

MINUTES

Quarterly Meeting of the Investment Committee
of the Board of Trustees of the
State Universities Retirement System
Thursday, December 8, 2022, 9:00 a.m.
State Universities Retirement System
Via remote access only due to ongoing COVID-19 concerns

The meeting on December 8, 2022, was conducted via video conference pursuant to the Governor's COVID-19 Executive Order dated November 10, 2022 and subsection (e) of Section 7 of the Illinois Open Meetings Act. Chair John Atkinson of the SURS Board of Trustees determined that a full, inperson meeting was not practical nor prudent due to the ongoing COVID-19 disaster concerns.

The following trustees were present: Mr. John Atkinson; Dr. Andriy Bodnaruk; Mr. Richard Figueroa; Ms. Jamie-Clare Flaherty; Dr. Fred Giertz; Mr. Scott Hendrie, chair; Mr. John Lyons; Dr. Steven Rock; Mr. Collin Van Meter; Mr. Antonio Vasquez and Mr. Mitch Vogel.

Others present: Ms. Suzanne Mayer, Executive Director; Mr. Doug Wesley, Chief Investment Officer (CIO); Ms. Ellen Hung, Deputy CIO; Ms. Kim Pollitt, Mr. Joe Duncan and Mr. Shane Willoughby, Sr. Investment Officers; Mr. Alex Ramos and Ms. Kelly Valle, Investment Officers; Ms. Stephany Brinkman, Investment Analyst; Ms. Bianca Green, General Counsel; Mr. Jefferey Saiger, Chief Technology Officer; Ms. Tara Myers, Chief Financial Officer; Ms. Heather Kimmons, Associate Legal Counsel; Ms. Jackie Hohn, Chief Internal Auditor; Ms. Nichole Hemming, Chief Human Resources Officer; Ms. Kristen Houch, Director of Legislative and Stakeholder Relations; Ms. Alicia Route, Legislative Analyst; Ms. Kelly Carson, Ms. Chelsea McCarty and Ms. Annette Ackerman, Executive Assistants; Mr. David Sancewich, Ms. Ghiané Jones and Mr. Colin Bebee, of Meketa; Ms. Jan Mende, Ms. Sally Haskins and Mr. Munir Iman of Callan; Mr. Mike Krems and Ms. Heidi Poon of Aksia; and Mr. Michael Calabrese of Foley.

Investment Committee roll call attendance was taken. Trustee Atkinson, present; Trustee Bodnaruk, present; Trustee Figueroa, present; Trustee Flaherty, absent; Trustee Giertz, absent; Trustee Hendrie, present; Trustee Lyons, present; Trustee Rock, present; Trustee Van Meter, present; Trustee Vasquez, present; and Trustee Vogel, absent.

Trustee Vogel joined the meeting at 9:05 a.m.

Trustee Giertz joined the meeting at 9:15 a.m.

Trustee Flaherty joined the meeting at 9:40 a.m.

Trustee Figueroa left the meeting at 1:30 p.m.

APPROVAL OF MINUTES

Trustee Hendrie presented the minutes from the Investment Committee meetings of October 20, 2022.

Trustee Rock made the following motion:

• That the minutes from the October 20, 2022 Investment Committee meetings be approved as presented.

Trustee Van Meter seconded the motion which passed via the following roll call vote:

Trustee Atkinson aye Trustee Bodnaruk aye Trustee Figueroa aye Trustee Flaherty absent Trustee Hendrie aye Trustee Giertz absent Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye Trustee Vasquez aye Trustee Vogel absent

APPROVAL OF CLOSED MINUTES

Trustee Hendrie presented the closed minutes from the Investment Committee meeting of October 20, 2022.

Trustee Rock made the following motion:

• That the closed minutes from October 20, 2022 Investment Committee meeting be approved and remain closed.

Trustee Vasquez seconded the motion which passed via the following roll call vote:

Trustee Atkinson aye Trustee Bodnaruk aye Trustee Figueroa aye Trustee Flaherty absent Trustee Hendrie aye Trustee Giertz absent Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye

Trustee Vasquez - aye Trustee Vogel - absent

CHAIRPERSON'S REPORT

Trustee Scott Hendrie did not have a formal chairperson report.

CIO REPORT

Mr. Doug Wesley updated the board regarding the status of previously approved action items, including the completion of contract and funding for Nipun's Emerging Market strategy and the completion of the contract related to the investment option change in the defined contribution plans. Mr. Wesley informed the board that Russian divestment legislation passed through the legislature and is expected to be signed into law.

A copy of the staff memorandum titled "Report from the October 20, 2022, Investment Committee Meeting" is incorporated as part of these minutes as **Exhibit 1**.

THIRD QUARTER PERFORMANCE

Ms. Ghiané Jones provided a brief update to the board of final total fund performance through September 30, 2022.

A copy of the Meketa presentation titled "SURS DB Board Performance Report" is incorporated as part of these minutes as **Exhibit 2**.

CORPORATE GOVERNANCE UPDATE

Ms. Kelly Valle presented an update regarding corporate governance activity since September 2022 that included a quarterly report, a Council of Institutional Investors (CII) update, proxy voting information and an update of current events.

A copy of the staff memorandum titled "Corporate Governance Update" is incorporated as part of these minutes as **Exhibit 3**.

NON-TRADITIONAL GROWTH ASSETS CLASS REVIEW AND PACING UPDATE

Ms. Kim Pollitt and Mr. Shane Willoughby generally discussed the Non-Traditional Growth Portfolio. Representatives from Aksia (private equity) and Callan (real assets) presented their respective strategic plans and pacing updates, along with an update of the performance of each portfolio.

A copy of the presentations titled "Non-Traditional Growth Asset Class Review December 2022," "Private Equity Asset Class Review" and "Real Assets Portfolio Review and Pacing Plan" have been incorporated as part of these minutes as Exhibit 5 and Exhibit 5 and Exhibit 5.

CLOSED SESSION

Trustee Rock moved that the Investment Committee go into closed session at 11:45 a.m. pursuant to \$2(c)(7) of the Illinois Open Meetings Act to consider the sale or purchase of securities or investment or to consider an investment contract. Trustee Vasquez seconded the motion which passed via the following roll call vote:

Trustee Atkinson absent Trustee Bodnaruk aye Trustee Figueroa aye Trustee Flaherty aye Trustee Hendrie aye Trustee Giertz aye Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye Trustee Vasquez aye Trustee Vogel aye

RETURN TO OPEN SESSION

The Investment Committee returned to open session at 4:30 p.m.

Trustee Rock made the following motion:

• That based on the recommendation from SURS staff and Callan, a commitment of \$40 million be awarded to Homestead Capital USA Farmland Fund IV, subject to successful completion of contract negotiations.

Trustee Vogel seconded the motion which passed via the following roll call vote:

Trustee Atkinson aye Trustee Bodnaruk aye Trustee Figueroa absent Trustee Flaherty aye Trustee Hendrie aye Trustee Giertz aye Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye Trustee Vasquez aye Trustee Vogel aye

Trustee Rock made the following motion:

• That based on the recommendation from SURS staff and Callan, a commitment of \$60 million be awarded to Longpoint Realty Fund III, subject to successful completion of contract negotiations.

Trustee Van Meter seconded the motion which passed via the following roll call vote:

Trustee Atkinson aye Trustee Bodnaruk aye Trustee Figueroa absent Trustee Flaherty aye Trustee Hendrie aye Trustee Giertz aye Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye Trustee Vasquez aye Trustee Vogel aye

Trustee Rock made the following motion:

• That based on the recommendation from SURS staff and Meketa, the assets from the closure of the Mondrian/Macquarie Emerging Markets Fund be allocated 50/50 to the newly hired emerging markets managers, Nipun Capital, and William Blair.

Trustee Van Meter seconded the motion which passed via the following roll call vote:

Trustee Atkinson aye Trustee Bodnaruk aye Trustee Figueroa absent Trustee Flaherty aye Trustee Hendrie aye Trustee Giertz aye Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye Trustee Vasquez aye Trustee Vogel aye

Trustee Rock made the following motion:

• That based upon the recommendation of SURS staff, the Investment Committee approve Meketa to be hired as the general investment consultant for a five-year term, subject to successful completion of contract negotiations.

Trustee Atkinson seconded the motion which passed via the following roll call vote:

Trustee Atkinson aye Trustee Bodnaruk aye Trustee Figueroa absent Trustee Flaherty aye Trustee Hendrie aye Trustee Giertz aye Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye Trustee Vasquez aye Trustee Vogel aye

INFORMATIONAL ITEMS NOT REQUIRING COMMITTEE ACTION

- 1. Exhibit 7 Summary Risk Report
- 2. Exhibit 8 Summary Risk Report Presentation
- 3. Exhibit 9 Private Equity & Private Credit Commitment Activity
- 4. Exhibit 10 Supplemental Information

PUBLIC COMMENT

There were no public comments presented to the Investment Committee.

There was no further business brought before the committee and Trustee Vogel moved that the meeting adjourn. The motion was seconded by Trustee Van Meter which passed via the following roll call vote:

Trustee Atkinson aye Trustee Bodnaruk aye Trustee Figueroa absent Trustee Flaherty aye Trustee Hendrie aye Trustee Giertz aye Trustee Lyons aye Trustee Rock aye Trustee Van Meter aye Trustee Vasquez aye Trustee Vogel aye

Respectfully submitted,

Ms. Suzanne M. Mayer

Executive Director and Secretary, Board of Trustees

SMM: kc



1901 Fox Drive, Champaign, IL 61820-7333 800-275-7877 • 217-378-8800 • (Fax) 217-378-9800 www.surs.org

Investment Department

To: Investment Committee
From: Douglas C. Wesley, CFA
Date: November 23, 2022

Subject: Report from the October 20, 2022 Investment Committee Meeting

Enclosed are the Minutes of the October 20, 2022, Investment Committee Meeting. The purpose of this memorandum is to provide a status report on the action items for Investments.

Four motions were approved during the Investment Committee Meeting. These included the approval of the minutes from the September 15, 2022 Investment Committee Meeting, and that the closed session minutes from the September 15, 2022 Investment Committee Meeting be approved and remain closed. The remaining motions approved by the Board of Trustees required further action by SURS staff. Open motions requiring further action by SURS Staff are listed below.

1. That based upon the recommendation of SURS staff and Callan, SURS commit \$50 million to the Torchlight Debt Fund VIII, subject to successful completion of contract negotiations.

SURS staff is in the process of contract negotiations.

2. That based on the recommendation of SURS staff and Meketa, SURS commit \$100 million to Fairview Lincoln Fund 1 (Series C), subject to successful completion of contract negotiations.

SURS staff is in the process of contract negotiations.

Open item from September 15, 2022

3. That based upon the recommendations from SURS Staff and Meketa, SURS retain Nipun Capital and William Blair for Emerging Market equity mandates with a 50/50 allocation of assets between the two managers, subject to successful completion of contract negotiations with funding from the full liquidation of the State Street Emerging Markets Index Fund.

SURS staff is in the process of contract negotiations.

Open item from June 2, 2022

4. That based on the recommendation from SURS staff and Meketa, the Investment Committee approve the retention of Capstone Investment Advisors to serve as the back-

up manager for the tail risk and long volatility mandates, subject to successful contract negotiations.

SURS staff is in the process of contract negotiations.

5. That based on the recommendation from SURS staff and CAPTRUST, the Investment Committee approve replacing Janus Henderson Small-Mid Cap Value N and mapping the plan's current assets and future contributions to Earnest Partners SMID Cap Value, as soon as administratively possible.

SURS staff is in the process of contract negotiations.

Open item from September 13, 2018

6. That based on the recommendation from SURS staff and SURS investment consultant, that SURS coordinate full redemption from the KKR Prisma Codlin Fund and from the Newport Monarch Fund. At either the October or December 2018 Investment Committee meeting, staff will recommend where proceeds will be invested.

The notifications for full redemption were submitted to KKR Prisma Codlin Fund and Newport Monarch Fund on September 19, 2018. In June 2020, assets in the KKR Prisma account were combined into the Newport Monarch to reduce administration expenses. This was made possible as both accounts are managed by PAAMCO Prisma. Total assets remaining in the hedge fund-of-funds are approximately \$2.8 million. A total of \$559.5 million has been received and all remaining distributions will be transferred to the Cash account when received.

Please advise if you have any questions prior to the December 8, 2022, Investment Committee meeting.



Illinois State Universities Retirement System

December 8, 2022

Third Quarter 2022 Board Report

Illinois State Universities Retirement System

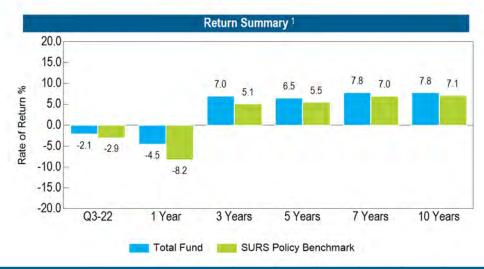
Agenda

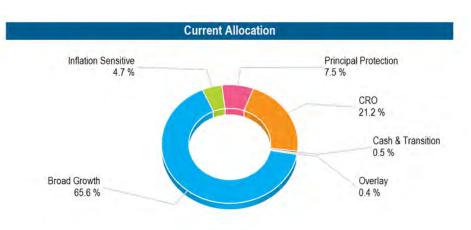
- 1. Performance Summary
- 2. Economic and Market Update
- 3. Total Fund
- 4. Private Markets Performance
- 5. US Equity
- 6. Non US Equity
- 7. Global Equity
- 8. Inflation Sensitive
- 9. Public Credit
- 10. Principal Protection
- 11. Crisis Risk Offset
- 12. Appendix

Performance Summary

Illinois State Universities Retirement System

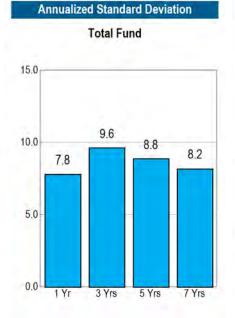
Total Fund | As of September 30, 2022

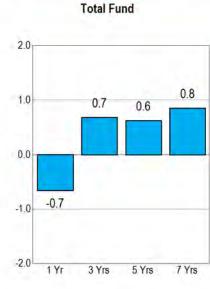




	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Total Fund	-2.1	-4.5	7.0	6.5	7.8	7.8
SURS Policy Benchmark	<u>-2.9</u>	<u>-8.2</u>	<u>5.1</u>	<u>5.5</u>	<u>7.0</u>	<u>7.1</u>
Excess Return	0.8	3.7	1.9	1.0	8.0	0.7
InvMetrics Public DB > \$1B Gross Rank ²	1	3	11	17	19	21
InvMetrics Public DB > \$1B Gross Median	-4.3	-12.3	4.9	5.4	7.1	7.3







Sharpe Ratio

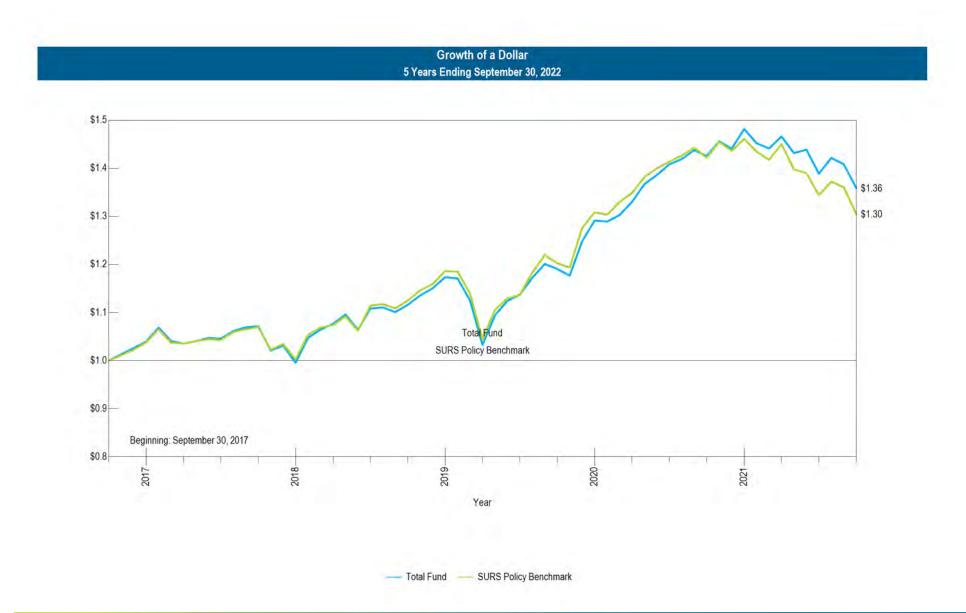
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¹ Returns are gross of fees.
2 Investment Metrics (IM) Median [Gross of Fees] - Public Fund >\$1 Billion Universe includes BNY Mellon Total Public Fund Greater than \$1Billion Universe and IM client data.



Illinois State Universities Retirement System

Total Fund | As of September 30, 2022



Data as of September 30, 2022

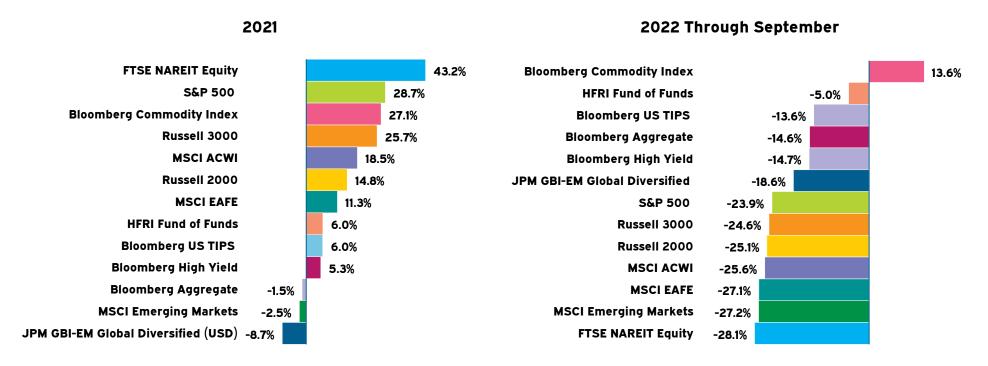
Economic and Market Update

Commentary

- → After a strong July, global markets sold off in August and September, leading to quarterly declines as slower growth and higher inflation weighed on sentiment.
 - The Federal Reserve maintained its aggressive tightening campaign with future hikes expected as US inflation continues to surprise to the upside and labor markets remain tight.
 - In Europe, inflation hit a multi-decade high on energy prices. In the UK, Liz Truss became the new prime minister with her government quickly announcing a fiscal package in September. The proposal was poorly received by markets, as it undermined efforts of the central bank to lower inflation.
 - Equity markets significantly declined for the month leading to quarterly losses with international markets
 declining the most. The war in Ukraine has elevated prices in Europe, while tight COVID-19 policies, slowing
 growth, and property market issues have weighed on China. Continued US dollar strength has been a further
 headwind.
 - For the quarter, in a reversal of the prior trend, growth outpaced value across the capitalization spectrum but continued to trail year-to-date.
 - Interest rates rose significantly across the US yield curve for the month and quarter with the curve remaining inverted (ten-year yield minus the two-year yield) by 44 basis points. This is by far the worst start to a calendar year for bond investors.
- → Persistently high inflation and the likely increased pace of the policy response, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China will all have considerable consequences for the global economy.



Index Returns¹



- → Except for emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes appreciated in 2021.
- → After a brief rally in July most asset classes declined significantly in August and September as it became clear further policy tightening would be taken to try to control inflation. Except for commodities, all major assets classes have experienced significant declines year-to-date.

¹ Source: Bloomberg and FactSet. Data is as of September 30, 2022.



Domestic Equity Returns¹

Domestic Equity	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	-9.2	-4.9	-23.9	-15.5	8.2	9.2	11.7
Russell 3000	-9.3	-4.5	-24.6	-17.6	7.7	8.6	11.4
Russell 1000	-9.3	-4.6	-24.6	-17.2	7.9	9.0	11.6
Russell 1000 Growth	-9.7	-3.6	-30.7	-22.6	10.7	12.2	13.7
Russell 1000 Value	-8.8	-5.6	-17.8	-11.4	4.4	5.3	9.2
Russell MidCap	-9.3	-3.4	-24.3	-19.4	5.2	6.5	10.3
Russell MidCap Growth	-8.5	-0.7	-31.5	-29.5	4.3	7.6	10.8
Russell MidCap Value	-9.7	-4.9	-20.4	-13.6	4.5	4.7	9.4
Russell 2000	-9.6	-2.2	-25.1	-23.5	4.3	3.6	8.5
Russell 2000 Growth	-9.0	0.2	-29.3	-29.3	2.9	3.6	8.8
Russell 2000 Value	-10.2	-4.6	-21.1	-17.7	4.7	2.9	7.9

US Equities: Russell 3000 Index fell 9.3% for September and 4.5% for the quarter.

- → US stocks fell sharply during September and finished down for the third quarter.
- → Each of the 11 sectors declined in September with six sectors (Real Estate, Communication Services, Technology, Utilities, Materials, and Industrials) falling by 10% or more. Health Care stocks fared best and declined 3.1%. For the quarter all sectors were down except for consumer discretionary and energy.
- → For the second straight month, value stocks outperformed growth stocks in the large cap segment of the market, while the reverse was true in the small cap segment. The underperformance of technology stocks, which account for 43% of the large cap growth market, drove this dynamic.

¹ Source: Bloomberg. Data is as of September 30, 2022.

Exhibit 2

MEKETA

Economic and Market Update

Foreign Equity Returns¹

	September	Q3	YTD	1 YR	3 YR	5 YR	10 YR
Foreign Equity	(%)	(%)	(%)	(%)	(%)	(%)	(%)
MSCI ACWI ex. US	-10.0	-9.9	-26.5	-25.2	-1.5	-0.8	3.0
MSCI EAFE	-9.4	-9.4	-27.1	-25.1	-1.8	-0.8	3.7
MSCI EAFE (Local Currency)	-6.2	-3.6	-14.5	-11.1	2.5	2.8	7.4
MSCI EAFE Small Cap	-11.5	-9.8	-32.1	-32.1	-2.2	-1.8	5.3
MSCI Emerging Markets	-11.7	-11.6	-27.2	-28.1	-2.1	-1.8	1.0
MSCI Emerging Markets (Local Currency)	-9.4	-8.2	-20.8	-21.5	1.1	1.1	4.5
MSCI China	-14.6	-22.5	-31.2	-35.4	-7.2	-5.5	2.4

International equities (MSCI EAFE) fell 9.4%, while emerging markets (MSCI EM) returned -11.7% in September leading to quarterly declines of similar amounts.

- → Non-US developed market stocks again broadly trailed the US for the month, leading to the steepest declines year-to-date. High inflation in Europe, particularly related to gas and electricity, the ongoing war in Ukraine, and relatively slower growth globally continue to weigh on sentiment.
- \rightarrow Emerging market equities were deep in the red for the month, driven by China's (-14.6%) on-going property market issues and strict COVID-19 policies. The upcoming National Communist Party Congress in China in October is highly anticipated.
- → The strength of the US dollar continued as a headwind to international equities for the month and year-to-date, both in developed and emerging markets.

¹ Source: Bloomberg. Data is as of September 30, 2022



Fixed Income Returns¹

							Current		
Fixed Income	September (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Yield (%)	Duration (Years)
Bloomberg Universal	-4.3	-4.5	-14.9	-14.9	-3.1	-0.2	1.2	5.2	6.2
Bloomberg Aggregate	-4.3	-4.8	-14.6	-14.6	-3.3	-0.3	0.9	4.8	6.4
Bloomberg US TIPS	-6.6	-5.1	-13.6	-11.6	0.8	1.9	1.0	4.3	6.9
Bloomberg High Yield	-4.0	-0.6	-14.7	-14.1	-0.5	1.6	3.9	9.7	4.6
JPM GBI-EM Global Diversified (USD)	-4.9	-4.7	-18.6	-20.6	-7.1	-3.9	-2.4	7.6	4.8

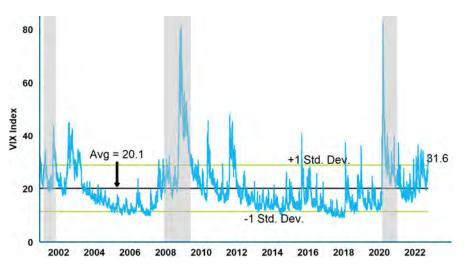
Fixed Income: The Bloomberg Universal declined 4.3% in September and 4.5% for the guarter.

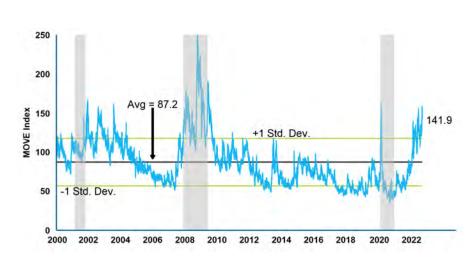
- → A sharp rise in bond yields driven by central banks confirming commitments to fight inflation weighed on fixed income in September leading to declines for the quarter as well. Year-to-date the US bond market is off by far to its worst calendar year start on record.
- → TIPS declined the most for the month and quarter as investors' confidence grew that tighter monetary policy would ultimately get inflation under control.
- → Riskier US bonds declined the least with the high yield index falling slightly less than the broad US bond market (-4.0% versus -4.3%). Emerging market bonds finished down close to 5% for the month with significant declines year-to-date.

¹ Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of September 30, 2022.



Equity and Fixed Income Volatility¹





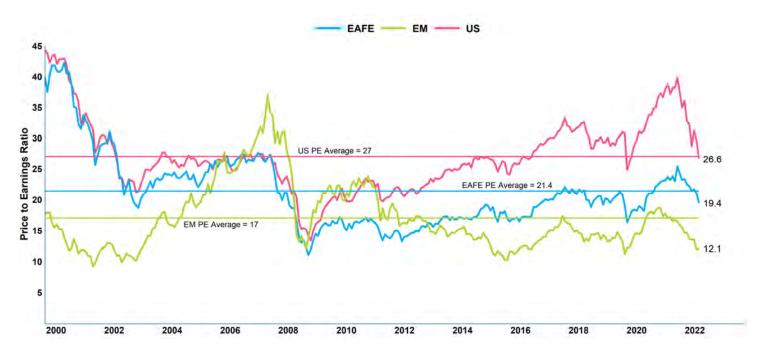
- → Volatility in equities (VIX) and fixed income (MOVE) rose in September and finished higher overall for the quarter as the Federal Reserve and other central banks made it clear that they were committed to aggressively tightening monetary policy to fight high inflation.
- → Fixed income volatility remains particularly high due to the uncertain path of short-term interest rates given stubbornly high inflation. Issues related to the UK's announcement to offer tax breaks despite the central bank's efforts to fight inflation also contributed to volatility in fixed income markets.

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¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of September 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.



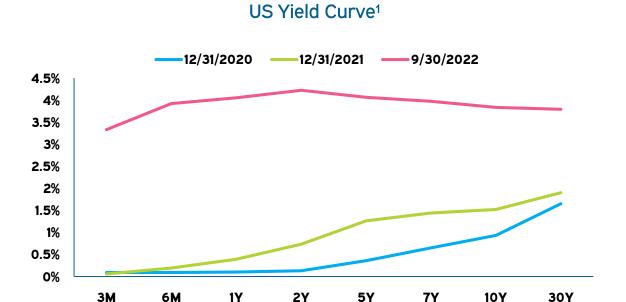
Equity Cyclically Adjusted P/E Ratios¹



- \rightarrow September price declines brought US equity price-to-earnings ratios slightly below the long-term (21st Century) average.
- → International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of September 30, 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.

Economic and Market Update

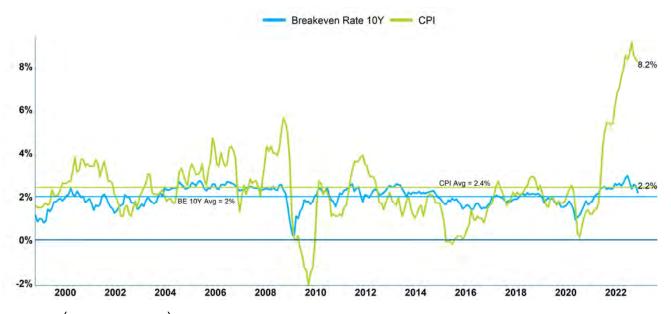


- → Rates across the yield curve remain far higher than at the start of the year.
- → In September, rates rose across the yield curve, finishing the quarter significantly higher. Yields on two-year Treasuries increased 0.79% just in the month of September bring the quarterly increase to 1.32%, while ten-year Treasuries rose 0.64% for the month and 0.82% for the quarter.
- → The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.0% and 3.25%. This was the fifth increase this year and the third consecutive increase of this amount.
- → The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.44%. Inversions in the yield curve have historically often preceded recessions.

¹ Source: Bloomberg. Data is as of September 30, 2022.

Economic and Market Update

Ten-Year Breakeven Inflation and CPI¹



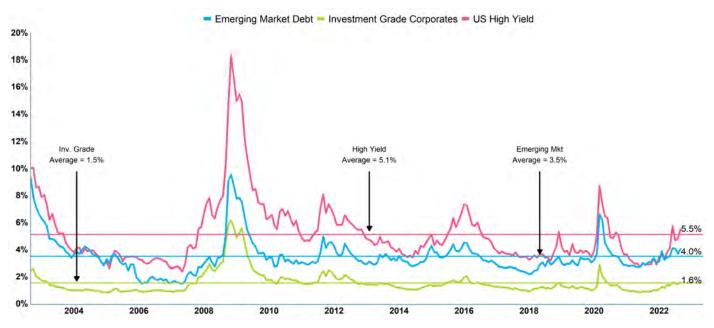
- → Inflation expectations (breakevens) declined for the month and finished the quarter slightly below the long-run average on the belief that tighter monetary policy would lower long-run inflation.
- → Trailing twelve-month CPI declined in September (8.2% versus 8.3%) but surprised markets by coming in above expectations.
- → Over the last year rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

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¹ Source: Bloomberg. Data is as of September 30, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative



Credit Spreads vs. US Treasury Bonds¹



- → Credit spreads (the spread above a comparable maturity Treasury) widened in September, finishing the quarter above long-term averages. Fears related to the impact of tighter monetary policy on economic growth was a key driver of wider spreads.
- → In the US, spreads for high yield increased sharply (5.5% versus 4.8%), with investment grade spreads rising more modestly (1.6% versus 1.4%). Emerging market spreads also increased (4.0% versus 3.6%).

¹ Sources: Bloomberg. Data is as of September 30, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.



Global Economic Outlook

In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

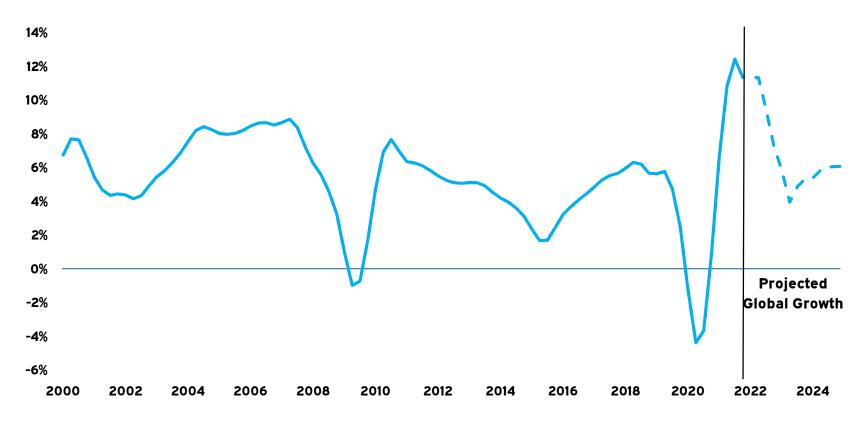
- → The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- → In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- → Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- \rightarrow The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

		Real GDP (%)1		Inflation (%)¹				
	IMF	IMF	Actual	IMF	IMF	Actual		
	2022 Forecast	2023 Forecast	10 Year Average	2022 Forecast	2023 Forecast	10 Year Average		
World	3.2	2.7	3.2	8.8	6.5	3.6		
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6		
US	1.6	1.0	2.1	8.1	3.5	2.0		
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3		
Japan	1.7	1.6	0.8	2.0	1.4	0.4		
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3		
China	3.2	4.4	7.3	2.2	2.2	2.4		

¹ Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.



Global Nominal Gross Domestic Product (GDP) Growth¹

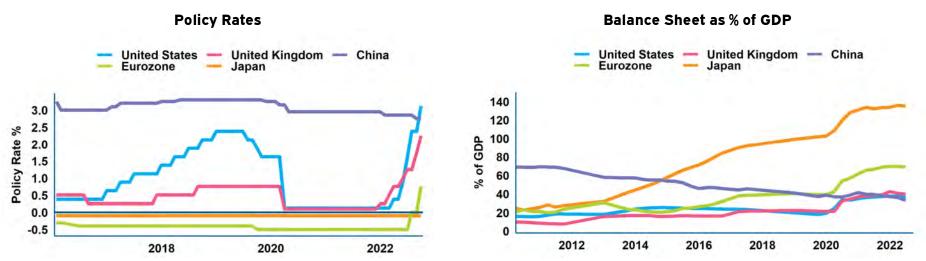


- → Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- → The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated September 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.





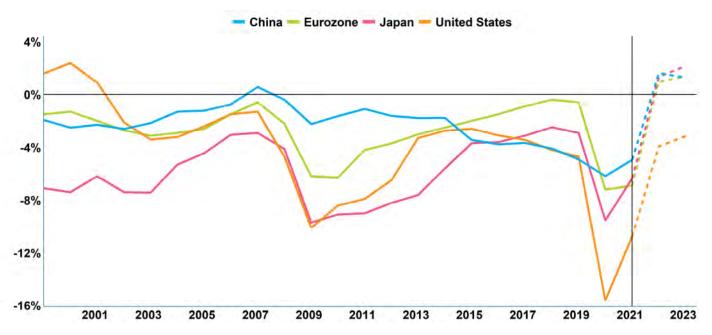


- → After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- → The pace of withdrawing support varies across central banks with the US taking a more aggressive approach. The UK is also aggressively increasing rates, but recent talks of easing fiscal policy (this ultimately did not happen) created significant volatility that spilled over into other markets.
- → The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- → The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

¹ Source: Bloomberg. Policy rate data is as of September 30, 2022. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of June 30, 2022.

Economic and Market Update

Budget Surplus / Deficit as a Percentage of GDP¹

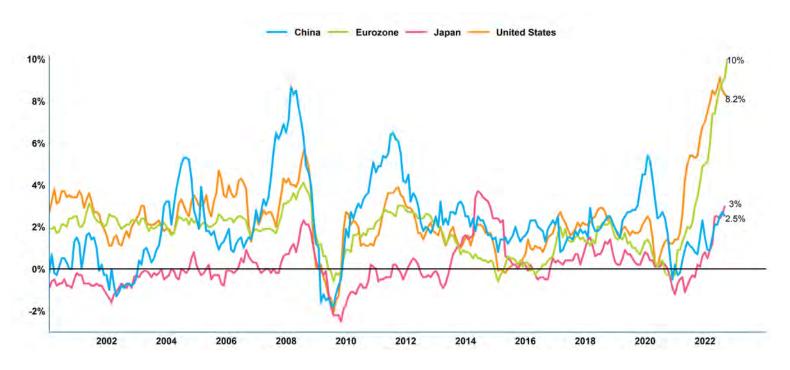


- → Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- → As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- → Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen in the UK.

¹ Source: Bloomberg, Data is as of September 30, 2022. Projections via IMF Forecasts from October 2022 Report, Dotted lines represent 2022 and 2023 forecasts.



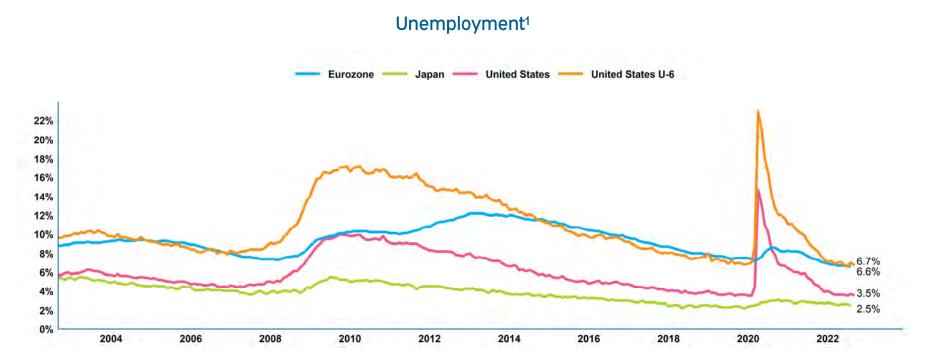
Inflation (CPI Trailing Twelve Months)¹



- → Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- → Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key global drivers of inflation.

Source: Bloomberg. Data is as of September 2022. The most recent data for Japan and China is as of August 31, 2022.

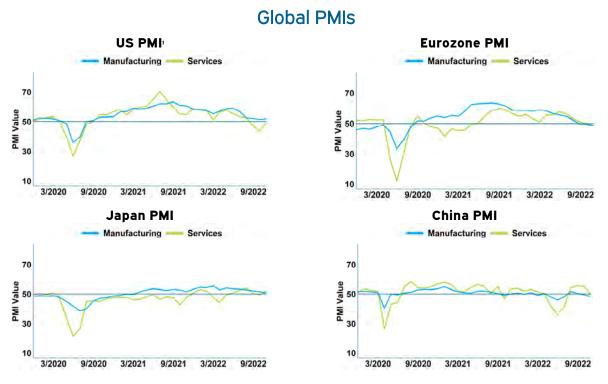
Economic and Market Update



- → As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- → Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, declined to pre-pandemic (3.5%) levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 6.7%.
- → The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

¹ Source: Bloomberg. Data is as of September 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of August 31, 2022.



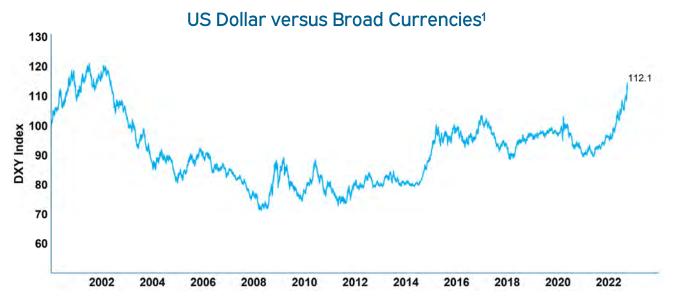


- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- → Service sector PMIs, except Japan, are all in contraction territory. The US service sector recovered somewhat but remains in negative territory due to weak demand, a sharp decline in new orders, and softening employment.
- → Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone and China in contraction territory.

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¹ Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of September 2022. Readings below 50 represent economic contractions.

Economic and Market Update



- → The US dollar continued to strengthen in September, increasing 7.1% overall for the quarter and reaching levels not seen in two decades.
- → The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar's strength this year.
- → The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflation.

¹ Source: Bloomberg. Data as of September 30, 2022.

Economic and Market Update

Summary

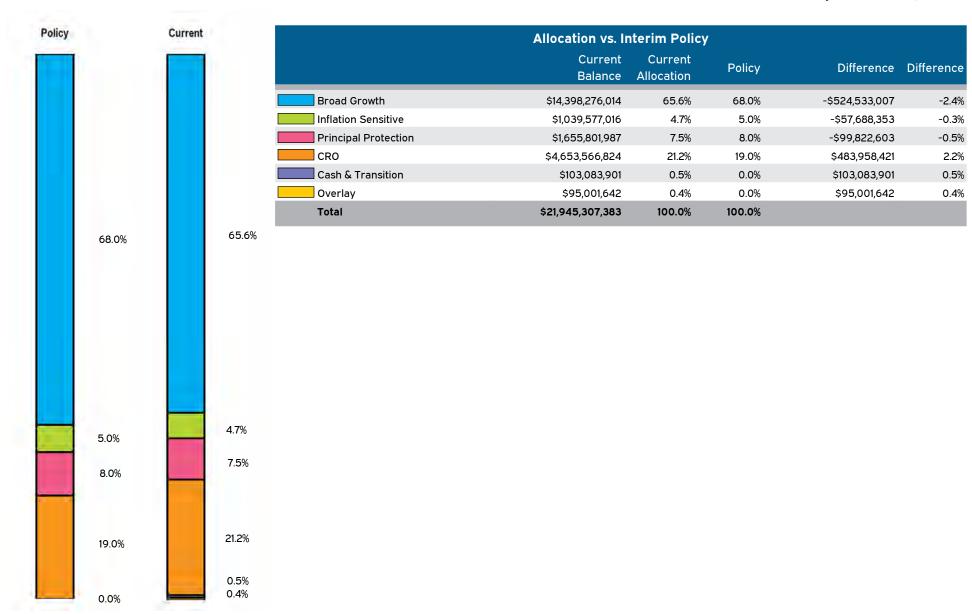
Key Trends in 2022:

- → The impacts of record high inflation will remain key, with market volatility likely to remain high.
- → The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- → Expect growth to slow globally in 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- → In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- → Valuations have significantly declined in the US to below long-term averages.
- → Outside the US, equity valuations remain lower in both emerging and developed markets, but major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

Total Fund

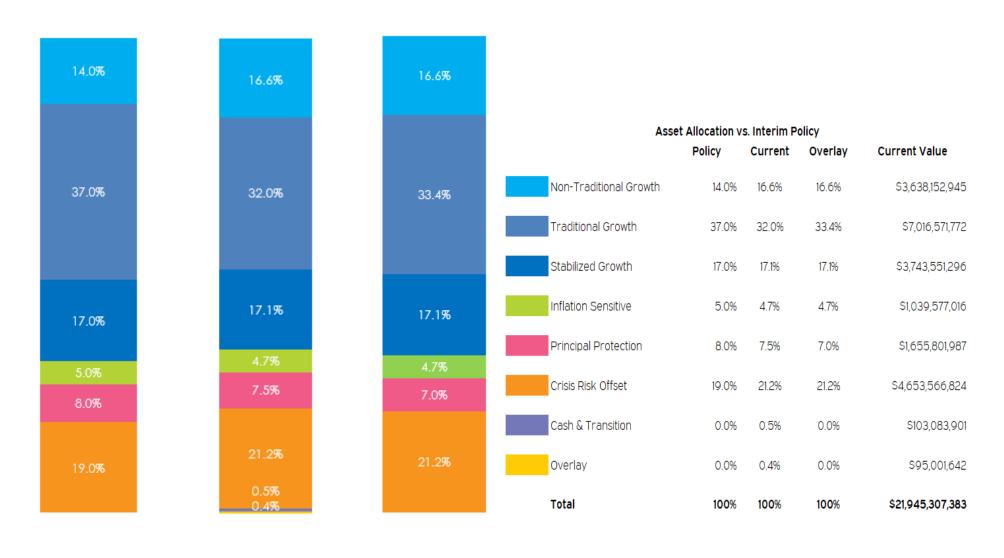
Illinois State Universities Retirement System

Total Fund | As of September 30, 2022





Illinois State Universities Retirement System Actual vs. Interim Policy | As of September 30, 2022



POLICY TARGET ALLOCATION

CURRENT ALLOCATION

ALLOCATION REFLECTING OVERLAY



Total Fund | As of September 30, 2022

		Attributi	ion Summary								
	3 Months Ending September 30, 2022										
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects				
Traditional Growth	-7.2%	-6.6%	-0.5%	-0.2%	0.1%	0.0%	-0.1%				
Stabilized Growth	-1.4%	-0.3%	-1.1%	-0.2%	0.0%	0.0%	-0.2%				
Non Traditional Growth	-1.3%	-11.1%	9.8%	1.3%	-0.3%	0.3%	1.4%				
Inflation Sensitive	-5.2%	-5.1%	0.0%	0.0%	0.0%	0.0%	0.0%				
Principal Protection	-4.0%	-4.1%	0.1%	0.0%	0.0%	0.0%	0.0%				
Crisis Risk Offset	6.2%	8.6%	-2.3%	-0.4%	0.1%	0.0%	-0.4%				
Total	-2.2%	-2.9%	0.7%	0.5%	-0.1%	0.3%	0.7%				

1 Year Ending September 30, 2022										
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects			
Traditional Growth	-20.0%	-21.2%	1.1%	0.5%	0.2%	0.0%	0.6%			
Stabilized Growth	-2.6%	-3.5%	0.9%	0.2%	0.0%	0.0%	0.2%			
Non Traditional Growth	13.6%	-7.2%	20.8%	2.4%	-0.1%	0.4%	2.8%			
Inflation Sensitive	-11.5%	-11.6%	0.0%	0.0%	0.0%	0.0%	0.0%			
Principal Protection	-10.5%	-11.4%	0.8%	0.1%	0.0%	0.0%	0.1%			
Crisis Risk Offset	18.0%	17.4%	0.6%	0.0%	-0.1%	0.1%	0.0%			
Total	-4.5%	-8.1%	3.6%	3.1%	0.0%	0.5%	3.6%			

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	Trailing Asset Class Net Performance									
	Market Value (\$)	% of Portfolio	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)		
Total Fund	21,945,307,383	100.0	-2.2	-8.3	-4.7	6.8	6.3	7.5		
SURS Policy Benchmark			-2.9	-10.7	-8.2	5.1	5.5	7.1		
Total Fund ex Overlay	21,850,305,741	99.6	-2.3	-8.2	-4.6	6.8	6.2	7.5		
SURS Policy Benchmark			-2.9	-10.7	-8.2	5.1	5.5	7.1		
Broad Growth	14,398,276,014	65.6	-4.3	-13.8	-9.2	6.6	6.4	8.3		
Traditional Growth	7,016,571,772	32.0	-7.2	-24.5	-20.0	4.2	4.8	8.1		
SURS Traditional Growth Blend			-6.6	-25.7	-21.2	3.6	4.5	7.5		
US Equity	1,611,229,106	7.3	-4.6	-23.7	-16.4	7.6	8.2	11.1		
Dow Jones U.S. Total Stock Market			-4.6	-24.9	-18.1	7.5	8.5	11.3		
Passive Large US Equity	1,510,805,207	6.9	-4.4	-23.4	-16.2	8.5	9.1	11.6		
Dow Jones U.S. Total Stock Market			-4.6	-24.9	-18.1	7.5	8.5	11.3		
Mid Cap	100,423,894	0.5	-7.8	-24.5	-20.3	5.9	5.8			
Russell MidCap			-3.4	-24.3	-19.4	5.2	6.5			
Non US Equity	1,285,705,067	5.9	-9.6	-26.8	-25.0	-1.8	-1.2	3.3		
SURS Non US Equity Blend			-9.7	-26.9	-25.7	-1.3	-0.7	3.1		
Active Non-US Equity	966,333,062	4.4	-9.1	-26.6	-24.3	-1.6	-1.1	4.5		
MSCI EAFE			-9.4	-27.1	-25.1	-1.8	-0.8	3.7		
Passive Non-US Equity	319,371,810	1.5	-10.9	-27.5	-27.0	-2.8	-1.6	2.7		
MSCI ACWI ex USA			-9.9	-26.5	-25.2	-1.5	-0.8	3.0		
Global Equity	4,119,637,600	18.8	-7.4	-24.1	-19.8	6.0	6.8	9.1		
SURS Global Equity Blend			-6.6	-25.7	-21.2	3.6	4.4	7.2		
Global Equity - Active	2,169,098,733	9.9	-7.7	-23.3	-19.8					
Global Equity - Passive	1,950,538,867	8.9	-7.0	-24.9	-19.7					

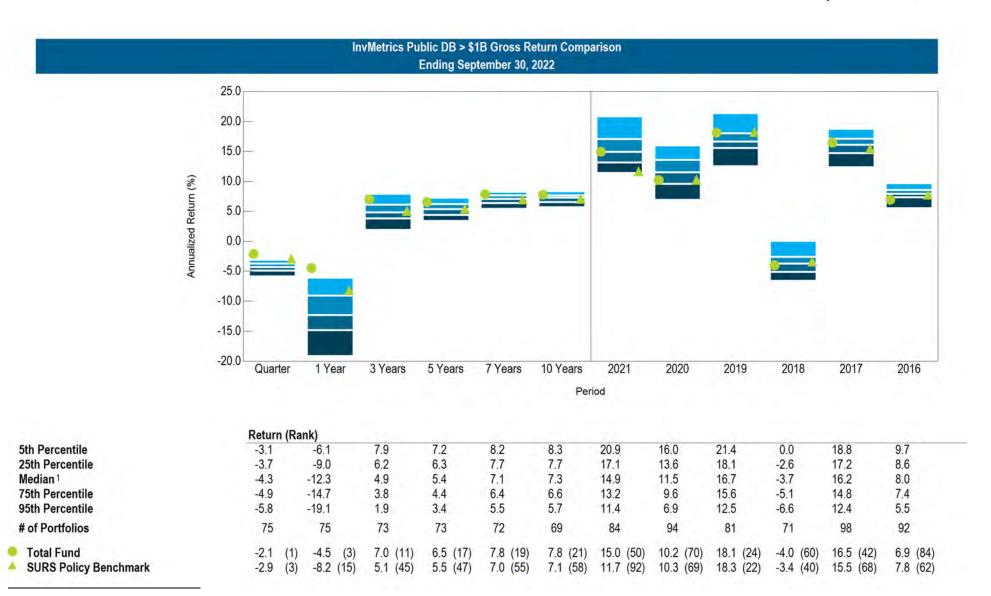
Illinois State Universities Retirement System

	Market Value	% of	3 Мо	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)
Stabilized Growth	3,743,551,296	17.1	-1.4	-5.2	-2.6	3.5		
SURS Stabilized Growth Blend			-0.3	-5.6	-3.5	<i>2.7</i>		
Option Strategies	442,071,948	2.0	-4.6	-15.7	-11.5	3.8		
SURS Options Strategies Blend			-6.8	-14.0	-8.9	3.2		
Stabilized Real Assets	1,443,620,025	6.6	1.0	16.7	26.0	12.7	9.8	
SURS Stabilized Real Assets Blend			4.3	20.0	27.7	11.5	9.5	
Core	926,446,670	4.2	0.4	16.4	26.4	12.7	9.7	
NCREIF ODCE Net 1 Qtr Lag			4.5	20.6	28.4	11.7	9.6	
Core Plus	490,374,596	2.2	2.3	18.1	26.5	13.1		
SURS Real Estate Blend			4.5	20.6	28.4	11.7		
Core Infrastructure	26,798,759	0.1	2.3	0.9	0.9			
FTSE Dev Core Infra 50/50			-10.1	-13.3	-6.4			
Public Credit	1,532,682,458	7.0	-2.9	-15.6	-15.8	-2.7		
SURS Credit Fixed Income Blend			-2.4	-15.3	-15.7	-2.8		
Diversified Credit	1,202,185,571	5.5	-2.8	-15.6	-15.4	-2.3	0.1	
SURS Credit ex EMD Blend			-2.5	-15.5	-15.4	-2.2	0.4	
Private Credit	322,108,648	1.5	-0.6	3.6	5.6			
SURS Private Credit Blend			0.4	-8.9	-8.5			
Non Traditional Growth	3,638,152,945	16.6	-1.3	6.0	13.6	20.3	17.1	
SURS Non Traditional Growth Blend			-11.1	-7.8	-7.2	9.2	10.8	
Non-Core Real Assets	724,772,860	3.3	1.2	13.1	19.0	9.1	8.6	
SURS Non Core Real Assets Blend			4.6	19.4	26.2	12.6	10.7	
Non-Core Real Estate	477,240,989	2.2	0.6	14.6	23.1	7.9	8.4	
NCREIF ODCE Net Lagged + 1.5%			4.9	21.9	30.2	13.4	11.2	
Non-Core Real Estate Debt	75,489,960	0.3	1.8	4.3	2.3	6.8		
NCREIF ODCE Net Lagged + 1.5%			4.9	21.9	30.2	13.4		

Illinois State Universities Retirement System

	Market Value	% of	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)
Non-Core Infrastructure	132,148,345	0.6	4.8	13.3	17.0	15.8	10.8	9.6
CPI+5% 1 Qtr Lagged			4.3	12.0	14.5	10.2	9.1	7.7
Non-Core Farmland	39,893,566	0.2	-3.6	7.8	4.5			
NCREIF Farmland 1 Qtr Lag			1.4	8.1	9.7			
Private Equity- Fund of Funds	2,196,857,477	10.0	-2.4	2.8	12.1	24.4	20.3	15.2
SURS PE Blend			-15.2	-14.1	-14.7	8.5	11.1	14.4
Private Equity- Direct (Aksia)	716,522,608	3.3	-0.4	10.6	12.0			
MSCI ACWI IMI +2% 1 Qtr Lag			-15.2	-14.1	-14.7			
Inflation Sensitive	1,039,577,016	4.7	-5.2	-13.6	-11.5	0.9	1.5	
SURS Inflation Sensitive Blend			-5.1	-13.6	-11.6	0.7	1.1	
TIPS	1,039,577,016	4.7	-5.2	-13.6	-11.5	0.7	1.9	0.9
Bloomberg US TIPS TR			-5.1	-13.6	-11.6	0.8	2.0	1.0
Principal Protection	1,655,801,987	7.5	-4.0	-10.0	-10.5	-2.5	0.2	1.1
BC US Int Ag x Credit Blend			-4.1	-10.9	-11.4	-2.5	0.2	1.1
Crisis Risk Offset	4,653,566,824	21.2	5.7	16.8	17.4			
SURS CRO Blend			8.6	19.5	17.4			
Long Duration	418,871,912	1.9	-9.5	-28.6	-26.4			
BBgBarc US Govt Long TR			-9.6	-28.8	-26.6			
Systematic Trend Following	2,554,790,973	11.6	12.1	42.1	39.3			
CS Mgd Futures 15% Vol			16.2	50.9	43.6	-		
Alternative Risk Premia	1,244,324,485	5.7	2.6	6.5	10.5			
90 Day T-Bill + 2%			1.2	2.5	3.0			
Long Volatility	379,862,011	1.7	0.5					
CBOE Eurekahedge Long Volatility Index			2.1			-		
Tail Risk	55,717,442	0.3						
Cash Composite	103,083,901	0.5						
Total Overlay	95,001,642	0.4						





¹ Investment Metrics (IM) Median [Gross of Fees] - Public Fund >\$1 Billion Universe includes BNY Mellon Total Public Fund Greater than \$1Billion Universe and IM client data.



Total Fund | As of September 30, 2022

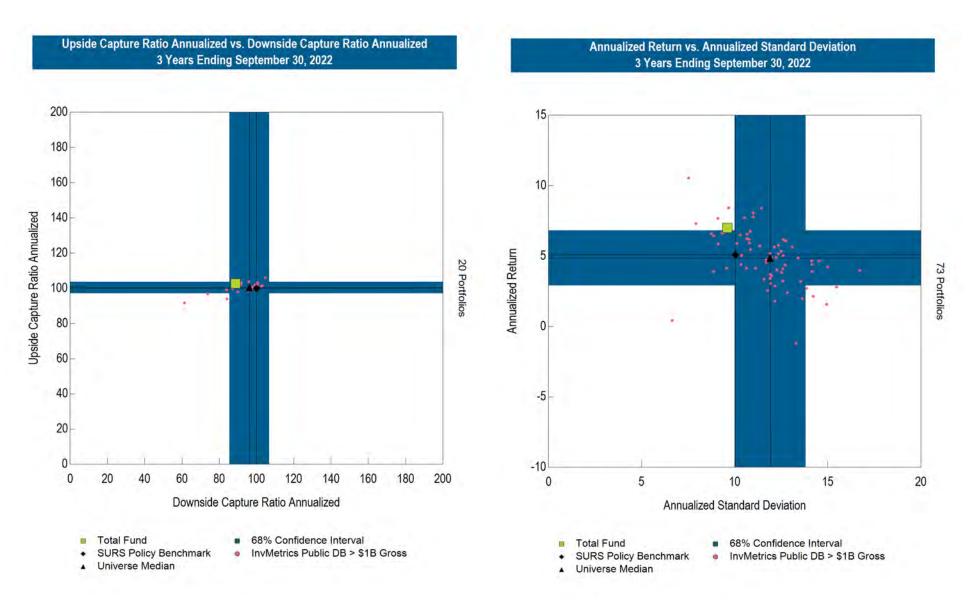
Risk-Adjusted Return of SURS vs. Peers								
	Fiscal YTD	1 Year	3 Years	5 Years	10 Years			
Total Fund	-4.7	-2.2	6.8	6.3	7.5			
Risk-Adjusted Median ¹	-9.0	-3.1	3.9	4.7	6.6			
Excess Return	4.3	1.0	2.9	1.7	0.9			

→ On a risk-adjusted basis, the SURS Total Portfolio has outperformed the Median Public Fund in all trailing time periods. The pursuit of a more efficient (i.e., higher return per unit of risk) portfolio has been an explicit consideration of the SURS Board over the last two asset-liability studies, in particular.

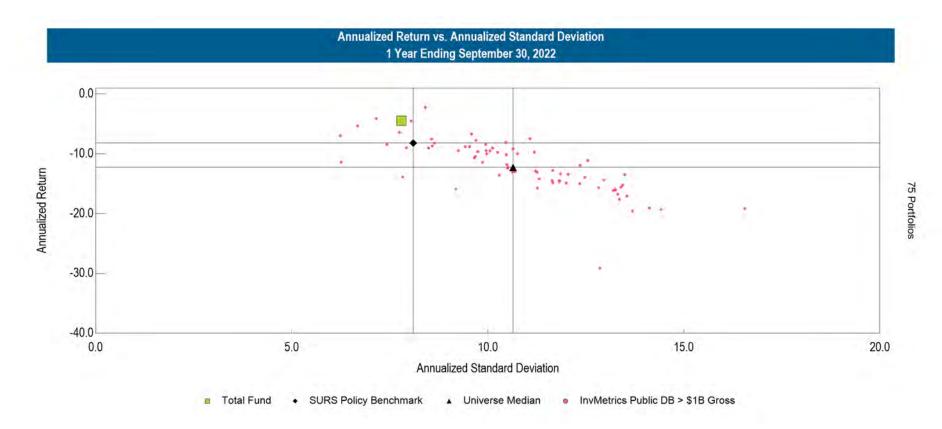
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¹ Risk-adjusted median normalizes the median fund to the SURS exhibited volatility. Calculated as: risk-adjusted median = unadjusted median return * (SURS volatility/peer volatility).



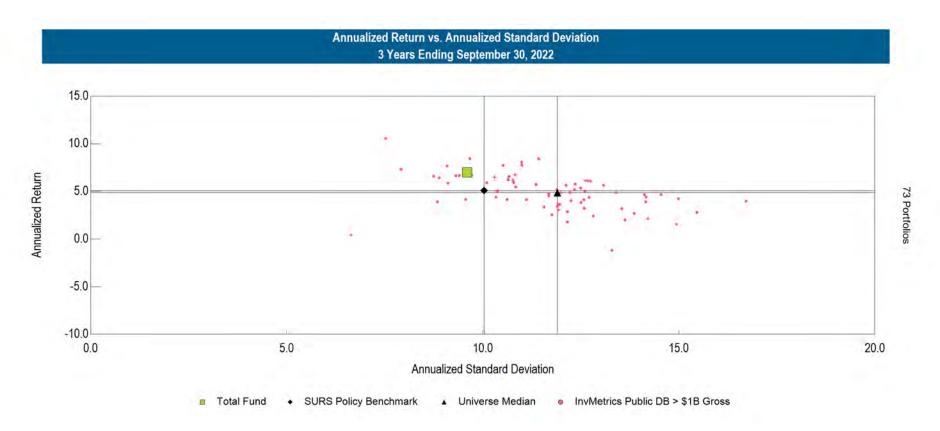






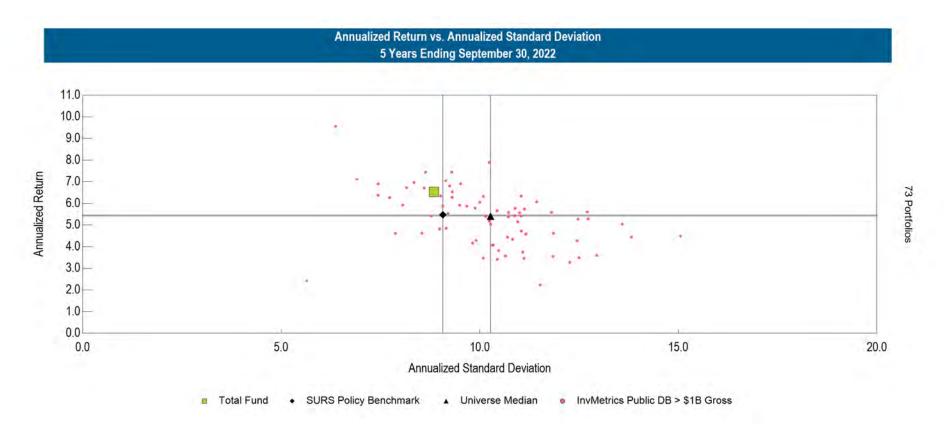
	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank
Total Fund	-4.5%	3	7.8%	8	-0.7	3	1.8	2
SURS Policy Benchmark	-8.2%	15	8.1%	12	-1.1	38		
InvMetrics Public DB > \$1B Gross Median	-12.3%		10.6%		-1.2		0.6	





	Anlzd Return	Anlzd Return	Anlzd Standard Anlzd Standard		Sharpe Ratio	Sharpe Ratio	Information	Information	
	Aniza Return	Rank	Deviation Deviation Rank		Sharpe Ratio	Rank	Ratio	Ratio Rank	
Total Fund	7.0%	11	9.6%	15	0.7	11	1.0	10	
SURS Policy Benchmark	5.1%	45	10.0%	18	0.5	31			
InvMetrics Public DB > \$1B Gross Median	4.9%		11.9%		0.4		0.4		





	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	d Anlzd Standard Deviation Rank	Sharpe Ratio	Sharpe Ratio Rank	Information Ratio	Information Ratio Rank
Total Fund	6.5%	17	8.8%	19	0.6	18	0.7	14
SURS Policy Benchmark	5.5%	47	9.1%	23	0.5	34		
InvMetrics Public DB > \$1B Gross Median	5.4%		10.3%		0.4		0.3	

Private Markets Performance



Private Markets Performance¹ | As of June 30, 2022

	Co	mposite Level IRR	s		
	1-Year	3-Year	5-Year	10-Year	Since Inception
	(%)	(%)	(%)	(%)	(%)
Real Assets ^{1, 2}	30.8	11.6	9.9	10.2	8.1
Private Equity	10.4	23.9	21.1	15.0	20.5

	Capital Commitment (\$)	Draw Down (\$)	Distributed (\$)	Market Value (\$)	TVPI Multiple
Real Assets ²	2,908,197,713	2,264,722,808	1,336,389,882	2,105,762,587	1.5
Private Equity	5,195,035,302	4,094,228,572	4,533,927,374	2,807,003,450	1.8

¹ Information provided by Northern Trust.

² Real Assets Composite includes Real Estate, Core, and Non-Core Infrastructure.

US Equity

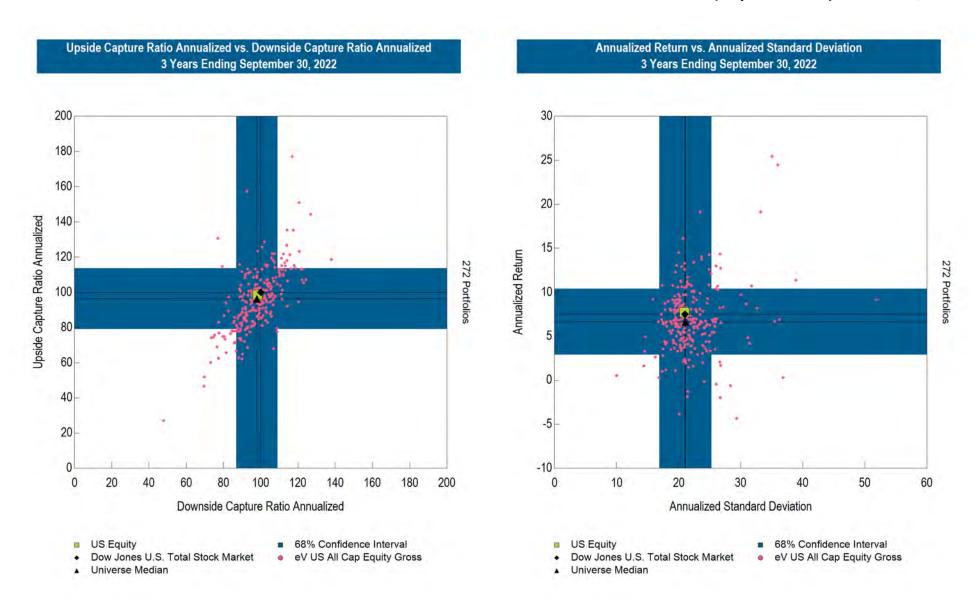
Illinois State Universities Retirement System

US Equity | As of September 30, 2022





US Equity | As of September 30, 2022



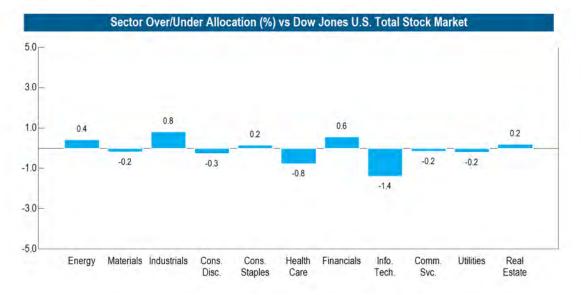


US Equity | As of September 30, 2022

Characteristic	:s	
	1	Dow Jones
	Portfolio	U.S. Total
	1 01 110110	Stock
		Market
Number of Holdings	3,080	4,278
Weighted Avg. Market Cap. (\$B)	387.6	399.0
Median Market Cap. (\$B)	2.0	1.0
Price To Earnings	17.0	17.3
Price To Book	3.3	3.5
Price To Sales	1.6	1.7
Return on Equity (%)	23.8	22.7
Yield (%)	1.8	1.8
Beta	1.0	1.0
R-Squared	1.0	1.0

Energy	4.6					
Materials	2.8					
Industrials		8.99.7				
Cons. Disc.			3.6			
Cons. Staples		6.3				
Health Care			14.2			
Financials		1	12.4			
Info. Tech.		- 44			23.9 25.3	
Comm. Svc.		7.3				
Utilities	2.8					
Real Estate	3.6					
0.0	5.0	10.0	15.0	20.0	25.0	30.
US Equity	5.0		15.0 nes U.S. Total Sto		25.0	30

Top Holdings	
APPLE INC	5.9%
MICROSOFT CORP	4.6%
AMAZON.COM INC	2.7%
TESLA INC	1.8%
ALPHABET INC	1.5%
ALPHABET INC	1.4%
UNITEDHEALTH GROUP INC	1.3%
JOHNSON & JOHNSON	1.1%
EXXON MOBIL CORP	1.0%
BERKSHIRE HATHAWAY INC	0.9%



Illinois State Universities Retirement System

US Equity | As of September 30, 2022

т	op Contributor	'S	
	End Weight	Return	Contribution
TESLA INC	1.84	18.17	0.33
AMAZON.COM INC	2.69	6.39	0.17
NETFLIX INC	0.28	34.64	0.10
APPLE INC	5.92	1.22	0.07
PAYPAL HOLDINGS INC	0.27	23.24	0.06
CONOCOPHILLIPS	0.36	16.03	0.06
REGAL REXNORD CORPORATION	0.22	23.95	0.05
SCHWAB (CHARLES) CORP	0.33	14.10	0.05
ENPHASE ENERGY INC	0.10	42.12	0.04
UBER TECHNOLOGIES INC	0.14	29.52	0.04



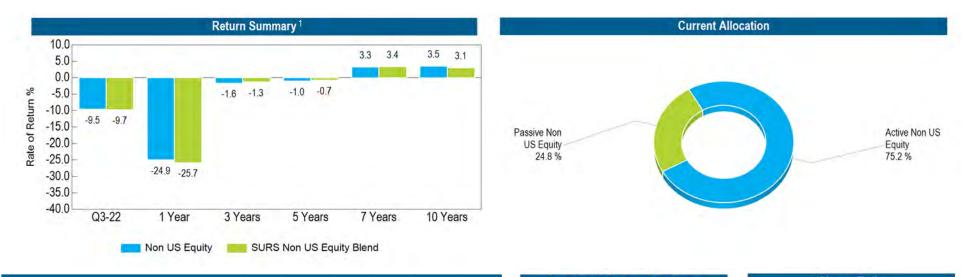
Bottom Contributors						
End Weight	Return	Contribution				
4.58	-9.12	-0.42				
1.54	-12.22	-0.19				
1.40	-12.09	-0.17				
0.77	-19.90	-0.15				
0.81	-15.86	-0.13				
0.66	-15.88	-0.10				
0.43	-24.24	-0.10				
0.81	-11.63	-0.09				
0.36	-24.82	-0.09				
0.28	-30.41	-0.09				
	End Weight 4.58 1.54 1.40 0.77 0.81 0.66 0.43 0.81 0.36	End Weight Return 4.58 -9.12 1.54 -12.22 1.40 -12.09 0.77 -19.90 0.81 -15.86 0.66 -15.88 0.43 -24.24 0.81 -11.63 0.36 -24.82				

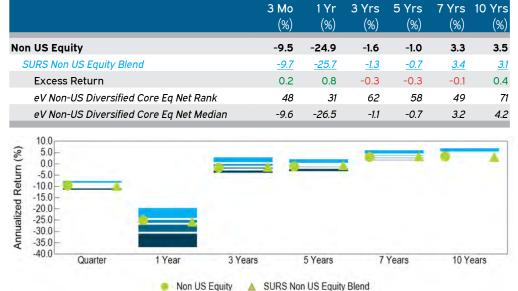
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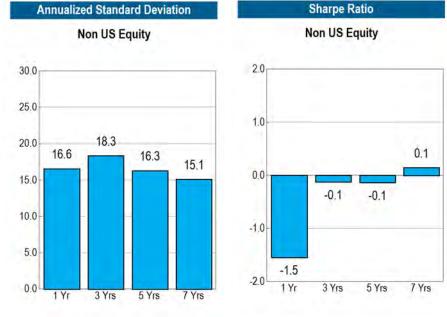
Non US Equity

Illinois State Universities Retirement System

Non US Equity | As of September 30, 2022





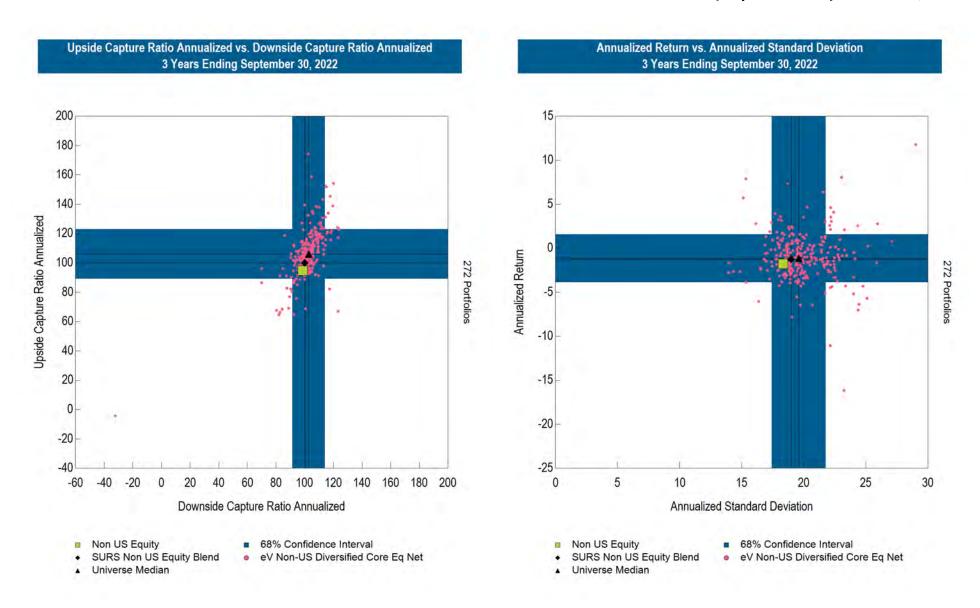


MEKETA INVESTMENT GROUP

¹ Returns are gross of fees



Non US Equity | As of September 30, 2022



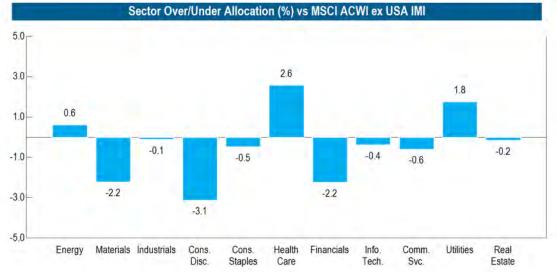
Illinois State Universities Retirement System

Non US Equity | As of September 30, 2022

Characteristics		
		MSCI
	Portfolio	ACWI ex
		USA IMI
Number of Holdings	2,238	6,650
Weighted Avg. Market Cap. (\$B)	57.9	61.5
Median Market Cap. (\$B)	7.2	1.4
Price To Earnings	9.9	11.2
Price To Book	2.3	2.3
Price To Sales	0.9	1.1
Return on Equity (%)	17.5	14.4
Yield (%)	4.2	3.7
Beta	1.0	1.0
R-Squared	1.0	1.0

Energy Materials Industrials	5.9 ^{6.5} 6.5	8.7	13.9			
Cons. Disc.		8.2				
Cons. Staples		8.5 8.9	.3			
Health Care		9.4	12.0			
Financials		0.7		17.1	19.3	
Info. Tech.		10,4.8				
Comm. Svc.	5.1 5.7					
Utilities	3.4 5.2					
Real Estate	3.3					
0.0	5.0	10.0	15.0		20.0	- 3



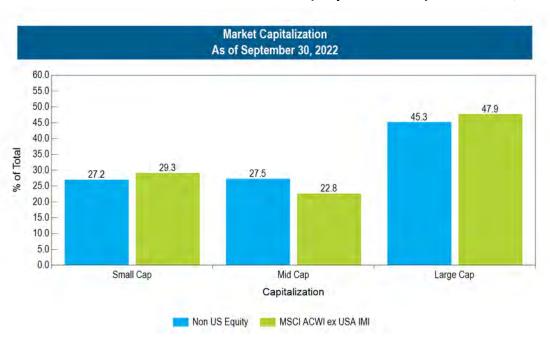


Illinois State Universities Retirement System

Non US Equity | As of September 30, 2022

Top Contributors					
	End Weight	Return	Contribution		
EISAI CO LTD	0.24	28.45	0.07		
PETROLEO BRASILEIRO S.A PETROBRAS	0.22	25.02	0.05		
HINDUSTAN AERONAUTICS LIMITED	0.17	29.24	0.05		
HOYA CORP	0.37	12.53	0.05		
PT BANK CENTRAL ASIA TBK	0.28	15.67	0.04		
START TODAY	0.35	12.08	0.04		
PETROLEO BRASILEIRO S.A PETROBRAS	0.16	24.90	0.04		
AKER SOLUTIONS ASA	0.13	29.64	0.04		
TOFAS TURK OTOM.FABK.	0.10	37.46	0.04		
DBS GROUP HOLDINGS LTD	0.35	10.28	0.04		

Bottom Contributors							
	End Weight	Return	Contribution				
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.20	-16.53	-0.20				
SAMSUNG ELECTRONICS CO LTD	0.86	-15.95	-0.14				
GSK PLC	0.40	-32.08	-0.13				
NOVO NORDISK 'B'	1.34	-8.90	-0.12				
DEUTSCHE TELEKOM AG	0.79	-13.40	-0.11				
NOVARTIS AG	1.00	-9.10	-0.09				
BAYER AG	0.40	-21.59	-0.09				
BAE SYSTEMS PLC	0.54	-12.76	-0.07				
OMV AG	0.31	-21.68	-0.07				
ASML HOLDING NV	0.63	-10.56	-0.07				



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Global Equity

Illinois State Universities Retirement System

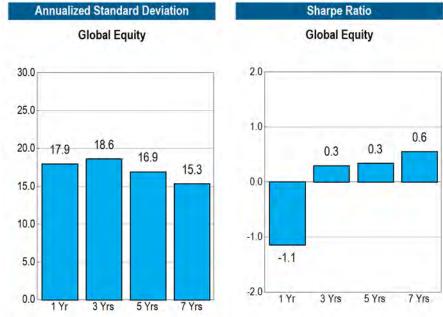
Global Equity | As of September 30, 2022





	3 Mo	1 Yr	3 Yrs	5 Yrs		10 Yrs
	(%)	(%)	(%)	(%)	(%)	(%)
Global Equity	-7.3	-19.5	6.3	7.2	9.8	9.6
SURS Global Equity Blend	<u>-6.6</u>	<u>-21.2</u>	<u>3.6</u>	<u>4.4</u>	<u>7.4</u>	<u>7.2</u>
Excess Return	-0.7	1.7	2.7	2.8	2.4	2.4
eV Global All Cap Equity Gross Rank	66	41	25	21	23	27
eV Global All Cap Equity Gross Median	-6.6	-21.0	4.5	5.2	8.1	8.4



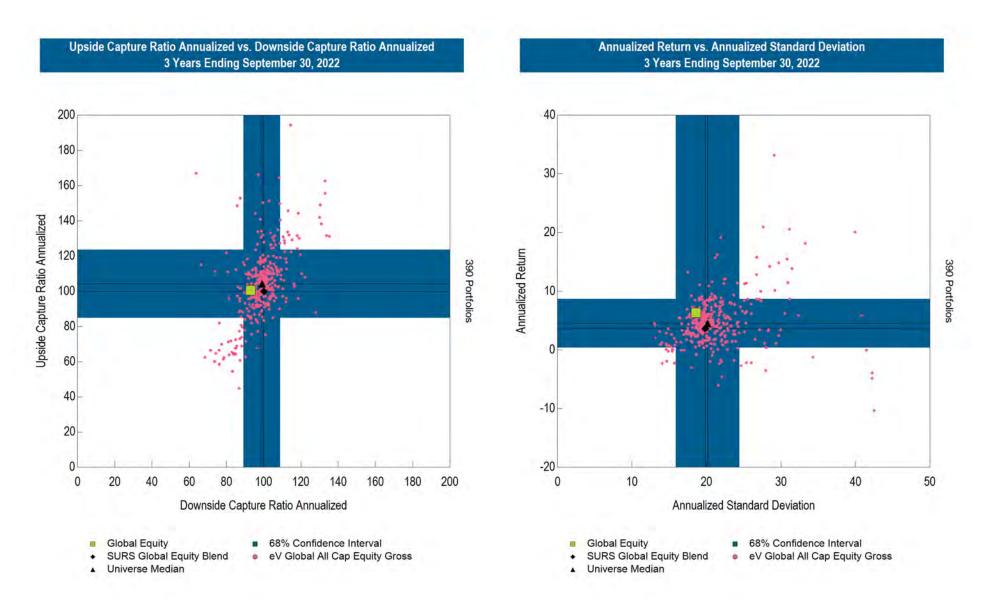


MEKETA INVESTMENT GROUP

¹ Returns are gross of fees



Global Equity | As of September 30, 2022



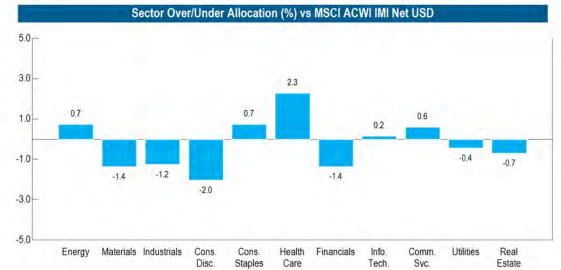


Global Equity | As of September 30, 2022

Characteristics	5	
	Portfolio	MSCI ACWI IMI Net USD
Number of Holdings	2,141	9,237
Weighted Avg. Market Cap. (\$B)	259.1	272.0
Median Market Cap. (\$B)	11.8	1.7
Price To Earnings	14.3	14.3
Price To Book	3.0	3.0
Price To Sales	1.4	1.4
Return on Equity (%)	22.0	19.9
Yield (%)	2.6	2.5
Beta	0.9	1.0
R-Squared	1.0	1.0

Energy Materials	5.2 5.9 3.7 5.1				
Industrials	0.1	9.3			
Cons. Disc.		9.6	6		
Cons. Staples		7.3 8.1			
Health Care			12.7		
Financials			13.1		
Info. Tech.				19.8	
Comm. Svc.	6.8	7.4			
Utilities	2.73.1				
Real Estate	2.7				
0.0	5.0	10.0	15.0	20.0	25.
Global Equity	MSCI A	CWI IMI Net USD			







Global Equity | As of September 30, 2022

Top Contributors						
	End Weight	Return	Contribution			
TESLA INC	0.73	18.17	0.13			
AMAZON.COM INC	1.73	6.39	0.11			
SCHWAB (CHARLES) CORP	0.76	14.10	0.11			
HOYA CORP	0.59	12.53	0.07			
SUNDRUG CO LTD	0.39	10.54	0.04			
DAITO TRUST CONSTRUCTION CO LTD	0.37	10.90	0.04			
PINNACLE FINANCIAL PARTNERS INC	0.31	12.47	0.04			
DAIICHI SANKYO COMPANY LTD	0.35	10.83	0.04			
APPLE INC	2.82	1.22	0.03			
PETROLEO BRASILEIRO S.A PETROBRAS	0.14	25.02	0.03			



Bottom Contributors						
	End Weight	Return	Contribution			
MICROSOFT CORP	3.34	-9.12	-0.30			
MACQUARIE POOLED TRUST EMERGING MARKETS PORTFOLIO	1.24	-12.65	-0.16			
TENCENT HOLDINGS LTD	0.48	-24.85	-0.12			
META PLATFORMS INC	0.69	-15.86	-0.11			
PHILIP MORRIS INTERNATIONAL INC	0.73	-14.70	-0.11			
ALPHABET INC	0.83	-12.22	-0.10			
GSK PLC	0.27	-32.08	-0.09			
JOHNSON & JOHNSON	1.15	-7.35	-0.08			
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	0.49	-16.53	-0.08			
VISA INC	0.84	-9.61	-0.08			

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Inflation Sensitive

Illinois State Universities Retirement System

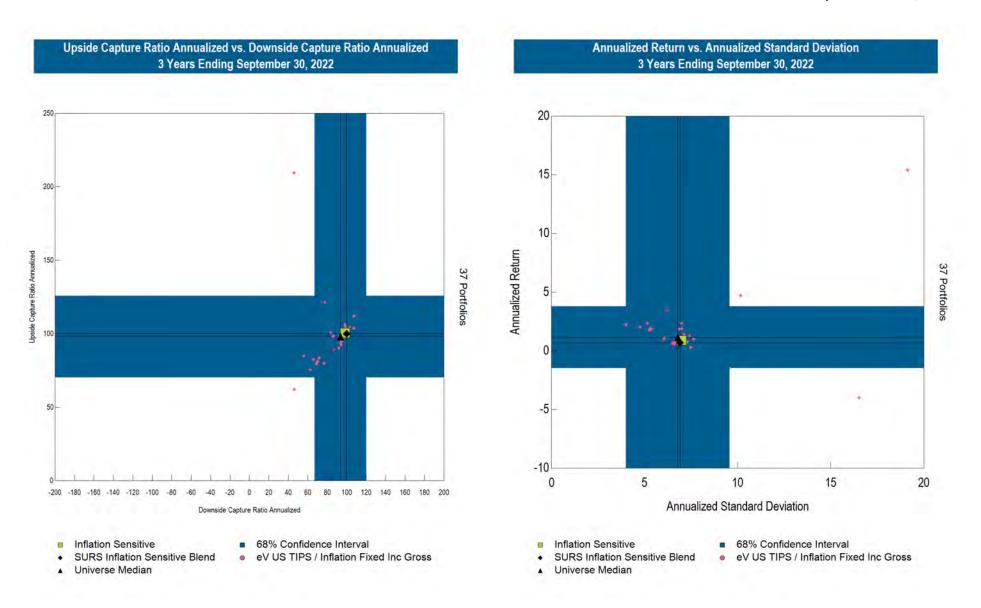
Inflation Sensitive | As of September 30, 2022



¹ Returns are gross of fees



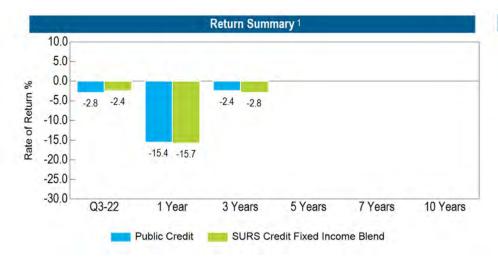
Inflation Sensitive | As of September 30, 2022



Public Credit

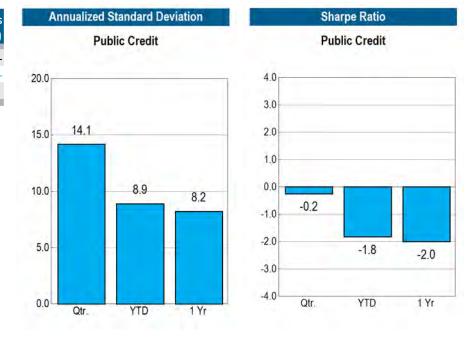
Illinois State Universities Retirement System

Public Credit | As of September 30, 2022





	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Public Credit	-2.8	-15.4	-2.4			
SURS Credit Fixed Income Blend	<u>-2.4</u>	<u>-15.7</u>	<u>-2.8</u>			
Excess Return	-0.4	0.3	0.4			

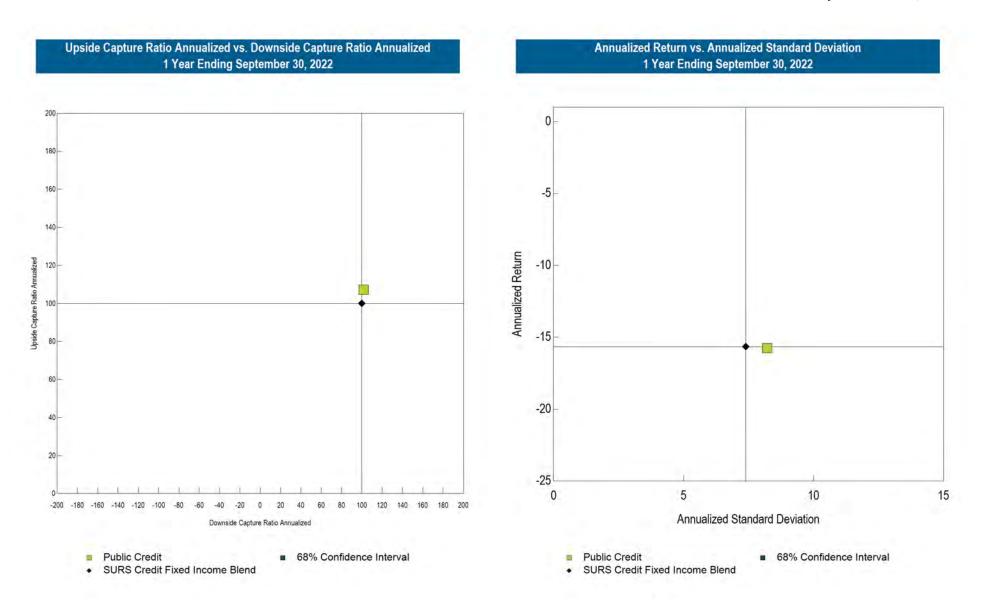


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¹ Returns are gross of fees



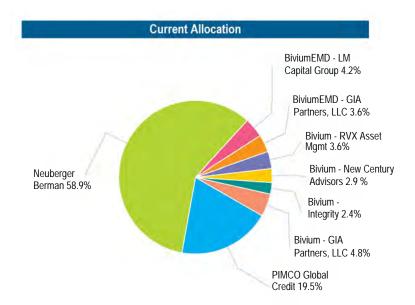
Public Credit | As of September 30, 2022



Illinois State Universities Retirement System

Public Credit | As of September 30, 2022



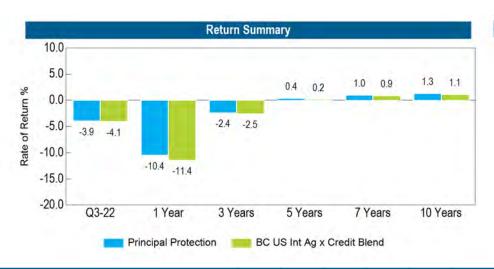


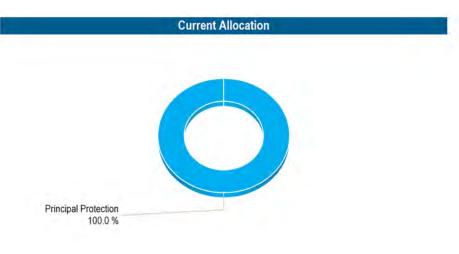
Top Holdings			
NT COLLECTIVE GOVT SHORT TERM INVT FD	11.61%		
UST 0% T-BILL 04/10/2022 USD	1.84%		
UST 0% NTS 31/05/23 USDBB-2023	1.54%		
CASH - EUR	1.05%		
OAKTREE CLO 2022-3 LTD ABS 2035-07-16 USD	0.97%		
STORM KING PARK CLO LTD ABS 2035-10-15 USD	0.94%		
PVTPL HALSEYPOINT CLO 6 LTDHALSEYPOINT SER 22-6A CL A1 FLTG RT DUE 10-30-2034	0.84%		
PARK BLUE CLO 2022-I LTD ABS 2034-10-20 USD	0.83%		
Petroleos Mexicanos 5.95% NTS 28/01/2031 USD	0.76%		
UST BDS USD	0.67%		

Principal Protection

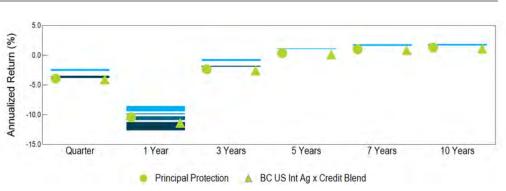
Illinois State Universities Retirement System

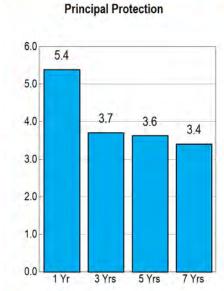
Principal Protection | As of September 30, 2022



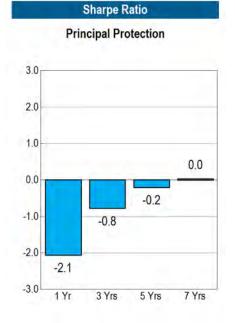


	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)
Principal Protection	-3.9	-10.4	-2.4	0.4	1.0	1.3
BC US Int Ag x Credit Blend	<u>-4.1</u>	<u>-11.4</u>	<u>-2.5</u>	<u>0.2</u>	<u>0.9</u>	<u>1.1</u>
Excess Return	0.2	1.0	0.1	0.2	0.1	0.2
eV US Interm Duration Fixed Inc Gross Rank	95	65	98	84	68	57
eV US Interm Duration Fixed Inc Gross Median	-2.9	-10.1	-1.3	0.7	1.1	1.3



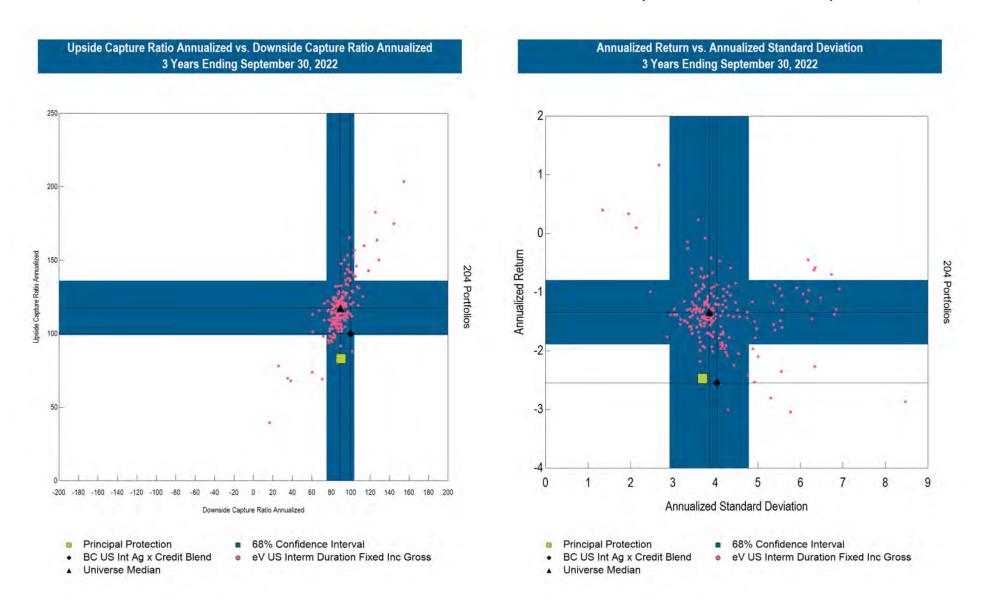


Annualized Standard Deviation



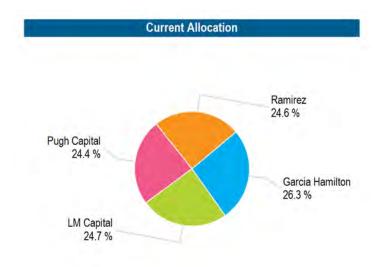
Illinois State Universities Retirement System

Principal Protection | As of September 30, 2022



Illinois State Universities Retirement System Principal Protection | As of September 30, 2022

Principal Protection Fixed Income Characteristics						
	Portfolio					
	Q3-22					
Fixed Income Characteristics						
Yield to Maturity	4.59					
Average Duration	4.39					
Average Quality	AAA					
US Sector Allocation						
UST/Agency	47.83					
Corporate	4.41					
MBS	35.79					
ABS	3.66					
Muni	5.84					
Other	1.45					
Cash	1.02					
Credit Quality Allocation						
AAA	68.64					
AA	25.07					
A	3.22					
BBB	2.05					
Cash	1.02					



Top Holdings	
UST 2.375% NTS 15/05/29 USD1000	5.20%
UST 1.75% NTS 15/11/2029 USD	3.98%
UST 0% NTS 15/05/31 USDC-2031	3.70%
UST 0% NTS 31/07/29 USDN-2029	2.87%
UST 1.75% NTS 31/12/24 USD1000	2.83%
UST 0% NTS 15/05/25 USDAN-2025	2.54%
UST 0% NTS 15/08/31 USDE-2031	1.98%
UST 0% NTS 15/02/32 USDB-2032	1.96%
UST 0% NTS 15/05/32 USDC-2032	1.74%
UST 2.75% SNR 15/02/2024 USD100	1.68%

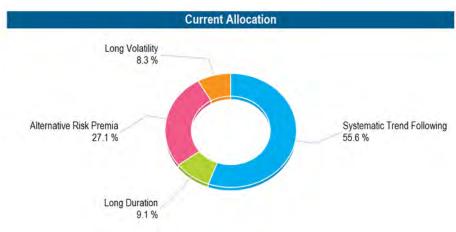
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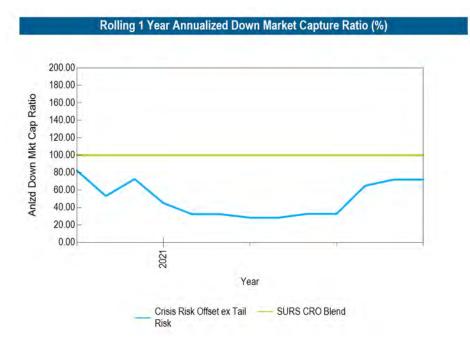
Crisis Risk Offset

Illinois State Universities Retirement System

Crisis Risk Offset ex Tail Risk | As of September 30, 2022







	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Crisis Risk Offset ex Tail Risk	5.8	17.6		
MSCI ACWI IMI	-6.6	-21.2		
S&P 500	-4.9	-15.5		
Bloomberg Intermediate Agg ex Credit	-3.8	-11.5		
Bloomberg Aggregate	-4.8	-14.6		
Bloomberg Commodities	-4.1	11.8		



Illinois State Universities Retirement System

Crisis Risk Offset ex Tail Risk | As of September 30, 2022

	RISK RETURN STATISTICS	
December	01, 2019 Through September 30, 2022	
	Crisis Risk Offset ex Tail Risk	SURS CRO Blen
RETURN SUMMARY STATISTICS		
Number of Periods	34	3
Maximum Return	4.89	6.0
Minimum Return	-3.28	-2.4
Annualized Return	7.40	9.4
Total Return	22.40	29.1
Annualized Excess Return Over Risk Free	6.97	9.0
Annualized Excess Return	-2.06	0.0
RISK SUMMARY STATISTICS		
Beta	0.81	1.0
Upside Deviation	4.95	5.8
Downside Deviation	3.18	2.0
RISK/RETURN SUMMARY STATISTICS		
Annualized Standard Deviation	6.84	7.3
Alpha	-0.01	0.0
Sharpe Ratio	1.02	1.2
Excess Return Over Market / Risk	-0.30	0.0
Tracking Error	3.71	0.0
Information Ratio	-0.55	-
CORRELATION STATISTICS		
R-Squared	0.75	1.0
Correlation	0.86	1.00
Market Proxy: SURS CRO Blend		
Risk-Free Proxy: 91 Day T-Bills		

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Appendix



Economic and Market Update

Data as of October 31, 2022

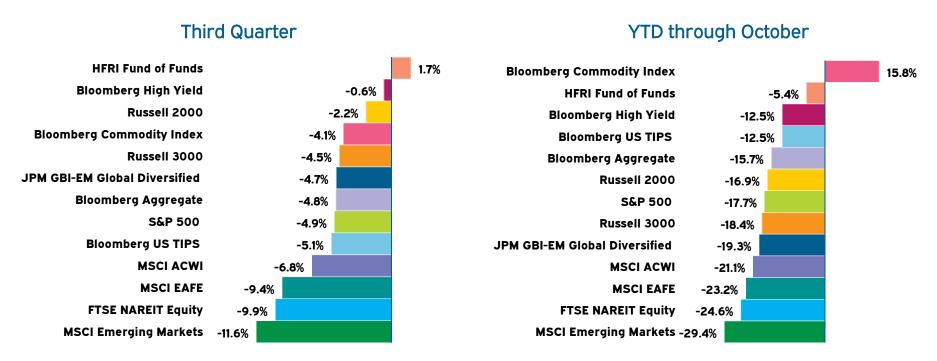
Economic and Market Update

Commentary

- → Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.
 - After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
 - In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
 - In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
 - US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
 - Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.
- → Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.







- → After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.
- → Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

¹ Source: Bloomberg and FactSet. Data is as of October 31, 2022.



Domestic Equity Returns¹

	October	Q3	YTD	1 YR	3 YR	5 YR	10 YR
Domestic Equity	(%)	(%)	(%)	(%)	(%)	(%)	(%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

US Equities: Russell 3000 Index rose 8.2% for October.

- → US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.
- → Most sectors rose in October, but there was wide dispersion. Energy's 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.
- → Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

¹ Source: Bloomberg. Data is as of October 31, 2022.



Foreign Equity Returns¹

Foreign Equity	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

- → Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan's continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.
- → China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20th Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

¹ Source: Bloomberg. Data is as of October 31, 2022.



Fixed Income Returns¹

								Current		
Fixed Income	October (%)	Q3 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Yield (%)	Duration (Years)	
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1	
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3	
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9	
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5	
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8	

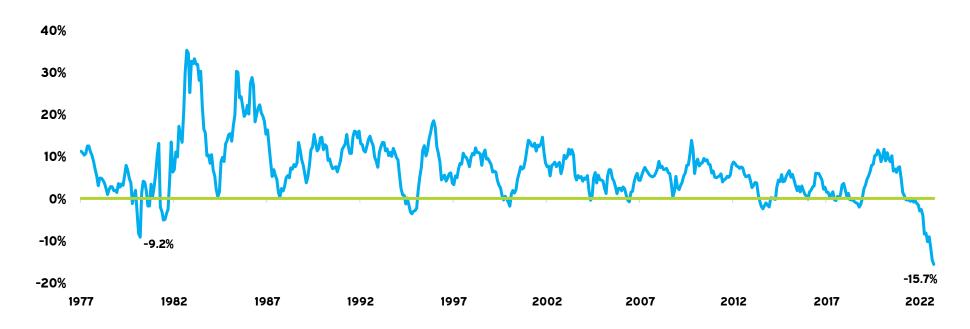
Fixed Income: The Bloomberg Universal declined 1.1% in October.

- → A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record
- → TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.
- → Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

¹ Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of October 31, 2022.

Economic and Market Update

Bloomberg US Aggregate Rolling One-year Returns¹

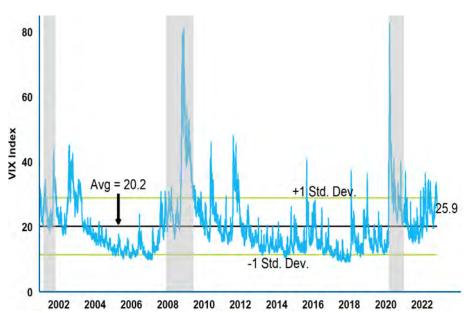


- → This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- → Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

¹ Source: Bloomberg. Data is as of 10/31/2022.



Equity and Fixed Income Volatility¹





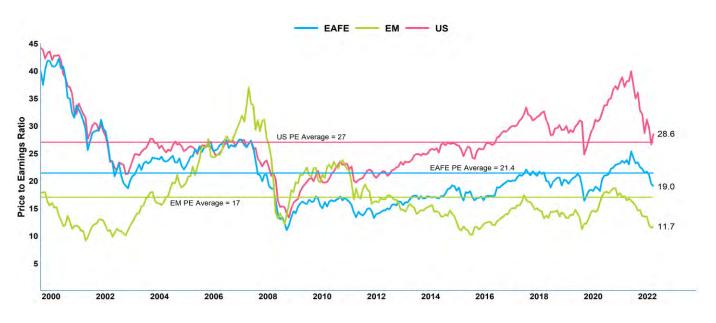
- \rightarrow Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.
- → Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

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¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of October 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.



Equity Cyclically Adjusted P/E Ratios¹



- → October's US equity rally brought the market's price-to-earnings ratio to slightly above the long-term (21st century) average.
- → International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- → Price declines have been the main driver of recent multiple compression as earnings have remained resilient. Concerns remain over whether earnings strength will continue in the face of slowing growth.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E - Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of October 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.

Economic and Market Update

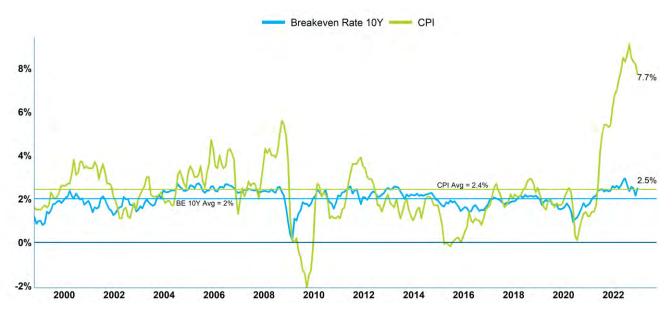


- → Rates across the yield curve remain far higher than at the start of the year.
- → In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten- year Treasury yields climbed from 3.8% to 4.1%.
- → The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.
- → The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.41%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

¹ Source: Bloomberg. Data is as of October 31, 2022.

Economic and Market Update





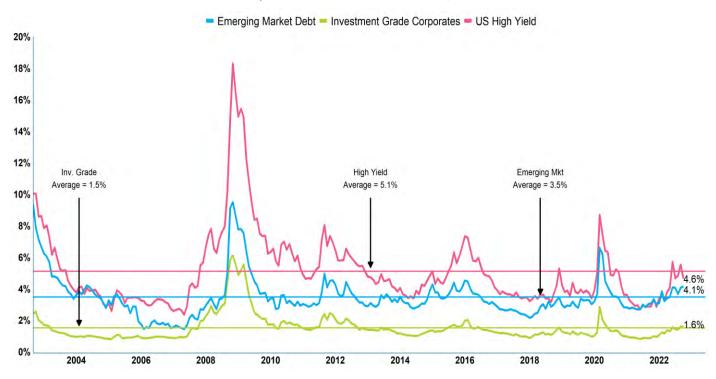
- → Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.
- → Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.
- → Over the last year, rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

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¹ Source: Bloomberg. Data is as of October 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative



Credit Spreads vs. US Treasury Bonds¹



- → High yield spreads (the added yield above a comparable maturity Treasury) fell in October to below their longrun average as below investment grade credit largely outperformed Treasuries in the risk-on environment.
- → Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

¹ Sources: Bloomberg. Data is as of October 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

Economic and Market Update

Global Economic Outlook

In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

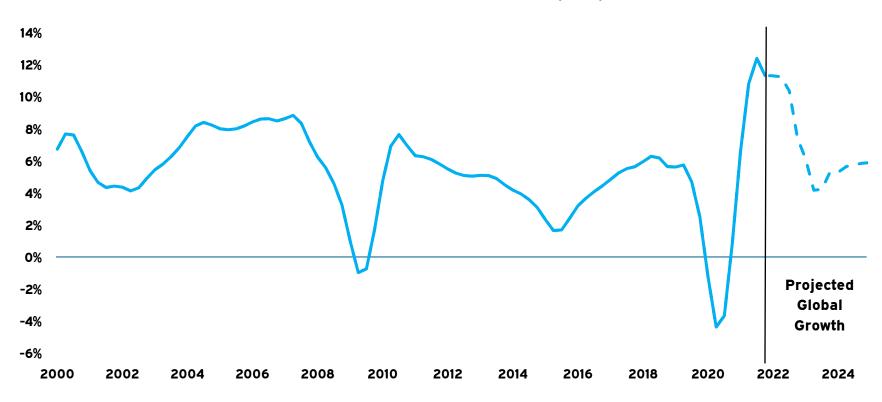
- → The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- → In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- → Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- \rightarrow The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

		Real GDP (%)1		Inflation (%) ¹			
	IMF	IMF	Actual	IMF	IMF	Actual	
	2022 Forecast	2023 Forecast	10 Year Average	2022 Forecast	2023 Forecast	10 Year Average	
World	3.2	2.7	3.2	8.8	6.5	3.6	
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6	
US	1.6	1.0	2.1	8.1	3.5	2.0	
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3	
Japan	1.7	1.6	0.8	2.0	1.4	0.4	
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3	
China	3.2	4.4	7.3	2.2	2.2	2.4	

¹ Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.



Global Nominal Gross Domestic Product (GDP) Growth¹

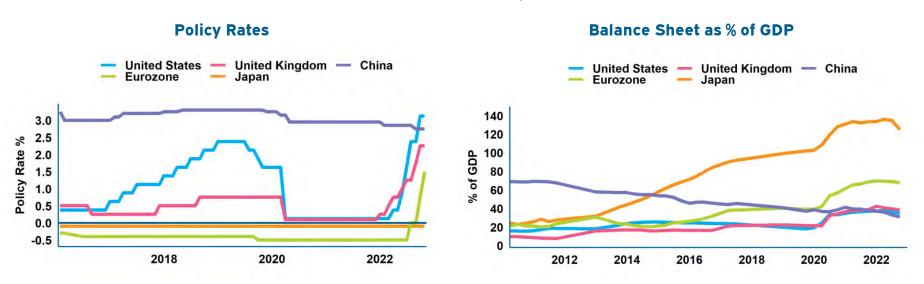


- → Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- → The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.



Central Bank Response¹



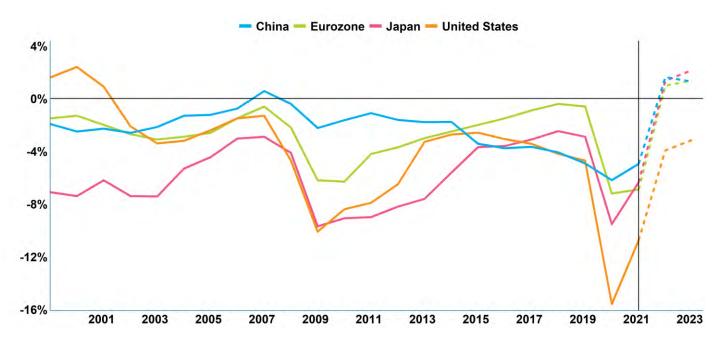
- → After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- → The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.
- → The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- → The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

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¹ Source: Bloomberg. Policy rate data is as of October 31, 2022. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of September 30, 2022.



Budget Surplus / Deficit as a Percentage of GDP1

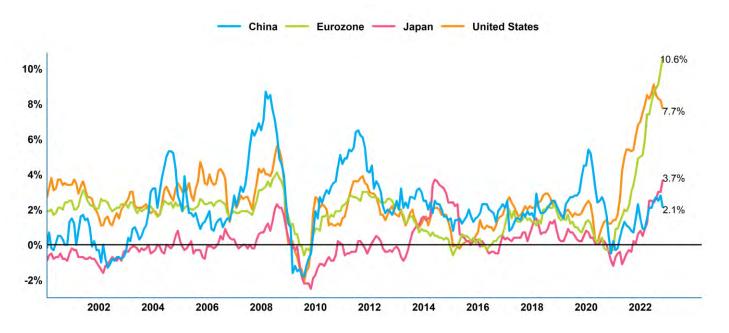


- → Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- → As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- → Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

¹ Source: Bloomberg, Data is as of October 31, 2022, Projections via IMF Forecasts from October 2022 Report, Dotted lines represent 2022 and 2023 forecasts.

Economic and Market Update

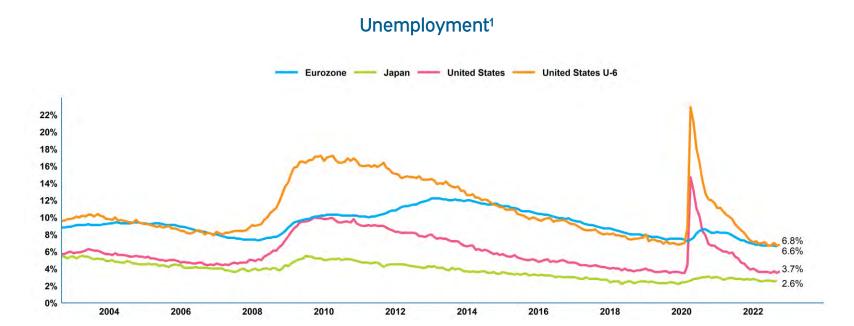
Inflation (CPI Trailing Twelve Months)¹



- → Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- → Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- → Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

¹ Source: Bloomberg. Data is as of October 2022.

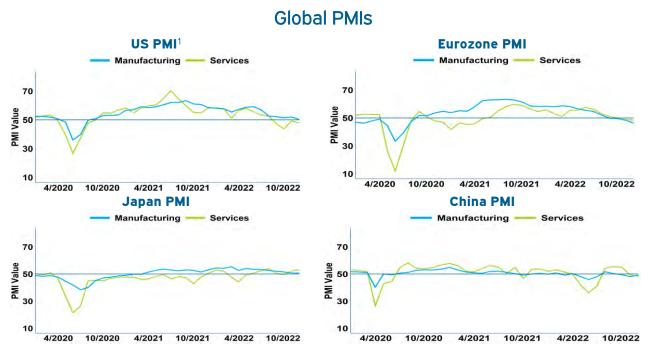
Economic and Market Update



- → As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- → Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.
- → The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

¹ Source: Bloomberg. Data is as October 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of September 30, 2022.



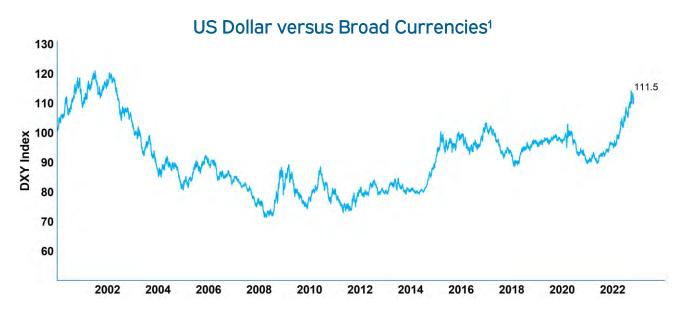


- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- → Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- → Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

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¹ Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of October 2022. Readings below 50 represent economic contractions.

Economic and Market Update



- → Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.
- → The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar's strength this year.
- → The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

¹ Source: Bloomberg. Data as of October 31, 2022.

Economic and Market Update

Summary

Key Trends in 2022:

- → The impacts of record high inflation will remain key, with market volatility likely to stay high.
- → The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- → Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- → In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- → Valuations have significantly declined in the US to below long-term averages, largely driven by prices declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- → Outside the US, equity valuations remain lower in both emerging and developed markets, but major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

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1901 Fox Drive, Champaign, IL 61820-7333 800-275-7877 • 217-378-8800 • (Fax) 217-378-9800 www.surs.org

Investment Department

To: Investment Committee From: Investment Staff Date: November 23, 2022

Re: Corporate Governance Update

Below please find a status update of governance activity since our September meeting.

Proxy Voting Provider

• Quarterly Report

This summary report offers quarterly analysis of the top agenda items voted against management, top agenda items voted against Glass Lewis standard policy, shareholder proposal trends, and ballot and proposal statistics reports.

For reference, agenda items voted against Glass Lewis standard policy pertain to topics where SURS' adopted public pension guidelines offer a more restrictive directive.

- **Election of Directions:** SURS voted in favor of female representation on companies' boards as well as, to limit nominees serving on multiple boards and those serving on more than two total boards for directors who serve as executives of a public company.
- Ratification of Auditor: SURS voted against the ratification of an auditor when the auditor's tenure has not changed for 20 years or more.
- Advisory on Executive Compensation: SURS voted against compensation plans that do not align pay with performance and do not link compensation to sustainability metrics.

There were 43 shareholder proposals (SHP) during the quarter:

- SHP Regarding Board Composition: SURS voted in support gender diverse board compositions.
- SHP Regarding Independent Board Chairman/Separation of Chair and CEO: SURS voted in support of an independent chair that can oversee the executives of a company and set a pro-shareholder agenda.
- SHP Regarding Misc. Social Issue: SURS voted in favor of proposals aimed at increasing disclosure of social issues but not resolutions requesting that companies take specific actions or adopt specific policies.

This quarterly report, "SURS 3Q 2022 Voting Analysis," is attached to this memo as Exhibit A.

2023 Updated Proxy Voting Guidelines

Glass Lewis has published the updated **US Policy Guidelines**, now also available on the SURS website. Changes to the guidelines include:

- Board diversity
 - o Gender diversity
 - o Underrepresented community diversity
 - o State laws on diversity
 - o Disclosure of director diversity and skills
- Board oversight of environmental and social issues
- Director commitments
- Cyber risk oversight
- Board accountability for climate-related issues
- Officer exculpation
- Long-term incentives

Clarifying amendments:

- Board responsiveness
- Compensation committee performance
- Company responsiveness (for say-on-pay analysis)
- One-time awards
- Grants for front-loaded awards
- Pay for performance
- Short- and long-term incentives
- Recoupment provisions

An updated version of the **Public Pension Policy Guidelines** was also released and has been published on the SURS website. Changes to this policy include:

- Board diversity
- Board-level oversight of environmental and social risks
- Climate risk
- Stakeholder considerations
- Say on climate

Council of Institutional Investors (CII)

The CII's Fall Conference took place in Boston, MA, September 21-23. Videos of most conference sessions are available here (login required): https://www.cii.org/media archive

Highlights of the event included:

- A preview of what to expect from the SEC and Congress, including proposed rules on corporate disclosure of human capital management, rulings on market structure, and corporate disclosure of share repurchases.
- ESG integration into investment decisions and the importance of this transition to be strategic and involve strong corporate governance. The panel also focused on the

- importance of understanding that standardized disclosures will miss many of the subtleties of ESG factors.
- Board directors at public companies discussed established frameworks to navigate global
 conflict and geopolitical risk. Issues such as the pandemic, cybersecurity threats, and
 supply chain disruptions have made recent years more turbulent for companies, even for
 those that do business in markets with high geopolitical risks.
- The governance gap between small- and mid-cap companies was discussed by a panel that explained that "corporate governance is not self-driven." The panel emphasized that shareholders tend to engage more with larger companies, resulting in more robust governance practices than those at small- and mid-cap companies. The importance of persisting to engage with small- and mid-cap companies was also discussed.

Current Events

The Securities and Exchange Commission has recently issued final rules entitled "Enhanced Reporting of Proxy Votes by Registered Management Investment Companies; Reporting of Executive Compensation Votes by Institutional Investment Managers," and the Department of Labor has recently issued final rules entitled "Prudence and Loyalty in Selecting Plan Investments and Exercising Shareholder Rights." SURS Staff, together with outside counsel, is evaluating whether these final rules make any changes in practices or procedures at SURS necessary or desirable.



TO: State Universities Retirement System (SURS) FROM: Lucas Swertloff, Manager, Custom Policy

DATE: October 25, **2022**

RE: Review of Vote Activity Report for Third Quarter 2022

The Voting Activity Report for the Third Quarter 2022 summarizes Glass Lewis' votes for the State Universities Retirement System of Illinois (SURS), of which we highlighted and analyzed the most frequent occurrences of votes against management, votes against Glass Lewis and shareholder proposal trends.

Top Three Agenda Items Against Management – 3Q2022

Votes against management account for 434 of the 2,440 proposals, or 17.79% of the votes. The top categories of votes against management are:

Election of Directors – Votes on the election of directors account for 241 of the 434 votes against management, or about 55.53% of the votes against management, and 9.88% of the total votes.

The top three reasons for votes against management are:

Insufficient female representation on the board of directors accounts for 47 of the votes against management. The Public Pension policy on this issue is to vote against the male members of the nominating committee in instances where the board is comprised of fewer than 30% female directors for large-cap companies, or against the nominating committee when there is not at least one woman on the board at mid- and small-cap companies.

IPO governance concerns accounts for 39 votes against management. The Public Pension guidelines will vote in accordance with the standard Glass Lewis policy recommendations on initial public offerings.

Nominee sits on more than two public company boards while being an executive of a public company or the nominee sits on more than five public company boards accounts for 30 of the votes against management. The Public Pension policy on this issue is to vote against a director if they are an executive and sit on greater than two public company boards or if they are not an executive and sit on greater than five public company boards.

Ratification of Auditor – Votes on the ratification of auditor account for 51 of the 434 votes against management, or about 11.76% of the votes against management, and 2.10% of the total votes.

The top reason for votes against management is:

The auditor's tenure is excessive accounts for 51 of the votes against management. The Public Pension policy on this issue is to vote against auditor ratification proposals in instances where a company's auditor has not been changed for 20 or more years.

Advisory Vote on Executive Compensation – Votes on the advisory vote on executive compensation account for 45 of the 434 votes against management, or about 10.37% of the votes against management, and 1.85% of the total votes.

The top three reasons for votes against management are:

Concerning pay practices accounts for 16 of the votes against management. The Public Pension policy on this issue is to follow the Glass Lewis standard approach.

The Company has pay for performance issues and does not link any long-term incentive grant to sustainability metrics accounts for 14 of the votes against management. The Public Pension policy on this issue is vote against when the compensation plan does not align pay with performance and does not link compensation to sustainability metrics.

Pay and performance disconnect accounts for 13 of the votes against management. The Public Pension policy on this issue is to follow the Glass Lewis standard approach.

Top Three Agenda Items Against Glass Lewis – 3Q2022

Votes against the Glass Lewis standard policy account for 140 of the 2,440 proposals, or about 5.74% of the votes. The top categories for votes against the Glass Lewis standard policy are:

Election of Directors – Votes on the election of directors account for 57 of the 140 votes against Glass Lewis or about 40.72% of the votes against Glass Lewis and 2.34% of the total votes.

The top three reasons for votes against Glass Lewis are:

Insufficient female representation on the board of directors accounts for 26 of the votes against Glass Lewis. The Public Pension policy on this issue is to vote against the male members of the nominating committee in instances where the board is comprised of fewer than 30% female directors for large-cap companies, or against the nominating committee when there is not at least one woman on the board at mid- and small-cap companies.

Nominee sits on more than two public company boards while being an executive of a public company or the nominee sits on more than five public company boards accounts for 17 of the votes against management. The Public Pension policy on this issue is to vote against a director if they are an executive and sit on greater than two public company boards or if they are not an executive and sit on greater than five public company boards.

The nominee is the CEO of a for-profit company and serves on more than two public company boards accounts for 10 of the votes against Glass Lewis. The Public Pension policy on this issue is to vote against directors serving on more than two total boards for a director who serves as an executive of a public company.

Ratification of Auditor – Votes on the ratification of auditor account for 51 of the 140 votes against Glass Lewis or about 36.42% of the votes against Glass Lewis, and 2.09% of the total votes.

The top reason for votes against Glass Lewis is:

The auditor's tenure is excessive accounts for all 51 votes against Glass Lewis. The Public Pension policy on this issue is to vote against auditor ratification proposals in instances where a company's auditor has not been changed for 20 or more years.

Advisory Vote on Executive Compensation – Votes on the advisory vote on executive compensation account for 14 of the 140 votes against Glass Lewis or about 10% of the votes against Glass Lewis, and 0.58% of the total votes.

The top reason for votes against Glass Lewis is:

The Company has pay for performance issues and does not link any long-term incentive grant to sustainability metrics accounts for all 14 votes against Glass Lewis. The Public Pension policy on this issue is vote against when the compensation plan does not align pay with performance and does not link compensation to sustainability metrics.



Shareholder Proposals - 3Q2022

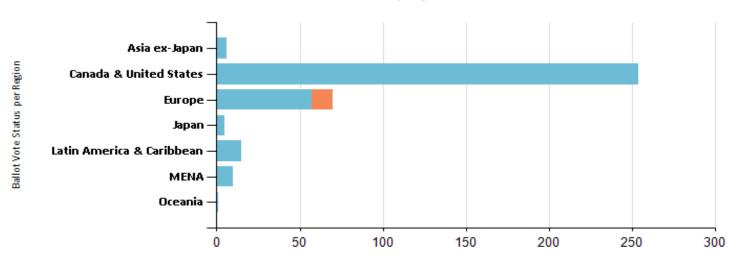
During quarter two there were 43 shareholder proposals (SHPs), accounting for 1.77% of the total proposals. Governance proposals were the most common, accounting for 25 of the 43 SHPs or 58.14% of the SHPs. Overall, SURS voted SHPs against management 28 times, while SURS voted SHPs against Glass Lewis 8 times.

The three most common SHPs are:

- SHP Regarding Board Composition accounts for 5 of the SHPs or 11.63%. The public pension policy supports such proposals in the U.S. and follows the Glass Lewis standard approach internationally.
- SHP Regarding Independent Board Chairman/Separation of Chair and CEO accounts for 4 of the SHPs or 9.31%. The Public Pension policy supports these proposals because: An independent chair is better able to oversee the executives of a company and set a pro-shareholder agenda.
- SHP Regarding Misc. Social Issue accounts for 4 of the SHPs or 9.31%. The Public Pension policy will support all social proposals aimed at increasing a company's disclosure or social issues. However, the policy will not support resolutions requesting that companies take specific actions or adopt specific policies.

From 7/1/2022 to 9/30/2022

Ballots by Region & Vote Status



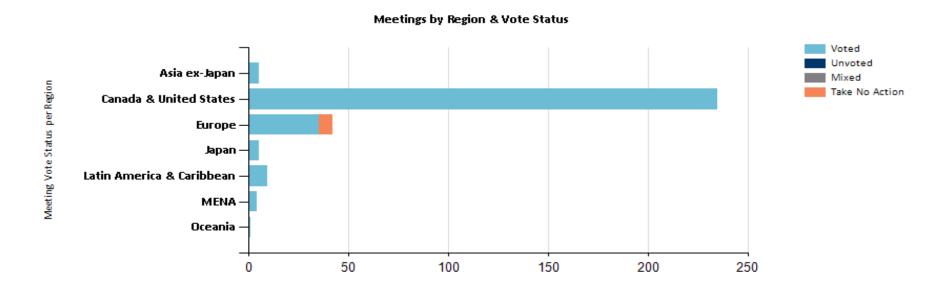
Voted
Unvoted
Take No Action

Region	Country Of Origin	Voted	Unvoted	Take No Action	Total
Total for all Regions		348	0	13	361
Asia ex-Japan		6	0	0	6
	China	2	0	0	2
	Hong Kong	1	0	0	1
	Singapore	3	0	0	3
Canada & United States		254	0	0	254
	Canada	4	0	0	4
	United States	250	0	0	250
Europe		57	0	13	70
	Belgium	3	0	0	3
	Denmark	1	0	0	1
	France	2	0	0	2
	Germany	2	0	0	2
	Ireland	6	0	0	6
	Italy	2	0	0	2
	Jersey	6	0	0	6

	Luxembourg	1	0	0	1
	Netherlands	6	0	0	6
	Norway	0	0	6	6
	Sweden	1	0	0	1
	Switzerland	0	0	7	7
	United Kingdom	27	0	0	27
Japan		5	0	0	5
	Japan	5	0	0	5
Latin America & Caribbean		15	0	0	15
	Bermuda	3	0	0	3
	Brazil	1	0	0	1
	Cayman Islands	9	0	0	9
	Virgin Islands (British)	2	0	0	2
MENA		10	0	0	10
	Israel	10	0	0	10
Oceania		1	0	0	1
	Marshall Islands	1	0	0	1

Meeting Statistics Report

From 7/1/2022 to 9/30/2022



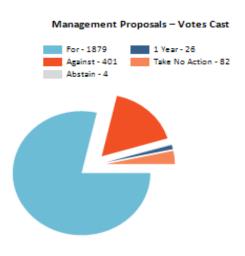
Region	Country Of Origin	Voted	Unvoted	Mixed	Take No Action	Total
Total for all Regions		294	0	0	7	301
Asia ex-Japan		5	0	0	0	5
	China	2	0	0	0	2
	Hong Kong	1	0	0	0	1
	Singapore	2	0	0	0	2
Canada & United States		235	0	0	0	235
	Canada	4	0	0	0	4
	United States	231	0	0	0	231
Europe		35	0	0	7	42
	Belgium	2	0	0	0	2
	Denmark	1	0	0	0	1
	France	1	0	0	0	1
	Germany	1	0	0	0	1
	Ireland	5	0	0	0	5

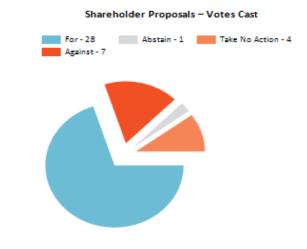
	Italy	1	0	0	0	1
	Jersey	2	0	0	0	2
	Luxembourg	1	0	0	0	1
	Netherlands	3	0	0	0	3
	Norway	0	0	0	3	3
	Sweden	1	0	0	0	1
	Switzerland	0	0	0	4	4
	United Kingdom	17	0	0	0	17
Japan		5	0	0	0	5
	Japan	5	0	0	0	5
Latin America & Ca	ribbean	9	0	0	0	9
	Bermuda	3	0	0	0	3
	Brazil	1	0	0	0	1
	Cayman Islands	4	0	0	0	4
	Virgin Islands (British)	1	0	0	0	1
MENA		4	0	0	0	4
	Israel	4	0	0	0	4
Oceania		1	0	0	0	1
	Marshall Islands	1	0	0	0	1

Proposal Statistics Report

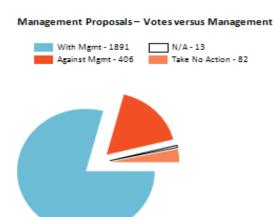
From 7/1/2022 to 9/30/2022

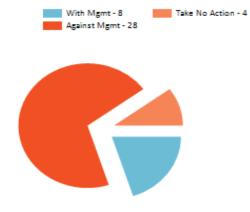
	Mgmt Proposals	SHP Proposals	Total Proposals
For	1879	28	1907
Against	401	7	408
Abstain	4	1	5
1 Year	26	0	26
2 Years	0	0	0
3 Years	0	0	0
Mixed	0	0	0
Take No Action	82	4	86
Unvoted	0	0	0
Totals	2392	40	2432





	Mgmt Proposals	SHP Proposals	Total Proposals
With Management	1891	8	1899
Against Management	406	28	434
N/A	13	0	13
Mixed	0	0	0
Take No Action	82	4	86
Unvoted	0	0	0
Totals	2392	40	2432





Shareholder Proposals - Votes versus Management

	Mgmt Proposals	SHP Proposals	Total Proposals
With Policy	2307	36	2343
Against Policy	0	0	0





Totals	2392	40	2432
Unvoted	0	0	0
Take No Action	82	4	86
Mixed	0	0	0
N/A	0	0	0
Manual	3	0	3



Management Proposals - Votes versus Glass Lewis

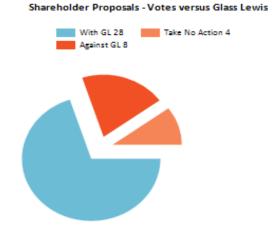
With GL 2175 N/A 3 Take No Action 82



	Mgmt Proposals	SHP Proposals	Total Proposals
With Glass Lewis	2175	28	2203
Against Glass Lewis	132	8	140
N/A	3	0	3
Mixed	0	0	0
Take No Action	82	4	86
Unvoted	0	0	0
Totals	2392	40	2432



Against GL 132





Non-Traditional Growth Asset Class Review/Pacing Update

December 2022



SURS Non-Traditional Growth Portfolio

Classes/Strategies	Current Policy Target %	Long-Term Strategic Policy Target %
Broad Growth	68%	68%
Traditional Growth	37%	35%
Stabilized Growth	17%	17%
Non-Traditional Growth	14%	16%
Private Equity	11%	11%
Non-Core Real Assets	3%	5%
Inflation Sensitive	5%	5%
Principal Protection	8%	8%
Crisis Risk Offset	19%	19%
Total	100%	100%

Non-Traditional Growth strategies include Private Equity and Non-Core Real Assets

- Seek relatively high returns by taking numerous risks, including illiquidity, leverage, operational, and development risk
- Private Equity assets include private companies in the conceptual stage (venture capital), the growth or expansion stage (growth equity), acquisitions or recapitalizations (buyouts), and certain debt investments, such as restructuring/distressed opportunities, among others
- Non-core Real Assets include assets requiring improvements (value add); opportunistic, distressed, and developmental real assets; certain debt strategies; and newly-evolving property/sector types, among others

Paced funding (vintage year diversification) is a key risk mitigation tool utilized

- Materials from Aksia and Callan provide information on historical/anticipated pacing
 - In 2022, committed or planned commitments of \$516 million to Private Equity and \$250 million to Real Assets
 - In 2021, committed \$354 million to Private Equity and \$345 million to Real Assets
 - \$640 million of \$1.5 billion in 2021/22 Non-Traditional Growth commitments were to MWDB firms (43%)

SURS staff involved in monitoring portfolio and program

- Frequent calls with Aksia and Callan to discuss opportunities in market, current portfolio activities
- Annual planning meeting with each to discuss current year and look ahead to next
- Annual questionnaire sent to each with questions concerning organization/staffing, ESG & inclusion, other items



Private Equity Strategic Plan

Non-Traditional Growth/Private Equity

- To achieve the objectives for Non-Traditional Growth/Private Equity allocation:
 - 2023 pacing plan calls for \$375-\$525 million per year
 - ✓ Currently overweight policy target largely due to denominator effect
 - Target investment size range of \$25-75 million per fund commitment, as appropriate
 - ✓ Aksia's commitments have averaged approximately \$32 million
 - Diversify across strategy, geography, industry, investment manager, vehicle and vintage year
 - ✓ Aksia has made 39 commitments since inception to appropriately diversify portfolio
 - Target 20% of all new commitments, per policy, in emerging and MWDB funds; expand reach into smaller segments of venture capital and buyout markets
 - ✓ Aksia has exceeded the minimum expectation since inception, committing 32% of total to MWDBowned funds
 - ✓ \$375 million committed to eight diverse-owned GPs
 - ✓ Additional \$200 million commitment to Fairview Capital will focus on MWDB-owned funds in complementary strategies (\$100 million each to Lincoln Fund I Series B and C)



Private Equity Strategic Plan (cont.)

Non-Traditional Growth/Private Equity

- To achieve the objectives for Non-Traditional Growth/Private Equity allocation:
 - Continue to expand global presence based on opportunity set
 - ✓ Approximately \$150 million committed to European opportunities (Hg Saturn 3, Hg Genesis 10, PAI VIII & Nordic XI) in 2022
 - ✓ \$25 million commitment in May 2022 to Advent International X for global opportunities
 - In coming year, explore Special Situations funds that provide opportunities amid economic weakness
 - Continue to look for attractive co-investment opportunities
 - ✓ Typically offer no fees and no carry
 - ✓ Discussion on additional exposure planned for February 2023



Real Assets Strategic Plan

Non-Traditional Growth/Non-Core

- To achieve the objectives for Non-Traditional Growth/Non-Core allocation:
 - Invest across vintage years with commitments of +/-\$50-100 million per fund, as appropriate
 - ✓ Since 2021, nine of eleven total commitments were for \$50 million or greater
 - Target 20% of all new commitments, per policy, directly in emerging and MWDB funds versus fund of funds, bringing sector specific managers into the portfolio and reducing fees
 - ✓ Since 2021, \$170 million of a total of \$595 million in non-traditional growth commitments went to MWDB firms, equaling 29% of total commitments (increases to 33%, assuming December Investment Committee recommendations are approved)
 - Diversify into Europe, Asia, and infrastructure based on opportunity set
 - ✓ \$300 million committed since 2021 to four funds specifically targeting these areas
 - Potential commitment(s) to new asset class Agriculture
 - ✓ \$60 million commitment to Homestead Capital USA Farmland Fund III approved at September 2020 meeting; anticipate a \$40 million commitment to Fund IV in December 2022
 - Maintain relationships with existing strong managers, limit total number to 15 managers
 - ✓ Balancing new-manager relationships with larger commitment amounts where appropriate



Investment Beliefs

Diversification

- Diversification within strategic classes helps mitigate the risks of the class. Appropriate manager diversification helps to maximize the breadth of capturing alpha after accounting for the major biases in a portfolio. As a result, added value consistency should improve.
- Expanded infrastructure commitments and increased exposure to global real estate; expanded private equity presence in European region.

Allocation of Capital

- Disciplined allocation of capital is necessary to manage the systematic risk of the portfolio and maximize the likelihood of achieving its long-term expectations. Key examples of maintaining disciplined capital allocation includes consistently rebalancing back to strategic targets where appropriate and dollar-cost averaging (and/or pacing) new capital allocations over time into both public-market and private-market portfolios.
- Continued adherence to long-term commitment pacing targets.

Costs

- Investment costs (fees, expenses and frictional costs) directly impact investment returns and should be monitored and managed carefully. Such costs should be evaluated relative to both expected and realized returns and consider appropriate alignment of interests.
- Achieved fee savings in connection with four non-Traditional Growth fund commitments made in 2022; discretionary PE advisor more cost-effective approach to broad PE implementation.



Investment Beliefs (cont.)

Private Markets Returns

- Private markets should produce higher returns than public markets due to exposure to the illiquidity risk premium. While illiquidity risk can cause a portfolio's risk to increase, over the long-term the illiquidity risk premium is positive and material.
- Long-term private market returns additive to portfolio.

Commitment to Diversity

- SURS is committed to enhancing diversity by incorporating emerging (minority, womanowned and disability-owned) investment managers into the portfolio.
- \$640 million in Non-Traditional Growth commitments to MWDB funds in 2021-2022, including \$100 million commitments to Fairview Capital in February 2021 and October 2022.

ESG Considerations

- •Addressing material environmental, social and governance-related (ESG) issues can lead to positive portfolio and governance outcomes. To integrate ESG issues into its investment process SURS may apply certain investment and/or engagement strategies/approaches to its portfolio investments.
- Enhanced ESG, Diversity & Inclusion questions as part of fund-level due diligence process; broadened discussions with prospective managers prior to bringing to Investment Committee; additional allocation to Fairview Capital focuses on diverse-owned funds.



State Universities Retirement System of Illinois

December 2022



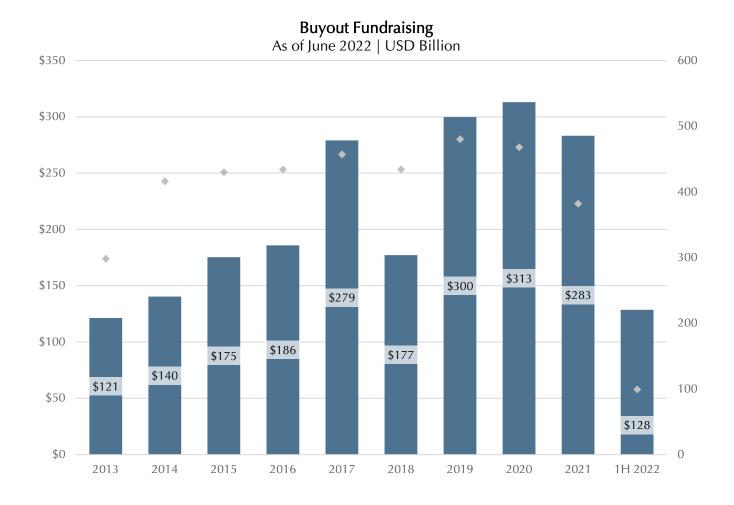
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- P. 19 Portfolio Exposures
- P. 27 Investment Pacing and Investment Plan
- P. 33 Fund-of-Funds Holding Details



Buyout fundraising remains busy, with many PE firms back in market following accelerated deployment in 2021.

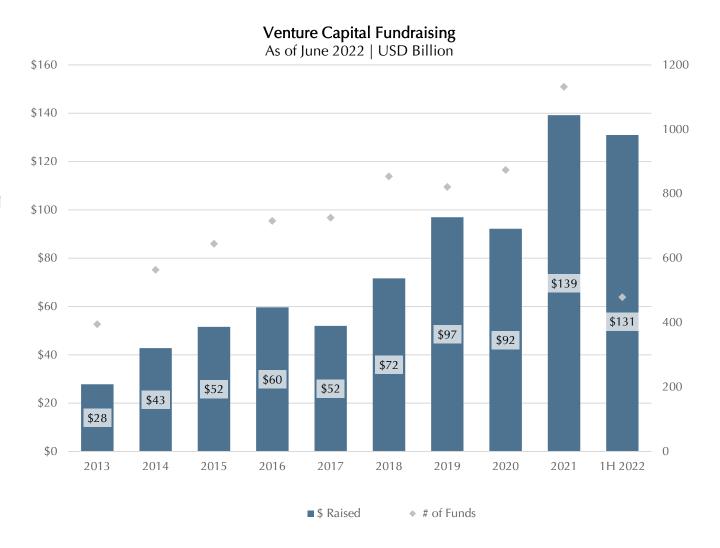
- However, some LPs are facing tightening allocations given the denominator effect
- Some PE firms are having difficulty raising their target amounts, leading to more drawn-out fundraising timing.



■ \$ Raised ◆ # of Funds



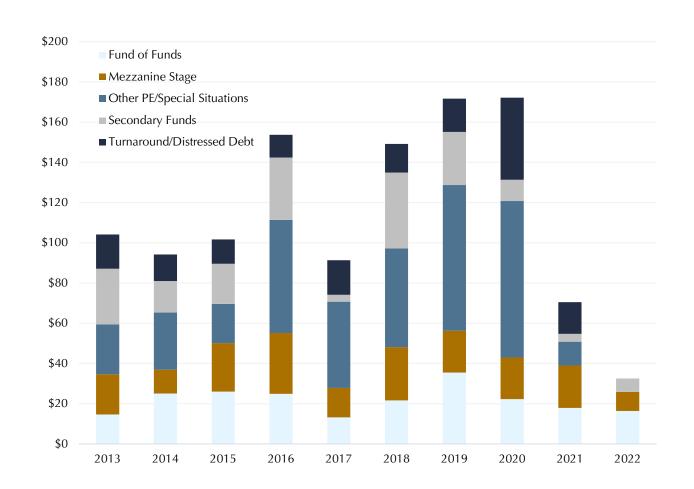
- Fundraising in 2022 started strongly as momentum from 2021 spilled over
- This pace has been impacted in the second half of the year by the drop in value in publicly listed software businesses
- Fundraising for 2022 is expected to be at or near 10 year records





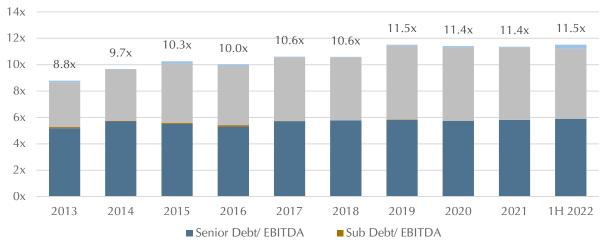
Special Situations Fundraising As of June 2022 | USD Billion

- Special Situations fundraising equaled just over 25% of capital raised for buyouts in 2021
- Secondary Funds
 experienced large
 fundraising years in
 2016, 2018, and 2019,
 but have raised
 significantly less capital
 since then.



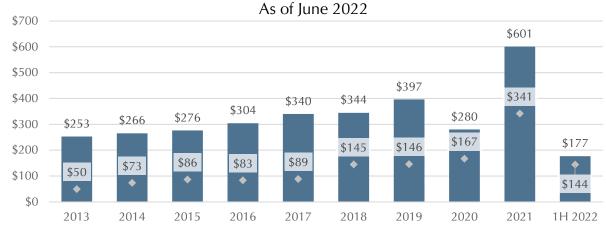
- Buyout valuation multiples remained elevated through 1H 2022, but public market declines and rising interest rates suggest a pullback
- Buyout and venture capital deal activity slowed during the first half of 2022
- Many VC-backed founders are avoiding fundraising at a "down round" valuation

LBO Sources of Proceeds/EBITDA & Equity Contribution: All Loans As of June 2022



Source: Leveraged Commentary & Data (LCD), Pitchbook as of June 2022

U.S. LBO & VC Investment Activity | \$ Billion



■ LBO Deal Value ◆ Venture Source: Pitchbook & National Venture Capital Association, as of June 2022



Dry Powder by Strategy | \$Billion

- Dry powder in buyouts is similar to 2020 but above other years
- Venture capital dry powder has reached record levels, driven by a robust fundraising environment.

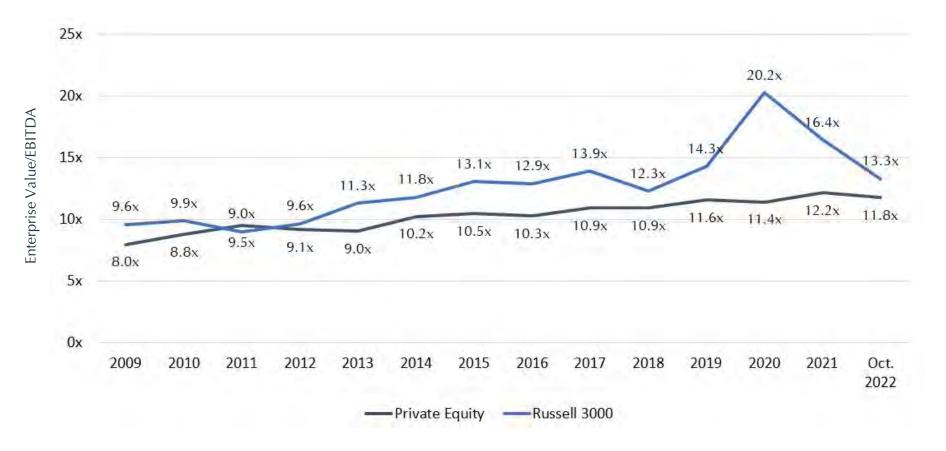


Source: Preqin, as of October 2022. The above represents Aksia's market observations. Observations are subject to change.

Acquisition Multiples – Public vs Private Markets

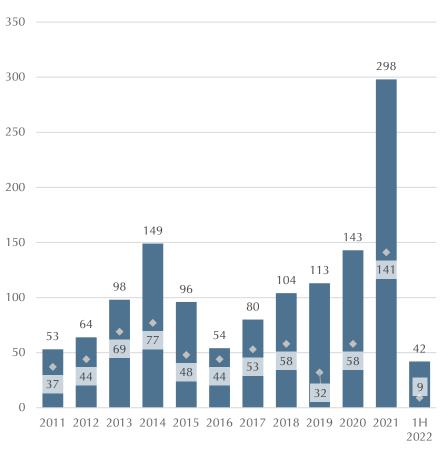


- Private Equity acquisition multiples have been on an upward trend but remain below similar public market metrics.
- The spread between equity valuations in private markets and public markets has compressed after reaching its widest level of the past 10+ years.



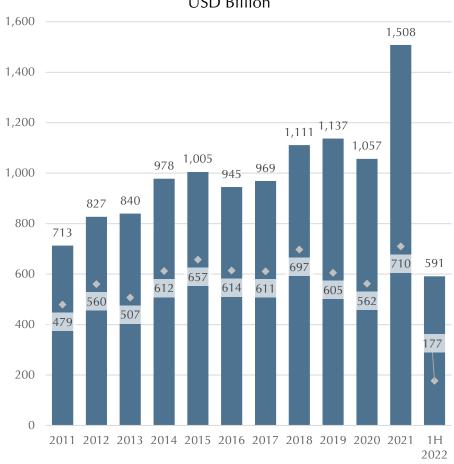






■ Venture Backed ◆ PE Backed

Number of U.S.-Based M&A Events USD Billion



■ Venture Backed ◆ PE Backed

Source: Preqin, Pitchbook & National Venture Capital Association, as of June 2022

Source: Pregin, Pitchbook & National Venture Capital Association, as of June 2022

Private Equity Outlook



Availability of Debt: Lenders have capital but are cautious about deployment

<u>Cost of debt:</u> Increased interest rates. On a historical basis, rates are within observed levels. Higher

interest expense has meaningfully decreased free cash flow to equity owners.

<u>Transaction Prices:</u> Measured as a multiple of EBITDA, acquisition prices have been elevated, but coming

down.

Growth Expectations: Aggressive growth assumptions (both organic and through acquisition) have underpinned

high transaction prices. Some deals, particularly software deals, continue to have

aggressive growth assumptions.

<u>Inflation:</u> Favors businesses with shorter term contracts and the ability to increase prices faster than

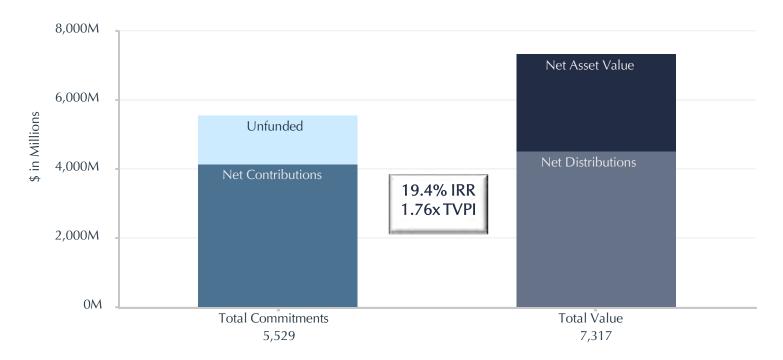
rising input costs

• A reset in transaction prices to lower levels will be a headwind for existing holdings but will help future return generation.

- Managers which can create value through differentiated sourcing, operational improvements, "buy-and-build" acquisition strategies or that invest at an earlier stage are best suited for this type of market environment.
- Middle market strategies and those which use lower leverage levels to drive returns are less impacted by the availability and cost of debt. These strategies can be attractive during turbulent credit markets.

Portfolio Update | As of June 30, 2022

- The portfolio has generated a net internal rate of return ("IRR")² of 19.4% and a Total Value to Paid-in Capital ("TVPI") of 1.76x.
- Private equity fair market value represented 12.3% of total pension value.
- Net distributions¹ total \$4.5 billion, or 109% of net contributed capital¹.
- From inception (1990) to June 30, 2022, SURS committed \$5.5 billion to 79 private equity investments. The portfolio had 32 unique managers overseeing 76 active funds and a market value of \$2.8 billion.

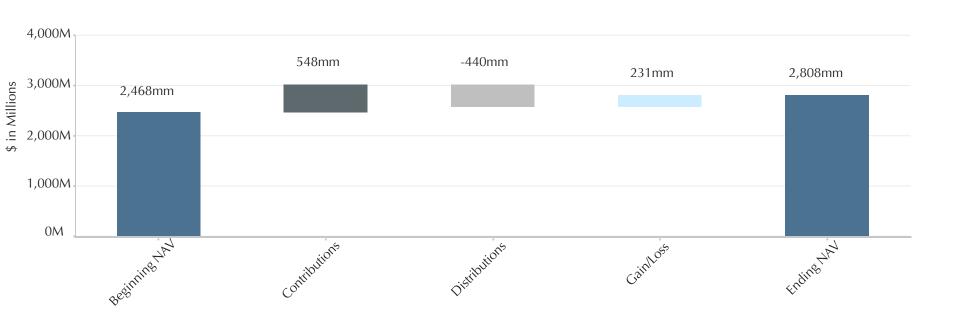


¹ Net Distributions and Net Contribution are net of recallable return of capital.

² The net internal rate of return (IRR) is the net return on investment calculated on daily cash flows taking into account contributions for management fees, expenses and carry.



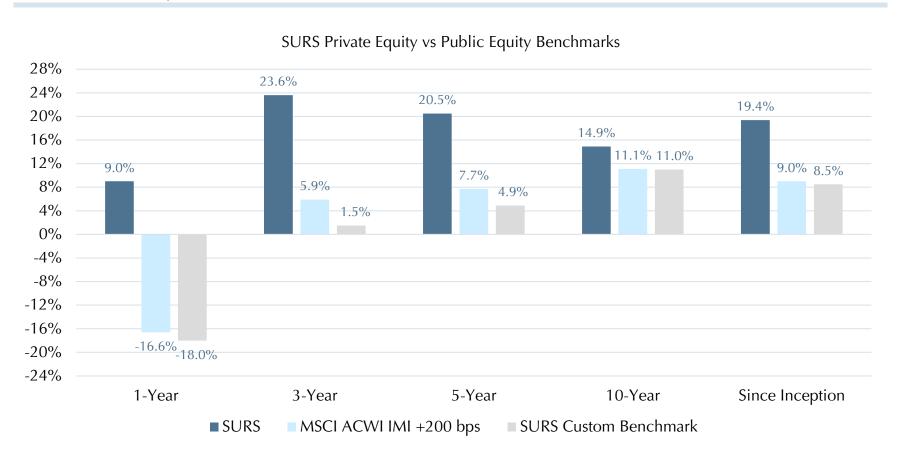
Portfolio Value Bridge | June 30, 2021 through June 30, 2022



- From June 30, 2021 to June 30, 2022, the portfolio appreciated by \$231 million, or 9% of market value at the beginning of the period.
- Contributions of \$548 million outpaced distributions of \$440 million, generating negative cash flow from the program of \$108 million.
- Total market value at June 30, 2022 was \$2.8 billion.
- Total committed but unfunded value at June 30, 2022 was \$1.4 billion.



Portfolio Performance | As of June 30, 2022

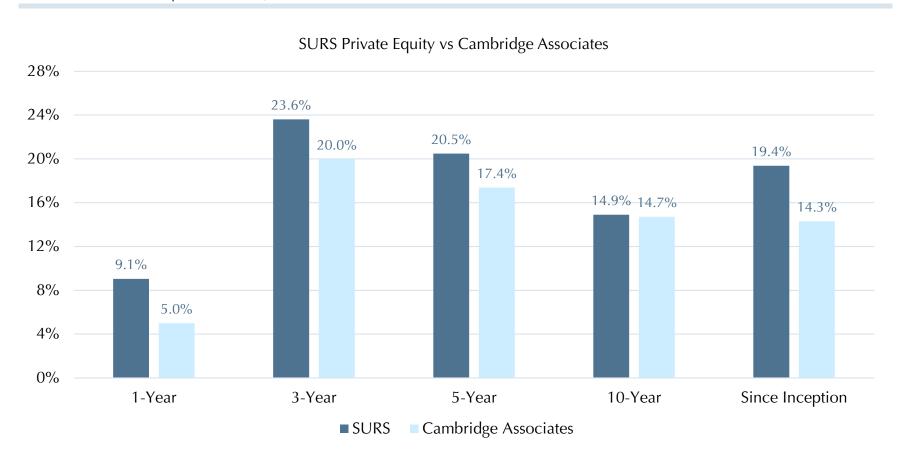


• The portfolio outperformed its opportunity cost benchmark for all periods.

Note: The internal rate of return (IRR) is the net return on investment calculated based on daily cash flows, taking into account contributions for management fees, expenses and carry. Custom Benchmark is the Wilshire 5000 + 3% (1Q lag) through December 2019 and ACWI IMI + 2% from January 2020 forward.



Portfolio Performance | As of June 30, 2022



• The portfolio outperformed its peer benchmark over all periods.

Note: The Cambridge Associates benchmark incorporates all private equity fund strategies, but excludes Real Estate, Timber and Infrastructure. SURS' Private Equity portfolio was activated in July 1990.



Management Fees, Expenses & Carry | Last Twelve Months as of March 31, 2022 | \$ in million

Fees Paid							
	Net Management Fee	Expenses	Realized Carry	Total ¹			
Fund-of-Funds Manager Level	\$9.7	\$4.9	\$3.0	\$17.6			
Primary Fund Manager Level ¹	\$26.3	\$7.1	\$42.9	\$76.3			
Total	\$36.0	\$12.0	\$46.0	\$94.0			

Fees Paid / Beginning of Period Total Exposure ²							
	Net Management Fee	Expenses	Realized Carry	Total ¹			
Fund-of-Funds Manager Level	0.26%	0.13%	0.08%	0.48%			
Primary Fund Manager Level ¹	0.72%	0.19%	1.17%	2.07%			
Total	0.98%	0.33%	1.25%	2.55%			
→ contractual fees (1.3% total)							

- \$48.0 million of net management fees and expenses were paid or accrued from April 1, 2021 to March 31, 2022. This equals 1.3% of beginning of period total exposure.
- Carried interest of \$46.0 million was paid over the same time frame

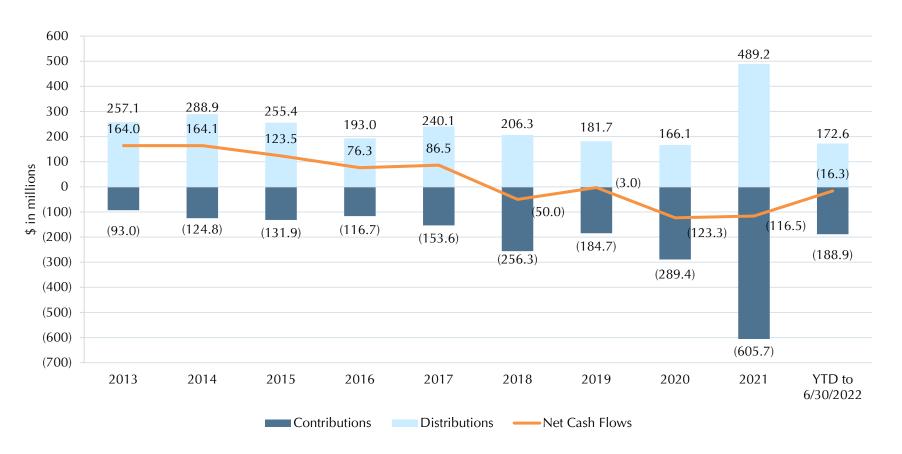
^{1:} Primary Fund Manager Level includes fees to funds selected by Aksia as well as underlying funds/holdings within Fund-of-Funds.

^{2:} March 31, 2021 private equity Total Exposure equaled \$3.7 billion (fair market value of \$2.2 billion + unfunded commitments of \$1.5 billion).

^{3:} Numbers may not add due to rounding

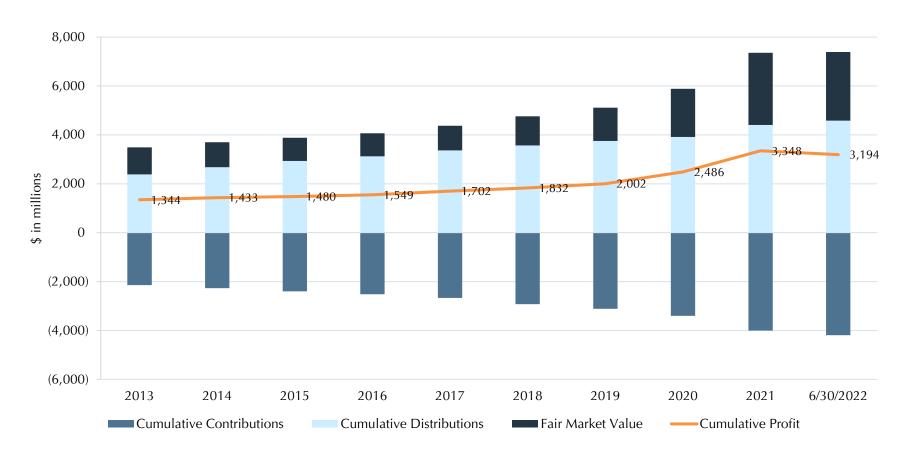
Annual Contributions, Distributions & Net Cash Flows

- Distributions exceeded contributions from 2013 through 2017. Since then, contributions have exceeded distributions due to an increase in commitments to meet target exposure.
- Since the beginning of 2013, the private equity program has generated \$305.3 million of cash.



Cumulative Program Cash Flows and Market Value | As of June 30, 2022 | USD

- The private equity program has steadily created value over the 10-year period from 2013 thru June 30, 2022.
- Total distributions have exceeded contributions by \$385 million since the program's inception.
- The portfolio had a TWR of 11.3% between 2013 and 2019. Since 2019, TWR stands at 22.7%.





Top 10 Managers Ranked by Exposure¹ | As of June 30, 2022 | \$ in million

Manager	Commitment	FMV (A)	% of FMV	Unfunded (B)	Total Exposure ¹ (A+B)	% of PE Exposure ¹	TVPI	IRR ²
Adams Street Partners LLC	2,075.6	1,046.5	37.3%	165.8	1,212.3	28.7%	1.9x	24.9%
Pantheon Ventures	1,379.1	508.2	18.1%	173.9	682.1	16.1%	1.7x	11.2%
Mesirow Private Equity Investments	320.0	331.4	11.8%	100.1	431.5	10.2%	1.6x	29.0%
Aksia TorreyCove	200.0	139.4	5.0%	91.2	230.6	5.5%	1.3x	n.m.
Fairview Capital Partners ³	175.0	139.1	5.0%	87.0	226.1	5.3%	2.0x	19.0%
Harvest Partners	120.0	74.9	2.7%	67.2	142.1	3.4%	1.4x	n.m.
Muller & Monroe Asset Management LLC ³	150.0	126.4	4.5%	14.3	140.7	3.3%	1.7x	11.6%
HgCapital	99.2	25.9	0.9%	80.1	106.0	2.5%	1.3x	n.m.
Thoma Bravo LP	100.0	49.6	1.8%	48.8	98.4	2.3%	1.0x	n.m.
Clearlake Capital ³	80.0	55.9	2.0%	37.6	93.6	2.2%	1.3x	n.m.
Top 10 Managers	4,698.9	2,497.4	88.9%	866.0	3,363.4	79.6%	1.8x	19.9%
Remaining Manager Relationships	830.5	310.7	11.1%	553.3	864.1	20.4%	1.2x	8.1%
Total Portfolio	5,529.5	2,808.2	100.0%	1,419.3	4,227.5	100.0%	1.8x	19.4%

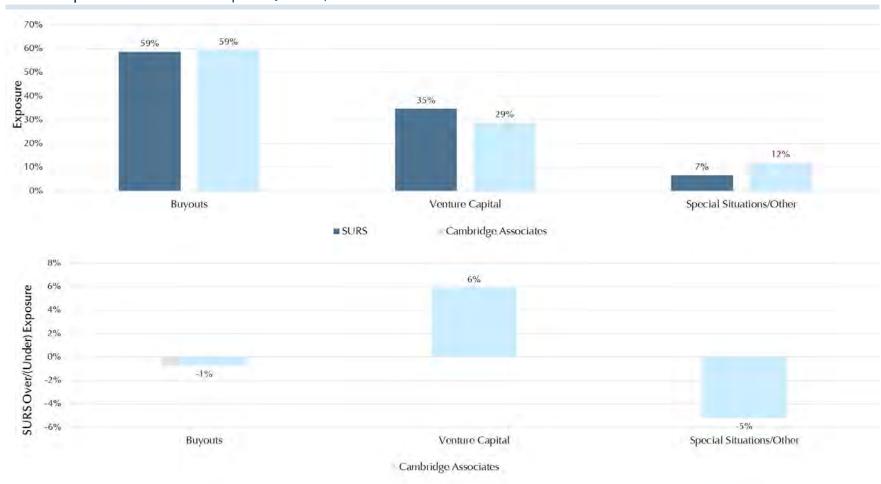
 $^{^{1}}Exposure = FMV + Unfunded$

²The internal rate of return (IRR) is based on daily cash flows. IRRs of investments held less than two years generally are not meaningful and are therefore labeled NM.

³Qualifies as a MWBE manager



Sector Exposure vs. Benchmark^{1,2} | As of June 30, 2022



Reflects fund-level strategy labels. Percentages reflect fair market value for SURS data and total capitalization for Cambridge Associates data.

²Cambridge Associates is an index tracking the performance of thousands of global private funds and their underlying private equity and venture capital investment positions. Venture Capital includes both venture capital and growth equity components of the Cambridge Associates index. Special Situations/Other includes control-oriented distressed.



Geography Exposure vs. Benchmark^{1,2,3} | As of June 30, 2022

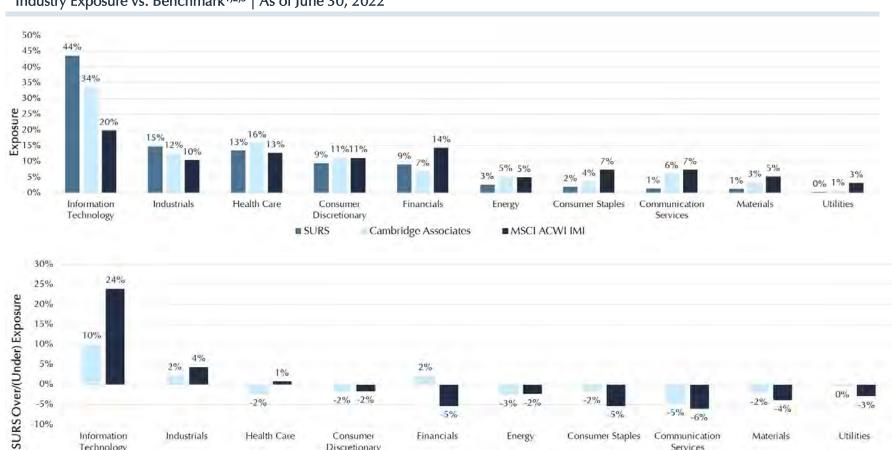


¹Based on FMV of the underlaying portfolio companies.

¹Cambridge Associates is an index tracking the performance of thousands of global private funds and their underlying private equity and venture capital investment positions. 3MSCI 'All Country World Index'— is a market-capitalization-weighted index comprised of public stocks across 23 developed markets and 26 emerging markets countries designed to provide a broad measure of equity-market performance throughout the world. Europe is represented only by UK, and Asia Pacific is represented by Japan and China.



Industry Exposure vs. Benchmark^{1,2,3} | As of June 30, 2022



Industrials

Health Care

Consumer

Discretionary

Cambridge Associates

Information

Technology

10%

-5%

Energy

■ MSCLACWLIMI

Financials

Utilities

-5% -6%

Communication

Services

Materials

5%

Consumer Staples

¹Based on FMV of the underlaying portfolio companies.

¹Cambridge Associates is an index tracking the performance of thousands of global private funds and their underlying private equity and venture capital investment positions. 3MSCI 'All Country World Index' is a market-capitalization-weighted index comprised of public stocks across 23 developed markets and 26 emerging markets countries designed to provide a broad measure of equity-market performance throughout the world. Europe is represented only by UK, and Asia Pacific is represented by Japan and China. Excludes Real Estate.

Aksia's Recommended Funds



Closed Deals | As of November 2, 2022 | \$ In millions

Cortec Group Fund VII 11/14/2019 Buyout - Medium North America 35 Bregal Sagemount III-B 11/19/2019 Late/Growth North America 50 Harvest Partners VIII 12/6/2019 Buyout - Medium North America 70 Clearlake Capital Partners VII 12/16/2019 Buyout - Medium North America 30 Reverence Capital Partners Opportunities Fund III 1/13/2020 Buyout - Medium North America 50 HgCapital Saturn Fund 2 2/28/2020 Buyout - Large Europe 37 MBK Partners Fund V 2/28/2020 Buyout - Large Asia Pacific 50 Rubicon Technology Partners III 3/13/2020 Buyout - Small North America 32 Hg Genesis 9 3/18/2020 Buyout - Medium Europe 13 One Rock Capital Partners IIII 4/6/2020 Buyout - Medium North America 35 Stellex Capital Partners III 6/4/2020 Buyout - Medium North America 25 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Medium North America 25 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 5 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	Fund	Closing Date	Market Segment/Size	Geography	Commitment
Bregal Sagemount III-B Harvest Partners VIII 12/6/2019 Buyout - Medium North America 70 Clearlake Capital Partners VII 12/16/2019 Buyout - Medium North America 30 Reverence Capital Partners Opportunities Fund III 1/13/2020 Buyout - Medium North America 50 HgCapital Saturn Fund 2 2/28/2020 Buyout - Large Europe 37 MBK Partners Fund V 2/28/2020 Buyout - Large Asia Pacific 50 Rubicon Technology Partners III 3/13/2020 Buyout - Small North America 32 Hg Genesis 9 3/18/2020 Buyout - Medium Europe 13 One Rock Capital Partners IIII 4/6/2020 Buyout - Medium North America 35 Stellex Capital Partners IIII 6/4/2020 Buyout - Medium North America 35 Stellex Capital Partners IIII 6/4/2020 Buyout - Medium North America 25 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 Buyout - Large North America 50 North America 50 CGV Capital VIII 10/30/2020 Venture - Multi-Stage Multi-Region 50 GGV Discovery III	OceanSound Partners Fund ¹	11/8/2019	Buyout - Medium	North America	25.0
Harvest Partners VIII 12/6/2019 Buyout - Medium North America 70 Clearlake Capital Partners VII 12/16/2019 Buyout - Medium North America 30 Reverence Capital Partners Opportunities Fund III 1/13/2020 Buyout - Medium North America 50 HgCapital Saturn Fund 2 2/28/2020 Buyout - Large Europe 37 MBK Partners Fund V 2/28/2020 Buyout - Large Asia Pacific 50 Rubicon Technology Partners III 3/13/2020 Buyout - Small North America 32 Hg Genesis 9 3/18/2020 Buyout - Medium Europe 13 One Rock Capital Partners IIII 4/6/2020 Buyout - Medium North America 35 Stellex Capital Partners III 6/4/2020 Buyout - Small North America 25 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 5 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	Cortec Group Fund VII	11/14/2019	Buyout - Medium	North America	35.0
Clearlake Capital Partners VI ¹ 12/16/2019 Buyout - Medium North America 30 Reverence Capital Partners Opportunities Fund II ¹ 1/13/2020 Buyout - Medium North America 50 HgCapital Saturn Fund 2 2/28/2020 Buyout - Large Europe 37 MBK Partners Fund V 2/28/2020 Buyout - Large Asia Pacific 50 Rubicon Technology Partners III 3/13/2020 Buyout - Small North America 32 Hg Genesis 9 3/18/2020 Buyout - Medium Europe 13 One Rock Capital Partners III ¹ 4/6/2020 Buyout - Medium North America 35 Stellex Capital Partners II ¹ 6/4/2020 Buyout - Small North America 25 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 51 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 99 Multi-Region 99	Bregal Sagemount III-B	11/19/2019	Late/Growth	North America	50.0
Reverence Capital Partners Opportunities Fund II ¹ 1/13/2020 Buyout - Medium North America 50 HgCapital Saturn Fund 2 2/28/2020 Buyout - Large Europe 37 MBK Partners Fund V 2/28/2020 Buyout - Large Asia Pacific 50 Rubicon Technology Partners III 3/13/2020 Buyout - Small North America 32 Hg Genesis 9 3/18/2020 Buyout - Medium Europe 13 One Rock Capital Partners III ¹ 4/6/2020 Buyout - Medium North America 35 Stellex Capital Partners II ¹ 6/4/2020 Buyout - Small North America 25 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 21 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 9	Harvest Partners VIII	12/6/2019	Buyout - Medium	North America	70.0
HgCapital Saturn Fund 22/28/2020Buyout - LargeEurope37MBK Partners Fund V2/28/2020Buyout - LargeAsia Pacific50Rubicon Technology Partners III3/13/2020Buyout - SmallNorth America32Hg Genesis 93/18/2020Buyout - MediumEurope13One Rock Capital Partners III¹4/6/2020Buyout - MediumNorth America35Stellex Capital Partners II¹6/4/2020Buyout - SmallNorth America25Altaris Health Partners V6/30/2020Buyout - MediumNorth America25Thoma Bravo Fund XIV7/30/2020Buyout - LargeNorth America50GGV Capital VIII10/30/2020Venture - Multi-StageMulti-Region21GGV Capital VIII Plus10/30/2020Venture - Multi-StageMulti-Region5GGV Discovery III10/30/2020Venture - Multi-StageMulti-Region9	Clearlake Capital Partners VI ¹	12/16/2019	Buyout - Medium	North America	30.0
MBK Partners Fund V Rubicon Technology Partners III 3/13/2020 Buyout - Large Asia Pacific Buyout - Small North America 32 Hg Genesis 9 3/18/2020 Buyout - Medium Europe 13 One Rock Capital Partners III 4/6/2020 Buyout - Medium North America 35 Stellex Capital Partners III 6/4/2020 Buyout - Medium North America 55 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Medium North America 25 GGV Capital VIII 10/30/2020 Venture - Multi-Stage Multi-Region 50 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 50 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 50 Multi-Region 60 Multi-R	Reverence Capital Partners Opportunities Fund II ¹	1/13/2020	Buyout - Medium	North America	50.0
Rubicon Technology Partners III3/13/2020Buyout - SmallNorth America32Hg Genesis 93/18/2020Buyout - MediumEurope13One Rock Capital Partners III14/6/2020Buyout - MediumNorth America35Stellex Capital Partners III6/4/2020Buyout - SmallNorth America25Altaris Health Partners V6/30/2020Buyout - MediumNorth America25Thoma Bravo Fund XIV7/30/2020Buyout - LargeNorth America50GGV Capital VIII10/30/2020Venture - Multi-StageMulti-Region21GGV Capital VIII Plus10/30/2020Venture - Multi-StageMulti-Region5GGV Discovery III10/30/2020Venture - Multi-StageMulti-Region9	HgCapital Saturn Fund 2	2/28/2020	Buyout - Large	Europe	37.5
Hg Genesis 9 3/18/2020 Buyout - Medium Europe 13 One Rock Capital Partners III¹ 4/6/2020 Buyout - Medium North America 35 Stellex Capital Partners II¹ 6/4/2020 Buyout - Small North America 25 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 GGV Capital VIII 10/30/2020 Venture - Multi-Stage Multi-Region 50 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 50 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	MBK Partners Fund V	2/28/2020	Buyout - Large	Asia Pacific	50.0
One Rock Capital Partners III ¹ 4/6/2020 Buyout - Medium North America 55 Stellex Capital Partners II ¹ 6/4/2020 Buyout - Small North America 55 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 55 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 GGV Capital VIII 10/30/2020 Venture - Multi-Stage Multi-Region 50 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 50 Multi-Region 51 Multi-Region 52 Multi-Region 52 Multi-Region 53 Multi-Region 54 Multi-Region 55 Multi-Region 56 Multi-Region 56 Multi-Region 57 Multi-Region 58 Multi-Region 59 Multi-Region 99 Multi-Region 99	Rubicon Technology Partners III	3/13/2020	Buyout - Small	North America	32.5
Stellex Capital Partners II ¹ Altaris Health Partners V 6/30/2020 Buyout - Small North America 25 Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 GGV Capital VIII 10/30/2020 Venture - Multi-Stage Multi-Region 5 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	Hg Genesis 9	3/18/2020	Buyout - Medium	Europe	13.7
Altaris Health Partners V 6/30/2020 Buyout - Medium North America 25 Thoma Bravo Fund XIV 7/30/2020 Buyout - Large North America 50 GGV Capital VIII 10/30/2020 Venture - Multi-Stage Multi-Region 21 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 5 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	One Rock Capital Partners III ¹	4/6/2020	Buyout - Medium	North America	35.0
Thoma Bravo Fund XIV7/30/2020Buyout - LargeNorth America50GGV Capital VIII10/30/2020Venture - Multi-StageMulti-Region21GGV Capital VIII Plus10/30/2020Venture - Multi-StageMulti-Region5GGV Discovery III10/30/2020Venture - Multi-StageMulti-Region9	Stellex Capital Partners II ¹	6/4/2020	Buyout - Small	North America	25.0
GGV Capital VIII 10/30/2020 Venture - Multi-Stage Multi-Region 21 GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 5 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	Altaris Health Partners V	6/30/2020	Buyout - Medium	North America	25.0
GGV Capital VIII Plus 10/30/2020 Venture - Multi-Stage Multi-Region 5 GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	Thoma Bravo Fund XIV	7/30/2020	Buyout - Large	North America	50.0
GGV Discovery III 10/30/2020 Venture - Multi-Stage Multi-Region 9	GGV Capital VIII	10/30/2020	Venture - Multi-Stage	Multi-Region	21.6
	GGV Capital VIII Plus	10/30/2020	Venture - Multi-Stage	Multi-Region	5.4
Oak HC-FT Partners IV ¹ 2/17/2021 Venture - Late/Growth North America 25	GGV Discovery III	10/30/2020	Venture - Multi-Stage	Multi-Region	9.0
Out the first didners to	Oak HC-FT Partners IV ¹	2/17/2021	Venture - Late/Growth	North America	25.0
Base10 Advancement Initiative I ¹ 4/14/2021 Late/Growth North America 25	Base10 Advancement Initiative I ¹	4/14/2021	Late/Growth	North America	25.0
Orchid Asia VIII 5/15/2021 Late/Growth Asia Pacific 30	Orchid Asia VIII	5/15/2021	Late/Growth	Asia Pacific	30.0
Avance Investment Partners ¹ 6/30/2021 Buyout - Small North America 25	Avance Investment Partners ¹	6/30/2021	Buyout - Small	North America	25.0

Aksia's Recommended Funds (Cont'd)



Closed Deals | As of November 2, 2022 | \$ In millions

Fund	Closing Data	Market Segment/Size	Coography	Commitment
runa	Closing Date	Market Segment/Size	Geography	Commitment
Inflexion Buyout Fund VI	8/20/2021	Buyout - Medium	Europe	24.5
Nautic Partners X	8/31/2021	Buyout - Medium	North America	25.0
Harvest Partners IX	9/24/2021	Buyout - Medium	North America	50.0
Clearlake Capital Partners VII ¹	9/30/2021	Buyout - Medium	North America	50.0
Base10 Partners III ¹	1/21/2022	Venture - Early	North America	20.0
Great Hill Equity Partners VIII-Pref	1/28/2022	Buyout - Small	North America	25.0
Thoma Bravo Discover Fund IV	2/3/2022	Buyout - Large	North America	25.0
Thoma Bravo Fund XV	2/3/2022	Buyout - Medium	North America	25.0
One Equity Partners VIII	2/18/2022	Buyout - Medium	North America	25.0
Hg Saturn 3 A	2/25/2022	Buyout - Large	Europe	35.0
PAI Partners VIII-1 SCSp	3/26/2022	Buyout - Large	Europe	50.0
HgCapital Genesis 10 A	4/14/2022	Buyout - Large	Europe	13.0
Oak HC-FT Partners V ¹	5/10/2022	Venture - Multi-Stage	North America	40.0
Advent International GPE X	5/11/2022	Buyout - Large	Multi-Region	25.0
Nordic Capital XI Beta	5/13/2022	Buyout - Large	Europe	50.1
Bregal Sagemount IV-B ¹	5/17/2022	Late/Growth	North America	25.0
Rubicon Technology Partners IV	5/31/2022	Buyout - Small	North America	32.5
Base10 Advancement Initiative II ¹	10/5/2022	Growth Equity	North America	25.0
			Total	1,234.7

- As of November 2, 2022, Aksia has closed on 39 private equity funds on behalf of SURS for a total of \$1.2 billion in commitments.
- 32.4% of commitments have been with MWBE managers.



SURS TorreyCove Co-Investment Fund I Investments



Co-investments | As of November 15, 2022 | \$ In millions

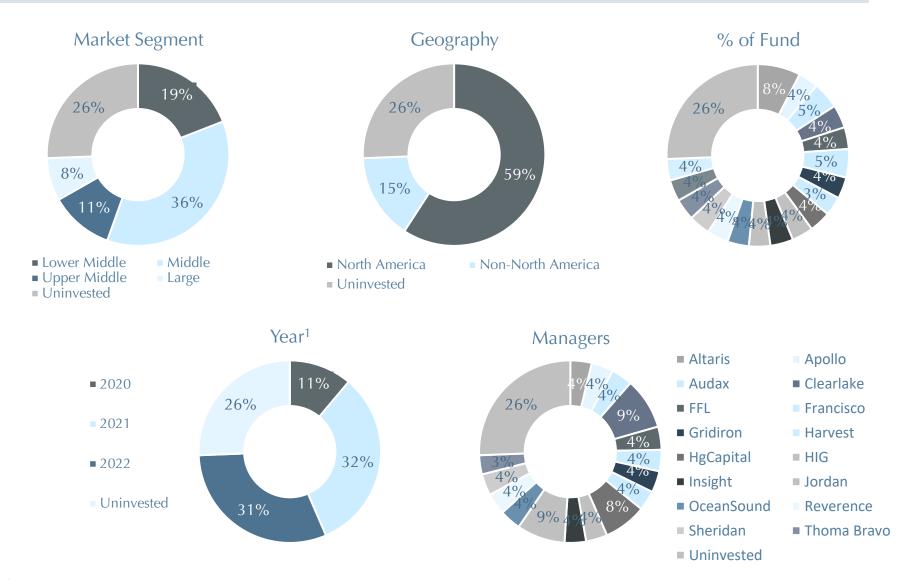
Manager	Date	Market Segment	Geography	Industry	Commitment
HgCapital	Sep-20	Large	Western Europe	Software	15.0
Harvest Capital	Dec-20	Middle	North America	Insurance	7.0
The Jordan Company	Apr-21	Middle	North America	Business Services	9.4
FFL	May-21	Lower Middle	North America	Health Care	7.7
Apollo	Jul-21	Upper Middle	North America	Health Care	7.6
Clearlake	Aug-21	Middle	North America	Business Services	10.0
Altaris	Sep-21	Middle	North America	Health Care	7.5
Thoma Bravo	Sep-21	Upper Middle	North America	Business Services	6.7
OceanSound Partners	Nov-21	Lower Middle	North America	Industrials	7.5
Reverence Capital Partners	Dec-21	Middle	North America	Financials	7.5
Clearlake	Jan-22	Upper Middle	North America	Software	8.0
Francisco Partners	Feb-22	Middle	North America	Software	7.5
Sheridan Capital Partners	Apr-22	Lower Middle	North America	Health Care	7.5
HIG Capital	May-22	Lower Middle	Global	Communication Services	7.5
The Jordan Company	Jul-22	Middle	North America	Communication Services	7.5
Gridiron Capital	Jul-22	Middle	North America	Business Services	7.5
Audax	Sep-22	Lower Middle	North America	Business Services	7.5
FFL	Nov-22 ¹	Middle	North America	Health Care	0.4
Insight Partners	Nov-22 ¹	Middle	Global	Software	7.5
Audax	Nov-22 ¹	Lower Middle	North America	Business Services	0.9
				Total	147.7

¹ Approved and expected to close November/December 2022.

SURS TorreyCove Co-Investment Fund I Investments



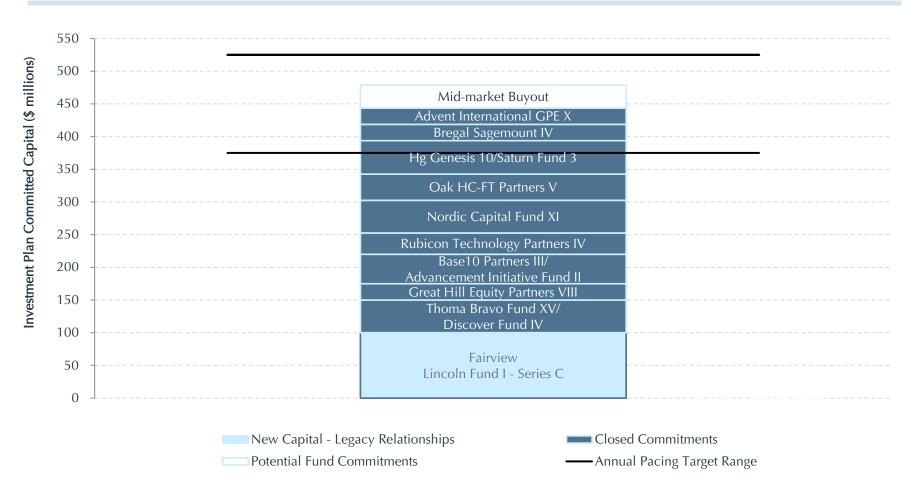
Co-investments | As of October 31, 2022



¹ Assumes approved and pending deals close in 2022



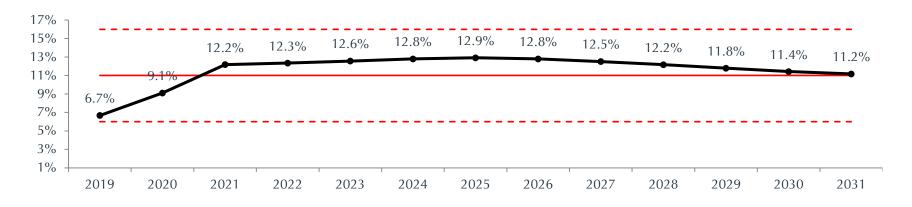
Investment Activity Through October 31, 2022



- The 2022 investment plan is on pace for about \$375 million of Aksia commitments
- SURS committed an additional \$100 million to a Fairview fund-of-funds, which is expected to be deployed over 2-4 years

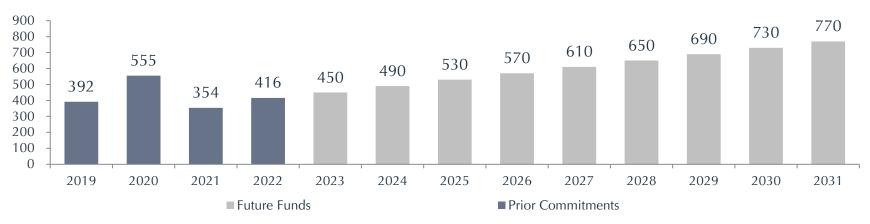


Private Equity as a % of Total Assets – Aksia Base Case¹



Vintage Year Commitments

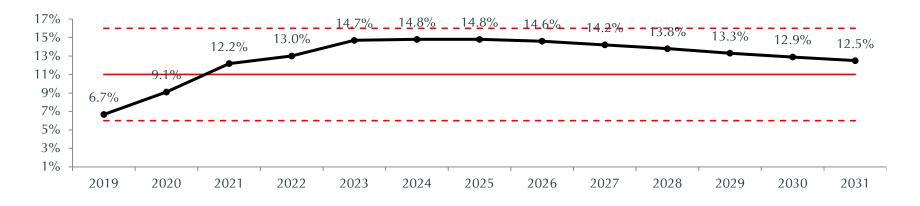
USD Millions



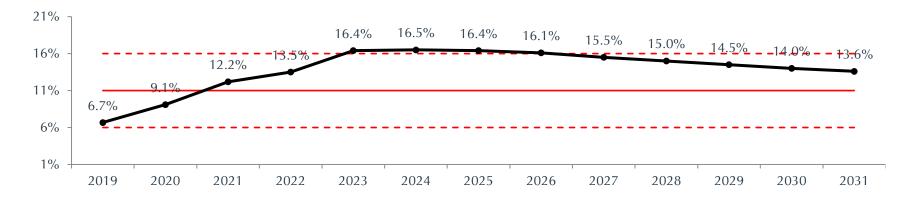
¹ Assumes net returns of 2.75% for the pension and gross IRRs of 16.0%, 18.0%, and 12.7% for buyouts, venture capital, and distressed & special situations, respectively. Assumes 70% of capital deployed to buyout funds, 15% to venture capital funds, 15% to distressed & special situations investments.



Private Equity as a % of Total Assets – Aksia -5% Pension Growth Scenario¹



Private Equity as a % of Total Assets – Aksia -10% Pension Growth Scenario²



¹ Assumes -5% net pension growth for 2H 2022 through 2023, 85% of base case contributions, and approximately 75% of base case distributions during the period.

Assumes -10% net pension growth for 2H 2022 through 2023, 70% of base case contributions, and approximately 50% of base case distributions during the period.

Program Plan – Future Commitments

Commitment Levels for 2023

USD Millions

Sub Sector	Current Exposure ¹	Target Allocation	Annual Allocation	Commitment Range
Buyouts	59%	65%-80%	\$225-\$425	\$25-\$75
Venture Capital	35%	0%-25%	\$0-\$100	\$25-\$75
Special Situations/Other	7%	5%-25%	\$25-\$125	\$25-\$75
Geography	Current Exposure ¹	Target Allocation	Annual Allocation	Commitment Range
North America	69%	50%-70%	\$175-\$350	\$25-\$75
Western Europe	17%	15%-30%	\$50-\$150	\$25-\$75
Asia	8%	5%-25%	\$25-\$125	\$25-\$75
Rest-of-World	6%	0%-5%	\$0-\$25	\$25-\$50
Total			\$375-\$525	
Commitment Overlays				
Co-investments		0%-10%	\$30-\$60	\$5-\$20
Secondary Fund Investments		0%-10%	\$0-\$60	\$25-\$50

- Proposed investment of \$375 million to \$525 million for 2023, with expected target of \$450 million.
- Aksia believes it is reasonable to consider a five-year aggregate total commitment target of \$2.6 billion as a base case scenario.

Investment Initiatives for the Coming Year



Fund Investments

- Consider deployment in the following areas to balance existing exposures
 - Special Situations opportunities
 - Europe and Asia, highly selectively
 - U.S. lower middle market funds
- Continue to deploy capital with MWBE managers

Co-Investments

- Current commitments expected to be fully invested in Q1 2023. Additional capital required for ongoing co-investment activity.
- Focus on more durable businesses likely to withstand a downturn.
- Focus on investments at reasonable valuations, cognizant of potential pricing contraction.
- Continue to take advantage of no-fee, no-carry opportunities and other fee-saving deals.
- Deals will be considered both from existing SURS managers as well as others.

SURS 2023 Working Investment Plan

Base Case Commitments | \$ In millions

Investment	Strategy/ Market Segment	Geography	Relationship	MWBE	2023
Fund 1	Buyouts – Large	North America	Existing	X	50
Fund 2	Buyouts – Large	Large	Existing		50
Fund 3	Venture Capital	Global	Existing		40
Fund 4	Buyouts – Middle Market	North America	Existing		35
Fund 5	Buyouts – Middle Market	North America	Existing		25
Fund 6	Buyouts – Small	North America	Existing	X	25
Fund 7	Buyouts – Middle Market	North America	Existing	X	25
Primary Funds					250
Co-investments	Diversified	Diversified			TBD
Fairview FOF					
Contribution	Venture Capital and Buyouts	North America		Likely	33
Total					425-47

- Three managers in the 2023 investment plan qualify as MWBE managers with projected total commitments of \$100 million. This equals approximately 22% of the anticipated mid-range commitments.
- The working investment plan is subject to revision as the year progresses.



We are proud to work with SURS.

Thank you for allowing us to be your private equity partner.



Appendix

I. Fund-of-Funds Holding Details

Fund-of-Funds Holdings Details



Fund	Vintage Year	Commitment	Unfunded	Investment-to- date	Investment-to- date	Fair Market Value	TVPI ³	IRR⁴
				Contributions ¹	Distributions ²	value		
Adams Street 2007 Global Opportunities Portfolio	2007	100.0	8.7	99.1	147.0	3.2	1.5x	6.9%
Adams Street 2012 Global Fund	2012	80.0	8.2	71.8	77.4	79.5	2.2x	15.3%
Adams Street 2013 Global Fund	2013	100.0	9.0	91.0	77.6	126.5	2.2x	16.4%
Adams Street 2014 Global Fund	2014	100.0	8.6	91.4	71.4	137.9	2.3x	18.7%
Adams Street 2015 Global Fund	2015	125.0	16.4	108.6	70.7	182.4	2.3x	27.7%
Adams Street 2016 Global Fund	2016	150.0	28.2	121.8	49.7	190.4	2.0x	25.1%
Adams Street 2017 Global Fund	2017	90.0	21.4	68.6	18.8	119.6	2.0x	29.1%
Adams Street 2018 Global Fund	2018	90.0	37.3	52.7	8.6	88.8	1.8x	33.7%
Adams Street Partnership Fund - 2004 Non-U.S. Fund	2004	40.0	1.9	38.1	52.3	1.8	1.4x	5.9%
Adams Street Partnership Fund - 2008 Non-U.S. Fund	2008	40.0	3.5	36.5	53.0	18.7	2.0x	11.4%
Adams Street Partnership Fund - 2008 U.S. Fund	2008	50.0	3.5	46.5	92.9	19.4	2.4x	16.5%
Adams Street Partnership Fund - 2009 Non-U.S. Developed Markets Fund	2009	30.0	3.3	26.7	38.2	14.5	2.0x	13.4%
Adams Street Partnership Fund - 2009 Non-U.S. Emerging Markets Fund	2009	10.0	0.8	9.2	9.0	9.1	2.0x	9.8%
Adams Street Partnership Fund - 2009 U.S. Fund	2009	50.0	4.1	45.9	81.9	33.8	2.5x	16.5%
Adams Street SMA (1990-2007) - SURS	1990	906.2	2.6	927.2	1691.6	3.9	1.8x	27.0%
Brinson Non-U.S. Partnership Fund Trust Program	1998	39.4	0.5	42.5	76.4	0.4	1.8x	12.2%
Venture Partnership Acquisition Fund II (VPAF II)	1990	10.0	0.0	10.0	19.7	0.0	2.0x	25.3%
Adams Street Partners		2010.6	157.9	1887.7	2636.2	1029.7	1.94x	25.1%
Lincoln Fund I (Series A)	2014	75.0	9.4	65.6	33.0	113.8	2.2x	19.0%
Lincoln Fund I (Series B)	2021	100.0	77.6	22.4	0.0	25.3	1.1x	n.m.
Fairview Capital Partners		175.0	87.0	88.0	33.0	139.1	1.96x	19.0%

¹In some instances, ITD Contributions may exceed Commitment due to management fees being outside of commitment, the ability to recycle capital or other reasons described in the limited partnership agreement.

²ITD Distributions include Recallable Return of Capital.

³TVPI is calculated net of Recallable. In practice, both total distributions and contributions are reduced by the amount of Recallable in the numerator and denominator of the calculation, respectively.

⁴IRRs of investments held less than two years generally are not meaningful and are therefore labeled NM.

Fund-of-Funds Holdings Details



Fund	Vintage Year	Commitment	Unfunded	Investment-to- date Contributions ¹	Investment-to- date Distributions ²	Fair Market Value	TVPI ³	IRR ⁴
Mesirow Financial Private Equity Fund VII-B	2017	40.0	0.4	39.7	28.7	72.3	2.5x	40.1%
Mesirow Financial Private Equity Special Fund B	2018	280.0	99.6	180.4	0.0	259.1	1.4x	23.2%
Mesirow Private Equity Investments		320.0	100.1	220.1	28.7	331.4	1.64x	29.0%
Illinois Private Equity Fund-of-Funds	2005	25.0	0.0	21.5	18.9	0.0	0.9x	-2.5%
M2 - SURS Emerging Private Equity Fund-of-Funds	2016	100.0	13.5	92.9	58.0	125.8	2.0x	26.0%
M2 Private Equity Fund-of-Funds	2007	25.0	0.8	24.4	35.7	0.5	1.5x	8.3%
Muller & Monroe Asset Management, LLC		150.0	14.3	138.7	112.5	126.4	1.72x	11.6%
Pantheon Access (US) - SURS 2017	2017	90.0	27.8	62.2	5.0	83.1	1.4x	18.1%
Pantheon Access (US) - SURS 2018	2019	180.0	81.5	98.5	1.8	134.0	1.4x	24.1%
Pantheon Europe Fund III	2002	65.0	3.6	83.7	151.1	1.3	1.8x	14.6%
Pantheon Europe Fund VI	2007	42.1	1.7	37.4	57.4	8.4	1.8x	10.1%
Pantheon Europe Fund VII	2011	39.6	3.4	33.3	41.5	22.7	1.9x	13.3%
Pantheon Multi-Strategy Program 2014 (US) - SURS 2014	2014	125.0	23.4	101.6	47.1	133.1	1.8x	17.1%
Pantheon USA Fund IX	2011	85.0	8.2	77.3	119.2	73.1	2.5x	18.0%
Pantheon USA Fund VIII	2007	103.3	7.7	95.4	168.4	39.0	2.2x	13.0%
Pantheon USA Primary Investments	2002	599.1	15.4	569.2	955.9	13.1	1.7x	10.3%
Private Opportunities Fund	2005	25.0	0.0	25.0	25.1	0.0	1.0x	0.0%
Pantheon Ventures		1354.1	172.7	1183.6	1572.5	507.9	1.76x	11.3%

Overall Follotto	3,329.3	1,419.3	4,194.0	4,5/9.4	2,000.2	1./ OX	19.470

¹In some instances, ITD Contributions may exceed Commitment due to management fees being outside of commitment, the ability to recycle capital or other reasons described in the limited partnership agreement.

²ITD Distributions include Recallable Return of Capital.

³TVPI is calculated net of Recallable. In practice, both total distributions and contributions are reduced by the amount of Recallable in the numerator and denominator of the calculation, respectively.

⁴IRRs of investments held less than two years generally are not meaningful and are therefore labeled NM.

Aksia's Recommended Funds



Fund	Vintage Year	Commitment		Investment- to-Date Contributions ¹	Investment- to-Date Distributions ²	Fair Market Value	TVPI	IRR³
Advent International GPE X	2022	25.0	25.0	0.0	0.0	0.0	N/A	n.m.
Altaris Health Partners V	2021	25.0	17.7	7.3	0.0	8.2	1.1x	n.m.
Avance Investment Partners	2021	25.0	16.5	9.3	0.8	8.2	1.0x	n.m.
Base10 Advancement Initiative I	2021	25.0	3.9	21.1	0.0	21.2	1.0x	n.m.
Base10 Partners III	2022	20.0	17.2	2.8	0.0	2.5	0.9x	n.m.
Bregal Sagemount III-B	2019	50.0	17.9	32.2	0.1	34.9	1.1x	10.5%
Bregal Sagemount IV-B	2022	25.0	25.0	0.0	0.0	-0.1	N/A	n.m.
Clearlake Capital Partners VI	2020	30.0	3.3	27.9	2.5	41.0	1.6x	n.m.
Clearlake Capital Partners VII	2021	50.0	34.4	15.6	0.0	15.0	1.0x	n.m.
Cortec Group Fund VII	2019	35.0	12.4	25.2	2.6	34.0	1.5x	30.5%
GGV Capital VIII	2021	21.6	11.9	9.7	0.0	11.1	1.1x	n.m.
GGV Capital VIII Plus	2021	5.4	3.2	2.2	0.0	2.3	1.0x	n.m.
GGV Discovery III	2021	9.0	5.4	3.6	0.0	4.8	1.3x	n.m.
Great Hill Equity Partners VIII-Pref	2022	25.0	25.0	0.0	0.0	-1.2	N/A	n.m.
Harvest Partners IX	2021	50.0	50.0	0.0	0.0	-0.8	N/A	n.m.
Harvest Partners VIII	2019	70.0	17.2	63.4	14.1	75.8	1.4x	25.7%
Hg Genesis 9	2020	13.7	7.7	8.0	2.0	6.5	1.1x	8.7%
Hg Saturn 3 A	2022	35.0	35.0	0.0	0.0	-0.1	N/A	n.m.
HgCapital Genesis 10 A	2022	13.0	12.6	0.0	0.0	0.0	N/A	n.m.
HgCapital Saturn Fund 2	2020	37.5	24.8	22.5	11.1	19.6	1.4x	n.m.
Inflexion Buyout Fund VI	2022	24.5	21.9	0.0	0.0	-0.2	N/A	n.m.

¹In some instances, ITD Contributions may exceed Commitment due to management fees being outside of commitment, the ability to recycle capital or other reasons described in the limited partnership agreement.

²ITD Distributions include Recallable Return of Capital.

 $^{^3}$ IRRs of investments held less than two years generally are not meaningful and are therefore labeled NM.

Aksia's Recommended Funds



Fund	Vintage Year	Commitment		Investment- to-Date Contributions ¹	Investment- to-Date Distributions ²	Fair Market Value	TVPI	IRR ³
MBK Partners Fund V	2021	50.0	34.7	16.0	0.6	16.4	1.1x	n.m.
Nautic Partners X	2021	25.0	20.8	4.2	0.0	3.9	0.9x	n.m.
Nordic Capital XI Beta	2022	50.1	50.4	0.0	0.0	0.0	N/A	n.m.
Oak HC-FT Partners IV	2021	25.0	8.4	16.7	0.1	18.6	1.1x	n.m.
Oak HC-FT Partners V	2022	40.0	40.0	0.0	0.0	0.0	N/A	n.m.
OceanSound Partners Fund	2019	25.0	11.6	27.8	15.0	17.6	1.2x	15.1%
One Equity Partners VIII	2022	25.0	17.9	7.9	0.8	8.1	1.1x	n.m.
One Rock Capital Partners III	2021	35.0	22.7	15.9	3.6	16.1	1.2x	n.m.
Orchid Asia VIII	2021	30.0	27.0	3.0	0.0	2.2	0.7x	n.m.
PAI Partners VIII-1 SCSp	2022	50.0	47.7	0.0	0.0	0.0	N/A	n.m.
Reverence Capital Partners Opportunities Fund II	2018	50.0	11.3	40.7	4.5	65.6	1.7x	41.6%
Rubicon Technology Partners III	2020	32.5	8.9	23.6	0.0	26.5	1.1x	10.3%
Rubicon Technology Partners IV	2023	32.5	32.5	0.0	0.0	0.0	N/A	n.m.
Stellex Capital Partners II	2021	25.0	16.6	8.4	0.0	9.4	1.1x	n.m.
Thoma Bravo Discover Fund IV	2022	25.0	25.0	0.0	0.0	0.0	N/A	n.m.
Thoma Bravo Fund XIV	2021	50.0	2.9	47.1	0.0	45.6	1.0x	n.m.
Thoma Bravo Fund XV	2022	25.0	20.9	4.1	0.0	4.1	1.0x	n.m.
Total		1,209.7	787.0	466.4	57.7	516.4	1.23x	22.3%

¹In some instances, ITD Contributions may exceed Commitment due to management fees being outside of commitment, the ability to recycle capital or other reasons described in the limited partnership agreement.

²ITD Distributions include Recallable Return of Capital.

 $^{^3}$ IRRs of investments held less than two years generally are not meaningful and are therefore labeled NM.

Exhibit 5

Pacing Model Assumptions



- Aksia's model uses actual fund level historical cash flows and then employs multiple variables as key inputs to project future capital calls, distributions and net asset values, allowing for the projection of an annual pacing commitment target
- For existing investments, the model uses default assumptions at the sector level. Additional adjustments may be made on a fundby-fund basis
- Separately Managed Accounts use fund-by-fund assumptions based on historical performance and cash flows
- Aksia stands ready to run this pacing analysis using any other assumptions upon request

	Assumed Gross IRR
Sector	
Venture Capital	18.0%
Buyouts	16.0%
Distressed-for-Control & Special Situations	12.7%
Growth Equity	17.0%
PE Fund-of-Funds	11.0%
PE Secondaries Fund	16.0%

Investment Period					
5 years					
5 years					
5 years					
5 years					
7 years					
5 years					

Harvest Period						
	7 years					
	7 years					
	7 years					
	7 years					
	8 years					
	5 years					

Annual % Contribution

	Bow	
(Distribution	Exponential	Rate)

	Year 1	Year 2	Year 3 and after	
Sector				
Venture Capital	12%	23%	31%	2.5
Buyouts	10%	22%	28%	2.0
Distressed-for-Control & Special Situations	20%	31%	38%	2.0
Growth Equity	11%	24%	34%	2.3
PE Fund-of-Funds	5%	12%	19%	2.3
PE Secondaries Fund	14%	16%	27%	1.5

NOTE: The assumptions shown as well as the pacing results they inform are based on Aksia's experience with and expectations for the specified asset class, typical fund structures, and historical performance and cash flow profile. We believe these assumptions are reasonable and note that the results are intended to provide insights, not conclusions. In addition, Aksia does rely on client input to inform these assumptions and produce the pacing results. As such, the output shown can be changed to reflect additional assumptions that the client believes could be relevant to its portfolio considerations and appropriate to its risk tolerance.

Disclaimer



This report contains confidential information provided to Aksia solely for the purpose of evaluating the portfolio. All references to Aksia herein refer to Aksia LLC, together with its wholly owned subsidiaries (collectively "Aksia"). This information shall be maintained as confidential and shall not be provided to anyone other than the portfolio administrator, its officers, employees, and lawful agents. This report is provided for information purposes only. It does not constitute legal, securities, tax, or investment advice. Past performance is not indicative of future performance.

This analysis covers the significant events that have occurred with respect to the limited partnership investments, co-investments, and direct investments, as they apply, in the portfolio (collectively referred to as "investment(s)"). Aksia monitors the portfolio's investments in various partnerships. To complete this independent analysis, Aksia requested and then collected information from representatives of the portfolio and the individual partnerships as well as the portfolio's custodian where applicable. Further, this review relies upon information received during its preparation, as well as the facts, assumptions and valuation approach contained herein, which have been reviewed with the portfolio administrator staff. Aksia has not independently verified this information. Aksia has accurately relayed the information received in its independent analysis of the portfolio's performance and current portfolio valuation. The portfolio's performance is summarized using all or a selection of the following portfolio performance calculation methods: distribution to paid-in multiple, internal rate of return, total value to paid-in multiple, and time-weighted rate of return. Additional details regarding the performance calculations can be found in Definitions. Subsequent analysis will reflect future developments, as well as refine the analysis of past activities as Aksia receives new or revised information.

For individual investment return purposes, investments are typically marked-to-market using comparable public market valuations or third-party transactions. Publicly traded partnership investments are typically marked-to-market. In general, the valuation policies of the portfolio's general partners appear to be in line with FASB ASC 820-10, Fair Value Measurements. Generally, the first few years of an investment's life demonstrate low or negative returns. These returns are not very meaningful due to the fact that management fees have not been offset by capital gains typically generated by more mature portfolio companies (termed the J-curve effect). Reports are available that are customized based on the portfolio administrator's definition of meaningful data.

Callan



December 2022

Real Assets
Portfolio Review – Q2 2022 &
2023 Pacing

State Universities Retirement System of Illinois

Sally Haskins

Senior Vice President, Co-Manager Real Assets

Munir Iman

Vice President

Jan Mende

Senior Vice President

Market Overview

SURS Portfolio Review

2023 Pacing

Appendix and Glossary



Real Asset Returns As of September 30, 2022

Private and Public Real Asset Returns

	3Q	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Private RE (NCREIF ODCE)	0.3%	12.4%	21.0%	11.4%	9.3%	9.9%
Income	0.6%	1.9%	2.5%	2.9%	3.0%	3.4%
Appreciation	-0.3%	10.3%	18.0%	8.3%	6.1%	6.3%
U.S. Publicly traded RE (FTSE NAREIT Equity Index)	-9.9%	-28.1%	-16.4%	-2.1%	2.9%	6.3%
NCREIF Farmland Index	2.0%	7.4%	11.5%	6.9%	6.6%	9.6%
Publicly traded global infrastructure (FTSE Developed Core 50/50 Infrastructure Index)	-10.3%	-13.8%	-7.1%	-0.5%	3.0%	6.7%

- Appreciation has had an outsized positive effect on real estate over the last ten years, as the real estate market experienced the upward performance trajectory post Global Financial Crisis driven by a lower interest rate environment and improving supply/demand fundamentals. Over the long term (20 years) income has remained the driver of real estate returns.
- There is valuation risk in private real estate across property types primarily due to rising interest rates and, secondarily for some property types due to structural changes in demand. This began to be reflected in private valuations in Q3. Returns are moderating with positive income returns, but flat or negative appreciation.
- The transaction market is experiencing a rapid deceleration due to the Fed tightening; there is less capital in the market as many investors are at or over their real estate allocations.
- U.S. publicly traded real estate and publicly traded global infrastructure have lagged private real estate over the last 1, 3, 5, and 10 year time periods. Publicly traded real estate has repriced unlike private real estate.
- Demand for infrastructure assets remains high, although the sector is not immune from valuation risks, rising labor and materials costs, as well as overall economic risk if a recession occurs.

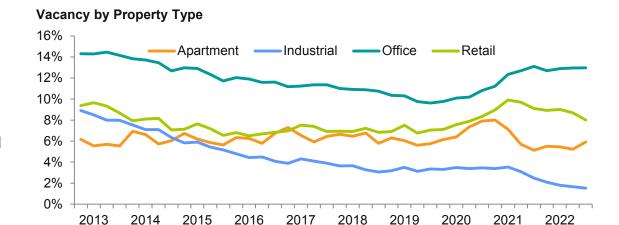
Source: NCREIF, FTSE



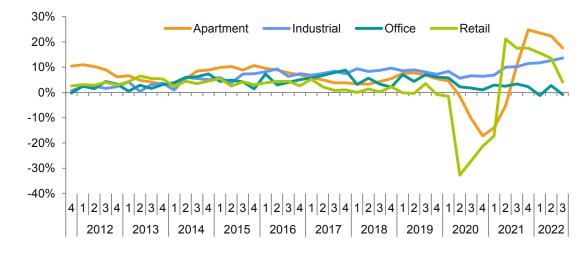
U.S. Private Real Estate Market Trends

The market is shifting, with mixed results for vacancy and net operating income growth

- Vacancy rates continue to decline in Industrial and Retail, and remain relatively low.
- Office and Multifamily vacancy rates increased slightly during the quarter. Multifamily rates are low. Office remains challenged.
- Net operating income growth decreased significantly in Multifamily and Retail, but is still high relative to long term averages as is industrial.
- Office NOI growth turned negative; bifurcation in the office market with top tier buildings experiencing positive rent growth while older commodity buildings struggle.
- Overall fundamentals remain strong in Industrial, Apartment, Grocery Anchored Retail, and alternative sectors such as self storage, manufactured housing, and single family rental.



Rolling 4-Quarter NOI Growth by Property Type



Source: NCREIF



Global Infrastructure Market Trends

Renewable Energy Targets, Data Storage/Transmission, Aging Infrastructure

Sector	Demand driver	Infrastructure Type
Digital	Increased demand with new technology and work from home	Fiber, towers, data centers, small cell
Energy Transition (including renewables)	Trend for reduced carbon emissions and non-nuclear power. Inflation Reduction Act ("IRA") tax credits	Wind, solar, hydro, biomass, geothermal, transmission assets, batteries and storage
Water / Wastewater	Increased demand, historic under-investment and aging infrastructure	Water utilities, wastewater systems
Sustainability	ESG considerations	Energy/water efficiency and monitoring
Transport	Increased demand, historic under-investment and aging infrastructure	Airports, roads, ports, rail and electric vehicle-related infrastructure
Energy	Development of oil and shale resources in the US	Utilities, mid-stream energy related transmission, storage and export facilities
Social	Insufficient municipal budgets	Healthcare, judicial, education facilities, Public Private Partnerships

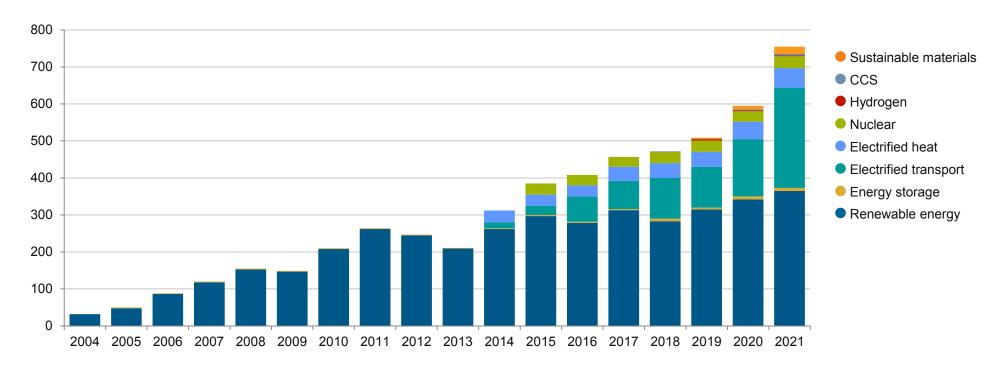




Global Investment in Energy Transition – Renewables are part of the solution

Energy transition investment surpassed \$750 billion in 2021

Global Investment in Energy Transition by Sector (\$billions)



Inflation Reduction Act: This climate and tax bill unlocks funding for clean energy investments.

This bill extends production and investment tax credits for wind and solar by 10 years, allowing project developers to claim up to 30% of the value of a project as a credit in the case of solar and per-watt production tax credit for wind. The bill also introduces tax credits for battery technology, hydrogen storage, stand-alone energy storage, and clean hydrogen. Another notable provision includes bonus tax credits on equipment produced in the U.S., if development is within an "energy community," or low-income communities.

Source: Callan research, JPM/Bloomberg NEF - Energy Transition Investment Trends Executive Summary 2022



Market Overview

SURS Portfolio Review

2023 Pacing

Appendix and Glossary



SURS' Real Asset Allocation – June 30, 2022

Asset allocation changes are being implemented in the portfolio over several years

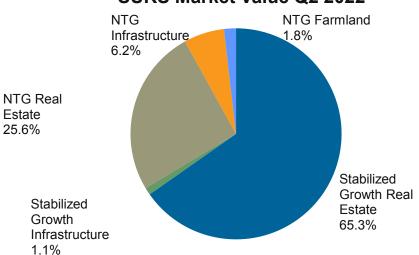
Real Assets, which includes Real Estate, Infrastructure, Farmland, is a component of the Broad Growth strategic class of the asset allocation model.

Meketa has provided interim and long term targets for Real Assets as indicated in the table on the right.

- Unfunded commitments are significant due to commitment activity since 2019 and an increased target to real assets.
- Commitment activity in 2022 included stabilized growth Real Estate and Infrastructure funds. Non-traditional growth commitments included a debt-focused manager, as well as industrial-focused and value-add focused managers.

Q2 2022	\$ Millions	(%)
Total Plan Assets	\$22,785.5	100.0%
Real Assets Interim Target (FY2023)	\$2,278.5	10.0%
Real Assets Target (2025) - Stabilized Growth at 8% - Non-Traditional Growth at 5%	\$2,962.1	13.0%
Plan's Real Estate Market Value	\$2,106.8	9.2%
Unfunded Commitments*	\$1,158.7	5.1%
Market Value & Unfunded Commitments	\$3,265.5	14.3%

SURS Market Value Q2 2022



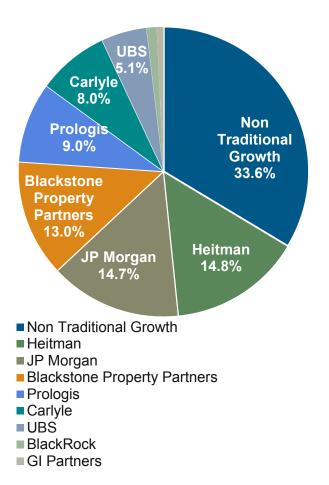
*Note: Does not include commitment made at October 20, 2022 meeting: \$50M to Torchlight VIIII



Manager Diversification

Portfolio is well diversified by manager

Real Assets Portfolio – Market Value as of 2Q2022



Eight stabilized growth managers

Non Traditional Growth Portfolio as of 2Q2022

Firm	NAV	% of RA Total Portfolio
Macquarie	\$106,272	5.0%
Dune	\$94,927	4.5%
Brookfield	\$66,627	3.2%
Franklin Templeton	\$63,721	3.0%
Crow	\$51,476	2.4%
Cabot	\$45,924	2.2%
Homestead [^]	\$38,622	1.8%
Basis*	\$32,807	1.6%
Blackstone Europe VI	\$31,275	1.5%
Westbrook	\$27,799	1.3%
Longpoint*	\$24,770	1.2%
Long Wharf*	\$22,129	1.1%
Brasa*	\$16,917	0.8%
StepStone	\$16,719	0.8%
Blue Vista	\$16,704	0.8%
Torchlight	\$15,549	0.7%
Oaktree	\$10,527	0.5%
Pantheon	\$9,250	0.4%
Alinda	\$8,334	0.4%
Ember*	\$6,991	0.3%
Newport*	\$326	0.0%

Note: Fund NAV amounts of in excess of 5% have been labeled. *Diverse owned firms, ^50% Diverse ownership



SURS Real Asset Commitment Activity Since Callan Hired

Over \$1.7bn committed across 25 funds, including 6 diverse owned firms representing \$260M Commitment Activity by Year (\$ millions)



- Diverse managers: Basis, Ember, LongWharf, Longpoint, Newport and Brasa.
- Fee discounts for 17 of 25 funds.
- 2022 activity included an increase in stabilized growth investments due to changes to the asset allocation (GI Partners Essential Tech + Science Fund, IFM Global Infrastructure Fund, Clarion Partners Lion Property Fund).

Note: **Two additional non-traditional growth commitments totaling \$100mm, are being recommended by Callan at the December 2022 meeting, bringing the 2022 pacing to \$650 mm / 8 funds if these commitments are approved.

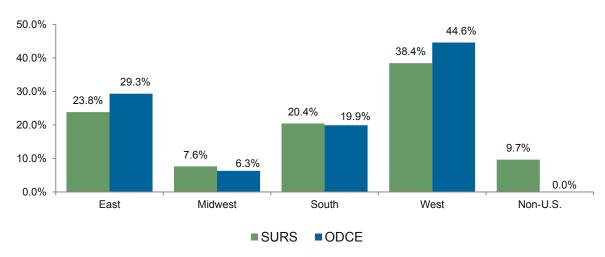


Private Real Estate Diversification

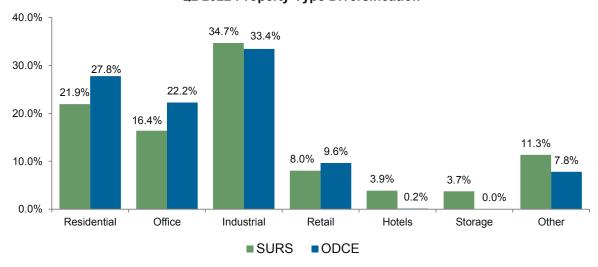
As of June 30, 2022

- Geographically, the portfolio is well diversified.
- Property allocations are underweight to Residential and Office and a slight overweight to Industrial. The Alternative property sectors have a larger allocation compared to the benchmark. These allocations are positive contributors to performance with demographic tailwinds.
- "Other" property types at 11.3% includes Manufactured Housing 2.9%, Land 1.6%, Mixed Use 1.5%, Healthcare 1.3%, Student Housing 1.0%. Senior Housing, Data Centers, Mixed Use Office/Industrial and For Sale Residential comprise the remainder.

Q2 2022 Geographic Diversification



Q2 2022 Property Type Diversification

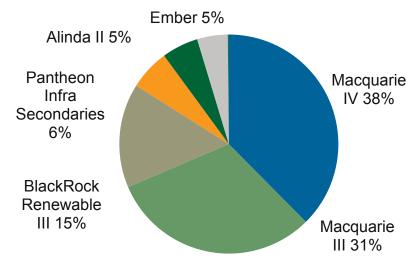




Infrastructure Portfolio Diversification With New Commitments

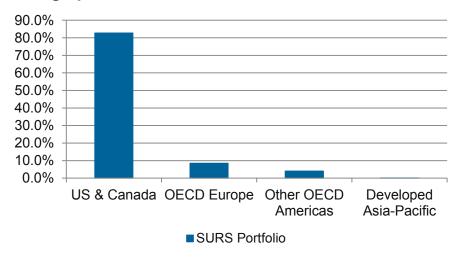
Recent commitments to IFM, Pantheon Secondaries and Ember Infrastructure

Infrastructure Portfolio Market Value

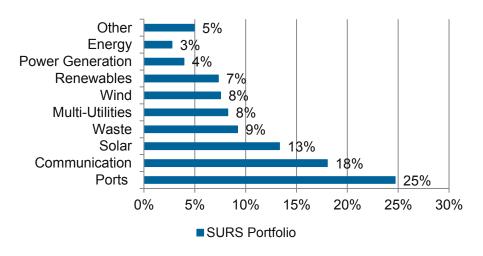


- The Portfolio is geographically concentrated in the US.
- The Portfolio is diversified by sector.
 - Transportation, Communication and Renewables account for the majority of the market value of the portfolio.
 - Other is primarily investment in the waste collection sector.
- IFM Global Infrastructure commitment not called

Geographic Diversification



Sector Diversification





SURS Procurement 2019 – Q4 2022

415 funds submitted information, including 47 funds managed by diverse-owned firms*

Fund Type	# of Funds Submitted	# of Funds Submitted by Diverse-owned Firms*	Funds Managed by Diverse Firms, Approved by SURS (# and \$committed)	All Funds Approved by SURS (# and \$committed)	Funds Managed by Diverse Firms and Approved by SURS (% of Funds and % of Commitments)
Stabilized Growth					
Real Estate	50	2	0	4 (\$500M)	0%
Infrastructure	15	0	0	2 (\$200M)	0%
Non-Traditional Growth					
Real Estate	233	34	5 (\$210M)	16 (\$850M)	31% of funds and 25% of commitments
Infrastructure	78	6	1 (\$50M)	2 (\$150M)	50% of funds and 33% of commitments
Farmland	19	5	0	1 (\$60M)**	0%**
Total	415	47	6	25	24% of funds
Diverse Managers H	ired By SURS Sinc	o 2019·	(\$260M)	(\$1,760M)	15% of commitments

Diverse Managers Hired By SURS Since 2019:

Basis Investment Group Fund II, Brasa Real Estate Fund II, Ember Infrastructure Fund I, Long Wharf Real Estate Partners VI, Longpoint Realty Fund II and Newport Capital Partners Fund III.

Additional diverse manager recommendation for the December 2022 meeting.

^{**}Homestead Farmland Fund III is 50% diverse-owned and not reflected as a diverse manager per SURS' definition.



^{*} SURS' definition of diverse-owned firms requires at least 51% diverse ownership.

SURS Performance at Q2 2022

Stabilized Growth Time Weighted Returns

			Last	Last	Last
	Last	Last	3	5	10
	Quarter	Year	Years	Years	Years
Total Core Funds	4.10%	31.01%	13.13%	9.85%	9.59%
NCREIF NFI-ODCE Val Wt Nt	4.54%	28.31%	11.66%	9.55%	10.15%
Blackrock Global Renewable Power III	1.52%	0.89%	-	-	-
Blackstone Property Partners	2.40%	25.30%	11.10%	-	-
Carly le Property Investors	3.58%	31.67%	17.85%	-	-
Heitman America Real Estate Trust (HART)	4.24%	32.30%	11.99%	9.41%	-
JP Morgan Strategic Property Fund (SPF)	4.52%	27.73%	11.11%	8.92%	-
Prologis US Logistics Fund (USLF)	5.68%	51.22%	-	-	-
UBS Trumbull Property Fund (TPF)	3.87%	23.91%	7.19%	5.31%	7.03%

- Core portfolio has experienced historic returns drive by appreciation; returns are moderating
- · Prologis continues to benefit from shift to ecommerce, on-shoring of goods and a greater need for supply chain diversity
- Alternative sector exposure provides tailwinds to portfolio (self-storage, alternative housing, life sciences, medical office)
- 2022 activity included an increase in stabilized growth investments due to changes to the asset allocation (GI Partners Essential Tech + Science Fund, IFM Global Infrastructure Fund, Clarion Partners Lion Property Fund)
- IFM Global Infrastructure Fund commitment is expected to be called in 2023



SURS Performance at Q2 2022

Non-Traditional Growth Time Weighted Returns

			Last	Last -	Last
	Last	Last	3	5	10
	Quarter	Year	Years	Years	Years
Total Non-Core Funds	1.34%	23.41%	7.33%	8.64%	11.97%
NCREIF ODCE + 1.5%	4.87%	29.81%	13.17%	11.06%	11.66%
Basis Real Estate Debt Fund I	2.12%	9.94%	7.84%	-	-
Basis Real Estate Debt Fund II	(0.61%)	(1.15%)	-	-	-
Blackstone European VI (3)	(6.36%)	21.81%	-	-	-
Blue Vista Real Estate IV **	0.37%	41.90%	19.75%	17.34%	-
Brasa II	(0.82%)	-	-	-	-
Brookfield Strategic Real Estate II	3.90%	34.57%	17.21%	14.36%	-
Brookfield Strategic RE III	(0.51%)	17.62%	11.74%	-	-
Cabot Industrial Value VI (CIVF)	2.66%	73.20%	-	-	-
Crow Holdings Realty VII	(9.50%)	(0.72%)	6.52%	8.36%	-
Crow Holdings Realty VIII	0.22%	41.96%	28.27%	-	-
Crow Holdings Realty IX	4.50%	-	_	-	-
Dune Real Estate Partners II	6.76%	6.82%	(0.31%)	2.46%	9.66%
Dune Real Estate Partners III	(0.25%)	7.26%	(3.37%)	2.56%	-
Dune Real Estate Partners IV	3.68%	31.55%	-	-	-
Franklin Templeton FTPREF	(0.75%)	6.74%	(17.23%)	(2.35%)	8.85%
Franklin Templeton EMREFF	(1.05%)	(10.16%)	(12.73%)	(5.07%)	4.79%
Franklin Templeton MDP RE 2015	3.50%	31.84%	4.40%	4.37%	-
Longpoint Realty Fund II	3.24%	-	-	-	_
Long Wharf VI	(0.08%)	49.85%	21.12%	_	_
Newport Capital Partners Fund III	5.69%	15.02%	-	_	_
Oaktree Real Estate Debt Fund II	0.05%	2.84%	0.78%	_	_
StepSt Partner RE II (fka MFIRE) (2)	(1.39%)	(0.11%)	(0.22%)	1.55%	5.52%
Torchlight Debt VII	3.96%	6.19%	(0.2270)	-	0.0270
Westbrook XI	6.18%	33.79%	-	-	-
Total Private Real Estate	3.29%	28.74%	11.39%	9.54%	10.17%
Homestead USA Farmland Fund III	0.13%	10.44%	-	-	-
NCREIF Farmland Index	2.63%	10.99%	6.55%	6.37%	9.59%
Fotal Private Infrastructure	6.94%	18.74%	16.16%	11.01%	8.61%
CPI + 5%	4.42%	14.81%	10.42%	9.15%	7.62%
FTSE Dev Core Inf 50/50 N	(7.30%)	4.11%	3.88%	5.79%	8.24%
Alinda Infrastructure Fund II	(7.40%)	(0.85%)	(4.08%)	(9.06%)	(2.08%)
Ember Infrastructure I	(3.48%)	(21.46%)	-	-	-
Macquarie Infrastructure Partners III	7.50%	23.85%	21.35%	18.65%	-
Macquarie Infrastructure Partners IV	8.17%	21.23%	15.32%	-	-
Pantheon Glb Infrast Secondaries IV	107.44%	-	-	-	-
Total Real Assets	3.44%	27.84%	12.17%	9.98%	9.84%
Total Real Assets Benchmark*(1)	4.60%	27.67%	12.30%	10.11%	9.60%

New commitments are experiencing the j-curve effect as capital is being deployed during their investment periods.



Real Assets Portfolio Performance (Stabilized Growth)

June 30, 2022

Fund	Vintage Year	Capital Commitments (\$000s)	Paid-In Capital (\$000s)	Uncalled Capital (\$000s)	% Paid- In	Distributed Capital (\$000s)	Net Asset Value (\$000s)	DPI	RVPI	TVPI	Net IRR
Non-Traditional Growth Funds											
UBS Trumbull Property Fund	2006	\$282,165	\$282,165	\$0	100.00%	\$398,299	\$107,170	1.41x	0.38x	1.79x	6.65%
Heitman America Real Estate	2014	\$202,282	\$202,282	\$0	100.00%	\$52,282	\$310,938	0.26x	1.54x	1.80x	9.81%
Trust											
JP Morgan Strategic Property	2014	\$150,000	\$150,000	\$0	100.00%	\$2	\$309,193	0.00x	2.06x	2.06x	9.37%
Fund											
Carlyle Property Investors	2018	\$209,343	\$116,686	\$92,657	52.84%	\$18,412	\$168,238	0.16x	1.44x	1.60x	16.36%
Blackstone Property Partners	2019	\$213,986	\$213,986	\$0	100.00%	\$13,986	\$274,530	0.07x	1.28x	1.35x	10.99%
Prologis US Logistics Fund	2020	\$105,825	\$105,825	\$317	100.00%	\$6,309	\$189,040	0.06x	1.79x	1.85x	45.40%
BlackRock Global Renewable	2020	\$100,000	\$27,908	\$88,919	27.91%	\$3,359	\$23,802	0.00x	0.85x	0.97x	-3.60%
Power III											
GI Partners ETS Fund	2022	\$75,000	\$13,744	\$61,256	18.33%	\$0	\$15,960	0.00x	1.16x	1.16x	19.32%
IFM Global Infra Fund (GIF)	2022	\$100,000	\$0	\$100,000	0.00%	\$0	\$0	-	-	-	0.00%
Clarion Partners Lion Property Fund	2022	\$225,000	\$0	\$225,000	0.00%	\$0	\$0	-	-	-	0.00%



Real Assets Portfolio Performance (Non-Traditional Growth)

June 30, 2022

Fund	Vintage Year	Capital Commitments (\$000s)	Paid-In Capital (\$000s)	Uncalled Capital (\$000s)	% Paid- In	Distributed Capital (\$000s)	Net Asset Value (\$000s)	DPI	RVPI	TVPI	Net IRR
Non-Traditional Growth Funds											
Mature (10+ years)											
Dune Real Estate Partners II	2008	\$40,000	\$40,458	\$0	101.15%	\$64,421	\$8,461	1.59x	0.21x	1.80x	14.56%
Macquarie Infra. Partners II	2008	\$40,000	\$48,268	\$2,006	120.67%	\$75,457	\$249	1.56x	0.01x	1.57x	8.39%
Alinda Infrastructure Fund II	2009	\$40,000	\$52,949	\$1,634	132.37%	\$44,891	\$9,595	0.85x	0.18x	1.03x	0.62%
Franklin Templeton FTPREF	2010	\$50,000	\$57,915	\$5,155	115.83%	\$78,433	\$1,418	1.35x	0.02x	1.38x	20.64%
Franklin Templeton EMREFF	2012	\$75,000	\$79,890	\$7,393	106.52%	\$106,345	\$4,393	1.33x	0.05x	1.39x	12.29%
StepSt Partner RE II (fka MFIRE)	2012	\$60,000	\$39,413	\$20,587	65.69%	\$40,963	\$16,719	1.04x	0.42x	1.46x	6.92%
Dune Real Estate Partners III	2013	\$100,000	\$142,791	(\$3,750)	142.79%	\$112,269	\$65,056	0.79x	0.46x	1.24x	5.88%
Maturing (5-9 years)											
Crow Holdings Realty VII	2014	\$35,000	\$32,725	\$2,275	93.50%	\$33,512	\$11,661	1.02x	0.36x	1.38x	11.48%
Blue Vista Real Estate IV	2015	\$35,000	\$35,000	\$0	100.00%	\$21,120	\$26,545	0.60x	0.76x	1.36x	9.71%
Brookfield Strategic RE II	2015	\$35,000	\$37,050	\$2,889	105.86%	\$18,115	\$31,668	0.49x	0.85x	1.34x	9.93%
Franklin Templeton MDPRE 2015	2015	\$90,000	\$68,815	\$21,185	76.46%	\$14,033	\$50,894	0.20x	0.74x	0.94x	-2.42%
Macquarie Infra. Partners III	2015	\$50,000	\$50,763	\$512	101.53%	\$38,845	\$43,690	0.77x	0.86x	1.63x	14.10%
Basis Real Estate Debt Fund I	2016	\$30,000	\$41,968	\$2,805	139.89%	\$22,577	\$25,789	0.54x	0.61x	1.15x	14.51%
Crow Holdings Realty VIII	2017	\$20,000	\$17,339	\$2,661	86.69%	\$8,416	\$16,091	0.49x	0.93x	1.41x	20.62%
Oaktree RE Debt Fund II	2017	\$30,000	\$22,590	\$8,848	75.30%	\$9,428	\$16,205	0.42x	0.72x	1.13x	7.57%
Brookfield Strategic RE III	2017	\$35,000	\$22,806	\$12,194	65.16%	\$2,565	\$22,961	0.11x	1.01x	1.12x	8.83%



Real Assets Portfolio Performance (Non-Traditional Growth)

June 30, 2022

Fund	Vintage Year	Capital Commitments (\$000s)	Paid-In Capital (\$000s)	Uncalled Capital (\$000s)	% Paid- In	Distributed Capital (\$000s)	Net Asset Value (\$000s)	DPI	RVPI	TVPI	Net IRR
Non-Traditional Growth Funds											
Immature (Less than 5 years)											
Dune Real Estate IV	2018	\$50,000	\$17,731	\$32,269	35.46%	\$758	\$13,342	0.04x	0.75x	0.80x	-21.61%
Macquarie Infra. Partners IV	2018	\$50,000	\$50,850	\$850	101.70%	\$11,962	\$48,765	0.24x	0.96x	1.19x	10.20%
Homestead Farmland Fund III	2018	\$60,000	\$17,224	\$42,800	28.71%	\$588	\$16,357	0.03x	0.95x	0.98x	-3.30%
Long Wharf VI	2019	\$40,000	\$14,438	\$25,562	36.10%	\$5,717	\$10,499	0.40x	0.73x	1.12x	17.41%
Blackstone European VI	2020	\$89,247	\$28,838	\$60,409	32.31%	\$83	\$33,432	0.00x	1.16x	1.16x	19.39%
Cabot Industrial Value VI	2020	\$50,000	\$8,696	\$41,304	17.39%	\$375	\$10,706	0.04x	1.23x	1.27x	NM
Crow Holdings Realty IX	2020	\$50,000	\$0	\$50,000	0.00%	\$0	\$1,178	-	-	-	NM
Longpoint Realty Fund II	2020	\$50,000	\$0	\$50,000	0.00%	\$0	\$542	-	-	-	NM
Westbrook XI	2020	\$75,000	\$7,177	\$67,823	9.57%	\$0	\$7,775	0.00x	1.08x	1.08x	NM
Torchlight Debt VII	2021	\$50,000	\$10,000	\$40,000	20.00%	\$0	\$9,698	0.00x	0.97x	0.97x	NM
Brookfield Strategic RE IV	2021	\$75,000	\$0	\$75,000	0.00%	\$0	\$0	-	-	-	NM
Ember Infrastructure I	2021	\$50,000	\$0	\$50,000	0.00%	\$0	\$0	-	-	-	NM
Basis Real Estate Debt Fund II	2021	\$50,000	\$2,116	\$47,884	4.23%	\$0	\$2,116	0.00x	1.00x	1.00x	NM
Newport Capital Partners Fund III	2021	\$30,000	\$0	\$30,000	0.00%	\$0	\$0	-	-	-	NM
Pantheon Infra Secondaries IV	2021	\$100,000	\$10,117	\$89,883	10.12%	\$0	\$9,250	0.00x	0.91x	0.91x	NM
Blackstone RE Partners Asia III	2021	\$50,000	\$0	\$50,000	0.00%	\$0	\$0	-	-	-	NM
Brasa II	2021	\$40,000	\$17,487	\$22,513	43.72%	\$0	\$16,917	0.00x	0.97x	0.97x	NM
Crow Holdings Realty X	2022	\$50,000	\$0	\$50,000	0.00%	\$0	\$0	-	-	-	NM
Cabot Industrial Value VII (CIVF)	2022	\$50,000	\$0	\$50,000	0.00%	\$0	\$0	-	-	-	NM



Market Overview

SURS Portfolio Review

2023 Pacing

Appendix and Glossary



Pacing Study

Background

The pacing study forecasts how much additional capital will be required on an annual basis for SURS to reach and maintain its investment in Real Assets at the policy targets.

Portfolio pacing is updated on an annual basis to account for changes in asset allocation, total plan assets and growth rate, uncalled capital commitment balance, net asset value, and projected real asset returns. Major factors impacting this pacing plan include:

- Total Plan growth rate was increased in 2022 from 3.9% to 4.2%*.
- A new asset allocation was approved in June 2021 that, among broader changes, substantially increased the targets to the two components of Real Assets.
 - Stabilized Growth (Core) was increased from 6.0% to 8.0% of Total Plan Assets
 - Non-Traditional Growth (Non-Core) was increased from 4.0% to 5.0% of Total Plan Assets
 - Meketa recommended that SURS work to achieve the new targets by July 1, 2025, with proposed interim targets as shown below:

	Long Term Target	Interim Targets						
		July	July	July	July	July		
Real Assets	Adopted June 2021	2021	2022	2023	2024	2025	Thereafter	
Stabilized Growth (Core)	8.0%	4.5%	5.5%	6.5%	7.0%	8.0%	8.0%	
Non-Traditional Growth (Non-Core)	5.0%	2.5%	3.0%	3.5%	4.0%	5.0%	5.0%	





SURS Strategy 2023

Real Assets Portfolio:

- Continue to expand investment in property sectors with lower capital expenditure requirements, income growth above inflation and demographic driven tailwinds.
- Monitor infrastructure portfolio development as several new commitments are being funded.
- Maintain focus on sourcing investments with MWDBE firms to reach or exceed policy target of 20% of new capital commitments to MWDBE firms.
 - Re-visit feasibility/implementation of making commitments to smaller funds.
 - In the overall universe of managers, Stabilized Growth investments are sponsored by large organizations which are not MWDBE. MWDBE investments are anticipated to be made within Non-Traditional Growth portfolio.
- Continue to incorporate ESG considerations into the evaluation and portfolio monitoring processes and seek to support standards of measurability as technology and investors' demand change.
- Stabilized Growth, no commitments planned:
 - Monitor growth of the portfolio, utilize available levers if liquidity is needed.
- Non-Traditional Growth, commit \$200 million:
 - Evaluate re-up opportunities with existing managers.
 - Selectively consider new strategies including debt, sector specific, and international opportunities.

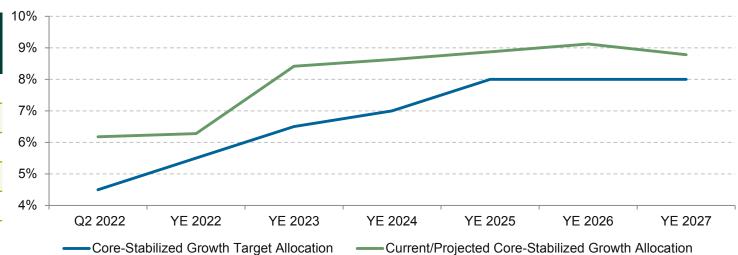


2023 Pacing Target

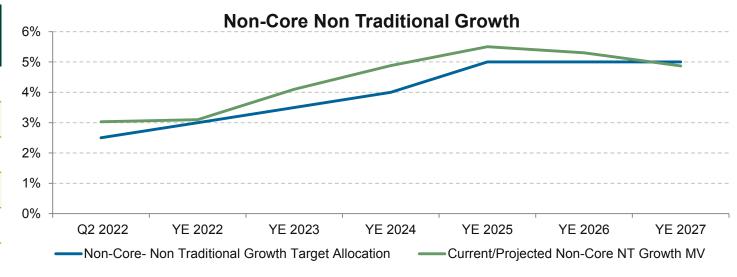
Actual depends on volatility, funds in the market, any changes to plan growth rate, etc.

Core Stabilized Growth

Year	Core SG Commitments (\$MM)
2023	-
2024	-
2025	-
2026	-
2027	-



Year	Non-Core NTG Commitments (\$MM)
2023	\$200
2024	\$200
2025	\$200
2026	\$200
2027	\$200



Market Overview

SURS Portfolio Review

2023 Pacing

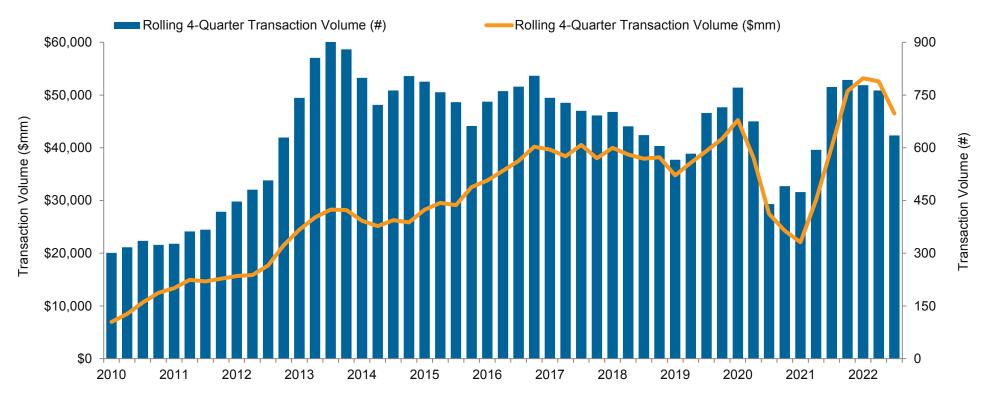
Appendix and Glossary



U.S. Private Real Estate Market Trends

Pricing and transaction volumes fell slightly in 3Q22

NCREIF Rolling 4-Quarter Transaction Totals Through 9/30/22



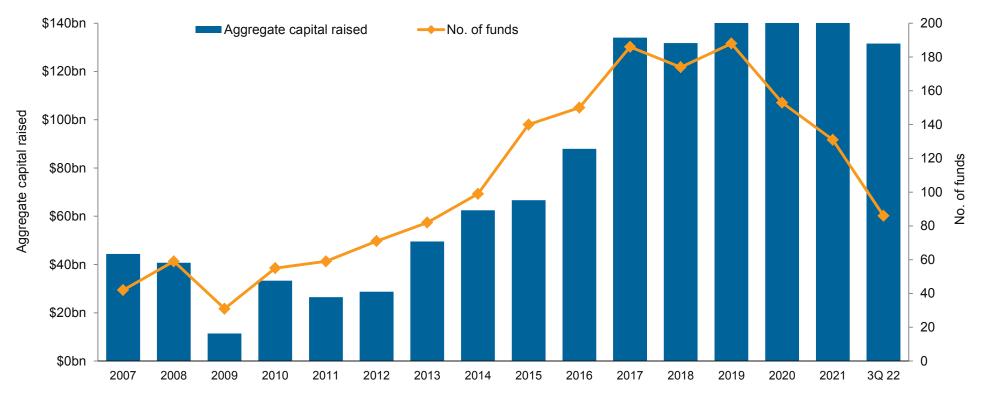
- Transaction volume continues to decrease but remains above its five-year average. This is a rapidly changing market.
- Bid-ask spread continues to widen in the transaction market as price discovery is occurring. Further increases in rates will continue
 to negatively affect asset values.
- In some cases assets are being pulled from the market and in other cases (e.g. office and malls) there are very few lenders willing to provide any level of financing which limits transactions.





Infrastructure Fundraising Momentum Continues

Mega-funds continue to dominate fundraising



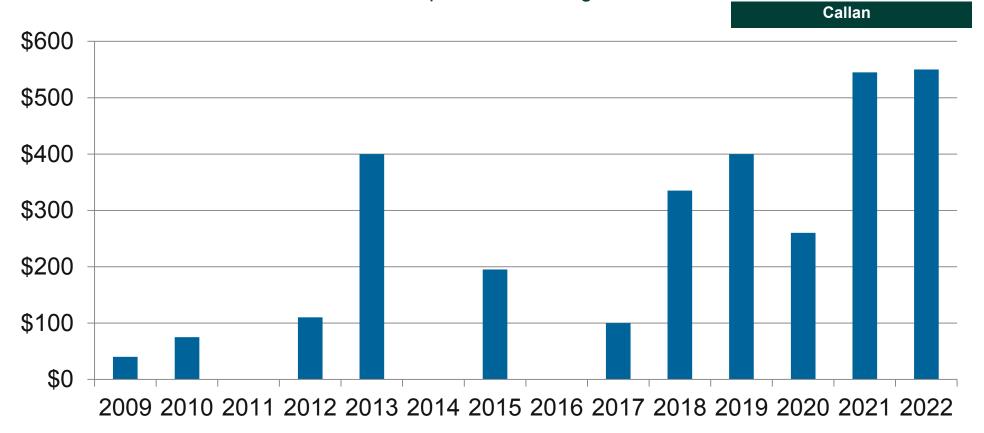
- Fundraising continues to be strong for the mega-funds, which are targeting a fund size in excess of \$10 billion.
- The closed-end fund market continues to expand, with infrastructure debt, emerging markets and sector-specific strategies (e.g., communications and renewables).
- The open-end fund market is increasing, with multiple new funds coming to market in 2020/2021/2022.
- In recent years assets with guaranteed/contracted revenue or more inelastic demand patterns (e.g., renewables, telecoms, and utilities) fared better than assets with GDP/demand-based revenue (e.g. airports, seaports, midstream-related).
- "NetZero" or other similarly focused transition strategies have been coming to market.

Source: Institutional Infrastructure Investor data and Callan research



SURS Commitment Activity by Vintage Years (\$ millions)

New Real Asset allocation from Meketa – implementation began in 2019, increased in 2021



Pre 2019: Real estate commitment activity followed the fundraising of key non-core managers. Infrastructure was part of the opportunistic allocation and did not have a formal place in the SURS program.

Post 2019: Callan recommendations for additional real estate, infrastructure and farmland funds as part of the expanded Real Assets allocation. Over \$1.7BN committed across 25 funds, including 6 diverse owned firms representing \$260M of commitments. Fee discounts for 17 of 25 funds.



Definitions

Capitalization rate: Commonly known as cap rate, is a rate that helps in evaluating a real estate investment. Cap rate = Net operating income / Current market value (Sales price) of the asset.

Net operating income: Commonly known as NOI, is the annual income generated by an income-producing property after taking into account all income collected from operations, and deducting all expenses incurred from operations.

Retail - Community Center: In addition to convenience goods, provides for the sale of goods such as apparel or furniture. Typical area is 100,000 to 350,000 square feet with two or more anchor tenants (primarily Grocery and Drug).

Retail - Neighborhood Center: Provides for the sale of daily living needs of the immediate area. Typical property is 30,000 to 150,000 square feet with at least one anchor tenant.

Retail - Regional Center: Provides a variety of goods comparable to those of a central business district in a small city, including general merchandise, apparel and home furnishings, as well as a variety of services and perhaps recreational facilities. Two or more full-line department stores anchor a total area of 400,000 to 800,000 square feet.

Retail - Super-Regional Center: Provides an extensive variety of shopping goods comparable to those of the central business district of a major metropolitan area. The anchors are three or more full-line department stores, with total area in excess of 800,000 square feet.

NFI-ODCE Index: time-weighted return Index with an inception date of 12/31/1977. The Index is comprised of 36 open-end commingled funds. Inclusion within the Index requires (a) minimum of 80% of net fund assets invested in the multifamily, retail, industrial, office, or hotel property type, (b) maximum of 20% of net fund assets invested in real estate debt or private/public company equity, (c) at least 80% of net assets invested in properties with a minimum occupancy of 60%, (d) no more than 70% of real estate net assets invested in a single property type or region, (e) maximum of 40% leverage, and (f) at least 95% of net real estate assets invested within the U.S. market.



Definitions – Investment Styles

Core: Direct investments in operating, fully leased, office, retail, industrial, or multifamily properties using little or no leverage (normally less than 30%).

Value-Added: Core returning investments that take on moderate additional risk from one or more of the following sources: leasing, re-development, exposure to non-traditional property types, the use of leverage.

Opportunistic: Investments that take on additional risk in order to achieve a higher return. Typical sources of risks are: development, land investing, operating company investing, international exposure, high leverage, distressed properties.

Non Core: Includes both value added and opportunistic strategies

Closed-End Fund: A commingled fund with a stated maturity (termination) date with few or no additional investors after the initial formation of the fund. Closed-end funds typically purchase a portfolio of properties to hold for the duration of the fund and, as sales occur, typically do not invest the sales proceeds. (Source: NCREIF PREA Reporting Standards).

Commingled Funds: A term applied to all open-end and closed-end pooled investment vehicles designed for institutional tax-exempt investors. A commingled fund may be organized as a group trust, a partnership, a corporation, an insurance company separate account, or another multiple ownership entity.

Open-End Fund: A commingled fund with no finite life that allows continuous entry and exit of investors, typically on a quarterly basis, and engages in ongoing property operations as well as investment purchase and sale activities.

Real Estate Investment Trust (REIT): A corporation or business trust that combines the capital of many investors to acquire or provide financing for all forms of income-producing real estate. (Source: National Association of Real Estate Investment Trusts)



Definitions – Performance Monitoring

Vintage Year: Year of first drawdown

Paid-In Capital: Cash funded to the investment for acquisition and capital items (i.e., initial investment cost or significant capital improvements).

Uncalled Capital: Capital allocated to managers which remains to be called for investment. Amounts are as reported by managers.

Distributed Capital: Actual cash returned from the investment, representing distributions of income from operations. Withdrawals: Cash returned from the investment, representing returns of capital or net sales proceeds.

Net Asset Value: The value of an investment as determined by actual sales dollars invested and withdrawn plus the effects of appreciation and reinvestment; market value is equal to the ending cumulative balance of the cash flow statement (NAV).

Net IRR: IRR after advisory fees, incentive and promote. This includes actual cash flows and a reversion representing the LP Net Assets at market value as of the period end reporting date.

TVPI Multiple: The ratio of Total Value to Paid-in-Capital (TVPIC). It represents the Total Return of the investment to the original investment not taking into consideration the time invested. Total Value is computed by adding the Residual Value and Distributions. It is calculated net of all investment advisory and incentive fees and promote.

DPI Multiple: The ratio of distributions paid to the investor divided by the amount of contributions paid by the investor. It is calculated net of all investment advisory and incentive fees and promote. It is calculated net of all investment advisory and incentive fees and promote

RVPI Multiple: The ratio of net asset value divided by the amount of contributions paid by the investor.

Net IRR: The total net return for an investment or portfolio over the period of time the client has funds invested. Total portfolio Inception Returns include returns from investments no longer held in the current portfolio.



NCREIF Region Map

Geographic Regions and Divisions







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Performance numbers in this presentation are based on quarterly data collected from SURS investment managers and calculated by Callan beginning in the third quarter of 2018. Quarterly performance history prior to the third quarter of 2018 was calculated and provided to Callan by the previous consultant, NEPC.





1901 Fox Drive, Champaign, IL 61820-7333 800-275-7877 • 217-378-8800 • (Fax) 217-378-9800 www.surs.org

Investment Department

To: Investment Committee
From: Investment Staff
Date: November 23, 2022
Re: Summary Risk Report

Attached is the Summary Risk Report for the quarter ending September 30, 2022. Highlights for the quarter include:

- Appropriation Summary FY 2022 state appropriations received were approximately \$530 million, or 100% of the anticipated \$530 million FYTD appropriations due, as of September 30, 2022. The total FY 2023 appropriation is \$2,118,567,000. The actuarial benefit payment projection for FY 2023 is \$3,114,392,000. The total FY 2022 appropriation was paid in full as of June 27, 2022.
- Cash Account Summary Ending cash on hand was approximately \$102 million as of September 30, 2022. Net private partnership cash flows during the quarter were negative and approximately \$266 million.
- SURS Risk Exposures 93% of Total Risk comes from the Non-Traditional Growth, Traditional Growth, and Stabilized Growth classes as of September 30,2022.
- Total portfolio risk decreased from 13.83% to 12.72%.
 - Benchmark Risk decreased from 11.47% to 10.78%.
 - Active Risk decreased from 11.67% to 3.00%.
- Liquidity Assets in Principal Protection, TIPS, CRO, Overlay, Cash, and Transition, the most liquid categories, amount for 34.4% of assets. Assets in these classes would allow the fund to cover 2.2 years of benefits assuming no contributions to the System or 7.3 years assuming contributions from the state and members. SURS projected annual net cash outflows are between \$830 million and \$1.2 billion over the next 5 years.
- Risk Environment & Sentiment:
 - Market risk levels are high for Equity Volatility, Fixed Income Volatility, and Systemic Risk
 - U.S Equity and Private Equity Valuations remain high, as do Real Estate vs Treasury Spreads
 - Market sentiment towards economic growth is negative for the second consecutive quarter
- Operational Risk Summary: Shows a snapshot of key contracts and procedures to be reviewed periodically. No issues to report.



Summary Risk Report

Quarter Ending September 30, 2022



Appropriation Summary

<u>Month</u>	Amount Due	Amount Received	(Under)/Over	% Received
July	\$176,547,250	\$176,547,250	-	100%
August	\$176,547,250	\$176,547,250	-	100%
September	\$176,547,250	\$176,547,250	-	100%
October				
November				
December				
January				
February				
March				
April				
May				
June				
FYTD	\$529,641,750	\$529,641,750	-	100%

Total appropriation for FY 2023 is \$2,118,567,000

Actuarial benefit payments projection for FY 2023: \$3,114,392,000

A supplemental amount of \$38,759,300 was received in July from the Pension Stabilization Fund and is not included in the table above.



Cash Account Summary

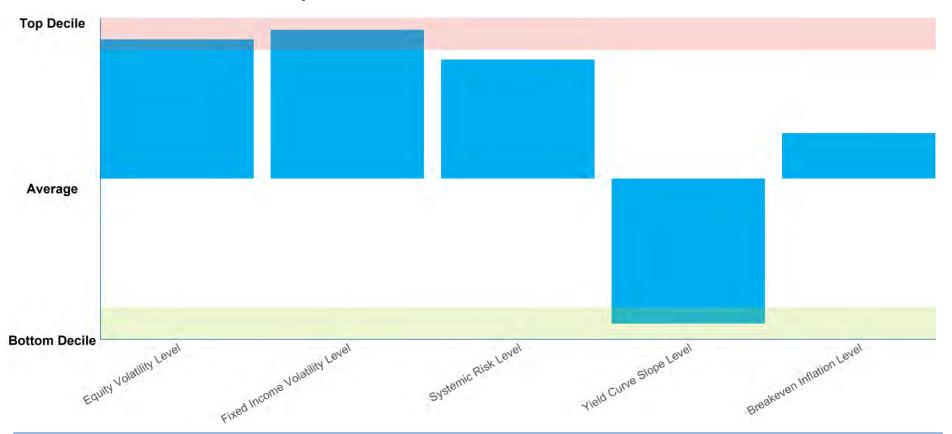
October 1, 2021 – September 30, 2022										
	Oct 1 – Dec 31	Jan 1 – Mar 31	Apr 1 – Jun 30	Jul 1 – Sep 30						
Beginning Balance	\$353,303,017	\$129,653,589	\$402,610,004	\$386,001,963						
Cash In:										
Partnership Distributions	264,675,952	161,126,077	140,160,145	79,941,958						
Transfers	565,527,148	931,044,033	242,549,670	708,674,256						
Total Cash In:	830,203,100	1,092,170,110	382,709,815	788,616,214						
Cash Out:										
Partnership Capital Calls	(367,942,406)	(815,671,708)	(223,003,649)	(345,448,990)						
Transfers	(166,411,691)	(205,000,532)	(60,000,000)	(378,003,851)						
Net Contributions (Contributions less Benefit Payments)	(519,498,430)	(201,458,544)	(116,314,206)	(349,261,032)						
Total Cash Out:	(1,053,852,528)	(819,213,696)	(399,317,855)	(1,072,713,873)						
Ending Balance	\$129,653,589	\$402,610,004	\$386,001,963	\$101,904,304						

Net private partnership cash flows were negative \$266 million for the quarter

Net contributions (contributions less benefit payments) were negative \$349 million for the quarter



Today's Risk Environment – Risk & Valuation



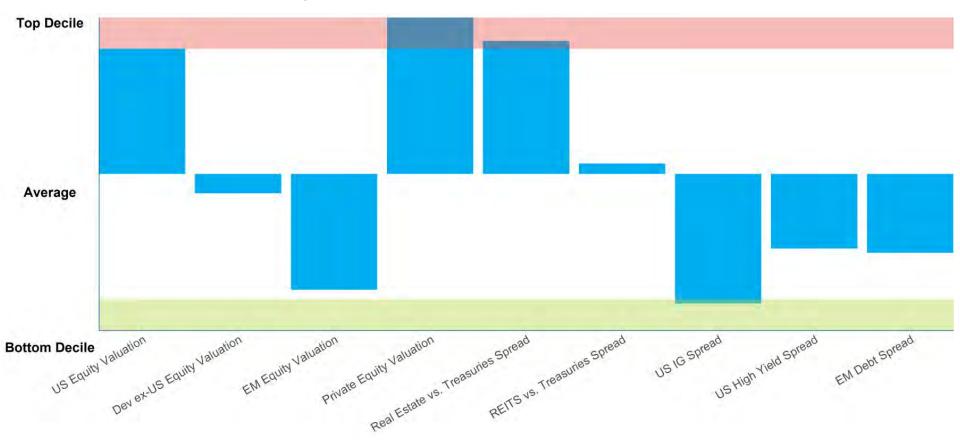
Market Risk Levels: Current level of each indicator compared to its history.

Increase from last quarter in Equity Volatility Level and Fixed Income Volatility Level.

Decrease from last quarter in Yield Curve Slope Level, Systemic Risk Level, and Breakeven Inflation Level.



Today's Risk Environment – Risk & Valuation



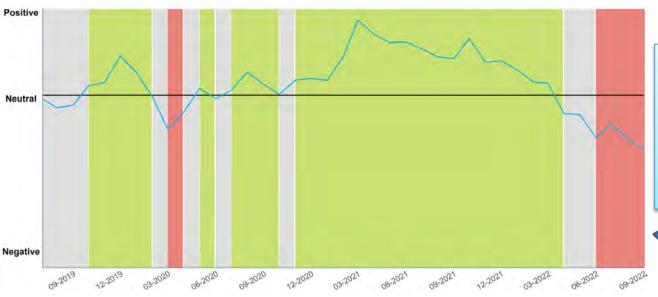
Market Valuations: Current state of valuation metrics per asset class relative to their own history.

U.S. Equity Valuation, Private Equity Valuation, and Real Estate vs Treasuries Spread are very high. Other valuations remain attractive.



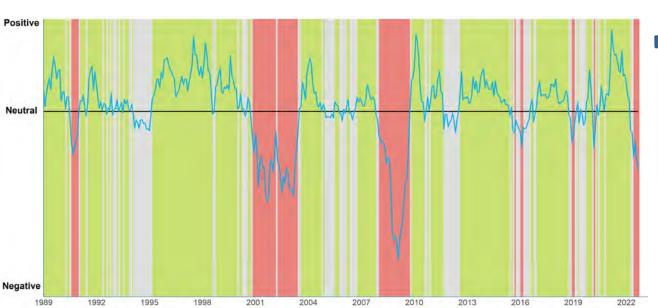
Today's Risk Environment – Sentiment/Concern





Red indicator indicates that market's sentiment towards growth risk is negative

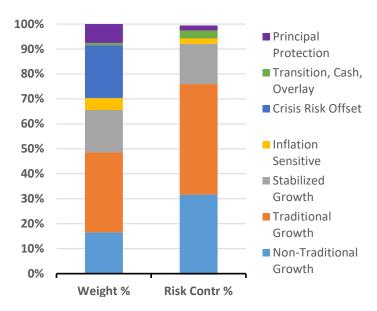




Market's sentiment towards growth risk is negative



SURS Risk Exposures

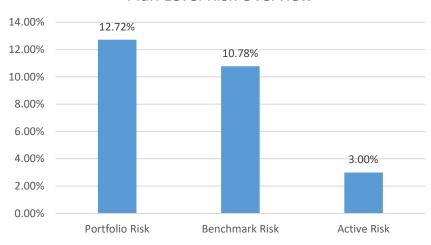


Total Portfolio Risk comes primarily from the Traditional Growth and Non-Traditional Growth asset classes.

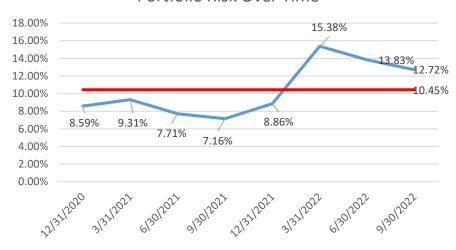
Portfolio Risk and Benchmark Risk decreased slightly in the quarter.

Portfolio Risk decreased from 13.83% to 12.72% over the past quarter, higher than the 10.45% average over time

Plan Level Risk Overview



Portfolio Risk Over Time





Scenario Analysis

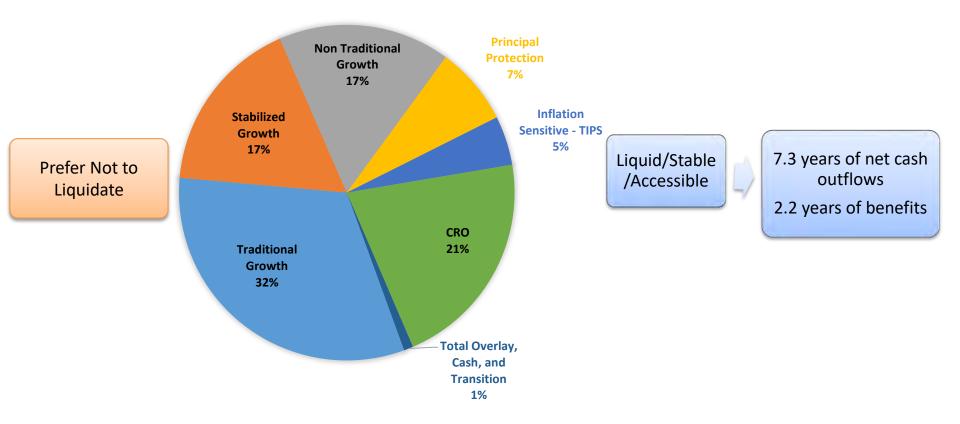
Scenario	Description	% Loss
Credit '07	Credit & liquidity crisis stemming from a severe slowdown in the housing market causing significant widening of credit spreads and increased implied volatility.	(10.41%)
Crash '08	Credit & liquidity crisis and equity market crash set off by Lehman Brothers bankruptcy. Significant credit spreads widening caused by massive deleveraging.	(19.87%)
Fed Policy at Growth Inflection – Growth Disappoints	Reopening of the US economy is put on hold as COVID 19 variants drive infection rates up, resulting in another round of lockdowns.	(5.29%)
Fed Policy at Growth Inflection – Economy Overheats	The US economy recovers sharply following a successful vaccine rollout, leading to elevated risk asset valuations and unexpectedly high inflation. Faced with apparent economic overheating, the Fed hastens its tapering of asset purchases and pulls rate hike expectations forward to early 2022.	(4.47%)
Stock Market Drop Global	1% probability movement of MSCI World Market Down	(6.22%)

Current portfolio stress tested using historical scenarios.



Liquidity Profile

SURS TOTAL PORTFOLIO



Liquid/Stable group consists of Principal Protection, Inflation Sensitive – TIPS, CRO and Total Overlay which constitute for 34.4% of SURS portfolio.

SURS Projected Annual Net Contributions: -\$830M to -\$1.2B over next 5 years



S-U-R-S Operational Risk Summary

Operational Risk	Target Review Cycle	Last Reviewed	Comments
Asset Allocation	3-5 Years	June 2021	
Investment Beliefs	3-5 Years	January 2020	
Investment Policy	Annual	September 2022	
Investment Procurement Policy	Annual	September 2022	
Private Real Assets Pacing and Strategic Plan	Annual	December 2021	Scheduled for December 2022
Private Equity Pacing and Strategic Plan	Annual	December 2021	Scheduled for December 2022
Private Credit Pacing and Strategic Plan	Annual	February 2022	
Capital Market Assumptions Review	Annual	March 2022	
Custodial Review	Annual	August 2022	
Securities Lending Review	Annual	March 2022	
Proxy Voting Guidelines	Annual	January 2022	2022 U.S., Public Pension and International Guidelines published on SURS website



S·U·R·S Operational Risk Summary

Relationships with Contract Terms	Contracted To	Comments
Northern Trust - Custodian	December 2026	
Meketa - General Consultant	February 28, 2023	Search conclusion is on the agenda for December 2022 Investment Committee Meeting
CAPTRUST - DC Specialty	March 31, 2023	Search conclusion scheduled for February 2023 Investment Committee Meeting
Callan - Real Assets Specialty	September 29, 2023	Search Scheduled to conclude in June 2023
Meketa – Private Credit	December 10, 2025	Private Credit Advisor
Aksia TorreyCove	September 1, 2024	Private Equity Advisor
Glass Lewis - Proxy Voting Services	October 1, 2024	
ISBI, TRS, SURS Agreement - Quarterly Restricted Securities	October 31, 2022	ISBI negotiated an annual contract with MSCI to provide the quarterly restricted securities list to October 2022. An agreement with Glass Lewis is still in place to provide the expatriated companies list. Costs for these services are shared equally between SURS, ISBI and TRS.

SURS FY 2023 Private Equity & Private Credit Commitment Activity

Date Closed	Fund	Vintage Year	Strategy	Sub-Strategy	Geography	Commitment (USD)			
No Private Equity commitments closed during the July 1, 2022 to September 30, 2022 quarter.									
	FY 2023 Private Equity Commitments		•			\$ -			

Private Credit Com	mitments						
7/1/2022	Silver Rock Tactical Allocation Fund - Vintage 2022*	2022	Private Debt	Special Situations	North America	\$	200,000,000
9/30/2022	Ares Pathfinder Core Fund	2022	Private Debt	Specialty Lending	North America	\$	50,000,000
		•	•			•	
	FY 2023 Private Credit Commitments					\$	250,000,000

^{*}MWDBE-owned firm



December 8, 2022

Third Quarter 2022 Supplement to the Board Report

MEKETA

Illinois State Universities Retirement System

Agenda

- 1. Performance Results
- 2. Private Markets
- 3. Capital Markets Outlook & Risk Metrics
- 4. Appendix

Performance Results



Illinois State Universities Retirement System US Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
US Equity	1,611,229,106	-4.6	-16.4	7.6	8.2	10.5	11.1	10.7	Oct-80
Dow Jones U.S. Total Stock Market		<u>-4.6</u>	<u>-18.1</u>	<u>7.5</u>	<u>8.5</u>	<u>10.8</u>	<u>11.3</u>		Oct-80
Excess Return		0.0	1.7	0.1	-0.3	-0.3	-0.2		
Passive Large US Equity	1,510,805,207	-4.4	-16.2	8.5	9.1	11.3	11.6	10.9	Oct-80
Dow Jones U.S. Total Stock Market		<u>-4.6</u>	<u>-18.1</u>	<u>7.5</u>	<u>8.5</u>	<u>10.8</u>	<u>11.3</u>		Oct-80
Excess Return		0.2	1.9	1.0	0.6	0.5	0.3		
Rhumbline	1,510,805,207	-4.4	-17.0	8.1	8.9	11.2	11.6	8.6	Feb-05
Rhumbline Equity Index		<u>-4.4</u>	<u>-17.2</u>	<u>8.1</u>	<u>8.8</u>	<u>11.1</u>	<u>11.5</u>	<u>8.6</u>	Feb-05
Excess Return		0.0	0.2	0.0	0.1	0.1	0.1	0.0	
Mid Cap	100,423,894	-7.8	-20.3	5.9	5.8	7.8		7.4	Dec-13
Russell MidCap		<u>-3.4</u>	<u>-19.4</u>	<u>5.2</u>	<u>6.5</u>	<u>8.8</u>		<u>8.0</u>	Dec-13
Excess Return		-4.4	-0.9	0.7	-0.7	-1.0		-0.6	
Channing Capital Management- SMID	100,423,894	-7.8	-20.3	2.5				-0.2	Feb-18
Russell 2500 Value		<u>-4.5</u>	<u>-15.4</u>	<u>4.5</u>				<u>2.9</u>	Feb-18
Excess Return		-3.3	-4.9	-2.0				-3.1	

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Non US Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non US Equity	1,285,705,067	-9.6	-25.0	-1.8	-1.2	3.1	3.3	5.4	May-86
SURS Non US Equity Blend		-9.7	-25.7	<u>-1.3</u>	-0.7	<u>3.4</u>	<u>3.1</u>		May-86
Excess Return		0.1	0.7	-0.5	-0.5	-0.3	0.2		,
Active Non-US Equity	966,333,062	-9.1	-24.3	-1.6	-1.1	2.9	4.5		Jul-92
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>	<u>-1.8</u>	<u>-0.8</u>	<u>2.8</u>	<u>3.7</u>		Jul-92
Excess Return		0.3	0.8	0.2	-0.3	0.1	0.8		
Strategic Global Advisors	269,236,700	-8.8	-25.9	-3.3	-2.5	1.8	4.2	3.7	Sep-08
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>	<u>-1.8</u>	<u>-0.8</u>	<u>2.8</u>	<u>3.7</u>	<u>2.1</u>	Sep-08
Excess Return		0.6	-0.8	-1.5	-1.7	-1.0	0.5	1.6	
Ativo	234,570,300	-10.3	-24.9	-3.9	-1.9	1.3	2.8	2.0	Aug-08
MSCI ACWI ex US		<u>-9.9</u>	<u>-25.2</u>	<u>-1.5</u>	<u>-0.8</u>	<u>3.3</u>	<u>3.0</u>	<u>1.7</u>	Aug-08
Excess Return		-0.4	0.3	-2.4	-1.1	-2.0	-0.2	0.3	
GlobeFlex Capital	288,240,415	-8.6	-21.5	1.4	-0.7	4.1	4.7	5.5	Dec-11
MSCI ACWI ex USA		<u>-9.9</u>	<u>-25.2</u>	<u>-1.5</u>	<u>-0.8</u>	<u>3.3</u>	<u>3.0</u>	<u>3.6</u>	Dec-11
Excess Return		1.3	3.7	2.9	0.1	0.8	1.7	1.9	
Solstein Capital	76,980,271	-7.9	-26.0	0.7				1.3	Nov-17
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>	<u>-1.8</u>				<u>-1.2</u>	Nov-17
Excess Return		1.5	-0.9	2.5				2.5	
Xponance Non US Equity	97,305,375	-9.5	-26.1					5.7	Apr-20
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>					<u>5.1</u>	Apr-20
Excess Return		-0.1	-1.0					0.6	
Xponance - Arga	14,413,303	-10.1	-22.6	3.4	2.2			5.4	Aug-16
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>	<u>-1.8</u>	<u>-0.8</u>			<u>2.4</u>	Aug-16
Excess Return		-0.7	2.5	5.2	3.0			3.0	
Xponance - Denali	14,147,684	-11.1	-26.1	-5.5	-4.3			-0.1	Mar-17
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>	<u>-1.8</u>	<u>-0.8</u>			<u>1.3</u>	Mar-17
Excess Return		-1.7	-1.0	-3.7	-3.5			-1.4	

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Non US Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Xponance - Martin Investors	19,568,409	-9.3	-23.3					2.1	May-20
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>					<u>2.6</u>	May-20
Excess Return		0.1	1.8					-0.5	
Xponance - Foresight GL	25,085,887	-8.8	-20.8					3.8	May-20
MSCI EAFE		<u>-9.4</u>	<u>-25.1</u>					<u>2.6</u>	May-20
Excess Return		0.6	4.3					1.2	
Xponance - Redwood	24,015,092	-7.2						-23.8	Apr-22
MSCI EAFE		<u>-9.4</u>						<u>-22.5</u>	Apr-22
Excess Return		2.2						-1.3	
Passive Non-US Equity	319,371,810	-10.9	-27.0	-2.8	-1.6	2.9	2.7		Apr-86
MSCI ACWI ex USA		<u>-9.9</u>	<u>-25.2</u>	<u>-1.5</u>	<u>-0.8</u>	<u>3.3</u>	<u>3.0</u>		Apr-86
Excess Return		-1.0	-1.8	-1.3	-0.8	-0.4	-0.3		
NTAM ACWI Ex-US IMI	219,386,513	-10.4	-25.5					-2.2	Jul-20
MSCI ACWI ex USA IMI		<u>-9.7</u>	<u>-25.7</u>					<u>-2.3</u>	Jul-20
Excess Return		-0.7	0.2					0.1	
State Street MSCI EM	99,552,043	-12.1	-					-30.4	Nov-21
MSCI Emerging Markets		<u>-11.6</u>						<u>-28.8</u>	Nov-21
Excess Return		-0.5						-1.6	

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Global Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Global Equity	4,119,637,600	-7.4	-19.8	6.0	6.8	9.4	9.1	7.1	May-02
SURS Global Equity Blend		<u>-6.6</u>	<u>-21.2</u>	<u>3.6</u>	<u>4.4</u>	<u>7.4</u>	<u>7.2</u>	<u>6.2</u>	May-02
Excess Return		-0.8	1.4	2.4	2.4	2.0	1.9	0.9	
Global Equity - Active	2,169,098,733	-7.7	-19.8					1.8	Nov-20
Wellington	474,519,804	-5.6	-20.6	4.7	5.6	8.1	8.9	7.2	May-02
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>	<u>3.7</u>	<u>4.4</u>	<u>7.4</u>	<u>7.3</u>	<u>6.4</u>	May-02
Excess Return		1.2	0.1	1.0	1.2	0.7	1.6	8.0	
Mondrian	467,687,734	-9.9	-16.4	1.9	3.3	6.6	6.3	6.7	Dec-11
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>	<u>3.7</u>	<u>4.4</u>	<u>7.4</u>	<u>7.3</u>	<u>7.9</u>	Dec-11
Excess Return		-3.1	4.3	-1.8	-1.1	-0.8	-1.0	-1.2	
T. Rowe Price Global	289,267,229	-5.6	-32.7	7.9	9.3	12.3	12.6	12.1	Nov-08
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>	<u>3.7</u>	<u>4.4</u>	<u>7.4</u>	<u>7.3</u>	<u>8.5</u>	Nov-08
Excess Return		1.2	-12.0	4.2	4.9	4.9	5.3	3.6	
Ariel Investments	201,385,725	-9.4	-8.9					3.7	Jul-20
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>					<u>1.8</u>	Jul-20
Excess Return		-2.6	11.8					1.9	
Earnest Global	223,051,769	-6.4	-19.7					6.1	Jul-20
MSCI ACWI IMI Net USD		<u>-6.6</u>	<u>-21.2</u>					<u>2.0</u>	Jul-20
Excess Return		0.2	1.5					4.1	
GQG Partners	241,627,650	-10.3	-10.7					1.9	Jul-20
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>					<u>1.8</u>	Jul-20
Excess Return		-3.5	10.0					0.1	
Strategic Global Advisors	143,109,389	-5.3	-18.7					3.3	Jul-20
MSCI World		<u>-6.2</u>	<u>-19.6</u>					<u>3.0</u>	Jul-20
Excess Return		0.9	0.9					0.3	

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Global Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Xponance Global Equity	128,449,434	-8.1	-25.8					-11.1	Jan-21
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>					<u>-6.9</u>	Jan-21
Excess Return		-1.3	-5.1					-4.2	
Xponance - Arga Inv ACWI	17,816,817	-10.4	-22.0					-5.2	Jan-21
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>					<u>-6.9</u>	Jan-21
Excess Return		-3.6	-1.3					1.7	
Xponance - Channing	13,433,307	-8.9	-26.7					-11.8	Jan-21
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>					<u>-6.9</u>	Jan-21
Excess Return		-2.1	-6.0					-4.9	
Xponance - Frontier GL	20,103,252	-9.8	-27.0					-13.3	Jan-21
MSCI ACWI		<u>-6.8</u>	<u>-20.7</u>					<u>-6.9</u>	Jan-21
Excess Return		-3.0	-6.3					-6.4	
Xponance - Fithian	13,459,673	-9.6						-25.7	Mar-22
MSCI ACWI		<u>-6.8</u>						<u>-19.7</u>	Mar-22
Excess Return		-2.8						-6.0	
Xponance - Foresight	32,496,781	-7.8						-16.4	Mar-22
MSCI ACWI		<u>-6.8</u>						<u>-19.7</u>	Mar-22
Excess Return		-1.0						3.3	
Xponance - Martin	19,008,782	-8.1						-21.2	Mar-22
MSCI ACWI		<u>-6.8</u>						<u>-19.7</u>	Mar-22
Excess Return		-1.3						-1.5	
Xponance - Maytech	12,125,689	-4.7						-28.3	Mar-22
MSCI ACWI		<u>-6.8</u>						<u>-19.7</u>	Mar-22
Excess Return		2.1						-8.6	
Global Equity - Passive	1,950,538,867	-7.0	-19.7						
BTC Global Alpha Tilts	1,950,538,867	-7.0	-19.7					3.3	Jul-20
MSCI ACWI IMI Net USD		<u>-6.6</u>	<u>-21.2</u>					<u>2.0</u>	Jul-20
Excess Return		-0.4	1.5					1.3	

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Option Strategies (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Option Strategies	442,071,948	-4.6	-11.5	3.8				4.0	Apr-18
SURS Options Strategies Blend		<u>-6.8</u>	<u>-8.9</u>	<u>3.2</u>				<u>2.9</u>	Apr-18
Excess Return		2.2	-2.6	0.6				1.1	
Neuberger Berman S&P 500	309,877,008	-4.3	-10.8	5.1				5.4	Apr-18
CBOE S&P 500 PutWrite Index USD		<u>-6.8</u>	<u>-7.6</u>	<u>3.9</u>				<u>3.3</u>	Apr-18
Excess Return		2.5	-3.2	1.2				2.1	
Gladius - Options	132,194,940	-5.1	-11.9	1.8				1.1	May-18
SURS Gladius Benchmark		<u>-6.8</u>	<u>-11.1</u>	<u>2.4</u>				<u>1.8</u>	May-18
Excess Return		1.7	-0.8	-0.6				-0.7	

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Stabilized Real Assets (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Stabilized Real Assets	1,443,620,025	1.0	26.0	12.7	9.8	9.2		9.6	Jun-13
SURS Stabilized Real Assets Blend		<u>4.3</u>	<u>27.7</u>	<u>11.5</u>	<u>9.5</u>	<u>9.3</u>		<u>10.1</u>	Jun-13
Excess Return		-3.3	-1.7	1.2	0.3	-0.1		-0.5	
Core	926,446,670	0.4	26.4	12.7	9.7	9.2		9.4	Jun-13
NCREIF ODCE Net 1 Qtr Lag		<u>4.5</u>	<u>28.4</u>	<u>11.7</u>	<u>9.6</u>	<u>9.4</u>		<u>10.2</u>	Jun-13
Excess Return		-4.1	-2.0	1.0	0.1	-0.2		-0.8	
UBS Trumbull Property Fund	106,866,354	-0.1	16.7	6.9	5.6	6.0	7.0	5.4	May-06
SURS Real Estate Blend		<u>4.5</u>	<u>28.4</u>	<u>11.7</u>	<u>9.6</u>	<u>9.4</u>	<u>10.2</u>	<u>6.9</u>	May-06
Excess Return		-4.6	-11.7	-4.8	-4.0	-3.4	-3.2	-1.5	
JP Morgan Strategic	304,687,133	-1.5	18.2	10.5	8.3	8.1		8.9	Jun-14
SURS Real Estate Blend		<u>4.5</u>	<u>28.4</u>	<u>11.7</u>	<u>9.6</u>	<u>9.4</u>		<u>9.9</u>	Jun-14
Excess Return		-6.0	-10.2	-1.2	-1.3	-1.3		-1.0	
Heitman Hart Fund	315,765,454	1.6	25.9	12.0	9.7	9.6		9.6	Jul-14
SURS Real Estate Blend		<u>4.5</u>	<u>28.4</u>	<u>11.7</u>	<u>9.6</u>	<u>9.4</u>		<u>9.9</u>	Jul-14
Excess Return		-2.9	-2.5	0.3	0.1	0.2		-0.3	
Prologis Target US Logis	189,040,464	1.7	51.4					37.5	Oct-20
SURS Real Estate Blend		<u>4.5</u>	<u>28.4</u>					<u>17.2</u>	Oct-20
Excess Return		-2.8	23.0					20.3	
Clarion Lion Properties Fund, LP	10,045,202							0.5	Aug-22
SURS Real Estate Blend								<u>3.0</u>	Aug-22
Excess Return								-2.5	

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Stabilized Real Assets (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Plus	490,374,596	2.3	26.5	13.1				10.3	Sep-18
SURS Real Estate Blend		<u>4.5</u>	<u>28.4</u>	<u>11.7</u>				<u>10.1</u>	Sep-18
Excess Return		-2.2	-1.9	1.4				0.2	
Blackstone Property Partners	274,529,581	2.4	25.3	11.1				9.2	Feb-19
SURS Real Estate Blend		<u>4.5</u>	<u>28.4</u>	<u>11.7</u>				<u>10.4</u>	Feb-19
Excess Return		-2.1	-3.1	-0.6				-1.2	
Carlyle Property Investors	177,984,166	2.4	30.0	17.4				13.9	Sep-18
SURS Real Estate Blend		<u>4.5</u>	<u>28.4</u>	<u>11.7</u>				<u>10.1</u>	Sep-18
Excess Return		-2.1	1.6	5.7				3.8	
GI Partners ETS FUND	37,860,849	0.0						0.0	May-22
Core Infrastructure	26,798,759	2.3	0.9					-9.6	Feb-21
FTSE Dev Core Infra 50/50		<u>-10.1</u>	<u>-6.4</u>					<u>1.8</u>	Feb-21
Excess Return		12.4	7.3					-11.4	
Blackrock GL Renewable	26,798,759	2.3	0.9					-9.6	Feb-21
FTSE Dev Core Infra 50/50		<u>-10.1</u>	<u>-6.4</u>					<u>1.8</u>	Feb-21
Excess Return		12.4	7.3					-11.4	

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Public Credit (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Public Credit	1,532,682,458	-2.9	-15.8	-2.7				-2.7	Sep-19
SURS Credit Fixed Income Blend		<u>-2.4</u>	<u>-15.7</u>	<u>-2.8</u>				<u>-2.8</u>	Sep-19
Excess Return		-0.5	-0.1	0.1				0.1	
Diversified Credit	1,202,185,571	-2.8	-15.4	-2.3	0.1	1.2		1.3	Jun-13
SURS Credit ex EMD Blend		<u>-2.5</u>	<u>-15.4</u>	<u>-2.2</u>	<u>0.4</u>	<u>1.0</u>		<u>1.4</u>	Jun-13
Excess Return		-0.3	0.0	-0.1	-0.3	0.2		-0.1	
PIMCO Global Credit	299,027,963	-2.5	-14.5	-2.3				-2.3	Sep-19
SURS Credit ex EMD Blend		<u>-2.5</u>	<u>-15.4</u>	<u>-2.2</u>				<u>-2.2</u>	Sep-19
Excess Return		0.0	0.9	-0.1				-0.1	
Neuberger Berman	903,143,041	-2.9	-15.8	-2.1				-2.1	Sep-19
SURS Credit ex EMD Blend		<u>-2.5</u>	<u>-15.4</u>	<u>-2.2</u>				<u>-2.2</u>	Sep-19
Excess Return		-0.4	-0.4	0.1				0.1	

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Illinois State Universities Retirement System

Public Credit (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Bivium Credit	330,496,887	-3.3	-17.1					1.6	Mar-20
Bivium Credit Blend		<u>-3.7</u>	<u>-18.7</u>					<u>-1.5</u>	Mar-20
Excess Return		0.4	1.6					3.1	
BiviumEMD - LM Capital Group	63,648,128	-2.9	-12.4	-1.3	0.7	3.2		2.3	Apr-15
JP Morgan Corporate EMBI Broad TR USD		<u>-3.4</u>	<u>-18.6</u>	<u>-3.7</u>	<u>-0.2</u>	<u>2.4</u>		<u>1.7</u>	Apr-15
Excess Return		0.5	6.2	2.4	0.9	0.8		0.6	
BiviumEMD - GIA Partners LLC	55,808,103	-3.1	-18.3	-2.7	0.1	3.2		2.3	Apr-15
JP Morgan Corporate EMBI Broad TR USD		<u>-3.4</u>	<u>-18.6</u>	<u>-3.7</u>	<u>-0.2</u>	<u>2.4</u>		<u>1.7</u>	Apr-15
Excess Return		0.3	0.3	1.0	0.3	0.8		0.6	
Bivium - RVX Asset Mgmt	54,933,376	-2.0	-17.7					-4.1	Dec-19
JP Morgan Corporate EMBI Broad TR USD		<u>-3.4</u>	<u>-18.6</u>					<u>-4.7</u>	Dec-19
Excess Return		1.4	0.9					0.6	
Bivium - New Century Advisors	44,858,321	-6.7	-21.7					-4.8	Nov-19
BBgBC Global Corp Agg Blend		<u>-6.5</u>	<u>-21.3</u>					<u>-5.4</u>	Nov-19
Excess Return		-0.2	-0.4					0.6	
Bivium - Integrity	37,206,931	-4.9	-17.3					-3.5	Nov-19
Bloomberg US Corporate Inv Grade TR		<u>-5.1</u>	<u>-18.5</u>					<u>-4.2</u>	Nov-19
Excess Return		0.2	1.2					0.7	
Bivium - GIA Partners, LLC	73,928,284	-1.8	-16.5					-1.7	Nov-19
ICE/BAML GI HY Const Hedge Blend		<u>-1.0</u>	<u>-16.0</u>					<u>-2.1</u>	Nov-19
Excess Return		-0.8	-0.5					0.4	

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Public Credit (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Bivium Cash	405	0.5	0.3						Sep-19
91 Day T-Bills		<u>0.5</u>	<u>0.6</u>			-			Sep-19
Excess Return		0.0	-0.3						
Bivium Fixed Income Transition	5	0.0	0.0						Oct-19
Bivium Credit Blend		<u>-3.7</u>	<u>-18.7</u>						Oct-19
Excess Return		3.7	18.7						
Sanctioned Asset - SUR75	55,000	-14.6						-18.5	Jun-22
Sanctioned Asset - SUR58	58,333							-14.4	Jul-22

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Private Credit (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Credit	322,108,648	-0.6	5.6					10.9	Jul-20
SURS Private Credit Blend		<u>0.4</u>	<u>-8.5</u>					<u>2.3</u>	Jul-20
Excess Return		-1.0	14.1					8.6	
PIMCO Disco III	16,924,253	-2.5	0.2					9.4	Jul-20
SURS Private Credit Blend		<u>0.4</u>	<u>-8.5</u>					<u>2.3</u>	Jul-20
Excess Return		-2.9	8.7					7.1	
Silver Rock Tactical Allocation Fund, L.P.	141,432,915	-2.6	1.7		-			4.4	Feb-21
SURS Private Credit Blend		<u>0.4</u>	<u>-8.5</u>					<u>-3.0</u>	Feb-21
Excess Return		-3.0	10.2					7.4	
Crayhill Principal Strategies Fund II	18,274,381	3.4	76.8					54.2	Jun-21
SURS Private Credit Blend		<u>0.4</u>	<u>-8.5</u>					<u>-5.3</u>	Jun-21
Excess Return		3.0	85.3					59.5	
NB Private Debt Fund IV	88,941,144	2.3	10.5					10.5	Oct-21
SURS Private Credit Blend		<u>0.4</u>	<u>-8.5</u>					<u>-8.5</u>	Oct-21
Excess Return		1.9	19.0					19.0	
Turning Rock Fund II	22,564,516	1.5						1.5	Feb-22
SURS Private Credit Blend		<u>0.4</u>						<u>-8.1</u>	Feb-22
Excess Return		1.1						9.6	
Fortress Lending Fund III	19,243,734	-3.6						-4.1	Mar-22
SURS Private Credit Blend		<u>0.4</u>						<u>-7.0</u>	Mar-22
Excess Return		-4.0						2.9	
Ares Pathfinder Core Fund	4,112,214	0.0						0.0	Jul-22
Silver Rock Tactical Allocation Fund 2022	10,615,491							1.6	Aug-22
SURS Private Credit Blend								<u>-3.1</u>	Aug-22
Excess Return								4.7	

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Non-Core Real Estate (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-Core Real Estate	477,240,989	0.6	23.1	7.9	8.4	9.4		9.3	Aug-15
NCREIF ODCE Net Lagged + 1.5%	, ,	4.9	30.2	13.4	11.2	<u>11.0</u>		11.1	Aug-15
Excess Return		-4.3	-7.1	-5.5	-2.8	-1.6		-1.8	
Blackstone Re Part Asia	5,197,970	0.0						0.0	Jul-22
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>						<u>4.9</u>	Jul-22
Excess Return		-4.9						-4.9	
Blackstone RE EU VI	32,884,494	2.9	18.2					7.0	Nov-19
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>					<u>13.6</u>	Nov-19
Excess Return		-2.0	-12.0					-6.6	
Blue Vista RE Partners IV	15,869,576	0.5	52.5	23.4	19.2			12.6	Apr-16
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>			<u>10.7</u>	Apr-16
Excess Return		-4.4	22.3	10.0	8.0			1.9	
Brookfield Fund III	31,553,794	-0.3	17.8	11.8				7.7	Mar-19
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>				<u>12.2</u>	Mar-19
Excess Return		-5.2	-12.4	-1.6				-4.5	
Brookfield Strategy RE Partners II	33,809,979	3.8	37.4	19.6	15.4			13.9	Feb-16
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>			<u>10.8</u>	Feb-16
Excess Return		-1.1	7.2	6.2	4.2			3.1	
CHC RE Fund VIII	3,720,803	1.0	101.3	47.2				34.9	Sep-18
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>				<u>11.7</u>	Sep-18
Excess Return		-3.9	71.1	33.8				23.2	
CHC Realty Partners IX	39,791,210	6.7	34.3					34.3	Oct-21
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>					<u>30.2</u>	Oct-21
Excess Return		1.8	4.1					4.1	

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Non-Core Real Estate (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Crow Holdings Realty Partners VII	1,649,693	-12.9	11.4	12.1	13.2			10.4	Jan-16
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>			<u>10.8</u>	Jan-16
Excess Return		-17.8	-18.8	-1.3	2.0			-0.4	
Dune Fund III	65,022,031	-0.3	7.3	-1.2	3.6	5.5		6.1	Jun-13
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>	<u>11.0</u>		<u>11.8</u>	Jun-13
Excess Return		-5.2	-22.9	-14.6	-7.6	-5.5		-5.7	
Dune Fund II	6,411,023	8.7	8.6	4.8	5.3	7.5	11.6	7.4	Mar-09
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>	<u>11.0</u>	<u>11.8</u>	<u>8.8</u>	Mar-09
Excess Return		3.8	-21.6	-8.6	-5.9	-3.5	-0.2	-1.4	
Dune Fund IV	23,459,920	3.7	26.5	-2.4				-2.2	Jul-19
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>				<u>12.9</u>	Jul-19
Excess Return		-1.2	-3.7	-15.8				-15.1	
Franklin Templeton EMREFF	3,953,768	-4.0	-13.6	-1.1	2.7	6.8	9.6	7.6	Aug-11
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>	<u>11.0</u>	<u>11.8</u>	<u>12.0</u>	Aug-11
Excess Return		-8.9	-43.8	-14.5	-8.5	-4.2	-2.2	-4.4	
Franklin Templeton FTPREF	1,513,390	-0.7	6.7	-3.4	4.6	9.6	13.7	8.9	May-12
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>	<u>11.0</u>	<u>11.8</u>	<u>11.8</u>	May-12
Excess Return		-5.6	-23.5	-16.8	-6.6	-1.4	1.9	-2.9	
Franklin Templeton MDP RE 2015	50,272,473	-0.2	20.8	2.3	2.0	-2.2		-2.2	Aug-15
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>	<u>11.0</u>		<u>11.1</u>	Aug-15
Excess Return		-5.1	-9.4	-11.1	-9.2	-13.2		-13.3	
Long Wharf RE Partners VI	26,567,587	5.8	37.3	28.7				25.4	Aug-19
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>				<u>13.1</u>	Aug-19
Excess Return		0.9	7.1	15.3				12.3	

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Non-Core Real Estate (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Mesirow MFIRE II	16,718,549	-12.8	-0.5	0.5	2.1	4.8	4.0	3.8	Mar-12
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>	<u>11.2</u>	<u>11.0</u>	<u>11.8</u>	<u>11.8</u>	Mar-12
Excess Return		-17.7	-30.7	-12.9	-9.1	-6.2	-7.8	-8.0	
Cabot Industrial Value VI	48,097,850	2.5	45.4					27.7	Aug-20
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>					<u>17.9</u>	Aug-20
Excess Return		-2.4	15.2					9.8	
Westbrook Real Estate Fund XI	25,966,915	6.0	19.4					18.7	Nov-20
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>					<u> 20.6</u>	Nov-20
Excess Return		1.1	-10.8					-1.9	
New Cap Partners Fund III	292,662	97.9	108.5					97.0	Sep-21
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>					<u> 29.2</u>	Sep-21
Excess Return		93.0	78.3					67.8	
Longpoint Realty Partners	29,396,942	1.6						11.2	Dec-21
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>						<u>24.7</u>	Dec-21
Excess Return		-3.3						-13.5	
Brasa Real Estate Fund II	15,090,360	-23.6						-7.7	Mar-22
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>						<u>15.8</u>	Mar-22
Excess Return		-28.5						-23.5	

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Non-Core Real Assets (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-Core Real Estate Debt	75,489,960	1.8	2.3	6.8				7.3	Nov-17
NCREIF ODCE Net Lagged + 1.5%		<u>4.9</u>	<u>30.2</u>	<u>13.4</u>				<u>11.3</u>	Nov-17
Excess Return		-3.1	-27.9	-6.6				-4.0	
Basis Investment Group Fund I	22,251,699								
Oaktree RE Debt Fund II	10,390,783								
Basis Investment Group Fund II	17,298,334								
Torchlight Debt Fund VII	25,549,144								

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-Core Farmland	39,893,566	-3.6	4.5					-2.4	Nov-20
NCREIF Farmland 1 Qtr Lag		<u>1.4</u>	<u>9.7</u>					<u>7.6</u>	Nov-20
Excess Return		-5.0	-5.2					-10.0	
Homestead Capital	39,893,566	-3.6	4.5					-2.4	Nov-20
NCREIF Farmland 1 Qtr Lag		<u>1.4</u>	<u>9.7</u>					<u>7.6</u>	Nov-20
Excess Return		-5.0	-5.2					-10.0	

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Infrastructure (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Non-Core Infrastructure	132,148,345	4.8	17.0	15.8	10.8	9.2	9.6	10.4	Dec-09
CPI+5% 1 Qtr Lagged		<u>4.3</u>	<u>14.5</u>	<u>10.2</u>	<u>9.1</u>	<u>8.3</u>	<u>7.7</u>	<u>7.6</u>	Dec-09
Excess Return		0.5	2.5	5.6	1.7	0.9	1.9	2.8	
Alinda Capital Partners	8,333,999	-7.4	-3.4	-3.4	-7.8	-5.5	-1.4	0.8	Dec-09
CPI+5% 1 Qtr Lagged		<u>4.3</u>	<u>14.5</u>	<u>10.2</u>	<u>9.1</u>	<u>8.3</u>	<u>7.7</u>	<u>7.6</u>	Dec-09
Excess Return		-11.7	-17.9	-13.6	-16.9	-13.8	-9.1	-6.8	
Macquarie Inf Partners Fnd III	46,948,482	7.9	24.9	21.8	18.6	15.7		11.8	Oct-14
CPI+5% 1 Qtr Lagged		<u>4.3</u>	<u>14.5</u>	<u>10.2</u>	<u>9.1</u>	<u>8.3</u>		<u>7.9</u>	Oct-14
Excess Return		3.6	10.4	11.6	9.5	7.4		3.9	
Macquarie Infra Partners IV	59,321,977								
Ember Infrastructure Partners	7,398,091	4.0	-3.2					-14.1	Sep-21
CPI-U + 5%		<u>1.4</u>	<u>13.6</u>					<u>13.2</u>	Sep-21
Excess Return		2.6	-16.8					-27.3	
Pantheon Global Infra Fund IV	9,911,039	-11.6						-11.3	Mar-22
CPI+5% 1 Qtr Lagged		<u>4.3</u>						<u>9.7</u>	Mar-22
Excess Return		-15.9						-21.0	

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Private Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity- Fund of Funds	2,196,857,477	-2.4	12.1	24.4	20.3	16.5	15.2	15.6	Jun-90
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>13.0</u>	Jun-90
Excess Return		12.8	26.8	15.9	9.2	4.7	0.8	2.6	
Pantheon Ventures	9,161,641	1.3	-27.1	-15.0	-6.2	-3.2	1.2	3.6	Feb-02
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>11.2</u>	Feb-02
Excess Return		16.5	-12.4	-23.5	-17.3	-15.0	-13.2	-7.6	
Pantheon 2014 Global Fund	131,025,132	-3.1	6.9	20.4	18.5	13.8		11.5	Feb-15
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>		<u>11.6</u>	Feb-15
Excess Return		12.1	21.6	11.9	7.4	2.0		-0.1	
Pantheon Europe III	1,208,010	-6.3	-17.5	3.3	5.6	7.2	7.5	11.3	Jan-03
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>13.1</u>	Jan-03
Excess Return		8.9	-2.8	-5.2	-5.5	-4.6	-6.9	-1.8	
Pantheon Europe VI	7,839,095	-10.3	-37.2	6.7	8.6	10.7	10.8	6.8	Sep-08
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>11.9</u>	Sep-08
Excess Return		4.9	-22.5	-1.8	-2.5	-1.1	-3.6	-5.1	
Pantheon Europe VII	21,241,126	-8.0	-18.2	16.2	14.1	14.5		10.9	Jan-13
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>		<u>14.0</u>	Jan-13
Excess Return		7.2	-3.5	7.7	3.0	2.7		-3.1	
Pantheon USA IX	70,753,374	-7.0	5.9	29.7	26.6	21.4		17.9	Dec-12
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>		<u>14.0</u>	Dec-12
Excess Return		8.2	20.6	21.2	15.5	9.6		3.9	
Pantheon USA VIII	34,506,970	-7.4	-7.6	15.9	17.5	15.3	15.3	10.6	Dec-07
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>11.0</u>	Dec-07
Excess Return		7.8	7.1	7.4	6.4	3.5	0.9	-0.4	

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Private Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Fairview Capital	111,288,775	-0.5	21.9	26.2	21.2	16.2		8.3	Apr-14
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>		<u>11.9</u>	Apr-14
Excess Return		14.7	36.6	17.7	10.1	4.4		-3.6	
Fairview Lincoln Fund Series B	27,080,549	-4.6	16.9					13.5	Mar-21
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>					<u>1.1</u>	Mar-21
Excess Return		10.6	31.6					12.4	
M2-EM PE Fund	119,547,940	-4.9	27.9	32.1	19.0			15.7	Oct-16
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>			<u>12.9</u>	Oct-16
Excess Return		10.3	42.6	23.6	7.9			2.8	
Adams Street 2007	3,207,123	-18.3	-55.1	-14.9	-6.6	-3.4	1.1	0.1	Jun-07
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>11.3</u>	Jun-07
Excess Return		-3.1	-40.4	-23.4	-17.7	-15.2	-13.3	-11.2	
Adams Street 2008	41,179,204	-12.3	-15.4	14.8	15.6	14.3	15.5	12.8	Jan-08
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>11.0</u>	Jan-08
Excess Return		2.9	-0.7	6.3	4.5	2.5	1.1	1.8	
Adams Street 2009	59,417,067	-9.4	-5.9	20.8	18.6	15.9	15.5	13.2	Jan-09
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>13.5</u>	Jan-09
Excess Return		5.8	8.8	12.3	7.5	4.1	1.1	-0.3	
Adams Street 2012	84,470,291	0.0	8.1	26.1	22.1	18.1	14.2	12.3	Apr-12
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>14.8</u>	Apr-12
Excess Return		15.2	22.8	17.6	11.0	6.3	-0.2	-2.5	
Adams Street 2013	133,616,947	0.0	9.1	25.2	22.2	18.3		12.9	Mar-13
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>		<u>14.3</u>	Mar-13
Excess Return		15.2	23.8	16.7	11.1	6.5		-1.4	

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Private Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Adams Street 2014	146,278,257	0.0	25.0	26.4	23.5	19.5		16.0	May-14
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>		<u>12.4</u>	May-14
Excess Return		15.2	39.7	17.9	12.4	7.7		3.6	
Adams Street 2015 Global Fund	195,333,764	0.0	12.2	29.8	26.4	30.8		30.4	Sep-15
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>		<u>11.4</u>	Sep-15
Excess Return		15.2	26.9	21.3	15.3	19.0		19.0	
Adams Street 2016 Global Fund	198,516,384	0.0	18.0	28.3	22.6			26.0	Dec-16
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>			<u>12.4</u>	Dec-16
Excess Return		15.2	32.7	19.8	11.5			13.6	
Adams Street 2017 Global Fund	126,707,784								
Adams Street 2018 Global	96,723,847								
Adams Street Non-US	2,227,224	21.9	5.2	4.9	5.2	4.7	5.5	4.2	Jun-98
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>10.3</u>	Jun-98
Excess Return		37.1	19.9	-3.6	-5.9	-7.1	-8.9	-6.1	
Adams Street Partners	3,519,712	-8.1	12.8	5.5	2.6	3.1	5.6		Jun-90
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>		Jun-90
Excess Return		7.1	27.5	-3.0	-8.5	-8.7	-8.8		
Adams Street Secondary Fund 5	6,628,993	0.0	2.1	9.5	9.0	7.9	5.9	5.9	Sep-12
SURS PE Blend		<u>-15.2</u>	<u>-14.7</u>	<u>8.5</u>	<u>11.1</u>	<u>11.8</u>	<u>14.4</u>	<u>14.4</u>	Sep-12
Excess Return		15.2	16.8	1.0	-2.1	-3.9	-8.5	-8.5	
Pantheon Multi-Strategy 2017	83,105,396								
Mesirow Private Equity	270,210,147								
Mesirow Co-Inv	72,283,626								
Pantheon Access 2018	138,205,028								

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Private Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity- Direct (Aksia)	716,522,608	-0.4	12.0	(70) 		(70) 		(70) 	Sep-19
MSCI ACWI IMI +2%1 Qtr Lag	,,-	-15.2	-14.7						Sep-19
Excess Return		14.8	26.7						,
Cortec Group Fund VII	33,988,798	5.4	2.3					23.8	Dec-19
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>9.3</u>	Dec-19
Excess Return		20.6	17.0					14.5	
Oceansound Partners Fund	18,349,754	-1.5	-2.7	6.2				7.0	Jan-20
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>	<u>8.0</u>				<u>7.8</u>	Jan-20
Excess Return		13.7	12.0	-1.8				-0.8	
Harvest Partners VIII	85,006,663	-0.4	15.2					17.1	Dec-19
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>9.3</u>	Dec-19
Excess Return		14.8	29.9					7.8	
Bregal Sagemount III	34,885,355	0.8	20.3					-27.7	Dec-19
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>9.3</u>	Dec-19
Excess Return		16.0	35.0					-37.0	
Reverence Capital II (TC)	61,729,388	8.3	19.4					30.9	Mar-20
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>6.9</u>	Mar-20
Excess Return		23.5	34.1					24.0	
Clearlake Capital Partners VI	43,339,997	-1.5	29.5					26.2	May-20
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>6.3</u>	May-20
Excess Return		13.7	44.2					19.9	
HG Capital Genesis 9 (TC)	6,614,611	11.9	-14.8					-99.8	Mar-21
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>1.1</u>	Mar-21
Excess Return		27.1	-0.1					-100.9	
HG Capital Saturn Fund 2	24,194,466	-24.6	-17.4					118.5	Jul-20
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>13.8</u>	Jul-20
Excess Return		-9.4	-2.7					104.7	

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Private Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
HG Capital Saturn Fund 3	89,179	-77.3		(/ c /			(/s/ 	-77.3	Jul-22
MSCI ACWI IMI +2%1 Qtr Lag		-15.2						-15.2	Jul-22
Excess Return		-62.1						-62.1	
Rubicon Tech Partners 3	26,531,328	-0.3	11.8					8.9	Jul-20
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>13.8</u>	Jul-20
Excess Return		14.9	26.5					-4.9	
Torrey Cove Co-Investment Fund	157,129,860	-0.1	21.9					19.4	Sep-20
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>11.8</u>	Sep-20
Excess Return		15.1	36.6					7.6	
MBK Partners Fund V (TC)	16,405,186	-1.6	-15.8					19.4	Mar-21
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>1.1</u>	Mar-21
Excess Return		13.6	-1.1					18.3	
Altaris Health PTR V	12,490,802	4.5	19.0					-0.8	Apr-21
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-2.2</u>	Apr-21
Excess Return		19.7	33.7					1.4	
Avance Inv Partners	6,511,100	0.5	3.6					3.0	Aug-21
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-10.6</u>	Aug-21
Excess Return		15.7	18.3					13.6	
Base 10 Adv Initiative FD	20,916,416	-4.4	0.1					0.6	Apr-21
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-2.2</u>	Apr-21
Excess Return		10.8	14.8					2.8	
GGV Capital VIII	11,848,109	0.4	17.9					-5.8	Apr-21
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-2.2</u>	Apr-21
Excess Return		15.6	32.6					-3.6	
GGV Discovery III	5,097,981	-0.3	45.8					19.3	Apr-21
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-2.2</u>	Apr-21
Excess Return		14.9	60.5					21.5	

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	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Oak HC-FT Partners V-A	1,177,436	0.0						0.0	Jul-22
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>						<u>-15.2</u>	Jul-22
Excess Return		15.2						15.2	
Oak HC-FT Partners IV	21,042,949	5.3	12.5					-1.4	Apr-21
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-2.2</u>	Apr-21
Excess Return		20.5	27.2					0.8	
Stellex Capital Partners II	9,444,121	11.0	1.7					-6.7	Apr-21
MSCI ACWI IMI +2%1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-2.2</u>	Apr-21
Excess Return		26.2	16.4					-4.5	
Thoma Bravo Fund XIV	45,554,295	-4.3	-2.9					-4.1	Apr-21
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>	<u>-14.7</u>					<u>-2.2</u>	Apr-21
Excess Return		10.9	11.8					-1.9	
GGV Capital III Plus	2,484,455								
One Rock Capital III	23,290,357								
Nautic Partners X	5,913,814	-5.7						-17.5	Jan-22
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>						<u>-14.1</u>	Jan-22
Excess Return		9.5						-3.4	
Orchid Asia VIII	2,183,668	-9.3						-15.3	Mar-22
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>						<u>-16.1</u>	Mar-22
Excess Return		5.9						0.8	
One Equity Partners VIII	8,579,422	-0.6						-17.1	Mar-22
SURS PE Blend		<u>-15.2</u>						<u>-16.1</u>	Mar-22
Excess Return		14.6						-1.0	

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Private Equity (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Base 10 Partners III (TC)	2,482,362	-10.9						-10.9	May-22
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>						<u>-15.2</u>	May-22
Excess Return		4.3						4.3	
Clearlake Cao Ptrs VII TC	16,449,315	-0.6						-0.6	May-22
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>						<u>-15.2</u>	May-22
Excess Return		14.6						14.6	
Thoma Bravo Fund XV	7,535,537	-0.6						-2.2	Jun-22
MSCI ACWI IMI +2% 1 Qtr Lag		<u>-15.2</u>						<u>-13.3</u>	Jun-22
Excess Return		14.6						11.1	
Inflexion Buyout Fund VI	337,252							-3.6	Aug-22
Bregal Sagemount IV	951,324							-19.6	Sep-22
MSCI ACWI IMI +2% 1 Qtr Lag								<u>-8.3</u>	Sep-22
Excess Return								-11.3	
Harvest Partners IX	3,921,232							0.0	Sep-22
MSCI ACWI IMI +2%1 Qtr Lag								<u>-8.3</u>	Sep-22
Excess Return								8.3	
HG Capital Genesis 10	46,077							1.2	Sep-22
MSCI ACWI IMI +2%1 Qtr Lag						-		<u>-8.3</u>	Sep-22
Excess Return								9.5	

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Inflation Sensitive (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Inflation Sensitive	1,039,577,016	-5.2	-11.5	0.9	1.5	2.1		1.7	Jun-13
SURS Inflation Sensitive Blend		<u>-5.1</u>	<u>-11.6</u>	<u>0.7</u>	<u>1.1</u>	<u>1.4</u>		<u>1.2</u>	Jun-13
Excess Return		-0.1	0.1	0.2	0.4	0.7		0.5	
TIPS	1,039,577,016	-5.2	-11.5	0.7	1.9	2.2	0.9	3.7	Jan-04
Bloomberg US TIPS TR		<u>-5.1</u>	<u>-11.6</u>	<u>0.8</u>	<u>2.0</u>	<u>2.2</u>	<u>1.0</u>	<u>3.5</u>	Jan-04
Excess Return		-0.1	0.1	-0.1	-0.1	0.0	-0.1	0.2	
Rhumbline TIPS	1,039,577,016	-5.2	-11.5	0.7	1.9			1.7	Jun-17
Bloomberg US TIPS TR		<u>-5.1</u>	<u>-11.6</u>	<u>0.8</u>	<u>2.0</u>			<u>1.8</u>	Jun-17
Excess Return		-0.1	0.1	-0.1	-0.1			-0.1	

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Principal Protection (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Principal Protection	1,655,801,987	-4.0	-10.5	-2.5	0.2	0.9	1.1	1.5	Jun-13
BC US Int Ag x Credit Blend		<u>-4.1</u>	<u>-11.4</u>	<u>-2.5</u>	<u>0.2</u>	<u>0.9</u>	<u>1.1</u>	<u>1.5</u>	Jun-13
Excess Return		0.1	0.9	0.0	0.0	0.0	0.0	0.0	
Garcia Hamilton	435,895,944	-4.5	-9.5	-2.2				-2.2	Sep-19
BC US Int Ag x Credit Blend		<u>-4.1</u>	<u>-11.4</u>	<u>-2.5</u>				<u>-2.5</u>	Sep-19
Excess Return		-0.4	1.9	0.3				0.3	
Pugh Capital	403,675,619	-3.9	-11.3	-2.7				-2.7	Sep-19
BC US Int Ag x Credit Blend		<u>-4.1</u>	<u>-11.4</u>	<u>-2.5</u>				<u>-2.5</u>	Sep-19
Excess Return		0.2	0.1	-0.2				-0.2	
LM Capital	408,361,030	-3.6	-10.5	-2.4				-2.4	Sep-19
BC US Int Ag x Credit Blend		<u>-4.1</u>	<u>-11.4</u>	<u>-2.5</u>				<u>-2.5</u>	Sep-19
Excess Return		0.5	0.9	0.1				0.1	
Ramirez	407,869,395	-3.9	-10.9	-2.3				-2.3	Sep-19
BC US Int Ag x Credit Blend		<u>-4.1</u>	<u>-11.4</u>	<u>-2.5</u>				<u>-2.5</u>	Sep-19
Excess Return		0.2	0.5	0.2				0.2	

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Crisis Risk Offset (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Crisis Risk Offset	4,653,566,824	5.7	17.4					7.3	Nov-19
SURS CRO Blend		<u>8.6</u>	<u>17.4</u>					<u>9.5</u>	Nov-19
Excess Return		-2.9	0.0					-2.2	
Long Duration	418,871,912	-9.5	-26.4					-8.9	Dec-19
BBgBarc US Govt Long TR		<u>-9.6</u>	<u>-26.6</u>					<u>-8.8</u>	Dec-19
Excess Return		0.1	0.2					-0.1	
Rhumbline Long Duration	418,871,912	-9.5	-26.4					-8.9	Dec-19
BBgBarc US Govt Long TR		<u>-9.6</u>	<u>-26.6</u>					<u>-8.8</u>	Dec-19
Excess Return		0.1	0.2					-0.1	
Systematic Trend Following	2,554,790,973	12.1	39.3					16.5	Nov-19
CS Mgd Futures 15% Vol		<u>16.2</u>	<u>43.6</u>					<u>20.2</u>	Nov-19
Excess Return		-4.1	-4.3					-3.7	
Credit Suisse Asset Mgmt	639,113,337	15.9	44.8					24.1	Dec-19
CS Mgd Futures 15% Vol		<u>16.2</u>	<u>43.6</u>					<u>21.4</u>	Dec-19
Excess Return		-0.3	1.2					2.7	
Campbell & Company	689,947,469	14.2	55.9					19.0	Nov-19
CS Mgd Futures 15% Vol		<u>16.2</u>	<u>43.6</u>					<u>20.2</u>	Nov-19
Excess Return		-2.0	12.3					-1.2	
Aspect Capital	600,937,750	10.1	44.0					16.8	Nov-19
CS Mgd Futures 15% Vol		<u>16.2</u>	<u>43.6</u>					<u>20.2</u>	Nov-19
Excess Return		-6.1	0.4					-3.4	
Longtail Alpha	624,792,418	7.8	12.8					7.7	Dec-19
CS Mgd Futures 15% Vol		<u>16.2</u>	<u>43.6</u>					<u>21.4</u>	Dec-19
Excess Return		-8.4	-30.8					-13.7	

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Crisis Risk Offset (Net-of-Fees) | As of September 30, 2022

	Market Value (\$)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Alternative Risk Premia	1,244,324,485	2.6	10.5					1.5	Nov-19
90 Day T-Bill + 2%		<u>1.2</u>	<u>3.0</u>					<u>2.6</u>	Nov-19
Excess Return		1.4	7.5					-1.1	
PIMCO Commodity Alpha Fund	147,788,520	-2.6	6.0	9.8	7.8			9.6	May-16
PIMCO Commodity Alpha Fund Benchmark		<u>1.2</u>	<u>3.0</u>	<u>-0.8</u>	<u>-1.3</u>			<u>-1.1</u>	May-16
Excess Return		-3.8	3.0	10.6	9.1			10.7	
Versor	353,893,213	-2.6	9.5					-6.5	Dec-19
90 Day T-Bill + 2%		<u>1.2</u>	<u>3.0</u>					<u>2.6</u>	Dec-19
Excess Return		-3.8	6.5					-9.1	
Lombard Odier	321,490,102	0.1	-2.8					-4.9	Dec-19
90 Day T-Bill + 2%		<u>1.2</u>	<u>3.0</u>					<u>2.6</u>	Dec-19
Excess Return		-1.1	-5.8					-7.5	
PIMCO Alternative Risk	421,152,650	11.9	25.9					10.6	May-20
90 Day T-Bill + 2%		<u>1.2</u>	<u>3.0</u>					<u>2.5</u>	May-20
Excess Return		10.7	22.9					8.1	
Long Volatility	379,862,011	0.5						0.5	Jul-22
CBOE Eurekahedge Long Volatility Index		<u>2.1</u>						<u>2.1</u>	Jul-22
Excess Return		-1.6						-1.6	
One River	379,862,011	0.5						0.5	Jul-22
CBOE Eurekahedge Long Volatility Index		<u>2.1</u>						<u>2.1</u>	Jul-22
Excess Return		-1.6						-1.6	
Tail Risk	55,717,442								
LongTail Tail Risk	55,717,442								

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Overlay Performance Detail¹ | As of September 30, 2022

Asset Class	Overlay Exposure (\$)
Traditional Growth	388,451,530
Non-Traditional Growth	0
Principal Protection	-128,366,291
Stabilized Growth	0
Inflation Sensitive	0
Crisis Risk Offset	0
Net Exposure	260,085,239

Overlay Performance	Incremental Gain/Loss (\$)(Gross)	Return as a % of Total Fund (Gross)
Quarter	21,368,131	0.10
Since Inception ²	110,608,301	0.08

Index	QTD	YTD	1 Year
S&P 500	-4.88%	-23.87%	-15.47%
MSCI EAFE	-9.36%	-27.09%	-25.13%
Bloomberg Agg.	-4.75%	-14.61%	-14.60%
Bloomberg Commodity Index	-4.11%	13.57%	11.80%

¹ Data on this page provided by PARAMETRIC

² Inception Date: September 2014

Private Markets



Infrastructure & Real Estate Internal Rates of Return Trailing Periods¹ | As of June 30, 2022

Infrast	ructure Investments1		
Investment Name	3 YR	5 YR	Since Inception
Mature			
Alinda Infrastructure II, L.P.	-3.24%	-10.79%	0.46%
Macquarie Infrastructure Partners II	26.69%	12.10%	8.98%
Maturing (5-9 Years)			
Macquarie Infrastructure Partners III	20.82%	18.23%	15.61%
Macquarie Infrastructure Partners IV	15.24%		13.80%

	Real Estate Investme	ents		
Investment Name	3 YR	5 YR	10YR	Since Inception
Liquidated				
RREEF America REIT II			10.96%	2.97%
Mature (10+ Years)				
Dune Real Estate Fund II	-1.97%	2.53%	15.19%	14.44%
UBS Trumbull Property Fund	7.07%	5.73%	7.93%	6.68%
RREEF America REIT III	0.00%	-1.24%	18.08%	-3.78%
Franklin Templeton EMREFF	-12.17%	1.96%	14.69%	12.86%
Maturing (5-9 Years)				
Dune Real Estate Fund III	-4.22%	2.59%		6.38%
Franklin Templeton Private Real Estate Fund	-23.33%	8.62%	22.35%	20.38%
Heitman America Real Estate Trust, L.P.	11.98%	9.40%		9.86%
JP Morgan Strategic Property Fund	11.10%	8.91%		9.37%
MFIRE Global Partnership Fund II, L.P.	-0.33%	2.22%	7.30%	6.79%
Franklin Templeton MDP RE 2015, L.P.	5.88%	5.34%		5.11%
Blue Vista Real Estate Partners IV	16.95%	15.52%		13.32%
Brookfield Real Estate Partners II	17.66%	14.50%		14.15%
Crow Holdings Realty Partners VII	8.09%	11.77%		11.22%
Immature (Less than 5 Years)				
Crow Holdings VIII	25.53%			24.11%
Brookfield Strategic Real Estate Partners III	13.57%			12.42%
Carlyle Property Investors	17.80%			15.64%
BIG Real Estate Fund I	9.56%			9.52%
Oaktree Real Estate Debt Fund II	6.05%			6.82%

¹ Performance data provided by Northern Trust .

MEKETA

Illinois State Universities Retirement System

Real Estate Tracking Schedule¹ | As of June 30, 2022

was the set News	Vintage	Capital Commitment	Draw Down	Distributed	Mankat Value (A)	TVDI Multin In	ITD IRR
nvestment Name	Year	(\$)	(\$)	(\$)	Market Value (\$)	TVPI Multiple	(%)
Liquidated	2225	460406000	460406004	100 510 001		40	2.2
RREEF America REIT II	2005	160,106,290	160,106,291	188,512,381		1.2	3.0
Mature (10+ Years)							
RREEF America REIT III	2006	30,719,155	30,719,155	21,959,033	262,763	0.7	-3.8
UBS Trumbull Property Fund	2006	220,000,000	246,619,988	363,000,864	107,170,057	1.9	6.7
Dune Real Estate Fund II	2009	40,000,000	46,650,688	73,152,806	6,411,023	1.7	14.4
Maturing (5-9 Years)							
Dune Real Estate Fund III	2013	100,000,000	102,132,261	73,640,548	65,056,221	1.4	6.4
Franklin Templeton EMREFF	2011	75,000,000	67,274,994	94,963,991	4,392,679	1.5	12.9
Franklin Templeton Private Real Estate Fund	2012	50,000,000	45,075,523	65,491,952	1,513,390	1.5	20.4
Heitman America Real Estate Trust, L.P.	2014	150,000,000	161,784,583	12,589,826	310,938,330	2.0	9.9
JP Morgan Strategic Property Fund	2014	150,000,000	150,000,000	2,323	309,192,950	2.1	9.4
MFIRE Global Partnership Fund II, L.P.	2012	60,000,000	39,300,000	40,778,439	16,449,929	1.5	6.8
mmature (Less than 5 Years)							
Carlyle Property Investors, L.P.	2018	100,000,000	112,595,540	11,475,569	168,238,206	1.6	15.6
Crow Holdings VIII	2018	20,000,000	19,212,835	25,112,642	4,852,785	1.6	24.1
Crow Holdings Realty Partners VII	2016	35,000,000	34,919,077	45,869,494	2,085,419	1.4	11.2
BIG Real Estate Fund I	2018	30,000,000	23,838,287	7,614,144	22,895,972	1.3	9.5
Blue Vista Real Estate Partners IV	2016	35,000,000	35,000,000	40,192,193	16,704,104	1.6	13.3
Brookfield Strategic Real Estate Partners II	2016	35,000,000	23,937,281	12,275,364	35,882,000	2.0	14.2
Franklin Templeton MDP RE 2015, L.P.	2015	90,000,000	77,679,918	32,101,933	57,815,442	1.2	5.1
Oaktree Real Estate Debt Fund II	2017	30,000,000	19.922.393	12.762.588	10,527,356	1.2	6.5
Blackstone Property Partners L.P.	2019	200.000.000	200,084,987	84.987	274.529.581	1.4	11.0
Brookfield Strategic Real Estate Partners III	2019	35,000,000	23,457,269		30,668,331	1.3	12.4
Blackstone Real Estate Partners Europe VI	2019	78,408,758	34,458,411	16,264,596	31,188,512	1.4	21.2
Dune Real Estate Fund IV	2019	50,000,000	22.456.862		23,459,920	1.0	2.3
Long Wharf Real Estate VI	2019	40,000,000	26,458,676	11,655,104	22,128,587	1.3	30.0
Cabot Industrial Fund VI	2020	50,000,000	34,407,970		45,923,850	1.3	49.7
Prologis Targeted US Logistics Holdings, L.P.	2020	100.000.000	100,000,000	11.088	189,040,464	1.9	45.2
Westbrook Realty Management XI	2020	75,000,000	28,267,156	5,321,074	27,799,266	1.2	27.3
Big Real Estate Fund II, L.P.	2021	48,800,000	12,551,449	2,644,530	9,910,958	1.0	0.0
Torchlight Debt Fund VII, L.P.	2021	50.000.000	15,000,000	<u></u>	15,549,144	1.0	4.1
Newport Capital Partners Fund III, L.P.	2021	6,055,556	10,901,045	10,981,045	325,992	1.0	8.5

¹ Performance data provided by Northern Trust

MEKETA INVESTMENT GROUP



Real Estate Tracking Schedule¹ | As of June 30, 2022

Investment Name Immature (Less than 5 Years)	Vintage Year	Capital Commitment (\$)	Draw Down (\$)	Distributed (\$)	Market Value (\$)	TVPI Multiple	ITD IRR (%)
Brasa Real Estate Fund II, L.P.	2021	40,000,000	21,237,579		16,916,705	0.8	-26.8
Crow Holdings Realty Partners IX, L.P.	2021	50,000,000	42,550,961	8,486,383	44,538,239	1.3	35.1
Longpoint Realty Fund II, L.P	2021	50,000,000	22,500,000		24,770,355	1.1	14.9
GI Partners ETS Fund, L.P.	2022	75,000,000	14,582,584		15,959,647	1.1	9.4

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¹ Performance data provided by Northern Trust



Infrastructure Tracking Schedule¹ | As of June 30, 2022

Vintage Year	Commitment Amount (\$)	Draw Down (\$)	Distributed (\$)	Market Value (\$)	Time Weighted Return (%)	IRR (%)
2009	40,000,000	42,317,898	35,174,504	8,333,999	-1.0	0.5
2010	40,000,000	48,206,475	77,212,146	234,757	8.8	9.0
2014	50,000,000	44,300,470	38,773,401	47,924,504	8.3	15.6
2018	50,000,000	44,515,454	6,986,729	58,112,076	-8.6	13.8
2021	100,000,000	24,700,589		23,801,660	-11.5	-4.2
2021	34,107,954	7,799,278		6,990,610	-16.0	-12.2
2022	100,000,000	10,113,324		8,821,770	-64.1	-62.7
	2009 2010 2014 2018 2021 2021	Amount (\$) 2009 40,000,000 2010 40,000,000 2014 50,000,000 2018 50,000,000 2021 100,000,000 2021 34,107,954	Vintage Year Amount (\$) Draw Down (\$) 2009 40,000,000 42,317,898 2010 40,000,000 48,206,475 2014 50,000,000 44,300,470 2018 50,000,000 44,515,454 2021 100,000,000 24,700,589 2021 34,107,954 7,799,278	Vintage Year Amount (\$) Draw Down (\$) Distributed (\$) 2009 40,000,000 42,317,898 35,174,504 2010 40,000,000 48,206,475 77,212,146 2014 50,000,000 44,300,470 38,773,401 2018 50,000,000 44,515,454 6,986,729 2021 100,000,000 24,700,589 2021 34,107,954 7,799,278	Vintage Year Amount (\$) Draw Down (\$) Distributed (\$) Market Value (\$) 2009 40,000,000 42,317,898 35,174,504 8,333,999 2010 40,000,000 48,206,475 77,212,146 234,757 2014 50,000,000 44,300,470 38,773,401 47,924,504 2018 50,000,000 44,515,454 6,986,729 58,112,076 2021 100,000,000 24,700,589 23,801,660 2021 34,107,954 7,799,278 6,990,610	Vintage Year Commitment Amount (\$) Draw Down (\$) Distributed (\$) Market Value (\$) Weighted Return (%) 2009 40,000,000 42,317,898 35,174,504 8,333,999 -1.0 2010 40,000,000 48,206,475 77,212,146 234,757 8.8 2014 50,000,000 44,300,470 38,773,401 47,924,504 8.3 2018 50,000,000 44,515,454 6,986,729 58,112,076 -8.6 2021 100,000,000 24,700,589 23,801,660 -11.5 2021 34,107,954 7,799,278 6,990,610 -16.0

MEKETA INVESTMENT GROUP

¹ Information provided by Northern Trust.

MEKETA

Illinois State Universities Retirement System

Private Equity Tracking Schedule – Grouped by Manager¹ | As of June 30, 2022

	Vintage	Capital	Draw Down	Distributed	Market Value	TVPI	ITD IRR
Investment Name	Year	Commitment (\$)	(\$)	(\$)	(\$)	Multiple	(%)
Liquidated							
Adams Street Venture Partnership Acq. Fund II LP	1990	10,000,000	10,000,000	20,658,228	-	2.1	28.1
Muller & Monroe - ILPEFF	2005	25,000,000	21,006,042	18,387,253	-	0.9	-2.5
Private Opportunity Fund	2004	25,000,000	25,000,000	25,050,000	-	1.0	0.4
Mature (10+ Years)							
Adams Street 2007 Global Opportunities Portfolio	2007	100,000,000	91,713,646	146,958,473	3,207,123	1.6	8.1
Adams Street 2008 Global Offering	2008	100,000,000	92,903,014	167,268,618	43,229,906	2.3	14.6
Adams Street 2009 Global Offering	2009	100,000,000	91,572,000	144,310,999	62,319,799	1.7	11.6
Adams Street Global Opportunities Secondary Fund	2009	25,000,000	22,125,000	36,920,455	282,067	1.7	11.7
Adams Street Separate Account	1990	901,378,251	885,278,742	1,687,816,586	3,084,488	1.9	28.2
Brinson Non-US Partnership Fund - 1998	1998	79,405,010	76,288,292	129,999,388	2,227,224	1.7	11.6
Muller & Monroe - MPEFF	2003	25,000,000	24,152,845	35,496,916	547,318	1.5	8.3
Pantheon Europe Fund III LP	2004	87,608,642	83,724,747	151,127,511	1,340,331	1.8	14.6
Pantheon Europe Fund VI LP	2008	39,185,632	37,359,377	57,434,881	8,766,237	1.8	10.2
Pantheon Europe Fund VII LP	2011	36,770,768	33,342,612	41,567,481	23,698,080	2.0	13.6
Pantheon Global Secondary Fund II Ltd	2004	25,000,000	23,750,000	27,354,925	365,258	3.5	1.2
Pantheon USA Fund IX LP	2013	85,444,334	77,284,334	119,169,998	73,139,855	2.5	18.0
Pantheon Separate Account (SURS) LP	2002	599,121,922	570,871,994	950,524,327	13,139,147	1.7	10.2
Pantheon USA Fund VIII LP	2007	103,188,193	95,816,066	168,794,717	39,011,947	2.2	13.0
Progress Venture Capital	1995	19,899,949	19,900,608	17,344,285	275,413	0.9	-2.3
Maturing (5-9 Years)							
Adams Street Global Secondary Fund 5 LP	2012	20,000,000	15,422,938	14,647,981	6,383,751	1.4	6.9
Adams Street 2012 Global Fund LP	2012	80,000,000	71,790,264	77,404,040	79,450,554	2.2	15.3
Adams Street 2013 Global Fund LP	2013	100,000,000	90,996,160	77,604,292	126,480,231	2.2	16.4
Adams Street 2014 Global Fund LP	2014	100,000,000	91,380,522	71,406,239	137,922,409	2.3	18.7
Adams Street 2015 Global Fund LP	2015	125,000,000	108,576,231	70,703,668	182,363,380	2.3	27.7
Fairview Capital Lincoln Fund I LP	2014	175,000,000	87,977,730	33,039,015	139,089,387	2.0	19.0
Pantheon Multi-Strat 2014 LP	2014	125,000,000	101,639,358	47,125,000	133,085,903	1.8	17.1

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¹ Information provided by Northern Trust. Nominal IRR reported for funds with less than 1 year of data.

MEKETA

Illinois State Universities Retirement System

Private Equity Tracking Schedule – Grouped by Manager¹ | As of June 30, 2022

	Vintage	Capital	Draw Down	Distributed	Market Value	TVPI	ITD IRR
Investment Name	Year	Commitment (\$)	(\$)	(\$)	(\$)	Multiple	(%)
Immature (Less than 5 Years)							
Adams Street 2016 Global Fund LP	2016	150,000,000	121,811,436	49,708,203	189,189,747	2.0	24.9
Adams Street 2017 Global Fund LP	2017	90,000,000	68,582,738	18,788,638	118,660,110	2.0	28.8
Adams Street 2018 Global Fund LP	2018	90,000,000	52,826,766	8,552,664	88,777,614	1.8	33.7
Altaris Health Partners V	2021	25,000,000	7,267,385		8,245,418	1.1	15.2
Avance Investment Partners, LP	2022	25,000,000	8,550,150	83,419	8,221,469	1.0	-5.3
Base10 Advancement Initiative I	2021	25,000,000	21,147,469		21,172,115	1.0	0.1
Bregal Sagemount III-B, LP	2020	50,000,000	32,118,622	40,323	34,885,355	1.1	10.5
Clearlake Capital Partners VI	2020	30,000,000	26,723,455	1,280,126	40,968,031	1.6	45.7
Cortec Group Fund VII LP	2019	35,000,000	22,622,021	4,584	33,988,798	1.5	30.5
GGV Capital VIII	2022	21,600,000	9,720,000		11,093,135	1.1	18.1
GGV Capital VIII Plus	2022	5,400,000	2,187,000		2,268,455	1.0	5.2
GGV Discovery III	2021	9,000,000	3,600,000		4,782,981	1.3	40.2
Harvest Partners VIII LP	2019	70,000,000	55,247,874	6,131,217	75,760,820	1.5	25.9
Hg Genesis 9A	2021	15,172,501	6,027,955		6,464,419	1.1	8.8
Hg Saturn 2 A	2020	37,500,000	12,676,800	1,228,733	17,932,519	1.5	32.8
MBK Partners Fund V	2021	50,000,000	15,345,283		16,405,186	1.1	10.9
Nautic Partners X, LP	2022	25,000,000	4,223,578		3,861,747	0.9	-13.7
Oak Hc/FT Partners IV	2021	25,000,000	16,644,045		18,604,797	1.1	16.1
OceanSound Partners	2020	25,000,000	12,906,195	403,224	17,551,058	1.4	16.6
One Rock Capital Partners III, LP	2021	35,000,000	12,334,514	49,744	16,083,425	1.3	37.2
Orchid Asia VIII, LP	2022	30,000,000	2,957,436		2,183,668	0.7	-26.2
Reverence Capital Partners Opportunities Fund III	2020	50,000,000	39,542,349	3,349,305	65,579,035	1.7	41.6
Rubicon Technology Partners III LP	2020	32,500,000	23,648,788		26,531,328	1.1	10.3
Stellex Capital Partners II	2021	25,000,000	8,432,502	61,202	9,444,121	1.1	18.6
Thoma Bravo Fund XIV	2021	50,000,000	47,072,109		45,554,295	1.0	-3.8
Torreycove Co-Investment Fund I LP	2020	200,000,000	108,847,738	5,492,184	139,439,056	1.3	35.2
Mesirow Financial Private Equity Special Fund B, LP	2018	280,000,000	180,360,000		259,122,147	1.4	23.3
Mesirow Financial Private Equity Fund VII-B LP	2017	40,000,000	39,747,031	28,663,902	72,283,626	2.5	40.4
Muller & Monroe - EPEFF	2016	100,000,000	90,843,766	55,920,342	125,806,924	2.0	26.0

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¹ Information provided by Northern Trust. Nominal IRR reported for funds with less than 1 year of data.



Private Equity Tracking Schedule – Grouped by Manager¹ | As of June 30, 2022

Investment Name	Vintage Year	Capital Commitment (\$)	Draw Down (\$)	Distributed (\$)	Market Value (\$)	TVPI Multiple	ITD IRR (%)
Immature (Less than 5 Years)							
Pantheon Multi-Strat 2017 LP	2017	90,000,000	62,173,643	14,240,518	83,105,396	1.6	25.0
Pantheon Multi-Strat 2018 LP	2018	180,000,000	98,464,011	1,800,000	133,975,028	1.4	24.1
Thoma Bravo Fund XV LP	2022	25,000,000	4,149,821		4,090,851	1.0	-1.4
Base10 Partners III	2022	20,000,000	2,784,490		2,482,362	0.9	-10.9
One Equity Partners VIII LP	2022	25,000,000	7,128,006	12,553	8,116,440	1.1	17.2
Clearlake Capital Partners VII LP	2022	50,000,000	15,641,072	1,217	14,962,165	1.0	-6.7
Total		5,195,035,302	4,094,228,572	4,533,927,374	2,807,003,450	1.8	20.5

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¹ Information provided by Northern Trust. Nominal IRR reported for funds with less than 1 year of data.

As of September 30, 2022

MEKETA

Capital Markets Outlook & Risk Metrics

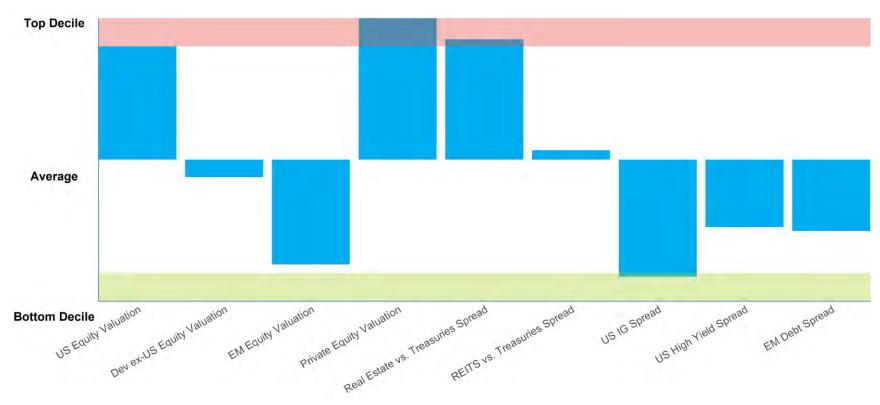
Capital Markets Outlook

Markets

- → Global equities and bonds sold-off in September reflecting the deteriorating economic outlook as major central banks hiked interest rates, effectively threatening to tip the global economy into recession in order to suppress inflationary pressures.
- → The Russian-Ukrainian war continued to drive natural gas prices higher, and incremental political escalation of hostilities between Russia and the west cumulated in considerable damage to the vital Nordstream 1 pipeline.
- → China stands out in its efforts to ease policy to support the floundering real estate sector and bolster domestic demand as it has been forced to slow the rapid depreciation of the renminbi against major trade partners. Despite these efforts, they have yet to boost domestic spending or resolve the real estate crisis.
- → US equities posted negative returns in September but outperformed developed non-US and emerging market indices, and value outperformed growth in most regions.
- → Broad emerging market equities outperformed Chinese equities. Buffeted by a strong US dollar, rising inflation, and falling global growth, investors repriced equities based on deteriorating fundamentals.
- → The UK suffered a brief but severe dislocation in its bond market requiring the new government to retreat from its fiscal reform package and for the Bank of England to intervene in the bond markets.
- → US fixed income markets posted losses, although high yield and short-duration TIPS fared better than the Bloomberg Aggregate.
- → After benefiting from higher commodity prices earlier in the year, commodities and public natural resources suffered negative returns as deteriorating economic growth outlook repriced estimates for future demand for energy, industrial metals, and lumber.





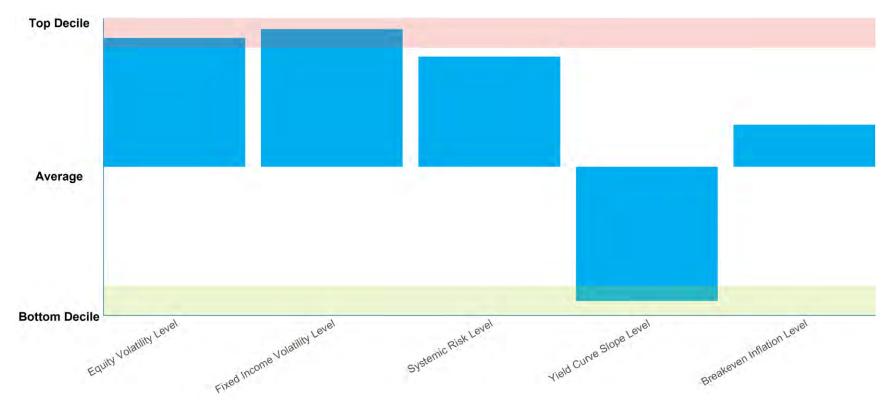


→ Dashboard (1) summarizes the current state of the different valuation metrics per asset class relative to their own history.

¹ With the exception of Private Equity Valuation, that is YTD as of December 31, 2021.







→ Dashboard (2) shows how the current level of each indicator compares to its respective history.



Market Sentiment Indicator (All History) (As of September 30, 2022)



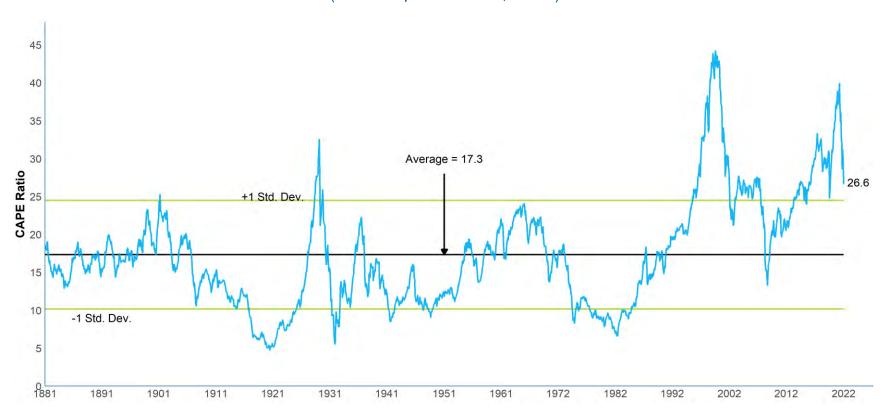


Market Sentiment Indicator (Last Three Years) (As of September 30, 2022)





US Equity Cyclically Adjusted P/E¹ (As of September 30, 2022)

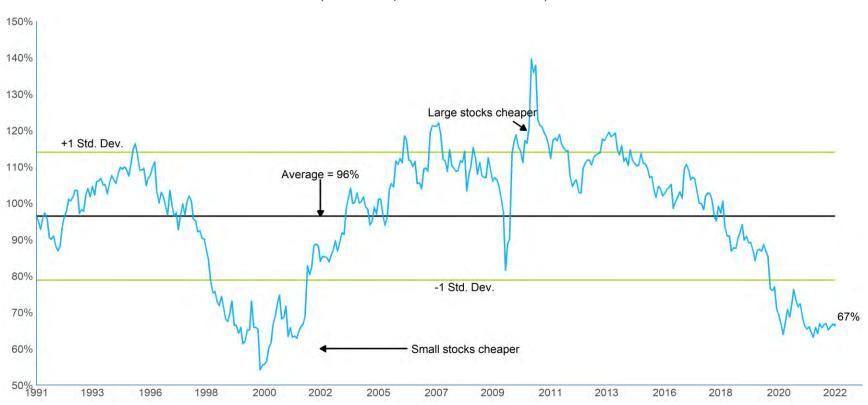


→ This chart details one valuation metric for US equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group.



Small Cap P/E vs. Large Cap P/E¹ (As of September 30, 2022)

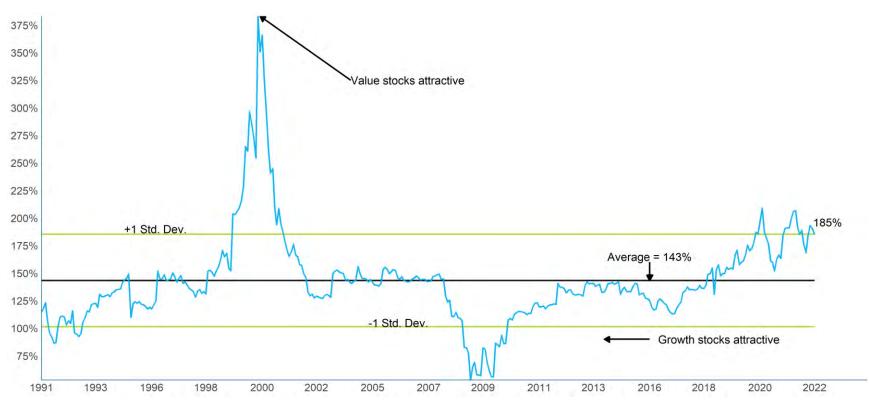


→ This chart compares the relative attractiveness of small cap US equities vs. large cap US equities on a valuation basis. A higher (lower) figure indicates that large cap (small cap) is more attractive.

¹ Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments. Earnings figures represent 12-month "as reported" earnings.







→ This chart compares the relative attractiveness of US growth equities vs. US value equities on a valuation basis. A higher (lower) figure indicates that value (growth) is more attractive.

¹ Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.



Developed International Equity Cyclically Adjusted P/E¹ (As of September 30, 2022)



→ This chart details one valuation metric for developed international equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

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¹ Developed International Equity (MSCI EAFE Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.



Emerging Market Equity Cyclically Adjusted P/E¹ (As of September 30, 2022)



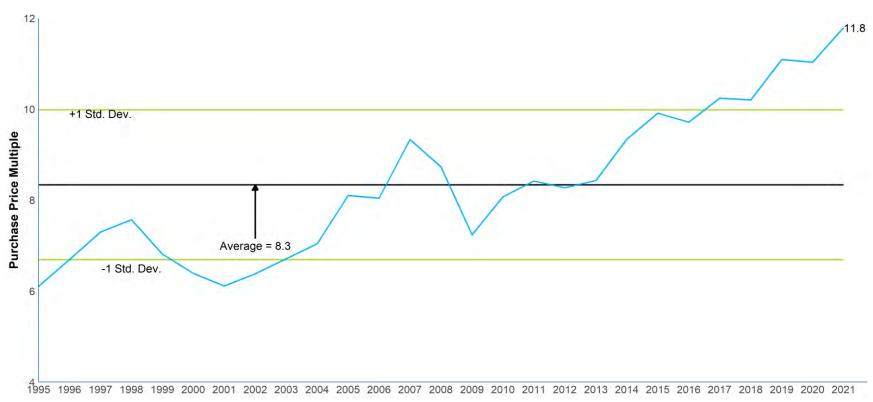
→ This chart details one valuation metric for emerging markets equities. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

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¹ Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.







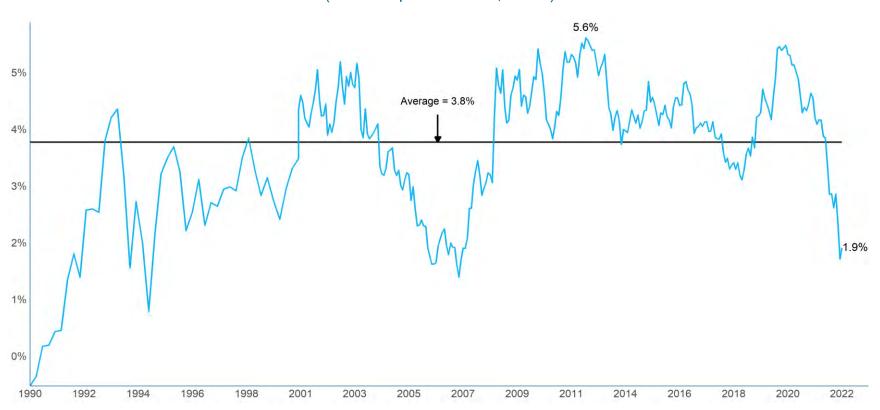
→ This chart details one valuation metric for the private equity market. A higher (lower) figure indicates more expensive (cheaper) valuation relative to history.

¹ Private Equity Multiples – Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.

² Annual Data, as of December 31, 2021



Core Real Estate Spread vs. Ten-Year Treasury¹ (As of September 30, 2022)



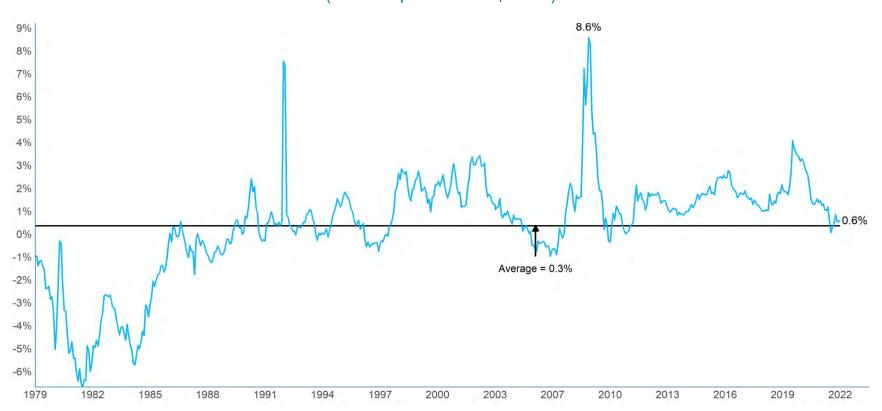
→ This chart details one valuation metric for the private core real estate market. A higher (lower) figure indicates cheaper (more expensive) valuation.

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¹ Core Real Estate Spread vs. Ten-Year Treasury – Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.



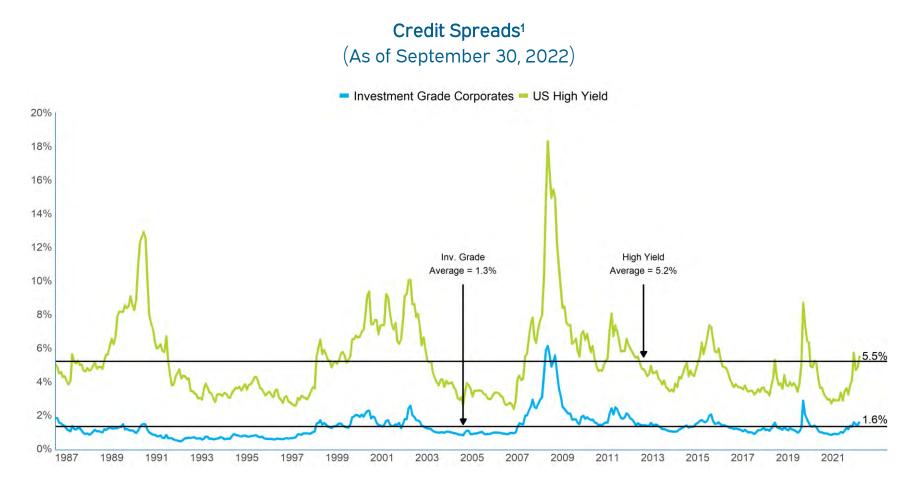
REITs Dividend Yield Spread vs. Ten-Year Treasury¹ (As of September 30, 2022)



→ This chart details one valuation metric for the public REITs market. A higher (lower) figure indicates cheaper (more expensive) valuation.

¹ REITs Dividend Yield Spread vs. Ten-Year Treasury – Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.





→ This chart details one valuation metric for the US credit markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

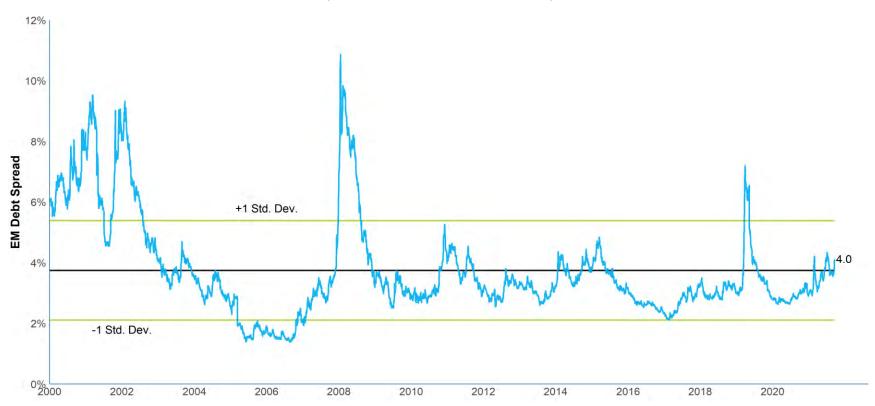
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¹ Credit Spreads – Source: Bloomberg. High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index. Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year US Treasury yield.



Emerging Market Debt Spreads¹

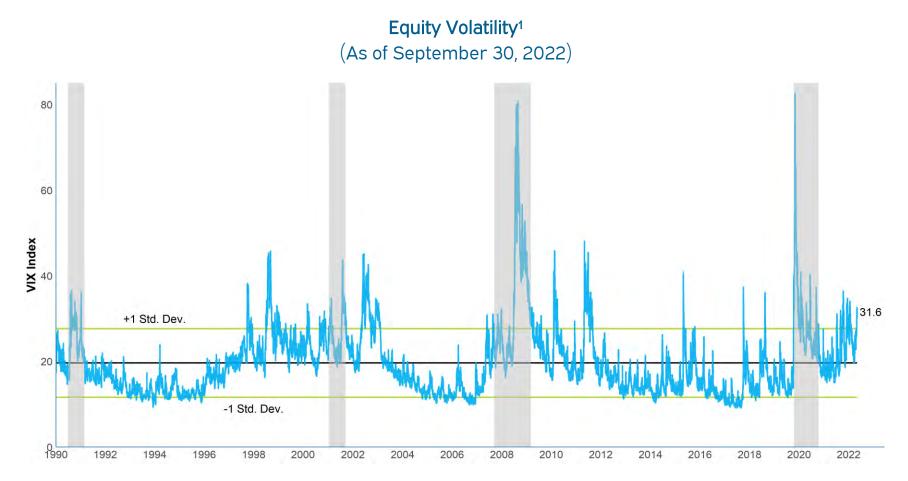
(As of September 30, 2022)



→ This chart details one valuation metric for the EM debt markets. A higher (lower) figure indicates cheaper (more expensive) valuation relative to history.

¹ EM Spreads – Source: Bloomberg. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.

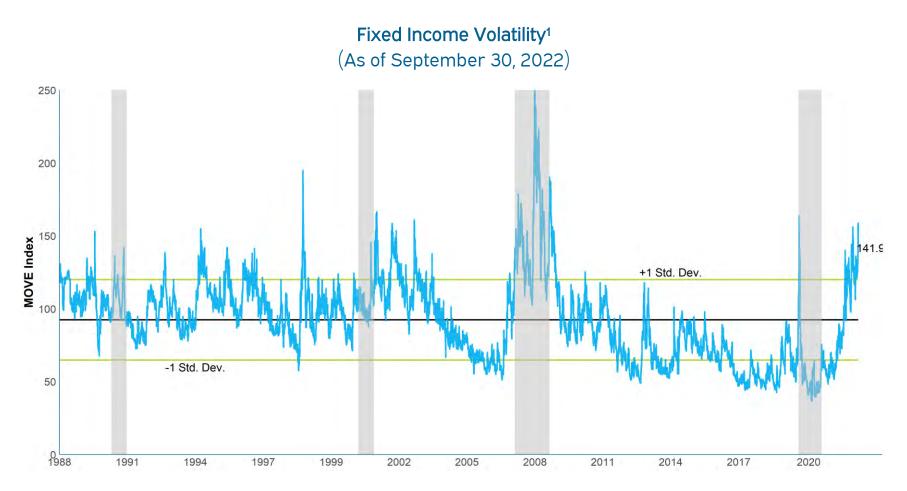




→ This chart details historical implied equity market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

¹ Equity Volatility – Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.



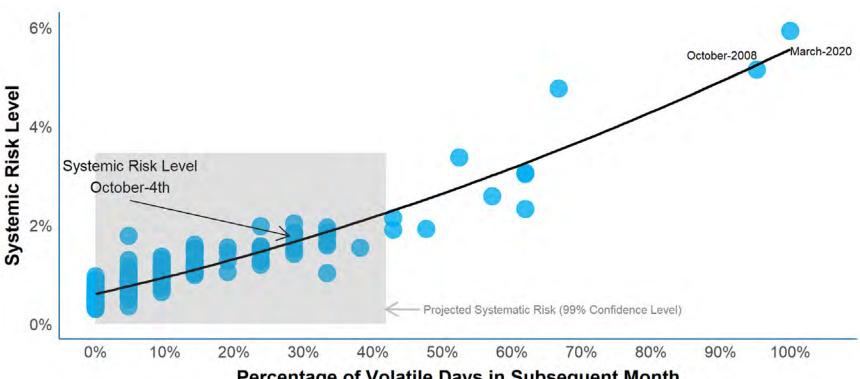


→ This chart details historical implied fixed income market volatility. This metric tends to increase during times of stress/fear and while declining during more benign periods.

¹ Fixed Income Volatility - Source: Bloomberg, and Meketa Investment Group. Fixed Income Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.



Systemic Risk and Volatile Market Days¹ (As of September 30, 2022)



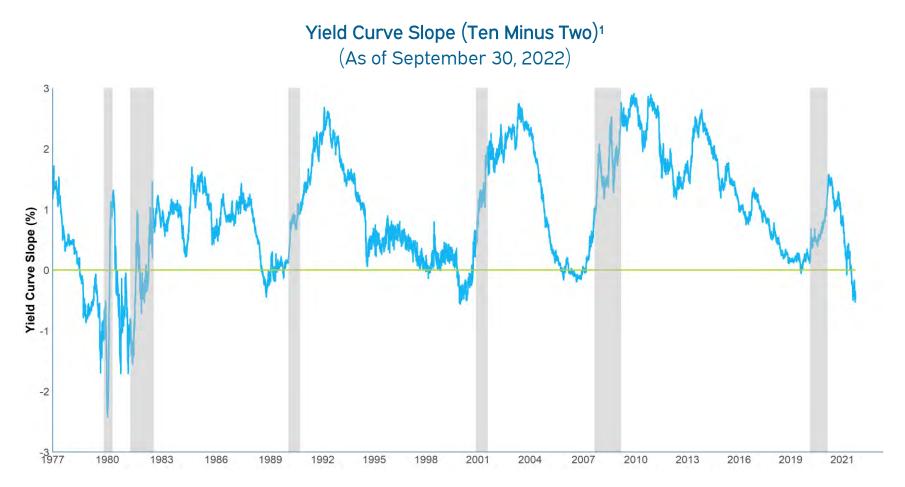
Percentage of Volatile Days in Subsequent Month

→ Systemic Risk is a measure of 'System-wide' risk, which indicates herding type behavior.

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¹ Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.





→ This chart details the historical difference in yields between ten-year and two-year US Treasury bonds/notes. A higher (lower) figure indicates a steeper (flatter) yield curve slope.

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¹ Yield Curve Slope (Ten Minus Two) – Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.



Ten-Year Breakeven Inflation¹ (As of September 30, 2022)

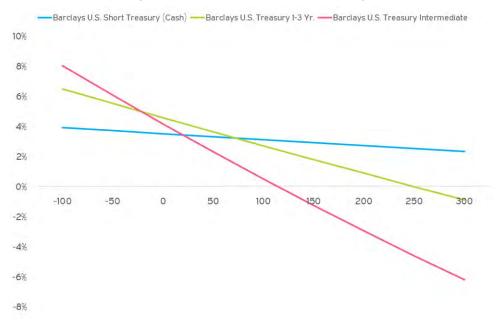


→ This chart details the difference between nominal and inflation-adjusted US Treasury bonds. A higher (lower) figure indicates higher (lower) inflation expectations.

¹ Ten-Year Breakeven Inflation – Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).



Total Return Given Changes in Interest Rates (bps)¹ (As of September 30, 2022)



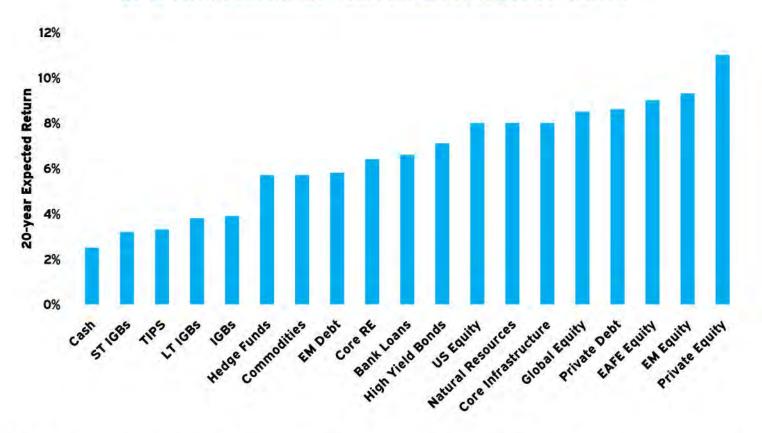
		Total Return for Given Changes in Interest Rates (bps)									
	-100	-50	0	50	100	150	200	250	300	Duration	YTW
Barclays US Short Treasury (Cash)	3.9%	3.7%	3.5%	3.3%	3.1%	2.9%	2.7%	2.5%	2.3%	0.40	3.51%
Barclays US Treasury 1-3 Yr.	6.5%	5.5%	4.6%	3.6%	2.7%	1.8%	0.9%	0.0%	-0.9%	1.89	4.57%
Barclays US Treasury Intermediate	8.0%	6.1%	4.2%	2.3%	0.5%	-1.3%	-3.0%	-4.6%	-6.2%	3.77	4.16%
Barclays US Treasury Long	22.1%	12.6%	4.0%	-3.7%	-10.6%	-16.6%	-21.8%	-26.0%	-29.4%	16.35	4.00%

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¹ Data represents the expected total return from a given change in interest rates (shown in basis points) over a 12-month period assuming a parallel shift in rates. Source: Bloomberg, and Meketa Investment Group.



Long-Term Outlook - 20-Year Annualized Expected Returns1



→ This chart details Meketa's long-term forward-looking expectations for total returns across asset classes.

¹ Source: Meketa Investment Group's 2022 Intrayear Asset Study.

Capital Markets Outlook & Risk Metrics

Appendix

Data Sources and Explanations¹

- → US Equity Cyclically Adjusted P/E on S&P 500 Index Source: Robert Shiller and Yale University.
- → Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) Source: Russell Investments. Earnings figures represent 12-month "as reported" earnings.
- → Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E Source: Bloomberg, MSCI, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.
- → Developed International Equity (MSCI EAFE) Cyclically Adjusted P/E Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.
- → Emerging Market Equity (MSCI Emerging Markets Index) Cyclically Adjusted P/E Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years.
- → Private Equity Multiples Source: S&P LCD Average EBITDA Multiples Paid in All LBOs.
- → Core Real Estate Spread vs. Ten-Year Treasury Source: Real Capital Analytics, US Treasury, Bloomberg, and Meketa Investment Group. Core Real Estate is proxied by weighted sector transaction-based indices from Real Capital Analytics and Meketa Investment Group.

¹ All Data as of September 30, 2022, unless otherwise noted

Capital Markets Outlook & Risk Metrics

Appendix

Data Sources and Explanations¹

- → REITs Dividend Yield Spread vs. Ten-Year Treasury Source: NAREIT, US Treasury. REITs are proxied by the yield for the NAREIT Equity Index.
- → Credit Spreads Source: Bloomberg High Yield is proxied by the Bloomberg High Yield Index and Investment Grade Corporates are proxied by the Bloomberg US Corporate Investment Grade Index.
 - Spread is calculated as the difference between the Yield to Worst of the respective index and the 10-Year Treasury Yield.
- → EM Debt Spreads Source: Bloomberg, and Meketa Investment Group. Option Adjusted Spread (OAS) for the Bloomberg EM USD Aggregate Index.
- → Equity Volatility Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by VIX Index, a Measure of implied option volatility for US equity markets.
- → Fixed Income Volatility Source: Bloomberg, and Meketa Investment Group. Equity Volatility proxied by MOVE Index, a Measure of implied option volatility for US Treasury markets.
- → Systemic Risk and Volatile Market Days Source: Meketa Investment Group. Volatile days are defined as the top 10 percent of realized turbulence, which is a multivariate distance between asset returns.
- → Systemic Risk, which measures risk across markets, is important because the more contagion of risk that exists between assets, the more likely it is that markets will experience volatile periods.

¹ All Data as of September 30, 2022, unless otherwise noted.



Appendix

Data Sources and Explanations¹

- → Yield Curve Slope (Ten Minus Two) Source: Bloomberg, and Meketa Investment Group. Yield curve slope is calculated as the difference between the 10-Year US Treasury Yield and 2-Year US Treasury Yield.
- → Ten-Year Breakeven Inflation Source: US Treasury and Federal Reserve. Inflation is measured by the Consumer Price Index (CPI-U NSA).

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¹ All Data as of September 30, 2022, unless otherwise noted



Meketa Market Sentiment Indicator Explanation, Construction and Q&A

Capital Markets Outlook & Risk Metrics

Meketa has created the MIG Market Sentiment Indicator (MIG-MSI) to <u>complement</u> our valuation-focused Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long-lived market trends of economic growth risk, either towards a risk-seeking trend or a risk-aversion trend.

This appendix explores:

- → What is the Meketa Market Sentiment Indicator?
- → How do I read the indicator graph?
- → How is the Meketa Market Sentiment Indicator constructed?
- → What do changes in the indicator mean?

Capital Markets Outlook & Risk Metrics

Meketa has created a market sentiment indicator for monthly publication (the MIG-MSI – see below) to complement Meketa's Risk Metrics.

→ Meketa's Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market correction take place. The MIG-MSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation-based concerns. Once the MIG-MSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, Meketa believes the Risk Metrics and MIG-MSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the Meketa MIG-MSI:

What is the Meketa Market Sentiment Indicator (MIG-MSI)?

→ The MIG-MSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets and is the largest risk exposure that most portfolios bear. The MIG-MSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

Capital Markets Outlook & Risk Metrics

How do I read the Meketa Market Sentiment Indicator graph?

- → Simply put, the MIG-MSI is a color-coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the MIG-MSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the MIG-MSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.
- → Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



Capital Markets Outlook & Risk Metrics

How is the Meketa Market Sentiment Indicator (MIG-MSI) Constructed?

- → The MIG-MSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:
 - Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months).
 - Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration US Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight).
 - Both measures are converted to Z-scores and then combined to get an "apples to apples" comparison without the need of re-scaling.
- → The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure. The color reading on the graph is determined as follows:
 - If both stock return momentum and bond spread momentum are positive = GREEN (positive).
 - If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive).
 - If both stock return momentum and bond spread momentum are negative = RED (negative).

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¹ Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.

[&]quot;Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010. http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf

Capital Markets Outlook & Risk Metrics

What does the Meketa Market Sentiment Indicator (MIG-MSI) mean? Why might it be useful?

→ There is strong evidence that time series momentum is significant and persistent. Across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12-month period. The MIG-MSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

Capital Markets Outlook & Risk Metrics

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Appendix



Illinois State Universities Retirement System

SURS Legacy Accounts | As of September 30, 2022

Manager ¹	Market Value
Adams St. Global Op.	\$284,635
Applied Research AC	\$5,134
BlackRock International Index	\$433,255
Fidelity	\$194
Macquarie	\$234,757
Matarin Small Cap Core	\$5
Muller and Monroe MPEFF	\$1
Newport Monarch	\$3,068,218
Pantheon Global	\$623
Pantheon Global II	\$365,258
Pantheon One Line Asset	\$117,052
PIMCO Total Return	\$14,567
Progress- Venture Capital	\$806,502
RREEF Funds	\$42,063
Sanctioned Asset (SUR58)	\$58,333
Sanctioned Asset (SUR75)	\$55,000
Xponance- Applied Research	\$49,008
Total	\$5,534,605

 $^{^{\}rm 1}$ Includes legacy managers with less than \$1 million market value and closing accounts.



Illinois State Universities Retirement System

Appendix

Glossary Of Terms

Alpha - The premium an investment earns above a set standard. This is usually measured in terms of a common index (i.e., how the stock performs independent of the market). An Alpha is usually generated by regressing a security's excess return on the market's excess return.

Annualized Performance - The annual rate of return that when compounded t times generates the same t-period holding return as actually occurred from period 1 to period t.

Attribution - a means to ascribe values to specific categories based on underlying characteristics.

Batting Average - Percentage of periods a portfolio outperforms a given index.

Beta - The measure of an asset's risk in relation to the Market (for example, the S&P 500) or to an alternative benchmark or factors. Roughly speaking, a security with a Beta of 1.5 will have moved, on average, 1.5 times the market return.

Bottom-up - A management style that de-emphasizes the significance of economic and market cycles, focusing instead on the analysis of individual stocks.

Breakeven Inflation - The difference between the yield of a nominal bond and an Inflation-linked bond of like maturity. It represents the amount of annualized inflation expected over the life of a bond by the marketplace, but it can also be thought of as the amount of annualized inflation required for being indifferent to holding the nominal or the ILB. If actual inflation turns out to be higher (lower) than the breakeven rate, the ILB will have a higher (lower) return than a nominal of like maturity. The market shortcut is to subtract the real yield from the nominal yield: Breakeven Inflation = Nominal Yield - Real Yield.

Breakeven Inflation Curve - The difference between nominal and real yields of like maturities at every available point along the yield curve.

Credit Quality - A measure of a bond issuer's ability to repay interest and principal in a timely manner.

Current Yield - Annual income (interest or dividends) divided by the current price of the security.

Dividend Yield - Annualized dividend rate divided by last closing price.

Illinois State Universities Retirement System

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Down Market Capture Ratio - Is the portion of the market's performance that was captured by the manager using only periods where the market return is negative. A down market capture of less than 100% is considered desirable.

Duration - A measure of the price sensitivity of a fixed-income security to a change in interest rates. Calculation is based on the weighted average of the present value for all cash flows.

Earnings Growth Rate - rate of change in earnings over the latest 5-year period as expressed in an annual percentage.

Excess Standard Deviation (annualized) - The annualized standard deviation of the difference between the performance of a portfolio and its benchmark. Also referred to as tracking error.

Fair Value Pricing - Is a daily price adjustment made to the value of a security to more accurately reflect the true market value of a security. A fund will use fair value pricing if the value of a security is materially affected by events occurring before the fund's pricing time but after the close of the primary markets or exchanges on which the security is traded. It is an industry-wide practice required by the Securities and Exchange Commission.

Growth Stocks - Common stock of a company that has an opportunity to invest money and earn more than the opportunity cost of capital.

Inflation-linked Bonds (ILBs) - A bond whose principal is increased (decreased) in proportion to the amount of inflation (deflation) from the date of issue to the date of maturity, and whose coupons are paid on the inflation-adjusted principal. At maturity, the inflation-adjusted principal is redeemed. The mechanics of an ILB imply that its cash flows and principal at maturity are unknown and are determined by the path of inflation over its life.

Information Ratio - The ratio of annualized expected residual return to residual risk. A central measurement for active management, value added is proportional to the square of the information ratio.

Market Capitalization - Is calculated as the product of price and shares outstanding.

Median Market Capitalization - The midpoint of market capitalization (market price multiplied by the number of shares outstanding) of the stocks in a portfolio. Half the stocks in the portfolio will have higher market capitalizations; half will have lower.

Illinois State Universities Retirement System

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Nominal Yield - The interest rate stated on the face of a bond, which represents the percentage of interest to be paid by the issuer on the face value of the bond. (Also known as the coupon rate.)

Price/Book (P/B) Ratio - The price per share of a stock divided by its book value (i.e. net worth) per share. For a portfolio, the ratio is the weighted average price/book ratio of the stocks it holds.

Price/Earnings (P/E) Ratio - The share price of a stock divided by its per-share earnings over the past year. For a portfolio, the weighted average P/E ratio of the stocks in the portfolio. P/E is a good indicator of market expectations about a company's prospects; the higher the P/E, the greater the expectations for a company's future growth.

R-Squared - Square of the correlation coefficient. The proportion of the variability in one series that can be explained by the variability of one or more other series a regression model. A measure of the quality of fit. 100% R-square means perfect predictability.

Real Yield - Return from an investment adjusted for the effects of inflation.

Semi Standard Deviation (Downside) - Is a measure of risk using only the variance of returns below a target rate, such as the benchmark.

Sharpe Ratio - A measure of a portfolio's excess return relative to the total variability of the portfolio. The higher the portfolio's Sharpe Ratio, the better the portfolio's returns have been relative to the risk it has taken on.

Standard Deviation - The square root of the variance. A measure of dispersion of a set of data from its mean.

Style Analysis - A returns-based analysis using a multi-factor attribution model. The model calculates a product's average exposure to particular investment styles over time (i.e., the product's normal style benchmark).

Top-down - Investment style that begins with an assessment of the overall economic environment and makes a general asset allocation decision regarding various sectors of the financial markets and various industries.

Tracking Error - The standard deviation of the difference between the performance of a portfolio and an appropriate benchmark.

Turnover - For mutual funds, a measure of trading activity during the previous year, expressed as a percentage of the average total assets of the fund. A turnover rate of 25% means that the value of trades represented one-fourth of the assets of the fund.

Illinois State Universities Retirement System

Appendix

Up Market Capture Ratio - Is the portion of the market's performance that was captured by the manager using only periods where the market return is positive. An up market capture of greater than 100% is considered desirable.

Unrealized Gain/Loss - The increased or decreased market value of an asset that is still being held compared with its cost of acquisition.

Value Stocks - Stocks with low price/book ratios or price/earnings ratios. Historically, value stocks have enjoyed higher average returns than growth stocks (stocks with high price/book or P/E ratios) in a variety of countries.

Weighted Average Life (WAL) - The average number of years for which each dollar of unpaid principal on a loan or mortgage remains outstanding. Once calculated, WAL tells how many years it will take to pay half of the outstanding principal. The time weightings are based on the principal paydowns - the higher the dollar amount, the more weight that corresponding time period will have. For example, if the majority of the repayment amount is in 10 years the WAL will be closer to 10 years. Let's say there's an outstanding bond with five years of \$1,000 annual payments. The weighted average life would be three years, assuming payment is made at the end of each year. This indicates that after three years over half of the payments will be made.

Yield Curve - A representation on a chart of the <u>yields</u> on <u>bonds</u> with identical <u>credit ratings</u> but different <u>maturities</u>. On the yield curve, the maturities are represented on the x-axis, and the yield is represented on the y-axis. That is, if the yield curve trends upward, it indicates that <u>interest rates</u> for long-term <u>debt securities</u> are higher than short-term debt securities; this is called a <u>normal yield curve</u>. A <u>negative yield curve</u> indicates that interest rates for short-term debt securities are higher, and a <u>flat yield curve</u> indicates that they are roughly the same. Yield curves are most commonly plotted with <u>U.S. Treasuries</u> with different maturities; this is used to predict future trends in <u>interest rates</u>.

Yield Curve Management - Any investment strategy that seeks to profit from changes in the yield curve of US Treasury securities. For example, one may buy a bond at a certain interest rate expecting prevailing interest rates to decline. If and when they do, the price of the bond one holds will increase, allowing one to sell the bond for a profit.

Yield to Maturity - The rate of return an investor would receive if the securities held by a portfolio were held to their maturity dates.



Illinois State Universities Retirement System

Appendix

Risk Metrics Description – Rationale for Selection and Calculation Methodology

US Equity Markets:

Metric: P/E ratio = Price / "Normalized" earnings for the S&P 500 Index

To represent the price of US equity markets, we have chosen the S&P 500 index. This index has the longest published history of price, is well known, and also has reliable, long-term, published quarterly earnings. The price=P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the S&P 500 index). Equity markets are very volatile. Prices fluctuate significantly during normal times and extremely during periods of market stress or euphoria. Therefore, developing a measure of earnings power (E) which is stable is vitally important, if the measure is to provide insight. While equity prices can and do double, or get cut in half, real earnings power does not change nearly as much. Therefore, we have selected a well-known measure of real, stable earnings power developed by Yale Professor Robert Shiller known as the Shiller E-10. The calculation of E-10 is simply the average real annual earnings over the past 10 years. Over 10 years, the earnings shenanigans and boom and bust levels of earnings tend to even out (and often times get restated). Therefore, this earnings statistic gives a reasonably stable, slow-to-change estimate of average real earnings power for the index. Professor Shiller's data and calculation of the E-10 are available on his website at http://www.econ.yale.edu/~shiller/data.htm. We have used his data as the base for our calculations. Details of the theoretical justification behind the measure can be found in his book *Irrational Exuberance* [Princeton University Press 2000, Broadway Books 2001, 2nd ed., 2005].

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Appendix

Developed Equity Markets Excluding the US:

Metric: P/E ratio = Price / "Normalized" earnings for the MSCI EAFE Index

To represent the price of non-US developed equity markets, we have chosen the MSCI EAFE index. This index has the longest published history of price for non-US developed equities. The price=P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the MSCI EAFE index). The price level of this index is available starting in December 1969. Again, for the reasons described above, we elected to use the Shiller E-10 as our measure of earnings (E). Since 12/1972, a monthly price earnings ratio is available from MSCI. Using this quoted ratio, we have backed out the implied trailing-twelve month earnings of the EAFE index for each month from 12/1972 to the present. These annualized earnings are then inflation adjusted using CPI-U to represent real earnings in US dollar terms for each time period. The Shiller E-10 for the EAFE index (10 year average real earnings) is calculated in the same manner as detailed above.

However, we do not believe that the pricing and earnings history of the EAFE markets are long enough to be a reliable representation of pricing history for developed market equities outside of the US. Therefore, in constructing the Long-Term Average Historical P/E for developed ex-US equities for comparison purposes, we have elected to use the US equity market as a developed market proxy, from 1881 to 1982. This lowers the Long-Term Average Historical P/E considerably. We believe this methodology provides a more realistic historical comparison for a market with a relatively short history.

Emerging Market Equity Markets:

Metric: Ratio of Emerging Market P/E Ratio to Developed Market P/E Ratio

To represent the Emerging Markets P/E Ratio, we have chosen the MSCI Emerging Market Free Index, which has P/E data back to January 1995 on Bloomberg. To represent the Developed Markets PE Ratio, we have chosen the MSCI World Index, which also has data back to January 1995 on Bloomberg. Although there are issues with published, single time period P/E ratios, in which the denominator effect can cause large movements, we feel that the information contained in such movements will alert investors to market activity that they will want to interpret.

Illinois State Universities Retirement System

Appendix

US Private Equity Markets:

Metrics: S&P LCD Average EBITDA Multiples Paid in LBOs and US Quarterly Deal Volume

The Average Purchase Price to EBITDA multiples paid in LBOs is published quarterly by S&P in their LCD study. This is the total price paid (both equity and debt) over the trailing-twelve month EBITDA (earnings before interest, taxes, depreciation and amortization) as calculated by S&P LCD. This is the relevant, high-level pricing metric that private equity managers use in assessing deals. Data is published monthly.

US quarterly deal volume for private equity is the total deal volume in \$ billions (both equity and debt) reported in the quarter by Thomson Reuters Buyouts. This metric gives a measure of the level of activity in the market. Data is published quarterly.

US Private Real Estate Markets:

Metrics: US Cap Rates, Cap Rate Spreads, and Transactions as a % of Market Value

Real estate cap rates are a measure of the price paid in the market to acquire properties versus their annualized income generation before financing costs (NOI=net operating income). The data, published by NCREIF, describes completed and leased properties (core) on an unleveraged basis. We chose to use current value cap rates. These are capitalization rates from properties that were revalued during the quarter. This data relies on estimates of value and therefore tends to be lagging (estimated prices are slower to rise and slower to fall than transaction prices). The data is published quarterly.

Spreads between the cap rate (described above) and the 10-year nominal Treasury yield, indicate a measure of the cost of properties versus a current measure of the cost of financing.

Transactions as a % of Market Value Trailing Four Quarters is a measure of property turnover activity in the NCREIF Universe. This quarterly metric is a measure of activity in the market.

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Appendix

Credit Markets Fixed Income:

Metric: Spreads

The absolute level of spreads over treasuries and spread trends (widening / narrowing) are good indicators of credit risk in the fixed income markets. Spreads incorporate estimates of future default, but can also be driven by technical dislocations in the fixed income markets. Abnormally narrow spreads (relative to historical levels) indicate higher levels of valuation risk, wide spreads indicate lower levels of valuation risk and / or elevated default fears. Investment grade bond spreads are represented by the Bloomberg Barclays Capital US Corporate Investment Grade Index Intermediate Component. The high yield corporate bond spreads are represented by the Bloomberg Barclays Capital US Corporate High Yield Index.

Measure of Equity Market Fear / Uncertainty

Metric: VIX – Measure of implied option volatility for US equity markets

The VIX is a key measure of near-term volatility conveyed by implied volatility of S&P 500 index option prices. VIX increases with uncertainty and fear. Stocks and the VIX are negatively correlated. Volatility tends to spike when equity markets fall.

Measure of Monetary Policy

Metric: Yield Curve Slope

We calculate the yield curve slope as the 10 year treasury yield minus the 1 year treasury yield. When the yield curve slope is zero or negative, this is a signal to pay attention. A negative yield curve slope signals lower rates in the future, caused by a contraction in economic activity. Recessions are typically preceded by an inverted (negatively sloped) yield curve. A very steep yield curve (2 or greater) indicates a large difference between shorter-term interest rates (the 1 year rate) and longer-term rates (the 10 year rate). This can signal expansion in economic activity in the future, or merely higher future interest rates.

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Appendix

Measures of US Inflation Expectations

Metrics: Breakeven Inflation and Inflation Adjusted Commodity Prices

Inflation is a very important indicator impacting all assets and financial instruments. Breakeven inflation is calculated as the 10 year nominal treasury yield minus the 10 year real yield on US TIPS (treasury inflation protected securities). Abnormally low long-term inflation expectations are indicative of deflationary fears. A rapid rise in breakeven inflation indicates an acceleration in inflationary expectations as market participants sell nominal treasuries and buy TIPs. If breakeven inflation continues to rise quarter over quarter, this is a signal of inflationary worries rising, which may cause Fed action and / or dollar decline.

Commodity price movement (above the rate of inflation) is an indication of anticipated inflation caused by real global economic activity putting pressure on resource prices. We calculate this metric by adjusted in the Dow Jones UBS Commodity Index (formerly Dow Jones AIG Commodity Index) by US CPI-U. While rising commodity prices will not necessarily translate to higher US inflation, higher US inflation will likely show up in higher commodity prices, particularly if world economic activity is robust.

These two measures of anticipated inflation can, and often are, conflicting.

Measures of US Treasury Bond Interest Rate Risk

Metrics: 10-Year Treasury Forward-Looking Real Yield and 10-Year Treasury Duration

The expected annualized real yield of the 10 year US Treasury Bond is a measure of valuation risk for US Treasuries. A low real yield means investors will accept a low rate of expected return for the certainly of receiving their nominal cash flows. MEKETA estimates the expected annualized real yield by subtracting an estimate of expected 10 year inflation (produced by the Survey of Professional Forecasters as collected by the Federal Reserve Bank of Philadelphia), from the 10 year Treasury constant maturity interest rate.

Duration for the 10-Year Treasury Bond is calculated based on the current yield and a price of 100. This is a measure of expected percentage movements in the price of the bond based on small movements in percentage yield. We make no attempt to account for convexity.



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Appendix

Definition of "extreme" metric readings

A metric reading is defined as "extreme" if the metric reading is in the top or bottom decile of its historical readings. These "extreme" reading should cause the reader to pay attention. These metrics have reverted toward their mean values in the past.

MEKETA

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MEKETA INVESTMENT GROUP
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Callan

June 30, 2022

State Universities Retirement System of Illinois Real Estate

Investment Measurement Service Quarterly Review

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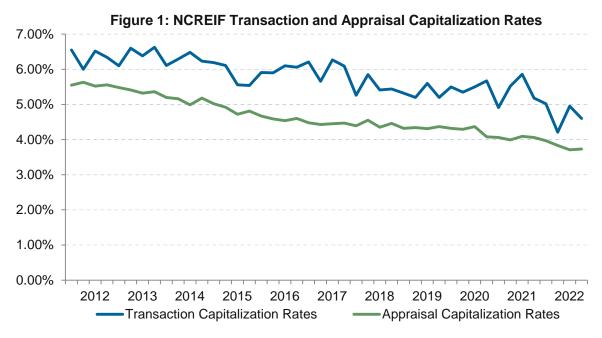
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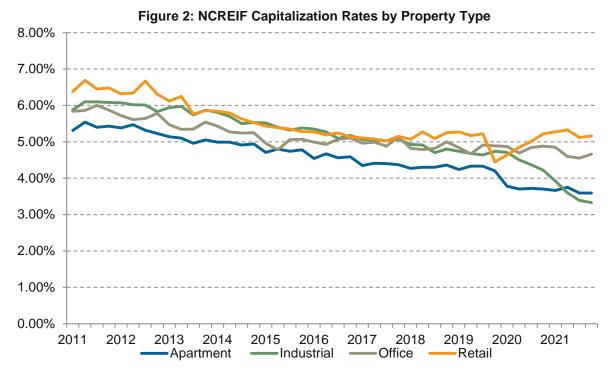


Commercial Real Estate Market Snapshot Second Quarter 2022

The NCREIF Property Index, a measure of U.S. institutional real estate assets, rose 3.2% during 2Q22. The income return was 1.0% and the appreciation return was 2.3%. Industrial led property sector performance with a gain of 5.9%. Office finished last with an increase of 0.6%. Regionally, the West led with a 3.9% increase, while the Midwest was the worst performer but still gained 1.3%. The NCREIF Open-End Diversified Core Equity Index, representing equity ownership positions in U.S. core real estate, rose 4.8% during 2Q, with an income return of 0.9% and an appreciation return of 3.9%.

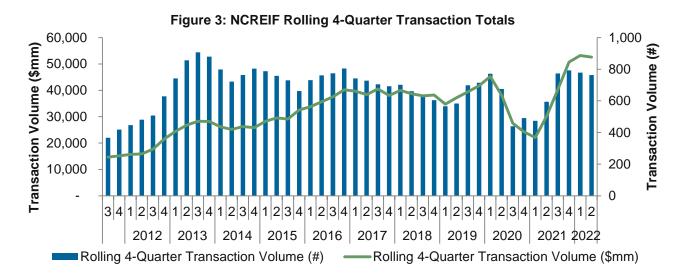


As seen in Figure 1, appraisal capitalization rates remained constant at 3.7% during 2Q, and capitalization rates measured in active trades fell from 5.0% to 4.6%. At quarter end, the 10-year average appraisal capitalization rate was 4.5% and the 10-year average transaction capitalization rate was 5.7%. The spread between the two measures, which reflects pricing expectations between buyers and holders of real estate, remained constant at 116 basis points.



Market-weighted capitalization rates by property type decreased for all property types during the quarter. Capitalization rates were lowest in Industrial (3.3%) and Apartment (3.6%), and slightly higher in Office (4.7%) and Retail (5.2%).





As shown in Figure 3, rolling four-quarter transaction volume totaled \$52.6 billion across 763 transactions. NCREIF recorded 136 transactions during 2Q, representing \$9.2 billion of value, compared to \$9.4 billion in 1Q. The average transaction size was \$67.4 million, compared to \$80.9 million in 1Q.

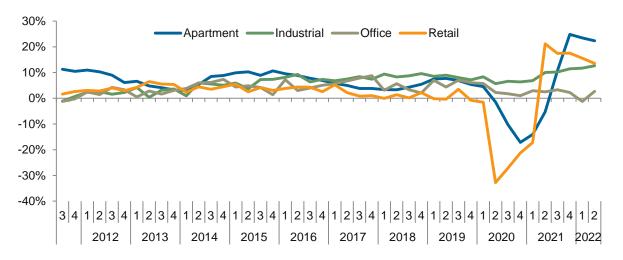


Figure 4: Rolling 4-Quarter NOI Growth by Property Type

Rolling four-quarter net operating income growth was mixed during the quarter. Rolling four-quarter NOI growth decreased slightly in Apartment (22.3%) and Retail (13.6%), while NOI growth in Industrial (12.6%) increased slightly. NOI growth in Office (2.7%) increased sharply and rebounded from its first quarter of negative NOI growth in a decade.



Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of June 30, 2022, with the distribution as of March 31, 2022. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	June 30, 2	2022		March 31,	2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Private Real Estate	\$1,937,370,494	91.96%	\$(27,286,503)	\$68,547,791	\$1,896,109,206	92.40%
Total Core Funds	\$1,398,870,866	66.40%	\$15,074,119	\$58,161,550	\$1,325,635,197	64.60%
BlackRock Global Renewable Power III	23,801,660	1.13%	4,285,186	534,507	18,981,967	0.92%
Blackstone Property Partners	274,529,581	13.03%	(692,195)	7,115,079	268,106,697	13.06%
Carlyle Property Investors	168,238,206	7.99%	(446,943)	6,148,376	162,536,774	7.92%
GI Partners ETS Fund	15,959,647	0.76%	13,528,729	2,430,918	-	-
Heitman America Real Estate Trust (HAR	RT) 310,938,330	14.76%	(556,065)	13,201,143	298,293,252	14.54%
JP Morgan Strategic Property Fund (SPF	309,192,921	14.68%	(550,699)	13,913,461	295,830,159	14.42%
Prologis US Logistics Fund (USLF)	189,040,464	8.97%	(343,460)	10,671,541	178,712,383	8.71%
UBS Trumbull Property Fund (TPF)	107,170,057	5.09%	(150,434)	4,146,526	103,173,966	5.03%
Total Non-Core Funds	\$538,499,628	25.56%	\$(42,360,622)	\$10,386,241	\$570,474,009	27.80%
Basis Real Estate Debt Fund I	22,895,972	1.09%	(996,032)	568,710	23,323,294	1.14%
Basis Real Estate Debt Fund II	9,910,958	0.47%	(3,857,671)	77,324	13,691,305	0.67%
(1) Blackstone BREP Europe VI	31,275,322	1.48%	(19,535,587)	(2,296,906)	53,107,815	2.59%
(2) Blue Vista Real Estate IV	16,704,104	0.79%	(8,260,576)	138,078	24,826,602	1.21%
Brasa II	16,916,705	0.80%	2,585,249	66,555	14,264,901	0.70%
Brookfield Strategic Real Estate II	35,882,000	1.70%	(88,000)	1,435,000	34,535,000	1.68%
Brookfield Strategic Real Estate III	30,668,331	1.46%	(932,064)	(54,744)	31,655,139	1.54%
Brookfield Strategic RE IV	79,301	0.00%	(252,432)	70,972	260,761	0.01%
Cabot Industrial Value VI (CIVF)	45,923,850	2.18%	6,334,000	1,296,183	38,293,667	1.87%
Crow Holdings Realty VII	2,085,419	0.10%	(629,285)	(242,543)	2,957,247	0.14%
Crow Holdings Realty VIII	4,852,785	0.23%	(1,691,101)	30,943	6,512,943	0.32%
Crow Holdings Realty IX	44,538,239	2.11%	1,448,837	1,917,535	41,171,867	2.01%
Dune Real Estate Partners II	6,411,023	0.30%	(1,408,490)	482,143	7,337,370	0.36%
Dune Real Estate Partners III	65,056,221	3.09%	(5,455,324)	6,678	70,504,867	3.44%
Dune Real Estate IV	23,459,920	1.11%	(178,369)	1,010,319	22,627,970	1.10%
Franklin Templeton FTPREF	1,513,390	0.07%	(26,449)	15,071	1,524,768	0.07%
Franklin Templeton EMREFF	4,392,679	0.21%	(19,683)	(27,013)	4,439,375	0.22%
Franklin Templeton MDP RE 2015	57,815,442	2.74%	(8,706,369)	2,256,374	64,265,437	3.13%
Longpoint Realty Fund II	25,069,073	1.19%	4,837,945	844,963	19,386,165	0.94%
Long Wharf VI	22,128,587	1.05%	(942,453)	131,178	22,939,863	1.12%
Newport Capital Partners Fund III	325,992	0.02%	(2,551,980)	180,764	2,697,209	0.13%
Oaktree Real Estate Debt Fund II	10,527,356	0.50%	(194,178)	41,215	10,680,319	0.52%
(3) StepSt Glb Partner RE II (fka MFIRE)		0.79%	(2,700,000)	1,213	19,418,549	0.95%
Torchlight Debt VII	15,549,144	0.74%	(175,000)	766.860	14,957,284	0.73%
Westbrook XI	27,799,266	1.32%	1,034,391	1,670,582	25,094,293	1.22%
Farmland	\$38,621,808	1.83%	\$ (207,177)	\$258,485	\$38,570,500	1.88%
Homestead USA Farmland Fund III	38,621,808	1.83%	(207,177)	258,485	38,570,500	1.88%
Total Private Infrastructure	\$130,845,946	6.21%	\$5,874,753	\$7,515,371	\$117,455,822	5.72%
Alinda Infrastructure Fund II	8,333,999	0.40%	(14,887)	(651,408)	9,000,294	0.44%
Ember Infrastructure I	6,990,610	0.33%	502,557	6,306	6,481,747	0.32%
Macquarie Infrastructure Partners II	234,757	0.01%	0	(2,547)	237,305	0.01%
Macquarie Infrastructure Partners III	47,924,504	2.27%	(2,370,536)	3,571,553	46,723,487	2.28%
Macquarie Infrastructure Partners IV	58,112,076	2.76%	(567,680)	4,591,468	54,088,288	2.64%
Pantheon Glb Infrast Secondaries IV	9,250,000	0.44%	8,325,299	0	924,701	0.05%
(4) Total Fund	\$2,106,838,248	100.0%	\$(21,618,927)	\$76,321,647	\$2,052,135,528	100.0%

⁽⁴⁾ Values shown are minus accrued incentive fee.



⁽¹⁾ Reported in Euro's by manager and then coverted to US \$.

⁽²⁾ Year end figure is based on estimate. YE audit takes 120 days.

⁽³⁾ Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2022

1 4		
Last	Last	3
		Years
		13.13%
		11.66%
1.52%	0.89%	-
2.40%	25.30%	11.10%
3.58%	31.67%	17.85%
4.24%	32.30%	11.99%
4.52%	27.73%	11.11%
5.68%	51.22%	-
3.87%	23.91%	7.19%
1 30%	23 /16%	7.35%
		13.17%
4.07 /0	29.01/6	13.17 /0
2.12%	9.94%	7.84%
		-
		-
		19.75%
		-
		17.21%
		11.74%
		11.7 7/0
		6.52%
		28.27%
		20.21 /6
		(0.31%)
		, ,
		(3.37%)
		(47.000()
		(17.23%)
		(12.73%)
		4.40%
		-
		21.12%
		-
		0.78%
		0.25%
		=
6.18%	33.79%	-
3.31%	28.76%	11.39%
0.13%	10.44%	-
		6.55%
2.0070	10.00 /0	0.00%
5 95%	17 65%	15.80%
		10.42%
		3.88%
(1.50/0)	₸.11/0	3.00 /0
(7.40%)	(0.85%)	(4.08%)
		21.35%
8.17%	21.23%	15.32%
3.40%	27.78%	12.16%
		12.30%
	2.40% 3.58% 4.24% 4.52% 5.68% 3.87% 1.39% 4.87% 2.12% (0.61%) (6.36%) 0.37% (0.82%) 3.90% (0.51%) 2.66% (9.50%) 0.22% 4.50% 6.76% (0.25%) 3.68% (0.75%) (1.05%) 3.50% 3.24% (0.08%) 5.69% 0.05% 0.00% 3.96% 6.18% 3.31% 0.13% 2.63%	4.10% 31.01% 4.54% 28.31% 1.52% 0.89% 2.40% 25.30% 3.58% 31.67% 4.24% 32.30% 4.52% 27.73% 5.68% 51.22% 3.87% 23.91% 1.39% 23.46% 4.87% 29.81% 2.12% 9.94% (0.61%) (1.15%) (6.36%) 21.81% 0.37% 41.90% (0.82%) 3.90% 3.90% 34.57% (0.51%) 17.62% 2.66% 73.20% (9.50%) (0.72%) 0.22% 41.96% 4.50% - 6.76% 6.82% (0.25%) 7.26% 3.68% 31.55% (0.75%) 6.74% (1.05%) 31.84% 3.24% - (0.08%) 49.85% 5.69% 15.02% 0.05% 2.84% 0.00% 1.29% 3.96% 6.19%

⁽³⁾ Reported in Euro's by manager and then coverted to US \$.
** Year end figure is based on estimate. YE audit takes 120 days.



^{*} Current Quarter Target = 65.0% NCREIF NFI-ODCE Val Wt Nt, 28.0% NCREIF NFI-ODCE Val Wt Nt+1.5%, 6.0% CPI-W+5.0% and 1.0% NCREIF Farmland Index.

⁽¹⁾ The quarterly Total Real Asset Benchmark returns are calculated by weighting the benchmark return for each asset class.

⁽²⁾ Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

All returns are shown net of fees.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended June 30, 2022

Blackstone Property Partners	% (6/05) % (6/05)
Total Core Funds 9.85% 9.59% 6.0 NCREIF NFI-ODCE Val Wt Nt 9.55% 10.15% 7.2 Blackrock Global Renewable Power III -	% (6/05) % (6/05)
NCREIF NFI-ODCE Val Wt Nt 9.55% 10.15% 7.2	% (6/05)
Blackrock Global Renewable Power III	
Blackstone Property Partners	
Blackstone Property Partners	%) (12/20)
Carlyle Property Investors Heitman America Real Estate Trust (HART) JP Morgan Strategic Property Fund (SPF) Prologis US Logistics Fund (USLF) UBS Trumbul Property Fund (TPF) 5.31% 7.03% 5.4 Total Non-Core Funds NCREIF ODCE + 1.5% 11.06% 11.06% 11.66% 11.0 Basis Real Estate Debt Fund I Basis Real Estate Debt Fund II Blackstone European VI (3) Busis Real Estate U** 17.34% 17.34% 18.92 Brasa II Brookfield Strategic Real Estate II Brookfield Strategic Re III Cabot Industrial Value VI (CIVF) Crow Holdings Realty VII Crow Holdings Realty VIII Crow Holdings Realty VIII Crow Holdings Realty VIII Dune Real Estate Partners II Crow Holdings Realty VII Dune Real Estate Partners II Dune Real Estate Partners II Crow Holdings Fearly VII Dune Real Estate Partners II Dune Real Estate Partners II Crow Holdings Realty VII Dune Real Estate Partners II Dune Real Estate Debt Fund II Dune Real Estate Partners III Caster Real Estate Debt Fund III Caster Real Estate Debt III Caster Real Estate Debt III Cast	(3/19)
Heitman America Real Estate Trust (HART) 9.41% - 9.7 JP Morgan Strategic Property Fund (SPF) 8.92% - 9.3 Prologis US Logistics Fund (USLF) - - - UBS Trumbull Property Fund (TPF) 5.31% 7.03% 5.4 Fotal Non-Core Funds 8.65% 11.98% 9.0 NCREIF ODCE + 1.5% 11.06% 11.66% 11.06 Basis Real Estate Debt Fund I - - - Basis Real Estate Debt Fund II - - - (1.1 Blackstone European VI (3) - - - Brasa II - - - - Brookfield Strategic Real Estate II 14.36% - - Brookfield Strategic Real Estate II 14.36% - - Cabot Industrial Value VI (CIVF) - - - Crow Holdings Realty VII 8.36% - - Crow Holdings Realty IX - - Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners II 2.56% - 6.1 Dune Real Estate Partners IV - - Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Newport Capital Partners Fund III - - 3.0 Oktree Real Estate Debt Fund II - - 3.0 Newport Capital Partners Fund III - - 3.0 Oktree Real Estate Debt Fund II - - 3.0 Newport Capital Partners Fund III - - 3.0 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.67 Torchlight Debt VII - - 6.1	
JP Morgan Strategic Property Fund (SPF) 8.92% - 9.3 Prologis US Logistics Fund (USLF) 47.3 UBS Trumbull Property Fund (TPF) 5.31% 7.03% 5.4 fotal Non-Core Funds 8.65% 11.98% 9.0 NCREIF ODCE + 1.5% 11.06% 11.66% 11.66% 11.0 Basis Real Estate Debt Fund I 12.3 Basis Real Estate Debt Fund II (1.1 Blackstone European VI (3) 9.3 Blue Vista Real Estate IV ** 17.34% (4.1 Brookfield Strategic Real Estate II 14.36% 13.0 Brookfield Strategic Real Estate II 14.36% 11.7 Cabot Industrial Value VI (CIVF) 59.9 Crow Holdings Realty VII 8.36% 9.6 Crow Holdings Realty VII 26.8 Crow Holdings Realty IVI 1.5 Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners IV 6.1 Dune Real Estate Partners IV	% (9/14)
Obtail Non-Core Funds 8.65% 11.98% 9.0 NCREIF ODCE + 1.5% 11.06% 11.66% 11.06% Basis Real Estate Debt Fund I - - 12.3 Basis Real Estate Debt Fund II - - (1.1 Blackstone European VI (3) - - - 9.3 Blue Vista Real Estate IV ** 17.34% - 4.9 Brasa II - - (4.1 Brookfield Strategic Real Estate II 14.36% - 13.0 Brookfield Strategic Real Estate III - - 13.0 Brookfield Strategic Real Estate III - - 13.0 Brookfield Strategic Real Estate III - - 11.7 Cabot Industrial Value VI (CIVF) - - 59.9 Crow Holdings Realty VIII - - 9.6 Crow Holdings Realty IX - - 4.5 Dune Real Estate Partners III 2.46% 9.66% 7.3 Dune Real Estate Partners IV - - 6.1	% (6/14)
NCREIF ODCE + 1.5%	% (12/20)
NCREIF ODCE + 1.5%	% (9/06)
NCREIF ODCE + 1.5%	
Basis Real Estate Debt Fund I	, ,
Basis Real Estate Debt Fund II	% (6/09)
Basis Real Estate Debt Fund II	0/ (0.10)
Blackstone European VI (3)	, ,
Blue Vista Real Estate IV ** 17.34% - 4.9	%) (6/21)
Brasa II	% (12/19) % (12/15)
Brookfield Strategic Real Estate II 14.36% - 13.0 Brookfield Strategic RE III 59.9 Crow Holdings Realty VII 8.36% - 9.6 Crow Holdings Realty VIII 26.8 Crow Holdings Realty IX 26.8 Crow Holdings Realty IX 4.5 Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners III 2.56% - 6.1 Dune Real Estate Partners IV 1.5 Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II 3.0 Long Wharf VI 3.0 Newport Capital Partners Fund III 3.3 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - 6.1	
Brookfield Strategic RE III	<mark>%)</mark> (12/21)
Cabot Industrial Value VI (CIVF) - - 59.9 Crow Holdings Realty VIII 8.36% - 9.6 Crow Holdings Realty IX - - 4.5 Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners IVI - - 6.1 Dune Real Estate Partners IV - - 1.5 Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 30.3 Newport Capital Partners Fund III - - 31.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Crow Holdings Realty VIII 8.36% - 9.6 Crow Holdings Realty IX - - 4.5 Crow Holdings Realty IX - - 4.5 Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners III 2.56% - 6.1 Dune Real Estate Partners IV - - - Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 3.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	,
Crow Holdings Realty VIII - - 26.8 Crow Holdings Realty IX - - 4.5 Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners III 2.56% - 6.1 Dune Real Estate Partners IV - - 1.5 Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 3.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Crow Holdings Realty IX - - 4.5 Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners III 2.56% - 6.1 Dune Real Estate Partners IV - - 1.5 Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 30.3 Newport Capital Partners Fund III - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Dune Real Estate Partners II 2.46% 9.66% 7.3 Dune Real Estate Partners III 2.56% - 6.1 Dune Real Estate Partners IV - - 1.5 Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Dune Real Estate Partners III 2.56% - 6.1 Dune Real Estate Partners IV - - 1.5 Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	, ,
Dune Real Estate Partners IV - - 1.5 Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Franklin Templeton FTPREF (2.35%) 8.85% 8.8 Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - 6.1	
Franklin Templeton EMREFF (5.07%) 4.79% 4.2 Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	` ′
Franklin Templeton MDP RE 2015 4.37% - 3.0 Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - 6.1	,
Longpoint Realty Fund II - - 27.9 Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Long Wharf VI - - 30.3 Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Newport Capital Partners Fund III - - 11.7 Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	, ,
Oaktree Real Estate Debt Fund II - - 3.7 StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
StepSt Partner RE II (fka MFIRE) (2) 1.84% 5.67% 5.6 Torchlight Debt VII - - 6.1	
Torchlight Debt VII 6.1	
	, ,
Westbrook XI 33.7	
	(6/21)
otal Private Real Estate 9.54% 10.18% 6.3	% (6/05)
Homestead USA Farmland Fund III 12.4	% (3/21)
	. /6 (3/21) '% (3/21)
NONEIL L'AITHIAIR HIGEX	70 (3/21)
Total Private Infrastructure 10.81% 8.50% 8.3	% (12/09)
	% (12/09)
	% (12/09) % (12/09)
1 TOE DOV COTO IIII 50/30 IV 5.75 /6 0.24 /6 0.3	70 (12/09)
	%) (12/09)
	<mark>%)</mark> (9/21)
Macquarie Infrastructure Partners III 18.65% - 14.4	
Macquarie Infrastructure Partners IV 10.2	% (6/18)
Code Dec Access	0/
Total Real Assets 9.97% 9.83% 6.0	
Total Real Assets Benchmark*(1) 10.11% 9.60% 6.8	% (6/05)

⁽³⁾ Reported in Euro's by manager and then coverted to US \$.
** Year end figure is based on estimate. YE audit takes 120 days.



^{*} Current Quarter Target = 65.0% NCREIF NFI-ODCE Val Wt Nt, 28.0% NCREIF NFI-ODCE Val Wt Nt+1.5%, 6.0% CPI-W+5.0% and 1.0% NCREIF Farmland Index.

⁽¹⁾ The quarterly Total Real Asset Benchmark returns are calculated by weighting the benchmark return for each asset class.

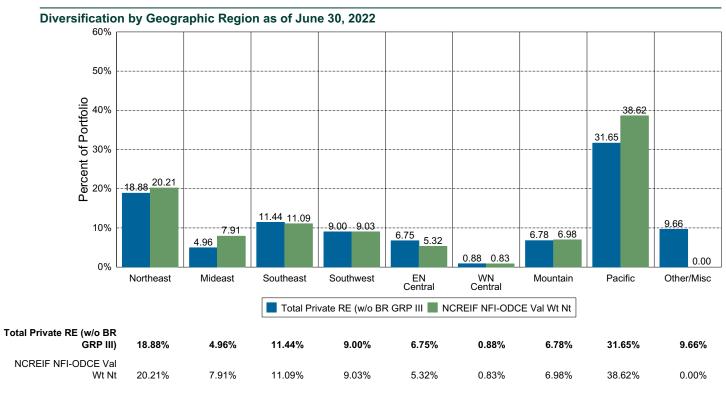
⁽²⁾ Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

All returns are shown net of fees.

Total Private RE (w/o BR GRP III) Diversification Analysis as of June 30, 2022

Diversification Analysis

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Property Type. Similar information is provided on the relevant market index for comparison.



Diversification by Property Type as of June 30, 2022 50% 40% 34.65 33.47 Percent of Portfolio 30% 27.76 20% 10% 3.89 0% Mixed Manuf Storag@iversifiedHealth LandOther/MiscCash Use Homes Care Student Mixed Housing Use Office Multi-Famil Retail Industrial Hotels Senior For Sale Use Off/Ind Housing Sale Housing Residential ■ Total Private RE (w/o BR GRP III ■ NCREIF NFI-ODCE Val Wt Nt

Total Private RE (w/o BR

GRP III) 16.39% 21.92% 8.03% 34.65% 3.89% 0.29% 2.94% 3.73% 0.64% 1.31% 1.56% 0.00% 0.34% 0.60% 0.81% 1.03% 1.53% 0.29%

NCREIF NFI-ODCE Val

 $\text{Wt Nt } 22.24\%27.76\% \ \ 9.63\%33.43\% \ \ 0.15\% \ \ 0.00\% \ \ 0.00\% \ \ 0.00\% \ \ 0.00\% \ \ 0.00\% \ \ 6.79\% \ \ 0.00\% \ \$



Total Private Real Estate Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre		- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Capital</u>	<u>Market</u>
06/2005	0	42,173,431	0	0	(0)	123,467	0	0	42,049,963
09/2005	42,049,963	34,412,979	0	0	2,932,432	852,473	0	0	78,542,902
12/2005	78,542,902	48,535,080	0	0	(2,207,961)	1,217,584	0	0	123,652,438
03/2006	123,652,438	1,679,008	0	0	7,754,988	1,679,008	0	0	131,407,426
06/2006	131,407,426	154,313,912	17,260	0	62,225	1,829,427	0	0	283,971,396
09/2006	283,971,396	6,538,259	1,719,275	0	(379,023)	1,882,915	0	0	289,966,992
12/2006	289,966,992	7,421,001	1,708,539	334,414	6,091,615	1,887,109	0	0	302,966,624
03/2007	302,966,624	6,918,111	1,675,293	348,138	13,086,106	3,690,165	0	2,458,173	318,149,659
06/2007	318,149,659	1,842,480	1,807,242	359,826	14,785,736	1,842,480	0	0	334,382,812
09/2007	334,382,812	2,265,946	1,724,761	380,988	10,156,598	1,826,121	0	0	346,323,006
12/2007	346,323,006	1,956,882	1,690,561	388,418	6,336,475	5,689,851	0	0	350,228,655
03/2008	350,228,655	1,988,386	1,674,352	663,376	1,569,797	1,988,386	0	0	352,809,428
06/2008	352,809,428	8,831,700	1,822,454	128,447	(17,340,577)	2,918,708	0	0	343,075,849
09/2008	343,075,849	3,142,415	1,822,648	376,323	(2,083,408)	3,142,415	0	0	342,438,766
12/2008	342,438,766	3,143,110	1,881,551	286,163	(45,400,090)	3,143,110	0	0	298,634,064
03/2009	298,634,064	3,043,682	1,823,223	273,693	(44,893,159)	4,264,862	0	0	254,069,254
06/2009	254,069,254	3,600,000	1,840,942	592,300	(23,368,122)	1,989,933	0	0	233,559,843
09/2009	233,559,843	0	1,703,642	575,906	(12,246,283)	2,003,491	0	0	220,437,804
12/2009	220,437,804	0	1,788,774	566,083	(10,965,797)	1,965,752	0	0	208,728,946
03/2010	208,728,946	25,000,000	2,015,326	210,612	734,572	2,061,158	0	0	234,207,074
06/2010	234,207,074	27,040,000	3,097,524	239,447	5,875,693	2,456,070	0	0	267,524,774
09/2010	267,524,774	25,000,000	2,907,443	294,552	19,471,475	2,727,021	0	0	311,882,119
12/2010	311,882,119	26,840,000	3,525,226	487,973	8,701,428	3,289,692	0	0	347,171,108
03/2011	347,171,108	6,169,856	3,049,562	672,479	8,721,683	3,328,279	0	0	361,111,450
06/2011	361,111,450	4,373,333	3,139,247	663,418	14,060,049	4,205,243	0	0	377,815,419
09/2011	377,815,419	2,222,095	2,938,893	679,965	15,992,933	3,423,940	0	0	394,865,435
12/2011	394,865,435	16,655,942	2,952,521	703,273	(6,843,995)	3,396,014	0	0	403,530,615
03/2012	403,530,615	5,777,016	3,237,093	712,989	10,670,378	3,528,506	0	0	418,973,609
06/2012	418,973,609	12,851,428	3,070,176	811,541	6,466,680	6,007,837	0	544,391	433,998,123
09/2012	433,998,123	12,453,309	3,465,912	821,801	8,311,113	5,430,310	0	1,560,625	450,415,721
12/2012	450,415,721	21,304,116	2,985,126	836,210	7,740,575	5,848,715	0	1,311,525	474,449,087
03/2013	474,449,087	8,924,696	3,361,755	842,722	9,867,263	4,936,044	0	5,912,217	484,911,819
06/2013	484,911,819	13,690,142	3,408,964	813,391	9,856,009	130,555,101	0	35,883	380,462,559
09/2013	380,462,559	28,876,958	3,159,030	1,277,279	6,839,123	12,324,318	0	1,719,937	404,016,136
12/2013	404,016,136	62,878,607	3,041,081	1,020,951	7,460,729	4,845,993	0	250,445	471,279,164
03/2014	471,279,164	8,361,763	3,496,147	1,123,862	18,364,484	13,093,727	0	1,444,640	485,839,330
06/2014	485,839,330	168,387,475	4,383,107	1,207,697	10,271,773	10,045,299	2,417	20,362,045	637,264,227
09/2014	637,264,227	101,636,642	6,181,480	1,409,298	13,167,818	11,957,185	0	449,945	744,433,739
12/2014	744,433,739	77,116,484	6,866,500	1,267,082	15,668,216	9,096,964	0	22,718,143	811,002,750
03/2015	811,002,750	21,635,146	7,674,697	1,760,301	20,980,550	15,152,959	0	2,674,991	841,704,892
06/2015	841,704,892	22,866,436	7,861,829	1,820,086	22,507,085	12,887,424	0	1,339,019	878,893,713
09/2015	878,893,713	11,216,301	7,918,911	1,780,676	22,613,392	20,089,832	0	827,939	897,943,868
12/2015	897,943,868	20,871,212	7,874,144	2,481,710	21,862,704	13,671,377	0	388,596	932,010,245
03/2016	932,010,245	20,295,944	8,143,230	1,988,116	13,286,274	16,368,188	0	225,653	955,153,736
06/2016	955,153,736	31,896,620	8,292,447	2,190,974	13,707,723	10,963,886	0	183,426	995,712,241
09/2016	995,712,241	14,378,035	8,174,346	2,185,457	15,342,583	24,149,725	0	86,935	1,007,185,087
12/2016	1,007,185,087	27,586,682	8,235,734	2,364,750	15,926,218	28,938,749	0	1,810,102	1,025,820,120



Total Private Real Estate Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre	Income &	- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Capital</u>	<u>Market</u>
03/2017	1,025,820,120	11,467,605	8,016,983	2,109,415	6,876,693	11,830,339	0	329,195	1,037,912,453
06/2017	1,037,912,453	18,021,595	8,891,970	2,168,112	11,363,646	22,346,158	0	655,280	1,051,020,114
09/2017	1,051,020,114	15,302,424	8,886,731	2,100,113	12,667,629	8,101,029	0	31,875	1,077,643,881
12/2017	1,077,643,881	17,510,963	9,161,490	2,130,216	19,482,853	19,827,764	0	665,618	1,101,175,590
03/2018	1,101,175,590	33,732,281	9,803,113	2,442,601	13,309,923	16,417,883	930,000	678,961	1,137,551,462
06/2018	1,137,551,462	22,164,160	9,952,779	2,632,871	10,651,214	9,158,610	135,685,504	162,915	1,032,679,716
09/2018	1,032,679,716	28,558,458	9,640,728	2,696,531	10,205,147	13,635,013	64,763,357	3,584,690	996,404,457
12/2018	996,404,457	20,147,456	9,929,615	2,533,802	11,192,031	7,728,893	73,649,942	2,727,413	951,033,509
03/2019	951,033,509	133,117,644	13,792,179	2,593,684	2,441,843	10,093,011	39,731,922	0	1,047,966,557
06/2019	1,047,966,557	206,422,697	10,768,865	2,615,134	(2,815,011)	11,490,391	21,807,071	2,518,787	1,223,911,726
09/2019	1,223,911,726	26,737,418	10,550,915	3,992,533	3,046,783	13,565,961	23,690,852	620,309	1,222,377,188
12/2019	1,222,377,188	19,441,272	12,989,793	3,298,225	276,299	10,011,050	11,871,388	1,980,829	1,227,923,060
03/2020	1,227,923,060	30,094,014	9,862,632	3,273,348	(25,880,195)	10,909,231	17,644,036	1,437,607	1,209,853,520
06/2020	1,209,853,520	20,755,150	7,623,396	3,492,505	(43,120,490)	7,121,328	1,923,758	167,748	1,182,406,237
09/2020	1,182,406,237	21,920,519	8,488,065	4,074,138	4,048,435	8,566,129	7,202,553	983,605	1,196,036,831
12/2020	1,196,036,831	120,614,002	10,407,925	4,402,765	21,776,007	10,379,146	5,891,878	0	1,328,160,976
03/2021	1,328,160,976	40,899,080	10,321,504	5,582,092	29,121,967	15,947,023	15,354,059	0	1,371,620,353
06/2021	1,371,620,353	47,072,652	14,771,997	5,840,394	60,724,304	14,552,671	19,194,335	2,007,955	1,452,593,952
09/2021	1,452,593,952	49,754,843	15,179,732	5,976,957	100,292,821	18,806,319	15,353,164	1,141,075	1,576,543,833
12/2021	1,576,543,833	83,289,038	13,832,213	6,082,374	107,846,155	32,393,777	35,002,390	0	1,715,555,306
03/2022	1,715,555,306	74,059,704	13,201,261	6,639,777	126,317,930	17,102,414	5,722,495	3,561,349	1,896,108,166
06/2022	1,896,108,166	54,640,844	11,939,381	5,914,151	56,592,983	32,699,220	35,345,382	7,952,127	1,937,370,494
	0 :	2,253,836,443	397,171,233	120,534,426	777,935,047	751,400,171	530,766,503	97,511,966	1,937,370,494

Returns

Net Portfolio Cumulative IRR = 7.79%

Ratios

Capital Account = \$1,937,370,494

Total Value = \$3,317,049,134

Committed Capital = \$3,167,622,386

Paid In Capital = \$2,253,836,443

Remaining Commitment = \$1,011,297,910

PIC Multiple (Paid In Capital/Committed Capital) = 71.15%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$2,948,668,403

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.47x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.61x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.86x

Working on updating historical cashflows on several managers to include detail cashflows. Callan data feed at inception of relationship did not include fee amounts and income amounts. Mangers that still need updating: Brookfield II, Crow VII & VIII, Franklin EMREFF, MDP RE 2015, & FTPREF, Macquarie II & III.

Capital commitments reflects the sum of: (i) aggregate capital contributions translated to U.S. Dollars as of the date of each capital contribution transaction; and (ii) reported uncalled capital commitments translated to U.S. Dollars as of guarter end date.



State Universities Retirement System of Illinois Manager Detail as of June 30, 2022

The following table summarizes changes in each manager's aggregated cash flows and valuation information as of June 30, 2022.

Manager	Vintage Year	Capital Commitments (\$000s)	Paid-In Capital (\$000s)	Uncalled Capital (\$000s)	% Paid-In	Distributed Capital (\$000s)	Net Asset Value (\$000s)	DPI	RVPI	TVPI	Net IRR
Manager	ı caı	(\$0003)	(ψυσυσ)	(ψυσυσ)	i aiu-iii	(\$0003)	(ψοσος)		1741 1		
Stabilized Growth Funds											
UBS Trumbull Property Fund (TPF)	2006	\$282,165	282,165	-0	100.00%	398,299	107,170	1.41x	0.38x	1.79x	6.65%
Heitman America Real Estate Trust (HART) 2014	\$202,282	202,282	-0	100.00%	52,282	310,938	0.26x	1.54x	1.80x	9.81%
JP Morgan Strategic Property Fund (SPF)	2014	\$150,000	150,000	0	100.00%	2	309,193	0.00x	2.06x	2.06x	9.37%
Carlyle Property Investors	2018	\$116,686	116,686	0	100.00%	18,412	168,238	0.16x	1.44x	1.60x	16.36%
Blackstone Property Partners	2019	\$213,986	213,986	0	100.00%	13,986	274,530	0.07x	1.28x	1.35x	10.99%
Prologis US Logistics Fund (USLF)	2020	\$105,825	105,825	-0	100.00%	6,309	189,040	0.06x	1.79x	1.85x	45.40%
BlackRock Global Renewable Power III	2020	\$100,000	27,908	75,383	27.91%	3,359	23,802	0.12x	0.85x	0.97x	(3.60%)
GI Partners ETS Fund	2022	\$75,000	13,744	61,256	18.33%	0	15,960	0.00x	1.16x	1.16x	19.32%
IFM Glb Infras Fund (GIF)	2022	\$100,000	0	100,000	0.00%	0	0	-	-	-	0.00%
Clarion Partners Lion Properties Fund	2022	\$225,000	0	225,000	0.00%	0	0	-	-	-	0.00%
Non-Traditional Growth Funds											
Mature (10+ years)											
Dune Real Estate Partners II	2008	\$40,000	40,458	0	101.15%	66,998	6,411	1.66x	0.16x	1.81x	14.46%
Macquarie Infrastructure Partners II	2008	\$40,000	48,268	-2,006	120.67%	75,457	235	1.56x	0.00x	1.57x	8.38%
Alinda Infrastructure Fund II	2009	\$40,000	53,084	1,500	132.71%	46,219	8,334	0.87x	0.16x	1.03x	0.58%
Franklin Templeton FTPREF	2010	\$50,000	57,915	5,155	115.83%	78,433	1,513	1.35x	0.03x	1.38x	20.58%
Maturing (5-9 years)											
Franklin Templeton EMREFF	2012	\$75,000	79,890	7,393	106.52%	106,345	4,393	1.33x	0.05x	1.39x	12.29%
StepSt Partner RE II (fka MFIRE) (2)	2012	\$60,000	39,413	20,587	65.69%	40,963	16,719	1.04x	0.42x	1.46x	6.92%
Dune Real Estate Partners III	2013	\$100,000	142,791	-3,750	142.79%	112,269	65,056	0.79x	0.46x	1.24x	5.88%
Crow Holdings Realty VII	2014	\$35,000	32,834	2,166	93.81%	43,648	2,085	1.33x	0.06x	1.39x	11.37%
Blue Vista Real Estate IV **	2015	\$35,000	35,000	-0	100.00%	40,525	16,704	1.16x	0.48x	1.64x	13.53%
Brookfield Strategic Real Estate II	2015	\$35,000	39,444	496	112.70%	26,771	35,880	0.68x	0.91x	1.59x	13.49%
Franklin Templeton MDP RE 2015	2015	\$90,000	78,276	11,724	86.97%	32,513	57,815	0.42x	0.74x	1.15x	5.01%
Macquarie Infrastructure Partners III	2015	\$50,000	52,253	-979	104.51%	46,005	47,925	0.88x	0.92x	1.80x	15.12%

^{**} Year end figures is based on estimate. YE audit takes 120.
(2) Current EMV are those of the prior quarter, adjusted for capital calls and distributions of current quarter.



State Universities Retirement System of Illinois Manager Detail as of June 30, 2022

The following table summarizes changes in each manager's aggregated cash flows and valuation information as of June 30, 2022.

Manager	Vintage Year	Capital Commitments (\$000s)	Paid-In Capital (\$000s)	Uncalled Capital (\$000s)	% Paid-In	Distributed Capital (\$000s)	Net Asset Value (\$000s)	DPI	RVPI	TVPI	Net IRR
Immature (Less than 5 years)		,	,	<u> </u>							
Crow Holdings Realty VIII	2017	\$20,000	17,483	2,517	87.41%	23,552	4,853	1.35x	0.28x	1.62x	24.52%
Oaktree Real Estate Debt Fund II	2017	\$30,000	22,590	8,848	75.30%	15,524	10,527	0.69x	0.47x	1.15x	6.68%
Basis Real Estate Debt Fund I	2016	\$30,000	42,588	-2,475	141.96%	28,372	22,896	0.67x	0.54x	1.20x	13.26%
Brookfield Strategic Real Estate III	2017	\$35,000	28,340	6,660	80.97%	4,891	30,668	0.07 x	1.08x	1.25x	12.43%
Dune Real Estate IV	2018	\$50,000	23,223	26.777	46.45%	758	23,460	0.17x	1.00x	1.04x	2.31%
Macquarie Infrastructure Partners IV	2018	\$50,000	51,287	-1,287	102.57%	13,359	58,112	0.05x 0.26x	1.13x	1.39x	13.41%
Homestead USA Farmland Fund III	2018	\$60,000	36,825	23,199	61.37%	1,103	38,622	0.20x	1.05x	1.08x	8.09%
Long Wharf VI	2019	\$40,000	26,458	13,542	66.14%	11,655	22,129	0.44x	0.84x	1.28x	29.85%
Blackstone European VI (3)	2020	\$84,550	40,819	43,730	48.28%	22,973	31,275	0.56x	0.77x	1.33x	21.84%
Cabot Industrial Value VI (CIVF)	2019	\$50,000	33,044	16,956	66.09%	375	45,924	0.00x 0.01x	1.39x	1.40x	53.06%
Crow Holdings Realty IX	2020	\$50,000	40,520	9,480	81.04%	6,886	44,538	0.01x 0.17x	1.10x	1.27x	56.07%
Longpoint Realty Fund II	2020	\$50,000	22,500	27,500	45.00%	0,000	25,069	0.17x	1.11x	1.11x	31.84%
Westbrook XI	2020	\$75,000	30,411	44,589	40.55%	8,571	27,799	0.00x 0.28x	0.91x	1.20x	34.09%
Torchlight Debt VII	2020	\$50,000	15,031	34,969	30.06%	31	15,549	0.20x 0.00x	1.03x	1.04x	4.12%
Brookfield Strategic Real Estate IV	2020	\$75,000	13,031	75,000	0.00%	0	79	0.00X -	-	-	0.00%
Ember Infrastructure I	2021	\$50,000	8,293	41,707	16.59%	31	6,991	0.00x	0.84x	0.85x	(23.83%)
Basis Real Estate Debt Fund II	2021	\$50,000	22,284	34,562	44.57%	12,131	9,911	0.54x	0.44x	0.00x 0.99x	(2.31%)
Newport Capital Partners Fund III	2021	\$30,000	3,574	30,000	11.91%	3,654	326	1.02x	0.09x	1.11x	16.09%
Pantheon Glb Infrast Secondaries IV	2021	\$100,000	10,117	89,883	10.12%	0,004	9,250	0.00x	0.03x 0.91x	0.91x	(68.50%)
Blackstone RE Partners Asia III	2021	\$50,000	0,117	50,000	0.00%	0	9,230	0.00X -	0.517	-	0.00%
Brasa II	2021	\$40,000	17,487	22,513	43.72%	0	16,917	0.00x	0.97x	0.97x	(7.51%)
	2021	\$50,000	17,467	50,000	0.00%	0	0,917	0.00X -	0.97 X	0.971	0.00%
Crow Holdings Realty X Cabot Industrial Value VII (CIVF)	2022	\$50,000 \$50,000	0	50,000	0.00%	0	0	-	-	-	0.00%
Total Real Assets (3)	2005	\$3,552,993	2,513,963	1,158,687	70.76%	1,561,854	2,106,838	0.62x	0.84x	1.46x	7.81%

commitments translated to U.S. Dollars as of quarter end date. ** Year end figures is based on estimate. YE audit takes 120.



⁽²⁾ Current EMV are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

⁽³⁾ Capital commitments reflects the sum of: (i) aggregate capital contributions translated to U.S.

Dollars as of the date of each capital contribution transaction; and (ii) reported uncalled capital

State Universities Retirement System of Illinois Real Estate Portfolio Snapshot - Subreturn Breakdown As of June 30, 2022

Subreturn Breakdown	ı	Last Quart	ter		Last Yea	ır	Last 3 Years		1	Last 5 Yea	rs	
	INC	APP	TNET	INC	APP	TNET	INC	APP	TNET	INC	APP	TNET
Total Core Funds	0.46%	3.64%	4.10%	2.23%	28.32%	31.01%	2.42%	10.51%	13.13%	2.79%	6.91%	9.85%
BlackRock Glb Renewable Power III	(0.81%)	2.33%	1.52%	(4.78%)	5.89%	0.89%	-	_	-	_	_	-
Blackstone Property Partners	(0.20%)	2.59%	2.40%	(0.12%)	25.45%	25.30%	0.26%	10.82%	11.10%	_	-	-
Carlyle Property Investors	0.70%	2.88%	3.58%	3.01%	28.05%	31.67%	3.06%	14.16%	17.85%	-	-	-
Heitman America Real Estate Trust	0.75%	3.49%	4.24%	3.34%	28.27%	32.30%	3.55%	8.22%	11.99%	3.62%	5.63%	9.41%
JP Morgan Strategic Property Fund	0.56%	3.96%	4.52%	2.74%	24.50%	27.73%	2.78%	8.17%	11.11%	2.89%	5.90%	8.92%
Prologis US Logistics Fund (USLF)	0.51%	5.17%	5.68%	2.36%	48.06%	51.22%	-	-	-	_	-	-
UBS Trumbull Property Fund (TPF)	0.74%	3.14%	3.87%	3.33%	20.09%	23.91%	3.39%	3.71%	7.19%	3.41%	1.85%	5.31%
Total Non-Core Funds	(0.03%)	1.42%	1.39%	0.13%	23.31%	23.46%	0.43%	6.90%	7.35%	1.06%	7.52%	8.65%
Basis Real Estate Debt Fund I	2.97%	(0.85%)	2.12%	12.66%	(2.48%)	9.94%	12.33%	(4.12%)	7.84%	-	-	-
Basis Real Estate Debt Fund II	(1.15%)	0.54%	(0.61%)	2.42%	(3.59%)	(1.15%)	-	-	-	_	_	_
Blackstone European VI	(0.84%)	(5.53%)	(6.36%)	(3.48%)	25.88%	21.81%	-	_	-	_	_	-
Blue Vista Real Estate IV	(0.28%)	0.66%	0.37%	2.75%	38.49%	41.90%	2.41%	17.08%	19.75%	2.42%	14.67%	17.34%
Brasa II	(0.81%)	(0.01%)	(0.82%)	-	-	-	-	_	-	_	-	-
Brookfield Strategic Real Estate II	(0.25%)	4.15%	3.90%	(2.08%)	36.72%	34.57%	2.48%	13.92%	17.21%	3.12%	10.62%	14.36%
Brookfield Strategic RE III	(0.37%)	(0.14%)	(0.51%)	(5.13%)	23.50%	17.62%	(3.19%)	15.17%	11.74%	_	-	-
Cabot Industrial Value VI (CIVF)	0.30%	2.37%	2.66%	(2.87%)	77.25%	73.20%	-	-	-	-	-	-
Crow Holdings Realty VII	0.77%	(10.27%)	(9.50%)	4.12%	(4.70%)	(0.72%)	2.93%	3.49%	6.52%	2.34%	5.90%	8.36%
Crow Holdings Realty VIII	1.09%	(0.87%)	0.22%	4.83%	35.88%	41.96%	2.41%	25.48%	28.27%	_	-	-
Crow Holdings Realty IX	(0.03%)	4.54%	4.50%	-	-	-	-	-	-	-	-	-
Dune Real Estate Partners II	0.03%	6.73%	6.76%	(0.90%)	7.79%	6.82%	(1.00%)	0.70%	(0.31%)	(0.85%)	3.33%	2.46%
Dune Real Estate Partners III	0.31%	(0.56%)	(0.25%)	(0.24%)	7.50%	7.26%	(0.78%)	(2.60%)	(3.37%)	-	-	2.56%
Dune RE IV	(0.90%)	4.58%	3.68%	(4.73%)	37.49%	31.55%	(65.28%)	45.07%	-	-	-	-
Franklin Templeton FTPREF	3.19%	(3.94%)	(0.75%)	32.44%	(20.73%)	6.74%	30.84%	(50.01%)	(17.23%)	24.99%	(32.21%)	(2.35%)
Franklin Templeton EMREFF	3.35%	(4.40%)	(1.05%)	6.74%	(16.24%)	(10.16%)	6.50%	(18.24%)	(12.73%)	7.22%	(11.69%)	(5.07%)
Franklin Templeton MDP RE 2015	(0.07%)	3.57%	3.50%	5.01%	25.86%	31.84%	2.03%	2.43%	4.40%	3.29%	1.10%	4.37%
Longpoint Realty Fund II	(0.73%)	3.97%	3.24%	(35.16%)	8.65%	-	-	-	-	-	-	-
Long Wharf VI	(0.33%)	0.24%	(0.08%)	0.18%	49.66%	49.85%	(9.52%)	33.58%	21.12%	-	-	-
Newport Capital Partners Fund III	0.54%	5.15%	5.69%	0.01%	15.11%	15.02%	-	-	-	-	-	-
Oaktree Real Estate Debt Fund II	1.47%	(1.42%)	0.05%	6.58%	(3.57%)	2.84%	7.45%	(6.36%)	0.78%	-	-	-
Torchlight Debt VII	0.46%	3.49%	3.96%	3.16%	2.95%	6.19%	-	-	-	-	-	-
StepSt Partner RE II (fka MFIRE) (2)	0.00%	0.00%	0.00%	(0.83%)	2.14%	1.29%	(0.98%)	1.24%	0.25%	(1.04%)	2.90%	1.84%
Westbrook XI	(0.39%)	6.58%	6.18%	(5.12%)	40.42%	33.79%	-	-	-	-	-	-
Total Private Real Estate	0.32%	2.99%	3.31%	1.62%	26.83%	28.76%	1.84%	9.42%	11.39%	2.31%	7.11%	9.54%
Total Non-C w/ Infrastructure	0.39%	1.79%	2.19%	0.33%	21.90%	22.29%	0.42%	9.12%	9.56%	0.80%	8.42%	9.28%
Farmland												
Homestead USA Farmland Fund III	(0.59%)	0.72%	0.13%	(1.92%)	12.62%	10.44%	-	-	-	-	-	-
Total Private Infrastructure	2.38%	3.58%	5.95%	1.31%	16.17%	17.65%	0.57%	15.16%	15.80%	0.06%	10.74%	10.81%
Alinda Infrastructure Fund II	0.17%	(7.57%)	(7.40%)	0.30%	(1.16%)	(0.85%)	0.16%	(4.24%)	(4.08%)	0.20%	(9.26%)	(9.06%)
Ember Infrastructure I	(3.38%)	(0.10%)	(3.48%)	(18.70%)	(3.29%)	(21.46%)	-	-	-	-	-	-
Macquarie Infrastructure Partners III	6.84%	0.66%	7.50%	7.38%	15.40%	23.85%	1.91%	19.07%	21.35%	0.95%	17.52%	18.65%
Macquarie Infrastructure Partners IV	(0.29%)	8.46%	8.17%	(1.19%)	22.62%	21.23%	0.04%	15.20%	15.32%	-	-	-
Total Real Assets	0.42%	2.98%	3.40%	1.54%	25.95%	27.78%	1.66%	10.36%	12.16%	2.07%	7.78%	9.97%



State Universities Retirement System of Illinois Real Estate Portfolio Snapshot - Subreturn Breakdown As of June 30, 2022

Subreturn Breakdown	L	ast 10 Yea	ars			
	INC	APP	TNET	NET IRR	TVPI	
Total Core Funds	3.27%	6.16%	9.59%	7.12%	1.58x	
BlackRock Glb Renewable Power III	-	-	-	(3.60%)	0.97x	
Blackstone Property Partners	-	-	-	10.99%	1.35x	
Carlyle Property Investors	-	-	-	16.36%	1.60x	
Heitman America Real Estate Trust	_	_	-	9.81%	1.80x	
JP Morgan Strategic Property Fund	_	_	-	9.37%	2.06x	
Prologis US Logistics Fund (USLF)	-	-	_	45.40%	1.85x	
UBS Trumbull Property Fund (TPF)	3.70%	3.24%	7.03%	6.65%	1.79x	
Total Non-Core Funds	(0.06%)	12.03%	11.98%	11.21%	1.31x	
Basis Real Estate Debt Fund I	-	-	-	13.26%	1.20x	
Basis Real Estate Debt Fund II	_	_	_	(2.31%)	0.99x	
Blackstone European VI	_	_	_	21.84%	1.33x	
Blue Vista Real Estate IV	_	_	_	13.53%	1.64x	
Brasa II	_	_	_	(7.51%)	0.97x	
Brookfield Strategic Real Estate II	_	=	_	13.49%	1.59x	
Brookfield Strategic RE III	_	-	_	12.43%	1.25x	
Cabot Industrial Value VI (CIVF)	-	-	- -	53.06%	1.40x	
` ,	-	-	-	11.37%	1.40x 1.39x	
Crow Holdings Realty VII	-	-	-			
Crow Holdings Realty VIII	-	-	-	24.52%	1.62x	
Crow Holdings Realty IX	-	-	-	56.07%	1.27x	
Oune Real Estate Partners II	(0.54%)	10.25%	9.66%	14.46%	1.81x	
Oune Real Estate Partners III	-	-	-	5.88%	1.24x	
Dune RE IV	-	-	-	2.31%	1.04x	
ranklin Templeton FTPREF	11.80%	(9.30%)	8.85%	20.58%	1.38x	
ranklin Templeton EMREFF	3.55%	1.07%	4.79%	12.29%	1.39x	
Franklin Templeton MDP RE 2015	-	-	-	5.01%	1.15x	
ongpoint Realty Fund II	-	-	-	31.84%	1.11x	
₋ong Wharf VI	-	-	-	29.85%	1.28x	
Newport Capital Partners Fund III	-	-	-	16.09%	1.11x	
Daktree Real Estate Debt Fund II	-	-	-	6.68%	1.15x	
Forchlight Debt VII	-	-	-	4.12%	1.04x	
StepSt Partner RE II (fka MFIRE) (2)	(1.51%)	7.25%	5.67%	6.92%	1.46x	
Westbrook XI	-	-	-	34.09%	1.20x	
Total Private Real Estate	2.40%	7.64%	10.18%	7.79%	1.47x	
Total Non-C w/ Infrastructure	(0.08%)	10.81%	10.73%	10.20%	1.33x	
- armland						
Homestead USA Farmland Fund III	-	-	-	8.09%	1.08x	
Total Private Infrastructure	(0.20%)	8.71%	8.50%	8.08%	1.40x	
Alinda Infrastructure Fund II	0.08%	(2.17%)	(2.08%)	0.58%	1.03x	
Ember Infrastructure I	-	-	-	(23.83%)	0.85x	
Macquarie Infrastructure Partners III	-	-	-	15.12%	1.80x	
Macquarie Infrastructure Partners IV		-	-	13.41%	1.39x	
Total Real Assets	2.11%	7.60%	9.83%	7.81%	1.46x	



State Universities Retirement System of Illinois Real Estate Portfolio Snapshot - Quarterly Cashflows As of June 30, 2022

	Beginning	Capital	Accounting				Ending	
Quarterly Cash Flow Activity (Contribution	Income	Mgmt. Fees	Appreciation	Distributions	Market Value	LTV
BR Glb Renewable (GRP) III	\$18,981,967	\$5,751,490	\$-4,532	\$183,035	\$539,039	\$1,283,269	\$23,801,660	3.78%
Blackstone Property Partners	\$268,106,697	\$1,648,313	\$169,152	\$692,195	\$6,945,927	\$1,648,313	\$274,529,581	45.00%
Carlyle Property Investors	\$162,536,774	\$1,600,852	\$1,458,171	\$321,658	\$4,690,205	\$1,726,138	\$168,238,206	50.00%
GI Partners ETS Fund	\$0	\$13,744,410	\$402,121	\$215,681	\$2,028,797	\$0	\$15,959,647	-
Heitman (HART)	\$298,293,252	\$1,891,446	\$2,779,828	\$556,065	\$10,421,315	\$1,891,446	\$310,938,330	21.55%
JP Morgan (SPF)	\$295,830,159	\$0	\$2,211,045	\$550,699	\$11,702,415	\$0	\$309,192,921	24.89%
Prologis US Logistics Fund (USL		\$1,121,911	\$1,401,319	\$490,780	\$9,270,222	\$974,591	\$189,040,464	12.30%
UBS (TPF)	\$103,173,966	\$693,319	\$910,102	\$150,434	\$3,236,423	\$693,319	\$107,170,057	18.60%
, ,	\$1,325,635,197	\$26,451,741	\$9,327,206	\$3,160,547	\$48,834,343	\$8,217,075	\$1,398,870,866	10.00 /0
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Basis Real Estate Debt Fund I	\$23,323,294	\$366,494	\$760,735	\$83,740	\$-192,025	\$710,572	\$22,895,972	42.00%
Basis Real Estate Debt Fund II	\$13,691,305	\$0	\$8,399	\$155,822	\$68,925	\$3,701,849	\$9,910,958	-
Blackstone BREP Europe VI	\$53,107,815	\$292,840	\$-29,832	\$292,840	\$-2,267,074	\$11,480,343	\$31,275,322	69.00%
Blue Vista Real Estate IV	\$24,826,602	\$0	\$8,333	\$63,996	\$129,745	\$270,457	\$16,704,104	63.90%
Brasa II	\$14,264,901	\$2,769,550	\$68,917	\$184,301	\$-2,362	\$0	\$16,916,705	30.40%
Brookfield Strategic Real Estate	1 \$34,533,960	\$0	\$3,000	\$88,000	\$1,433,040	\$0	\$35,882,000	57.00%
Brookfield Strategic RE III	\$31,655,139	\$916,079	\$-11,260	\$63,616	\$-82,937	\$1,745,074	\$30,668,331	50.00%
Brookfield Strategic RE IV	\$260,761	\$0	\$-25,410	\$252,432	\$96,382	\$0	\$79,301	-
Cabot Industrial Value VI	\$38,293,667	\$6,521,500	\$310,991	\$187,500	\$985,192	\$0	\$45,923,850	25.34%
Crow Holdings Realty VII	\$2,957,247	\$17,867	\$40,312	\$17,867	\$-282,855	\$274,442	\$2,085,419	64.98%
Crow Holdings Realty VIII	\$6,512,943	\$0	\$82,962	\$17,484	\$-52,019	\$380,757	\$4,852,785	60.60%
Crow Holdings Realty IX	\$41,171,867	\$4,693,993	\$84,277	\$98,151	\$1,833,258	\$1,818,339	\$44,538,239	40.00%
Dune Real Estate Partners II	\$7,337,370	\$0	\$-9,546	\$11,493	\$514,675	\$0	\$6,411,023	0.00%
Dune Real Estate Partners III	\$70,504,867	\$509,567	\$392,985	\$179,312	\$-386,307	\$0	\$65,056,221	-
Dune Real Estate Partners IV	\$22,627,970	\$0	\$-25,504	\$178,369	\$1,035,823	\$0	\$23,459,920	51.40%
Franklin Templeton FTPREF	\$1,524,768	\$0	\$75,105	\$26,449	\$-60,034	\$0	\$1,513,390	44.00%
Franklin Templeton EMREFF	\$4,439,375	\$0	\$168,486	\$19,683	\$-195,499	\$0	\$4,392,679	56.00%
Franklin Templeton MDP RE 201	5 \$64,265,437	\$471,496	\$-37,228	\$7,428	\$2,293,602	\$2,828,054	\$57,815,442	51.00%
Longpoint Realty Fund II	\$19,386,165	\$5,000,000	\$8,531	\$162,055	\$836,432	\$0	\$25,069,073	38.00%
Long Wharf VI	\$22,939,863	\$872,151	\$76,706	\$149,589	\$54,472	\$989,693	\$22,128,587	44.10%
Newport Capital Partners Fund II	I \$2,697,209	\$1,058,000	\$49,039	\$35,980	\$131,725	\$3,574,000	\$325,992	59.51%
Oaktree Real Estate Debt Fund I	I \$10,680,319	\$0	\$191,084	\$36,041	\$-149,869	\$158,137	\$10,527,356	63.90%
StepSt Partner RE II (fka MFIRE)	\$19,418,549	\$0	\$0	\$0	\$0	\$2,700,000	\$16,718,549	32.00%
Torchlight Debt VII	\$14,957,284	\$0	\$243,687	\$175,000	\$523,173	\$0	\$15,549,144	66.58%
Westbrook XI	\$25,094,293	\$4,699,566	\$177,406	\$266,455	\$1,493,176	\$1,802,555	\$27,799,266	40.00%
Total Non-Core Funds	\$570,472,969	\$28,189,103	\$2,612,174	\$2,753,604	\$7,758,639	\$32,434,272	\$538,499,628	
Hamastand IICA Farmland Fired	III ¢20 570 500	ው ስ	¢ 10 070	¢207 477	¢277.264	ው ስ	¢20 624 000	0.009/
Homestead USA Farmland Fund	\$38,570,500	\$0 \$0	\$-18,876 \$-18,876	\$207,177 \$207,177	\$277,361 \$277,361	\$0 \$0	\$38,621,808 \$38,621,808	0.00%
Farmland	\$36,570,500	ΦU	φ-10,070	\$207,177	\$277,301	ΦU	\$38,621,808	
Alinda Infrastructure Fund II	\$9,000,294	\$0	\$30,463	\$14,887	\$-681,871	\$0	\$8,333,999	45.00%
Macquarie Infrastructure II	\$237,305	\$0	\$-3,047	\$0	\$499	\$0	\$234,757	-
Macquarie Infrastructure III	\$46,723,487	\$580,646	\$3,261,120	\$125,088	\$310,432	\$0	\$47,924,504	39.00%
Macquarie Infrastructure IV	\$54,088,288	\$9,440	\$18,409	\$172,694	\$4,573,059	\$0	\$58,112,076	35.00%
Ember Infrastructure I	\$6,481,747	\$768,026	\$16,806	\$234,548	\$-10,500	\$30,921	\$6,990,610	0.00%
Pantheon Glb Infrast Secondarie	s IV \$924,701	\$8,325,299	\$0	\$0	\$0	\$0	\$9,250,000	-
Total Private Infrastructure	\$117,455,822	\$9,683,411	\$3,323,752	\$547,218	\$4,191,620	\$30,921	\$130,845,946	
Total Dantal'	to 050 404 400	\$64.224.0FF	\$4E 044 0E0	¢c cco 545	\$64.064.000	¢40 600 000	\$2.406.020.042	
Total Portfolio	\$2,052,134,488	\$64,324,255	\$15,244,256	\$6,668,545	\$61,061,963	\$40,682,268	\$2,106,838,248	



Total Core Fund Period Ended June 30, 2022

Quarterly Summary and Highlights

- Total Core Fund's portfolio posted a 4.10% return for the quarter placing it in the 82 percentile of the Callan Real Estate ODCE group for the quarter and in the 14 percentile for the last year.
- Total Core Fund's portfolio underperformed the NCREIF NFI-ODCE Val Wt Nt by 0.44% for the quarter and outperformed the NCREIF NFI-ODCE Val Wt Nt for the year by 2.70%.

Quarterly Asset Growth

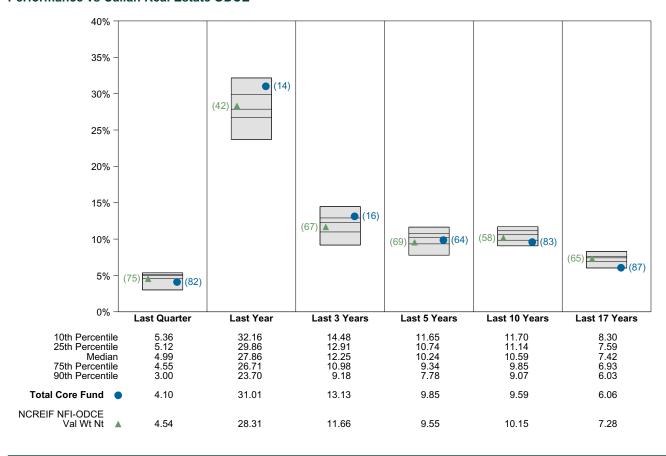
 Beginning Market Value
 \$1,325,635,197

 Net New Investment
 \$18,234,665

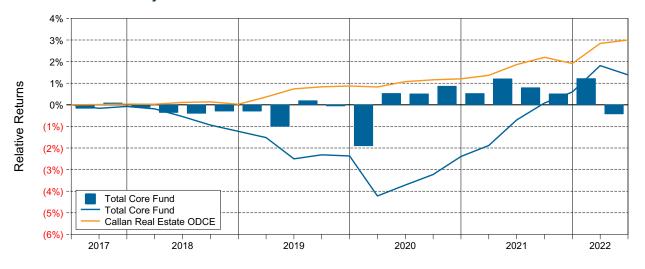
 Investment Gains/(Losses)
 \$55,001,003

Ending Market Value \$1,398,870,866

Performance vs Callan Real Estate ODCE



Cumulative and Quarterly Relative Returns vs NCREIF NFI-ODCE Val Wt Nt



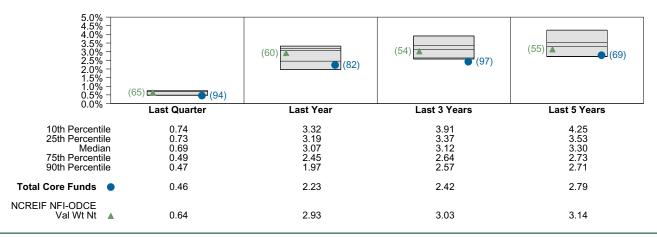


Total Core Funds Return Analysis

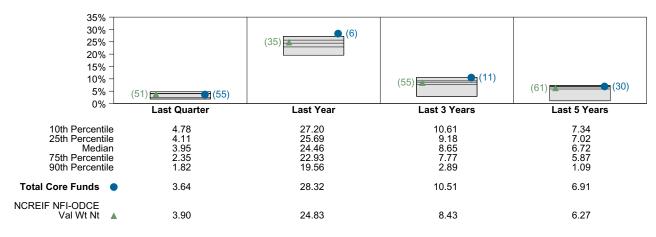
Return Analysis

The graphs below give a detailed analysis of the portfolio's return by decomposing it into component subreturns. The first chart shows the portfolio's income return ranked against the income returns of the appropriate peer group. The second chart performs the same comparison using appreciation returns. The bottom graph illustrates the historical composition of total return on an income versus appreciation basis.

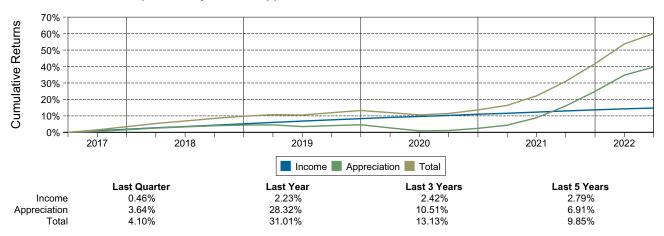
Income Rankings vs Callan Real Estate ODCE Periods ended June 30, 2022



Appreciation Rankings vs Callan Real Estate ODCE Periods ended June 30, 2022



Cumulative Return Composition by Income/Appreciation

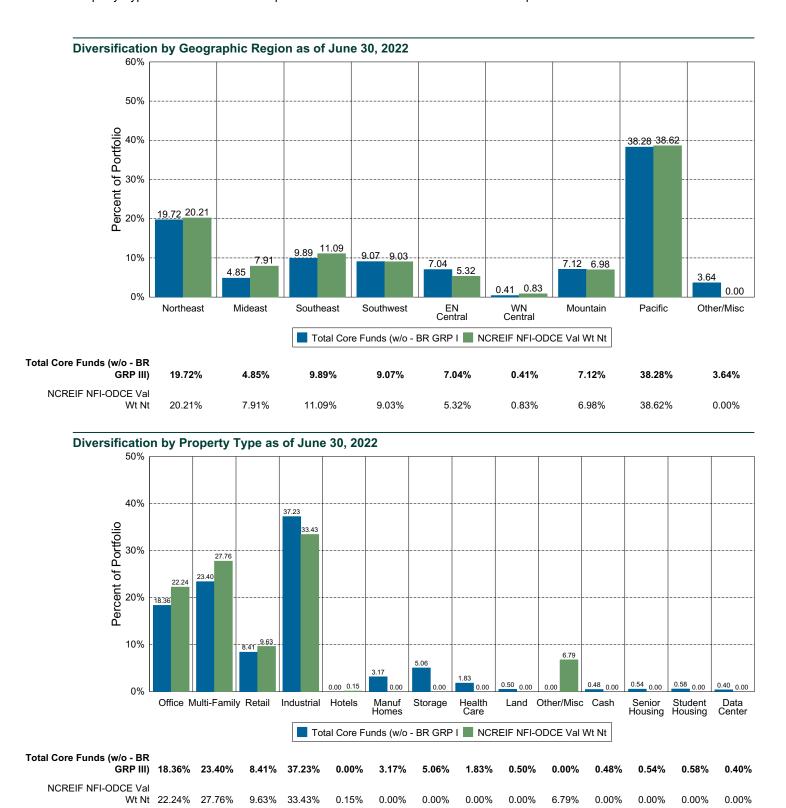




Total Core Funds (w/o - BR GRP III) Diversification Analysis as of June 30, 2022

Diversification Analysis

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Property Type. Similar information is provided on the relevant market index for comparison.





Total Core Funds Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	<u>Capital</u>	<u>Market</u>
06/2005	0	42,173,431	0	0	(0)	123,467	0	0	42,049,963
09/2005	42,049,963	34,412,979	0	0	2,932,432	852,473	0	0	78,542,902
12/2005	78,542,902	48,535,080	0	0	(2,207,961)	1,217,584	0	0	123,652,438
03/2006	123,652,438	1,679,008	0	0	7,754,988	1,679,008	0	0	131,407,426
06/2006	131,407,426	154,313,912	17,260	0	62,225	1,829,427	0	0	283,971,396
09/2006	283,971,396	6,538,259	1,719,275	0	(379,023)	1,882,915	0	0	289,966,992
12/2006	289,966,992	7,421,001	1,708,539	334,414	6,091,615	1,887,109	0	0	302,966,624
03/2007	302,966,624	6,918,111	1,675,293	348,138	13,086,106	3,690,165	0	2,458,173	318,149,659
06/2007	318,149,659	1,842,480	1,807,242	359,826	14,785,736	1,842,480	0	0	334,382,812
09/2007	334,382,812	2,265,946	1,724,761	380,988	10,156,598	1,826,121	0	0	346,323,006
12/2007	346,323,006	1,956,882	1,690,561	388,418	6,336,475	5,689,851	0	0	350,228,655
03/2008	350,228,655	1,988,386	1,674,352	663,376	1,569,797	1,988,386	0	0	352,809,428
06/2008	352,809,428	8,831,700	1,822,454	128,447	(17,340,577)	2,918,708	0	0	343,075,849
09/2008	343,075,849	3,142,415	1,822,648	376,323	(2,083,408)	3,142,415	0	0	342,438,766
12/2008	342,438,766	3,143,110	1,881,551	286,163	(45,400,090)	3,143,110	0	0	298,634,064
03/2009	298,634,064	3,043,682	1,823,223	273,693	(44,893,159)	4,264,862	0	0	254,069,254
06/2009	254,069,254	0	1,993,364	245,510	(23,744,888)	1,989,933	0	0	230,082,288
09/2009	230,082,288	0	1,856,064	229,116	(12,623,050)	2,003,491	0	0	217,082,695
12/2009	217,082,695	0	1,941,196	219,293	(10,579,600)	1,965,752	0	0	206,259,246
03/2010	206,259,246	25,000,000	2,015,326	210,612	734,572	2,061,158	0	0	231,737,374
06/2010	231,737,374	25,000,000	3,097,524	239,447	5,875,693	2,456,070	0	0	263,015,074
09/2010	263,015,074	25,000,000	2,907,443	294,552	19,481,662	2,727,021	0	0	307,382,606
12/2010	307,382,606	25,000,000	3,508,214	352,327	8,301,755	3,289,692	0	0	340,550,556
03/2011	340,550,556	729,856	3,075,967	536,833	8,039,725	3,328,279	0	0	348,530,991
06/2011	348,530,991	373,333	3,164,967	532,587	13,112,189	3,312,655	0	0	361,336,239
09/2011	361,336,239	0	2,826,761	548,964	8,061,155	3,423,940	0	0	368,251,251
12/2011	368,251,251	2,742,886	2,951,718	573,696	326,262	3,370,782	0	0	370,327,638
03/2012	370,327,638	0	3,151,595	584,466	10,096,537	3,371,343	0	0	379,619,962
06/2012	379,619,962	0	3,284,552	593,560	5,820,257	3,614,621	0	0	384,516,590
09/2012	384,516,590	0	3,281,072	602,425	7,045,754	3,538,911	0	0	390,702,080
12/2012	390,702,080	0	3,203,843	617,047	5,101,569	3,618,228	0	0	394,772,217
03/2013	394,772,217	1,877,167	3,134,604	623,802	4,126,592	3,511,370	0	0	399,775,408
06/2013	399,775,408	2,020,815	3,306,339	620,069	2,839,703	126,297,490	0	0	281,024,706
09/2013	281,024,706	2,021,583	3,486,244	640,041	4,041,332	2,021,583	0	0	287,912,241
12/2013	287,912,241	2,019,211	3,327,480	662,689	2,876,014	2,019,211	0	0	293,453,046
03/2014	293,453,046	2,026,127	3,498,662	675,676	4,092,666	3,108,944	0	0	299,285,881
06/2014	299,285,881	152,141,703	4,332,981	673,661	6,068,365	5,473,448	2,417	0	455,679,403
09/2014	455,679,403	84,701,781	6,614,316	876,265	9,483,935	2,558,418	0	0	553,044,752
12/2014	553,044,752	70,384,249	7,193,542	1,046,808	8,474,091	4,609,954	0	0	633,439,872
03/2015	633,439,872	3,519,884	7,666,902	1,388,073	13,754,118	4,602,702	0	0	652,390,002
06/2015	652,390,002	3,717,568	7,928,194	1,412,134	15,151,776	6,632,846	0	0	671,142,561
09/2015	671,142,561	3,867,915	8,024,405	1,460,732	14,216,218	6,783,192	0	0	689,007,175
12/2015	689,007,175	4,272,921	8,040,970	1,514,522	14,635,278	5,272,445	0	0	709,169,378
03/2016	709,169,378	4,167,510	8,208,628	1,549,352	6,593,212	4,750,566	0	0	721,838,810
06/2016	721,838,810	4,335,126	8,472,874	1,572,576	5,759,930	4,335,126	0	0	734,499,038
09/2016	734,499,038	4,434,732	8,241,544	1,601,396	5,820,143	5,684,137	0	0	745,709,924
12/2016	745,709,924	4,710,518	8,183,833	1,636,823	6,081,369	4,710,518	0	0	758,338,303



Total Core Funds Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	Income &	- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	_Capital	<u>Market</u>
03/2017	758,338,303	4,510,381	8,202,553	1,650,585	2,387,989	4,510,381	0	0	767,278,261
06/2017	767,278,261	4,717,467	8,561,851	1,575,382	1,672,771	4,717,467	0	0	775,937,501
09/2017	775,937,501	4,811,873	8,668,062	1,517,962	4,301,622	4,811,873	0	0	787,389,223
12/2017	787,389,223	4,884,337	8,737,135	1,548,066	8,037,307	5,140,413	0	0	802,359,524
03/2018	802,359,524	5,077,191	8,571,446	1,504,409	7,825,050	5,077,191	0	0	817,251,610
06/2018	817,251,610	1,549,715	7,467,734	1,596,780	5,913,199	4,879,789	119,628,173	0	706,077,517
09/2018	706,077,517	1,775,347	6,915,587	1,365,857	4,780,026	4,114,053	50,284,018	0	663,784,548
12/2018	663,784,548	6,947,898	6,338,602	1,313,594	2,391,377	3,735,032	63,423,650	0	610,990,149
03/2019	610,990,149	113,654,176	6,846,065	1,423,701	623,660	4,342,627	34,576,819	0	691,770,903
06/2019	691,770,903	186,146,039	6,736,636	1,420,271	(6,944,894)	4,106,202	7,168,475	0	865,013,736
09/2019	865,013,736	4,158,572	7,923,305	1,892,184	4,841,562	5,174,187	10,884,652	0	863,986,152
12/2019	863,986,152	3,933,949	7,829,458	1,892,887	4,499,919	4,918,291	7,853,492	0	865,584,807
03/2020	865,584,807	4,168,567	7,771,540	1,839,350	(15,901,831)	5,117,692	5,425,695	0	849,240,346
06/2020	849,240,346	3,989,577	6,171,756	1,809,652	(14,857,456)	4,689,952	0	0	838,044,620
09/2020	838,044,620	3,218,928	6,672,844	1,837,097	1,702,352	3,881,575	0	0	843,920,072
12/2020	843,920,072	105,111,015	8,036,584	2,037,822	12,382,967	5,698,577	0	0	961,714,239
03/2021	961,714,239	14,313,574	8,280,655	3,000,546	18,139,004	5,548,240	0	0	993,898,686
06/2021	993,898,686	10,013,547	8,463,402	2,307,488	42,933,308	5,759,845	0	2,007,955	1,045,233,656
09/2021	1,045,233,656	5,952,143	9,097,047	2,432,976	69,286,716	6,028,209	0	0	1,121,108,377
12/2021	1,121,108,377	12,048,110	9,173,401	2,624,972	85,960,962	6,279,645	0	0	1,219,386,232
03/2022	1,219,386,232	10,019,442	9,313,885	2,808,874	96,683,476	6,958,964	0	0	1,325,635,197
06/2022	1,325,635,197	26,451,741	9,327,206	3,160,547	48,834,343	6,933,806	0	1,283,269	1,398,870,866
	0	1,319,724,855	336,395,035	70,435,839	505,029,517	386,845,915	299,247,391	5,749,397	1,398,870,866

Returns

Net Portfolio Cumulative IRR = 7.12%

Ratios

Capital Account = \$1,398,870,866

Total Value = \$2,090,713,568

Committed Capital = \$1,678,072,573

Paid In Capital = \$1,319,724,855

Remaining Commitment = \$364,097,114

PIC Multiple (Paid In Capital/Committed Capital) = 78.65%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$1,762,967,980

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.58x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.52x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.06x



Total Non-Core Fund Period Ended June 30, 2022

Quarterly Summary and Highlights

- Total Non-Core Fund's portfolio posted a 1.39% return for the quarter placing it in the 89 percentile of the Callan Total Domestic Real Estate DB group for the quarter and in the 43 percentile for the last year.
- Total Non-Core Fund's portfolio underperformed the NCREIF ODCE + 1.5% by 3.48% for the quarter and underperformed the NCREIF ODCE + 1.5% for the year by 6.34%.

Quarterly Asset Growth

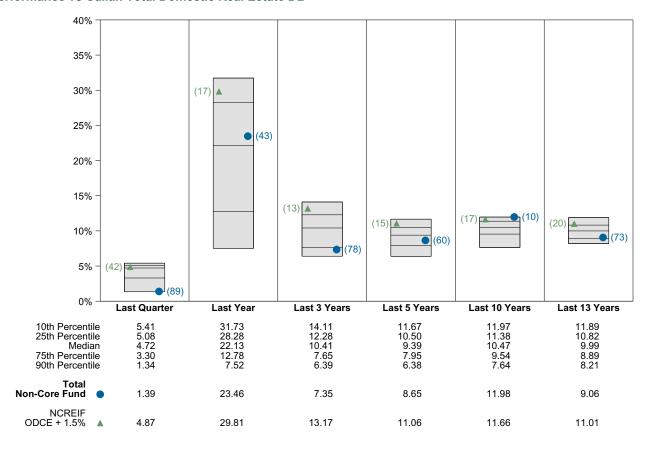
Beginning Market Value \$570,474,009

Net New Investment \$-39,590,551

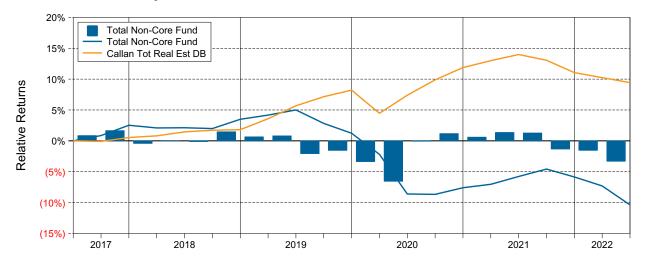
Investment Gains/(Losses) \$7,616,170

Ending Market Value \$538,499,628

Performance vs Callan Total Domestic Real Estate DB



Cumulative and Quarterly Relative Returns vs NCREIF ODCE + 1.5%

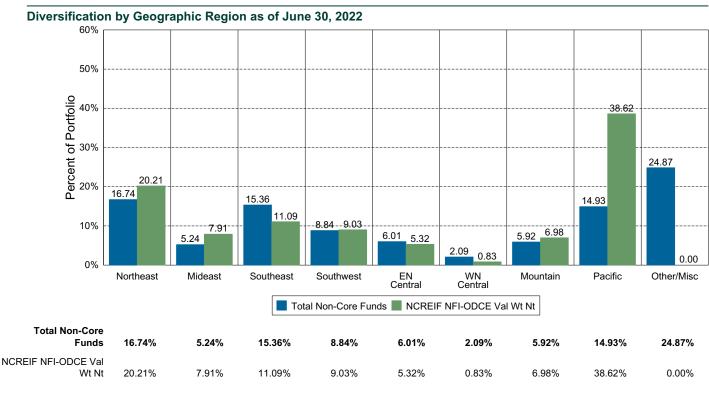


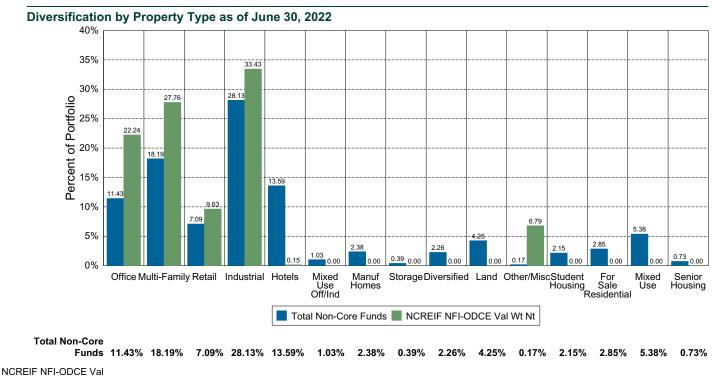


Total Non-Core Funds Diversification Analysis as of June 30, 2022

Diversification Analysis

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Property Type. Similar information is provided on the relevant market index for comparison.





0.00%

0.15%

0.00%

0.00%

0.00%

0.00%

6.79%

0.00%

9.63% 33.43%



Wt Nt 22.24% 27.76%

0.00%

0.00%

0.00%

Total Non-Core Funds Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	Income &	- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	Capital	<u>Market</u>
06/2009	0	3,600,000	(152,422)	346,790	376,767	0	0	0	3,477,555
09/2009	3,477,555	0	(152,422)	346,790	376,767	0	0	0	3,355,109
12/2009	3,355,109	0	(152,422)	346,790	(386,197)	0	0	0	2,469,700
03/2010	2,469,700	0	0	0	0	0	0	0	2,469,700
06/2010	2,469,700	2,040,000	0	0	0	0	0	0	4,509,700
09/2010	4,509,700	0	0	0	(10,187)	0	0	0	4,499,513
12/2010	4,499,513	1,840,000	17,012	135,646	399,673	0	0	0	6,620,552
03/2011	6,620,552	5,440,000	(26,405)	135,646	681,958	0	0	0	12,580,459
06/2011	12,580,459	4,000,000	(25,720)	130,831	947,860	892,588	0	0	16,479,180
09/2011	16,479,180	2,222,095	112,132	131,001	7,931,778	0	0	0	26,614,184
12/2011	26,614,184	13,913,056	803	129,577	(7,170,257)	25,232	0	0	33,202,977
03/2012	33,202,977	5,777,016	85,498	128,523	573,841	157,163	0	0	39,353,647
06/2012	39,353,647	12,851,428	(214,376)	217,981	646,423	2,393,217	0	544,391	49,481,533
09/2012	49,481,533	12,453,309	184,840	219,376	1,265,359	1,891,400	0	1,560,625	59,713,641
12/2012	59,713,641	21,304,116	(218,717)	219,163	2,639,006	2,230,488	0	1,311,525	79,676,870
03/2013	79,676,870	7,047,529	227,151	218,920	5,740,672	1,424,674	0	5,912,217	85,136,411
06/2013	85,136,411	11,669,328	102,625	193,322	7,016,306	4,257,611	0	35,883	99,437,853
09/2013	99,437,853	26,855,375	(327,214)	637,238	2,797,791	10,302,735	0	1,719,937	116,103,895
12/2013	116,103,895	60,859,397	(286,399)	358,262	4,584,715	2,826,783	0	250,445	177,826,118
03/2014	177,826,118	6,335,636	(2,515)	448,186	14,271,818	9,984,783	0	1,444,640	186,553,449
06/2014	186,553,449	16,245,772	50,126	534,036	4,203,408	4,571,851	0	20,362,045	181,584,824
09/2014	181,584,824	16,934,861	(432,836)	533,033	3,683,883	9,398,767	0	449,945	191,388,987
12/2014	191,388,987	6,732,235	(327,042)	220,274	7,194,125	4,487,010	0	22,718,143	177,562,878
03/2015	177,562,878	18,115,262	7,795	372,228	7,226,431	10,550,257	0	2,674,991	189,314,890
06/2015	189,314,890	19,148,867	(66,365)	407,952	7,355,309	6,254,578	0	1,339,019	207,751,152
09/2015	207,751,152	7,348,386	(105,494)	319,945	8,397,174	13,306,640	0	827,939	208,936,693
12/2015	208,936,693	16,598,291	(166,826)	967,189	7,227,426	8,398,932	0	388,596	222,840,867
03/2016	222,840,867	16,128,434	(65,398)	438,764	6,693,062	11,617,622	0	225,653	233,314,926
06/2016	233,314,926	27,561,495	(180,427)	618,398	7,947,793	6,628,760	0	183,426	261,213,203
09/2016	261,213,203	9,943,302	(67,198)	584,061	9,522,440	18,465,588	0	86,935	261,475,163
12/2016	261,475,163	22,876,164	51,901	727,927	9,844,850	24,228,231	0	1,810,102	267,481,817
03/2017	267,481,817	6,957,225	(185,570)	458,830	4,488,704	7,319,959	0	329,195	270,634,192
06/2017	270,634,192	13,304,128	330,119	592,730	9,690,874	17,628,691	0	655,280	275,082,613
09/2017	275,082,613	10,490,552	218,669	582,151	8,366,006	3,289,156	0	31,875	290,254,658
12/2017	290,254,658	12,626,626	424,355	582,150	11,445,546	14,687,351	0	665,618	298,816,066
03/2018	298,816,066	28,655,090	1,231,667	938,192	5,484,873	11,340,691	930,000	678,961	320,299,852
06/2018	320,299,852	20,614,445	2,485,045	1,036,091	4,738,015	4,278,821	16,057,331	162,915	326,602,199
09/2018	326,602,199	26,783,111	2,725,141	1,330,674	5,425,121	9,520,960	14,479,339	3,584,690	332,619,909
12/2018	332,619,909	13,199,558	3,591,013	1,220,208	8,800,654	3,993,860	10,226,293	2,727,413	340,043,360
03/2019	340,043,360	19,463,468	6,946,114	1,169,984	1,818,183	5,750,384	5,155,104	0	356,195,654
06/2019	356,195,654	20,276,659	4,032,229	1,194,863	4,129,883	7,384,189	14,638,596	2,518,787	358,897,990
09/2019	358,897,990	22,578,846	2,627,610	2,100,348	(1,794,779)	8,391,774	12,806,200	620,309	358,391,036
12/2019	358,391,036	15,507,323	5,160,335	1,405,338	(4,223,619)	5,092,759	4,017,896	1,980,829	362,338,252
03/2020	362,338,252	25,925,447	2,091,093	1,433,998	(9,978,364)	5,791,539	12,218,341	1,437,607	360,613,174
06/2020	360,613,174	16,765,573	1,451,639	1,682,853	(28,263,034)	2,431,376	1,923,758	167,748	344,361,617
09/2020	344,361,617	18,701,590	1,815,221	2,237,042	2,346,083	4,684,554	7,202,553	983,605	352,116,759
12/2020	352,116,759	15,502,987	2,371,341	2,364,943	9,393,040	4,680,569	5,891,878	0	366,446,737



Total Non-Core Funds Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of	Capital				Dist. of	Return	Dist. of	End of
	Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	- Income &	- of	- Recallable	= Period
	<u>Market</u>	<u>butions</u>	Income	Fees	<u>ciation</u>	Real. Gains	<u>Capital</u>	Capital	<u>Market</u>
03/2021	366,446,737	26,585,506	2,040,849	2,581,546	10,982,963	10,398,783	15,354,059	0	377,721,667
06/2021	377,721,667	37,059,106	6,308,595	3,532,906	17,790,996	8,792,825	19,194,335	0	407,360,296
09/2021	407,360,296	43,802,700	6,082,685	3,543,981	31,006,105	12,778,109	15,353,164	1,141,075	455,435,456
12/2021	455,435,456	71,240,929	4,658,812	3,457,402	21,885,193	26,114,132	35,002,390	0	496,169,074
03/2022	496,169,074	64,040,262	3,887,375	3,830,903	29,634,455	10,143,450	5,722,495	3,561,349	570,472,969
06/2022	570,472,969	28,189,103	2,612,174	2,753,604	7,758,639	25,765,414	35,345,382	6,668,858	538,499,628
	0	934,111,587	60,776,198	50,098,587	272,905,530	364,554,256	231,519,112	91,762,570	538,499,628

Returns

Net Portfolio Cumulative IRR = 11.21%

Ratios

Capital Account = \$538,499,628

Total Value = \$1,226,335,566

Committed Capital = \$1,429,549,813

Paid In Capital = \$934,111,587

Remaining Commitment = \$587,200,795

PIC Multiple (Paid In Capital/Committed Capital) = 65.34%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$1,125,700,424

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.31x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.74x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.58x

Working on updating historical cashflows on several managers to include detail cashflows. Callan data feed at inception of relationship did not include fee amounts and income amounts. Mangers that still need updating: Brookfield II, Crow VII & VIII, Franklin EMREFF, MDP RE 2015 & FTPREF, Macquarie II & III.

Capital commitments reflects the sum of: (i) aggregate capital contributions translated to U.S. Dollars as of the date of each capital contribution transaction; and (ii) reported uncalled capital commitments translated to U.S. Dollars as of quarter end date.



Farmland Period Ended June 30, 2022

Investment Philosophy

Homestead Capital USA Farmland Fund III, LP plans to acquire and manage a portfolio of diversified U.S. farmland and will focus on pursuing investments in high-quality row and permanent cropland in the Mountain West, Pacific, Midwest and Delta regions. The Fund has a differentiated "private equity" approach to its farmland investment strategy because it primarily focuses on acquiring farms across the U.S. where meaningful value can be created. The Fund intends to create value through a variety of strategies including capital improvements, operational efficiencies, management and operating changes, crop rotations, conversion to higher and better uses, development of strategic partnerships and platforms, and valuation arbitrage. The Fund will implement a bottom-up investment approach utilizing a team of farm managers on the ground in each region. The bottom-up approach will be paired with a top-down overlay in an effort to ensure proper diversification and an appropriate risk and reward profile at the portfolio level.

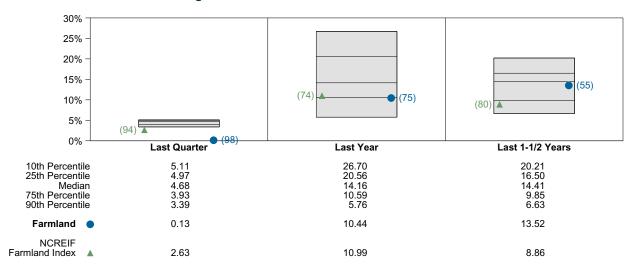
Quarterly Summary and Highlights

- Farmland's portfolio posted a 0.13% return for the quarter placing it in the 98 percentile of the Callan Real Estate Agriculture Funds group for the quarter and in the 75 percentile for the last year.
- Farmland's portfolio underperformed the NCREIF Farmland Index by 2.50% for the quarter and underperformed the NCREIF Farmland Index for the year by 0.54%.

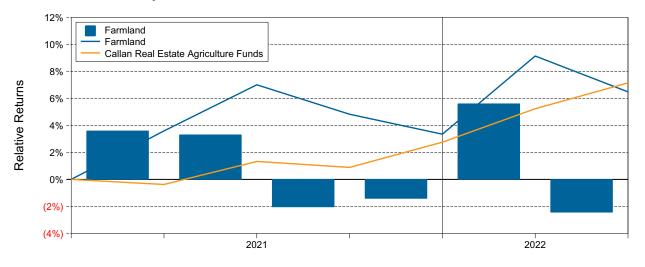
Quarterly Asset Growth

Beginning Market Value	\$38,570,500				
Net New Investment	\$0				
Investment Gains/(Losses)	\$51,308				
Ending Market Value	\$38,621,808				

Performance vs Callan Real Estate Agriculture Funds



Cumulative and Quarterly Relative Returns vs NCREIF Farmland Index

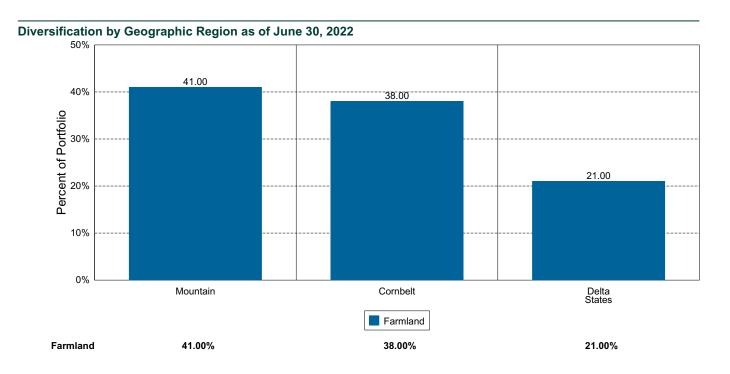


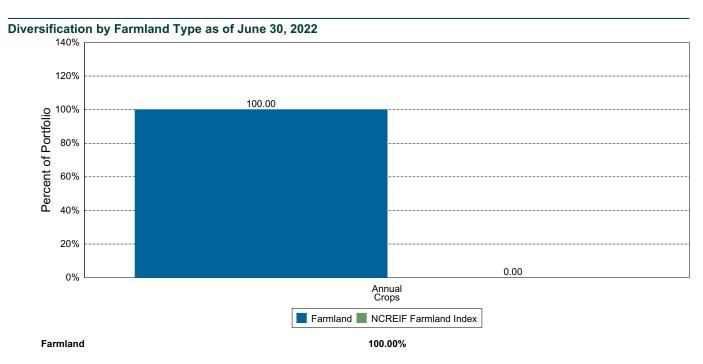


Farmland Diversification Analysis as of June 30, 2022

Diversification Analysis

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Farmland Type. Similar information is provided on the relevant market index for comparison.







Farmland Real Estate Portfolio Quarterly Changes in Market Value

	Beg. of Period	Capital + Contri-	+ Accounting	Marrat	+ Appre-	Dist. of	Return	Dist. of - Recallable	End of = Period
	Market	butions	Income	- Mgmt. <u>Fees</u>	+ Appre-	- Income & Real. Gains	- of <u>Capital</u>	- Recallable <u>Capital</u>	- Period Market
12/2020	0	12,658,888	157,999	1,526,906	(76,196)	173,154	220,183	23,770	10,796,678
03/2021	10,796,678	1,186,700	(10,200)	208,432	715,874	0	0	0	12,480,620
06/2021	12,480,620	3,377,979	152,390	222,455	739,401	171,141	0	0	16,356,794
09/2021	16,356,794	2,785,988	(16,698)	214,347	138,648	0	0	0	19,050,385
12/2021	19,050,385	11,334,417	86,414	215,619	696,054	114,866	0	0	30,836,785
03/2022	30,836,785	5,480,956	375,825	187,563	2,464,765	400,268	0	0	38,570,500
06/2022	38,570,500	0	(18,876)	207,177	277,361	0	0	0	38,621,808
	0	36,824,928	726,854	2,782,499	4,955,907	859,429	220,183	23,770	38,621,808

Returns Net Portfolio Cumulative IRR = 8.09%

Ratios

Capital Account = \$38,621,808

Total Value = \$39,725,190

Committed Capital = \$60,000,000

Paid In Capital = \$36,824,928

Remaining Commitment = \$23,198,842

PIC Multiple (Paid In Capital/Committed Capital) = 61.37%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$61,820,650

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.08x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.03x

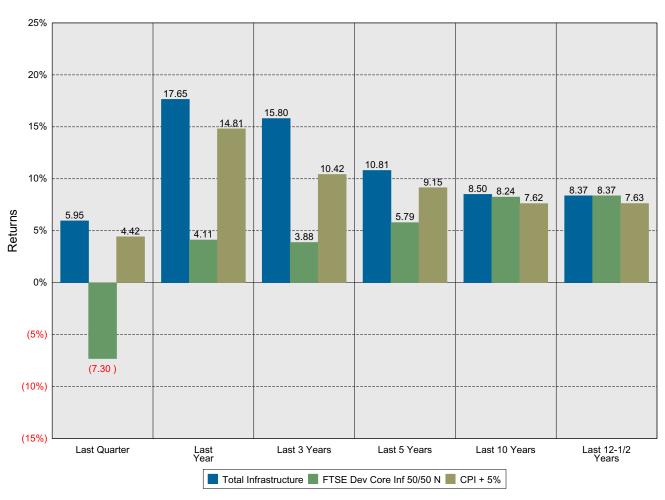
RVPI Residual Multiple (Capital Account/Paid In Capital) = 1.05x



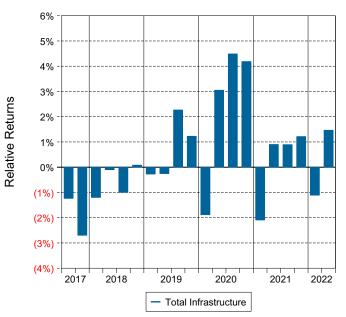
Total Infrastructure Period Ended June 30, 2022

Quarterly Summary and Highlights

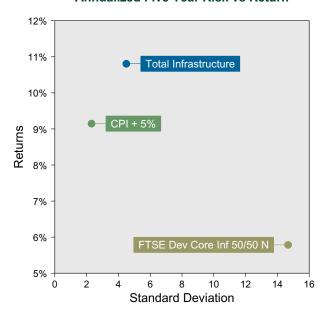
• Total Infrastructure's portfolio outperformed the CPI + 5% by 1.53% for the quarter and outperformed the CPI + 5% for the year by 2.83%.



Relative Return vs CPI + 5%



Annualized Five Year Risk vs Return

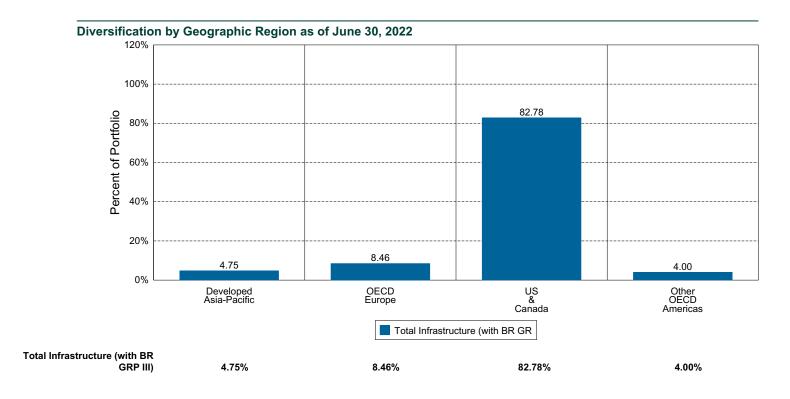


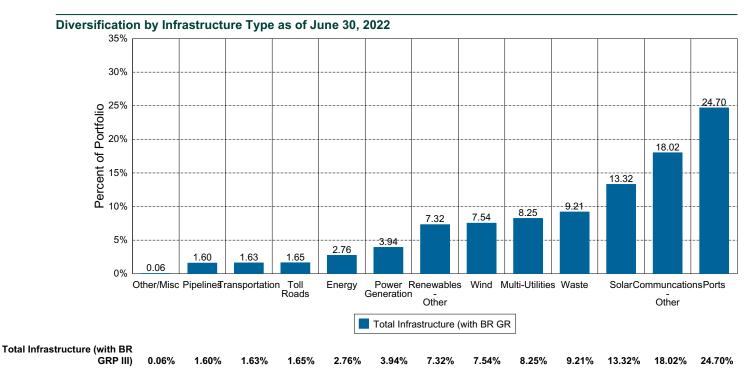


Total Infrastructure (with BR GRP III) Diversification Analysis as of June 30, 2022

Diversification Analysis

The following charts provide information on the diversification of the portfolio with regards to both Geographic Region and Infrastructure Type. Similar information is provided on the relevant market index for comparison.







Total Infrastructure Infrastructure Portfolio Quarterly Changes in Market Value

Period Portion Accounting Accounting 4 mg/s classion Gene Caption		Beg. of	Capital				Dist. of	Return	Dist. of	End of
1222009		Period	+ Contri-	+ Accounting	- Mgmt.	+ Appre-	Income &	- of	- Recallable	= Period
0.002010		<u>Market</u>	butions	Income	Fees	ciation	Real. Gains	<u>Capital</u>	<u>Capital</u>	<u>Market</u>
06/2010 7,506,889 22,373,970 100,792 2,215,084 704,785 0 0 277,093 28,194,889 09/2010 28,194,3899 673,974 168,948 161,710 1,186,244 0 0 0 3,581,941 03/2011 35,581,941 3,332,210 145,903 164,100 770,475 0 0 229,698 39,736,731 08/2011 43,470,057 5,011,352 161,229 132,058 1,237,981 0 0 44,700,057 08/2011 43,470,057 5,011,352 161,229 132,058 1,237,981 0 0 49,936 85,867,147 03/2012 65,121,046 47,824 280,821 115,311 1,273,290 0 0 211,978 65,739,586 08/2012 65,335,682 4,688,764 48,818 170,673 3,330,945 0 0 0 70,781,937 27,759,906 166,179 333,945 0 0 70,781,337 27,781,937 27,789 161,179,46	12/2009	0	7,848,586	78,175	1,035,616	1,113,909	458,762	0	16,597	7,529,695
09/2010 28, 194,389 673,974 168,948 161,710 2,269,461 0 644,134 30,491,888 161,710 1,168,244 0 0 35,581,941 3,531,941 3,532,210 145,903 164,100 770,475 0 0 229,688 39,738,731 3,161,617 146,100 164,100 934,848 0 0 345,169 43,470,057 501,1352 161,229 132,058 1,237,961 0 0 469,936 58,867,147 092012 48,470,057 501,332 161,022 113,2058 1,020,407 0 0 66,121,046 48,995,339 8,81,407 4(2,712) 132,058 1,020,407 0 0 66,121,046 67,335,682 420,388 86,608 173,950 1,640,428 0 0 66,212,046 67,395,692 420,388 86,608 173,950 1,640,428 0 0 60,012,104 68,887,604 48,818 110,735,950 1,640,428 0 0 0 61,513,768 22,923,933 3,727,829	03/2010	7,529,695	604,661	2,420	350,000	305,337	0	0	585,224	7,506,889
122201 3 3,481,888 4,032,951 32,588 161,710 1,186,244 0 0 29,698 39,736,731 0 922011 3 3,736,731 3,161,617 146,130 164,100 934,488 0 0 345,169 43,470,057 0 922011 43,470,677 5,011,352 161,229 132,058 1,237,961 0 0 469,408 58,667,147 0 222011 43,470,677 5,011,352 161,229 132,058 1,237,961 0 0 469,408 58,667,147 0 322012 66,121,046 47,824 280,821 115,311 478,344 0 0 66,121,046 66,121,046 48,848 170,673 3,330,945 0 0 66,121,046 66,888,766 4,588,704 46,818 170,673 3,330,945 0 0 70,72,613 75,781,937 27,725,906 165,175 312,126 1,652,78 0 0 70,415,388 0 103,78 319,475 0 0 70,415,388 0 1,61,388	06/2010	7,506,889	22,373,970	100,792	2,215,084	704,795	0	0	277,003	28,194,359
032011 35,581,941 3,632,210 145,903 164,100 770,475 0 0 22,968 39,736,731 06,161,617 146,130 164,100 934,848 0 0 345,169 43,470,057 245,599,535 12,201,11 43,670,057 5,011,352 161,229 132,058 1,237,961 0 0 0 49,599,535 12,201,11 49,599,539 8,881,407 (42,712) 132,058 1,202,047 0 0 0 66,121,046 66,212,046 47,224 280,821 115,311 476,344 0 0 0 66,121,046 673,784 48,688 173,950 1,640,428 0 0 70,2613 75,781,939 68,688,756 4,588,704 46,818 170,673 3,330,945 0 0 70,2613 75,781,937 75,781,937 156,750 166,175 312,160 12,265,278 0 0 70,2613 75,781,938 03,201 161,1388 33,313 42,20,671 164,101 195,348 12,265,278 0 0 70	09/2010	28,194,359	673,974	168,948	161,710	2,260,461	0	0	644,134	30,491,898
0842011	12/2010	30,491,898	4,032,951	32,558	161,710	1,186,244	0	0	0	35,581,941
092011 43,470,067 5,011,352 161,229 132,058 1,227,961 0 149,092 49,599,539 122211 49,599,539 8,891,407 (42,712) 132,058 1,020,407 0 0 49,438 58,867,147 08/2012 58,887,147 673,1784 159,082 115,311 1476,344 0 0 0 66,121,046 08/2012 67,395,692 42,038 86,608 173,950 1,640,428 0 0 702,613 75,819,37 09/2012 68,688,756 4,588,704 46,818 170,673 3,330,945 0 0 702,613 75,871,937 2,752,906 156,175 312,126 12,265,278 0 0 72,472,807 75,472,967 3,105,050 (101,413) 272,070 2,155,884 501,392 0 309,940 75,473,938 09/2014 75,871,933 3,420,671 106,410 195,348 26,960,559 78,083,313 3,420,615 12,260 18,248,344 0 2,862,277 66,9173,41	03/2011	35,581,941	3,632,210	145,903	164,100	770,475	0	0	229,698	39,736,731
122011 49,599,539 8,891,407 (42,712) 132,058 1,020,407 0 469,436 56,867,147 032012 58,867,147 67,31,784 159,082 115,311 1,273,290 0 0 21,978 67,395,692 08/2012 66,321,046 47,824 280,821 115,311 1,273,290 0 0 0 19,878 66,818,766 08/2012 68,688,756 4,588,704 46,818 170,673 333,0945 0 0 702,613 75,781,937 2,752,906 156,175 312,126 1,265,278 0 0 481,746 75,781,937 75,781,937 2,752,906 156,175 312,126 1,265,278 0 0 481,746 75,728,933 153,138 102,707 2,155,584 0 0 481,746 75,728,933 313,313 1420,671 106,410 195,348 (296,065) 22,295,109 0 0 25,414 65,973,933 0 496,779,029 75,418 170,417 233,275 (245,0569 7	06/2011	39,736,731	3,161,617	146,130	164,100	934,848	0	0	345,169	43,470,057
03/2012 58,867,147 6,731,784 159,082 115,311 478,344 0 0 0 66,121,046 67,324 280,821 115,311 1,273,220 0 0 0 211,178 67,395,692 420,388 88,680 173,956 1,640,428 0 0 0 68,081,76 76,781,937 75,781,937 75,729,906 156,175 312,122 1,640,428 0 0 0 70,213 75,781,937 75,752,906 156,175 312,122 1,656,778 0 0 0 70,6151,388 832,318 103,778 319,475 (35,314) 777,992 0 481,742 75,615,383 606,701 106,410 955,348 203,314 777,992 0 1,866,413 78,083,313 130,505 106,410 955,348 202,295,109 0 1,866,413 78,083,313 0 28,095,708 166,570 3,186,654 1,489,341 0 2,996,777 66,919,798 706,919,798 740,153 126,600 137,238 2,450,569 775,008	09/2011	43,470,057	5,011,352	161,229	132,058	1,237,961	0	0	149,002	49,599,539
06/2012 66,121,046 47,824 280,821 115,311 1,273,290 0 0 211,978 67,395,692 09/2012 67,395,892 420,388 86,808 173,990 1,640,428 0 0 00,610 68,68,756 68,688,756 0 0 70,213 75,781,937 2,752,906 156,175 312,126 1,265,278 0 0 3,492,782 76,151,388 06/2013 75,742,967 3,105,050 10(14,13) 272,070 2,155,584 601,392 0 481,746 75,772,937 03/2014 57,472,967 3,105,050 10(14,13) 272,070 2,155,584 601,392 0 309,904 59,513,932 03/2014 59,513,932 8,585,708 185,692 166,570 3,186,684 1,489,341 0 2,996,774 66,919,798 66,919,798 740,153 126,600 775,008 27,744 66,970,09 69,714 66,917,98 740,153 17,847 238,275 (800,247) 56,231 0 267,296	12/2011	49,599,539	8,891,407	(42,712)	132,058	1,020,407	0	0	469,436	58,867,147
092012 67,395,692 420,388 86,608 173,950 1,640,428 0 0 68,681,766 68,681,766 4,588,704 46,818 170,673 3,330,945 0 0 702,613 75,781,937 75,781,937 75,781,937 702,613 75,781,937 702,613 75,781,937 702,613 75,781,937 702,613 75,781,937 702,613 75,781,937 702,613 75,781,937 702,613 75,781,937 0 34,772,827 0 481,746 75,781,937 76,151,338 382,218 103,778 319,475 (31,55,584 501,392 0 1,66,413 78,083,313 4,420,671 106,410 195,348 (296,065) 22,295,109 0 1,66,413 78,083,313 32,000 22,951,099 0 1,66,919,798 1,740,153 126,600 137,238 2,2450,569 775,000 0 527,844 68,797,029 778,185 17,847 238,275 (600,247) 56,231 0 267,266 68,231,012 122,414 68,231,012 23,248 68,232 1	03/2012	58,867,147	6,731,784	159,082	115,311	478,344	0	0	0	66,121,046
122012 68,688,756 4,588,704 46,818 170,673 3,330,945 0 0 702,613 75,781,937 2,752,906 155,175 312,126 1,268,278 0 0 3,492,762 76,151,388 76,151,388 32,318 103,778 319,475 (35,314) 777,982 0 481,746 75,472,967 0 1,866,413 78,083,313 122013 75,472,967 3,105,050 (10,413) 272,070 2,155,584 501,392 0 1,866,413 78,083,313 122013 78,083,313 4,420,671 106,410 195,348 (296,065) 222,951,09 0 309,940 59,513,932 69,917,98 740,153 126,600 137,238 2,450,569 775,008 0 28,962,77 66,917,98 740,153 126,600 137,238 2,450,569 775,008 0 267,296 68,231,012 22,212,635 680,231,012 0 267,296 68,231,012 0 267,296 68,231,012 0 267,296 68,231,012 0 267,296 68,231,012 <t< td=""><td>06/2012</td><td>66,121,046</td><td>47,824</td><td>280,821</td><td>115,311</td><td>1,273,290</td><td>0</td><td>0</td><td>211,978</td><td>67,395,692</td></t<>	06/2012	66,121,046	47,824	280,821	115,311	1,273,290	0	0	211,978	67,395,692
03/2013 75,781,937 2,752,906 156,175 312,126 1,265,278 0 0 3,492,782 76,151,388 06/2013 76,161,388 832,318 103,778 319,475 (35,314) 777,962 0 441,746 75,472,967 08/2013 75,472,967 3,105,056 (10,413) 272,070 2,155,584 501,392 0 309,940 59,513,932 08/2014 50,513,932 8,585,708 185,692 166,570 3186,654 1,489,341 0 2,896,277 66,919,798 08/2014 66,919,798 740,153 126,600 137,238 2,450,569 775,008 252,784 66,797,092 08/2014 68,231,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 12/2014 68,231,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 08/2015 78,291,696 1,276,086 11,054,343 340,502 <td< td=""><td>09/2012</td><td>67,395,692</td><td>420,388</td><td>86,608</td><td>173,950</td><td>1,640,428</td><td>0</td><td>0</td><td>680,410</td><td>68,688,756</td></td<>	09/2012	67,395,692	420,388	86,608	173,950	1,640,428	0	0	680,410	68,688,756
06/2013 76,151,388 832,318 103,778 319,475 (35,314) 777,982 0 481,746 75,472,967 09/2013 75,472,967 3,105,050 (10,413) 2272,070 2,155,584 501,392 0 1,866,413 78,083,313 12/2013 75,872,967 3,055,508 185,692 166,570 3,186,654 1,489,341 0 2,896,277 66,919,798 08/2014 66,919,798 740,153 126,600 137,238 2,450,569 775,008 0 227,296 68,291,012 12/2014 68,91,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 03/2015 69,178,411 8,134,342 94,546 381,562 1,837,269 85,533 0 455,777 78,291,696 06/2015 79,508,121 458,888 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 12/2015 80,984,994 1,439,388 435,839 352,106	12/2012	68,688,756	4,588,704	46,818	170,673	3,330,945	0	0	702,613	75,781,937
09/2013 75,472,967 3,105,050 (10,413) 272,070 2,155,584 501,392 0 1,866,413 76,083,313 4,240,671 106,410 195,348 (296,065) 22,295,109 0 309,940 59,513,932 36,585,708 185,692 166,570 3,186,654 1,489,341 0 2,896,277 66,919,798 06/2014 66,919,798 740,153 126,660 137,238 2,450,569 775,008 0 527,844 68,797,029 09/2014 68,797,029 778,185 17,847 238,275 (800,247) 56,231 0 267,296 68,231,012 12/2014 68,231,012 2,312,635 (195,503) 764,548 386,632 184,720 0 1,046,792 69,178,411 03/2015 69,178,411 8,134,342 94,546 381,562 1,837,269 85,533 0 485,777 78,291,696 06/2015 78,291,696 1,276,086 11,054 340,700 1,558,044 34,806 0 1,241,614 824,91,988	03/2013	75,781,937	2,752,906	156,175	312,126	1,265,278	0	0	3,492,782	76,151,388
12/2013 78,083,313 4,420,671 106,410 195,348 (296,065) 22,295,109 0 309,940 59,513,932 03/2014 59,513,9322 8,565,708 185,692 166,570 3,186,654 1,489,341 0 2,866,277 66,919,798 09/2014 68,797,029 778,185 17,847 238,275 (800,247) 55,231 0 267,296 68,231,012 12/2014 68,231,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 03/2015 69,178,411 8,134,342 94,546 340,700 1,558,644 34,806 0 1,252,253 79,508,121 09/2015 79,508,121 458,868 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 12/2016 80,984,994 1,493,368 435,839 352,106 1,668,634 473,310 0 12,141,61 82,461,958 03/2016 87,171,138 10,885,657 359,408	06/2013	76,151,388	832,318	103,778	319,475	(35,314)	777,982	0	481,746	75,472,967
03/2014 59,513,932 8,585,708 185,692 166,570 3,186,654 1,489,341 0 2,896,277 66,919,798 06/2014 66,919,798 740,153 126,600 137,238 2,450,569 775,008 0 527,844 68,797,029 9/2014 68,797,029 778,185 17,847 238,275 (800,247) 56,231 0 267,296 68,231,012 12/2014 68,231,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 03/2015 78,291,696 1,276,086 11,054 340,700 1,558,044 34,806 0 1,252,533 79,508,121 06/2015 79,508,121 458,868 443,191 354,681 1,788,364 427,677 0 431,192 89,849,94 1/2/2015 80,984,994 1,439,368 435,839 352,106 1,668,634 473,310 0 212,193 87,171,138 03/2016 82,461,958 4,06,595 270,505 353,464 <td>09/2013</td> <td>75,472,967</td> <td>3,105,050</td> <td>(10,413)</td> <td>272,070</td> <td>2,155,584</td> <td>501,392</td> <td>0</td> <td>1,866,413</td> <td>78,083,313</td>	09/2013	75,472,967	3,105,050	(10,413)	272,070	2,155,584	501,392	0	1,866,413	78,083,313
06/2014 66,919,798 740,153 126,600 137,238 2,450,569 775,008 0 527,844 68,797.029 09/2014 68,797,029 778,185 17,847 238,275 (800,247) 56,231 0 267,296 68,231,012 12/2014 68,231,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 03/2015 69,178,411 8,134,342 94,546 381,562 1,837,269 85,533 0 485,777 78,291,696 06/2015 78,291,696 1,276,086 11,054 340,700 1,558,044 34,806 0 12,253,253 79,508,121 09/2015 79,508,121 458,868 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 1/2016 82,461,958 4,006,958 270,850 353,464 1,146,414 419,385 0 221,193 87,171,138 06/2016 87,171,138 10,885,641 750,89 359,408	12/2013	78,083,313	4,420,671	106,410	195,348	(296,065)	22,295,109	0	309,940	59,513,932
09/2014 68,797,029 778,185 17,847 238,275 (800,247) 56,231 0 267,296 68,231,012 12/2014 68,231,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 03/2015 69,178,411 8,134,342 94,546 381,562 1,337,269 85,533 0 485,777 78,291,696 06/2015 78,291,696 1,276,086 11,054 340,700 1,588,044 34,806 0 1,253,253 79,508,121 06/2015 79,508,121 148,888 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 12/2016 80,984,994 1,439,368 470,850 353,464 1,164,414 149,385 0 221,193 87,171,138 06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 137,959 0 586,453 98,811,534 09/2016 98,811,534 7,111,855 221,669 451,459	03/2014	59,513,932	8,585,708	185,692	166,570	3,186,654	1,489,341	0	2,896,277	66,919,798
12/2014 68,231,012 2,312,635 (195,503) 764,548 826,326 184,720 0 1,046,792 69,178,411 03/2015 69,178,411 81,34,342 94,546 381,562 1,837,269 85,533 0 485,777 78,291,696 06/2015 78,291,696 1,276,086 11,054 340,700 1,558,644 34,806 0 1,253,253 79,508,121 09/2015 79,508,121 458,868 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 12/2015 80,984,994 1,439,368 270,850 353,464 1,146,414 149,385 0 212,193 87,171,138 06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 137,959 0 586,453 98,811,534 09/2016 98,811,534 7,111,855 221,669 425,145 365,192 175,491 0 865,857 105,043,757 12/2017 111,500,276 1,853,672 472,995 400,300<	06/2014	66,919,798	740,153	126,600	137,238	2,450,569	775,008	0	527,844	68,797,029
03/2015 69,178,411 8,134,342 94,546 381,562 1,837,269 85,533 0 485,777 78,291,696 06/2015 78,291,696 1,276,086 11,054 340,700 1,558,044 34,806 0 1,253,253 79,508,121 09/2015 79,508,121 458,868 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 1/2015 80,984,994 1,439,368 435,839 352,106 1,686,634 473,310 0 212,193 87,171,138 06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 137,959 0 586,453 98,811,534 09/2016 98,811,534 7,111,855 221,669 425,145 365,192 175,491 0 685,857 105,043,757 11/2/2016 105,043,757 11,448,295 548,069 414,798 (3,089,524) 1,666,632 64,272 304,620 1111,500,276 03/2017 1118,218,478 399,048 755,664 <	09/2014	68,797,029	778,185	17,847	238,275	(800,247)	56,231	0	267,296	68,231,012
06/2015 78,291,696 1,276,086 11,054 340,700 1,558,044 34,806 0 1,253,253 79,508,121 09/2015 79,508,121 458,868 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 12/2015 80,984,994 1,439,368 435,839 352,106 1,668,634 473,310 0 1,241,461 82,461,988 03/2016 82,461,958 4,006,958 270,850 353,464 1,146,414 149,335 0 212,193 87,171,138 06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 137,959 0 566,453 98,811,534 06/2016 105,043,757 11,482,295 548,669 414,798 (3,089,524) 1,566,632 64,272 304,620 1111,500,276 03/2017 1118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,831 09/2017 108,884,831 213,489 338,024	12/2014	68,231,012	2,312,635	(195,503)	764,548	826,326	184,720	0	1,046,792	69,178,411
09/2015 79,508,121 458,868 443,191 354,681 1,788,364 427,677 0 431,192 80,984,994 12/2015 80,984,994 1,439,368 435,839 352,106 1,668,634 473,310 0 1,241,461 82,461,958 03/2016 82,461,958 4,006,958 270,850 353,464 1,146,414 149,385 0 212,193 87,171,38 06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 175,491 0 586,453 98,811,534 09/2016 105,043,757 11,448,295 548,069 414,798 (3,089,524) 1,666,632 64,272 304,620 1118,500,276 03/2017 111,500,276 1,853,672 472,995 400,300 6,754,926 1,381,714 0 581,377 118,218,478 06/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,31 09/2017 108,884,831 213,489 338,024	03/2015	69,178,411	8,134,342	94,546	381,562	1,837,269	85,533	0	485,777	78,291,696
12/2015 80,984,994 1,439,368 435,839 352,106 1,668,634 473,310 0 1,241,461 82,461,958 03/2016 82,461,958 4,006,958 270,850 353,464 1,146,414 149,385 0 212,193 87,171,138 06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 137,959 0 566,453 98,811,534 09/2016 98,811,534 7,111,855 221,669 425,145 365,192 175,491 0 865,857 105,043,757 12/2016 105,043,757 11,482,955 548,069 414,798 (3,089,524) 1,666,632 64,272 304,620 111,500,276 03/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,813 09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 161,822 107,133,414 12/2018 103,3904,688 307,740 149,259	06/2015	78,291,696	1,276,086	11,054	340,700	1,558,044	34,806	0	1,253,253	79,508,121
03/2016 82,461,958 4,006,958 270,850 353,464 1,146,414 149,385 0 212,193 87,171,138 06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 137,959 0 586,453 98,811,534 09/2016 98,811,534 7,111,855 221,669 425,145 366,192 175,491 0 865,857 105,043,757 12/2016 105,043,757 11,448,295 548,069 414,798 (3,089,524) 1,666,632 64,272 304,620 111,500,276 03/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,831 09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 161,822 107,133,414 12/2017 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 103,904,688 307,740 149,259	09/2015	79,508,121	458,868	443,191	354,681	1,788,364	427,677	0	431,192	80,984,994
06/2016 87,171,138 10,885,041 750,789 359,408 1,088,386 137,959 0 586,453 98,811,534 09/2016 98,811,534 7,111,855 221,669 425,145 365,192 175,491 0 865,857 105,043,757 12/2016 105,043,757 11,448,295 548,069 414,798 (3,089,524) 1,666,632 64,272 304,620 1115,00,276 03/2017 111,500,276 1,853,672 472,995 400,300 6,754,926 1,381,714 0 581,377 118,218,478 06/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,831 09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 141,874 103,904,688 03/2018 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 104,722,238 4,992,602 (135,17	12/2015	80,984,994	1,439,368	435,839	352,106	1,668,634	473,310	0	1,241,461	82,461,958
09/2016 98,811,534 7,111,855 221,669 425,145 365,192 175,491 0 865,857 105,043,757 12/2016 105,043,757 11,448,295 548,069 414,798 (3,089,524) 1,666,632 64,272 304,620 111,500,276 03/2017 111,500,276 1,853,672 472,995 400,300 6,754,926 1,381,714 0 581,377 118,218,478 06/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,848,831 09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 161,822 107,133,414 12/2017 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 103,904,688 307,740 149,259 751,823 1,448,049 134,276 0 201,398 104,722,238 06/2018 104,722,238 4,992,602 (135,177	03/2016	82,461,958	4,006,958	270,850	353,464	1,146,414	149,385	0	212,193	87,171,138
12/2016 105,043,757 11,448,295 548,069 414,798 (3,089,524) 1,666,632 64,272 304,620 111,500,276 03/2017 111,500,276 1,853,672 472,995 400,300 6,754,926 1,381,714 0 581,377 118,218,478 06/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,831 09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 161,822 107,133,414 12/2017 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 103,904,688 307,740 149,259 751,823 1,448,049 134,276 0 201,398 104,722,238 06/2018 104,722,238 4,992,602 (135,177) 469,301 2,881,352 12,440,017 5,040,451 0 94,511,247 09/2018 94,511,247 2,289,864	06/2016	87,171,138	10,885,041	750,789	359,408	1,088,386	137,959	0	586,453	98,811,534
03/2017 111,500,276 1,853,672 472,995 400,300 6,754,926 1,381,714 0 581,377 118,218,478 06/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,831 09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 161,822 107,133,414 12/2017 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 103,904,688 307,740 149,259 751,823 1,448,049 134,276 0 201,398 104,722,238 06/2018 104,722,238 4,992,602 (135,177) 469,301 2,881,352 12,440,017 5,040,451 0 94,511,247 09/2018 94,511,247 2,289,864 117,514 388,630 615,817 409,488 0 0 96,735,863 12/2018 96,735,863 6,472,515 87,866	09/2016	98,811,534	7,111,855	221,669	425,145	365,192	175,491	0	865,857	105,043,757
06/2017 118,218,478 399,048 755,664 402,809 (1,857,523) 7,967,095 0 260,931 108,884,831 09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 161,822 107,133,414 12/2017 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 103,904,688 307,740 149,259 751,823 1,448,049 134,276 0 201,398 104,722,238 06/2018 104,722,238 4,992,602 (135,177) 469,301 2,881,352 12,440,017 5,040,451 0 94,511,247 09/2018 94,511,247 2,289,864 117,514 388,630 615,817 409,948 0 0 96,735,863 12/2018 96,735,863 6,472,515 87,866 422,957 939,865 930,019 139,450 0 102,743,683 03/2019 102,743,683 10,733,092 423,561 <td< td=""><td>12/2016</td><td>105,043,757</td><td>11,448,295</td><td>548,069</td><td>414,798</td><td>(3,089,524)</td><td>1,666,632</td><td>64,272</td><td>304,620</td><td>111,500,276</td></td<>	12/2016	105,043,757	11,448,295	548,069	414,798	(3,089,524)	1,666,632	64,272	304,620	111,500,276
09/2017 108,884,831 213,489 338,024 387,816 926,380 2,679,673 0 161,822 107,133,414 12/2017 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 103,904,688 307,740 149,259 751,823 1,448,049 134,276 0 201,398 104,722,238 06/2018 104,722,238 4,992,602 (135,177) 469,301 2,881,352 12,440,017 5,040,451 0 94,511,247 09/2018 94,511,247 2,289,864 117,514 388,630 615,817 409,948 0 0 96,735,863 12/2018 96,735,863 6,472,515 87,866 422,957 939,865 930,019 139,450 0 102,743,683 03/2019 102,743,683 10,733,092 423,561 408,556 2,277,961 719,459 1,519,068 0 113,531,215 06/2019 113,531,215 5,584,716 44,826	03/2017	111,500,276	1,853,672	472,995	400,300	6,754,926	1,381,714	0	581,377	118,218,478
12/2017 107,133,414 454,311 775,254 380,978 (2,160,339) 1,775,100 0 141,874 103,904,688 03/2018 103,904,688 307,740 149,259 751,823 1,448,049 134,276 0 201,398 104,722,238 06/2018 104,722,238 4,992,602 (135,177) 469,301 2,881,352 12,440,017 5,040,451 0 94,511,247 09/2018 94,511,247 2,289,864 117,514 388,630 615,817 409,948 0 0 96,735,863 12/2018 96,735,863 6,472,515 87,866 422,957 939,865 930,019 139,450 0 102,743,683 03/2019 102,743,683 10,733,092 423,561 408,556 2,277,961 719,459 1,519,068 0 113,531,215 06/2019 113,531,215 5,584,716 44,826 380,840 2,127,179 700,080 17,412,920 58,226 102,735,870 09/2019 102,735,870 10,769,066 294,824	06/2017	118,218,478	399,048	755,664	402,809	(1,857,523)	7,967,095	0	260,931	108,884,831
03/2018 103,904,688 307,740 149,259 751,823 1,448,049 134,276 0 201,398 104,722,238 06/2018 104,722,238 4,992,602 (135,177) 469,301 2,881,352 12,440,017 5,040,451 0 94,511,247 09/2018 94,511,247 2,289,864 117,514 388,630 615,817 409,948 0 0 96,735,863 12/2018 96,735,863 6,472,515 87,866 422,957 939,865 930,019 139,450 0 102,743,683 03/2019 102,743,683 10,733,092 423,561 408,556 2,277,961 719,459 1,519,068 0 113,531,215 06/2019 113,531,215 5,584,716 44,826 380,840 2,127,179 700,080 17,412,920 58,226 102,735,870 09/2019 102,735,870 10,769,066 294,824 423,008 4,057,204 1,704,669 2,226,460 0 113,502,827 12/2019 113,502,827 15,535,595 (279,484) </td <td>09/2017</td> <td>108,884,831</td> <td>213,489</td> <td>338,024</td> <td>387,816</td> <td>926,380</td> <td>2,679,673</td> <td>0</td> <td>161,822</td> <td>107,133,414</td>	09/2017	108,884,831	213,489	338,024	387,816	926,380	2,679,673	0	161,822	107,133,414
06/2018 104,722,238 4,992,602 (135,177) 469,301 2,881,352 12,440,017 5,040,451 0 94,511,247 09/2018 94,511,247 2,289,864 117,514 388,630 615,817 409,948 0 0 96,735,863 12/2018 96,735,863 6,472,515 87,866 422,957 939,865 930,019 139,450 0 102,743,683 03/2019 102,743,683 10,733,092 423,561 408,556 2,277,961 719,459 1,519,068 0 113,531,215 06/2019 113,531,215 5,584,716 44,826 380,840 2,127,179 700,080 17,412,920 58,226 102,735,870 09/2019 102,735,870 10,769,066 294,824 423,008 4,057,204 1,704,669 2,226,460 0 113,502,827 12/2019 113,502,827 15,535,595 (279,484) 395,393 3,629,217 3,349,613 11,442,770 127,673 117,072,705 03/2020 118,168,762 93,795 <td< td=""><td>12/2017</td><td>107,133,414</td><td>454,311</td><td>775,254</td><td>380,978</td><td>(2,160,339)</td><td>1,775,100</td><td>0</td><td>141,874</td><td>103,904,688</td></td<>	12/2017	107,133,414	454,311	775,254	380,978	(2,160,339)	1,775,100	0	141,874	103,904,688
09/2018 94,511,247 2,289,864 117,514 388,630 615,817 409,948 0 0 96,735,863 12/2018 96,735,863 6,472,515 87,866 422,957 939,865 930,019 139,450 0 102,743,683 03/2019 102,743,683 10,733,092 423,561 408,556 2,277,961 719,459 1,519,068 0 113,531,215 06/2019 113,531,215 5,584,716 44,826 380,840 2,127,179 700,080 17,412,920 58,226 102,735,870 09/2019 102,735,870 10,769,066 294,824 423,008 4,057,204 1,704,669 2,226,460 0 113,502,827 12/2019 113,502,827 15,535,595 (279,484) 395,393 3,629,217 3,349,613 11,442,770 127,673 117,072,705 03/2020 117,072,705 1,693,654 253,449 366,811 (274,087) 71,357 138,791 0 118,168,762 09/2020 123,118,921 2,425,028 146	03/2018	103,904,688	307,740	149,259	751,823	1,448,049	134,276	0	201,398	104,722,238
12/2018 96,735,863 6,472,515 87,866 422,957 939,865 930,019 139,450 0 102,743,683 03/2019 102,743,683 10,733,092 423,561 408,556 2,277,961 719,459 1,519,068 0 113,531,215 06/2019 113,531,215 5,584,716 44,826 380,840 2,127,179 700,080 17,412,920 58,226 102,735,870 09/2019 102,735,870 10,769,066 294,824 423,008 4,057,204 1,704,669 2,226,460 0 113,502,827 12/2019 113,502,827 15,535,595 (279,484) 395,393 3,629,217 3,349,613 11,442,770 127,673 117,072,705 03/2020 117,072,705 1,693,654 253,449 366,811 (274,087) 71,357 138,791 0 118,168,762 09/2020 118,168,762 93,795 12,605 367,804 5,305,358 93,795 0 0 123,118,921 09/2020 123,118,921 2,425,028 146,	06/2018	104,722,238	4,992,602	(135,177)	469,301	2,881,352	12,440,017	5,040,451	0	
03/2019 102,743,683 10,733,092 423,561 408,556 2,277,961 719,459 1,519,068 0 113,531,215 06/2019 113,531,215 5,584,716 44,826 380,840 2,127,179 700,080 17,412,920 58,226 102,735,870 09/2019 102,735,870 10,769,066 294,824 423,008 4,057,204 1,704,669 2,226,460 0 113,502,827 12/2019 113,502,827 15,535,595 (279,484) 395,393 3,629,217 3,349,613 11,442,770 127,673 117,072,705 03/2020 117,072,705 1,693,654 253,449 366,811 (274,087) 71,357 138,791 0 118,168,762 06/2020 118,168,762 93,795 12,605 367,804 5,305,358 93,795 0 0 123,118,921 09/2020 123,118,921 2,425,028 146,289 369,830 8,795,977 206,452 368,001 0 133,541,932 12/2020 133,541,932 408,317 28	09/2018	94,511,247	2,289,864	117,514	388,630	615,817	409,948	0	0	96,735,863
06/2019 113,531,215 5,584,716 44,826 380,840 2,127,179 700,080 17,412,920 58,226 102,735,870 09/2019 102,735,870 10,769,066 294,824 423,008 4,057,204 1,704,669 2,226,460 0 113,502,827 12/2019 113,502,827 15,535,595 (279,484) 395,393 3,629,217 3,349,613 11,442,770 127,673 117,072,705 03/2020 117,072,705 1,693,654 253,449 366,811 (274,087) 71,357 138,791 0 118,168,762 06/2020 118,168,762 93,795 12,605 367,804 5,305,358 93,795 0 0 123,118,921 09/2020 123,118,921 2,425,028 146,289 369,830 8,795,977 206,452 368,001 0 133,541,932 12/2020 133,541,932 408,317 28,457 348,985 6,887,031 15,200,971 14,737,219 0 110,578,563 03/2021 110,578,563 711,013 38	12/2018	96,735,863	6,472,515	87,866	422,957	939,865	930,019	139,450	0	102,743,683
09/2019 102,735,870 10,769,066 294,824 423,008 4,057,204 1,704,669 2,226,460 0 113,502,827 12/2019 113,502,827 15,535,595 (279,484) 395,393 3,629,217 3,349,613 11,442,770 127,673 117,072,705 03/2020 117,072,705 1,693,654 253,449 366,811 (274,087) 71,357 138,791 0 118,168,762 06/2020 118,168,762 93,795 12,605 367,804 5,305,358 93,795 0 0 123,118,921 09/2020 123,118,921 2,425,028 146,289 369,830 8,795,977 206,452 368,001 0 133,541,932 12/2020 133,541,932 408,317 28,457 348,985 6,887,031 15,200,971 14,737,219 0 110,578,563 03/2021 110,578,563 711,013 389,784 311,556 900,818 5,155,812 2,319,555 6,606 104,786,648	03/2019	102,743,683	10,733,092	423,561	408,556	2,277,961	719,459	1,519,068	0	113,531,215
12/2019 113,502,827 15,535,595 (279,484) 395,393 3,629,217 3,349,613 11,442,770 127,673 117,072,705 03/2020 117,072,705 1,693,654 253,449 366,811 (274,087) 71,357 138,791 0 118,168,762 06/2020 118,168,762 93,795 12,605 367,804 5,305,358 93,795 0 0 123,118,921 09/2020 123,118,921 2,425,028 146,289 369,830 8,795,977 206,452 368,001 0 133,541,932 12/2020 133,541,932 408,317 28,457 348,985 6,887,031 15,200,971 14,737,219 0 110,578,563 03/2021 110,578,563 711,013 389,784 311,556 900,818 5,155,812 2,319,555 6,606 104,786,648	06/2019	113,531,215	5,584,716	44,826	380,840	2,127,179	700,080	17,412,920	58,226	102,735,870
03/2020 117,072,705 1,693,654 253,449 366,811 (274,087) 71,357 138,791 0 118,168,762 06/2020 118,168,762 93,795 12,605 367,804 5,305,358 93,795 0 0 123,118,921 09/2020 123,118,921 2,425,028 146,289 369,830 8,795,977 206,452 368,001 0 133,541,932 12/2020 133,541,932 408,317 28,457 348,985 6,887,031 15,200,971 14,737,219 0 110,578,563 03/2021 110,578,563 711,013 389,784 311,556 900,818 5,155,812 2,319,555 6,606 104,786,648	09/2019	102,735,870	10,769,066	294,824	423,008	4,057,204	1,704,669	2,226,460	0	113,502,827
06/2020 118,168,762 93,795 12,605 367,804 5,305,358 93,795 0 0 123,118,921 09/2020 123,118,921 2,425,028 146,289 369,830 8,795,977 206,452 368,001 0 133,541,932 12/2020 133,541,932 408,317 28,457 348,985 6,887,031 15,200,971 14,737,219 0 110,578,563 03/2021 110,578,563 711,013 389,784 311,556 900,818 5,155,812 2,319,555 6,606 104,786,648	12/2019	113,502,827	15,535,595	(279,484)	395,393	3,629,217	3,349,613	11,442,770	127,673	117,072,705
09/2020 123,118,921 2,425,028 146,289 369,830 8,795,977 206,452 368,001 0 133,541,932 12/2020 133,541,932 408,317 28,457 348,985 6,887,031 15,200,971 14,737,219 0 110,578,563 03/2021 110,578,563 711,013 389,784 311,556 900,818 5,155,812 2,319,555 6,606 104,786,648			1,693,654	253,449	366,811	(274,087)	71,357	138,791	0	118,168,762
12/2020 133,541,932 408,317 28,457 348,985 6,887,031 15,200,971 14,737,219 0 110,578,563 03/2021 110,578,563 711,013 389,784 311,556 900,818 5,155,812 2,319,555 6,606 104,786,648	06/2020	118,168,762	93,795	12,605	367,804	5,305,358	93,795	0	0	123,118,921
03/2021 110,578,563 711,013 389,784 311,556 900,818 5,155,812 2,319,555 6,606 104,786,648	09/2020		2,425,028	146,289	369,830	8,795,977	206,452	368,001	0	133,541,932
		133,541,932	408,317	28,457	348,985	6,887,031	15,200,971	14,737,219	0	110,578,563
06/2021 104,786,648 1,585,576 2,229,130 304,619 3,018,540 40,690 8,975,817 0 102,298,769		110,578,563	711,013	389,784	311,556	900,818	5,155,812	2,319,555	6,606	104,786,648
	06/2021	104,786,648	1,585,576	2,229,130	304,619	3,018,540	40,690	8,975,817	0	102,298,769



Total Infrastructure Infrastructure Portfolio Quarterly Changes in Market Value

	Beg. of Period	Capital + Contri-	+ Accounting	- Mgmt.	+ Appre-	Dist. of - Income &	Return - of	Dist. of - Recallable	End of = Period
	<u>Market</u>	butions	Income	Fees	ciation	Real. Gains	<u>Capital</u>	<u>Capital</u>	Market
09/2021	102,298,769	5,653,567	360,628	765,451	3,573,710	290,390	1,327,832	0	109,503,000
12/2021	109,503,000	1,498,761	(12,281)	876,556	4,987,011	4,062,388	0	0	111,037,547
03/2022	111,037,547	3,634,984	231,741	528,397	4,053,460	973,514	0	0	117,455,822
06/2022	117,455,822	9,683,411	3,323,752	547,218	4,191,620	30,921	3,230,520	0	130,845,946
	0	223 301 682	14 642 045	20 478 830	94 452 531	90 007 291	68 943 125	22 121 067	130 845 946

Returns

Net Portfolio Cumulative IRR = 8.08%

Ratios

Capital Account = \$130,845,946

Total Value = \$311,917,428

Committed Capital = \$180,000,000

Paid In Capital = \$223,301,682

Remaining Commitment = \$(21,180,615)

PIC Multiple (Paid In Capital/Committed Capital) = 124.06%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$109,665,331

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.40x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.81x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.59x



Definitions

Style Groups

Total Domestic Real Estate Database: The Total Domestic Real Estate Funds Database consists of both open and closed-end commingled funds managed by real estate firms that report to the Callan Database and invest in private domestic real estate.

Open-End Core Commingled RE: The Open-End Real Estate Database consists of all open end real estate funds that report to the Callan Database.

Real Estate REIT: The Real Estate REIT Database consists of products investing in domestic equity real estate through portfolios consisting primarily of equity Real Estate Investment Trusts (REIT). The Database is comprised of returns for both separate account composites and commingled vehicles as reported to Callan by the mangers of those products.

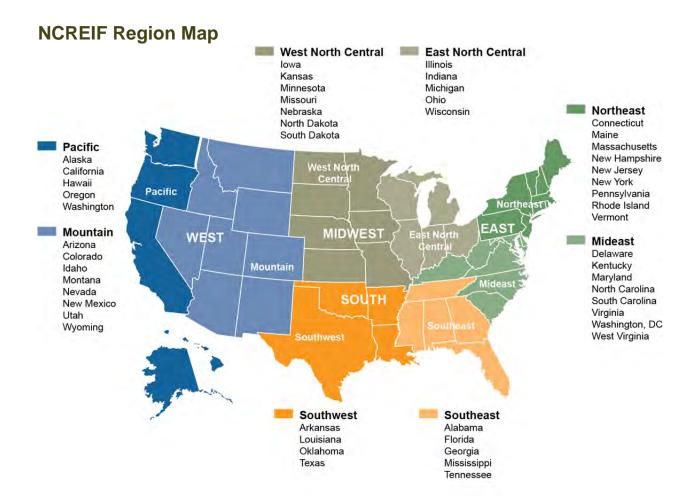
*The above groups are based on time-weighted returns.

Vintage Year Database Groups: The Vintage Year Groups are comprised of closed end funds that report to the database. The groups are based on IRRs derived from cash flows submitted to the Callan Database by the managers of those funds. A fund is placed in a vintage year based on the year the initial drawdown of capital was made for the fund.

Indices

NAREIT Equity Index: This is an index of Equity Real Estate Investment Trust returns reflecting the stock value changes of REIT issues as determined through public market transactions.

The NFI-ODCE Value-Weight Index is a time-weighted return Index with an inception date of 12/31/1977. The Index is comprised of 33 open-end commingled funds, in which 24 are still actively investing. Inclusion within the Index requires (a) minimum of 80% of net fund assets invested in the multifamily, retail, industrial, office, or hotel property type, (b) maximum of 20% of net fund assets invested in real estate debt or private/public company equity, (c) at least 80% of net assets invested in properties with a minimum occupancy of 60%, (d) no more than 70% of real estate net assets invested in a single property type or region, (e) maximum of 40% leverage, and (f) at least 95% of net real estate assets invested within the U.S. market.



Notes

Information in the report is based on qualitative and quantitative data submitted to Callan directly by the client's real estate investment managers. It is not based on custodian data nor has it been reconciled to custodian data.



Education

2nd Quarter 2022

Quarterly Highlights

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/research-library to see all of our publications, and www.callan.com/blog to view our blog. For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

Research Cafe: ESG Interview Series | Mark Wood of Callan discusses with Jon Hale, Director of ESG Strategy at Morningstar, the evolving definition of sustainable investments.

Research Cafe: Private Equity | In this session, private equity experts Ashley Kahn and Jonathan Farr provide actionable insights for institutional investors to help them negotiate with private equity managers, and offer private equity managers crucial information about how their peers determine fees and terms. This session also includes a special feature on credit line usage.

Investing in Data Centers: The Real Assets of the Digital Age |

Lauren Sertich discusses investing in data centers, a growing sector in which institutional investors have more investment options as the universe of qualified managers/operators rapidly expands.

Do Active Fixed Income Managers Add Value With Sector Rotation? | Kevin Machiz analyzes whether institutional investors could take a DIY approach to strategic sector allocations and forego sector rotation within fixed income and still achieve results comparable to active managers. Our study found that the average manager has added value with sector rotation.

Blog Highlights

SEC Proposes Rule to Enhance and Standardize Climate-Related Disclosures | The U.S. Securities and Exchange Commission unveiled its proposed rule amendments designed to improve and standardize disclosures around climate change risks for public companies.

<u>Unprecedented Territory—and the Inherent Limits of Diversification</u> | Stock and bond markets around the globe were down together for the first four months of 2022. How often does that happen? Did diversification fail us?

Rising Interest Rates Spur Look at Structured Credit |

Structured credit has seen increased interest from institutional investors as they explore ways to adapt their fixed income portfolios for an expected environment of rising rates.

Hedge Fund Strategies: A Guide for Institutional Investors

| Hedge fund strategies are beginning to see renewed interest from institutional investors seeking diversification benefits and downside protection. But these strategies can be complex; this explainer educates investors about investing in these strategies.

Quarterly Periodicals

<u>Private Equity Update, 1Q22</u> | A high-level summary of private equity activity in the quarter through all the investment stages

Active vs. Passive Charts, 1Q22 | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse Flipbook, 1Q22 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

<u>Capital Markets Review, 1Q22</u> | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

<u>Hedge Fund Update</u>, <u>1Q22</u> | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Update, 1Q22 | A summary of market activity for real assets and private real estate during the quarter

<u>Private Credit Update</u>, <u>1Q22</u> | A review of performance and fundraising activity for private credit during the quarter

Events

A complete list of all upcoming events can be found on our website: callan.com/events-education.

Please mark your calendar and look forward to upcoming invitations:

October Regional Workshop

Oct. 18, 2022 - Denver, CO

Oct. 20, 2022 - San Francisco, CA

2023 National Conference

April 2-4, 2023 - Scottsdale, AZ

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

Unique pieces of research the Institute generates each year

Attendees (on average) of the Institute's annual National Conference

3,700 Total attendees of the "Callan College" since 1994

Education

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

Introduction to Investments September 20-22 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. Our virtual session is held over three days with virtual modules of 2.5-3 hours, while the in-person session lasts one-and-a-half days. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Virtual tuition is \$950 per person and includes instruction and digital materials. In-person tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including registration can be found at: callan.com/events/



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer





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Portfolio Snapshot

Summary



Portfolio Summary

Total Pension	n Assets			\$22.8 bn as of	06/30/2022
GP Relation	ships				32
Holdings					76
# of New In	vestments with	in the quarter*			6
# of Underl	ying Active Inv	restments			917
% of Public	Companies				1.7%
Total Comm	itment Amoun	t			\$5.5 bn
Net Contrib	utions				\$4.1 bn
Net Distribu	itions				\$4.5 bn
Net Asset Va	alue				\$2.8 bn
Weighted A	verage Age				15.2Y
Unfunded C	Commitment				\$1.4 bn
Minimum A	nnual Pacing				375.0 mm
Maximum A	nnual Pacing				525.0 mm
Portfolio All	ocation				12.3%
Minimum T	arget Allocatior	า			11.0%
Maximum T	arget Allocatio	n			11.0%
1Y IRR	9.0%	2Y IRR	32.5%	3Y IRR	23.6%
5Y IRR	20.5%	7Y IRR	16.5%	10Y IRR	14.9%
ITD IRR**	19.4%	ITD TVPI**	1.8x		

^{*} Apr-2022 - Jun-2022

Position Analytics data based on GP provided information as of Jun-2022 IRR not meaningful for investments held less than 36 months Weighted Average Age (WAA) is based on contributions

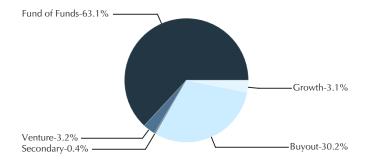
WAA is calculated as the sum of the individual contributions divided by the overall contribution and then multiplied by the age



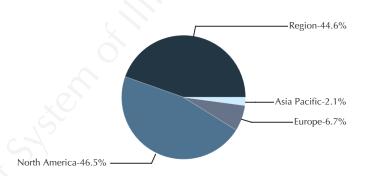
^{**} Jul-1990 - Jun-2022

Portfolio Snapshot

Unfunded + NAV by Sector



Unfunded + NAV by Region



Position Analytics data based on GP provided information as of Jun-2022 IRR not meaningful for investments held less than 36 months Weighted Average Age (WAA) is based on contributions

WAA is calculated as the sum of the individual contributions divided by the or

WAA is calculated as the sum of the individual contributions divided by the overall contribution and then multiplied by the age

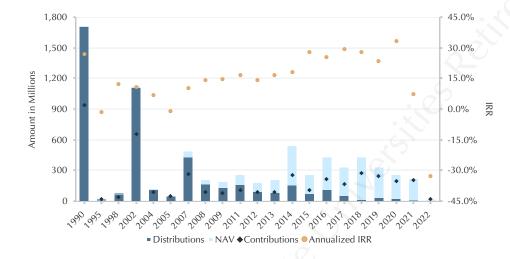


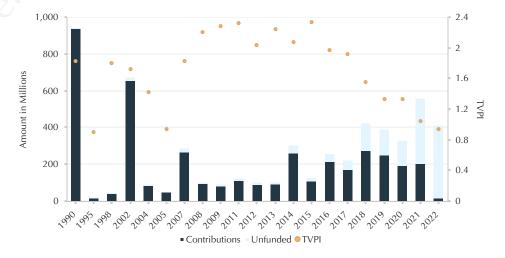
Sector Portfolio Summary

Buyout	# Of Funds	Average Age 2.2	NAV (\$mm) 558.5	Commitment (\$mm) 1,158.7	Commitment (\$mm) 718.3	(\$mm) 1,276.8	(\$mm) 483.9	(\$mm) 63.0	IRR	1.3x
Fund of Funds	32	17.2	2,134.9	4,029.8	532.0	2,666.9	3,537.9	4,400.1	19.6%	1.8x
Growth	4	2.0	58.1	130.0	73.8	131.9	56.3	0.14	n.m.¹	1.0x
Secondary	3	16.2	7.03	70.0	8.70	15.7	61.3	79.6	7.8%	1.4x
Venture	8	5.9	49.3	141.0	86.5	135.8	54.6	36.6	14.8%	1.6x
SURS - Private Equity	76	15.2	2,807.9	5,529.5	1,419.3	4,227.2	4,194.0	4,579.4	19.4%	1.8x

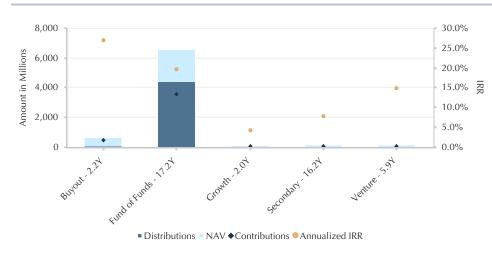
¹ IRR not meaningful for investments held less than 36 months

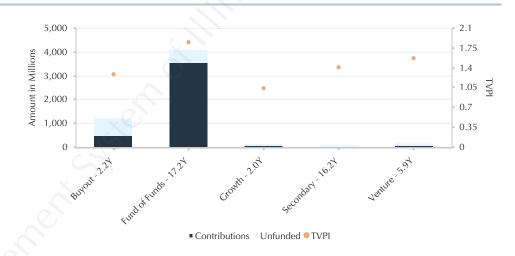
Performance Review by Vintage Year



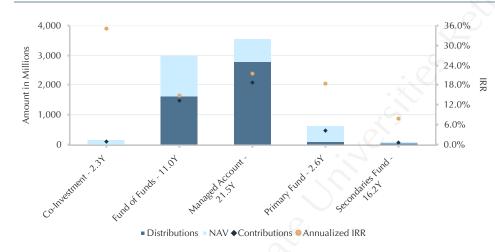


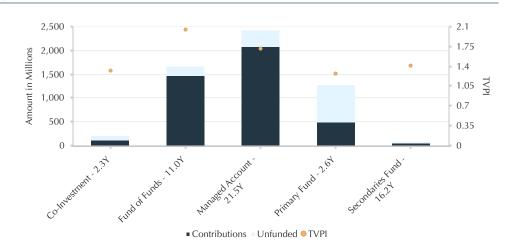
Performance Review by Sector





Performance Review by Structure





Weighted Average Age (WAA) is based on contributions WAA is calculated as the sum of the individual contributions divided by the overall contribution and then multiplied by the age

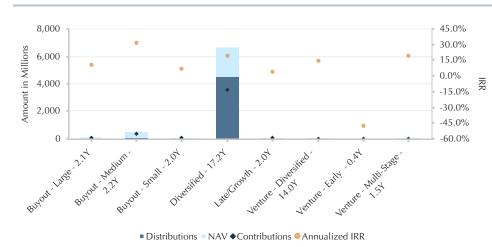
Reporting Period:

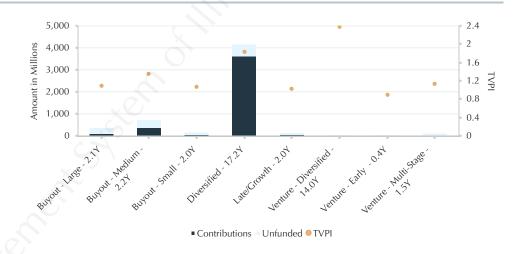
View this portfolio online

As Of Jun-2022

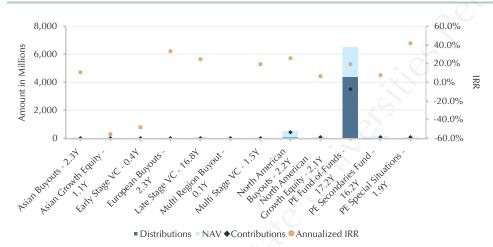


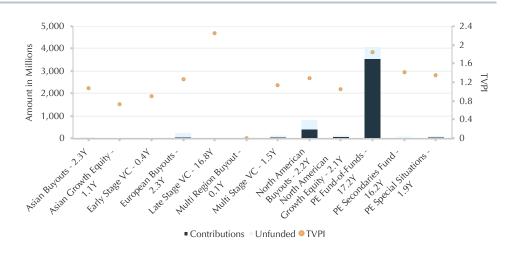
Performance Review by Strategy





Performance Review by Sub-Strategy





Weighted Average Age (WAA) is based on contributions

WAA is calculated as the sum of the individual contributions divided by the overall contribution and then multiplied by the age

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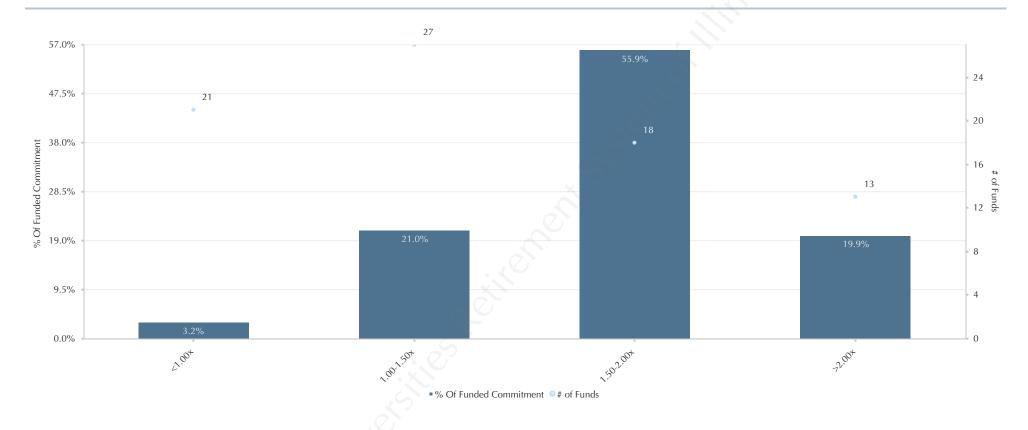
Portfolio QoQ Overview

Performance Statistics

						% Change	% Change	% Change	Jun-2022	Jun-2022
As Of Jun-2022	Jun-2021	Sep-2021	Dec-2021	Mar-2022	Jun-2022	(YTD)	(Quarter)	(Annual)	Active	Liquidated
Committed Capital	4,989.5	5,138.9	5,138.9	5,343.9	5,529.5	7.6%	3.5%	10.8%	5,469.5	60.0
Unfunded Commitment	1,409.7	1,414.5	1,207.2	1,362.1	1,419.3	17.6%	4.2%	0.7%	1,419.3	0.0
Net Contributed Capital	3,598.4	3,742.3	3,949.3	3,998.7	4,121.7	4.4%	3.1%	14.5%	4,061.7	60.0
Net Distributed Capital	4,098.6	4,183.3	4,354.3	4,425.3	4,508.8	3.5%	1.9%	10.0%	4,445.2	63.6
Recallable Capital	41.1	42.8	52.5	68.1	70.6	34.4%	3.7%	71.9%	70.6	0.0
Net Asset Value	2,468.4	2,738.8	2,946.1	2,888.6	2,807.9	-4.7%	-2.8%	13.8%	2,807.9	0.0
Net Gain/Loss	2,962.2	3,172.7	3,347.9	3,312.8	3,193.3	-4.6%	-3.6%	7.8%	3,186.1	7.14
Total Value	6,566.9	6,922.1	7,300.5	7,313.9	7,316.7	0.2%	0.0%	11.4%	7,253.0	63.6
Unfunded + NAV (mm)	3,878.1	4,153.3	4,153.3	4,250.7	4,227.2	1.8%	-0.6%	9.0%	4,227.2	0.0
DPI	1.1x	1.1x	1.1x	1.1x	1.1x	0.0x	0.0x	0.0x	1.1x	1.1x
Total Value to Paid-In (TVPI)	1.8x	1.8x	1.8x	1.8x	1.8x	-0.1x	-0.1x	-0.1x	1.8x	1.1x
Net Internal Rate of Return (IRR)	19.6%	19.7%	19.8%	19.6%	19.4%	-0.4%	-0.2%	-0.2%	19.7%	5.8%



TVPI Distribution





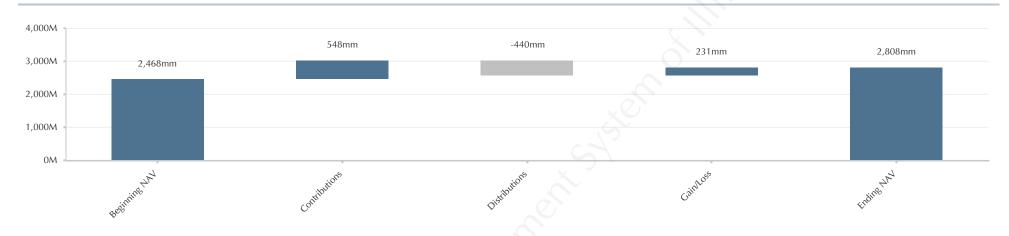
Quarterly Valuation Bridge (Apr-2022 to Jun-2022)



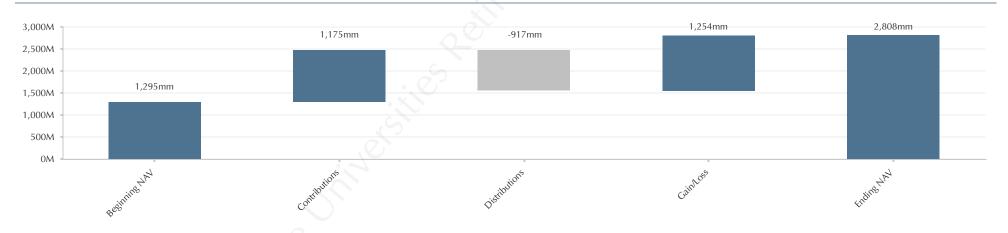
YTD Valuation Bridge (Jan-2022 to Jun-2022)



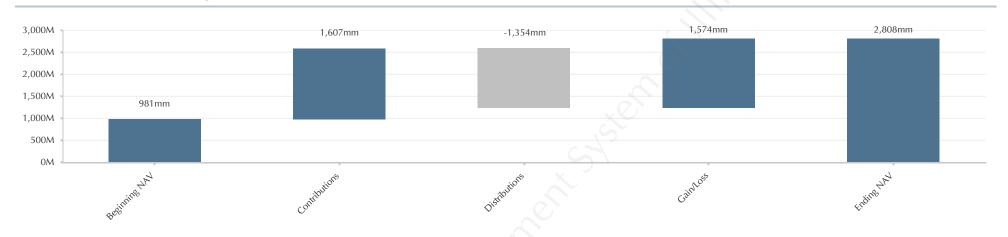
Last 12 Months Valuation Bridge (Jul-2021 to Jun-2022)



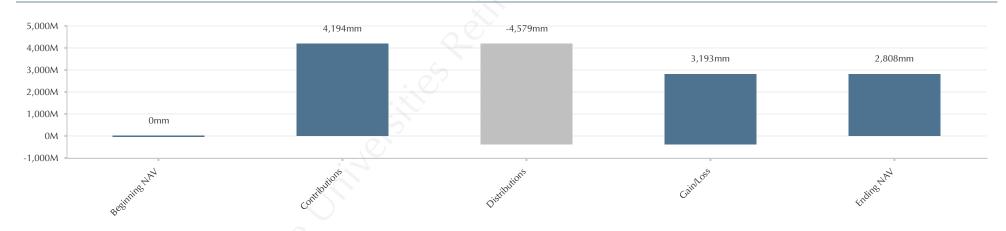
Last 3 Years Valuation Bridge (Jul-2019 to Jun-2022)



Last 5 Years Valuation Bridge (Jul-2017 to Jun-2022)



LTD Valuation Bridge (Jul-1990 to Jun-2022)



	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Sector										
Buyout	19.9%	1,158.7	483.9	63.0	718.3	1,276.8	137.6	558.5	n.m.¹	1.3x
Fund of Funds	76.0%	4,029.8	3,537.9	4,400.1	532.0	2,666.9	2,997.1	2,134.9	19.6%	1.8x
Growth	2.1%	130.0	56.3	0.14	73.8	131.9	1.95	58.1	n.m.¹	1.0x
Secondary	0.3%	70.0	61.3	79.6	8.70	15.7	25.3	7.03	7.8%	1.4x
Venture	1.8%	141.0	54.6	36.6	86.5	135.8	31.3	49.3	14.8%	1.6x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x
Strategy										
Buyout - Large	2.9%	335.5	85.5	11.7	258.1	339.5	7.53	81.4	n.m.¹	1.1x
Buyout - Medium	15.5%	683.2	357.0	50.5	360.8	794.9	127.6	434.1	n.m.¹	1.4x
Buyout - Small	1.5%	140.0	41.4	0.81	99.4	142.4	2.47	43.0	n.m.¹	1.1x
Diversified	76.3%	4,099.8	3,599.2	4,479.7	540.7	2,682.6	3,022.4	2,141.9	19.4%	1.8x
Late/Growth	2.1%	130.0	56.3	0.14	73.8	131.9	1.95	58.1	n.m.¹	1.0x
Venture - Diversified	0.4%	20.0	19.6	36.5	0.45	10.5	27.0	10.1	14.7%	2.4x
Venture - Early	0.1%	20.0	2.78	0.0	17.2	19.7	-0.30	2.48	n.m.¹	0.9x
Venture - Multi-Stage	1.3%	101.0	32.3	0.10	68.8	105.6	4.60	36.7	n.m.¹	1.1x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x



	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
SubStrategy										
Asian Buyouts	0.6%	50.0	16.0	0.60	34.7	51.1	1.06	16.4	n.m.¹	1.1x
Asian Growth Equity	0.1%	30.0	2.96	0.0	27.0	29.2	-0.77	2.18	n.m.¹	0.7x
Early Stage VC	0.1%	20.0	2.78	0.0	17.2	19.7	-0.30	2.48	n.m.¹	0.9x
European Buyouts	0.9%	223.7	30.6	13.0	200.2	225.9	8.21	25.7	n.m.¹	1.3x
Late Stage VC	0.4%	30.0	29.6	56.2	0.45	10.5	36.8	10.1	24.6%	2.2x
Multi Region Buyout	-	25.0	0.0	0.0	25.0	25.0	0.0	0.0	n.m.	0.0x
Multi Stage VC	1.3%	101.0	32.3	0.10	68.8	105.6	4.60	36.7	n.m.¹	1.1x
North American Buyouts	16.4%	780.0	393.8	46.9	420.8	881.3	113.5	460.4	n.m.¹	1.3x
North American Growth Equity	2.0%	100.0	53.4	0.14	46.8	102.7	2.72	55.9	n.m.¹	1.1x
PE Fund-of-Funds	76.0%	4,019.8	3,527.9	4,380.4	532.0	2,666.9	2,987.4	2,134.9	19.4%	1.8x
PE Secondaries Fund	0.3%	70.0	61.3	79.6	8.70	15.7	25.3	7.03	7.8%	1.4x
PE Special Situations	2.0%	80.0	43.6	2.48	37.6	93.6	14.8	55.9	n.m.¹	1.3x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x



Vintage 2022 2021 2020	0.5% 7.4% 8.3% 10.5%	Total Commitment (\$mm) 415.0 551.0 313.7	Contributions (\$mm) 14.8 202.5	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
2022 2021	7.4% 8.3%	415.0 551.0		0.78	5	409.2	0.00			
2021	7.4% 8.3%	551.0		0.78	396.1	409.2	0.00			
	8.3%		202.5			403.2	-0.96	13.1	n.m.¹	0.9x
2020		313.7		5.10	353.6	560.9	9.97	207.3	n.m.¹	1.0x
	10.5%		191.0	21.0	135.8	368.8	63.0	233.0	n.m.¹	1.3x
2019		360.0	247.1	33.6	140.6	436.7	82.7	296.2	23.5%	1.3x
2018	14.7%	420.0	273.8	13.1	148.2	561.7	152.7	413.5	28.1%	1.6x
2017	9.8%	220.0	170.5	52.5	49.7	324.6	156.9	274.9	29.4%	1.9x
2016	11.3%	250.0	214.7	107.7	41.7	357.9	209.2	316.2	25.5%	2.0x
2015	6.5%	125.0	108.6	70.7	16.4	198.8	144.5	182.4	27.7%	2.3x
2014	13.7%	300.0	258.6	151.6	41.4	426.2	277.8	384.8	18.3%	2.1x
2013	4.5%	100.0	91.0	77.6	9.00	135.5	113.1	126.5	16.4%	2.2x
2012	3.1%	100.0	87.2	92.1	12.8	98.6	90.7	85.8	14.1%	2.0x
2011	3.4%	124.6	110.6	160.7	11.5	107.4	145.9	95.9	16.7%	2.3x
2009	2.0%	90.0	81.8	129.1	8.23	65.6	104.7	57.4	14.8%	2.3x
2008	1.5%	100.0	92.9	161.2	7.13	50.1	111.3	43.0	14.3%	2.2x
2007	2.0%	280.4	266.1	429.7	19.2	75.6	220.0	56.3	10.0%	1.8x
2005	-	50.0	46.5	43.9	0.0	0.0	-2.57	0.0	-1.2%	0.9x
2004	0.1%	90.0	84.0	117.3	6.00	8.50	35.8	2.50	6.9%	1.4x
2002	0.5%	664.1	652.9	1,107.0	19.0	33.4	468.5	14.4	10.8%	1.7x
1998	0.0%	39.4	42.5	76.4	0.45	0.83	34.3	0.38	12.2%	1.8x
1995	0.0%	20.0	19.8	17.2	0.00	0.72	-1.88	0.72	-1.7%	0.9x
1990	0.1%	916.2	937.2	1,711.3	2.55	6.14	777.7	3.59	26.8%	1.8x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x

Reporting Period:

Jul-1990 - Jun-2022

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	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
Structure					(
Co-Investment	5.0%	200.0	108.8	5.49	91.2	230.6	36.1	139.4	n.m.¹	1.3x
Fund of Funds	48.8%	1,629.4	1,466.1	1,623.4	194.7	1,563.7	1,526.3	1,369.0	14.8%	2.0x
Managed Account	27.3%	2,400.3	2,071.8	2,776.7	337.3	1,103.2	1,470.8	765.8	21.6%	1.7x
Primary Fund	18.8%	1,229.7	486.0	94.2	787.5	1,314.0	134.8	526.5	18.3%	1.3x
Secondaries Fund	0.3%	70.0	61.3	79.6	8.70	15.7	25.3	7.03	7.8%	1.4x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x
Region										
Asia Pacific	1.0%	90.0	28.1	9.60	62.5	90.2	9.22	27.7	9.3%	1.3x
Europe	2.6%	400.4	211.7	301.2	212.1	284.8	162.2	72.6	13.6%	1.8x
Multi-Region	52.1%	1,680.4	1,270.1	841.9	421.8	1,885.6	1,035.6	1,463.8	13.9%	1.8x
North America	44.3%	3,358.6	2,684.2	3,426.7	722.9	1,966.6	1,986.2	1,243.7	21.2%	1.7x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x



	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
CommitmentYear										
1990	0.1%	916.2	937.2	1,711.3	2.55	6.14	777.7	3.59	26.8%	1.8x
1995	0.0%	20.0	19.8	17.2	0.00	0.72	-1.88	0.72	-1.7%	0.9x
1998	0.0%	39.4	42.5	76.4	0.45	0.83	34.3	0.38	12.2%	1.8x
2001	-	25.0	25.0	25.1	0.0	0.0	0.05	0.0	0.0%	1.0x
2002	0.5%	664.1	652.9	1,107.0	19.0	33.4	468.5	14.4	10.8%	1.7x
2004	0.1%	115.0	105.5	136.1	6.00	8.50	33.1	2.50	5.3%	1.3x
2007	1.8%	270.4	256.3	408.5	19.0	70.1	203.3	51.2	9.8%	1.8x
2008	1.5%	100.0	92.8	167.2	7.18	50.4	117.6	43.2	14.6%	2.3x
2009	2.2%	100.0	91.6	144.3	8.43	70.7	115.1	62.3	14.7%	2.3x
2012	6.5%	224.6	197.8	252.7	24.3	206.0	236.6	181.7	15.7%	2.2x
2013	4.5%	100.0	91.0	77.6	9.00	135.5	113.1	126.5	16.4%	2.2x
2014	13.7%	300.0	258.6	151.6	41.4	426.2	277.8	384.8	18.3%	2.1x
2015	6.5%	125.0	108.6	70.7	16.4	198.8	144.5	182.4	27.7%	2.3x
2016	11.3%	250.0	214.7	107.7	41.7	357.9	209.2	316.2	25.5%	2.0x
2017	19.0%	500.0	350.9	52.5	149.3	683.4	235.7	534.1	27.1%	1.7x
2018	3.2%	90.0	52.7	8.55	37.3	126.1	44.6	88.8	33.7%	1.8x
2019	12.0%	390.0	275.0	36.1	143.8	481.0	98.2	337.1	25.3%	1.4x
2020	13.2%	554.7	313.9	27.3	258.9	630.3	84.8	371.5	n.m.¹	1.3x
2021	3.3%	354.5	92.4	0.91	260.5	353.7	1.81	93.2	n.m.¹	1.0x
2022	0.5%	390.5	14.8	0.78	374.2	387.5	-0.76	13.3	n.m.¹	0.9x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x

Reporting Period: Jul-1990 - Jun-2022

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	NAV Weight	Total Commitment (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Gain/Loss (\$mm)	NAV (\$mm)	Net IRR	TVPI
AssetClass		(ψιιιιι)			(ψιιιι)					
Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x
SURS - Private Equity	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x

¹ IRR not meaningful for investments held less than 36 months * Total figures take into account all current and closed portfolio positions as at Jun-2022

	Currency	NAV Weight	Total Commitment (mm)	Contribution s (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
2022											
Advent International GPE X	USD	-	25.0	0.0	0.0	25.0	25.0	0.0	0.0^{1}	n.m.	0.0x
Base10 Partners III	USD	0.1%	20.0	2.78	0.0	17.2	19.7	-0.30	2.48	n.m.²	0.9x
Bregal Sagemount IV-B	USD	0.0%	25.0	0.0	0.0	25.0	24.9	-0.11	-0.11	n.m.	0.0x
Great Hill Equity Partners VIII-Pref	USD	0.0%	25.0	0.0	0.0	25.0	23.8	-1.18	-1.18	n.m.	0.0x
Hg Saturn 3 A	USD	0.0%	35.0	0.0	0.0	35.0	34.9	-0.12	-0.12	n.m.	0.0x
HgCapital Genesis 10 A	USD	-	13.0	0.0	0.0	12.6	12.6	0.0	0.0^{1}	n.m.	0.0x
Inflexion Buyout Fund VI	USD	0.0%	24.5	0.0	0.0	21.9	21.7	-0.20	-0.20	n.m.	0.0x
Nordic Capital XI Beta	USD	-	50.1	0.0	0.0	50.4	50.4	0.0	0.0^{1}	n.m.	0.0x
Oak HC-FT Partners V	USD	-	40.0	0.0	0.0	40.0	40.0	0.0	0.0^{1}	n.m.	0.0x
One Equity Partners VIII	USD	0.3%	25.0	7.89	0.78	17.9	26.1	1.00	8.12	n.m.²	1.1x
PAI Partners VIII-1 SCSp	USD	-	50.0	0.0	0.0	47.7	47.7	0.0	0.0^{1}	n.m.	0.0x
Rubicon Technology Partners IV	USD	-	32.5	0.0	0.0	32.5	32.5	0.0	0.0^{1}	n.m.	0.0x
Thoma Bravo Discover Fund IV	USD	-	25.0	0.0	0.0	25.0	25.0	0.0	0.0^{1}	n.m.	0.0x
Thoma Bravo Fund XV	USD	0.1%	25.0	4.15	0.0	20.9	24.9	-0.06	4.09	n.m.²	1.0x
Total 2022	USD	0.5%	415.0	14.8	0.78	396.1	409.2	-0.96	13.1	n.m.²	0.9x



	Currency	NAV Weight	Total Commitment (mm)	Contribution s (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
2021											
Altaris Health Partners V	USD	0.3%	25.0	7.27	0.0	17.7	26.0	0.98	8.25	n.m.²	1.1x
Avance Investment Partners	USD	0.3%	25.0	9.28	0.81	16.5	24.7	-0.25	8.22	n.m.²	1.0x
Base10 Advancement Initiative I	USD	0.8%	25.0	21.1	0.0	3.85	25.0	0.02	21.2	n.m.²	1.0x
Clearlake Capital Partners VII	USD	0.5%	50.0	15.6	0.00	34.4	49.3	-0.68	15.0	n.m.²	1.0x
GGV Capital VIII	USD	0.4%	21.6	9.72	0.0	11.9	23.0	1.37	11.1	n.m.²	1.1x
GGV Capital VIII Plus	USD	0.1%	5.40	2.19	0.0	3.21	5.48	0.08	2.27	n.m.²	1.0x
GGV Discovery III	USD	0.2%	9.00	3.60	0.0	5.40	10.2	1.18	4.78	n.m.²	1.3x
Harvest Partners IX	USD	0.0%	50.0	0.0	0.0	50.0	49.2	-0.85	-0.85	n.m.	0.0x
Lincoln Fund I (Series B)	USD	0.9%	100.0	22.4	0.0	77.6	102.9	2.93	25.3	n.m.²	1.1x
MBK Partners Fund V	USD	0.6%	50.0	16.0	0.60	34.7	51.1	1.06	16.4	n.m.²	1.1x
Nautic Partners X	USD	0.1%	25.0	4.22	0.0	20.8	24.6	-0.36	3.86	n.m.²	0.9x
Oak HC-FT Partners IV	USD	0.7%	25.0	16.7	0.10	8.36	27.0	1.96	18.6	n.m.²	1.1x
One Rock Capital Partners III	USD	0.6%	35.0	15.9	3.58	22.7	38.7	3.80	16.1	n.m.²	1.2x
Orchid Asia VIII	USD	0.1%	30.0	2.96	0.0	27.0	29.2	-0.77	2.18	n.m.²	0.7x
Stellex Capital Partners II	USD	0.3%	25.0	8.43	0.00	16.6	26.0	1.01	9.44	n.m.²	1.1x
Thoma Bravo Fund XIV	USD	1.6%	50.0	47.1	0.00	2.93	48.5	-1.52	45.6	n.m.²	1.0x
Total 2021	USD	7.4%	551.0	202.5	5.10	353.6	560.9	9.97	207.3	n.m.²	1.0x



	Currency	NAV Weight	Total Commitment (mm)	Contribution s (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
2020											
Clearlake Capital Partners VI	USD	1.5%	30.0	27.9	2.47	3.28	44.2	15.5	41.0	n.m.²	1.6x
Hg Genesis 9	USD	0.2%	13.7	8.04	1.97	7.72	14.2	0.42	6.48	n.m.²	1.1x
HgCapital Saturn Fund 2	USD	0.7%	37.5	22.5	11.1	24.8	44.4	8.11	19.6	n.m.²	1.4x
Rubicon Technology Partners III	USD	0.9%	32.5	23.6	0.0	8.85	35.4	2.88	26.5	n.m.²	1.1x
SURS TorreyCove Co-Investment Fund I	USD	5.0%	200.0	108.8	5.49	91.2	230.6	36.1	139.4	n.m.²	1.3x
Total 2020	USD	8.3%	313.7	191.0	21.0	135.8	368.8	63.0	233.0	n.m.²	1.3x
2019											
Bregal Sagemount III-B	USD	1.2%	50.0	32.2	0.14	17.9	52.8	2.81	34.9	n.m.²	1.1x
Cortec Group Fund VII	USD	1.2%	35.0	25.2	2.56	12.4	46.4	11.4	34.0	n.m.²	1.5x
Harvest Partners VIII	USD	2.7%	70.0	63.4	14.1	17.2	92.9	26.5	75.8	n.m.²	1.4x
OceanSound Partners Fund	USD	0.6%	25.0	27.8	15.0	11.6	29.1	4.69	17.6	n.m.²	1.2x
Pantheon Access (US) - SURS 2018	USD	4.8%	180.0	98.5	1.80	81.5	215.5	37.3	134.0	24.1%	1.4x
Total 2019	USD	10.5%	360.0	247.1	33.6	140.6	436.7	82.7	296.2	23.5%	1.3x
2018											
Adams Street 2018 Global Fund	USD	3.2%	90.0	52.7	8.55	37.3	126.1	44.6	88.8	33.7%	1.8x
Mesirow Financial Private Equity Special Fund B	USD	9.2%	280.0	180.4	0.0	99.6	358.8	78.8	259.1	23.2%	1.4x
Reverence Capital Partners Opportunities Fund II	USD	2.3%	50.0	40.7	4.54	11.3	76.8	29.4	65.6	n.m.²	1.7x
Total 2018	USD	14.7%	420.0	273.8	13.1	148.2	561.7	152.7	413.5	28.1%	1.6x



	Currency	NAV Weight	Total Commitment (mm)	Contribution s (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
2017											
Adams Street 2017 Global Fund	USD	4.3%	90.0	68.6	18.8	21.4	141.0	69.8	119.6	29.1%	2.0x
Mesirow Financial Private Equity Fund VII-B	USD	2.6%	40.0	39.7	28.7	0.44	72.7	61.2	72.3	40.1%	2.5x
Pantheon Access (US) - SURS 2017	USD	3.0%	90.0	62.2	5.04	27.8	110.9	26.0	83.1	18.1%	1.4x
Total 2017	USD	9.8%	220.0	170.5	52.5	49.7	324.6	156.9	274.9	29.4%	1.9x
2016					5						
Adams Street 2016 Global Fund	USD	6.8%	150.0	121.8	49.7	28.2	218.6	118.3	190.4	25.1%	2.0x
M2 - SURS Emerging Private Equity Fund-of-Funds	USD	4.5%	100.0	92.9	58.0	13.5	139.3	90.9	125.8	26.0%	2.0x
Total 2016	USD	11.3%	250.0	214.7	107.7	41.7	357.9	209.2	316.2	25.5%	2.0x
2015											
Adams Street 2015 Global Fund	USD	6.5%	125.0	108.6	70.7	16.4	198.8	144.5	182.4	27.7%	2.3x
Total 2015	USD	6.5%	125.0	108.6	70.7	16.4	198.8	144.5	182.4	27.7%	2.3x
2014			.05								
Adams Street 2014 Global Fund	USD	4.9%	100.0	91.4	71.4	8.65	146.6	118.0	137.9	18.7%	2.3x
Lincoln Fund I (Series A)	USD	4.1%	75.0	65.6	33.0	9.38	123.2	81.2	113.8	19.0%	2.2x
Pantheon Multi-Strategy Program 2014 (US) - SURS 2014	USD	4.7%	125.0	101.6	47.1	23.4	156.4	78.6	133.1	17.1%	1.8x
Total 2014	USD	13.7%	300.0	258.6	151.6	41.4	426.2	277.8	384.8	18.3%	2.1x
2013											
Adams Street 2013 Global Fund	USD	4.5%	100.0	91.0	77.6	9.00	135.5	113.1	126.5	16.4%	2.2x
Total 2013	USD	4.5%	100.0	91.0	77.6	9.00	135.5	113.1	126.5	16.4%	2.2x

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Reporting Period:

As Of Jun-2022

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	Currency	NAV Weight	Total Commitment (mm)	Contribution s (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
2012											
Adams Street 2012 Global Fund	USD	2.8%	80.0	71.8	77.4	8.21	87.7	85.1	79.5	15.3%	2.2x
Adams Street Global Secondary Fund 5	USD	0.2%	20.0	15.4	14.6	4.58	11.0	5.61	6.38	6.9%	1.4x
Total 2012	USD	3.1%	100.0	87.2	92.1	12.8	98.6	90.7	85.8	14.1%	2.0x
2011											
Pantheon Europe Fund VII	USD	0.8%	39.6	33.3	41.5	3.36	26.1	30.9	22.7	13.3%	1.9x
Pantheon USA Fund IX	USD	2.6%	85.0	77.3	119.2	8.16	81.3	115.0	73.1	18.0%	2.5x
Total 2011	USD	3.4%	124.6	110.6	160.7	11.5	107.4	145.9	95.9	16.7%	2.3x
2009											
Adams Street Partnership Fund - 2009 Non-U.S. Developed Markets Fund	USD	0.5%	30.0	26.7	38.2	3.32	17.8	26.0	14.5	13.4%	2.0x
Adams Street Partnership Fund - 2009 Non-U.S. Emerging Markets Fund	USD	0.3%	10.0	9.19	9.00	0.82	9.93	8.93	9.12	9.8%	2.0x
Adams Street Partnership Fund - 2009 U.S. Fund	USD	1.2%	50.0	45.9	81.9	4.10	37.9	69.7	33.8	16.5%	2.5x
Total 2009	USD	2.0%	90.0	81.8	129.1	8.23	65.6	104.7	57.4	14.8%	2.3x
2008		4	5								
Adams Street 2009 Direct Fund	USD	0.2%	10.0	9.80	15.2	0.20	5.11	10.3	4.91	13.5%	2.1x
Adams Street Partnership Fund - 2008 Non-U.S. Fund	USD	0.7%	40.0	36.5	53.0	3.47	22.1	35.1	18.7	11.4%	2.0x
Adams Street Partnership Fund - 2008 U.S. Fund	USD	0.7%	50.0	46.5	92.9	3.47	22.9	65.8	19.4	16.5%	2.4x
Total 2008	USD	1.5%	100.0	92.9	161.2	7.13	50.1	111.3	43.0	14.3%	2.2x



Currency	NAV	Total	Contribution	D' C'L C	Unfunded	T 4 4 5	C : //			
	Weight	Commitment (mm)	s (mm)	(mm)	Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
USD	0.1%	100.0	99.1	147.0	8.70	11.9	51.0	3.21	6.9%	1.5x
USD	0.2%	10.0	9.75	21.3	0.25	5.43	16.7	5.18	15.5%	2.7x
USD	0.0%	25.0	24.4	35.7	0.82	1.37	11.9	0.55	8.3%	1.5x
USD	0.3%	42.1	37.4	57.4	1.71	10.1	28.4	8.39	10.1%	1.8x
USD	1.4%	103.3	95.4	168.4	7.75	46.8	112.0	39.0	13.0%	2.2x
USD	2.0%	280.4	266.1	429.7	19.2	75.6	220.0	56.3	10.0%	1.8x
USD	-	50.0	46.5	43.9	0.0	0.0	-2.57		-1.2%	0.9x
USD	-	50.0	46.5	43.9	0.0	0.0	-2.57	0.0	-1.2%	0.9x
USD	0.0%	25.0	22.1	36.8	2.88	3.16	15.0	0.28	11.5%	1.7x
USD	0.1%	40.0	38.1	52.3	1.88	3.73	16.1	1.85	5.9%	1.4x
USD	0.0%	25.0	23.8	28.1	1.25	1.62	4.72	0.37^{3}	4.3%	1.2x
USD	0.1%	90.0	84.0	117.3	6.00	8.50	35.8	2.50	6.9%	1.4x
USD	0.0%	65.0	83.7	151.1	3.57	4.86	68.7	1.29	14.6%	1.8x
USD	0.5%	599.1	569.2	955.9	15.4	28.5	399.8	13.1	10.3%	1.7x
USD	0.5%	664.1	652.9	1,107.0	19.0	33.4	468.5	14.4	10.8%	1.7x
	USD	USD 0.1% USD 0.2% USD 0.0% USD 0.3% USD 1.4% USD 2.0% USD - USD - USD - USD 0.0% USD 0.1% USD 0.1% USD 0.1% USD 0.0% USD 0.1%	USD 0.1% 100.0 USD 0.2% 10.0 USD 0.0% 25.0 USD 0.3% 42.1 USD 1.4% 103.3 USD 2.0% 280.4 USD - 50.0 USD - 50.0 USD 0.1% 40.0 USD 0.0% 25.0 USD 0.1% 90.0 USD 0.0% 599.1	USD 0.1% 100.0 99.1 USD 0.2% 10.0 9.75 USD 0.0% 25.0 24.4 USD 0.3% 42.1 37.4 USD 1.4% 103.3 95.4 USD 2.0% 280.4 266.1 USD - 50.0 46.5 USD - 50.0 46.5 USD 0.1% 40.0 38.1 USD 0.0% 25.0 23.8 USD 0.1% 90.0 84.0 USD 0.5% 599.1 569.2	USD 0.1% 100.0 99.1 147.0 USD 0.2% 10.0 9.75 21.3 USD 0.0% 25.0 24.4 35.7 USD 0.3% 42.1 37.4 57.4 USD 1.4% 103.3 95.4 168.4 USD 2.0% 280.4 266.1 429.7 USD - 50.0 46.5 43.9 USD - 50.0 46.5 43.9 USD 0.1% 40.0 38.1 52.3 USD 0.0% 25.0 23.8 28.1 USD 0.1% 90.0 84.0 117.3 USD 0.0% 65.0 83.7 151.1 USD 0.5% 599.1 569.2 955.9	USD 0.1% 100.0 99.1 147.0 8.70 USD 0.2% 10.0 9.75 21.3 0.25 USD 0.0% 25.0 24.4 35.7 0.82 USD 0.3% 42.1 37.4 57.4 1.71 USD 1.4% 103.3 95.4 168.4 7.75 USD 2.0% 280.4 266.1 429.7 19.2 USD - 50.0 46.5 43.9 0.0 USD - 50.0 46.5 43.9 0.0 USD 0.0% 25.0 22.1 36.8 2.88 USD 0.1% 40.0 38.1 52.3 1.88 USD 0.0% 25.0 23.8 28.1 1.25 USD 0.1% 90.0 84.0 117.3 6.00 USD 0.0% 65.0 83.7 151.1 3.57 USD 0.0% 65.0 83.7 151.1 3.57 USD 0.0% 65.0 83.7 151.1 3.57	USD 0.1% 100.0 99.1 147.0 8.70 11.9 USD 0.2% 10.0 9.75 21.3 0.25 5.43 USD 0.0% 25.0 24.4 35.7 0.82 1.37 USD 0.3% 42.1 37.4 57.4 1.71 10.1 USD 1.4% 103.3 95.4 168.4 7.75 46.8 USD 2.0% 280.4 266.1 429.7 19.2 75.6 USD - 50.0 46.5 43.9 0.0 0.0 USD - 50.0 46.5 43.9 0.0 0.0 USD - 50.0 46.5 43.9 0.0 0.0 USD 0.1% 40.0 38.1 52.3 1.88 3.73 USD 0.0% 25.0 22.1 36.8 2.88 3.16 USD 0.1% 40.0 38.1 52.3 1.88 3.73 USD 0.0% 25.0 23.8 28.1 1.25 1.62 USD 0.1% 90.0 84.0 117.3 6.00 8.50 USD 0.0% 65.0 83.7 151.1 3.57 4.86 USD 0.0% 65.0 83.7 151.1 3.57 4.86 USD 0.5% 599.1 569.2 955.9 15.4 28.5	USD 0.1% 100.0 99.1 147.0 8.70 11.9 51.0 USD 0.2% 10.0 9.75 21.3 0.25 5.43 16.7 USD 0.0% 25.0 24.4 35.7 0.82 1.37 11.9 USD 0.3% 42.1 37.4 57.4 1.71 10.1 28.4 USD 1.4% 103.3 95.4 168.4 7.75 46.8 112.0 USD 2.0% 280.4 266.1 429.7 19.2 75.6 220.0 USD - 50.0 46.5 43.9 0.0 0.0 -2.57 USD - 50.0 46.5 43.9 0.0 0.0 -2.57 USD 0.1% 40.0 38.1 52.3 1.88 3.73 16.1 USD 0.0% 25.0 23.8 28.1 1.25 1.62 4.72 USD 0.1% 90.0 84.0 117.3 6.00 8.50 35.8 USD 0.0% 65.0 83.7 151.1 3.57 4.86 68.7 USD 0.5% 599.1 569.2 955.9 15.4 28.5 399.8	USD 0.1% 100.0 99.1 147.0 8.70 11.9 51.0 3.21 USD 0.2% 10.0 9.75 21.3 0.25 5.43 16.7 5.18 USD 0.0% 25.0 24.4 35.7 0.82 1.37 11.9 0.55 USD 0.3% 42.1 37.4 57.4 1.71 10.1 28.4 8.39 USD 1.4% 103.3 95.4 168.4 7.75 46.8 112.0 39.0 USD 2.0% 280.4 266.1 429.7 19.2 75.6 220.0 56.3 USD - 50.0 46.5 43.9 0.0 0.0 -2.57 USD - 50.0 46.5 43.9 0.0 0.0 -2.57 USD 0.0% 25.0 22.1 36.8 2.88 3.16 15.0 0.28 USD 0.1% 40.0 38.1 52.3 1.88 3.73 16.1 1.85 USD 0.0% 25.0 23.8 28.1 1.25 1.62 4.72 0.37 USD 0.1% 90.0 84.0 117.3 6.00 8.50 35.8 2.50 USD 0.0% 65.0 83.7 151.1 3.57 4.86 68.7 1.29 USD 0.5% 599.1 569.2 955.9 15.4 28.5 399.8 13.1	USD 0.1% 100.0 99.1 147.0 8.70 11.9 51.0 3.21 6.9% USD 0.2% 10.0 9.75 21.3 0.25 5.43 16.7 5.18 15.5% USD 0.0% 25.0 24.4 35.7 0.82 1.37 11.9 0.55 8.3% USD 0.3% 42.1 37.4 57.4 1.71 10.1 28.4 8.39 10.1% USD 1.4% 103.3 95.4 168.4 7.75 46.8 112.0 39.0 13.0% USD 2.0% 280.4 266.1 429.7 19.2 75.6 220.0 56.3 10.0% USD - 50.0 46.5 43.9 0.0 0.0 -2.57 -1.2% USD - 50.0 46.5 43.9 0.0 0.0 -2.57 0.0 -1.2% USD 0.0% 25.0 22.1 36.8 2.88 3.16 15.0 0.28 11.5% USD 0.0% 25.0 22.1 36.8 2.88 3.73 16.1 1.85 5.9% USD 0.0% 25.0 23.8 28.1 1.25 1.62 4.72 0.37 4.3% USD 0.1% 90.0 84.0 117.3 6.00 8.50 35.8 2.50 6.9% USD 0.0% 65.0 83.7 151.1 3.57 4.86 68.7 1.29 14.6% USD 0.5% 599.1 569.2 955.9 15.4 28.5 399.8 13.1 10.3%

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Reporting Period: As Of Jun-2022

	Currency	NAV Weight	Total Commitment (mm)	Contribution s (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
1998											
Brinson Non-U.S. Partnership Fund Trust Program	USD	0.0%	39.4	42.5	76.4	0.45	0.83	34.3	0.38	12.2%	1.8x
Total 1998	USD	0.0%	39.4	42.5	76.4	0.45	0.83	34.3	0.38	12.2%	1.8x
1995					×						
Progress Alternative Investment Program	USD	0.0%	20.0	19.8	17.2	0.00	0.72	-1.88	0.72	-1.7%	0.9x
Total 1995	USD	0.0%	20.0	19.8	17.2	0.00	0.72	-1.88	0.72	-1.7%	0.9x
1990											
Adams Street SMA (1990-2007) - SURS	USD	0.1%	906.2	927.2	1,691.6	2.55	6.14	768.0	3.59	27.0%	1.8x
Liquidated Holdings (1)	USD	-	10.0	10.0	19.7	0.0	0.0	9.71		25.3%	2.0x
Total 1990	USD	0.1%	916.2	937.2	1,711.3	2.55	6.14	777.7	3.59	26.8%	1.8x
SURS - Private Equity	USD	100.0%	5,529.5	4,194.0	4,579.4	1,419.3	4,227.2	3,193.3	2,807.9	19.4%	1.8x

¹ Adjusted for additional contributions and distributions since last valuation, which is prior to the report date.

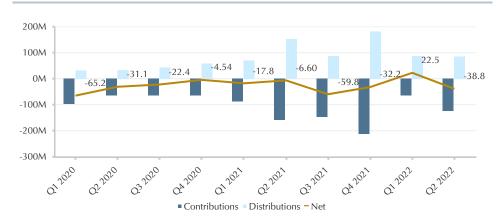


² IRR not meaningful for investments held less than 36 months

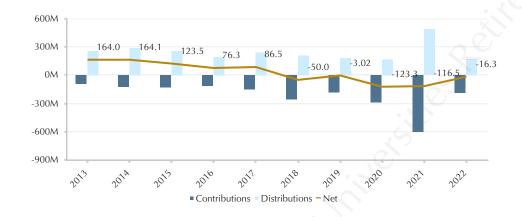
³ NAV is not up-to-date:Pantheon Global Secondary Fund II as of Dec-2021

^{*} Total figures take into account all current and closed portfolio positions as at Jun-2022

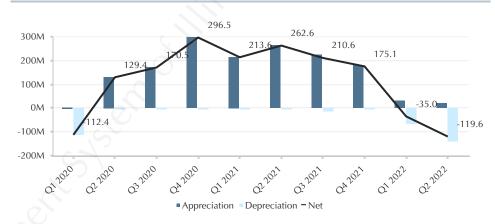
Cash Flows Quarterly



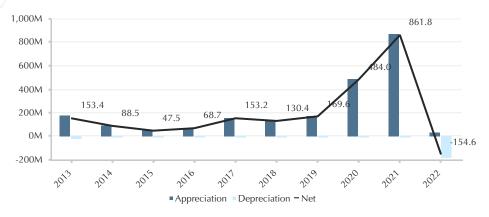
Cash Flows Yearly



Appreciation/Depreciation Quarterly



Appreciation/Depreciation Yearly



Movement By Sector - QTD

		Gain		Loss	Net Gain/	Net Gain/Loss		itions	Contribu	ıtions	NAV (mm)			
	Total Millions	# Of Funds	Total Millions	# Of Funds	Net Millions	% Of Total Net	Total Millions	%	Total Millions	%				
Buyout	17.7	7	-11.8	16	5.95	-5.0%	8.47	9.9%	42.3	33.9%	558.5			
Fund of Funds	0.80	4	-123.9	28	-123.1	102.9%	76.9	89.4%	70.9	56.8%	2,134.9			
Growth	0.0	0	-1.59	4	-1.59	1.3%	0.02	0.0%	6.05	4.8%	58.1			
Secondary	0.0	0	-0.25	2	-0.25	0.2%	0.60	0.7%	0.0	-	7.03			
Venture	1.12	1	-1.71	6	-0.59	0.5%	0.0	-	5.58	4.5%	49.3			
Total	19.6	12	-139.2	56	-119.6	100.0%	86.0	100.0%	124.8	100.0%	2,807.9			

27

Above reporting references both active and closed funds



View this portfolio online

Movement By Sector - LTM

		Gain		Loss	Net Gain/Loss		Distribu	utions Contrib		itions	NAV (mm)
	Total Millions	# Of Funds	Total Millions	# Of Funds	Net Millions	% Of Total Net	Total Millions	%	Total Millions	%	
Buyout	73.9	11	-9.51	12	64.4	27.9%	45.0	10.2%	269.9	49.2%	558.5
Fund of Funds	194.1	19	-33.8	13	160.3	69.4%	387.5	88.1%	213.6	39.0%	2,134.9
Growth	4.19	1	-0.89	3	3.30	1.4%	0.08	0.0%	39.9	7.3%	58.1
Secondary	0.0	0	-0.09	3	-0.09	0.0%	5.86	1.3%	0.0	-	7.03
Venture	5.01	4	-1.77	3	3.24	1.4%	1.32	0.3%	24.8	4.5%	49.3
Total	277.1	35	-46.0	34	231.1	100.0%	439.8	100.0%	548.2	100.0%	2,807.9

28

Above reporting references both active and closed funds



Reporting Period:

Top QTD Contributors/Detractors

Top Contributors

	Vintage	% Funded Commitment	Gain (\$K)	NAV (\$mm)	QTD IRR*	ITD IRR*
Reverence Capital Partners Opportunities Fund II	2018	77.5%	8,564	65.6	n.m.*	n.m.*
SURS TorreyCove Co-Investment Fund I	2020	54.4%	4,570	139.4	n.m.*	n.m.*
Cortec Group Fund VII	2019	64.6%	1,948	34.0	n.m.*	n.m.*
One Equity Partners VIII	2022	28.2%	1,199	8.12	n.m.*	n.m.*
Oak HC-FT Partners IV	2021	66.6%	1,119	18.6	n.m.*	n.m.*
			9			
Gain	-	- ×	17,399	265.7	n.m.*	n.m.*
Gain (Remaining)	-	-	2,225	50.2	4.7%	9.5%
Total Gain	-		19,624	316.0	6.6%	9.9%

^{*} IRR calculated at portfolio currency. IRR not meaningful for investments held less than 36 months

Top Detractors

	Vintag	e % Funded Commitmen	t Loss (\$K)	NAV (\$mm)	QTD IRR*	ITD IRR*
Adams Street 2015 Global Fund	2015	86.9%	-17,065	182.4	-8.3%	27.7%
Adams Street 2016 Global Fund	2016	81.2%	-11,973	190.4	-5.8%	25.1%
Adams Street 2014 Global Fund	2014	91.4%	-11,566	137.9	-7.5%	18.7%
Adams Street 2013 Global Fund	2013	91.0%	-11,368	126.5	-7.9%	16.4%
Adams Street 2012 Global Fund	2012	89.7%	-7,665	79.5	-8.4%	15.3%
Loss	_	-	-59,637	716.6	-7.4%	19.6%
Loss (Remaining)	x ♥ -	-	-79,564	1,775.3	-4.4%	25.0%
Total Loss		-	-139,201	2,491.9	-5.3%	24.9%

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¹ IRR not meaningful for investments held less than 36 months

^{*} IRR calculated at portfolio currency. IRR not meaningful for investments held less than 36 months

Top QTD Contributors/Detractors

Total Portfolio(76) - 74.5% -119,576 2,807.9 -4.1% 19.4%

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Top Contributors

	Vintage	% Funded Commitment	Gain (\$K)	NAV (\$mm)	1Y IRR*	ITD IRR*
Mesirow Financial Private Equity Special Fund B	2018	64.4%	34,018	259.1	17.3%	23.2%
M2 - SURS Emerging Private Equity Fund-of-Funds	2016	86.5%	29,254	125.8	27.1%	26.0%
SURS TorreyCove Co-Investment Fund I	2020	54.4%	26,912	139.4	n.m.*	n.m.*
Lincoln Fund I (Series A)	2014	87.5%	21,365	113.8	20.9%	19.0%
Adams Street 2016 Global Fund	2016	81.2%	20,097	190.4	11.2%	25.1%
Gain	=	- ×	131,647	828.6	19.5%	23.5%
Gain (Remaining)	-	-	145,495	1,585.3	10.2%	14.8%
Total Gain	-		277,142	2,413.9	13.2%	15.7%

^{*} IRR calculated at portfolio currency. IRR not meaningful for investments held less than 36 months

Top Detractors

	Vintage	% Funded Commitment	Loss (\$K)	NAV (\$mm)	1Y IRR*	ITD IRR*
Adams Street SMA (1990-2007) - SURS	1990	99.7%	-6,216	3.59	-52.9%	27.0%
Adams Street 2007 Global Opportunities Portfolio	2007	91.3%	-4,485	3.21	-43.3%	6.9%
Pantheon Europe Fund VI	2007	88.7%	-4,396	8.39	-31.3%	10.1%
Adams Street Partnership Fund - 2008 Non-U.S. Fu	nd 2008	91.3%	-4,051	18.7	-15.3%	11.4%
Pantheon Europe Fund VII	2011	84.2%	-3,947	22.7	-12.9%	13.3%
Loss		-	-23,096	56.6	-24.7%	26.3%
Loss (Remaining)	<u> </u>	-	-22,949	337.4	-6.5%	11.1%
Total Loss	-	-	-46,044	394.0	-10.3%	20.7%

^{*} IRR calculated at portfolio currency. IRR not meaningful for investments held less than 36 months



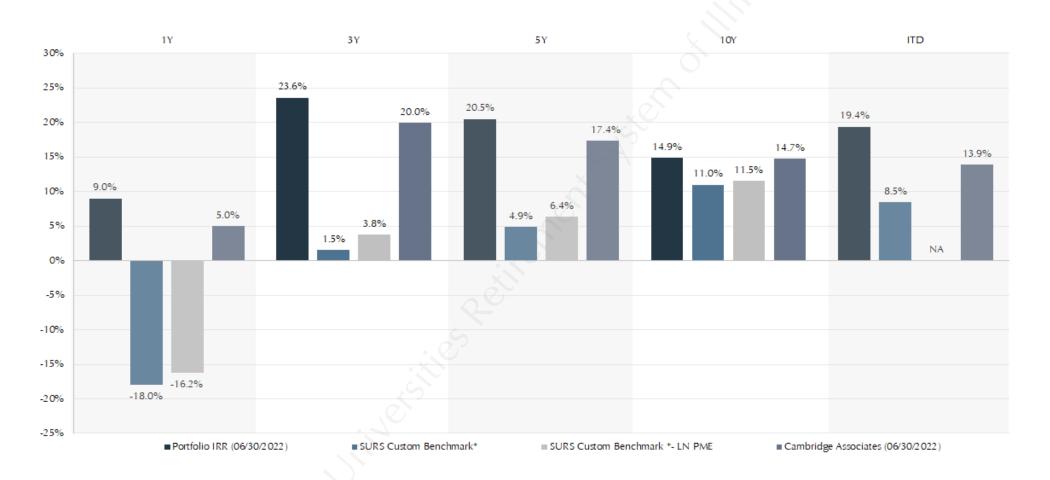
¹ IRR not meaningful for investments held less than 36 months

Top LTM Contributors/Detractors

Total Portfolio(76) 74.5% 231,098 2,807.9 9.0% 19.4%

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Portfolio IRR vs Benchmarks



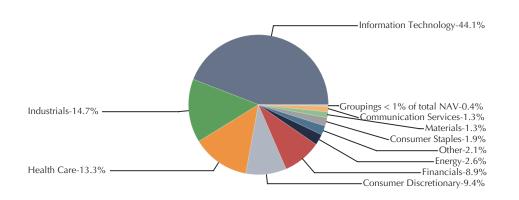
Custom Benchmark is the Wilshire 5000 + 3% (1Q lag) through December 2019 and ACWI IMI + 2% from 2020 on forward.

LN PME is a dollar-weighted Long-Nickels calculation of monthly changes in the Custom Benchmark. SURS Private Equity portfolio was activated in July 1990; therefore, inception to date PME was not calculated. Cambridge Associates IRR reflects all Private Equity funds data excluding Real Estate, Timber and Infrastructure.



Portfolio Composition - Sector

Sector Exposure by NAV

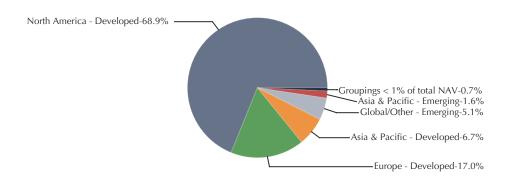


	Total Invested Capital	% of Total	Net Asset Value	% of Total
Information Technology	296,195,643	49.2%	1,272,912,438	44.1%
Industrials	73,083,664	12.1%	423,950,164	14.7%
Health Care	84,173,508	14.0%	383,993,237	13.3%
Consumer Discretionary	46,425,630	7.7%	270,975,056	9.4%
Financials	71,825,554	11.9%	257,267,938	8.9%
Energy	0	-	73,761,534	2.6%
Other	4,757,252	0.8%	61,798,616	2.1%
Consumer Staples	13,030,643	2.2%	55,832,577	1.9%
Materials	7,278,160	1.2%	38,420,587	1.3%
Communication Services	1,390,521	0.2%	37,119,687	1.3%
Groupings < 1% of total NAV	3,980,588	0.7%	10,327,745	0.4%

Position Analytics data based on GP provided information as of Jun-2022

Portfolio Composition - Geography (Region)

Region Exposure by NAV



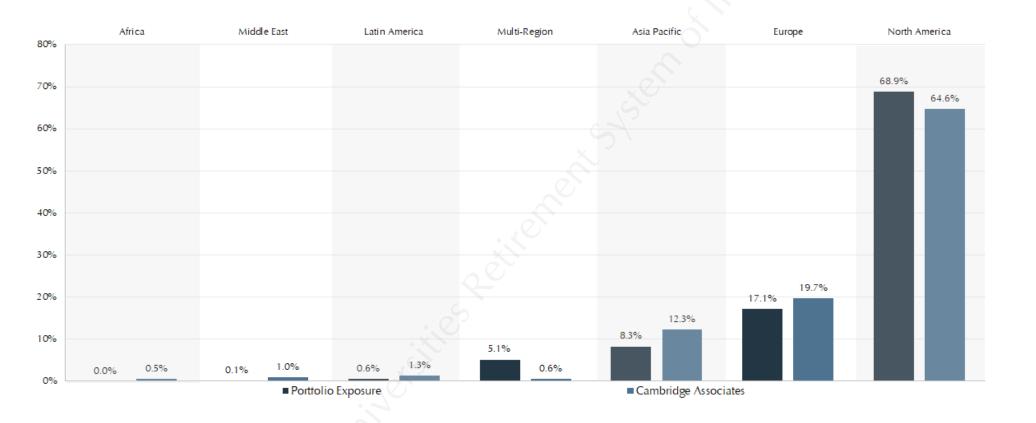
	Total Invested Capital	% of Total	Net Asset Value	% of Total
North America - Developed	506,834,091	84.2%	1,987,618,935	68.9%
Europe - Developed	58,082,973	9.6%	490,209,318	17.0%
Asia & Pacific - Developed	6,508,122	1.1%	192,893,657	6.7%
Global/Other - Emerging	1,534,174	0.3%	147,350,503	5.1%
Asia & Pacific - Emerging	21,405,709	3.6%	47,197,591	1.6%
Groupings < 1% of total NAV	7,776,093	1.3%	21,089,577	0.7%

Company headquarters represents location provided by the manager most recently or at initial investment date. Position Analytics data based on GP provided information as of Jun-2022



Portfolio Composition - Cambridge Comparison

Portfolio Exposure vs Cambridge Benchmark – Geography

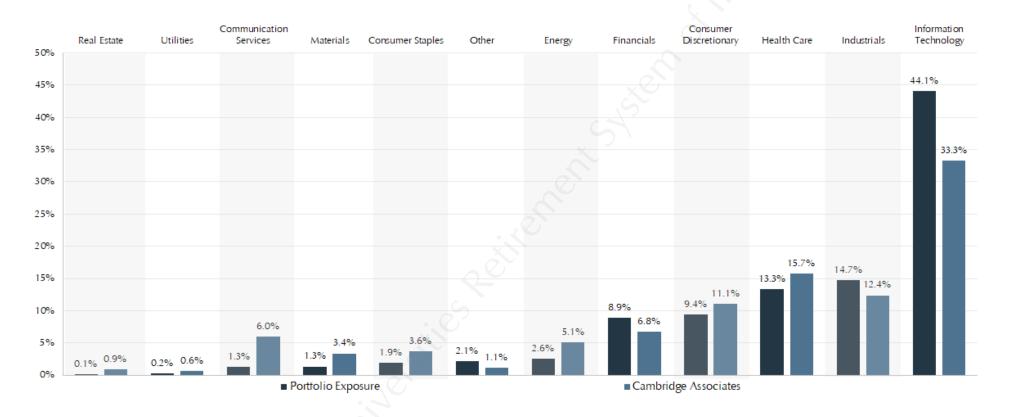


Portfolio Exposure based on Fair Market Value of the portfolio's underlying companies Position Analytics data based on General Partner provided information as of Jun-2022



Portfolio Composition - Cambridge Comparison

Portfolio Exposure vs Cambridge Benchmark – Industry



Portfolio Exposure based on Fair Market Value of the portfolio's underlying companies Position Analytics data based on General Partner provided information as of Jun-2022



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Illinois State Universities Retirement System

November 3, 2022

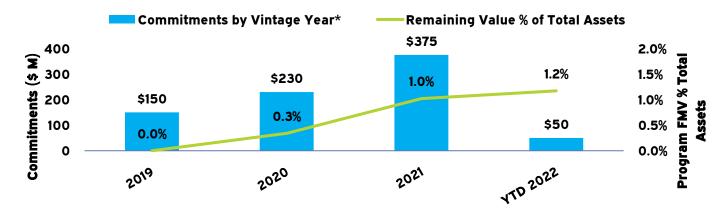
Second Quarter 2022 Private Credit Report



Overview | As of June 30, 2022

Introduction

Illinois State Universities Retirement System ("SURS") has set a target allocation of 5% of plan net asset value to private credit fund investments within the Stabilized Growth Class. SURS' private credit program targets a mix of strategies, both yield-oriented and opportunistic, with an emphasis on yield-oriented. The first commitment was approved in June of 2020. As of the end of Q2 2022, eight private credit fund commitments totaling \$805 million have been made to the Program.



*Defined by the date of initial investment.

Program Status

No. of Investments	8
Committed (\$ M)	805.0
Contributed (\$ M)	343.7
Distributed (\$ M)	108.1
Remaining Value (\$ M)	267.2

Performance Since Inception¹

	Program	PME ²
DPI	0.31x	
TVPI	1.09x	
IRR	12.0%	-2.7%
	•	

¹ The initial capital call was made on July 9, 2020.

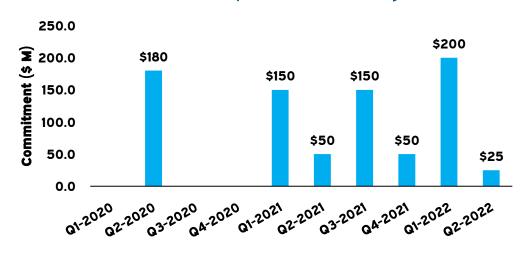
 $^{^2}$ 50% BB Global High Yield + 50% S&P LSTA Global Leveraged Loan +1%



Recent Activity | As of June 30, 2022

Commitments

Recent Quarterly Commitment Closings



Commitments This Quarter

Fund	Strategy	Region	Amount (M)
NB Private Debt Fund IV	Direct Lending	North America	25.00



Performance Analysis | As of June 30, 2022

Aggregate Commitment Activity to Date

		Amount	
Fund	Strategy	(\$M)	Date
PIMCO Distressed Senior Credit Opportunities III	Multi-Strategy	180.00 ¹	Q2 2020
Silver Rock Tactical Allocation Fund – Vintage 2019	Special Situations	150.00	Q1 2021
Crayhill Principal Strategies Fund II	Specialty Lending	50.00	Q2 2021
Neuberger Berman Private Debt Fund IV	Direct Lending	175.00 ²	Q3 2021
Silver Rock Tactical Allocation Fund Share Class B	Special Situations	50.00	Q4 2021
Turning Rock Fund II	Special Situations	50.00	Q1 2022
Fortress Lending Fund III	Multi-Strategy	50.00	Q1 2022
Ares Pathfinder Core Fund	Specialty Lending	150.00 ³	Q1 2022
Silver Rock Tactical Allocation Fund – Vintage 2022	Special Situations	200.00	Q3 2022

Commitments made subsequent to quarter end included:

- ightarrow a \$50 million increase in commitment to Ares Pathfinder Core Fund
 - an open-end, income-focused asset-based specialty finance fund.
- → a \$200 million commitment to Silver Rock Tactical Allocation Fund Vintage 2022
 - an MWDBE-led special situations fund and re-up opportunity.

¹ 20% of the commitment was released as of September 30, 2021.

² Increased commitment by \$25 million in Q2 2022.

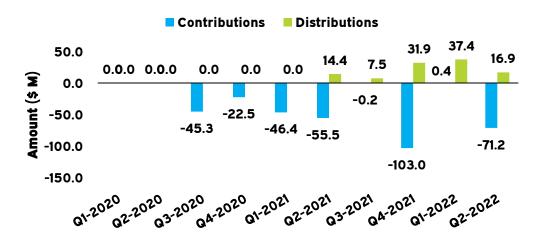
³ Increased commitment by \$50 million in Q3 2022.



Performance Analysis | As of June 30, 2022

Cash Flows

Recent Quarterly Cash Flows



Largest Contributions This Quarter

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$M)	Fund	Vintage	Strategy	Region	Amount (\$M)
Silver Rock Tactical	2019	Special Situations	North America	36.58	PIMCO DISCO III	2020	Multi-Strategy	North America	10.47
Fortress Lending III	2022	Multi-Strategy	North America	12.50	Crayhill Fund II	2020	Specialty Lending	Global: Developed	2.50
Crayhill Fund II	2020	Specialty Lending	Global: Developed	8.52	Turning Rock Fund II	2021	Special Situations	North America	2.19



Performance Analysis | As of June 30, 2022

By Strategy

Group	Number	Committed (\$ M)	Contributed (\$ M)	Unfunded (\$ M)	Distributed (\$ M)	Remaining Value (\$ M)	Exposure (\$ M)	DPI (X)	TVPI (X)	IRR (%)
Direct Lending	1	175.0	60.0	115.2	3.3	62.9	178.2	0.06	1.10	NM
Multi-Strategy	2	230.0	107.8	195.8	73.3	50.4	246.2	0.68	1.15	NM
Special Situations	3	250.0	147.1	121.9	18.9	133.0	254.9	0.13	1.03	NM
Specialty Lending	2	150.0	28.9	128.0	12.6	20.8	148.8	0.43	1.15	NM
Total	8	805.0	343.7	560.9	108.1	267.2	828.1	0.31	1.09	NM

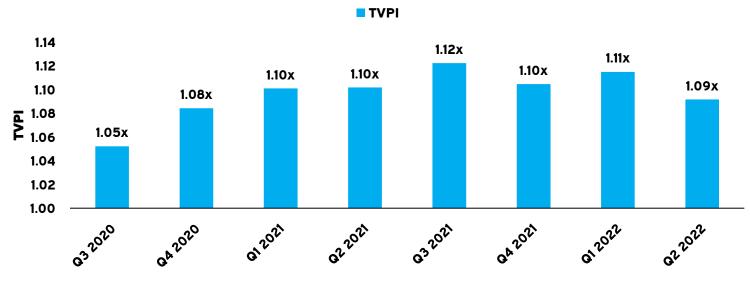
By Vintage

Group	Number	Committed (\$ M)	Contributed (\$ M)	Unfunded (\$ M)	Distributed (\$ M)	Remaining Value (\$ M)	Exposure (\$ M)	DPI (X)	TVPI (X)	IRR (%)
Open-end	1	100.0	0.0	100.0	0.0	0.0	100.0	0.00	NM	NM
2019	1	150.0	117.1	44.5	11.5	109.7	154.2	0.10	1.04	NM
2020	2	230.0	119.2	191.3	85.8	54.5	245.8	0.72	1.18	NM
2021	3	275.0	90.0	192.6	10.7	86.2	278.8	0.12	1.08	NM
2022	1	50.0	17.5	32.5	0.0	16.7	49.2	0.00	0.96	NM
Total	8	805.0	343.7	560.9	108.1	267.2	828.1	0.31	1.09	NM



Performance Analysis | As of June 30, 2022

Since Inception Performance Over Time



Horizon IRRs

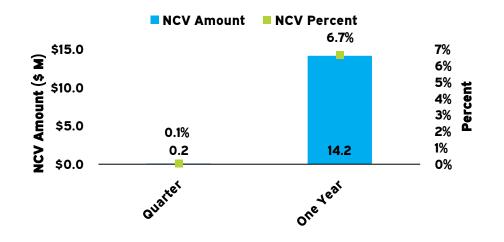
	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	NM	NM	NM	NM	NM

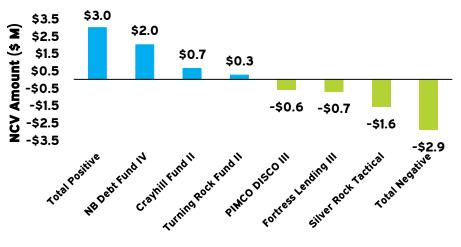


Performance Analysis | As of June 30, 2022

Periodic NCV

1 Quarter Drivers Of NCV







Performance Analysis | As of June 30, 2022

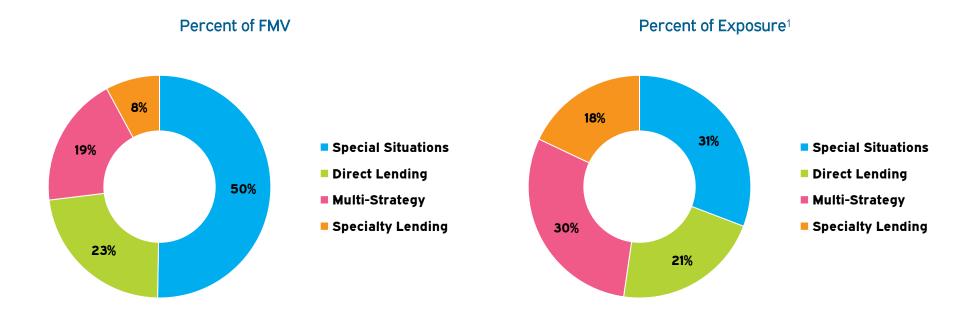
Fund Performance: Sorted By Vintage And Strategy

By Investment	Vintage	Strategy	Committed (\$ M)	Contributed (\$ M)	Unfunded (\$ M)	Distributed (\$ M)	Remaining Value (\$ M)	TVPI (X)	IRR (%)
Ares Pathfinder Core	Open-end	Specialty Lending	100.0	0.0	100.0	0.0	0.0	NM	NM
Silver Rock Tactical	2019	Special Situations	150.0	117.1	44.5	11.5	109.7	1.04	NM
PIMCO DISCO III	2020	Multi-Strategy	180.0	90.3	163.3	73.3	33.7	1.18	NM
Crayhill Fund II	2020	Specialty Lending	50.0	28.9	28.0	12.6	20.8	1.15	NM
NB Debt Fund IV	2021	Direct Lending	175.0	60.0	115.2	3.3	62.9	1.10	NM
Silver Rock Colnvest	2021	Special Situations	50.0	13.0	42.2	5.1	8.1	1.02	NM
Turning Rock Fund II	2021	Special Situations	50.0	17.0	35.2	2.2	15.2	1.02	NM
Fortress Lending III	2022	Multi-Strategy	50.0	17.5	32.5	0.0	16.7	0.96	NM
Total			805.0	343.7	560.9	108.1	267.2	1.09	NM



Fund Diversification | As of June 30, 2022

By Strategy

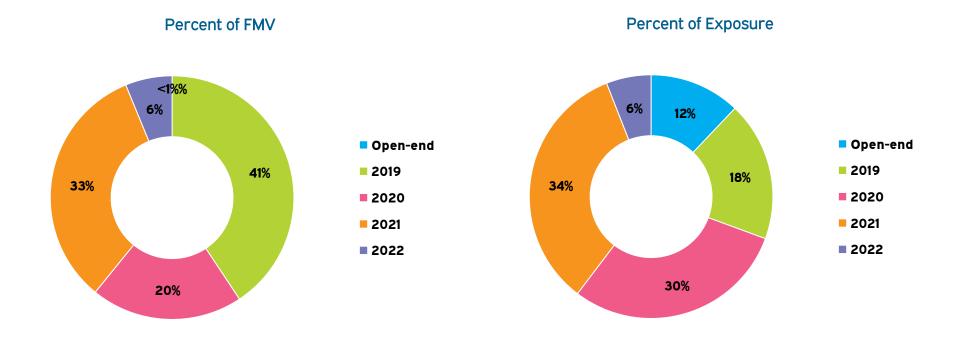


¹ Represents sum of investor's Unfunded and Remaining Value.



Fund Diversification | As of June 30, 2022

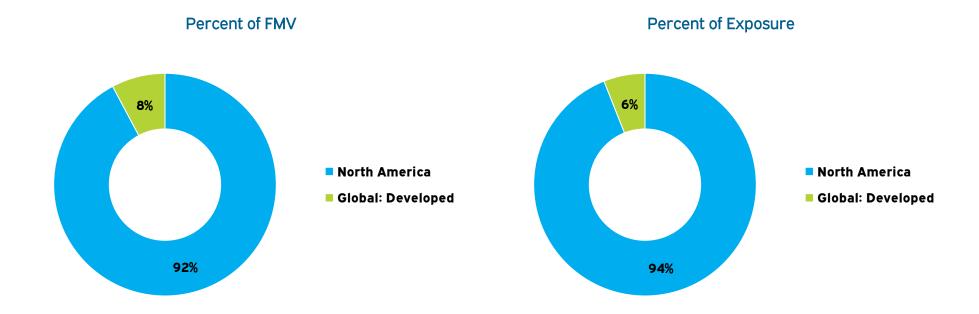
By Vintage





Fund Diversification | As of June 30, 2022

By Geographic Focus¹



MEKETA INVESTMENT GROUP

¹ Geography defined at the partnership level.



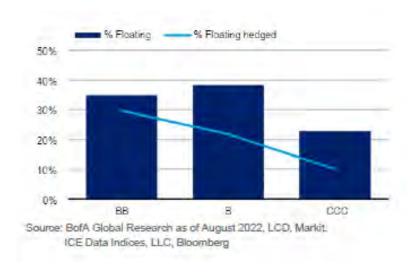
Market & Industry Analysis | As of June 30, 2022

Credit Market Outlook

Credit rating downgrade pace picks up for B-/B3 issuers

Trailing 3-Month Downgrade/Upgrade Ratio (For B-/B3 Issuers) S&P Moody's Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Source: LCD, Bloomberg, Morgan Stanley Research

Percentage of debt by credit rating that is floating and hedged



Since the end of the second quarter, there has been an acceleration in the rate of downgrades by rating agencies particularly for B-/B3 rated issuers. The ratio of credit downgrades to upgrades provides an indication of fundamental credit deterioration with the potential to spread more broadly within private credit. The leveraged loan market reflects the same trend in credit downgrades. Compounding the potential headwinds facing these issuers is the high percentage of lower rated issuers with unhedged floating rate debt obligations. Lower rated issuers with floating rate debt must contend not only with rising debt service costs, but potentially declining margins associated with rising labor costs and supply chain related price increases.

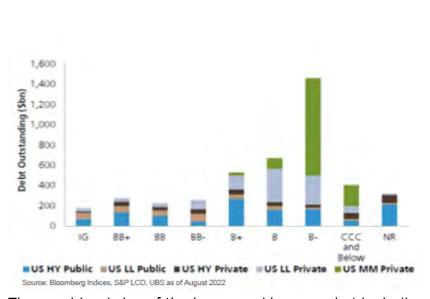


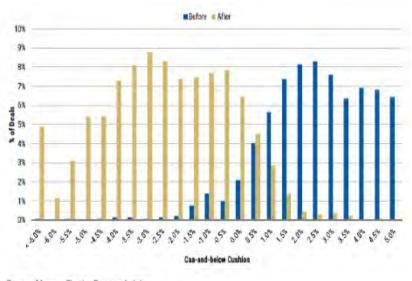
Market & Industry Analysis | As of June 30, 2022

Leveraged Loan Markets

Debt outstanding by market and issuer status as public or private credit scenario

Percentage of CLOs breaching CCC limits in downside





Source: Morgan Stanley Research, Intex

The combined size of the leveraged loan market including private middle market and broadly syndicated loans is considerably larger than the U.S. high yield market. An estimated \$1.5T in debt outstanding with the lowest credit rating is tied to private companies. The deterioration in credit fundamentals in both high yield and loan markets has potential implications for cumulative default rates over the longer term, and for broader pricing volatility in the near term. CLOs are one potential source of uneconomic selling as CLO deals breach their mandated limit of CCC and below credits, managers will be forced to reduce their exposure to remain compliant. According to a recent Morgan Stanley report, the percentage of CLOs failing their CCC limits could increase to 83% from 4% in a downside credit scenario.²

¹Source: Bloomberg, S&P LCD, UBS as of August 2022

²Source: Morgan Stanley Leveraged Finance and CLO Strategy (October 3, 2022)



Endnotes | As of June 30, 2022

Below are details on specific terminology and calculation methodologies used throughout this report:

Committed	The original commitment amount made to a given fund. Some funds may be denominated in non-USD currencies, and such commitment amounts represent the sum of fund contributions translated to USD at their daily conversion rates plus the unfunded balance translated at the rate as of the date of this report.
Contributed	The amount of capital called by a fund manager against the commitment amount. Contributions may be used for new or follow-on investments, fees, and expenses, as outlined in each fund's limited partnership agreement. Some capital distributions from funds may reduce contributed capital balances. Some funds may be denominated in non-USD currencies, and such aggregate contributions represent the sum of each fund contribution translated to USD at its daily conversion rate.
Distributed	The amount of capital returned from a fund manager for returns of invested capital, profits, interest, and other investment related income. Some distributions may be subject to re-investment, as outlined in each fund's limited partnership agreement. Some funds may be denominated in non-USD currencies, and such aggregate distributions represent the sum of each fund distribution translated to USD at its daily conversion rate.
DPI	Acronym for "Distributed-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculation equals Distributed divided by Contributed. DPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa.
Exposure	Represents the sum of the investor's Unfunded and Remaining Value.
IRR	Acronym for "Internal Rate of Return", which is a performance measurement for Private Market investments. IRRs are calculated by Meketa based on daily cash flows and Remaining Values as of the date of this report. IRRs for funds and groupings of funds are net of all fund fees and expenses as reported by fund managers to Meketa.
NCV	Acronym for "Net Change in Value", which is a performance measurement for Private Market investments. The performance calculation equals the appreciation or depreciation over a time period neutralized for the impact of cash flows that occurred during the time period.
NM	Acronym for "Not Meaningful", which indicates that a performance calculation is based on data over too short a timeframe to yet be meaningful or not yet possible due to inadequate data. Meketa begins reporting IRR calculations for investments once they have reached more than two years since first capital call. NM is also used within this report in uncommon cases where the manager has reported a negative Remaining Value for an investment.



Endnotes | As of June 30, 2022

Peer Universe

The performance for a set of comparable private market funds. The peer returns used in this report are provided by Preqin, based on data as of the date of this report. Fund-level peer performance represents the median return for a set of funds of the same vintage and the program's set of corresponding strategies across all regions globally. Data sets that include less than five funds display performance as "NM". Meketa utilizes the following Preqin strategies for peer universes:

Private Credit: Private Debt

Public Market Equivalent ("PME") A calculation methodology that seeks to compare the performance of a portfolio of private market investments with public market indices. The figures presented in this report are based on the PME+ framework, which represents a net IRR value based on the actual timing and size of the private market program's daily cash flows and the daily appreciation or depreciation of an equivalent public market index. Meketa utilizes the following indices for private market program PME+ calculations:

Private Debt: 50% BB Global High Yield + 50% S&P LSTA Global Leveraged Loan +1%

Remaining Value

The investor's value as reported by a fund manager on the investor's capital account statement. All investor values in this report are as of the date of this report, unless otherwise noted. Some funds may be denominated in non-USD currencies, and such remaining values represent the fund's local currency value translated to USD at the rate as of the date of this report.

TVPI

Acronym for "Total Value-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculations represents Distributed plus Remaining Value, then divided by Contributed. TVPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa.

Unfunded

The remaining balance of capital that a fund manager has yet to call against a commitment amount. Meketa updates unfunded balances for funds to reflect all information provided by fund managers provided in their cash flow notices. Some funds may be denominated in non-USD currencies, and such unfunded balances represent the fund's local currency unfunded balance translated to USD at the rate as of the date of this report.

MEKETA

Illinois State Universities Retirement System Private Credit Program

Disclaimer | As of June 30, 2022

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Meketa Investment Group has prepared this report on the basis of sources believed to be reliable. The data are based on matters as they are known as of the date of preparation of the report, and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available.

If we manage your assets on a discretionary basis, please contact us if there are any changes in your financial situation or investment objectives, or if you want to impose any reasonable restrictions on our management of your account or reasonably modify existing restrictions.

In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material.

This document may contain certain forward-looking statements, forecasts, estimates, projections, and opinions ("Forward Statements"). No representation is made or will be made that any Forward Statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results to vary materially from the Forward Statements. No representation is given that the assumptions disclosed in this document upon which Forward Statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund or investment will be achieved, or that the client will receive a return of the amount invested.

In some cases Meketa Investment Group assists the client in handling capital calls or asset transfers among investment managers. In these cases we do not make any representations as to the managers' use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the client.

Because there is no readily accessible market for private markets assets (companies and partnerships), the values placed on private markets assets are calculated by General Partners using conservative and industry standard pricing procedures. Annually, an independent auditor reviews the pricing procedures employed by the General Partner of each partnership.

The values of companies and partnerships are audited at year-end, and are not audited at other quarter-end periods. While financial information may be audited, there is some discretion as to the method employed to price private companies and, therefore, private markets partnerships. At all times, Meketa Investment Group expects General Partners to utilize conservative and industry standard pricing procedures, and requires the General Partners to disclose those procedures in their reports. However, because of the inherent uncertainty of valuation, these estimated values may differ from the values that would be used if a ready market for the investments existed, and the differences could be significant.

STATE UNIVERSITIES RETIREMENT SYSTEM OF ILLINOIS 3RD QUARTER, 2022

DEFINED CONTRIBUTION QUARTERLY REVIEW

CAPTRUST

40 Wall Street, 56th Floor New York, NY 10005

Our mission is to enrich the lives of our clients, colleagues and communities through sound financial advice, integrity, and a commitment to service beyond expectation.



State Universities Retirement System

SURS Retirement Savings Plan SURS Deferred Compensation Plan

3rd Quarter, 2022 Quarterly Review

Executive Summary

Section 1

RETIREMENT INDUSTRY UPDATES

Section 2

MARKET COMMENTARY AND REVIEW

Section 3

PLAN INVESTMENT REVIEW

Section 4

INACTIVE PLAN REVIEW

Section 5

FUND FACT SHEETS

Appendix



State Universities Retirement System

	RETIREMENT SAVINGS PLAN (RSP)	DEFERRED COMPENSATION PLAN (DCP)		
Total Program Assets	\$3,120,600,254 (-21% YTD)	\$11,170,271 (+269% YTD)		
Voya Assets	\$2,790,291,715	\$11,170,271		
Frozen Assets - TIAA	\$330,308,539	N/A		
Program Expense Overview				
Voya Recordkeeping Fee / Benchmark ¹	\$30 annual fee per participa	nt (\$7.50/quarter) / \$40.74		
Investment Weighted Average Expense	0.36% (excluding the Voya Fixed Account) 0.11% (excluding the Secure Income Portfolio)			
Lifetime Income Strategy Overview				
Total LIS Participants	20,482	1,609		
Total SIP Participants	6,002	243		
Activated Participants (Quarter/Inception)	31 / 182	0/0		
Avg Activated GLWB % (Quarter/Inception)	3.36% / 3.10%	0.00% / 0.00%		
Investment Watchlist	Janus Henderson Small-Mid Cap Value N	(JVSNX) - Pending Replacement		

¹Based on the 2019 NAGDCA Perspectives in Practice Survey Report for the average annual recordkeeping expense paid by participants in plans with assets over \$2.25B. Survey results include responses from 23 plans with assets over \$2.25B.

Review	4Q 2021	1Q 2022	2Q 2022	3Q 2022
Period	(February/March)	(May/June)	(August/September)	(November/December)
Standard	 Industry & Regulatory Trends Fiduciary Training Plan Assets/Allocation Market Update & Investment	 Industry & Regulatory Trends Fiduciary Training Plan Assets/Allocation Market Update & Investment	 Industry & Regulatory Trends Fiduciary Training Plan Assets/Allocation Market Update & Investment	 Industry & Regulatory Trends Fiduciary Training Plan Assets/Allocation Market Update & Investment
Topics	Analysis	Analysis	Analysis	Analysis
Additional Fiduciary and Educational Topics	 Fiduciary Document Review — Investment Policy Statement — Committee Charter, as needed Plan Fee Review — Fee Allocation Philosophy — Recordkeeper Fee Benchmarking Annual Summary Report 	 Investment Menu Review — Investment Structure Review — Investment Expense & Share Class Evaluation SMID Value Asset Class Fund Alternatives 	Default Investment Option Evaluation (SURS Lifetime Income Strategy) with Alliance Bernstein	 Plan Expense Account Review Recordkeeper Due Diligence Plan and Participant Engagement Review Cybersecurity Review and Update Missing Participant Procedure Review Small Balance Cash-outs and RMDs Advisor Year End Disclosures and Certifications

Review Period	Every 1-3 Years (or as needed)	Ad Hoc
Topics	 Investment Menu Architecture Target Date Evaluation (SURS Lifetime Income Strategy) Capital Preservation / Income Solutions Review Comprehensive Fiduciary Training Review 3(38) Investment Manager or 3(21) Investment Advisor Models 	 New Committee Member Onboarding and Fiduciary Training Recordkeeper RFI/RFP (every 5-7 years) Plan Design Benchmarking Plan Document/Design Changes



SECTION 1: RETIREMENT INDUSTRY UPDATES

Period Ending 9.30.22 | Q3 22

State Universities Retirement System

SECTION 1: RETIREMENT INDUSTRY UPDATES	

Industry Updates.....

FIDUCIARY UPDATE

Retirement plan fiduciaries should be mindful of recent Department of Labor (DOL) and Internal Revenue Service (IRS) activity that may be relevant to their plans.



DOL AUDITOR INDEPENDENCE UPDATE

Guidance from 1975 limited the pool of audit firms from which plan sponsors can select. The DOL's Interpretive Bulletin (IB) 2022-01 loosens the guidance on independence to allow plan sponsors wider access to qualified auditors for Form 5500 purposes.

- In the past, no member of the auditing firm could have ownership—of even one share—in a publicly traded company under audit. Under the new IB, shares can be sold prior to the audit engagement.
- The previous ownership rule applied to certain employees located in an office of the firm participating in a significant part of the audit. As office definitions have changed, the IB modified this to include a subgroup within the firm that works with the same clients or on the same issues.



IRS ACTIVITY

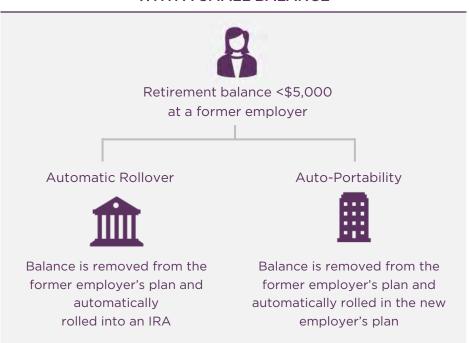
- Plan Amendment Deadlines—In Notice 2022-33, the IRS extended the amendment deadline for nongovernmental plans from the end of the 2022 plan year to December 31, 2025. This reflects regulatory actions in provisions of the Setting Every Community Up for Retirement Enhancement (SECURE) Act, the Miners Act, and the Coronavirus Aid, Relief, and Economic Security (CARES) Act that have yet to be finalized. Plans are still required to operate in accordance with required and elected provisions. For governmental plans, the deadline is 2024 at the earliest.
- Pre-Examination Pilot Program—The IRS announced a new pilot program to provide 90 days advance notice of plan audits. The notice period is favorable to plan sponsors as it allows time to correct plan defects.



WHAT IS AUTO-PORTABILITY?

The Advancing Auto-Portability Act of 2022 is a bipartisan bill introduced in the Senate in June. The bill encourages plan sponsors to adopt auto-portability features by offering a \$500 tax credit to offset the implementation cost. There are identical provisions in the Senate's proposed Enhancing American Retirement Now (EARN) Act. At a high level, auto-portability identifies a participant's retirement account at a previous employer and automatically moves those assets to their new employer's plan. This impacts participants with balances below \$5,000 who are subject to automatic distribution to an individual retirement account (IRA).

OPTIONS FOR TERMINATED PARTICIPANTS WITH A SMALL BALANCE



THE ARGUMENT FOR AUTO-PORTABILITY

9.9

is the number of jobs an average 401(k) participant will have over their working career.²

63%

of Black and 57% of Latino people cash out their small account balances compared to less than one-third of all participants.³ 36%

of average 401(k) participants have balances under \$5,000.2

\$2 trillion

in additional retirement savings is estimated from full adoption of auto-portability.²

Auto-portability remains a newer initiative. Interested plan sponsors must confirm whether their retirement plan provider and small-balance IRA provider offer auto-portability.



¹ Auto-portability functionality must be in place at both recordkeepers and the plan must accept rollovers. A fee is charged to the participant for the automatic transfer to the new employer's plan.

² EBRI, "The Impact of Auto-Portability on Preserving Retirement Savings Currently Lost to 401(k) Cashout Leakage"

³ Retirement Clearinghouse, "How Sponsors Can Help Minorities Save More for Retirement"

ENHANCED DISCLOSURE FOR ESG INVESTMENTS

This year, the SEC proposed changes under the rules of the Investment Adviser Act of 1940 that aim to create a standardized disclosure and reporting framework for funds that market themselves as environmental, social, and governance (ESG) investments. These changes will help plan sponsors and participants understand the materiality of an investment's use of ESG factors. The proposal distinguishes three ESG fund categories that would require specific disclosures.

INCREASED USE OF ESG FACTORS -

IMPACT FUND INTEGRATION FUND **FOCUSED FUND** In an ESG-focused fund, ESG factors are a An integration fund considers ESG factors An impact fund seeks to achieve a along with non-ESG factors in investment significant consideration in selecting particular ESG objective (e.g., advancing decisions. ESG factors are no more investments. clean water availability). significant than other factors in the investment selection process. In the prospectus, this type of fund must This type of fund is required to disclose provide disclosures on how it implements its progress toward achieving the stated This type of fund is required to describe the ESG strategy, incorporates ESG objective in the annual report. It is also how ESG factors are incorporated into the required to include the same disclosures factors, and votes proxies or engages companies on ESG matters. as an ESG-focused fund in its prospectus. investment processes in its prospectus.

DOL ESG Update: The DOL's 2021 proposed rule, Prudence and Loyalty in Selecting Plan Investments and Exercising Shareholder Rights, is expected to be released in December and take effect in 2023. The rule would amend the investment duties regulation, adding language that makes room for plan sponsors to consider the economic effects of ESG factors.

Source: Harvard Law School Forum on Corporate Governance, "Long-Awaited ESG Rules"



Period Ending 9.30.22 | Q3 22

State Universities Retirement System

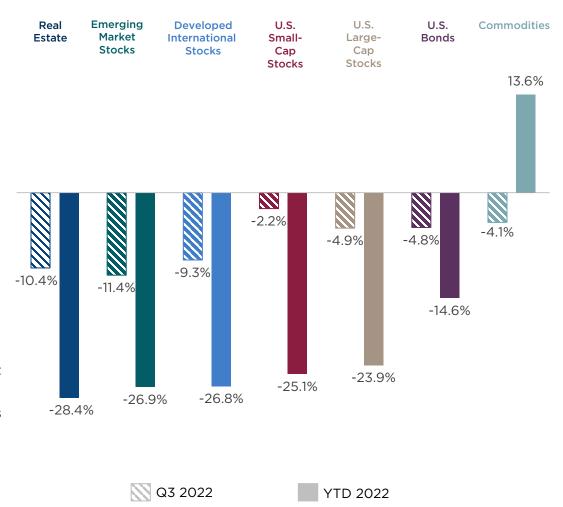
SECTION 2: MARKET COMMENTARY AND REVIEW
Market Commentary
Market Review
Asset Class Returns
Index Performance



ANOTHER CHALLENGING QUARTER

All asset classes ended the third quarter with modest losses, adding to their year-to-date woes. Stocks and bonds climbed in the first half of the quarter as concerns about inflation abated, but the Federal Reserve brought investors back to reality with its aggressive interest rate policy and messaging.

- After an initial rally, U.S. stocks ended the quarter back near 2022 lows. Small-cap stocks fared a little better than their large-cap counterparts; growth stocks outperformed value stocks for the quarter.
- Outside the U.S., stocks continued to face the perfect storm of economic, geopolitical, and currency headwinds. Inflation has reached doubledigit levels across much of Europe as energy disruptions driven by the war in Ukraine put central bankers in difficult positions.
- For bonds, a historically bad calendar year continued into the third quarter. An upward shift in the yield curve led to a third consecutive quarterly decline and added to the double-digit losses generated in the first half of the year.
- Rising interest rates and emerging recession concerns have added to 2022 difficulties for public real estate.
- Commodities, a bright spot for most of 2022, declined in the third quarter on rising recession concerns. They remain the lone asset class in positive territory for the year.



Asset class returns are represented by the following indexes: Bloomberg U.S. Aggregate Bond Index (U.S. bonds), S&P 500 Index (U.S. large-cap stocks), Russell 2000® (U.S. small-cap stocks), MSCI EAFE Index (international developed market stocks), MSCI Emerging Market Index (emerging market stocks), Dow Jones U.S. Real Estate Index (real estate), and Bloomberg Commodity Index (commodities).

DIGGING DEEPER: STOCKS AND BONDS

Equities

	Q3 2022	YTD 2022	Last 12 Months
U.S. Stocks	-4.9%	-23.9%	-15.5%
Q3 Best Sector: Consumer Discretionary	4.4%	-29.9%	-20.9%
• Q3 Worst Sector: Communication Service	-12.7%	-39.0%	-39.1%
International Stocks	-9.3%	-26.8%	-24.7%
Emerging Markets Stocks	-11.4%	-26.9%	-27.8%

Fixed Income

	9.30.22	6.30.22	9.30.21
1-Year U.S. Treasury Yield	4.05%	2.80%	0.09%
10-Year U.S. Treasury Yield	3.83%	2.98%	1.52%
	QTD 2022	YTD 2022	Last 12 Months
10-Year U.S. Treasury Total Return	-5.83%	-16.85%	-16.29%

Equities - Relative Performance by Market Capitalization and Style

	Q3	2022			YTD 2022			Last 12 Months			
	Value	Blend	Growth		Value	Blend	Growth		Value	Blend	Growth
Large	-5.6%	-4.9%	-3.6%	Large	-17.8%	-23.9%	-30.7%	Large	-11.4%	-15.5%	-22.6%
Mid	-4.9%	-3.4%	-0.7%	Mid	-20.4%	-24.3%	-31.5%	Mid	-13.6%	-19.4%	-29.5%
Small	-4.6%	-2.2%	0.2%	Small	-21.1%	-25.1%	-29.3%	Small	-17.7%	-23.5%	-29.3%

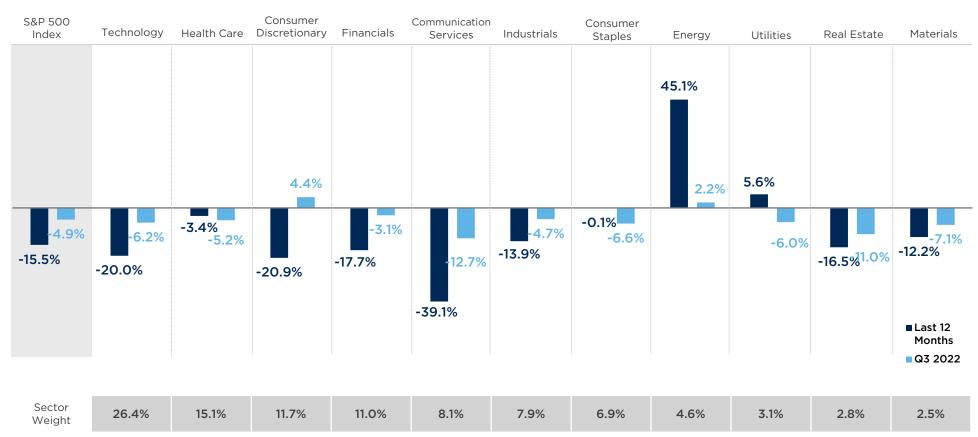
Sources: Bloomberg, U.S. Treasury. Asset class returns are represented by the following indexes: S&P 500 Index (U.S. stocks), MSCI EAFE Index (international developed market stocks), and MSCI Emerging Markets Index (emerging market stocks). Relative performance by market capitalization and style is based upon the Russell US Style Indexes except for large-cap blend, which is based upon the S&P 500 Index.



DIGGING DEEPER: U.S. EQUITY MARKETS

The S&P 500 Index is a market-capitalization-weighted index of U.S. large-cap stocks across a diverse set of industry sectors. The stocks represented in these 11 sectors generated a range of returns for the last 12 months and the most recent quarter.

Returns by S&P 500 Sector



Source: Bloomberg. All calculations are cumulative total return, not annualized, including dividends for the stated period. Past performance is not indicative of future returns.



ECONOMIC OUTLOOK

With the Federal Reserve doubling down on its inflation-fighting intentions, investors have shifted their focus to recession scenarios. Economic indicators are flashing opposing signals. While the labor market and household and business balance sheets remain strong, consumer spending and corporate profitability have come under pressure, and geopolitical risks persist.

HEADWINDS

Inflation-Fighting Resolve

- The Fed is moving with unwavering resolve to fight inflation. The pace and scale of tightening is unprecedented, raising recession risks.
- The question is: Will the Fed's resolve persist if the economy slips into recession?



- Rising mortgage rates have had the intended effect of slowing home sales.
- While home prices have remained fairly stable, sales volume has declined for seven consecutive months, and new home building permits have plummeted.
- Despite modest improvement, consumer pessimism about overall business conditions remains elevated.

Midterms on the Horizon

 Historically, markets have performed well under any division of power. However, election outcomes could create policy uncertainty, particularly if results are contested or delayed.

TAILWINDS

Input Costs Improving

- Supply-chain constraints and rising gas prices
 have been key drivers of inflation. As companies
 right-size their inventories and transportation bottlenecks
 ease, global logistics are showing signs of recovery.
- Gas prices are falling as additional supply, tax holidays, and anticipation of an economic slowdown contribute to falling crude oil prices, a primary driver of prices at the pump.

Strong Labor Market

- The U.S. labor market remains resilient despite the Federal Reserve's efforts to cool the economy.
- The Fed has been able to pump the economic brakes without an increase in unemployment or a decrease in wages—a goldilocks outcome so far.

Low Expectations

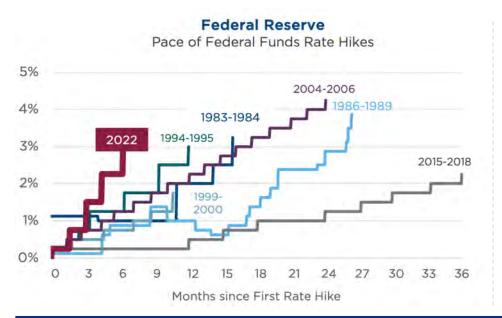
 Investors remain bearish as widespread pessimism is weighing on investor sentiment across global markets. However, periods of extreme pessimism can provide attractive entry points as low expectations set the stage for positive surprises.

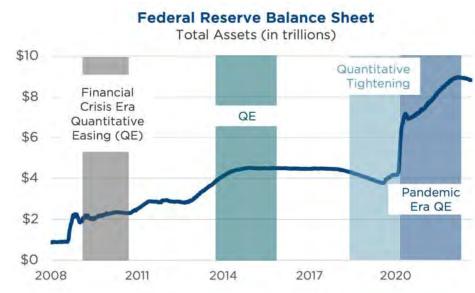
The potential range of future outcomes has narrowed slightly, but policy risks remain high. With a recession looming, investors should remain vigilant, diversified, and prepared for ongoing volatility.



INFLATION-FIGHTING RESOLVE

The Federal Reserve has been clear in its commitment to bring inflation down to its long-term target, even at the cost of a potential recession. While its tools remain limited given the nature of the inflation environment, the Fed is acting with unprecedented speed and scale.





OBSERVATIONS

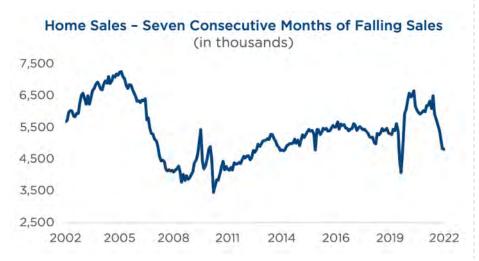
- In less than six months, the Federal Reserve has raised the fed funds rate from 0 to over 3%. This pace exceeds all tightening cycles over the last 40 years, reaching the same level of tightening experienced during the 1994-1995 cycle in half the time. According to market indicators, investors believe this accelerated pace of rate hikes will continue for the foreseeable future.
- The central bank has also begun a program of quantitative tightening—reducing its inventory of bonds purchased during the pandemic to spur economic activity. On June 1, the Fed began selling \$45 billion of bonds monthly, accelerating to \$90 billion in September. This is only the second balance sheet reduction program in the Fed's history, and it's occurring at roughly twice the pace of the prior.
- The pace and magnitude of tightening imply a Fed that is behind the curve. All eyes are focused on the economy's resiliency in response to hawkish monetary policy.

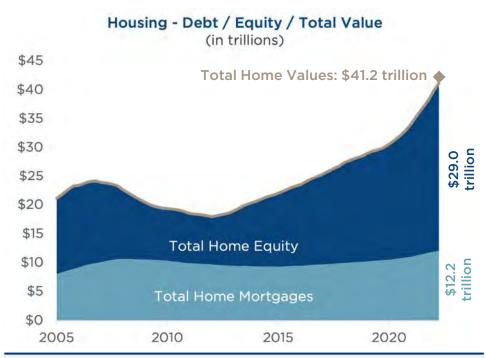
Sources: Board of Governors of the Federal Reserve System, CAPTRUST Research



HOUSING WEAKNESS, NOT HOUSING CRISIS







OBSERVATIONS

- A 59% increase in monthly mortgage payments since the beginning of the year is pushing many home buyers out of the market, as evidenced by seven consecutive months of declining home sales.
- Year to date, home values have held up or even risen, but rising mortgage rates are likely to weigh on home prices. Even so, homeowners are in a better financial position—with far less leverage—now than at the height of the financial crisis.

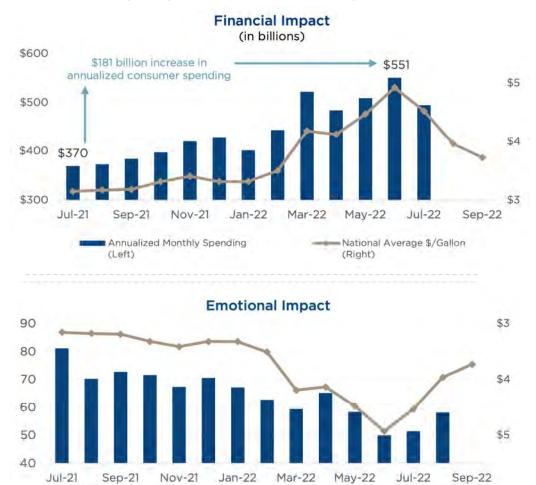
Sources: Bloomberg, St. Louis FRED, CAPTRUST Research; data as of 9.23.2022



FUELING THE ECONOMY

Consumer Sentiment

The price of gas is one of the most impactful metrics for both the financial and emotional state of consumers. It also flows through to the cost structure of nearly every corner of the U.S. economy.



OBSERVATIONS

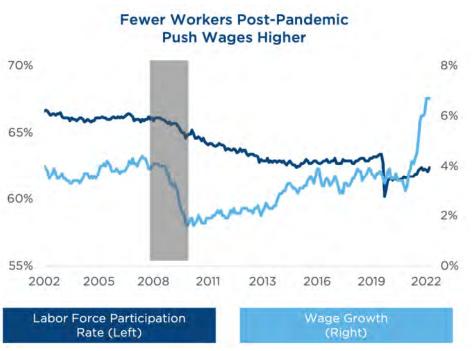
- Demand for gasoline doesn't react quickly to price changes because much of the consumption is not discretionary. As a result, rising prices typically result in lower spending in other areas, particularly for lowerincome consumers.
- Average gas prices peaked at \$4.93/gallon in June, resulting in a \$181 billion increase in annualized spending on gasoline and other energy products (compared to June 2021). However, since June, the price of gas has declined by more than 20%, providing additional cash for discretionary spending.
- Consumers drive past gas stations every day and see prices prominently displayed on large, brightly lit signs, creating real-time awareness of current pricing.
- This billboard pricing, combined with the inability to meaningfully decrease consumption, creates a strong inverse relationship between gas prices and consumer sentiment.
- Over the past year, consumer sentiment has steadily declined as gas prices have climbed, reaching an all-time low in June when gas prices peaked. Sentiment is improving as gas prices retreat but remains below historical averages.

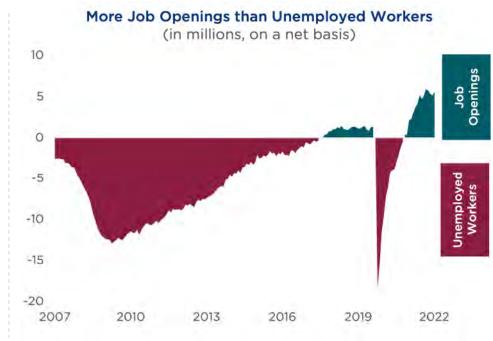
Sources: American Automobile Association, U.S. Bureau of Economic Analysis, Bloomberg, CAPTRUST Research; data as of 9.28.2022

-National Average \$/Gallon



RESILIENT LABOR MARKET





OBSERVATIONS

- Despite recent improvements, the labor force participation rate has yet to recover to pre-pandemic levels, with over 3 million workers having exited the job force due to early retirements, long COVID, and stimulus-led delays in returning to work. This shortage has resulted in businesses raising wages to draw in workers across income levels. While wage growth is a benefit to the consumer, it has also been a contributor to the high levels of inflation seen in the last year.
- The 11 million current job openings is a two-decade high and nearly double the number of unemployed workers. The Federal Reserve's efforts are focused on reducing this imbalance by slowing the economy to reduce open positions while protecting the wage gains that are attracting more people back to the job market.
- This balancing act is essential for an economic soft landing. Based on the resiliency of the labor market, early signs are encouraging.

Sources: U.S. Bureau of Labor Services, St. Louis FRED, CAPTRUST Research



2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Q3 2022
Mid-Cap Growth 46.29%	Small-Cap Growth 29.09%	Fixed Income 7.84%	Mid-Cap Value 18.51%	Small-Cap Growth 43.30%	Mid-Cap Value 14.75%	Large-Cap Growth 5.67%	Small-Cap Value 31.74%	Large-Cap Growth 30.21%	Cash 1.87%	Large-Cap Growth 36.39%	Large-Cap Growth 38.49%	Mid-Cap Value 28.34%	Cash 0.61%
Large-Cap Growth 37.21%	Mid-Cap Growth 26.38%	Large-Cap Growth 2.64%	Small-Cap Value 18.05%	Mid-Cap Growth 35.74%	Large-Cap Value 13.45%	Fixed Income 0.55%	Mid-Cap Value 20.00%	International Equities 25.62%	Fixed Income 0.01%	Mid-Cap Growth 35.47%	Mid-Cap Growth 35.59%	Small-Cap Value 28.27%	Fixed Income -14.61%
Small-Cap Growth 34.47%	Mid-Cap Value 24.75%	Large-Cap Value 0.39%	International Equities 17.90%	Small-Cap Value 34.52%	Large-Cap Growth 13.05%	Cash 0.05%	Large-Cap Value 17.34%	Mid-Cap Growth 25.27%	Large-Cap Growth -1.51%	Small-Cap Growth 28.48%	Small-Cap Growth 34.63%	Large-Cap Growth 27.60%	Large-Cap Value -17.75%
Mid-Cap Value 34.21%	Small-Cap Value 24.50%	Cash 0.10%	Large-Cap Value 17.51%	Large-Cap Growth 33.48%	Mid-Cap Growth 11.90%	Mid-Cap Growth -0.20%	Small-Cap Growth 11.32%	Small-Cap Growth 22.17%	Mid-Cap Growth -4.75%	Mid-Cap Value 27.06%	International Equities 8.28%	Large-Cap Value 25.16%	Mid-Cap Value -20.36%
nternational Equities 32.46%	Large-Cap Growth 16.71%	Mid-Cap Value -1.38%	Mid-Cap Growth 15.81%	Mid-Cap Value 33.46%	Fixed Income 5.97%	International Equities -0.39%	Mid-Cap Growth 7.33%	Large-Cap Value 13.66%	Large-Cap Value -8.27%	Large-Cap Value 26.54%	Fixed Income 7.51%	Mid-Cap Growth 12.73%	Small-Cap Value -21.12%
Small-Cap Value 20.58%	Large-Cap Value 15.51%	Mid-Cap Growth -1.65%	Large-Cap Growth 15.26%	Large-Cap Value 32.53%	Small-Cap Growth 5.60%	Small-Cap Growth -1.38%	Large-Cap Growth 7.08%	Mid-Cap Value 13.34%	Small-Cap Growth -9.31%	International Equities 22.66%	Mid-Cap Value 4.96%	International Equities 11.78%	Internationa Equities -26.76%
Large-Cap Value 19.69%	International Equities 8.21%	Small-Cap Growth -2.91%	Small-Cap Growth 14.59%	International Equities 23.29%	Small-Cap Value 4.22%	Large-Cap Value -3.83%	Fixed Income 2.65%	Small-Cap Value 7.84%	Mid-Cap Value -12.29%	Small-Cap Value 22.39%	Small-Cap Value 4.63%	Small-Cap Growth 2.83%	Small-Cap Growth -29.28%
Fixed Income 5.24%	Fixed Income 5.89%	Small-Cap Value -5.50%	Fixed Income 4.22%	Cash 0.07%	Cash 0.03%	Mid-Cap Value -4.78%	International Equities 1.51%	Fixed Income 3.54%	Small-Cap Value -12.86%	Fixed Income 8.72%	Large-Cap Value 2.80%	Cash 0.05%	Large-Cap Growth -30.66%
Cash 0.21%	Cash 0.13%	International Equities -11.73%	Cash 0.11%	Fixed Income -2.02%	International Equities -4.48%	Small-Cap Value -7.47%	Cash 0.33%	Cash 0.86%	International Equities -13.36%	Cash 2.28%	Cash 0.67%	Fixed Income -1.54%	Mid-Cap Growth -31.45%
Small-Ca	Small-Cap Value Stocks (Russell 2000 Value) Small-Cap Growth Stocks (Russell 2000 Growth) Large-Cap Growth Stocks (Russell 1000 Growth) Large-Cap Growth Stocks (Russell 1000 Growth) Mid-Cap Value Stocks (Russell Mid-Cap Value) Mid-Cap Value Stocks (Russell Mid-Cap Value) Cash (Merrill Lynch 3-Month Treasury Bill)												

The information contained in this report is from sources believed to be reliable but is not warranted by CAPTRUST to be accurate or complete.



Period Ending 9.30.22 | Q3 22

State Universities Retirement System

SECTION 3: PLAN INVESTMENT REVIEW
Plan Assets
Investment Policy Monitor
Investment Review Select Commentary
Investment Performance Summary



PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.22 | Q3 22

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		_	MARKET	VALUE -	
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2021	(%)	CURRENT	(%)
Money Market	Vanguard Federal Money Market Investor*	\$994,954	0.03%	\$1,747,170	0.06%
Stable Value	Voya Fixed Plus Account III	\$34,128,867	0.96%	\$55,932,764	2.00%
Inflation Protected Bond	Vanguard Inflation-Protected Secs I	\$18,913,799	0.53%	\$18,788,387	0.67%
Intermediate Core Bond	State Street U.S. Bond Index Securities Lending Series Fund Class XIV	\$44,226,698	1.24%	\$36,035,609	1.29%
Intermediate Core Bond	TIAA-CREF Core Impact Bond Instl	\$3,889,582	0.11%	\$3,738,793	0.13%
Multisector Bond	PIMCO Income Insti	\$12,177,798	0.34%	\$11,652,996	0.42%
High Yield	PGIM High Yield R6	\$8,989,501	0.25%	\$8,187,360	0.29%
Large Company Blend	BlackRock Equity Index F	\$319,733,689	8.97%	\$255,601,624	9.16%
Medium Company Value	Janus Henderson Small-Mid Cap Value N	\$15,908,721	0.45%	\$13,521,955	0.48%
Medium Company Blend	BlackRock Extended Equity Market F	\$61,903,876	1.74%	\$45,049,836	1.61%
Medium Company Growth	Delaware Smid Cap Growth R6	\$53,467,359	1.50%	\$31,284,628	1.12%
Global Large Stock Blend	BlackRock MSCI ACWI ESG Focus Index Fund F	\$19,477,233	0.55%	\$14,193,905	0.51%
Foreign Large Value	Columbia Trust Overseas Value Fund Founders Class	\$5,842,738	0.16%	\$5,980,262	0.21%
Foreign Large Blend	State Street Global All Cap Equity Ex-U.S. Index Securities Lending Series Fund Class II	\$26,962,926	0.76%	\$21,700,030	0.78%
Foreign Large Growth	Vanguard International Growth Adm	\$29,274,559	0.82%	\$19,174,841	0.69%
Specialty-Real Estate	Vanguard Real Estate Index Institutional	\$24,040,469	0.67%	\$16,102,577	0.58%

^{*}This fund is used as the investment for plan-level forfeiture and plan expense amounts. It is not available for participant-directed investment within the core investment array.

CONTINUED...

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PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.22 | Q3 22

SURS Retirement Savings Plan					
		_	MARKET	VALUE -	
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2021	(%)	CURRENT	(%)
Target Date	SURS Lifetime Income Strategy Bond Portfolio	\$371,565,828	10.42%	\$275,726,858	9.88%
Target Date	SURS Lifetime Income Strategy Cash Portfolio	\$1,219,321	0.03%	\$1,978,434	0.07%
Target Date	SURS Lifetime Income Strategy Equity Portfolio	\$1,699,679,694	47.67%	\$1,213,895,252	43.50%
Target Date	SURS Lifetime Income Strategy Real Asset Portfolio	\$125,717,056	3.53%	\$81,507,160	2.92%
Target Date	SURS Lifetime Income Strategy Secure Income Portfolio	\$687,060,284	19.27%	\$658,491,274	23.60%
	TOTALS	\$3,565,174,953	100%	\$2,790,291,715	100%

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ASSET INVESTMENT REVIEW | SUMMARY

Period Ending 9.30.22 | Q3 22

SURS Deferred Compensation Plan

		_	MARKET	VALUE -	
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2021	(%)	CURRENT	(%)
Stable Value	Voya Fixed Plus Account III	\$175,206	5.78%	\$698,704	6.26%
Inflation Protected Bond	Vanguard Inflation-Protected Secs I	\$33,271	1.10%	\$150,649	1.35%
Intermediate Core Bond	State Street U.S. Bond Index Securities Lending Series Fund Class XIV	\$37,638	1.24%	\$130,124	1.16%
Intermediate Core Bond	TIAA-CREF Core Impact Bond Instl	\$6,873	0.23%	\$27,949	0.25%
Multisector Bond	PIMCO Income Insti	\$53,416	1.76%	\$71,045	0.64%
High Yield	PGIM High Yield R6	\$51,623	1.70%	\$106,186	0.95%
Large Company Blend	BlackRock Equity Index F	\$549,611	18.13%	\$2,051,113	18.36%
Medium Company Value	Janus Henderson Small-Mid Cap Value N	\$44,531	1.47%	\$176,527	1.58%
Medium Company Blend	BlackRock Extended Equity Market F	\$157,924	5.21%	\$402,423	3.60%
Medium Company Growth	Delaware Smid Cap Growth R6	\$89,727	2.96%	\$325,086	2.91%
Global Large Stock Blend	BlackRock MSCI ACWI ESG Focus Index Fund F	\$41,459	1.37%	\$160,174	1.43%
Foreign Large Value	Columbia Trust Overseas Value Fund Founders Class	\$24,511	0.81%	\$106,918	0.96%
Foreign Large Blend	State Street Global All Cap Equity Ex-U.S. Index Securities Lending Series Fund Class II	\$58,767	1.94%	\$229,433	2.05%
Foreign Large Growth	Vanguard International Growth Adm	\$63,233	2.09%	\$183,219	1.64%
Specialty-Real Estate	Vanguard Real Estate Index Institutional	\$55,088	1.82%	\$255,402	2.29%

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ASSET INVESTMENT REVIEW | SUMMARY

Period Ending 9.30.22 | Q3 22

SURS Deferred Compensation P	lan				
		_	MARKET V	ALUE —	
FUND OPTION	CURRENT INVESTMENT NAME	12.31.2021	(%)	CURRENT	(%)
Target Date	SURS Lifetime Income Strategy Bond Portfolio	\$295,463	9.75%	\$1,139,961	10.21%
Target Date	SURS Lifetime Income Strategy Cash Portfolio	\$581	0.02%	\$19,223	0.17%
Target Date	SURS Lifetime Income Strategy Equity Portfolio	\$1,037,405	34.23%	\$4,048,841	36.25%
Target Date	SURS Lifetime Income Strategy Real Asset Portfolio	\$77,365	2.55%	\$266,551	2.39%
Target Date	SURS Lifetime Income Strategy Secure Income Portfolio	\$177,385	5.85%	\$620,742	5.56%
	TOTALS	\$3,031,077	100%	\$11,170,271	100%

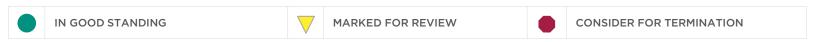
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INVESTMENT	QUANTITATIVE						QUALITATIVE		TOTALS			
		Risk-Adjusted Performance		Peers mance	St	yle	Confidence		Fund	Fund	Overall	Total
	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr	Management	Firm		Score
Inflation Protected Bond Vanguard Inflation-Protected Secs I			_					\				84
Intermediate Core Bond TIAA-CREF Core Impact Bond InstI			_				_					90
High Yield PGIM High Yield R6												97
Medium Company Value Janus Henderson Small-Mid Cap Value N	<u></u>	_	_	_			_	_			•	59
Medium Company Growth Delaware Smid Cap Growth R6	<u></u>		_				_					85
Foreign Large Value Columbia Overseas Value Inst3*												97
Foreign Large Growth Vanguard International Growth Adm					_	_						97

^{*}The mutual fund is shown here for comparative purposes due to the lack of historical data for the Columbia Trust Overseas Value Fund Founders Class CIT which was incepted on 10/30/20 and has an expense ratio of 0.30%.

LEGEND



The CAPTRUST Investment Policy Monitor ("Scorecard") is an illustration of our monitoring system and is designed to assist our clients in their efforts to provide fiduciary oversight to investment assets. It is not intended as a solicitation to buy any security. The scoring system measures quantitative areas as well as qualitative (or subjective) fields for actively managed investment options. Quantitative scoring areas include Risk Adjusted Performance vs. Relevant Peer Group; Style Attribution; and Confidence. Qualitative Scoring Areas measure the quality of the Management Team while also considering the stewardship of the investment option's parent company under Investment Family Items. Qualitative areas of analysis are subjective in nature. CAPTRUST typically requires at least 3 months of monitoring before including an investment in this report. Investments that have been added to our system less than 3 months prior to a report being generated may have a Fund Management assessment of '25' as a default, but will be updated, if necessary, after the first quarter of monitoring to more accurately reflect our system. Investments that are not mutual funds or have less than 3 years of performance history may not be scored. This material is for institutional investor use only and is not intended to be shared with individual investors.



CAPITAL PRESERVATION INVESTMENTS

INVESTMENT	Overall	Commentary
Vanguard Federal Money Market Investor*		This Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.
Voya Fixed Plus Account III		This Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.

^{*}This fund is used as the investment for plan-level forfeiture amounts. It is not available for participant-directed investment within the core investment array.

INVESTMENTS IN DISTINCT ASSET CLASSES

INVESTMENT	Overall	Commentary
Multi-Sector Bond PIMCO Income Instl	•	This fund currently meets the guidelines set forth by CAPTRUST for distinct investments in the Investment Policy Statement. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, excess return, and risk-adjusted performance.

CONTINUED...

The CAPTRUST Financial Advisors Investment Scorecard is an illustration of our monitoring system and is designed to assist our clients in their efforts to provide fiduciary oversight to investment assets. It is not intended as a solicitation to buy any security. The scoring system measures quantitative acreas as well as qualitative (or subjective) fields. Quantitative scoring areas for target date funds include Risk Adjusted Performance (3 & 5 yr.); Performance vs. Relevant Peer Group; and Glidepath. Qualitative Scoring Areas for target date funds measure the quality of the Management Team while also considering the stewardship of the investment option's parent company under Investment Family Items. Qualitative areas of analysis are subjective in nature. Qualitative Scoring for Target Date funds also includes a score for Portfolio Construction and Underlying Investment vehicles to express CAPTRUST's views on the manager or strategy. CAPTRUST typically requires at least 3 months of monitoring before including an investment in this report. Investments that have been added to our system less than 3 months prior to a report being generated may have a Fund Management assessment of '25' as a default, but will be updated, if necessary, after the first quarter of monitoring to more accurately reflect our system. Investments that are not mutual funds or have less than 3 years of performance history may not be scored. Capital Preservation options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both qualitative metrics, depending on the type of capital preservation option being evaluated, and may include quantitative criteria such as: Tracking Error, Fees, and Performance versus relevant peer group, and/or qualitative criteria such as index replication strategy, securities lending practices, and fair value pricing methodology. Distinct investment options are evaluated using a comprehensive scoring methodology proprietary to the Investment Cons



PASSIVE INVESTMENTS

INVESTMENT	Overall	Commentary
State Street U.S. Bond Index Securities Lending Series Fund Class XIV		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
BlackRock Equity Index F		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
BlackRock Extended Equity Market F	•	This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
BlackRock MSCI ACWI ESG Focus Index Fund F	•	This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
State Street Global All Cap Equity Ex-U.S. Index Securities Lending Series Fund Class II		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.
Vanguard Real Estate Index Institutional		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.

The CAPTRUST Financial Advisors Investment Scorecard is an illustration of our monitoring system and is designed to assist our clients in their efforts to provide fiduciary oversight to investment assets. It is not intended as a solicitation to buy any security. The scoring system measures quantitative areas as well as qualitative (or subjective) fields. Quantitative scoring areas for target date funds include Risk Adjusted Performance (3 & 5 yr.); Performance vs. Releivant Peer Group; and Glidepath. Qualitative Scoring Areas for target date funds measures the quality of the Management Team while also considering the stewardship of the investment option's parent company under Investment Family Items.

Qualitative areas of analysis are subjective in nature. Qualitative Scoring for Target Date funds also includes a score for Portfolio Construction and Underlying Investment vehicles to express CAPTRUST's views on the manager or strategy.

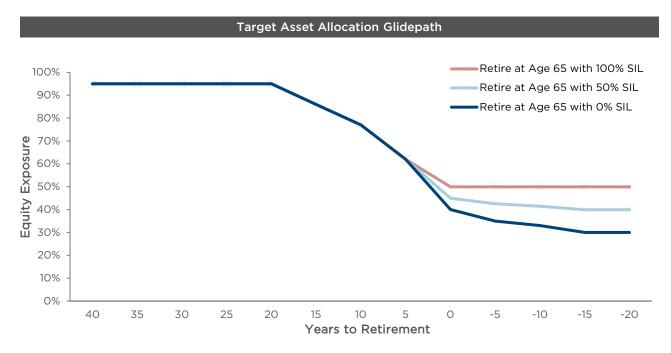
CAPTRUST typically requires at least 3 months of monitoring before including an investment in this report. Investments that have been added to our system less than 3 months prior to a report being generated may have a Fund Management assessment of '25' as a default, but will be updated, if necessary, after the first quarter of monitoring to more accurately reflect our system. Investments that are not mutual funds or have less than 3 years of performance history may not be scored. Capital Preservation options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both qualitative metrics, and/or qualitative criteria such as quality and experience of the Management Team and stewardship of the investment option's parent company. Passively Managed options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both qualitative and quantitative erriteria such as: Tracking Error, Fees, and Performance versus relevant peer group, and/or qualita



INVESTMENT STATUS

INVESTMENT	TICKER	STATUS	# OF QUARTERS	RATIONALE
Janus Henderson Small-Mid Cap Value N	JVSNX	Pending Replacement	-	We recommend replacing this fund. Recent organizational changes entail the closure of one of its Janus subsidiaries, Perkins Investment Management, creating organizational uncertainties for the strategy. Performance has significantly lagged the index and category since the initial COVID market shock of 2020. Short-term underperformance has now impacted the fund's long-term numbers. High-beta stocks and non-earners that drove the market returns during that period was a stylistic headwind for the strategy. The strategy continued to trail the index in 2021 after the market recovery broadened out, as extreme market rotation into more cyclical and commodities-driven companies also did not help the fund's performance. The strategy also failed to protect during Q1 2022's market selloff. The fund was approved for replacement by the Investment Committee during the June 2022 meeting. SURS and CAPTRUST continue to coordinate the fund's replacement with the applicable vendors.





Dedicated Asset Class/	Diversification
Equity	
U.S. Large Cap	Р
U.S. Mid Cap	Р
U.S. Small Cap	Р
International Equity	Р
Fixed Income	
U.S. Fixed Income	Р
U.S. TIPs	А
High Yield	
Emerging Markets Debt	
International Fixed Income	
Alternative	
Commodities	
Real Estate	Р
	e Management e Management

Component Portfolio Name	Underlying Fund Name	Allocation
	State Universities Retirement System Extended Equity Market U/A	11%
SURS Lifetime Income Strategy Equity Portfolio	State Universities Retirement System Equity Index U/A	49%
	State Universities Retirement System Extended Equity Market Universities Retirement System Equity Index U/A State Universities Retirement System Equity Index U/A State Street Global All Cap ex-US Index SL CI II State Street US Bond Index SL CI XIV Vanguard Inflation-Protected Securities Institutional Seet Portfolio Vanguard Real Estate Index Institutional Ortfolio Vanguard Federal Money Market Investor	40%
SURS Lifetime In c ome Strategy Bond Portfolio	State Street US Bond Index SL CI XIV	65%
SORS Lifetime income strategy Bond Portiono	Vanguard Inflation-Protected Securities Institutional	35%
SURS Lifetime Income Strategy Real Asset Portfolio	Vanguard Real Estate Index Institutional	100%
SURS Lifetime Income Strategy Cash Portfolio	Vanguard Federal Money Market Investor	100%
SURS Lifetime Income Strategy Secure Income Portfolio	AB Balanced 50/50 Collective Trust	100%

Important Disclosures: This slide is intended solely for institutional use. The opinions expressed in this report are subject to change without notice. The statistics and data have been compiled from sources believed to be reliable but are not guaranteed to be accurate or complete. Any performance quoted represents past performance and does not guarantee future results.



INVESTMENT NAME			TOTAL	RETURN			
		3Q 2022	YTD 2022	1 Year	Since Inception*		
SURS Lifetime Income Strategy Ed	quity Portfolio	(6.78)	(25.79)	(21.12)	(0.48)		
Custom Benchmark		(6.58)	(25.74)	(21.22)	(0.46)		
SURS Lifetime Income Strategy Re	eal Asset Portfolio	(11.01)	(29.29)	(18.74)	3.14		
Custom Benchmark		(10.83)	(27.93)	(16.27)	3.93		
SURS Lifetime Income Strategy Bo	ond Portfolio	(4.90)	(14.14)	(13.55)	(6.22)		
Custom Benchmark		(4.88)	(14.24)	(13.53)	(6.17)		
SURS Lifetime Income Strategy Ca	ash Portfolio	0.50	0.60	0.60	0.24		
Custom Benchmark		0.45	0.62	0.63	0.34		
SURS Lifetime Income Strategy Se	ecure Income Portfolio	(5.77)	(20.35)	(20.35) (17.45) (3.1			
Custom Benchmark		(5.39)	(19.68)	(16.58)	(2.04)		
TOTAL EXPENSE RATIO (in l	basis points)						
	SURS LIS Equity Portfolio	SURS LIS Real Asset Portfolio	SURS LIS Bond Portfolio	SURS LIS Cash Portfolio	SURS LIS Secure Income Portfolio		
Manager Fees	3.47	10.00	4.53	11.00	5.95		
Asset Allocation / Implementation / Ongoing Services Fees	6.02	6.02	6.02	6.02	5.90		
Custody Account Fee	0.11	0.11	0.11	0.11	0.11		
Benefit Admin / Contract Allocation Fees	-	-	-	-	10.00		
Insurance Fees	-	-	-	-	95.00		
Total	9.61	16.13	10.67	17.14	116.96		

^{*}Inception date is 08/26/2020 except for the Secure Income Portfolio which has an inception date of 9/14/2020.

All portfolio performance calculations are net of fees and are expressed as percentages. Periods of more than one year are annualized. The benchmark for a Lifetime Income Strategy Component is a customized benchmark that has the same target asset allocation as the corresponding component strategy's target asset allocation and uses index returns to represent performance of the asset classes. The benchmark returns were calculated by weighting the monthly index returns of each asset class by the corresponding component strategy's monthly target allocation for each asset class.

The Equity Portfolio is benchmarked against a custom fixed-weight benchmark comprising: 49% S&P 500 Index, 11% Dow Jones US Completion Total Stock Market Index and 40% MSCI ACWI Ex USA IMI Index. The Real Asset Portfolio is benchmarked against the FTSE Nareit All Equity REITs Index. The Bond Portfolio is benchmarked against a custom fixed-weight benchmark comprising: 65% Bloomberg Barclays US Global Aggregate Index and 35% Bloomberg Barclays US TIPS Index. The Cash Portfolio is benchmarked against the FTSE 3 Month US T-Bill Index. The Secure Income Portfolio is benchmarked against a custom benchmark comprising: 25% S&P 500 Index, 8% Russell 2000 Index, 17% MSCI EAFE Index, 30% Bloomberg Barclays US Aggregate Bond Index, and 20% Bloomberg Barclays US TIPS Index.



ACTIVITY SUMMARY - RSP ,	/ 401(a) Plan
Asset Summary	3Q 2022
Total LIS Participants	20,482
Total SIP Participants	6,002
Participant Services	3Q 2022
Estimates - Call Center	781
Estimates - Web	1,413
SIL Changes	58
Retirement Age Changes	72
Benefit Statistics	3Q 2022 / Since Inception
Activated Participants	31 / 182
Avg Activated GLWB %	3.36% / 3.10%
Avg Activation Age	64.9 / 66.7

/ 457(b) Plan
3Q 2022
1,609
243
3Q 2022
15
121
11
10
3Q 2022 / Since Inception
0
0.00%
0

SIP (Secure Income Portfolio) is the insured portfolio used to fund the Guaranteed Income Withdrawal Amount. Assets in this portfolio are insured through multiple group-insurance contracts. Allocations among the group-insurance contracts are unique to each participant. If your Secure Income Level is greater than 0%, your assets will be gradually allocated to the Secure Income Portfolio, beginning approximately 15 years before you are scheduled to retire. SIL (Secure Income Level) is the target percentage of your SURS LIS account – between 0% and 100% - that you want allocated over time to the Secure Income Portfolio and used to fund your Guaranteed Income Withdrawal Amount. (The default Secure Income Level is 100%.) GLWB (Guaranteed Lifetime Withdrawal Benefit) is the amount you can withdraw monthly from the Secure Income Portfolio during retirement and the amount that participating insurers will pay you annually for the remainder of your lifetime (or for the remainder of your spouse's or civil union partner's lifetime, if applicable) if the Secure Income Portfolio account balance is exhausted because the Guaranteed Income Withdrawal Amount depleted your account. The amount is recalculated each year on your birthday.



INSURANCE COMPANIES

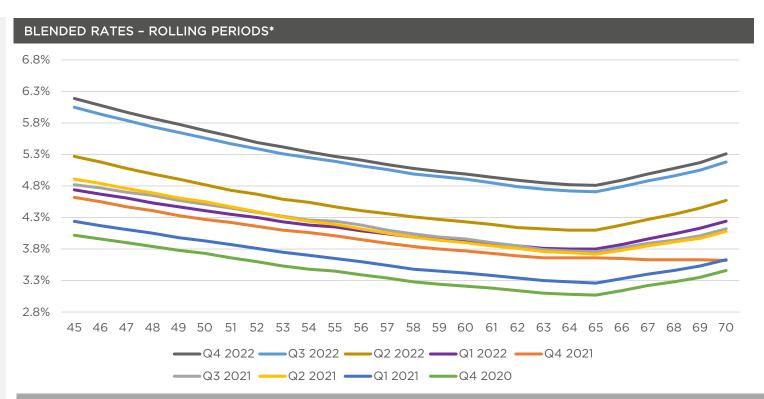
 LIS uses group contracts to provide guaranteed income withdrawal benefit

PARTICIPATING COMPANIES

- Jackson National Life Insurance
- Lincoln National Life Insurance Company
- Nationwide Life Insurance Company
- Prudential Retirement Insurance and Annuity Company

LIS RESTRICTIONS

- At least 90 days must pass between changing elections (secure income level and/or retirement age)
- If members transfer money out of SURS LIS, they cannot transfer funds into SURS LIS for 90 days
- New contributions and rollovers are not affected by the 90-day restriction



FINANCIAL STRENGTH RATINGS AND OUTLOOK											
	Jackson		Lincol	ln	Nationwi	de	Prudential				
S&P	A (6 th of 20)	Stable	A+ (5 th of 20)	Stable	A+ (5 th of 20)	Stable	AA- (4 th of 20)	Positive			
Moody's	A2 (6 th of 21)	Negative	A1 (5 th of 21)	Negative	A1 (5 th of 21)	Stable	Aa3 (4 th of 21)	Stable			
Fitch	A (6 th of 21)	Stable	A+ (5 th of 21)	Negative	-	-	AA (3 rd of 21)	Negative			
AM Best	A (3 rd of 15)	Stable	A (3 rd of 15)	Stable	A+ (2 nd of 15)	Stable	A+ (2 nd of 15)	Stable			

*Blended Rates include Deferred Retirement Bonus. Assumes a retirement age of 65.



INVESTMENT NAME	Q3 '22	YTD '22	2021	2020	2019	2018	2017	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
MONEY MARKET											
Vanguard Federal Money Market Investor	0.50%	0.67%	0.01%	0.45%	2.14%	1.78%	0.81%	0.67%	0.52%	1.06%	0.62%
ICE BofA ML US Treasury Bill 3 Mon USD	0.46%	0.61%	0.05%	0.67%	2.28%	1.87%	0.86%	0.62%	0.59%	1.15%	0.68%
STABLE VALUE											
Voya Fixed Plus Account III	-	-		Crediting Ra	te as of 9.30	.2022: 1.35%		-	-	-	-
ICE BofA ML US Treasury Bill 3 Mon USD	0.46%	0.61%	0.05%	0.67%	2.28%	1.87%	0.86%	0.62%	0.59%	1.15%	0.68%
Morningstar US Stable Value GR USD	0.43%	1.11%	1.39%	1.88%	2.15%	1.84%	1.58%	1.46%	1.64%	1.78%	1.59%
INFLATION PROTECTED BOND											
Vanguard Inflation-Protected Secs I	-5.34%	-13.47%	5.72%	11.05%	8.18%	-1.40%	2.97%	-11.55%	0.70%	1.87%	0.92%
Bloomberg US Treasury US TIPS TR USD	-5.14%	-13.61%	5.96%	10.99%	8.43%	-1.26%	3.01%	-11.57%	0.79%	1.95%	0.98%
Inflation Protected Bond Universe	-5.08%	-13.53%	5.25%	9.71%	7.50%	-1.61%	2.59%	-11.72%	0.77%	1.74%	0.70%
INTERMEDIATE CORE BOND											
State Street U.S. Bond Index Securities Lending Series Fund Class XIV	-4.73%	-14.55%	-1.62%	7.67%	8.74%	0.03%	3.55%	-14.57%	-3.21%	-0.24%	0.90%
TIAA-CREF Core Impact Bond Insti	-4.46%	-15.02%	-1.03%	7.45%	8.73%	0.33%	4.51%	-15.14%	-3.30%	-0.16%	1.49%
Bloomberg US Agg Bond TR USD	-4.75%	-14.61%	-1.55%	7.51%	8.72%	0.01%	3.54%	-14.60%	-3.26%	-0.27%	0.89%
Intermediate Core Bond Universe	-4.72%	-14.90%	-1.55%	7.96%	8.48%	-0.43%	3.39%	-15.05%	-3.25%	-0.36%	0.82%
MULTISECTOR BOND											
PIMCO Income Insti	-1.86%	-10.85%	2.61%	5.80%	8.05%	0.58%	8.60%	-10.70%	-0.26%	1.24%	4.05%
Bloomberg US Agg Bond TR USD	-4.75%	-14.61%	-1.55%	7.51%	8.72%	0.01%	3.54%	-14.60%	-3.26%	-0.27%	0.89%
Multisector Bond Universe	-2.29%	-13.49%	2.35%	6.35%	10.41%	-1.92%	6.42%	-13.68%	-1.39%	0.62%	2.13%

*ANNUALIZED

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INVESTMENT NAME	Q3 '22	YTD '22	2021	2020	2019	2018	2017	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
HIGH YIELD											
PGIM High Yield R6	-1.35%	-14.65%	6.47%	5.72%	16.26%	-1.18%	7.70%	-14.10%	-0.32%	2.09%	4.28%
Bloomberg US Corporate High Yield TR USD	-0.65%	-14.74%	5.28%	7.11%	14.32%	-2.08%	7.50%	-14.14%	-0.45%	1.57%	3.94%
High Yield Bond Universe	-0.75%	-14.42%	4.87%	5.25%	13.50%	-2.94%	6.70%	-13.88%	-0.95%	1.01%	3.16%
LARGE COMPANY BLEND											
BlackRock Equity Index F	-4.88%	-23.85%	28.74%	18.48%	31.55%	-4.34%	21.87%	-15.46%	8.20%	9.28%	11.75%
S&P 500 Index	-4.88%	-23.87%	28.71%	18.40%	31.49%	-4.38%	21.83%	-15.47%	8.16%	9.24%	11.70%
Large Blend Universe	-4.97%	-23.97%	26.63%	16.98%	29.75%	-5.79%	21.12%	-16.19%	7.12%	8.06%	10.62%
MEDIUM COMPANY VALUE											
Janus Henderson Small-Mid Cap Value N	-3.30%	-18.72%	16.48%	-3.00%	27.09%	-7.06%	14.08%	-13.07%	-0.84%	2.60%	7.05%
Russell Mid Cap Value	-4.93%	-20.36%	28.34%	4.96%	27.06%	-12.29%	13.34%	-13.56%	4.50%	4.76%	9.44%
Mid Value Universe	-4.79%	-18.61%	28.56%	2.82%	26.69%	-13.62%	13.52%	-10.97%	4.78%	4.50%	8.64%
MEDIUM COMPANY BLEND											
BlackRock Extended Equity Market F	-2.74%	-29.98%	12.45%	32.16%	28.23%	-9.15%	18.26%	-29.47%	4.25%	4.91%	9.47%
Russell Mid Cap	-3.44%	-24.27%	22.58%	17.10%	30.54%	-9.06%	18.52%	-19.39%	5.19%	6.48%	10.30%
Mid Blend Universe	-4.12%	-22.11%	24.22%	12.80%	26.75%	-11.41%	15.77%	-16.02%	5.07%	5.33%	9.25%
MEDIUM COMPANY GROWTH											
Delaware Smid Cap Growth R6	3.46%	-44.00%	-8.12%	94.51%	35.77%	0.44%	35.61%	-45.80%	2.69%	10.01%	10.42%
Russell Mid Cap Growth	-0.65%	-31.45%	12.73%	35.59%	35.47%	-4.75%	25.27%	-29.50%	4.26%	7.62%	10.85%
Mid Growth Universe	-1.88%	-31.82%	12.30%	35.34%	33.45%	-5.55%	24.81%	-29.52%	4.78%	7.61%	10.14%

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INVESTMENT NAME	Q3 '22	YTD '22	2021	2020	2019	2018	2017	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
GLOBAL LARGE STOCK BLEND											
BlackRock MSCI ACWI ESG Focus Index Fund F	-7.63%	-26.41%	18.22%	19.00%	26.87%	-	-	-21.55%	4.25%	-	-
MSCI ACWI NR USD	-6.71%	-25.34%	19.04%	16.82%	27.30%	-8.93%	24.62%	-20.29%	4.23%	4.96%	7.84%
Global Large Stock Blend	-7.24%	-25.62%	17.92%	14.40%	26.12%	-9.92%	23.62%	-20.51%	2.47%	3.71%	7.09%
FOREIGN LARGE VALUE											
Columbia Trust Overseas Value Founders Class	-8.30%	-19.80%	11.05%	-	-	-	-	-19.91%	-	-	-
Columbia Overseas Value Inst3	-8.33%	-20.68%	10.97%	-0.06%	22.61%	-16.38%	30.24%	-20.44%	-0.87%	-1.26%	4.34%
MSCI EAFE	-9.29%	-26.76%	11.78%	8.28%	22.66%	-13.36%	25.62%	-24.75%	-1.38%	-0.36%	4.15%
Foreign Large Value Universe	-11.37%	-24.27%	11.73%	2.55%	18.07%	-16.62%	22.94%	-22.44%	-1.95%	-2.41%	2.46%
FOREIGN LARGE BLEND											
State Street Global All Cap Equity Ex-U.S. Index Securities Lending Series Fund Class II	-10.15%	-27.02%	8.74%	11.36%	22.04%	-14.57%	28.18%	-25.46%	-1.18%	-0.61%	3.43%
MSCI EAFE	-9.29%	-26.76%	11.78%	8.28%	22.66%	-13.36%	25.62%	-24.75%	-1.38%	-0.36%	4.15%
Foreign Large Blend Universe	-10.41%	-28.02%	10.07%	9.53%	21.99%	-15.17%	25.46%	-26.10%	-1.77%	-1.08%	3.30%
FOREIGN LARGE GROWTH											
Vanguard International Growth Adm	-10.16%	-38.55%	-0.74%	59.74%	31.48%	-12.58%	43.16%	-40.24%	3.65%	3.12%	7.27%
MSCI EAFE	-9.29%	-26.76%	11.78%	8.28%	22.66%	-13.36%	25.62%	-24.75%	-1.38%	-0.36%	4.15%
Foreign Large Growth Universe	-9.36%	-34.09%	8.57%	22.36%	27.97%	-14.44%	31.00%	-33.00%	-1.19%	-0.01%	4.10%
SPECIALTY-REAL ESTATE											
Vanguard Real Estate Index Institutional	-11.01%	-29.25%	40.41%	-4.67%	29.02%	-5.93%	4.93%	-18.70%	-1.59%	3.11%	6.26%
Dow Jones US Select REIT	-10.37%	-29.32%	45.91%	-11.20%	23.10%	-4.22%	3.76%	-17.15%	-3.29%	1.95%	5.49%
Specialty-Real Estate Universe	-10.73%	-29.17%	41.41%	-4.43%	27.92%	-5.92%	5.36%	-17.72%	-1.09%	3.51%	6.07%

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SECTION 4: INACTIVE PLAN REVIEW
Plan Assets
Investment Monitor
Investment Performance Summary



PLAN INVESTMENT REVIEW | ASSET SUMMARY

Period Ending 9.30.22 | Q3 22

SURS	Self	Managed	Plan -	- Frozen

			_	MARKET	VALUE —	
FUND OPTION	CURRENT INVESTMENT NAME		12.31.2021	(%)	CURRENT	(%)
Money Market	CREF Money Market R3		\$6,505,022	1.65%	\$6,566,785	1.99%
Stable Value	TIAA Traditional - Retirement Choice		\$150,137,499	37.97%	\$147,307,304	44.60%
Inflation Protected Bond	CREF Inflation-Linked Bond R3		\$8,943,061	2.26%	\$7,633,547	2.31%
Intermediate Core Bond	CREF Core Bond R3		\$19,578,924	4.95%	\$15,852,163	4.80%
Global Allocation	CREF Social Choice R3		\$25,366,767	6.42%	\$19,373,385	5.87%
Allocation85%+ Equity	CREF Stock R3		\$94,291,741	23.85%	\$67,509,914	20.44%
Specialty-Private Real Estate	TIAA Real Estate Account		\$3,508,629	0.89%	\$3,703,962	1.12%
Large Company Blend	CREF Equity Index R3		\$56,837,103	14.37%	\$40,960,736	12.40%
Large Company Growth	CREF Growth R3		\$355,606	0.09%	\$232,077	0.07%
Global Large Stock Blend	CREF Global Equities R3		\$29,902,647	7.56%	\$21,168,667	6.41%
		TOTALS	\$395,426,999	100%	\$330,308,539	100%

Information provided by Record Keeper. For informational purposes. Not a substitute for official statements produced by the plan custodian. Information has been obtained from sources considered reliable, but its accuracy and completeness are not guaranteed. This report is not an illustration of investment performance, but rather a historical illustration of asset allocation.



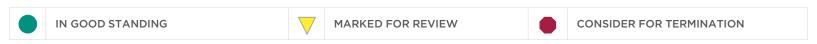
INVESTMENT REVIEW | INVESTMENT POLICY MONITOR

Period Ending 9.30.22 | Q3 22

State Universities Retirement System

INVESTMENT		QUANTITATIVE						QUALIT	ATIVE	TOTALS		
	Risk-Ad Perfori			Peers rmance	St	yle	Confi	dence	Fund	Fund	Overall	Total
	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr	3 Yr	5 Yr	Management	Firm		Score
Inflation Protected Bond CREF Inflation-Linked Bond R3												100
Intermediate Core Bond CREF Core Bond R3												97
Global Allocation CREF Social Choice R3												99
Large Company Growth CREF Growth R3		_	_	_			_	_			_	73
Global Large Stock Blend CREF Global Equities R3												94

LEGEND



The CAPTRUST Investment Policy Monitor ("Scorecard") is an illustration of our monitoring system and is designed to assist our clients in their efforts to provide fiduciary oversight to investment assets. It is not intended as a solicitation to buy any security. The scoring system measures quantitative areas as well as qualitative (or subjective) fields for actively managed investment options. Quantitative scoring areas include Risk Adjusted Performance vs. Relevant Peer Group; Style Attribution; and Confidence. Qualitative Scoring Areas measure the quality of the Management Team while also considering the stewardship of the investment option's parent company under Investment Family Items. Qualitative areas of analysis are subjective in nature. CAPTRUST typically requires at least 3 months of monitoring before including an investment in this report. Investments that have been added to our system less than 3 months prior to a report being generated may have a Fund Management assessment of '25' as a default, but will be updated, if necessary, after the first quarter of monitoring to more accurately reflect our system. Investments that are not mutual funds or have less than 3 years of performance history may not be scored. This material is for institutional investor use only and is not intended to be shared with individual investors.



SURS Self Managed Plan - Frozen

CAPITAL PRESERVATION INVESTMENTS

INVESTMENT	Overall	Commentary
CREF Money Market R3		This Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.
TIAA Traditional - Retirement Choice		This Capital Preservation option is in good standing per the guidelines as established by the Investment Policy Statement.

PASSIVE INVESTMENTS

INVESTMENT	Overall	Commentary
CREF Equity Index R3		This fund currently meets the guidelines set forth by CAPTRUST for passively managed investments. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, tracking error, and cost.

INVESTMENTS IN DISTINCT ASSET CLASSES

INVESTMENT	Overall	Commentary
CREF Stock R3	•	This fund currently meets the guidelines set forth by CAPTRUST for distinct investments in the Investment Policy Statement. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, excess return, and risk-adjusted performance.
TIAA Real Estate Account		This fund currently meets the guidelines set forth by CAPTRUST for distinct investments in the Investment Policy Statement. This assessment is based on both quantitative and qualitative data. Examples of quantitative and qualitative items considered include, but are not limited to, quality of management, excess return, and risk-adjusted performance.

The CAPTRUST Financial Advisors Investment Scorecard is an illustration of our monitoring system and is designed to assist our clients in their efforts to provide fiduciary oversight to investment assets. It is not intended as a solicitation to buy any security. The scoring system measures quantitative areas as well as qualitative (or subjective) fields. Quantitative scoring areas for target date funds measure the quality of the Management Team while also considering the stewardship of the investment option's parent company under Investment Family Items.

Qualitative areas of analysis are subjective in nature. Qualitative Scoring for Target Date funds also includes a score for Portfolio Construction and Underlying Investment vehicles to express CAPTRUST's views on the manager or strategy.

CAPTRUST typically requires at least 3 months of monitoring before including an investment in this report. Investments that have been added to our system less than 3 months prior to a report being generated may have a Fund Management assessment of '25' as a default, but will be updated, if necessary, after the first quarter of monitoring to more accurately reflect our system. Investments that are not mutual funds or have less than 3 years of performance history may not be scored. Capital Preservation options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both qualitative metrics and may include quantitative eriteria such as: Crediting Rate/Yield, Market to Book Ratio, Average Crediting Quality, Insurer Quality/Diversification, Duration, and Sector Allocations, and/or qualitative criteria such as: Tracking Error, Fees, and Performance versus relevant peer group, and/or qualitative criteria such as index replication strategy, securities lending practices, and fair value pricing methodology. Distinct investment options are evaluated using a comprehensive scoring methodology proprietary to the Investment Consultant. This methodology incorporates both



SURS Self Managed Plan - Frozen

INVESTMENT NAME	Q3 '22	YTD '22	2021	2020	2019	2018	2017	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
MONEY MARKET											
CREF Money Market R3	0.34%	0.42%	0.00%	0.38%	2.02%	1.46%	0.50%	0.42%	0.40%	0.89%	0.49%
ICE BofA ML US Treasury Bill 3 Mon USD	0.46%	0.61%	0.05%	0.67%	2.28%	1.87%	0.86%	0.62%	0.59%	1.15%	0.68%
STABLE VALUE											
TIAA Traditional - Retirement Choice	-	-	Crediting	Rate as of 9.	30.2022 – 5.7	75% (RC); 5.0	00% (RCP)	-	-	-	-
ICE BofA ML US Treasury Bill 3 Mon USD	0.46%	0.61%	0.05%	0.67%	2.28%	1.87%	0.86%	0.62%	0.59%	1.15%	0.68%
Morningstar US Stable Value GR USD	0.43%	1.11%	1.39%	1.88%	2.15%	1.84%	1.58%	1.46%	1.64%	1.78%	1.59%
INFLATION PROTECTED BOND											
CREF Inflation-Linked Bond R3	-3.41%	-7.73%	5.28%	8.03%	6.53%	-0.49%	1.85%	-6.46%	1.88%	2.27%	0.94%
Bloomberg US Treasury US TIPS TR USD	-5.14%	-13.61%	5.96%	10.99%	8.43%	-1.26%	3.01%	-11.57%	0.79%	1.95%	0.98%
Inflation Protected Bond Universe	-5.08%	-13.53%	5.25%	9.71%	7.50%	-1.61%	2.59%	-11.72%	0.77%	1.74%	0.70%
INTERMEDIATE CORE BOND											
CREF Bond Market R3	-4.09%	-14.67%	-1.23%	7.92%	9.03%	-0.19%	4.12%	-14.86%	-3.06%	-0.11%	1.07%
Bloomberg US Agg Bond TR USD	-4.75%	-14.61%	-1.55%	7.51%	8.72%	0.01%	3.54%	-14.60%	-3.26%	-0.27%	0.89%
Intermediate Core Bond Universe	-4.72%	-14.90%	-1.55%	7.96%	8.48%	-0.43%	3.39%	-15.05%	-3.25%	-0.36%	0.82%
GLOBAL ALLOCATION											
CREF Social Choice R3	-5.52%	-21.34%	12.64%	13.52%	20.80%	-4.29%	14.27%	-17.70%	1.88%	3.76%	6.03%
60% MSCI World 40% Bloomberg Agg Index	-5.94%	-21.25%	10.20%	13.49%	19.41%	-5.52%	15.41%	-18.08%	1.25%	2.85%	4.91%
Global Allocation Universe	-6.51%	-20.16%	10.84%	6.08%	17.19%	-7.63%	14.25%	-17.36%	0.43%	1.57%	3.98%

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SURS Self Managed Plan - Frozen

INVESTMENT NAME	Q3 '22	YTD '22	2021	2020	2019	2018	2017	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*
ALLOCATION85%+ EQUITY											
CREF Stock R3	-6.55%	-25.98%	18.92%	17.91%	27.45%	-9.65%	23.43%	-21.37%	4.16%	4.78%	8.30%
85% S&P 500, 15% Bloomberg Agg	-4.82%	-22.45%	23.77%	17.14%	27.97%	-3.58%	18.92%	-15.20%	6.59%	7.96%	10.15%
Allocation85%+ Equity Universe	-6.05%	-25.47%	18.36%	16.19%	25.65%	-9.38%	21.05%	-20.89%	3.60%	4.25%	7.54%
SPECIALTY-PRIVATE REAL ESTATE											
TIAA Real Estate Account	1.16%	12.11%	17.87%	-0.84%	5.51%	4.79%	4.37%	18.78%	9.86%	7.97%	8.01%
NCREIF Property Index	0.57%	9.35%	17.70%	1.60%	6.42%	6.72%	6.96%	16.08%	9.91%	8.62%	9.48%
NCREIF ODCE Index	0.52%	13.08%	22.18%	1.18%	5.34%	8.35%	7.61%	22.09%	12.37%	10.24%	10.91%
LARGE COMPANY BLEND											
CREF Equity Index R3	-4.49%	-24.65%	25.52%	20.63%	30.73%	-5.37%	20.84%	-17.69%	7.54%	8.44%	11.13%
S&P 500 Index	-4.88%	-23.87%	28.71%	18.40%	31.49%	-4.38%	21.83%	-15.47%	8.16%	9.24%	11.70%
Large Blend Universe	-4.97%	-23.97%	26.63%	16.98%	29.75%	-5.79%	21.12%	-16.19%	7.12%	8.06%	10.62%
LARGE COMPANY GROWTH											
CREF Growth R3	-5.31%	-34.74%	20.43%	40.76%	31.66%	-2.46%	31.83%	-30.26%	6.40%	8.91%	12.05%
Russell 1000 Growth	-3.60%	-30.66%	27.60%	38.49%	36.39%	-1.51%	30.21%	-22.59%	10.67%	12.17%	13.70%
Large Growth Universe	-4.25%	-32.80%	21.85%	34.98%	32.77%	-1.64%	28.72%	-27.34%	6.74%	9.07%	11.56%
GLOBAL LARGE STOCK BLEND											
CREF Global Equities R3	-7.00%	-26.39%	15.65%	22.75%	28.28%	-12.36%	24.81%	-21.93%	4.71%	4.49%	7.67%
MSCI ACWI NR USD	-6.71%	-25.34%	19.04%	16.82%	27.30%	-8.93%	24.62%	-20.29%	4.23%	4.96%	7.84%
Global Large Stock Blend	-7.24%	-25.62%	17.92%	14.40%	26.12%	-9.92%	23.62%	-20.51%	2.47%	3.71%	7.09%

This summary is intended for "Institutional (Plan Sponsor) Use Only" and only includes historical performance of the funds currently in the plan's fund lineup as compared to the peer group (universe) maintained/developed by CAPTRUST (using Morningstar open-end mutual fund data), which may include other investment types such as collective investment trusts. Fund and peer group returns are shown net of investment management fees, unless otherwise indicated, but gross of CAPTRUST advisory fees. The plan's overall performance will be reduced by CAPTRUST's advisory fees and other plan level fees not contemplated in this summary. Therefore, each participant's account performance will differ substantially. Past performance is not indicative of future results. Information from sources believed to be reliable, but not warranted by CAPTRUST to be accurate or complete.



^{*}ANNUALIZED

SECTION 5: FUND FACT SHEETS

Period Ending 6.30.22 | Q2 22

State Universities Retirement System

	CT SHEETS

Fund Fact Sheets.....



INDUSTRY ANALYSIS

Inflation eased relatively in the third quarter, but concerns persist as levels remain high. The Federal Reserve increased the overnight lending rate twice in the third quarter, an increase of 75 basis-points in each instance, to a final target range between 3.00% - 3.25%. Guaranteed contract providers continue to operate as expected, with increases to guaranteed crediting rates overall year-to-date. Following the Fed's rate increase and announcement of plans for seven or eight rate increases in total for 2022, we can expect guaranteed products to continue increasing crediting rates. When determining the guaranteed rate for a fund, insurance companies use forward-looking projections of the interest rate environment. Rising interest rates present negative pressure on current general account underlying portfolios, in the short-term, as the value of current portfolio holdings decline, but give insurer's comfort that higher yields will support the ability to offer higher guaranteed rates future quarters.

CAPTRUST ANALYSIS

The Voya Fixed Account Plus III is a Voya Retirement Insurance and Annuity Company (VRIAC) group fixed unallocated annuity contract. The product is a "general account" product meaning participant assets are commingled within the insurance general account at Voya. All guarantees are ultimately backed by the financial strength and claims-paying ability of VRIAC.

The rate is declared annually with interest credited on a daily basis at an annual effective rate. The product credits interest under a portfolio interest crediting method in which all deposits receive the same return regardless of date of initial deposit. This product is only available to existing clients.

GROSS CREDITING RATE

Current Rate: 1.35%

	INVESTMENT DETAILS						
Crediting Rate Details:	New and existing money are credited equally, rates are reset monthly.						
Competing Options:	Competing options are allowed, but they are subject to a 90-day equity wash.						
Minimum Rate:	The minimum crediting rate is 1.00% as of 6/30/2019.						

LIQUIDITY PROVISIONS						
Plan Sponsor	Participant					
Plan sponsor-directed transfers from the Fixed-Interest Option to another investment option would be restricted to 20 percent per year for five years	Benefit Responsive					

Important Disclosures: This slide is intended solely for institutional use. The opinions expressed in this report are subject to change without notice. The statistics and data have been compiled from sources believed to be reliable but are not guaranteed to be accurate or complete. Any performance quoted represents past performance and does not guarantee future results. Bloomberg Index averages are derived from Morningstar. This material is not a solicitation or an offer to buy any security or to participate in any investment strategy. Any such solicitation must be made by prospectus only. For more information or to obtain a prospectus, please contact your financial advisor at 800.216.0645. CAPTRUST Financial Advisors.



INDUSTRY ANALYSIS

The Federal Reserve increased the overnight lending rate to a target between 3.00% - 3.25%, resulting in an increase in short-term interest rates. As such, yields on money market funds have increased year-to-date and are expected to continue to closely track short-term interest rates as the Federal Reserve contemplates further action. Inflation levels continue to post record numbers in the third quarter accelerating the Fed's response timeline and two hikes to the overnight lending rate, 0.75% each, making it a total of five year-to-date. In December 2021, the SEC proposed amendments that would improve the resilience of money market funds through increased transparency and liquidity requirements for money market funds, aiming to provide funds a more substantial liquidity buffer in the event of rapid redemptions. The proposed amendments remain under regulatory review and are susceptible to changes before they are finalized and made effective.

	Last	ΥT	1	3	5	10 Year
Vanguard Federal Money Market Investor	0.50	0.67	0.67	0.52	1.06	0.62
FTSE 3 Month T-Bill	0.45	0.62	0.63	0.57	1.13	0.66
	2021	20	020	2019	2018	2017

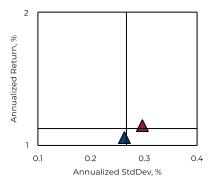
	2021	2020	2019	2018	2017
Vanguard Federal Money Market Investor	0.01	0.45	2.14	1.78	0.81
FTSE 3 Month T-Bill	0.05	0.58	2.25	1.86	0.84

	KEY MEASURES / 5 YEAR
Vanguard Federal Money Market Investor	0.26
FTSE 3 Month T-Bill	0.27

INVESTMENT PROFILE

Ticker VMFXX
Fund Inception Date 1981
Prospectus Expense Ratio 0.11 %
SEC Yield -

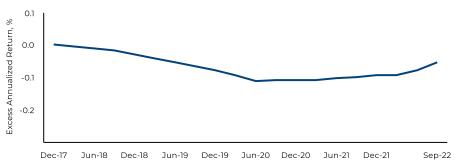
Performance vs Risk - 5 Year



Vanguard Federal Money Market Investor

90 Day U.S. Treasury Bill

Rolling 3 Year Annualized Excess Return (Dec-17 - Sep-22)



Cumulative Performance (Oct 2012 - Sep 2022)

0.80

0.06

0.05

0.04

-0.05

-0.06

-0.04

0.00

-0.80

Excess Annualized Return %

Vanguard Federal Money Market Investor

Last Qtr.

YTD

Year

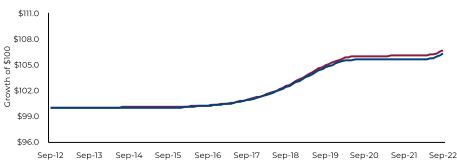
Years

Years

10

-1.60

Years



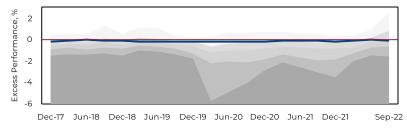
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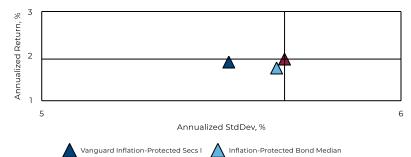
TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
Vanguard Inflation-Protected Secs I	-5.34	-13.47	-11.55	0.70	1.87	0.92	5.72	11.05	8.18	-1.40	2.97
Blmbg. U.S. TIPS	-5.14	-13.61	-11.57	0.79	1.95	0.98	5.96	10.99	8.43	-1.26	3.01
Inflation-Protected Bond Median	-5.08	-13.53	-11.72	0.77	1.74	0.70	5.25	9.70	7.50	-1.61	2.59
Rank (%)	66	47	44	54	39	31	32	26	30	43	30
Population	192	192	192	187	182	153	196	197	213	221	238

KEY MEASURES/5 YEAR									
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio		
Vanguard Inflation-Protected Secs I	0.15	-0.03	0.97	0.99	96.15	96.33	-0.19		
Blmbg. U.S. TIPS	0.17	0.00	1.00	1.00	100.00	100.00	=		
Inflation-Protected Bond Median	0.13	-0.15	0.97	0.95	91.77	96.30	-0.15		

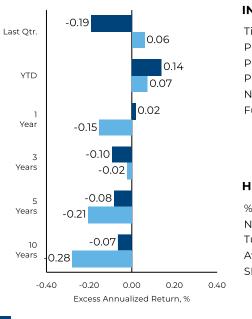
Rolling 3 Year Annualized Excess Return











INVESTMENT PROFILE

Ticker	VIPIX
Portfolio Manager	Madziyire,J
Portfolio Assets	\$12,222 Million
PM Tenure	10 Months
Net Expense(%)	0.07 %
Fund Inception	2003

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings	34.15 %
Number of Holdings	50
Turnover	24.00 %
Avg. Effective Duration	6.75 Years
SEC Yield	1.32 %

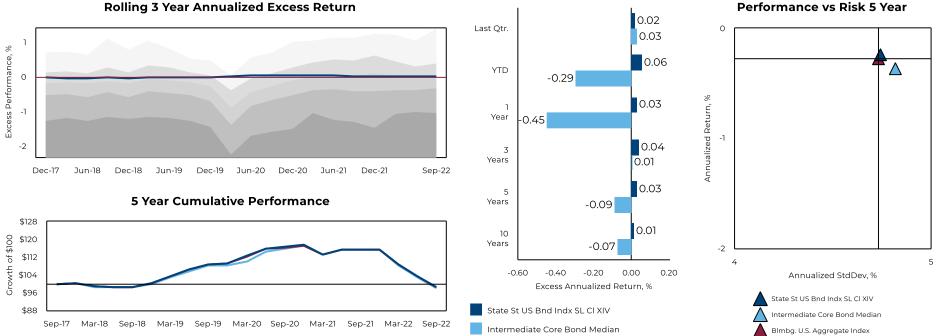
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TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
State St US Bnd Indx SL Cl XIV	-4.73	-14.55	-14.57	-3.21	-0.24	0.90	-1.62	7.67	8.74	0.03	3.55
Blmbg. U.S. Aggregate Index	-4.75	-14.61	-14.60	-3.26	-0.27	0.89	-1.55	7.51	8.72	0.01	3.54
Intermediate Core Bond Median	-4.72	-14.90	-15.05	-3.25	-0.36	0.82	-1.55	7.96	8.48	-0.43	3.39
Rank (%)	52	32	27	47	38	43	54	59	34	25	42
Population	408	408	408	392	371	345	411	413	431	432	486

KEY MEASURES/5 YEAR									
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio		
State St US Bnd Indx SL CI XIV	-0.27	0.03	1.00	1.00	100.68	100.10	0.66		
Blmbg. U.S. Aggregate Index	-0.28	0.00	1.00	1.00	100.00	100.00	=		
Intermediate Core Bond Median	-0.28	-0.07	1.00	0.95	101.19	102.53	-0.06		

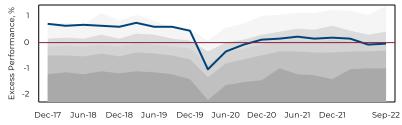
Rolling 3 Year Annualized Excess Return



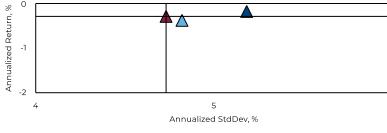
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TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
TIAA-CREF Core Impact Bond Instl	-4.46	-15.02	-15.14	-3.30	-0.16	1.49	-1.03	7.45	8.73	0.33	4.51
Blmbg. U.S. Aggregate Index	-4.75	-14.61	-14.60	-3.26	-0.27	0.89	-1.55	7.51	8.72	0.01	3.54
Intermediate Core Bond Median	-4.72	-14.90	-15.05	-3.25	-0.36	0.82	-1.55	7.96	8.48	-0.43	3.39
Rank (%)	22	57	54	54	30	5	25	66	34	12	9
Population	408	408	408	392	371	345	411	413	431	432	486

KEY MEASURES/5 YEAR												
Sharpe Alpha Beta R-Squared Up Down Information Ratio Capture Capture Ratio												
TIAA-CREF Core Impact Bond Instl	-0.22	0.14	1.02	0.86	108.08	105.65	0.07					
Blmbg. U.S. Aggregate Index	-0.28	0.00	1.00	1.00	100.00	100.00	=					
Intermediate Core Bond Median	-0.28	-0.07	1.00	0.95	101.19	102.53	-0.06					













INVESTMENT PROFILE

Ticker	TSBIX
Portfolio Manager	Team Managed
Portfolio Assets	\$3,978 Million
PM Tenure	10 Years
Net Expense(%)	0.38 %
Fund Inception	2012

HOLDINGS OVERVIEW

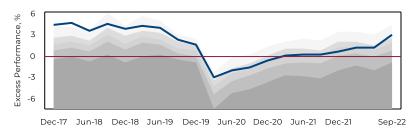
% Assets in Top 10 Holdings	14.45 %
Number of Holdings	1050
Turnover	255.00 %
Avg. Effective Duration	6.27 Years
SEC Yield	4.15 %

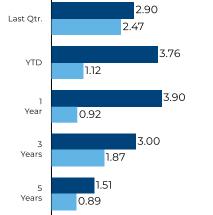
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TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
PIMCO Income Instl	-1.86	-10.85	-10.70	-0.26	1.24	4.05	2.61	5.80	8.05	0.58	8.60
Blmbg. U.S. Aggregate Index	-4.75	-14.61	-14.60	-3.26	-0.27	0.89	-1.55	7.51	8.72	0.01	3.54
Multisector Bond Median	-2.29	-13.49	-13.68	-1.39	0.62	2.13	2.35	6.35	10.41	-1.92	6.42
Rank (%)	28	25	24	18	21	1	42	56	80	13	16
Population	330	330	330	300	261	187	333	330	306	330	325

KEY MEASURES/5 YEAR										
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio			
PIMCO Income Instl	0.04	1.50	0.64	0.30	84.97	59.93	0.31			
Blmbg. U.S. Aggregate Index	-0.28	0.00	1.00	1.00	100.00	100.00	=			
Multisector Bond Median	-0.04	1.02	0.79	0.27	95.54	83.52	0.17			



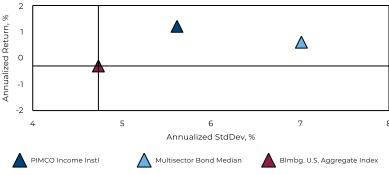


INVESTMENT PROFILE

HOLDINGS OVERVIEW

Ticker	PIMIX
Portfolio Manager	Anderson, J/Ivascyn, D/Murata, A
Portfolio Assets	\$65,602 Million
PM Tenure	15 Years 6 Months
Net Expense(%)	0.51 %
Fund Inception	2007

Performance vs Risk 5 Year





% Assets in Top 10 Holdings 7.15 % Number of Holdings 8092 Turnover 319.00 % Avg. Effective Duration 2.94 Years SEC Yield 4.49 %

PIMCO Income Instl

Multisector Bond Median

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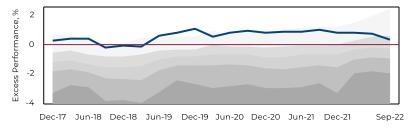
TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
PGIM High Yield R6	-1.39	-14.68	-14.14	-0.33	2.08	4.27	6.47	5.72	16.26	-1.18	7.70
ICE BofA US High Yield, Cash Pay Index	-0.70	-14.61	-14.02	-0.69	1.39	3.84	5.28	6.21	14.40	-2.26	7.48
High Yield Bond Median	-0.75	-14.42	-13.88	-0.95	1.01	3.16	4.87	5.25	13.50	-2.94	6.70
Rank (%)	83	56	56	30	12	6	17	39	5	13	21
Population	631	631	626	607	598	510	639	653	687	705	743

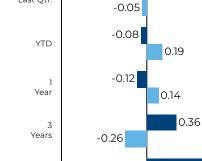
KEY MEASURES/5 YEAR											
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio				
PGIM High Yield R6	0.15	0.67	1.01	0.99	104.37	97.49	0.68				
ICE BofA US High Yield, Cash Pay Index	0.07	0.00	1.00	1.00	100.00	100.00	-				
High Yield Bond Median	0.03	-0.35	0.97	0.98	94.38	97.90	-0.26				

0.69

Last Qtr

Rolling 3 Year Annualized Excess Return



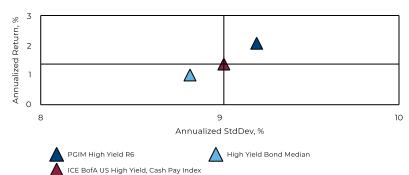


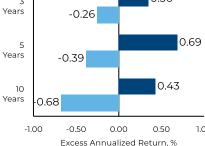
INVESTMENT PROFILE

HOLDINGS OVERVIEW

Ticker	PHYQX
Portfolio Manager	Team Managed
Portfolio Assets	\$7,368 Million
PM Tenure	14 Years 11 Months
Net Expense(%)	0.38 %
Fund Inception	2011

Performance vs Risk 5 Year





% Assets in Top 10 Holdings Number of Holdings Turnover

Turnover 56.00 %
Avg. Effective Duration 4.49 Years
SEC Yield 9.49 %

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PGIM High Yield R6

High Yield Bond Median

13.02 %

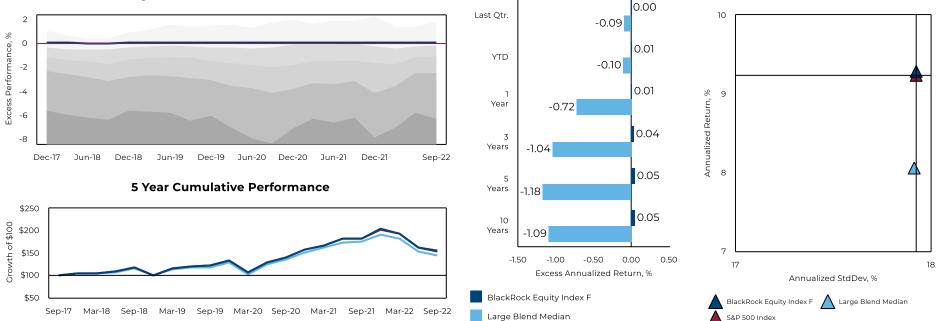
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Performance vs Risk 5 Year

TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
BlackRock Equity Index F	-4.88	-23.85	-15.46	8.20	9.28	11.75	28.74	18.48	31.55	-4.34	21.87
S&P 500 Index	-4.88	-23.87	-15.47	8.16	9.24	11.70	28.71	18.40	31.49	-4.38	21.83
Large Blend Median	-4.97	-23.97	-16.19	7.12	8.06	10.62	26.63	16.98	29.75	-5.79	21.12
Rank (%)	44	46	36	19	15	10	20	33	22	21	32
Population	1,228	1,228	1,222	1,173	1,137	1,010	1,227	1,259	1,304	1,337	1,397

KEY MEASURES/5 YEAR										
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio			
BlackRock Equity Index F	0.52	0.04	1.00	1.00	100.11	99.95	1.85			
S&P 500 Index	0.52	0.00	1.00	1.00	100.00	100.00	-			
Large Blend Median	0.46	-0.91	0.99	0.97	96.59	100.34	-0.46			

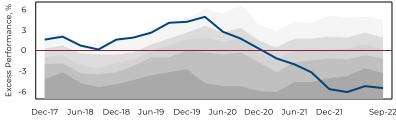
Rolling 3 Year Annualized Excess Return

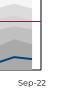


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TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
Janus Henderson Small-Mid Cap Value N	-3.30	-18.72	-13.07	-0.84	2.60	7.05	16.48	-3.00	27.09	-7.06	14.08
Russell 2500 Value Index	-4.50	-20.41	-15.35	4.52	3.78	8.41	27.78	4.88	23.56	-12.36	10.36
Mid-Cap Value Median	-4.79	-18.61	-10.97	4.78	4.50	8.64	28.56	2.82	26.69	-13.62	13.52
Rank (%)	7	55	69	99	83	92	97	89	46	4	41
Population	375	375	374	369	365	321	380	391	411	446	445

KEY MEASURES/5 YEAR											
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio				
Janus Henderson Small-Mid Cap Value N	0.17	-0.76	0.81	0.94	80.78	83.64	-0.31				
Russell 2500 Value Index	0.23	0.00	1.00	1.00	100.00	100.00	-				
Mid-Cap Value Median	0.27	0.93	0.91	0.95	92.19	90.15	0.07				







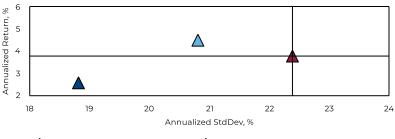
INVESTMENT PROFILE

Ticker	JVSNX
Portfolio Manager	Preloger,K/Tugman,J
Portfolio Assets	\$57 Million
PM Tenure	3 Years 1 Month
Net Expense(%)	0.76 %
Fund Inception	2017

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings	27.76 %
Number of Holdings	51
Turnover	80.00 %
Avg. Market Cap	\$5,554 Million
Dividend Yield	1.71 %

Performance vs Risk 5 Year







Janus Henderson Small-Mid Cap Value N Mid-Cap Value Median

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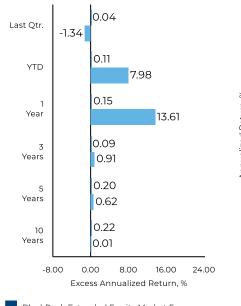
Russell 2500 Value Index

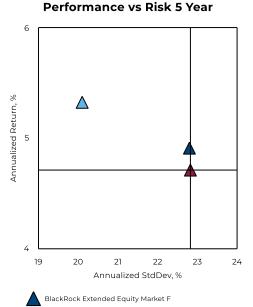
TRAILING AND CALENDAR RETURNS												
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017	
BlackRock Extended Equity Market F	-2.74	-29.98	-29.47	4.25	4.91	9.47	12.45	32.16	28.23	-9.15	18.26	
Dow Jones U.S. Completion Total Stock Market Indx	-2.78	-30.09	-29.62	4.16	4.72	9.25	12.35	32.16	27.94	-9.57	18.12	
Mid-Cap Blend Median	-4.12	-22.11	-16.02	5.07	5.33	9.25	24.22	12.80	26.75	-11.41	15.77	
Rank (%)	28	96	98	70	61	43	96	2	39	24	27	
Population	341	341	341	327	313	258	344	356	375	390	400	

KEY MEASURES/5 YEAR										
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio			
BlackRock Extended Equity Market F	0.28	0.19	1.00	1.00	100.43	99.84	1.52			
Dow Jones U.S. Completion Total Stock Market Indx	0.27	0.00	1.00	1.00	100.00	100.00	=			
Mid-Cap Blend Median	0.30	1.17	0.84	0.90	84.19	81.59	0.02			

Excess Der Government of the Control of the Control

Rolling 3 Year Annualized Excess Return





5 Year Cumulative Performance

Jun-20

Dec-20

Jun-21

Dec-21

Sep-22

Dec-19



BlackRock Extended Equity Market F

Mid-Cap Blend Median

Mid-Cap Blend Median

Dow Jones U.S. Completion Total Stock Market Indx

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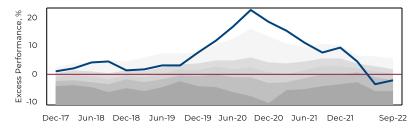
Jun-18

Dec-18

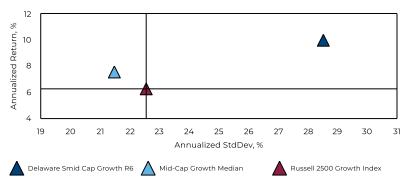
Jun-19

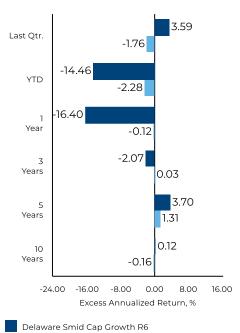
TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
Delaware Smid Cap Growth R6	3.46	-44.00	-45.80	2.69	10.01	10.42	-8.12	94.51	35.77	0.44	35.61
Russell 2500 Growth Index	-0.12	-29.54	-29.39	4.76	6.30	10.30	5.04	40.47	32.65	-7.47	24.46
Mid-Cap Growth Median	-1.88	-31.82	-29.52	4.78	7.61	10.14	12.30	35.34	33.45	-5.55	24.81
Rank (%)	3	96	96	72	10	44	97	4	33	11	4
Population	566	566	561	530	512	477	569	576	589	600	622

KEY MEASURES/5 YEAR										
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio			
Delaware Smid Cap Growth R6	0.44	3.56	1.17	0.85	127.39	117.12	0.43			
Russell 2500 Growth Index	0.33	0.00	1.00	1.00	100.00	100.00	-			
Mid-Cap Growth Median	0.39	1.83	0.92	0.92	92.60	87.25	0.14			



Performance vs Risk 5 Year





INVESTMENT PROFILE

licker	DFZRX
Portfolio Manager	Ely,W
Portfolio Assets	\$88 Million
PM Tenure	6 Years 3 Months
Net Expense(%)	0.71 %
Fund Inception	2016

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings	50.20 %
Number of Holdings	33
Turnover	81.00 %
Avg. Market Cap	\$7,570 Million
Dividend Yield	0.02 %

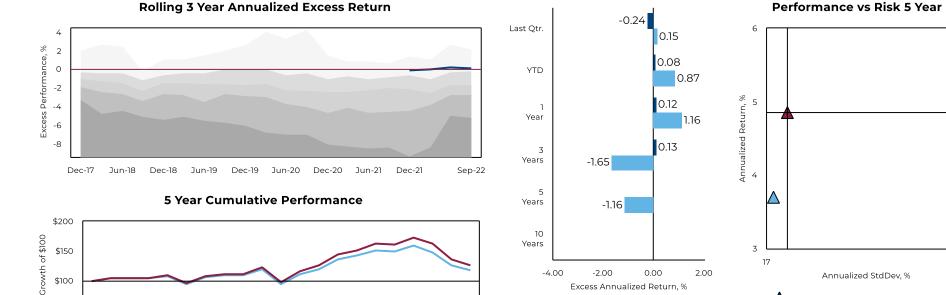
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Mid-Cap Growth Median

Sep-18 Mar-19 Sep-19 Mar-20 Sep-20 Mar-21 Sep-21 Mar-22 Sep-22

	TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017	
BlackRock MSCI ACWI ESG Focus Index F	-7.63	-26.41	-21.55	4.25	-	-	18.22	18.99	26.87	=	-	
MSCI AC World ESG Focus Index (Net)	-7.39	-26.49	-21.67	4.13	4.87	=	18.31	18.55	27.44	-8.69	24.57	
Global Large-Stock Blend Median	-7.24	-25.62	-20.51	2.47	3.71	7.09	17.92	14.40	26.12	-9.92	23.62	
Rank (%)	66	58	66	23	=	-	45	13	38	-	-	
Population	316	316	306	283	261	205	313	310	299	289	275	

KEY MEASURES/5 YEAR										
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio			
BlackRock MSCI ACWI ESG Focus Index F	-	-	-	-	-	-	-			
MSCI AC World ESG Focus Index (Net)	0.30	0.00	1.00	1.00	100.00	100.00	=			
Global Large-Stock Blend Median	0.24	-0.75	0.97	0.96	92.69	96.44	-0.28			



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Excess Annualized Return, %

BlackRock MSCI ACWI ESG Focus Index F

Global Large-Stock Blend Median

18

BlackRock MSCI ACWI ESG Focus Index F

MSCI AC World ESG Focus Index (Net)

\$50

Performance vs Risk 5 Year

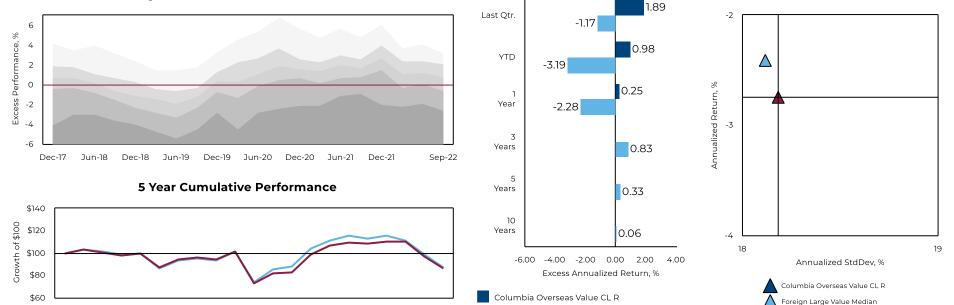
MSCI EAFE Value Index (Net)

TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
Columbia Overseas Value CL R	-8.31	-20.10	-19.91	-	-	-	10.92	-	_	_	-
MSCI EAFE Value Index (Net)	-10.20	-21.08	-20.16	-2.79	-2.74	2.39	10.89	-2.63	16.09	-14.78	21.44
Foreign Large Value Median	-11.37	-24.27	-22.44	-1.95	-2.41	2.46	11.73	2.55	18.07	-16.62	22.94
Rank (%)	2	13	19	-	-	-	58	-	-	-	-
Population	308	308	306	291	278	246	314	330	343	341	362

KEY MEASURES/5 YEAR									
Sharpe Alpha Beta R-Squared Up Down Information Ratio Ratio Capture Capture Ratio									
Columbia Overseas Value CL R	-	-	-	-	-	-	-		
MSCI EAFE Value Index (Net)	-0.12	0.00	1.00	1.00	100.00	100.00	-		
Foreign Large Value Median	-0.10	0.40	0.97	0.93	100.53	98.68	0.09		

Rolling 3 Year Annualized Excess Return

Sep-17 Mar-18 Sep-18 Mar-19 Sep-19 Mar-20 Sep-20 Mar-21 Sep-21 Mar-22 Sep-22



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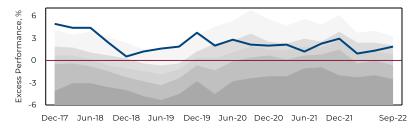
Foreign Large Value Median

TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
Columbia Overseas Value Inst3	-8.33	-20.68	-20.44	-0.87	-1.26	4.34	10.97	-0.06	22.61	-16.38	30.24
MSCI EAFE Value Index (Net)	-10.20	-21.08	-20.16	-2.79	-2.74	2.39	10.89	-2.63	16.09	-14.78	21.44
Foreign Large Value Median	-11.37	-24.27	-22.44	-1.95	-2.41	2.46	11.73	2.55	18.07	-16.62	22.94
Rank (%)	2	13	24	28	16	6	57	73	12	48	1
Population	308	308	306	291	278	246	314	330	343	341	362

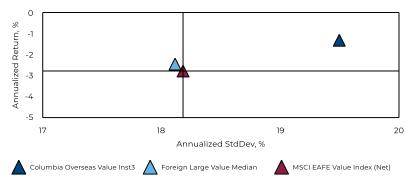
KEY MEASURES/5 YEAR									
Sharpe Alpha Beta R-Squared Up Down Information Ratio Capture Capture Ratio									
Columbia Overseas Value Inst3	-0.02	1.84	1.05	0.96	112.14	104.23	0.43		
MSCI EAFE Value Index (Net)	-0.12	0.00	1.00	1.00	100.00	100.00	=		
Foreign Large Value Median	-0.10	0.40	0.97	0.93	100.53	98.68	0.09		

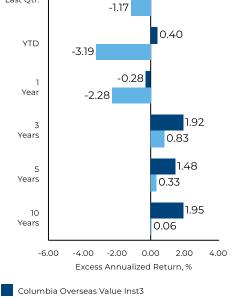
Last Qtr

Rolling 3 Year Annualized Excess Return



Performance vs Risk 5 Year





1.87

INVESTMENT PROFILE

Ticker	COSYX
Portfolio Manager	Copper,F/Nomoto,D
Portfolio Assets	\$628 Million
PM Tenure	14 Years 6 Months
Net Expense(%)	0.77 %
Fund Inception	2015

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings	25.50 %
Number of Holdings	126
Turnover	43.00 %
Avg. Market Cap	\$17,505 Million
Dividend Yield	5.43 %

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Foreign Large Value Median



Performance vs Risk 5 Year

Foreign Large Blend Median

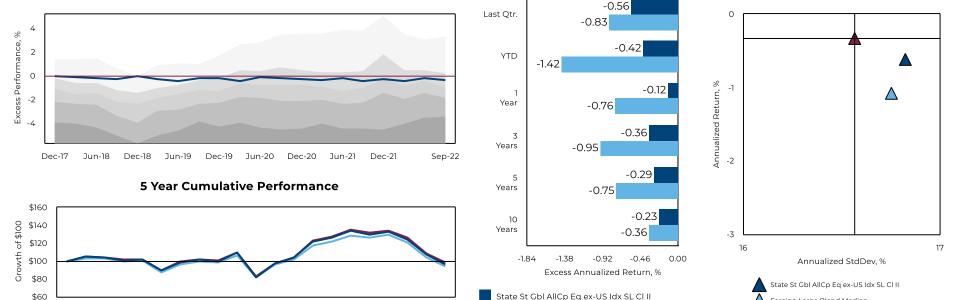
MSCI AC World ex USA IMI

TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
State St Gbl AllCp Eq ex-US Idx SL CI II	-10.15	-27.02	-25.46	-1.18	-0.61	3.43	8.74	11.36	22.04	-14.57	28.18
MSCI AC World ex USA IMI	-9.58	-26.60	-25.34	-0.83	-0.32	3.66	8.99	11.59	22.24	-14.35	28.38
Foreign Large Blend Median	-10.41	-28.02	-26.10	-1.77	-1.08	3.30	10.07	9.53	21.99	-15.17	25.46
Rank (%)	40	30	35	36	34	43	63	40	50	42	21
Population	684	684	682	661	618	529	713	749	757	752	798

KEY MEASURES/5 YEAR							
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio
State St Gbl AllCp Eq ex-US Idx SL CI II	-0.02	-0.26	1.01	0.99	100.84	102.00	-0.18
MSCI AC World ex USA IMI	0.00	0.00	1.00	1.00	100.00	100.00	- -
Foreign Large Blend Median	-0.05	-0.72	0.99	0.95	98.26	101.92	-0.21

Rolling 3 Year Annualized Excess Return

Sep-17 Mar-18 Sep-18 Mar-19 Sep-19 Mar-20 Sep-20 Mar-21 Sep-21 Mar-22 Sep-22

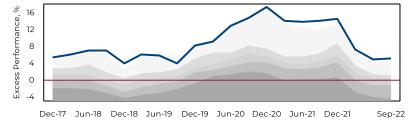


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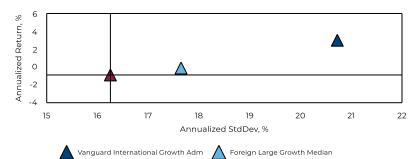
Foreign Large Blend Median

TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
Vanguard International Growth Adm	-10.16	-38.55	-40.24	3.65	3.12	7.27	-0.74	59.74	31.48	-12.58	43.16
MSCI AC World ex USA (Net)	-9.91	-26.50	-25.17	-1.52	-0.81	3.01	7.82	10.65	21.51	-14.20	27.19
Foreign Large Growth Median	-9.36	-34.09	-33.00	-1.19	-0.01	4.10	8.57	22.36	27.97	-14.44	31.00
Rank (%)	76	79	88	4	8	4	88	2	22	34	7
Population	435	435	434	404	387	324	436	427	432	445	458

KEY MEASURES/5 YEAR							
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio
Vanguard International Growth Adm	0.20	4.72	1.14	0.80	126.70	105.70	0.49
MSCI AC World ex USA (Net)	-0.04	0.00	1.00	1.00	100.00	100.00	=
Foreign Large Growth Median	0.03	1.18	1.01	0.85	105.12	100.22	0.17



Performance vs Risk 5 Year





INVESTMENT PROFILE

Ticker	VVVILX
Portfolio Manager	Team Managed
Portfolio Assets	\$32,089 Million
PM Tenure	12 Years 9 Months
Net Expense(%)	0.32 %
Fund Inception	2001

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings	33.49 %
Number of Holdings	147
Turnover	25.00 %
Avg. Market Cap	\$58,206 Million
Dividend Yield	1.35 %

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Foreign Large Growth Median

MSCI AC World ex USA (Net)

TRAILING AND CALENDAR RETURNS											
	Last Quarter	YTD	1 Year	3 Years	5 Years	10 Years	2021	2020	2019	2018	2017
Vanguard Real Estate Index Institutional	-11.01	-29.25	-18.70	-1.59	3.11	6.26	40.41	-4.67	29.02	-5.93	4.93
MSCI U.S. IMI Real Estate 25/50 Index	-10.98	-29.20	-18.62	-1.49	3.70	-	40.56	-4.55	29.03	-4.59	9.05
Real Estate Median	-10.73	-29.17	-17.72	-1.09	3.51	6.07	41.41	-4.43	27.92	-5.92	5.36
Rank (%)	68	54	67	59	61	41	64	53	37	51	60
Population	221	221	221	217	206	188	226	230	248	246	262

		KEY M	EASURES/5	YEAR			
	Sharpe Ratio	Alpha	Beta	R-Squared	Up Capture	Down Capture	Information Ratio
Vanguard Real Estate Index Institutional	0.20	-0.58	1.01	1.00	99.59	101.94	-0.59
MSCI U.S. IMI Real Estate 25/50 Index	0.23	0.00	1.00	1.00	100.00	100.00	-
Real Estate Median	0.22	-0.05	0.97	0.98	97.51	98.57	-0.07

Performance vs Risk 5 Year

Rolling 3 Year Annualized Excess Return



INVESTMENT PROFILE

Ticker	VGSNX
Portfolio Manager	Nejman,W/O'Reilly,G
Portfolio Assets	\$9,553 Million
PM Tenure	26 Years 4 Months
Net Expense(%)	0.10 %
Fund Inception	2003

HOLDINGS OVERVIEW

% Assets in Top 10 Holdings	45.94 %
Number of Holdings	171
Turnover	7.00 %
Avg. Market Cap	\$21,815 Million
Dividend Yield	3.43 %

2		
18		20
	Annualized StdDev, %	
	Vanguard Real Estate Index Institutional Real Estate Median	
	MSCI U.S. IMI Real Estate 25/50 Index	

Vanguard Real Estate Index Institutional
Real Estate Median

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Annualized Return, %

APPENDIX
Period Ending 9.30.22 | Q3 22

State Universities Retirement System

APPENDIX
Glossary of Terms
Evaluation Methodology



GLOSSARY

Period Ending 9.30.22 | Q3 22

ALPHA

Alpha measures a manager's rate of return in excess of that which can be explained by its systematic risk, or Beta. It is a result of regressing a manager's returns against those of a benchmark index. A positive alpha implies that a manager has added value relative to its benchmark on a risk-adjusted basis.

BATTING AVERAGE

Batting Average, an indicator of consistency, measures the percentage of time an active manager outperformed the benchmark.

BETA

Beta measures a manager's sensitivity to systematic, or market risk. Beta is a result of the analysis regressing a manager's returns against those of a benchmark Index. A manager with a Beta of 1 should move perfectly with a benchmark. A Beta of less than 1 implies that a manager's returns are less volatile than the market's (i.e., selected benchmarks). A Beta of greater than 1 implies that a manager exhibits greater volatility than the market (i.e., selected benchmark).

CAPTURE RATIO

Up Market Capture is the average return of a manager relative to a benchmark index using only periods where the benchmark return was positive. Down Market Capture is the average return of a manager relative to a benchmark index using only periods where the benchmark return was negative. An Up Market Capture of greater than 100% and a Down Market Capture of less than 100% is considered desirable.

INFORMATION RATIO

The Information Ratio measures a manager's excess return over the passive index divided by the volatility of that excess return, or Tracking Error. To obtain a higher Information Ratio, which is preferable, a manager must demonstrate the ability to generate returns above its benchmark while avoiding large performance swings relative to that same benchmark.

PERCENTILE RANK

Percentile Rankings are based on a manager's performance relative to all other available funds in its universe. Percentiles range from 1, being the best, to 100 being the worst. A ranking in the 50th percentile or above demonstrates that the manager has performed better on a relative basis than at least 50% of its peers.

RISK-ADJUSTED PERFORMANCE

Risk-adjusted Performance, or RAP, measures the level of return that an investment option would generate given a level of risk equivalent to the benchmark index.

R-SQUARED

R-squared measures the portion of a manager's movements that are explained by movements in a benchmark index. R-squared values range from 0 to 100. An R-squared of 100 means that all movements of a manager are completely explained by movements in the index. This measurement is identified as the coefficient of determination from a regression equation. A high R-squared value supports the validity of the Alpha and Beta measures, and it can be used as a measure of style consistency.

SHARPE RATIO

Sharpe ratio measures a manager's return per unit of risk, or standard deviation. It is the ratio of a manager's excess return above the risk-free rate divided by a manager's standard deviation. A higher sharpe ratio implies greater manager efficiency.

STANDARD DEVIATION

Standard Deviation is a measure of the extent to which observations in a series vary from the arithmetic mean of the series. This measure of volatility or risk allows the estimation of a range of values for a manager's returns. The wider the range, the more uncertainty, and, therefore, the riskier a manager is assumed to be.

TRACKING ERROR

Tracking Error is the standard deviation of the portfolio's residual (i.e. excess) returns. The lower the tracking error, the closer the portfolio returns have been to its risk index. Aggressively managed portfolios would be expected to have higher tracking errors than portfolios with a more conservative investment style.

TREYNOR RATIO

The Treynor Ratio is a measure of reward per unit of risk. With Treynor, the numerator (i.e. reward) is defined as the annualized excess return of the portfolio versus the risk-free rate. The denominator (i.e. risk) is defined as the portfolio beta. The result is a measure of excess return per unit of portfolio systematic risk. As with Sharpe and Sortino, the Treynor Ratio only has value when it is used as the basis of comparison between portfolios. The higher the Treynor Ratio, the better.



State Universities Retirement System

MARKED FOR REVIEW

The following categories of the Investment Policy Monitor appear "Marked For Review" when:

CAPTRUST's Investment Policy Monitoring Methodology

The Investment Policy Monitoring Methodology document describes the systems and procedures CAPTRUST uses to monitor and evaluate the investment vehicles in your plan/account on a quarterly basis.

Our current Investment Policy Monitoring Methodology document can be accessed through the following link:

captrust.com/investmentmonitoring

QUANTITATIVE EVALUATION ITEMS

3/5 Year Risk- adjusted Performance

The investment option's 3 or 5 Year Annualized Risk Adjusted Performance falls below the 50th percentile of the peer group.

3/5 Year Performance vs. Peers

The investment option's 3 or 5 Year Annualized Peer Relative Performance falls below the 50th percentile of the peer group.

3/5 Year Style

The investment option's 3 or 5 Year R-Squared measure falls below the absolute threshold set per asset class.

3/5 Year Confidence

The investment option's 3 or 5 Year Confidence Rating falls below the 50th percentile of the peer group.

Glidepath Assessment

% of Equity Exposure: The combined percentage of an investment option's equity exposure ranks in the top 20th percentile or bottom 20th percentile of the peer group.

Regression to the Benchmark: The investment option's sensitivity to market risk - as measured by beta relative to a Global Equity Index - is above 0.89.

QUALITATIVE EVALUATION ITEMS

Fund Management

A significant disruption to the investment option's management team has been discovered.

Fund Family

A significant disruption to the investment option's parent company has been discovered.

Portfolio Construction

The investment option's combined Portfolio Construction score is 6 or below out of a possible 15 points.

Underlying Investment Vehicles

The investment option's combined Underlying Investment Vehicles score is 6 or below out of a possible 15 points.

