High Road Capital Partners

Horsley Bridge

HPS Investments Partners

Insight Partners

Intermediate Capital Group (ICG)

JFM Management

Kailai Investments

Kennedy Lewis Investment Management

Khosla Ventures

Kohlberg Kravis Roberts & Co (KKR)

KPS Capital Partners

Landmark Partners

Leonard Green & Partners

Lexington Partners

Lion Capital

MBK Partners

Merit Capital Partners

Mill Road Capital

Neuberger Berman

New Enterprise Associates

New Mountain Capital

Oak Hill Capital Management

Oak Investment Partners

Oaktree Capital Management

Opus Capital Venture Partners

Parthenon Capital Partners

Pathlight Capital

Peninsula Capital Partners

Platinum Equity

Portfolio Advisors

Rho Capital Partners

RJD Partners

SAIF Management

Scale Venture Partners

Silver Cup

Silver Lake Partners

Sixth Street Partners

SLR Capital Partners

StepStone Group

Stride Consumer Partners

SVB Capital

Sumeru Equity Partners

Sun Capital Partners

TA Associates

TCG

TCW Capital Partners

Technology Crossover Ventures

Technology Partners

Terra Firma Capital Partners

TowerBrook Financial

TPG Capital

Trilantic Capital Partners

Trinity Ventures

Triton Partners

Private Markets Managers, continued

- True Ventures
- TSG Consumer Partners
- Veritas Capital Management
- Veronis Suhler Stevenson (VSS)
- Vestar Capital Partners
- Vintage Venture Partners
- Vision Capital
- Vista Equity Partners
- Walden Group of Venture Capital Funds
- Warburg Pincus
- Waterfall Asset Management
- Weston Presidio Capital
- WL Ross & Co.
- Xenon Private Equity
- York Capital Management

Fixed Income - Ex Inflation-Linked Managers

- Goldman Sachs Asset Management, LP
- Oak Hill Advisors, LP
- Oak Tree Capital Management, LP
- Pacific Investment Management Company (PIMCO)
- Parametric
- State Street Global Advisors

Fixed Income - Inflation-Linked Managers

- BlackRock
- Bridgewater Associates, Inc.
- Northern Trust Global Investments

Commodities Managers

- CoreCommodity Management
- Gresham Investment Management, LLC
- Wellington Management Company, LLP

Real Asset Managers

- Abacus Capital Group, LLC
- Ambrose Property Group
- Angelo Gordon LP
- Ardian
- Asana Partners, LP
- Bain Capital Partners
- Barings
- BlackRock Financial Management
- Blackstone Group
- Carlyle Group
- CenterSquare Investment Management
- Digital Bridge
- EnCap Investments
- Energy Capital Partners
- Exeter Property Group, LLC
- First Reserve Corporation
- GSO Capital Partners
- H/2 Capital Partners
- H.I.G. Capital
- Hackman
- Harrison Street Real Estate Capital, LLC
- ICG
- iCon Infrastructure
- InfraVia
- JDM Partners
- Kayne Anderson
- Kohlberg Kravis Roberts & Co (KKR)
- LimeTree Capital Advisors
- Longpoint Realty Partners
- Mack Real Estate Group
- Mesa West Capital
- NGP Energy Capital Management
- Noble Investment Group
- Panda Power Funds
- Prologis
- Related Fund Management LLC
- Rockpoint Group LLC
- Stockbridge Capital Group
- TA Realty Associates
- Walton Street Capital, LLC
- Warwick Energy Investment Group
- White Deer Management

Absolute Return Managers

- AHL Partners (Man Group)
- Aeolus Capital Management
- Blackstone Group
- Bridgewater Associates, Inc.
- Davidson Kempner Capital Management
- D.E. Shaw & Co
- Eisler Capital
- Garda Capital Partners
- Hudson Structured Capital Management
- King Street Capital Management
- Kirkoswald Capital Partners LLP
- Mariner Investments Group LLC
- Nephila Capital
- PAAMCO
- Perella Weinberg Partners
- Pharo Management
- Rokos Global Macro
- Tenaron Capital Management
- Tilden Park Associates
- Two Sigma Advisers
- Voloridge Management
- Whitebox Advisors

Risk Parity Managers

- AQR Capital Management
- Bridgewater Associates, Inc
- PanAgora
- Parametric

Cash Overlay Managers

- Parametric

Defined Contribution Assets and Other Funds

Consultant

Capital Cities, LLC (General: Defined Contribution)

Custodian

Bank of New York Mellon

Large Cap Equity Index Fund Managers

BlackRock Inc.

International Equity Fund Managers

Altrinsic Global Advisors, LLC

Arrowstreet Capital, LP

Baillie Gifford & Company

BlackRock Inc.

Small/Mid Cap Equity Fund Managers

RhumbLine Advisers

TimesSquare Capital Management, LLC

Fixed Income Fund Managers

Loomis Sayles & Company, LP

Northern Trust Global Investments

Pacific Investment Management Company (PIMCO)

Inflation-Linked Fixed Income Fund Managers

Northern Trust Global Investments

Stable Value Fund Managers

Galliard Capital Management (Fund Advisor)

Income Research + Management (Fund Sub-Advisor)

Jennison Associates (Fund Sub-Advisor)

Dodge & Cox (Fund Sub-Advisor)

TCW (Fund Sub-Advisor)

Money Market Fund Manager

Bank of New York Mellon

Retirement Medical Benefit Account

State Street Global Advisors

Special Death Benefit Fund Assets

Northern Trust Global Investments

Local Public Safety Pension Relief Fund Assets

Bank of New York Mellon