

2021

COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Fiscal Year Ended June 30, 2021



INPRS is a component unit and a pension trust fund of the State of Indiana.



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

2021

COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Fiscal Year Ended June 30, 2021

INPRS is a component unit and a pension trust fund of the State of Indiana.

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 Postemployment 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

Contact Information

INPRS | One North Capitol, Suite 001 | Indianapolis, IN, 46204

Toll-free (844) GO - INPRS | www.inprs.in.gov | questions@inprs.in.gov



2021

COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Fiscal Year Ended June 30, 2021

Investment Section

- [92](#) Report on Investment Activities
- [97](#) Report from the Chief Investment Officer
- [105](#) Asset Class Summaries
- [108](#) Outline of Investment Policies
- [109](#) Notes to the Investment Schedules
- [110](#) Investment Results - Consolidated Defined Benefit Assets
- [114](#) Investment Results - Consolidated Defined Contribution Assets
- [117](#) Investment Information

\$38.6 Billion

Fair value of defined benefit assets

\$6.9 Billion

Fair value of defined contribution assets

25.5 Percent

Annualized time-weighted rate of return on defined benefit investments



Report on Investment Activities



August 9, 2021

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, an update on performance, and a summary of recent developments for the fiscal year ended June 30, 2021.

Market Environment

"Two steps forward, one step back" may be the phrase which best describes the trajectory of the global economy over the fiscal year. The faster-than-expected distribution of highly effective vaccines within the developed world paved the way for gradual reopening of developed economies, but emerging economies with less access to quality vaccines were less prepared to deal with the litany of more-virulent mutations and had to respond with more draconian social distancing controls to mitigate increases in case growth.

Risk-on sentiment propelled financial markets forward, backstopped by continued support from global central banks, the light at the end of the tunnel provided by vaccines, and the inclination of markets to shrug off big surprises on earnings and economic data. Expectations for a strong rebound in economic growth and inflation over the intermediate-term sparked a rotation from the growth sectors that had performed well through the crisis toward more value-orientated sectors prospectively positioned to outperform in a period of rising interest rates. This reflation trade thrived from mid-August until mid-May but began to unravel late in the fiscal as concerns increased about the delta Covid-19 variant and a hawkish pivot from the Federal Reserve.

Looking ahead, investors are grappling with the staying power of high levels of inflation, the timeframe over which the Federal Reserve may begin to taper asset purchases, the outlook for fiscal stimulus, and the capability of companies to sustain high enough levels of earnings growth to justify elevated valuations.

U.S. Equity

"Up and to the right" has been the story for U.S. equity prices over the fiscal year as investors largely looked through the shorter-term impact of pandemic-related shutdowns and bet that fiscal and monetary support would be able to build a bridge to a post-pandemic world. At the beginning of the fiscal year, the S&P 500 Index remained -8.4% beneath its previous high-water mark. By mid-August, the index had reached a fresh all-time high and would proceed to close at record high levels in 53 of the 218 remaining trading days in the fiscal year, delivering a 40.8% total return along the way. Both realized and implied volatility receded to levels more in line with longer-term historical averages.

Report on Investment Activities, continued

Corporate revenues began to recover during the year, and the higher operating leverage ratios which resulted from a litany of cost-saving initiatives implemented during the pandemic worked to supercharge earnings growth. Per FactSet, the estimated year-over-year earnings growth for the S&P 500 Index as of Q2 2021 is 64%. If that rate were to materialize, it would mark the highest year-over-year rate reported by the index since Q4 2009 (109%). Despite the massive increase in corporate earnings, increasing stock prices prevented a material re-rating of U.S. equity valuations, which remain at stretched levels relative to recent history. By fiscal year-end, the forward 12-month price-to-earnings ratio of the S&P 500 Index remained near 21x – well above both the five-year (18x) and ten-year (16x) averages. It is worth noting, however, that forward earning's estimates 12 months ago proved far too pessimistic, as analysts underestimated the strength of profit growth.

Regarding equity size and style, small-cap equities made back some lost ground (Russell 2000 Index +62.0%) relative to large-cap (Russell 1000 Index +43.1%), and the value factor (Russell 1000 Value Index +43.7%) narrowly outperformed the growth factor (Russell 1000 Growth Index +42.5). Much of the outperformance of the value factor was driven by the reflation trade, which favored sectors more heavily weighted in the value benchmarks, including financials, industrials, and materials.

International Equity

Global equities largely tracked U.S. equities over the fiscal year, and the MSCI ACWI Index returned 39.3% in U.S. dollar terms, with weakness in the U.S. dollar providing a slight boost to returns experienced by unhedged U.S. investors. Emerging market equities delivered a total return of 40.9% in U.S. dollar terms, edging out U.S. equities (S&P 500 Index +40.8%) and outpacing international developed equities (MSCI EAFE +32.4%).

The superior performance of emerging market equities was driven by a rebound in the Latin American contingent broadly, and Brazil and Mexico specifically. In Mexico, stocks advanced 55.9%, as the Mexican peso appreciated 15.4% relative to the dollar. The recovery in crude oil prices from around \$41 to \$75 per barrel undoubtedly played a huge role in the resurgence, but that recovery also coincided with a material pickup in inflation which led many central banks within the index to begin tightening the reins regarding monetary policy. There exists some concern that given the general lack of access to quality vaccines in some emerging market countries, persistently high inflation rates could force monetary policymakers to prematurely tighten financial conditions.

In emerging Asia, Taiwanese (+70.5%) and Korean (+66.2%) equities delivered impressive returns, but Chinese equities returned just 27.4%, materially lagging the global opportunity set. Chinese equities began to sell off in late February, with the initial catalyst being a decision from the People's Bank of China to shift its focus away from ensuring accommodative financial conditions and toward limiting the risks of excessive leverage in certain segments of the economy. Losses accelerated in the second quarter of calendar year 2021 when regulators cracked down on some national champions in the IT industry. While it appears that both general liquidity conditions have begun to improve and the tech crackdown has showed signs of easing, these issues remain front and center for the broader emerging market equity universe.



Report on Investment Activities, continued

In developed markets, European stocks returned just 26.6% in local terms, but the strong run of the euro relative to the dollar boosted performance for unhedged U.S. investors in European equities to 35.1%. Inflation in Europe has picked up more slowly than in the U.S. or the emerging markets. This, combined with the Eurozone's relative inflexibility regarding fiscal policy, supports the case that the European Central Bank will have a longer runway for continuing to provide monetary accommodation without adversely affecting prices.

Japanese equities underperformed in both local (+28.4%) and U.S. dollar (+24.8%) terms. The Japanese yen was one of the few currencies which depreciated relative to the dollar over the last year, due in part to the significant increase in U.S. Treasury yields above Japanese government bond yields, which officials at the Bank of Japan have committed to keeping within a relatively narrow range (within 25 basis points of 0.0%).

Fixed Income

The reflation narrative and debate over the persistence of higher inflation largely directed the global fixed income markets over the fiscal year. In the U.S., the 10-year Treasury yield rose from 0.66% to a post-pandemic peak of 1.74% by the end of the first quarter of calendar year 2021, before moderating to 1.47% by the end of the fiscal year. Breakeven inflation rates tracked Treasury yields in terms of direction – the ten-year breakeven inflation rate rose from 1.34% to an eight-year high of 2.56% in May before moderating slightly during the last few weeks of the fiscal year.

In terms of performance, global treasuries returned 1.2% in U.S. dollar terms, with U.S. Treasuries underperforming (-3.5%), and longer-duration Treasuries in the U.S. faring the worst (-10.6%). Large increases in breakeven inflation rates helped to buffer Treasury inflation-protected securities from the impact of increasing interest rates, and the Bloomberg Barclays TIPS Index returned 6.5%.

Credit spreads compressed to the lowest level since the Global Financial Crisis and default rates fell to below average levels, supporting outperformance of riskier credit. In the U.S., corporates within the Bloomberg Barclays Aggregate Index delivered a return of 3.3%, high-yield credit returned 15.4% as spreads dipped from 6.26% to 2.68%, and bank loans advanced 11.7%.

Hard-currency denominated emerging markets debt climbed 6.8%, while local-currency emerging market debt returned 6.6%. While emerging market debt spreads have remained at compressed levels, increases in benchmark interest rates pushed forward by central bankers within the complex sent total yields slightly higher, which weighed on performance. The anticipation of further hikes could put pressure on prices.

Outlook

Risk-on sentiment has driven global financial markets over the fiscal year, with equity benchmarks hitting fresh all-time highs, bond yields rising, credit spreads tightening to their lowest level in over a decade, and the dollar weakening. Investors appear to have priced in an eventual full recovery from the global pandemic, and the expectation for continued support over the intermediate term from developed market central banks appears to have emboldened market participants to continue to take risk.



Report on Investment Activities, continued

More recently, concerns have built around the spread of the delta variant and its potential to limit the pace of global economic growth moving forward, as well as eventual asset purchase tapering from the Fed which looks less likely to allow inflation to run unchecked. As a result, the reflation trade has slowed down and investors have rotated out of shorter-duration energy stocks toward longer-duration tech stocks, and into bets on a flatter yield curve.

Corporate earnings have delivered to some extent on the promise implied by price action last year, but continued price increases this year have kept valuations at historically stretched levels. While it appears possible that risk assets could continue to rally into the next year, the road could well become bumpier from here, given the lack of value apparent across asset classes at present. We retain a cautiously optimistic view, but given the risks prefer a tight position relative to policy, given the uncertainty which continues to shroud the outlook.

Plan Activity

During the 2021 fiscal year, Verus and INPRS' staff collaborated on several different initiatives. Together we completed a comprehensive project to evaluate the market for a partner to provide portfolio overlay, rebalancing, and passive risk parity implementation services. The new partner began managing the cash overlay early in the fiscal year, helping the fund manage portfolio risk, improve total fund returns by investing cash exposures, and more efficiently manage ongoing cash flows. The passive risk parity allocation is an ongoing project, and it is anticipated it will be implemented in the next fiscal year.

Verus assisted INPRS staff in two searches that resulted in new mandates. The first was an emerging markets debt search that resulted in a new allocation that is anticipated to improve risk-adjusted performance, as well as performance in down markets. The second was a commodity reevaluation that resulted in two new mandates that are expected to be funded early in the next fiscal year.

Verus also worked throughout the fiscal year with INPRS and their strategic partners on a comprehensive asset-liability study. This led to the adoption of a revised allocation that is currently being implemented. Additional ongoing work involved public market asset class reviews, annual fee benchmarking, and investment and operational due diligence on existing managers. As part of continuing education, Verus was pleased to provide an overview of portfolio leverage and its role within the portfolio.

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



Report on Investment Activities, continued

Past performance is no guarantee of future results. This document is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and is not intended for retail investors. Nothing herein constitutes investment, legal, accounting or tax investment vehicle or any trading strategy. This document may include or imply estimates, outlooks, projections and other “forward-looking statements.” No assurance can be given that future results described or implied by any forward looking information will be achieved. Investing entails risks, including possible loss of principal.

Verus – also known as Verus Advisory™.



Report from the Chief Investment 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.

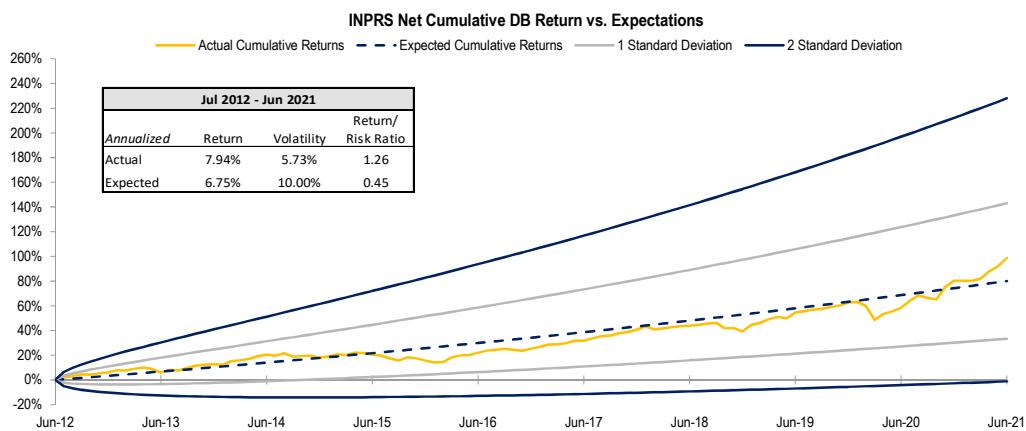
- 1) **Achieve the long-term rate of return assumption.** Effective fiscal year 2013, INPRS's Board set the long-term rate of return assumption at 6.75 percent, and again in fiscal year 2015, the Board reaffirmed 6.75 percent as the appropriate long-term assumption. In order for the System to maintain 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

Buoyed by monetary and fiscal stimulus as well as a gradual reopening of the global economy, the portfolio's returns were positive across all asset classes. As a result, the consolidated defined benefit assets returned 25.5 percent net of all fees over the fiscal year and ended with a fair value of \$38.6 billion. This return significantly outperformed the 6.75 percent target rate of return and exceeded the policy target index by 0.8 percent.

Based on extensive research of the various asset classes and their performance in different economic environments through time, it was determined starting in 2012 that a new risk-balanced framework better fit our first two imperatives. Developed from that research, the following chart illustrates the projected range of outcomes for INPRS's asset allocation around the 6.75 percent return target (blue dotted line). This visual is meant to track the cumulative performance of the actual portfolio (yellow solid line) versus those expectations along the way. Given the tremendous returns over the past year, the portfolio has now outperformed the return target since adopting the new asset allocation strategy in 2012.

INPRS Defined Benefit Net of Fee Cumulative Return



The table on the following page shows INPRS's annualized net-of-fees returns over the same time period. Since inception of the revised strategy, the portfolio has generated an annual return of 7.3 percent above the return of cash and outperformed the average historical spread for the asset allocation over cash by 2.8 percent annually².

¹ Rates of return 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.

² Cash return based on FTSE 3mo Treasury (Source: INPRS's custodian, Bank of New York Mellon).

Report from the Chief Investment Officer, continued

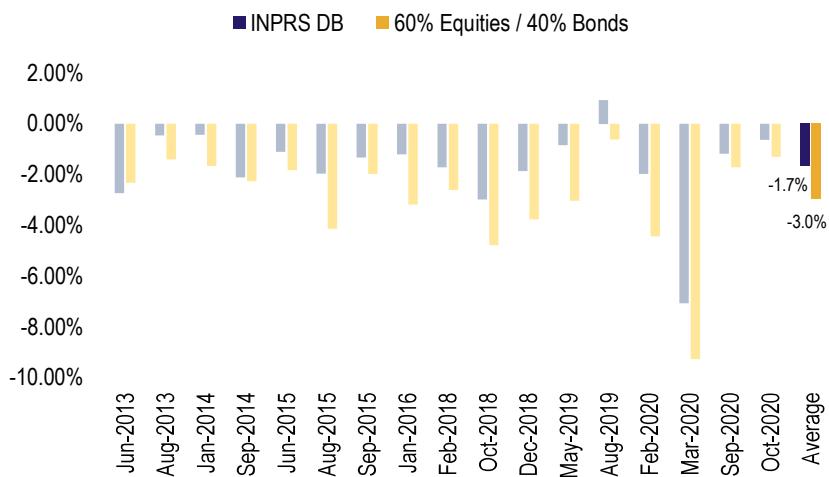
INPRS Defined Benefit Annual Returns (Net of Fees)

	FY2021	Since 7/2012
PERFORMANCE (NET OF FEES)		
INPRS DB Total Return	25.47%	7.94%
Target Rate of Return	6.75%	6.75%
Cash Return (FTSE 3-Month Treasury)	0.08%	0.66%
Projection for Cash Return	2.25%	2.25%
INPRS DB Return in Excess of Cash	25.39%	7.28%
Target Rate of Return in Excess of Cash	4.50%	4.50%

The prior table highlights the recent challenges from the historically low interest rate environment versus what the portfolio was projected to earn over this time frame. However, the returns from the asset allocation and manager selection decisions have been more than enough to make-up the difference and help the plan achieve the 6.75% return target. The target rate of return was established based on a much longer time horizon though. As such, the asset allocation that was constructed to meet the return objective will ultimately be measured over decades rather than a few years.

With this long-term focus in mind, it is important that we constantly monitor the portfolio over various market environments and evaluate whether it performed as we expected. One of the primary reasons for diversifying the portfolio was to be less impacted by the performance of equities. In the chart below, we evaluate this by looking at various historical months that global equities had a loss of 2 percent or worse since July 2012. As shown, INPRS's defined benefit portfolio continues to hold-up well on a relative basis during nearly all of these occurrences and, consistent with our expectations, has a materially lower loss on average than a portfolio with 60 percent equities and 40 percent bonds.

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



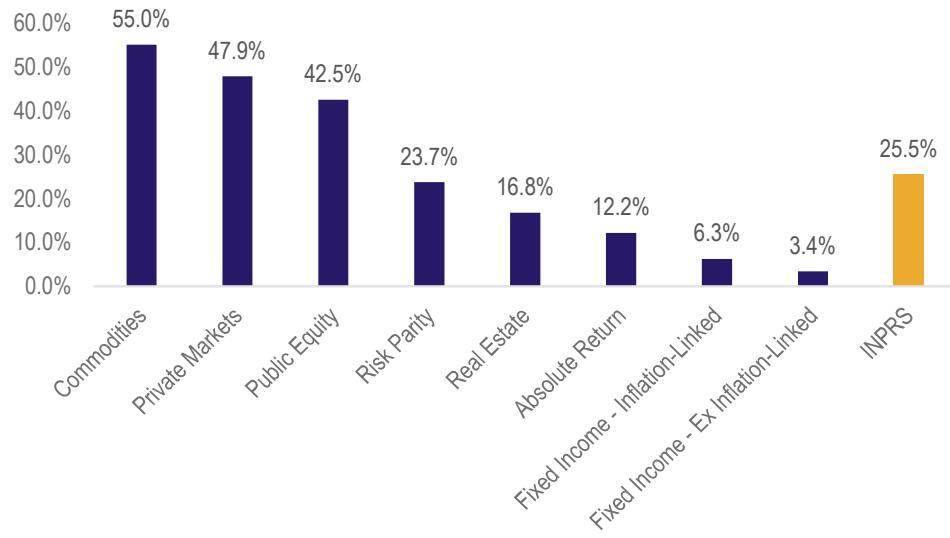
Performance Attribution

In order to understand the key drivers of the asset allocation's performance over the course of the year, it is important to analyze how reality transpired relative to what the market had been pricing-in for the various asset classes to start the fiscal year. The COVID pandemic and resulting shutdowns of global economies led to a quick collapse in incomes, spending, and asset prices in the spring of 2020. As a result, policy makers rushed to try to support all three factors. Central banks drove interest rates back to historic lows and bought assets at unprecedent levels; while, fiscal policy tried to put money directly in the hands of strained households and businesses. Despite these efforts, a number of questions about the economy and markets remained in June 2020 as investors were uncertain about how long the virus would persist and what continued effect it might have. As a result, the market discounted historically low interest rates, depressed growth, and a lack of inflation for the foreseeable future.

Report from the Chief Investment Officer, continued

This favorable pricing and a gradual re-opening of the global economy over the next twelve months set the stage for a continued recovery in asset prices. In fact, all asset classes in INPRS's portfolio had positive returns over the course of the year, as can be seen in the chart below. The commodities asset class rebounded immensely in fiscal year 2021, following a performance of -26.8 percent the previous fiscal year. With inflation exceeding market expectations over the course of the year, commodities were the leading asset class in terms of performance, finishing the year up 55.0 percent. Asset classes that are more growth-biased continued to hold their own though. Public equities produced a 42.5 percent return, and private markets, which includes private equity and private credit, had a 47.9 percent return last fiscal year. Fixed income (ex inflation-linked) produced the lowest returns at 3.4 percent as the positive returns in corporate credit and emerging market debt were dragged lower by a rise in interest rates from historic lows and resulting losses in INPRS's long duration U.S. Treasury exposure.

1-Year Defined Benefit Asset Class Returns as of June 30, 2021



In fiscal year 2021, one of the biggest stories though was the return of inflation after a decade of the Federal Reserve struggling to generate enough inflation to reach their target within the U.S. Assets that perform well when inflation is higher than expected (e.g. commodities and inflation-linked bonds) outperformed those that perform well when inflation is lower than expected (e.g. equities and nominal government bonds), as the strong recovery, ongoing labor shortages, and stimulative policy created more inflationary pressure than what the market had anticipated to start the year. This was different than the prevailing dynamic since 2012, as can be seen in the far-right column of the table below. The generally pro-growth environment from 2012 through 2020 was still favorable for assets that perform well when growth is better than expected, including equities, private markets, real estate, and corporate credit. However, the lack of inflation resulted in more traditional, nominal fixed income outperforming inflation-linked bonds over that longer time period. The balanced risk parity allocation provided strong returns over both time periods, as it is constructed to perform over a multitude of economic environments.

DB Public Asset Class Returns as of June 30, 2021

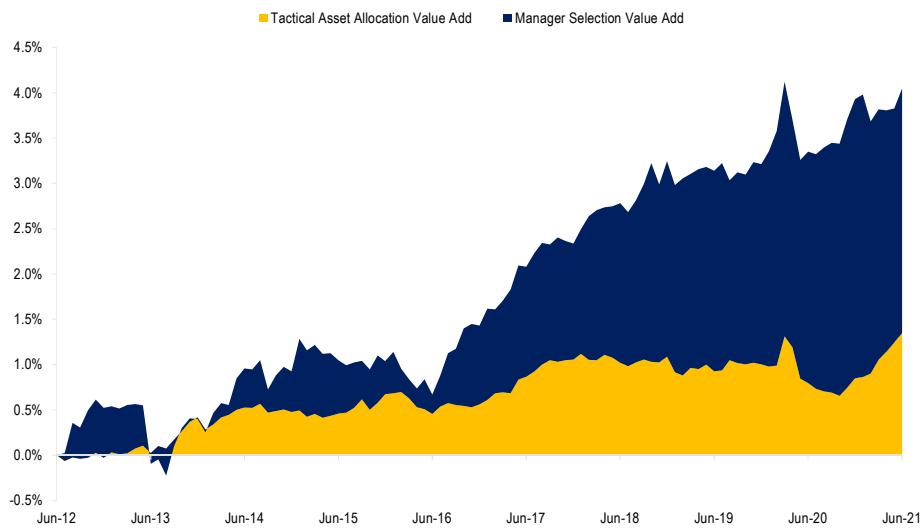
Asset Class Returns	Economic Environmental Bias	FY2021		Since July 2012	
Commodities	Higher Growth/Higher Inflation	54.98%		-3.64%	
Public Equity	Higher Growth/Lower Inflation	42.51%		12.80%	
Fixed Income (Inflation-Linked)	Lower Growth/Higher Inflation	6.26%		4.25%	
Fixed Income (ex Inflation-Linked)	Lower Growth/Lower Inflation	3.41%		4.84%	
Risk Parity	Balanced Across Environments	23.72%		6.69%	

Report from the Chief Investment Officer, continued

Performance Relative to the Benchmark

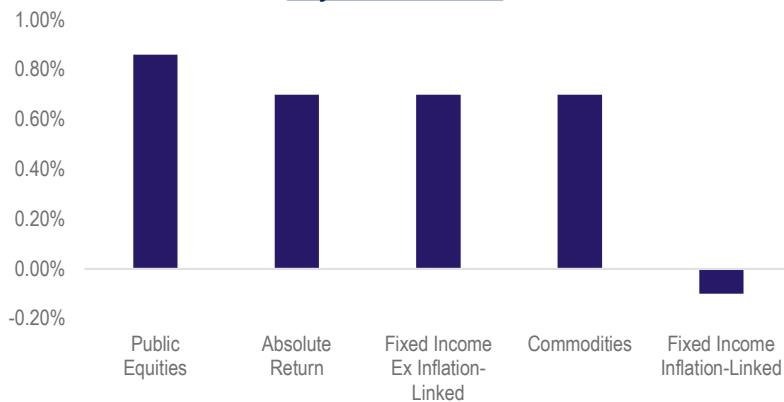
In fiscal year 2021, the investment team achieved a return that was 0.8 percent above the target asset allocation benchmark, net of all fees. The benchmark is meant to reflect what performance would have been had the portfolio been at target weights in each asset class the entire year and invested in passive strategies (e.g. index funds). Both the tactical asset allocation and manager selection decisions made by the team this year added value to the portfolio. This continued the positive trend of the past seven years as the outperformance generated by the investment team since July 2012 has produced approximately \$1.1 billion in added value (asset allocation + manager selection) over a portfolio of merely passive investments. To put this into perspective, these additional returns would have been large enough to cover all of the PERF retirement payments made in fiscal year 2021.

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 eight years because a majority of public asset classes have outperformed their benchmarks.

Annualized Excess Returns Relative to Benchmarks (Public Markets) July 2012-June 2021



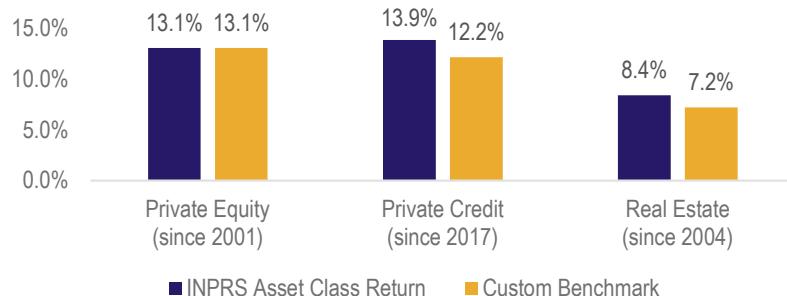
INPRS's investments in private markets and real estate are not included in the value-add chart above because the managers in these asset classes control the timing of cash flows and, thus, we believe a different measure better captures their performance relative to a benchmark (i.e. internal rate of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

The private equity portfolio has continued to be a strong performer since its 2001 inception with an annualized return of 13.1 percent, outperforming a blend of comparable public market indices, which includes small-cap equities and high yield bond indices. The private equity benchmark shown below includes the returns of these public market equivalents plus an additional 3 percent return that is meant to factor-in the illiquidity and complexity that comes with investing in the asset class. The private equity portfolio has

Report from the Chief Investment Officer, continued

achieved this higher mark since inception and performance over the past 10 years has been stronger (14.3% vs. 12.9% for the custom benchmark) since the team consolidated the portfolio and drove fees lower. Also, the portfolio has continued to outperform the private equity universe over 10 years and since inception, as represented by the Cambridge Associates median benchmark³. The private credit portfolio is outperforming its benchmark considerably after the team was quick to deploy capital to structured credit and distressed markets following the initial COVID-induced sell-off. Finally, the real estate portfolio continues to be accretive to the plan with an annualized return of 8.4 percent since 2004, outperforming its public market equivalent benchmark since inception.

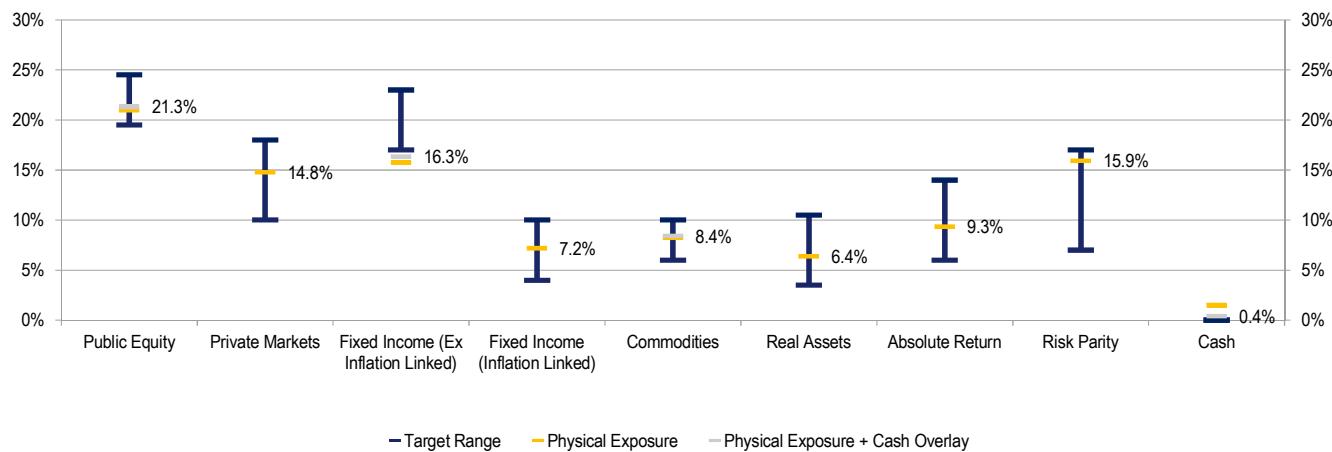
**Annualized Performance (IRR) Relative to Benchmarks (Private Markets)
Since Inception of Each Asset Class⁴**



Current Portfolio Exposures

As previously mentioned, INPRS set out on a course seeking more balance across economic and market environments with the approval of a new asset allocation strategy in fiscal year 2012. Despite slight revisions to the asset allocation during the last asset-liability study in fiscal year 2015, that resulted in a marginally higher expected return and return-risk ratio, the outcome reaffirmed the path of diversification INPRS had previously chosen and continues to pursue. As such, INPRS rebalanced as needed over the course of fiscal year 2021 to stay within the Board-approved allocation bands for each asset class⁵. The allocation as of June 30, 2021 can be found in the chart below.

Defined Benefit Asset Allocation as of June 30, 2021



³Source: INPRS's Aksia 2Q 2021 Private Equity Report. As of June 30, 2021. 10-year performance: INPRS = 14.3% and Cambridge (median) = 11.7%. Since 2001 inception: INPRS = 13.1% and Cambridge (median) = 12.1%.

⁴As of June 30, 2021. 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. 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 plus 1.50%: 50% Credit Suisse Leveraged Loan Total Return, 33% Wells Fargo BDC Total Return, and 17% Credit Suisse Western European Leveraged Loan. The Real Estate custom benchmark is comprised of the following components lagged one quarter: 70% FTSE NAREIT All Equity REITs Index and 30% Barclays CMBS Index.

⁵The Fixed Income (ex Inflation-Linked) allocation was below the range on June 30, 2021 as INPRS had begun the transition to the new asset allocation approved by the INPRS Board at the May 2021 Board meeting.

Report from the Chief Investment Officer, continued

Liquidity

In fiscal year 2021, liquidity and trading costs reverted to pre-pandemic levels as markets started to price-in less volatility. Nevertheless, given the continued uncertainty around the length and severity of the pandemic, as well as how effective policy measures might be in supporting liquidity across markets, INPRS continued to hold at least enough cash to cover three months of retirement payments the remainder of the fiscal year.

As you can see from the chart above, INPRS also has meaningful exposure to less liquid asset classes with 30 percent allocated across private markets, real estate, and absolute return. We believe each of these asset classes serves a unique purpose within the construct of the allocation. However, with these benefits come other risks, namely a lack of liquidity (e.g. many of these private market funds have a lock-up of ten years or longer, and many of the absolute return funds only allow for quarterly liquidity).

Regardless of how accretive we think these exposures are, we want to ensure the portfolio has enough liquidity to meet retirement payments as they come due without unnecessary fire-selling of assets in turbulent markets (see the third imperative listed above). As a result, the investment team developed and maintains a liquidity measure that assesses the System's ability to take on illiquidity risk at any point in time. The metric compares the amount of liquid assets and cash inflows available over the next five years to the expected cash outflows (e.g. retirement payments, plan expenses, etc.) over the same time frame. Through strenuous stress testing, the investment staff is comfortable that there is adequate liquidity in various negative market environments, and as of June 30, 2021, INPRS's liquid assets and projected inflows are 2.7 times the projected outflows over the next five years.

INPRS's Defined Contribution Investment Imperatives

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

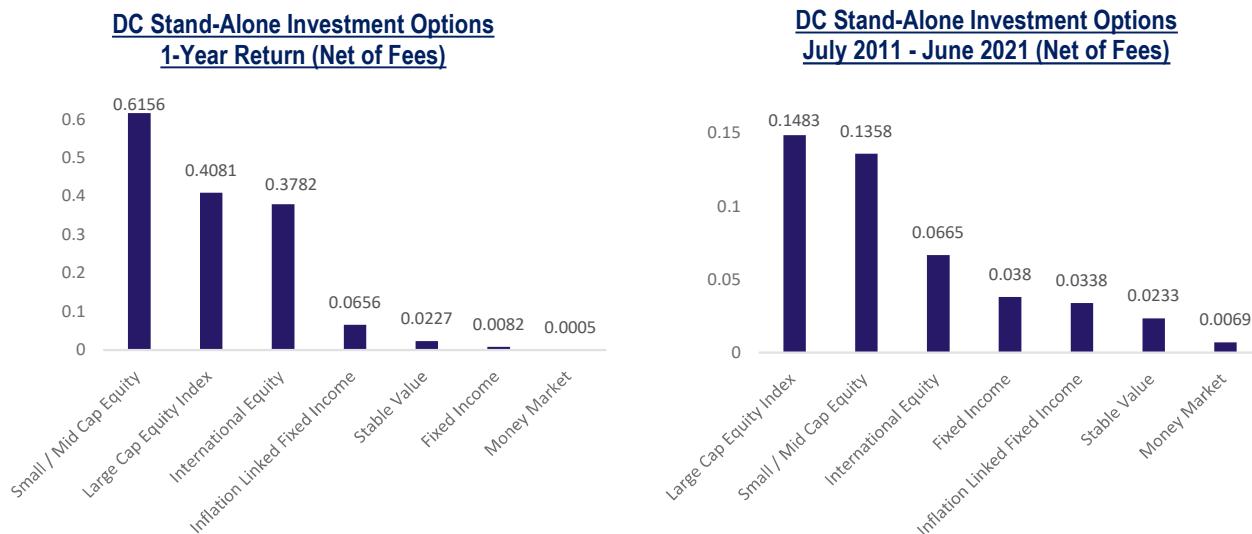
The defined contribution line-up is constructed using the basic building blocks of an asset allocation, including various equity and fixed income portfolios. As such, INPRS's investment options were influenced by the same forces mentioned in the defined benefit section above. Continual support from monetary and fiscal policy during fiscal year 2021 helped all equity-related investment options. While, the Small/Mid Cap Equity fund was the strongest performer, with a 61.5 percent return.

There were also interesting dynamics at play across the fixed income investment options. Since both inflation-linked bonds (e.g. U.S. Treasury Inflation-Protected Securities or TIPS) and nominal bonds (e.g. U.S. Treasuries in the Fixed Income Fund) are both backed by the federal government, investors will demand the same expected returns from each investment. Therefore, the difference between the yields on the two bonds reflects investors' inflation expectations (i.e. the breakeven inflation rate). If actual inflation comes in above these expectations, inflation-linked bonds will outperform nominal bonds. Given the positive inflation surprises in fiscal year 2021, the Inflation-Linked Fixed Income fund was the best performing fixed income fund across the DC investment line-up with a 6.5 percent return versus 0.8 percent for the Fixed Income fund.

Report from the Chief Investment Officer, continued

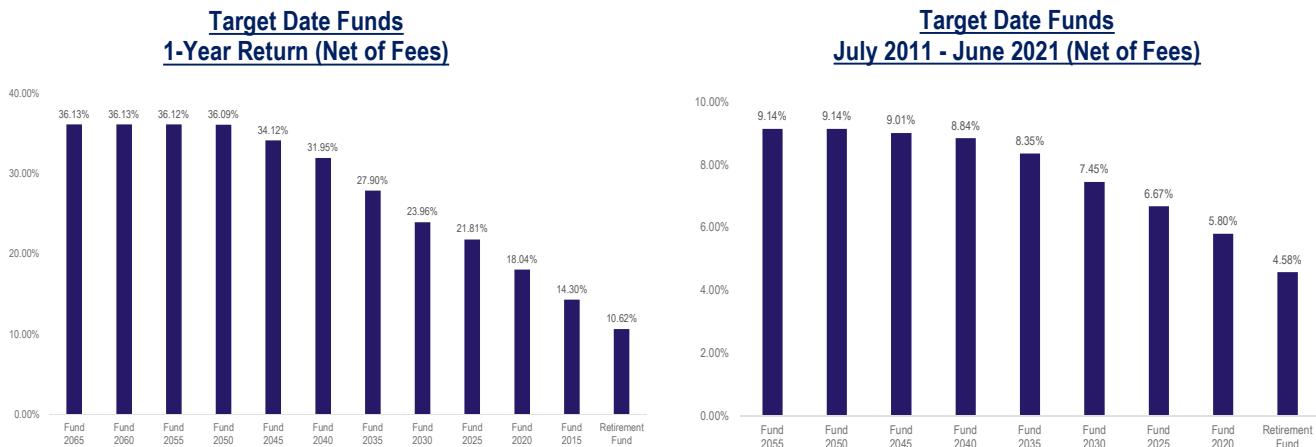
Over a longer time period, going back to July 2011, each stand-alone investment option has generated strong performance (right chart below). As expected, the higher-risk equity options have been the best performers while the fixed income related options have provided steady, positive returns.

Defined Contribution Investment Option Returns as of June 30, 2021



Given INPRS's target date funds are constructed using different mixes of the INPRS stand-alone investment options, their returns are merely an amalgamation of the returns shown above. As designed, the funds farther from retirement have had higher returns over 1-year and since 2011 due to their higher allocations to equity exposure. Yet, each fund on the glidepath had returns in excess of 10 percent over the past year given the strong performance across equity funds and the Inflation-Linked Fixed Income fund. The following charts illustrate these performance differences since the target date funds became INPRS's default investment option in 2011.

Defined Contribution Target Date Fund Returns as of June 30, 2021



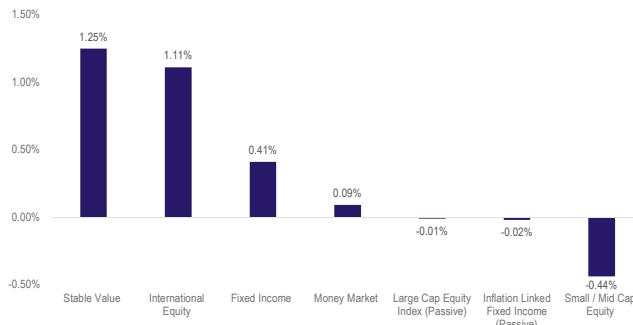
By including a moderate amount of active management within the fund line-up, the investment team was able to beat the benchmarks in four out of five of the stand-alone investment options that contain an active management component⁶. Outperformance ranged between 0.09 and 1.15 percent annually over the past ten years. The Small/Mid Cap Equity Fund had underperformance of 0.44 percent annually over this time frame due to an overweight to small cap equities, which have underperformed mid cap equities over this period. Given that the target date funds are constructed using the INPRS stand-alone investment options, this also translated into outperformance across the target date fund glide path of 0.51 to 0.64 percent over the past ten years.

⁶ The following DC investment options are only passively managed: Large Cap Equity Index Fund and Inflation-Linked Fixed Income Fund.

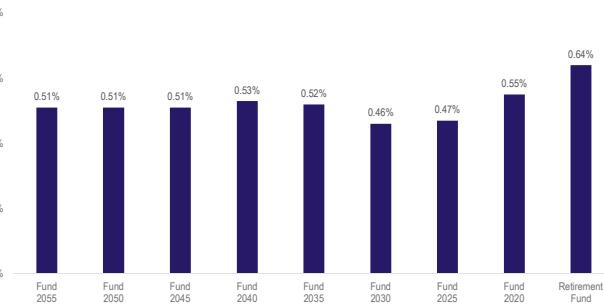
Report from the Chief Investment Officer, continued

Defined Contribution Annualized Performance Relative to Benchmarks as of June 30, 2021

DC Standalone Investment Options Outperformance vs. Benchmarks (Net of Fees) July 2011 - June 2021



Target Date Funds Outperformance vs. Benchmarks (Net of Fees) July 2011 - June 2021



A New Chapter Begins

At least every five years, the investment team and investment consultant conduct an asset-liability study that ultimately leads to the INPRS Board approving an asset allocation and target rate of return for the defined benefit plans. Although the COVID pandemic forced our organization to put a pause on the latest asset-liability study in the spring of 2020, the study was ultimately completed and presented to the Board in fiscal year 2021. We believe the most important step for all investors is to be able to clearly state the objectives of their asset allocation and investment rate of return. As a result, the Board re-established its asset-liability framework in 2021 and codified it within the investment policy statement:

To guide their selection of the optimal target allocation and target range for each asset class, the Board shall consider the following key factors:

- 1) Maximize the probability of achieving the target rate of return over a 30-year time horizon while limiting the probability of contribution increases and a decline in funded status;
- 2) Investment decisions will be made and evaluated on a risk-adjusted basis after all associated costs are taken into account;
- 3) Constraints including, but not limited to, liquidity and operational complexity will be considered when making investment decisions.

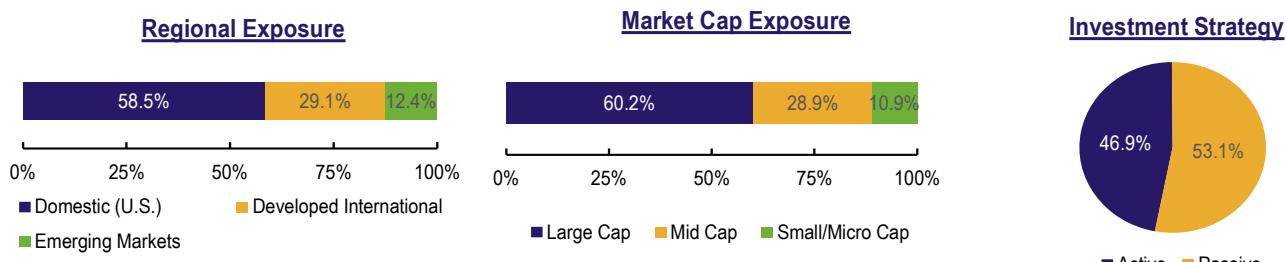
Using this framework and through consultation with our internal actuaries and strategic investment partners, the investment team and investment consultant were able to develop, analyze, and present a number of asset allocation and target rate of return options to the Board. Various scenarios and stress tests were analyzed to determine which allocation would make our plans more resilient across a diverse set of economic environments. Also, the liquidity profile of each allocation was evaluated to minimize the chance of a liquidity squeeze adversely affecting the plan's ability to make retirements payments. However, the key to this process was that the focus remained on how various changes in the assets would ultimately affect employer/employee contributions and the plans' funded status. By relentlessly viewing things through this inter-connected lens, we believe we arrived at the best solution for our plans' specific liabilities. After careful consideration, the Board approved a new, more diversified asset allocation and a new, lower target rate of return of 6.25 percent. Although we are unsure how markets will perform in the years to come, our robust process and analysis gives us confidence that this new combination maximizes our plans' chances of continued success moving forward.

Scott B. Davis, CFA
Chief Investment Officer

Asset Class Summaries

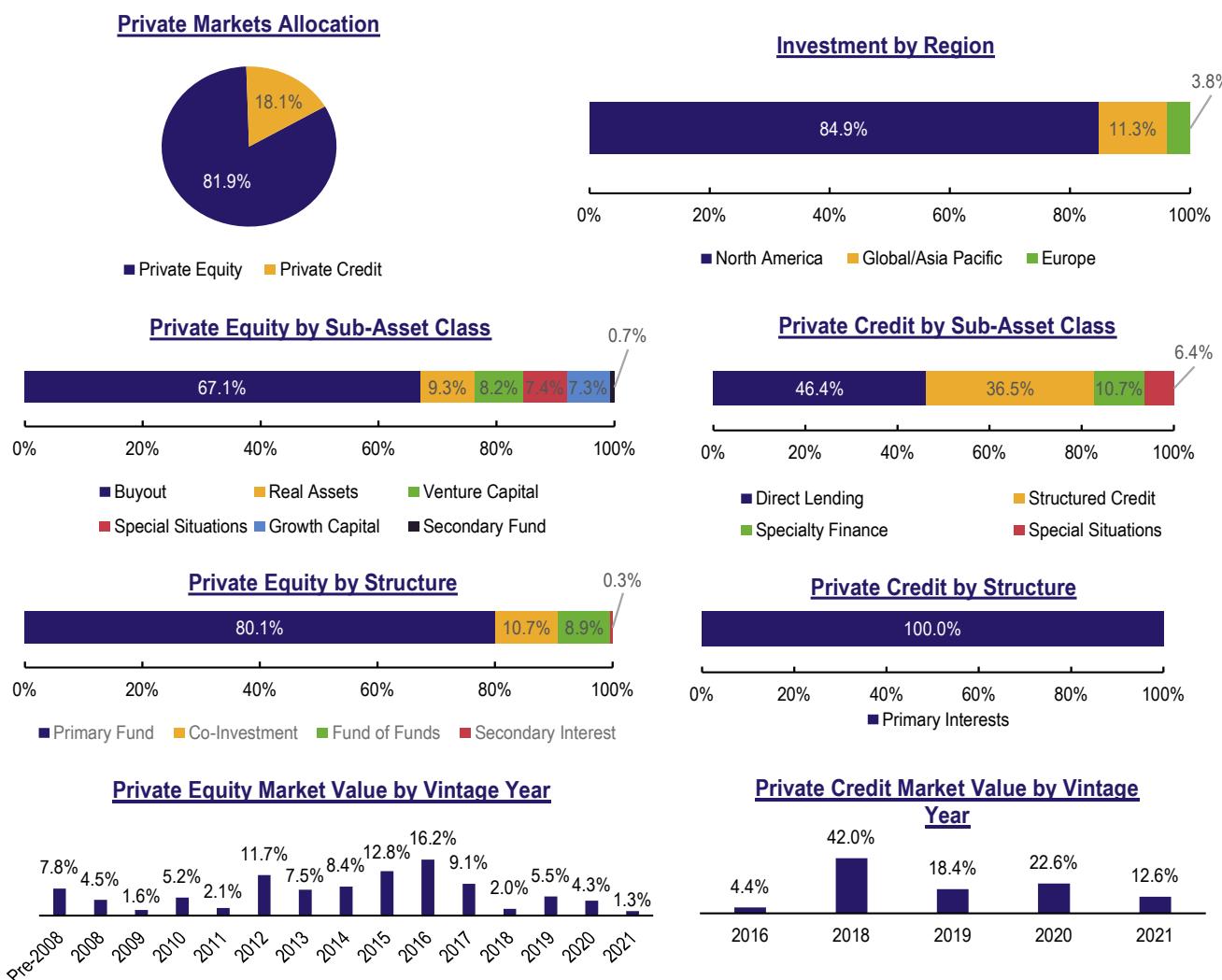
Public Equity¹

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.



Private Markets²

The private markets portfolio, which includes private equity and private credit, seeks to provide risk-adjusted returns in excess of public markets while simultaneously decreasing the volatility of the investment portfolio through diversification.



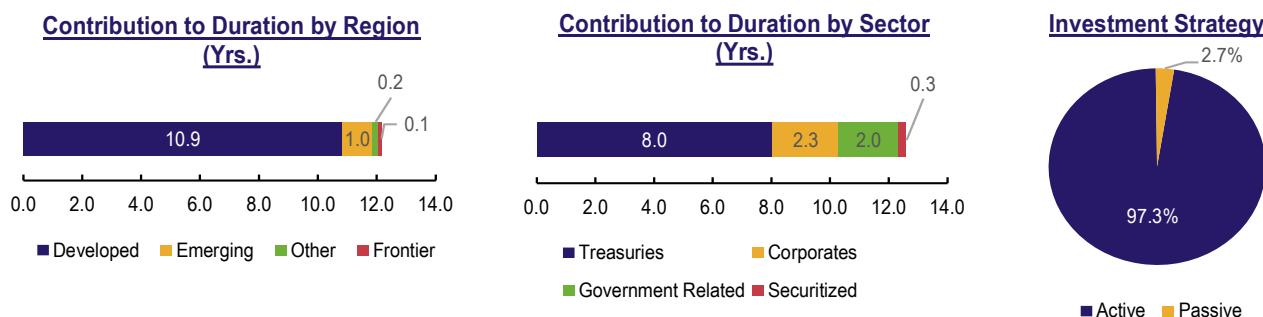
¹ Portfolio data provided by BNY Mellon, INPRS's Custodian

² Portfolio data provided by Aksia Torrey Cove, INPRS's Private Markets consultant

Asset Class Summaries, continued

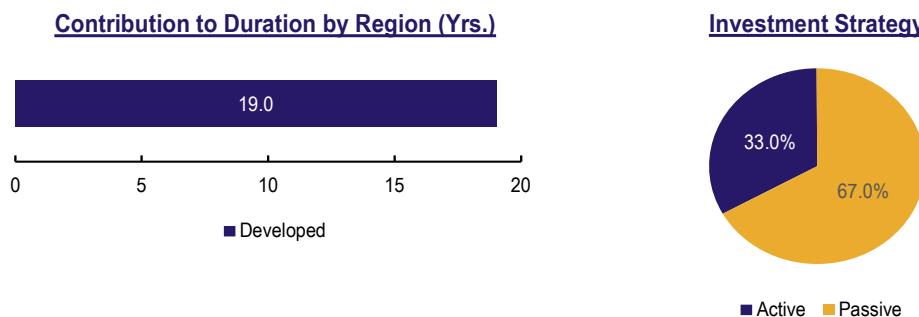
Fixed Income (ex Inflation Linked)³

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.



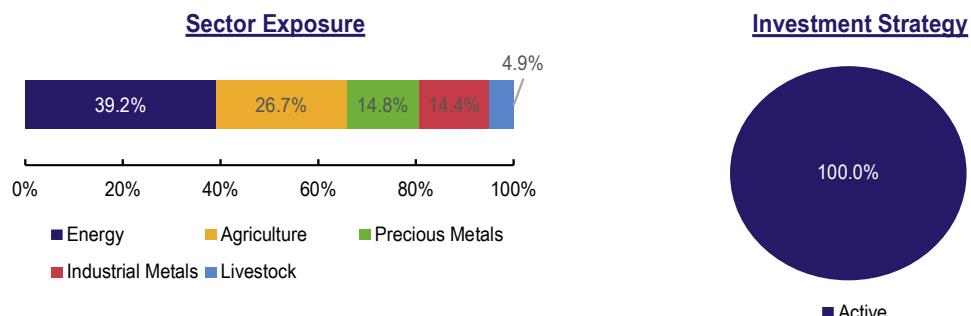
Fixed Income (Inflation-Linked)³

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.



Commodities⁴

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.



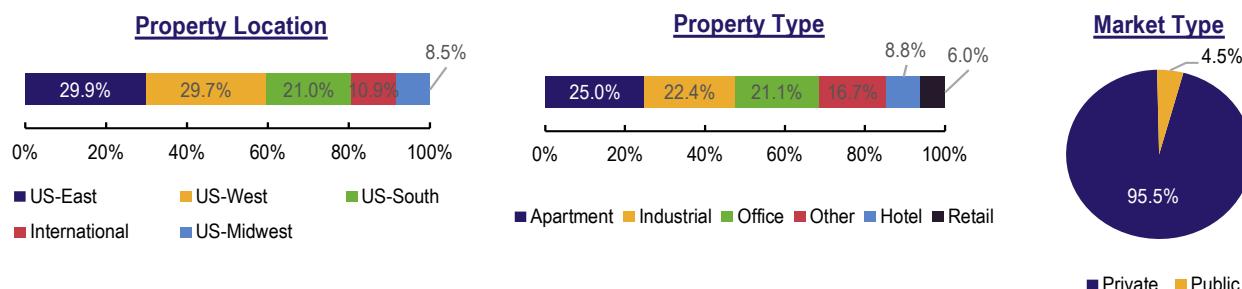
³ Portfolio data provided by MSCI Barra One and BNY Mellon, INPRS's Custodian

⁴ Portfolio data provided by portfolio managers

Asset Class Summaries, continued

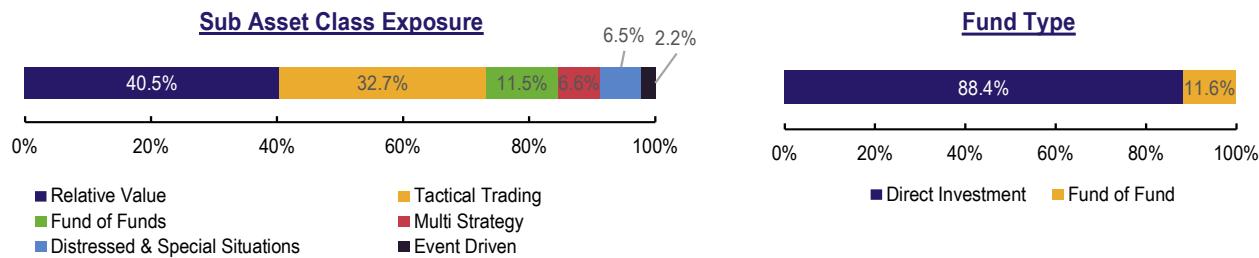
Real Estate⁵

The real estate portfolio 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 estate investments. The real estate portfolio is mostly comprised of investments in private real estate partnerships, and the underlying exposures are a mix of debt and equity holdings.



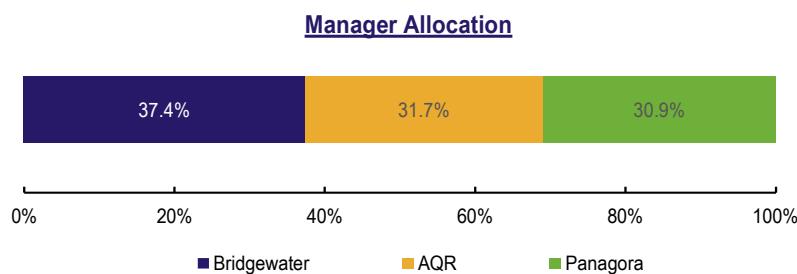
Absolute Return⁶

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 Parity⁷

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, high returns from multiple asset classes without long-term inclination towards any single asset class.



⁵ Portfolio data provided by Mercer, INPRS's Real Estate consultant

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 25, 2021.

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 percent of invested assets. Beginning in fiscal year 2022, the plan's target allocation for total exposure is 115 percent. Further details of INPRS's leverage policy are available in the IPS:

Global Asset Class:	Current Target Allocation	Current Target Range	New Target Allocation	New Target Range
Public Equity	22.0 %	19.5 to 24.5 %	20.0 %	17.0 to 23.0 %
Private Markets	14.0	10.0 to 18.0	15.0	10.0 to 20.0
Fixed Income - Ex Inflation-Linked	20.0	17.0 to 23.0	20.0	17.0 to 23.0
Fixed Income - Inflation-Linked	7.0	4.0 to 10.0	15.0	12.0 to 18.0
Commodities	8.0	6.0 to 10.0	10.0	7.0 to 13.0
Real Estate	7.0	3.5 to 10.5	10.0	5.0 to 15.0
Absolute Return	10.0	6.0 to 14.0	5.0	0.0 to 10.0
Risk Parity	12.0	7.0 to 17.0	20.0	15.0 to 25.0
Leverage Offset	N/A		(15)	

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. In addition, Fund Facts are available online at: <https://www.in.gov/inprs/fundfactsheets.htm>

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% Wells Fargo BDC Index, and 17% CS Western European Leveraged Loan Index plus 1.50%.
Fixed Income - Ex Inflation-Linked	Benchmark comprised of 25% BB US Long Government, 25% BB Long US Credit, 25% WGBI ex-US 25% Japan Cap (USD Hedged), 7.5% JPM GBI EM, 7.5% JPM EMBI, 4.0% CS Leveraged Loan Total Return Index, 2.5% BofA ML US High Yield Total Return Index, 2.5% BofA ML Non-Financial Developed Markets High Yield Constrained Total Return Index, 1.0% CS Western Europe Leveraged Loan Total Return Index.
Fixed Income - Inflation-Linked	Benchmark comprised of 64% ICE BofA ML Treasury Inflation-Linked 15+ years, 36% Custom weighted mix of country indices within the Barclays Capital World Government Inflation-Linked Bond Index, 100% Hedged to USD (Country weights: 40% US, 30% Euroland, 15% UK, 10% Canada, 5% Sweden).
Commodities	Benchmark comprised of 100% Bloomberg Commodity Index and 75% Global Inflation Linked Bonds (ILB's) collateral component.
Real Estate	Benchmark comprised of Real Estate Custom PME made up of the following components: 70% FTSE NAREIT All Equity REITS and 30% Barclays CMBS.
Absolute Return	Benchmark comprised of 35% HFRI Macro (Total) Index, 25% HFRI Relative Value (Total) Index, 20% HFRI Event Driven Index, 12.5% HFRI Fund of Funds Composite Index, and 7.5% HFRX Equity Hedge 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 Estate, and Private Markets are equal to the asset class returns and not the benchmark.

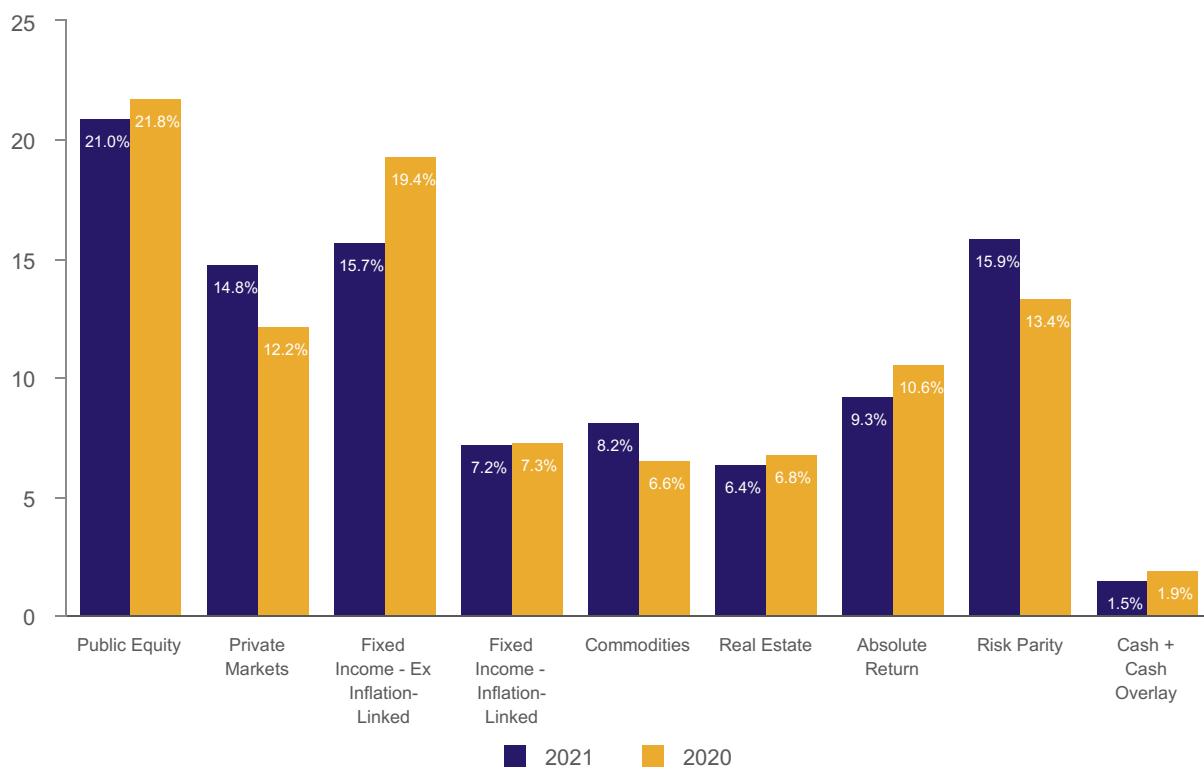
- Defined Contribution Target Date Fund benchmarks are comprised of performance data using a passive strategy with the same asset allocation glide path of each Target Date Fund.
- Defined Contribution Target Date Fund 2065 was added to the investment line-up May 1, 2020. Historical performance for 3-year and 5-year periods is not available.
- Defined Contribution Target Date Fund 2015 was added to the investment line-up July 1, 2019. Historical performance for 3-year and 5-year periods 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, 2021 Actual vs. June 30, 2020 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, 2021			Allowable Range for Investments	June 30, 2020	
	Global Asset Class	Amount	Percent		Amount	Percent
Public Equity	\$ 8,084,004	21.0 %	22.0 %	19.5 to 24.5 %	\$ 6,698,898	21.8 %
Private Markets	5,696,996	14.8	14.0	10.0 to 18.0	3,736,344	12.2
Fixed Income - Ex Inflation-Linked	6,065,207	15.7	20.0	17.0 to 23.0	5,941,606	19.4
Fixed Income - Inflation-Linked	2,765,232	7.2	7.0	4.0 to 10.0	2,233,102	7.3
Commodities	3,177,373	8.2	8.0	6.0 to 10.0	2,026,221	6.6
Real Estate	2,454,464	6.4	7.0	3.5 to 10.5	2,096,536	6.8
Absolute Return	3,601,879	9.3	10.0	6.0 to 14.0	3,240,716	10.6
Risk Parity	6,134,417	15.9	12.0	7.0 to 17.0	4,115,539	13.4
Cash + Cash Overlay	582,085	1.5	N/A		568,869	1.9
Total Consolidated Defined Benefit Assets	\$ 38,561,657	100.0 %	100.0 %		\$ 30,657,831	100.0 %



Investment Results - Consolidated Defined Benefit Assets, continued

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

For the Year Ended June 30, 2021

Global Asset Class	Actual Return	Benchmark Return	Actual Over / (Under) Benchmark
Public Equity	42.5 %	40.9 %	1.6 %
Private Markets	47.9	75.2	(27.3)
Fixed Income - Ex Inflation-Linked	3.4	0.6	2.8
Fixed Income - Inflation-Linked	6.3	5.5	0.8
Commodities	55.0	43.7	11.3
Real Estate	16.8	24.9	(8.1)
Absolute Return	12.2	18.9	(6.7)
Risk Parity	23.7	23.3	0.4
Cash + Cash Overlay	(5.7)	21.7	(27.4)
Total Consolidated Defined Benefit Assets	25.5 %	24.7 %	0.8 %

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
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
2013	21,488,715	6.0	6.75
2012	19,708,900	0.7	7.00

¹ See Accompanying Notes to the Actual and Benchmark Returns.

Investment Results - Consolidated Defined Benefit Assets, continued

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

As of June 30, 2021

Global Asset Class	1-Year	Annualized	
		3-Years	5-Years
Public Equity	42.5 %	15.5 %	15.8 %
Benchmark	40.9	14.2	14.6
Private Markets	47.9	22.1	19.0
Benchmark	75.2	14.8	16.8
Fixed Income - Ex Inflation - Linked	3.4	7.6	5.2
Benchmark	0.6	6.6	4.3
Fixed Income - Inflation - Linked	6.3	8.8	6.3
Benchmark	5.5	9.2	6.3
Commodities	55.0	1.4	3.5
Benchmark	43.7	(0.3)	1.7
Real Estate	16.8	9.2	10.0
Benchmark	24.9	9.4	6.3
Absolute Return	12.2	5.5	5.9
Benchmark	18.9	6.1	5.4
Risk Parity	23.7	11.4	9.4
Benchmark	23.3	10.7	10.1
Cash + Cash Overlay	(5.7)	3.0	4.6
Benchmark	21.7	10.7	9.4
Consolidated Defined Benefit Assets	25.5	11.4	10.3
Target Index	24.7	10.9	9.5

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

Investment Results - Consolidated Defined Benefit Assets, continued

Statistical Performance

As of June 30, 2021

Statistic	1-Year	Annualized		
		3-Years	5-Years	10-Years
Time-Weighted Rate of Return	25.5 %	11.4 %	10.3 %	7.2 %
Standard Deviation	6.90	7.74	6.28	6.05
Sharpe Ratio ¹	3.06	1.19	1.35	1.05
Beta ²	0.44	0.38	0.37	0.38
Correlation ²	0.89	0.89	0.87	0.86

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.

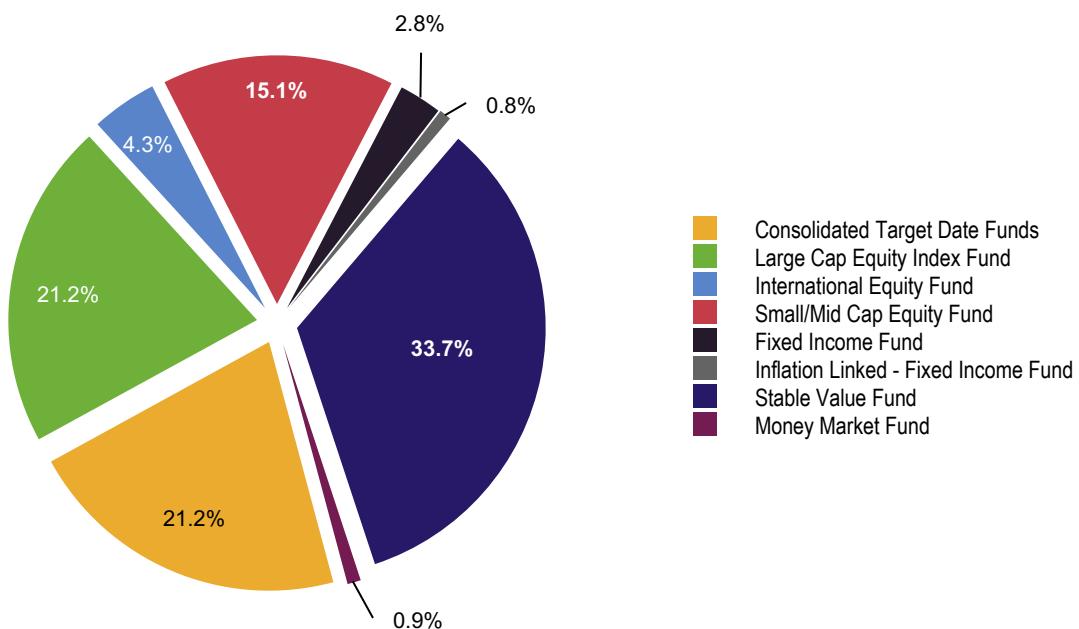
Investment Results - Consolidated Defined Contribution Assets

Assets by Investment Option

As of June 30, 2021

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.

Investment Option	Plan Assets	Percent of Total Self-Directed Investments
Consolidated Target Date Funds	\$ 1,457,889	21.2 %
Large Cap Equity Index Fund	1,457,911	21.2
International Equity Fund	292,872	4.3
Small/Mid Cap Equity Fund	1,035,124	15.1
Fixed Income Fund	192,506	2.8
Inflation Linked - Fixed Income Fund	49,754	0.8
Stable Value Fund	2,315,982	33.7
Money Market Fund	61,436	0.9
Total Defined Contribution Assets	\$ 6,863,474	100.0 %



Investment Results - Consolidated Defined Contribution Assets, continued

Rate of Return by Investment Option vs. Benchmark Returns ¹

For the Year Ended June 30, 2021

Investment Option	Annualized		
	1-Year	3-Year	5-Year
Target Date Funds:			
Fund 2065	36.1	n/a	n/a
2065 Fund Index	35.7	n/a	n/a
Fund 2060	36.1	14.7	13.3
2060 Fund Index	35.7	13.9	12.6
Fund 2055	36.1	14.7	13.3
2055 Fund Index	35.7	13.9	12.6
Fund 2050	36.1	14.7	13.3
2050 Fund Index	35.7	13.9	12.6
Fund 2045	34.1	14.3	13.0
2045 Fund Index	33.7	13.5	12.3
Fund 2040	32.0	13.8	12.6
2040 Fund Index	31.5	13.0	11.9
Fund 2035	27.9	13.0	11.6
2035 Fund Index	27.4	12.2	10.9
Fund 2030	24.0	12.2	10.0
2030 Fund Index	23.5	11.5	9.3
Fund 2025	21.8	11.6	8.8
2025 Fund Index	21.4	10.9	8.1
Fund 2020	18.0	10.3	7.5
2020 Fund Index	17.4	9.6	6.8
Fund 2015	14.3	n/a	n/a
2015 Fund Index	13.7	n/a	n/a
Retirement Fund	10.6	8.0	5.7
Retirement Fund Index	9.9	7.4	5.1
All Other Funds:			
Large Cap Equity Index Fund	40.8	18.7	17.7
S&P 500 Index	40.8	18.7	17.7
International Equity Fund	37.8	11.4	12.7
MSCI ACWI ex US IMI Index	37.2	9.7	11.3
Small/Mid Cap Equity Fund	61.6	18.0	18.5
Russell Small Cap Completeness Index	61.7	18.6	18.9
Fixed Income Fund	0.8	5.7	3.5
Bloomberg Barclays U.S. Aggregate Bond Index	(0.3)	5.3	3.0
Inflation - Linked Fixed Income Fund	6.6	6.5	4.3
Bloomberg Barclays U.S. TIPS Index	6.5	6.5	4.2
Stable Value Fund	2.3	2.4	2.1
Federal Reserve 3 Yr Constant Maturity	0.2	1.3	1.4
Money Market Fund	0.1	1.3	1.3
FTSE 3 Month U.S. T-Bill Index	0.1	1.3	1.1

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
2021	1.1 %	1.1 %	1.1 %	1.1 %
2020	2.6	2.6	2.6	2.6
2019	2.8	2.8	2.8	2.8
2018	2.4	2.4	2.4	2.4
2017	1.8	1.8	1.8	1.8
2016	1.9	1.9	1.9	1.9
2015	2.7	2.7	2.7	2.7
2014	1.9	1.9	1.9	1.9
2013	5.5	—	0.3	5.5
2012	5.5	—	3.5	5.5

Top 10 Holdings

For the Year Ended June 30, 2021

Equity Holdings by Fair Value ¹

(dollars in thousands)

Company	Shares	Fair Value
Apple Inc.	1,626,169	\$ 222,720
Microsoft Corporation	784,712	212,578
Amazon.com Inc.	44,717	153,834
Facebook Inc.	246,566	85,733
Samsung Electronics Co. Ltd.	1,095,635	78,513
Taiwan Semiconductor Manufacturing	3,671,000	78,394
Alphabet Inc. Class A Common Stock	31,413	76,704
Alphabet Inc. Class C Capital Stock	29,218	73,230
ASML Holding NV	84,846	58,299
Berkshire Hathaway Inc.	196,532	54,620

Fixed Income Holdings by Fair Value ¹

(dollars in thousands)

Description	Coupon Rate	Maturity Date	Par Value	Fair Value
U.S. Treasury Bond	1.875 %	2/15/41	\$ 469,400	\$ 460,012
U.S. Treasury Bond	1.875	2/15/51	263,300	251,534
U.S. Treasury - CPI Inflation Index Bond	2.125	2/15/41	165,931	249,958
U.S. Treasury - CPI Inflation Index Bond	1.375	2/15/44	153,824	212,177
U.S. Treasury - CPI Inflation Index Bond	0.750	2/15/42	155,505	189,332
U.S. Treasury - CPI Inflation Index Bond	0.625	2/15/43	153,125	182,828
U.S. Treasury - CPI Inflation Index Bond	0.750	2/15/45	146,466	180,558
U.S. Treasury - CPI Inflation Index Bond	1.000	2/15/46	130,345	170,275
U.S. Treasury - CPI Inflation Index Bond	2.125	2/15/40	106,705	159,010
U.S. Treasury - CPI Inflation Index Bond	0.875	2/15/47	122,526	157,560

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

Investment Fees

Investment Management Fees

For the Year Ended June 30, 2021

Private Markets and Real Estate 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, 2020 resulting in reported realized carried interest and expenses for Private Markets of \$89.1 million and Real Estate of \$17.8 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	\$	18,013
Private Markets		43,295
Fixed Income - Ex Inflation-Linked		21,647
Fixed Income - Inflation-Linked		2,753
Commodities		14,931
Real Estate		27,010
Absolute Return		105,402
Risk Parity		14,596
Cash + Cash Overlay		402
Total Consolidated Defined Benefit Assets		248,049
Defined Contribution Assets		8,715
OPEB Assets		42
Total Investment Management Fees	\$	256,806

Brokers' Commission Fees

For the Year Ended June 30, 2021

(dollars in thousands)

Broker	Fees Paid	
Newedge USA LLC		
Goldman Sachs & Co.	\$	838
Morgan Stanley & Co. Inc.		774
Capital Institutional Services Inc.		513
J P Morgan Securities Ltd.		104
Merrill Lynch International Equities		95
UBS Equities		92
Instinet Europe Ltd.		77
Instinet Clearing Services Inc.		74
Jefferies & Co. Inc.		69
Top Ten Brokers' Commission Fees		2,705
Other Brokers		1,924
Total Brokers' Commission Fees	\$	4,629

Investment Professionals

As of June 30, 2021

Consolidated Defined Benefit Assets

Custodian

Bank of New York Mellon

Bregal Sagemount

Intermediate Capital Group (ICG)

Consultants

Aksia (Absolute Return)

Brentwood Associates

JFM Management

Aksia Torrey Cove (Private Equity and Private Credit)

Butterfly Equity Partners

Jordan Company (TJC)

Mercer (Real Estate)

Caltius Capital Management

Kailai Investments

Verus (General: Defined Benefit)

Cardinal Partners

Khosla Ventures

Public Equity Managers

Altrinsic Global Advisors, LLC

CID Capital

Lexington Partners

Arrowstreet Capital, LP

Cinven

Lightyear Capital

Bailie Gifford & Company

Coller Capital

Lindsay Goldberg

BlackRock Inc.

Columbia Capital

Lion Capital

Disciplined Growth Investors

Crescent Capital Group

MBK Partners

Leading Edge Investment Advisors

Crestview Partners

Merit Capital Partners

RhumbLine Advisers

CVC Capital Partners

Mill Road Capital

TimesSquare Capital Management, LLC

Doll Capital Management (DCM)

Neuberger Berman

Private Markets Managers

352 Capital

Elevation Partners

New Enterprise Associates

400 Capital Management

EnCap Investments

New Mountain Capital

A.M. Pappas & Associates

Energy Capital Partners

NGP Energy Capital Management

ABRY Partners

Escalate Capital Partners

Oak Hill Advisors

Accel-KKR

Falcon Investment Advisors

Oak Hill Capital Management

Accent Equity Partners AB

First Reserve Corporation

Oak Investment Partners

Actis Capital

Forbion Capital Partners

Oaktree Capital Management

Advanced Technology Ventures

Fortress Investment Group

Opus Capital Venture Partners

Advent International

Francisco Partners

Panda Power Funds

Aisling Capital

Gamut Capital Management

Parthenon Capital Partners

AlpInvest Partners

Gilde Buyout Partners

Pathlight Capital

Apax Partners

Globespan Capital Partners

Peninsula Capital Partners

Apollo Management

Goldman Sachs Merchant Bank

Platinum Equity

ARCH Venture Partners

GSO Capital Partners

Portfolio Advisors

Ares Management

GTCR Golder Rauner

Rho Capital Partners

Ascribe Capital

H2 Equity Partners

RJD Partners

Austin Ventures

Hamilton Lane

SAIF Management

Bain Capital Partners

Hammond Kennedy Whitney & Co

Scale Venture Partners

Baring Private Equity Asia (BPEA)

Hellman & Friedman

Silver Cup

Bertram Capital

Herkules Capital

Silver Lake Partners

Black Diamond Capital Management

High Road Capital Partners

Sixth Street Partners

BlackFin Capital Partners

Horsley Bridge

SLR Investment Corp

Blackstone Group

HPS Investments Partners

StepStone Group

Insight Partners

Stride Consumer Partners

Institutional Venture Partners (IVP)

Sumeru Equity Partners

Investment Professionals, continued

Private Markets Managers, continued

Sun Capital Partners
TA Associates
TCW Capital Partners
Technology Crossover Ventures
Technology Partners
Terra Firma Capital Partners
TowerBrook Financial
TPG Capital
Trilantic Capital Partners
Trinity Ventures
Triton Partners
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
Warwick Energy Investment Group
Waterfall Asset Management
Wayzata Investment Partners
Weston Presidio Capital
White Deer Management
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)
State Street Global Advisors

Fixed Income - Inflation-Linked Managers

Bridgewater Associates, Inc.
Northern Trust Global Investments

Commodities Managers

Black Rock Institutional Trust¹
CoreCommodity Management
Gresham Investment Management, LLC
Northern Trust Global Investments¹

Real Estate Managers

Abacus Capital Group, LLC
Angelo Gordon LP
Asana Partners, LP
BlackRock Financial Management
Blackstone Group
Brigade Capital Management
Carlyle Group
Colony Capital, LLC
Exeter Property Group, LLC
Greenfield Partners, LLC
H/2 Capital Partners
Harrison Street Real Estate Capital, LLC
ICG
JDM Partners
LimeTree Capital Advisors
Kayne Anderson
Lone Star Management Co.
Mack Real Estate Group
Mesa West Capital
Noble Investment Group
Prologis

Related Fund Management LLC
Rockpoint Group LLC
Stockbridge Capital Group
TA Realty Associates
Walton Street Capital, LLC
WestRiver Capital, LLC

Infrastructure Managers

Digital Colony
Kohlberg Kravis Roberts & Co (KKR)

Absolute Return Managers

AHL Partners (Man Group)
Aeolus Capital Management
AQR 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
Perella Weinberg Partners
Pharo Management
Rokos Global Macro
Tenaron Capital Management
Tilden Park Associates
Two Sigma Advisers
Voloridge
Whitebox

Risk Parity Managers

AQR Capital Management
Bridgewater Associates, Inc.
PanAgora

Cash Overlay Managers

Parametric
Russell Investments

¹ Black Rock Institutional Trust and Northern Trust Global Investments manage inflation-linked collateral associated with the commodity mandates.

Investment Professionals, continued

Defined Contribution Assets and Other Funds

Consultant

Capital Cities, LLC (General: Defined Contribution)

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

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