

City of Phoenix Employees' Retirement System

COPERS

Portfolio Report

As Of September 2023

Report created: January 2024

PRIVATE AND CONFIDENTIAL: These materials are strictly confidential, constitute trade secrets, are intended solely for the use of the individual or entity named herein ("Intended Recipient") and may not be reproduced, distributed, posted electronically or incorporated into other documents in whole or in part except for the personal reference of the Intended Recipient. If you are not the Intended Recipient you are hereby requested to either destroy or return these documents to Aksia LLC, or any of its affiliates.

Real Estate Overview

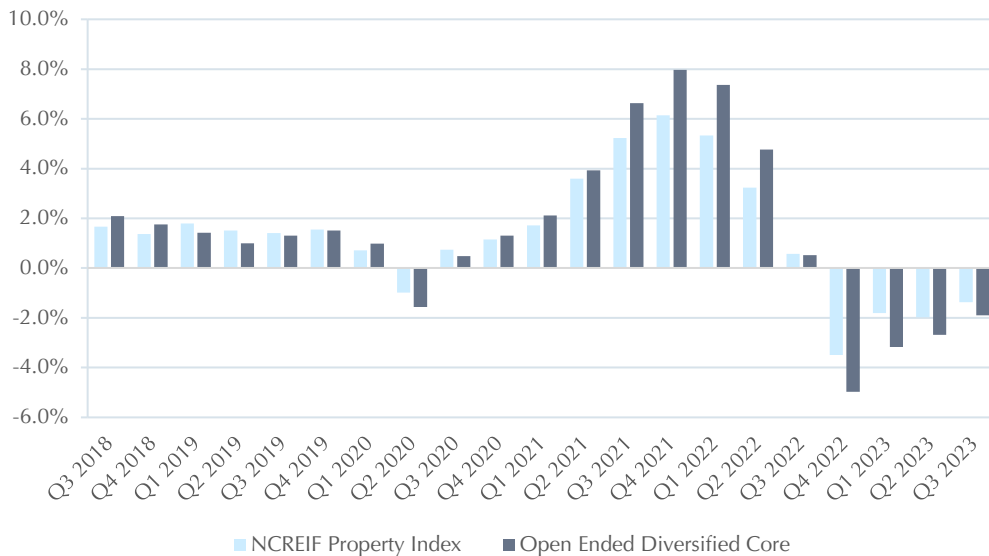
Tailwinds

- In our view, the industrial sector fundamentals remain strong, stemming from a secular trend toward more e-commerce, supply chain reconfiguration and “near-shoring” impacts, which have been accelerated by the pandemic, though increased supply could dampen rental rate growth, particularly for mid-size and big-box distribution warehouses.
- We observed that overall performance of market-rate multifamily assets remains steady in most markets, buoyed by higher mortgage rates. Though concerns are emerging in certain markets with high supply coming online in 2023 and into 2024, which likely will result in upticks in vacancy rates and slower rental rate growth.
- Hotel occupancy rates and RevPAR continue to be strong on the backs of a resilient consumer spendings. Though hospitality’s correlation to economic conditions are cause for concern as the impact of higher interest rates erode

Headwinds

- The historically-sharp increase in base rates has resulted in strong downward pressure on real estate valuations, albeit slower to manifest in private markets due to severely reduced transaction volumes.
- From market observations we concluded that:
- Increases in interest have resulted in higher cost of debt for many real estate owners, leading to higher yield-requirements (cap rates) for investors as well as non-accretive (negative) leverage at deal origination.
 - Debt availability for new acquisitions is limited as many traditional lenders pull back due to DSCR / debt yield thresholds and higher capital requirements.
 - Office leasing continues to be focused primarily on “trophy” properties as the flight to quality trend persists amongst tenants. Recent pullbacks in expansion plans / increase in sublease activity from large tech companies are cause for concern. Many office owners in downtrodden financial center markets such as San Francisco, Seattle and New York are deciding to give back assets to lenders as opposed to re-investing capital in hopes of equity recovery.

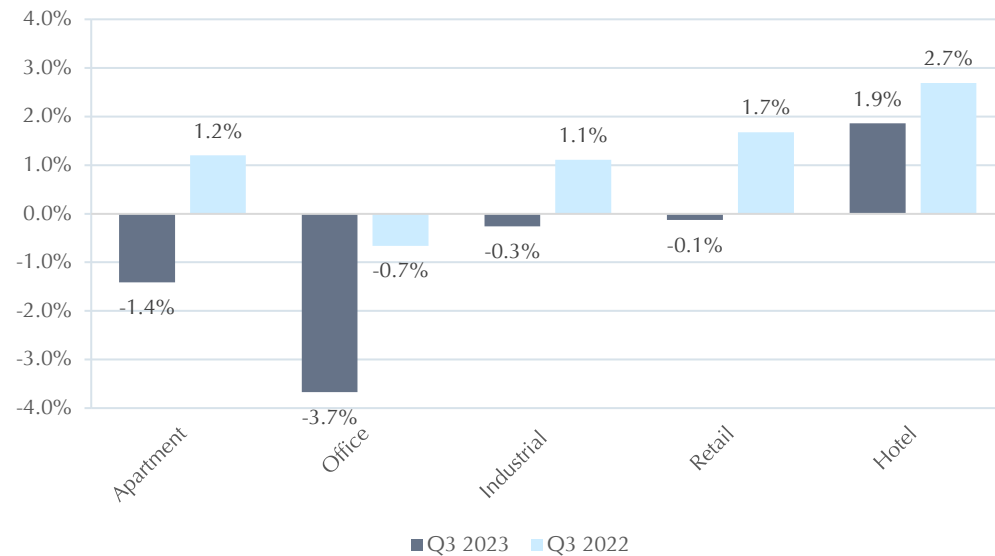
Figure 1: Cross Quarterly Returns | %



Performance at a Glance

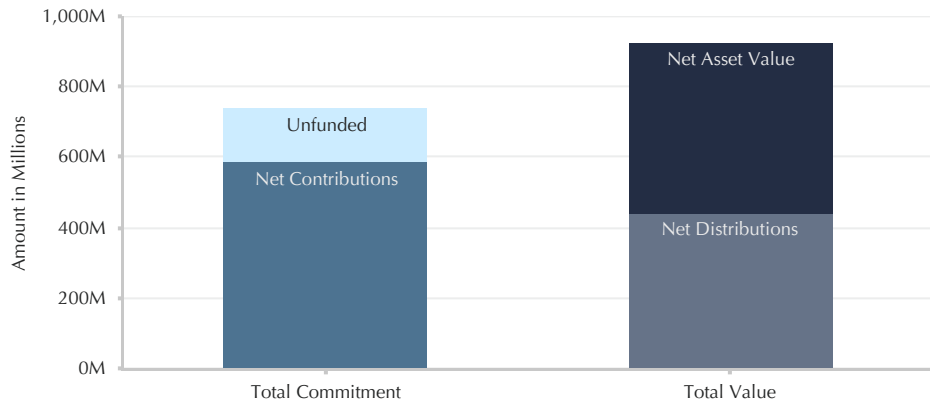
- The NCREIF Open End Diversified Core (“ODCE”) and NCREIF Property Index (“NPI”) reported Q3 2023 gross returns of -1.9% and -1.4%, respectively.^{1,2}
- Transaction volumes during Q3 2023 were up meaningful from Q2 2023 and year-over-year. The NPI reported 152 property transactions during the quarter, a 52% increase from Q3 2022 (100). Industrial was again the most active sector for transactions during the quarter at 80, followed by apartments (36), retail (13) and office (23).²
- Most property sectors produced negative returns during the quarter according to NPI, with hotels as the only positive sector. Office was the lowest performance property sector again, the result of continued headwinds in both operating fundamentals and capital markets. ²
- The ODCE index reported the fourth consecutive quarter of negative appreciation during Q3 2023 (-2.9%), with a consistently-positive income return of 0.9%. The overall appreciation return for the trailing 1-year is -15.2%.¹

Figure 2: Property Index Returns by Component | %



Source: NCREIF, as of September 30, 2023. Past performance is not indicative of future results. The above represents Aksia’s market observations. Observations are subject to change. All references to Aksia herein refer to Aksia LLC, together with its wholly owned subsidiaries (collectively, “Aksia”)

Summary



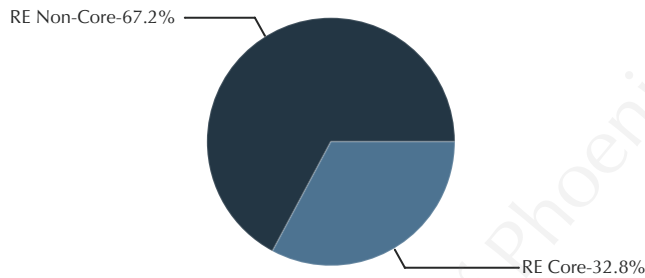
Portfolio Summary

GP Relationships	12
Holdings	23
# of Underlying Active Investments	1237
% of Public Companies	0.2%
Total Commitment Amount	\$739.9 mm
Net Contributions	\$587.6 mm
Net Distributions	\$440.4 mm
Net Asset Value	\$483.9 mm
Weighted Average Age	10.0Y
Unfunded Commitment	\$152.3 mm
Minimum Annual Pacing	
Maximum Annual Pacing	
Minimum Target Allocation	7.0%
Maximum Target Allocation	17.0%

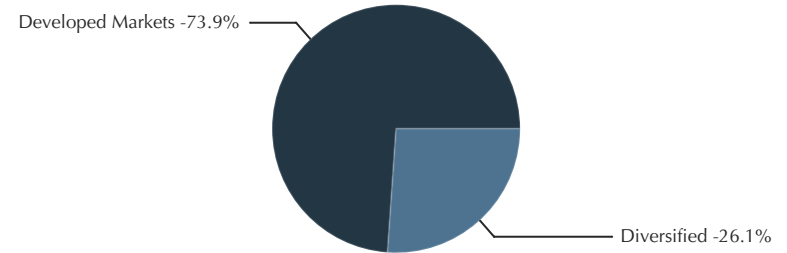
1Y IRR	-6.9%	2Y IRR	4.0%	3Y IRR	8.5%
5Y IRR	6.6%	7Y IRR	7.1%	10Y IRR	8.1%
ITD IRR*	6.3%	ITD TVPI*	1.4x		

* Oct-2006 - Sep-2023

Total Exposure by Sector



Total Exposure by Region



Position Analytics data based on GP provided information as of Sep-2023

IRR not meaningful for investments held less than 12 months

Weighted Average Age (WAA) is based on net contributions

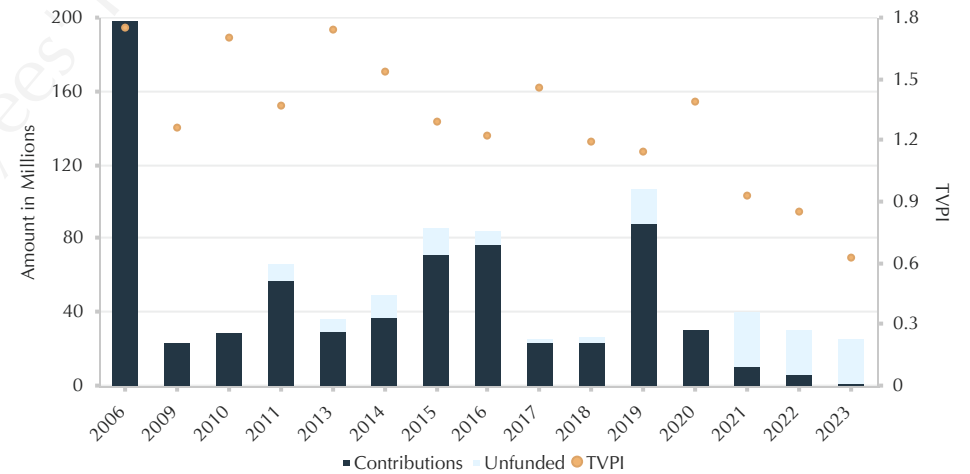
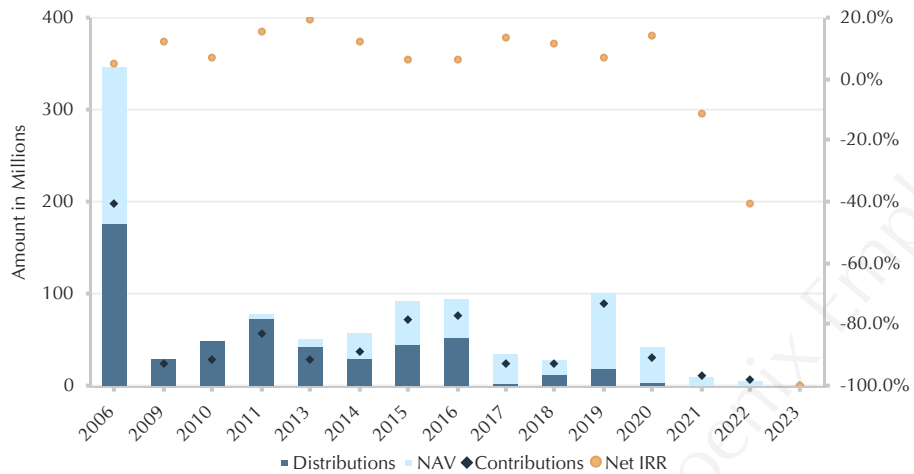
WAA is calculated as the sum of the individual net contributions divided by the overall net contribution and then multiplied by the age

Total Exposure = Unfunded + NAV

Sector Portfolio Summary

	# Of Funds	Weighted Average Age	NAV (\$mm)	Total Commitment (\$mm)	Unfunded Commitment (\$mm)	Total Exposure (\$mm)	Contributions (\$mm)	Distributions (\$mm)	Net IRR	TVPI
RE Core	3	14.9	208.7	207.9	0.0	208.7	227.9	179.0	5.1%	1.7x
RE Non-Core	20	7.3	275.2	532.0	152.3	427.5	474.6	352.1	9.4%	1.3x
COPERS	23	10.0	483.9	739.9	152.3	636.2	702.4	531.0	6.3%	1.4x

Performance Review by Vintage Year



Total Exposure = Unfunded + NAV

	Client Commitment Date	Structure	Vintage	Status	Total Commitment (mm)	Unfunded Commitment (mm)	% Funded	NAV (mm)
RE Core								
JPMorgan Strategic Property Fund	10/31/2006	Commingled Fund	2006	Stabilized	87.4	0.0	100.0%	80.2
Morgan Stanley Prime Property Fund	10/31/2006	Commingled Fund	2006	Stabilized	90.5	0.0	100.0%	89.4
Realterm Logistics Income Fund	09/30/2020	Commingled Fund	2020	Stabilized	30.0	0.0	100.0%	39.0
					207.9	0.0	100.0%	208.7

	Client Commitment Date	Structure	Vintage	Status	Total Commitment (mm)	Unfunded Commitment (mm)	% Funded	NAV (mm)
RE Non-Core								
Adler Real Estate Partners Fund V	07/11/2022	Commingled Fund	2021	Investment	20.0	14.4	28.0%	5.3
American Landmark Fund III	07/13/2021	Commingled Fund	2019	Harvest	30.0	0.0	100.0%	37.0
Ascentris Value Add Fund III	07/31/2019	Commingled Fund	2019	Investment	25.0	7.1	71.5%	9.4
Ascentris Value Add Fund III-B	12/31/2021	Commingled Fund	2022	Investment	5.0	3.5	30.3%	1.4
Focus Senior Housing Fund I	03/31/2017	Commingled Fund	2017	Harvest	25.0	1.9	92.3%	32.1
Focus Senior Housing Fund II	03/31/2022	Commingled Fund	2022	Investment	25.0	20.9	16.4%	3.3
Hammes Partners III	04/30/2017	Commingled Fund	2018	Harvest	25.0	3.1	87.4%	16.3
Hammes Partners IV	02/01/2022	Commingled Fund	2023	Investment	25.0	24.0	4.1%	0.6
HSI Real Estate Fund V	12/10/2015	Commingled Fund	2016	Harvest	25.0	1.3	94.6%	0.4
JDM Partners Opportunity Fund I	01/29/2010	Commingled Fund	2010	Closed	20.0	0.0	100.0%	-
Northwood Real Estate Partners Series IV	12/31/2013	Commingled Fund	2014	Harvest	20.0	12.3	38.4%	27.6
Northwood Real Estate Partners Series V	12/31/2014	Commingled Fund	2015	Harvest	30.0	12.2	59.4%	36.3
Real Estate Capital Asia Partners II	09/08/2009	Commingled Fund	2009	Closed	9.0	0.0	100.0%	-
Real Estate Capital Asia Partners III	02/14/2012	Commingled Fund	2011	Harvest	30.0	5.9	80.2%	2.2
Real Estate Capital Asia Partners IV	12/31/2014	Commingled Fund	2015	Harvest	30.0	2.4	92.0%	11.2
Real Estate Capital Asia Partners V	01/01/2019	Commingled Fund	2019	Harvest	25.0	4.8	80.7%	19.4
SC Core Fund	08/15/2016	Commingled Fund	2016	Stabilized	30.0	0.0	99.8%	29.8
TA Realty Fund IX	04/27/2010	Commingled Fund	2010	Closed	9.0	0.0	100.0%	-
Wheelock Street Real Estate Fund I	05/24/2012	Commingled Fund	2011	Harvest	20.0	3.2	84.1%	2.2
Wheelock Street Real Estate Fund II	11/21/2013	Commingled Fund	2013	Harvest	30.0	7.0	76.8%	8.4
Wheelock Street Real Estate Fund V	08/09/2016	Commingled Fund	2016	Harvest	25.0	5.8	76.6%	11.4
Wheelock Street Real Estate Fund VI	05/15/2019	Commingled Fund	2019	Investment	20.0	6.8	65.9%	16.8

	Client Commitment Date	Structure	Vintage	Status	Total Commitment (mm)	Unfunded Commitment (mm)	% Funded	NAV (mm)
Wheelock Street Real Estate Fund VII	02/28/2023	Commingled Fund	2021	Investment	20.0	15.4	22.8%	3.9
Wrightwood High-Yield Partners II	01/01/2009	Commingled Fund	2009	Closed	9.0	0.0	100.0%	-
					532.0	152.3	71.4%	275.2
COPERS					739.9	152.3	79.4%	483.9

* Total figures take into account all current and closed portfolio positions as at Sep-2023

	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
RE Core											
JPMorgan Strategic Property Fund	USD	16.6%	87.4	99.1	77.8	0.0	80.2	59.0	80.2	4.1%	1.6x
Morgan Stanley Prime Property Fund	USD	18.5%	90.5	98.8	98.6	0.0	89.4	89.2	89.4	5.5%	1.9x
Realterm Logistics Income Fund	USD	8.1%	30.0	30.0	2.6	0.0	39.0	11.6	39.0	14.4%	1.4x
Total RE Core	USD	43.1%	207.9	227.9	179.0	0.0	208.7	159.8	208.7	5.1%	1.7x

	Currency	NAV Weight	Total Commitment (mm)	Contributions (mm)	Distributions (mm)	Unfunded Commitment (mm)	Total Exposure (mm)	Gain/Loss (mm)	NAV (mm)	Net IRR	TVPI
RE Non-Core											
Adler Real Estate Partners Fund V	USD	1.1%	20.0	5.6	0.3	14.4	19.7	0.0	5.3	0.9%	1.0x
American Landmark Fund III	USD	7.7%	30.0	30.1	6.4	0.0	37.0	13.3	37.0	21.6%	1.4x
Ascentris Value Add Fund III	USD	1.9%	25.0	18.6	2.3	7.1	16.5	-7.0	9.4	-16.3%	0.6x
Ascentris Value Add Fund III-B	USD	0.3%	5.0	1.5	0.0	3.5	4.9	-0.1	1.4	-12.3%	1.0x
Focus Senior Housing Fund I	USD	6.6%	25.0	23.5	2.1	1.9	34.1	10.7	32.1	13.2%	1.5x
Focus Senior Housing Fund II	USD	0.7%	25.0	4.1	0.0	20.9	24.2	-0.8	3.3	-53.2%	0.8x
Hammes Partners III	USD	3.4%	25.0	23.4	11.7	3.1	19.4	4.6	16.3	11.4%	1.2x
Hammes Partners IV	USD	0.1%	25.0	1.0	0.0	24.0	24.6	-0.4	0.6	n.m. ¹	0.6x
HSI Real Estate Fund V	USD	0.1%	25.0	21.5	25.6	1.3	1.8	4.5	0.4	9.2%	1.2x
Northwood Real Estate Partners Series IV	USD	5.7%	20.0	36.9	29.2	12.3	39.9	19.9	27.6	12.2%	1.5x
Northwood Real Estate Partners Series V	USD	7.5%	30.0	42.9	25.1	12.2	48.5	18.5	36.3	8.8%	1.4x
Real Estate Capital Asia Partners III	USD	0.5%	30.0	32.7	33.8	5.9	8.2	3.3	2.2	5.2%	1.1x
Real Estate Capital Asia Partners IV	USD	2.3%	30.0	28.0	19.1	2.4	13.6	2.3	11.2	2.0%	1.1x
Real Estate Capital Asia Partners V	USD	4.0%	25.0	25.1	8.6	4.8	24.2	2.8	19.4	5.3%	1.1x
SC Core Fund	USD	6.2%	30.0	31.1	6.0	0.0	29.9	4.7	29.8	3.1%	1.2x
Wheelock Street Real Estate Fund I	USD	0.5%	20.0	24.1	39.4	3.2	5.4	17.5	2.2	24.6%	1.7x
Wheelock Street Real Estate Fund II	USD	1.7%	30.0	29.2	42.5	7.0	15.3	21.7	8.4	19.3%	1.7x
Wheelock Street Real Estate Fund V	USD	2.4%	25.0	24.2	20.5	5.8	17.3	7.7	11.4	10.1%	1.3x
Wheelock Street Real Estate Fund VI	USD	3.5%	20.0	14.4	1.4	6.8	23.6	3.8	16.8	15.7%	1.3x
Wheelock Street Real Estate Fund VII	USD	0.8%	20.0	4.7	0.0	15.4	19.4	-0.8	3.9	n.m. ¹	0.8x
Liquidated Holdings (4)	USD	-	47.0	51.9	78.1	0.0	0.0	26.3	-	8.0%	1.5x
Total RE Non-Core	USD	56.9%	532.0	474.6	352.1	152.3	427.5	152.7	275.2	9.4%	1.3x
COPERS	USD	100.0%	739.9	702.4	531.0	152.3	636.2	312.5	483.9	6.3%	1.4x

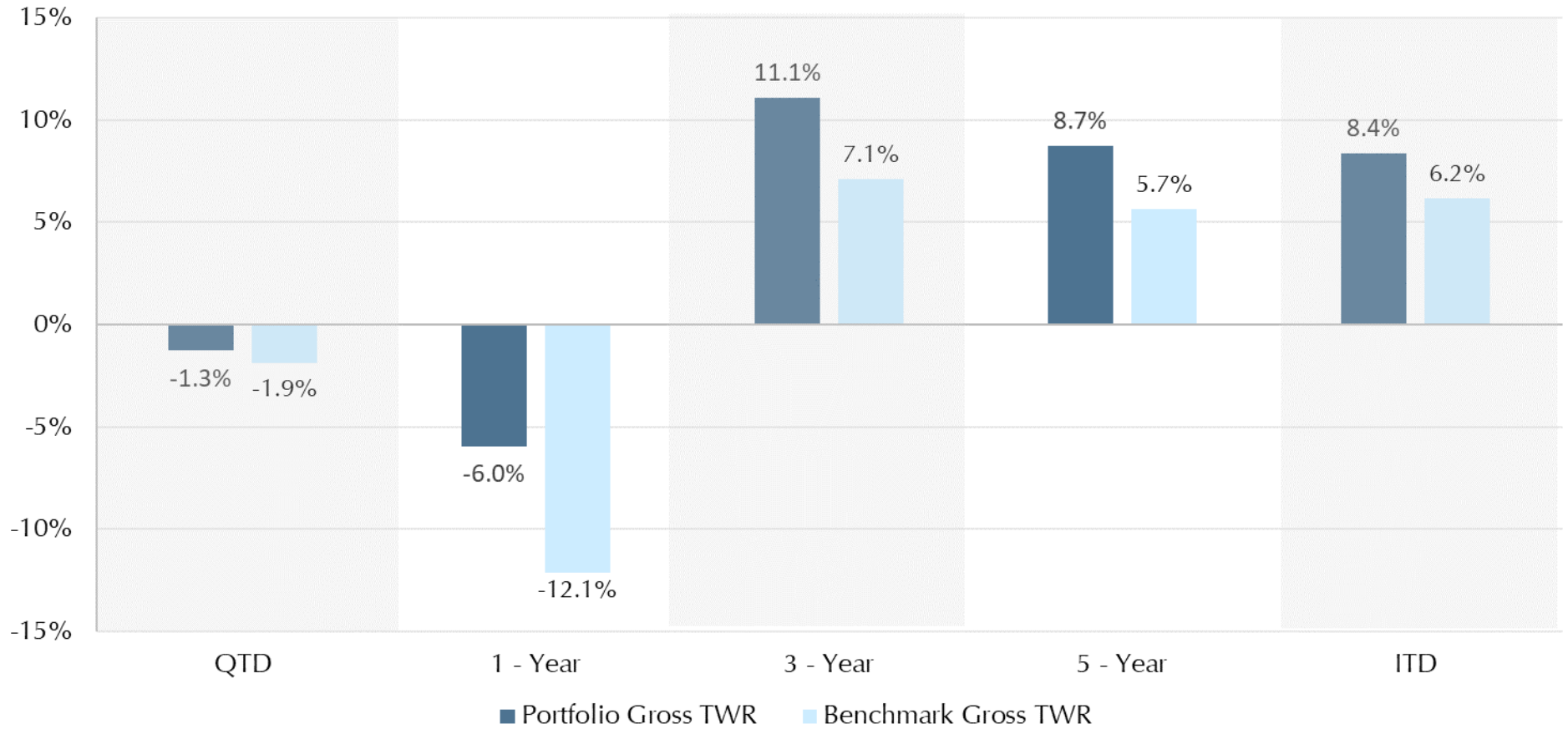
¹ IRR not meaningful for investments held less than 12 months

* Total figures take into account all current and closed portfolio positions as at Sep-2023. Total Exposure = Unfunded + NAV

Reporting Period: As Of Sep-2023

[View this portfolio online](#)

Portfolio Gross TWR vs ODCE Gross TWR



Top Contributors

	Vintage	% Funded Commitment	Total Commitment Amount (\$mm)	Gain (\$mm)	NAV (\$mm)	QTD IRR*	ITD IRR*
Focus Senior Housing Fund I	2017	92.3%	25.0	0.9	32.1	2.9%	13.2%
Realterm Logistics Income Fund	2020	100.0%	30.0	0.4	39.0	1.1%	14.4%
Wheelock Street Real Estate Fund II	2013	76.8%	30.0	0.3	8.4	3.3%	19.3%
Adler Real Estate Partners Fund V	2021	28.0%	20.0	0.0	5.3	0.4%	0.9%
Focus Senior Housing Fund II	2022	16.4%	25.0	0.0	3.3	0.1%	-53.2%
Gain	-	-	130.0	1.6	88.2	1.9%	16.4%
Gain (Remaining)	-	-	47.0	0.0	0.0	-	8.0%
Total Gain	-	-	177.0	1.6	88.2	1.9%	10.5%

* IRR calculated at portfolio currency. IRR not meaningful for investments held less than 12 months

Top Detractors

	Vintage	% Funded Commitment	Total Commitment Amount (\$mm)	Loss (\$mm)	NAV (\$mm)	QTD IRR*	ITD IRR*
JPMorgan Strategic Property Fund	2006	100.0%	87.4	-2.8	80.2	-3.3%	4.1%
SC Core Fund	2016	99.8%	30.0	-1.4	29.8	-4.6%	3.1%
American Landmark Fund III	2019	100.0%	30.0	-1.2	37.0	-3.1%	21.6%
Ascentris Value Add Fund III	2019	71.5%	25.0	-0.8	9.4	-7.8%	-16.3%
Real Estate Capital Asia Partners V	2019	80.7%	25.0	-0.6	19.4	-2.8%	5.3%
Loss	-	-	197.4	-6.7	175.8	-3.7%	4.2%
Loss (Remaining)	-	-	365.5	-1.9	219.9	-0.9%	6.8%
Total Loss	-	-	562.9	-8.6	395.7	-2.1%	5.7%

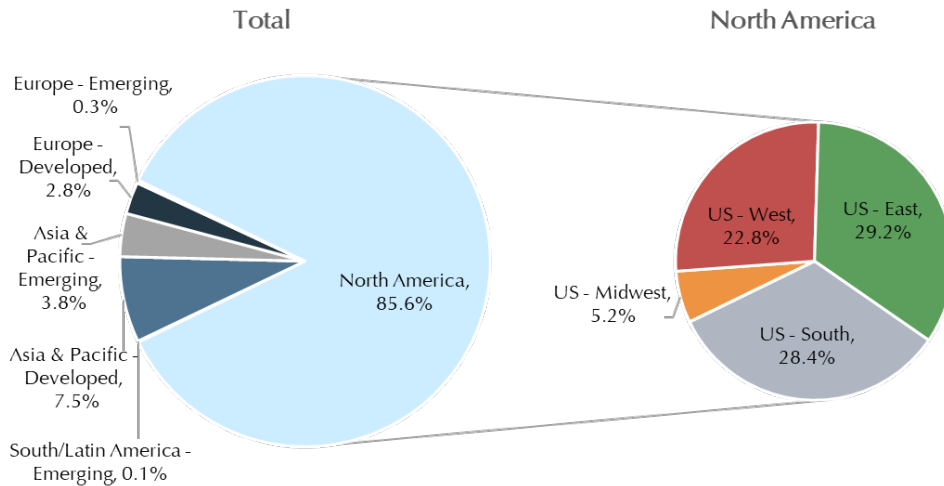
* IRR calculated at portfolio currency. IRR not meaningful for investments held less than 12 months

Total Portfolio(23)	-	79.4%	739.9	-7.0	483.9	-1.4%	6.3%
----------------------------	---	--------------	--------------	-------------	--------------	--------------	-------------

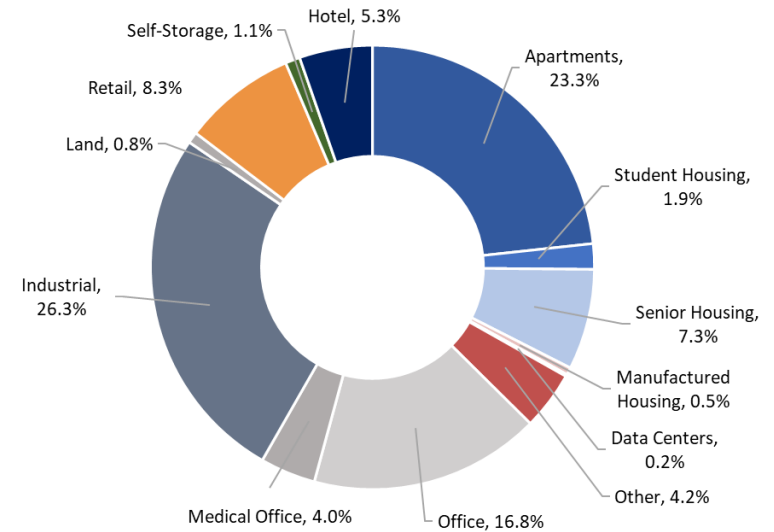
Reporting Period: As Of Sep-2023

[View this portfolio online](#)

Geography



Property Type

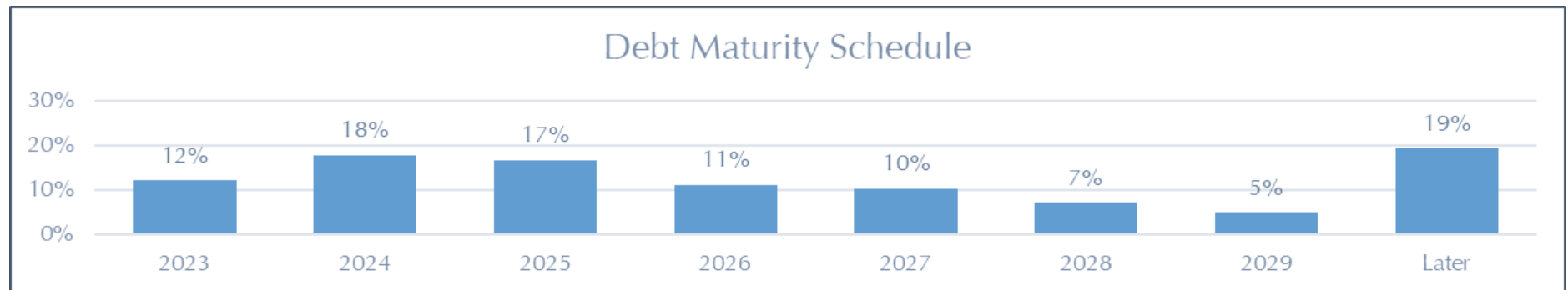
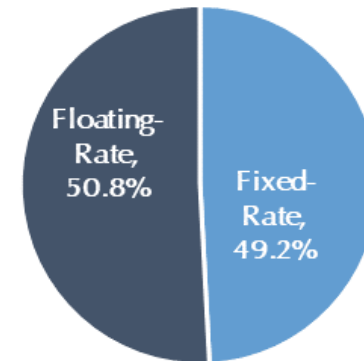


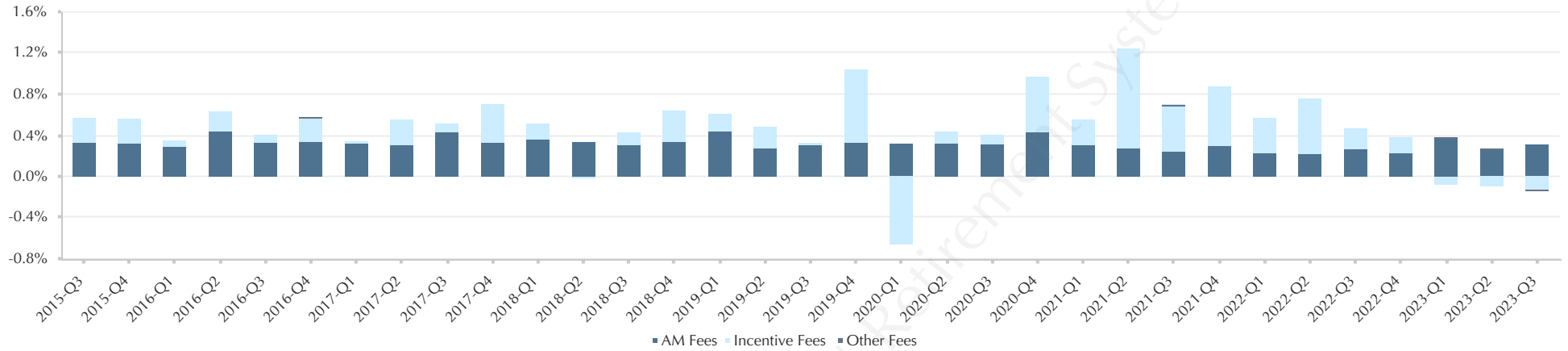
Portfolio Is Well-Diversified by Geography and Property Type

- Unfunded commitments to funds with a U.S. focus (Hammes IV, Focus SH II, Wheelock VII and Adler V) will maintain the portfolio’s domestic concentration.
- The portfolio remains well diversified by property sector, with increasing concentration in emerging demographic-driven sectors such as seniors housing (Focus) and medical office (Hammes), as well as infill industrial (Adler)

Total Portfolio Loan-to-Value (LTV): 45.9%
 Core Portfolio LTV: 27.6%
 Non-Core Portfolio LTV: 54.7%

Weighted-Average Interest Rate: 5.2%

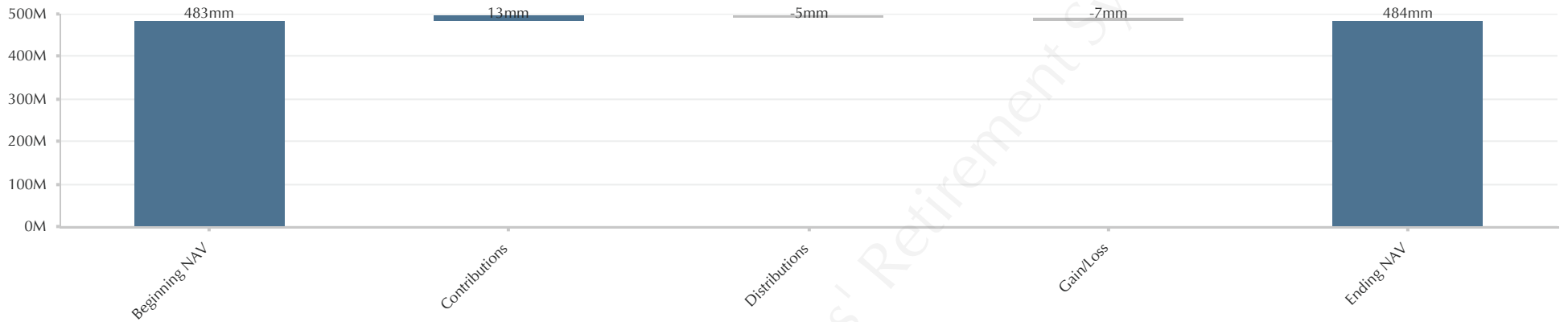




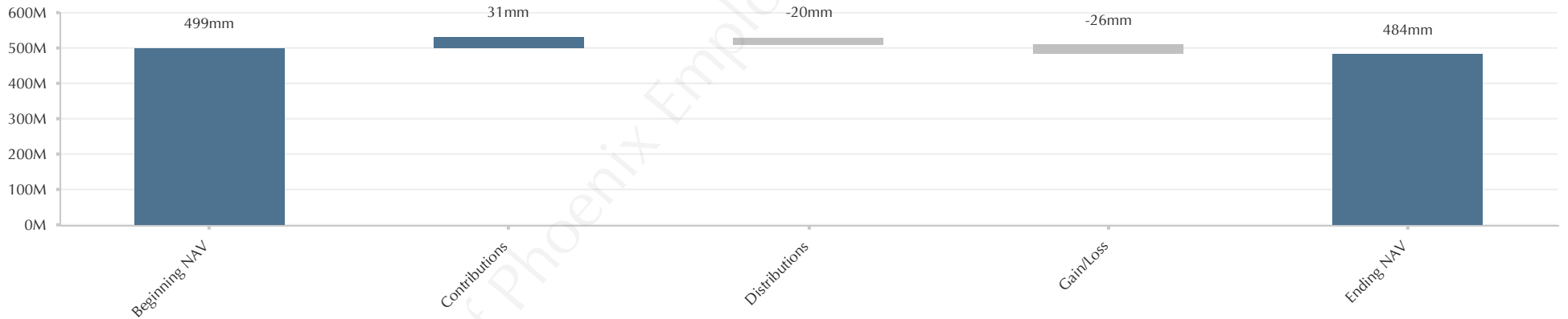
RE Portfolio Fees (% of Market Value)

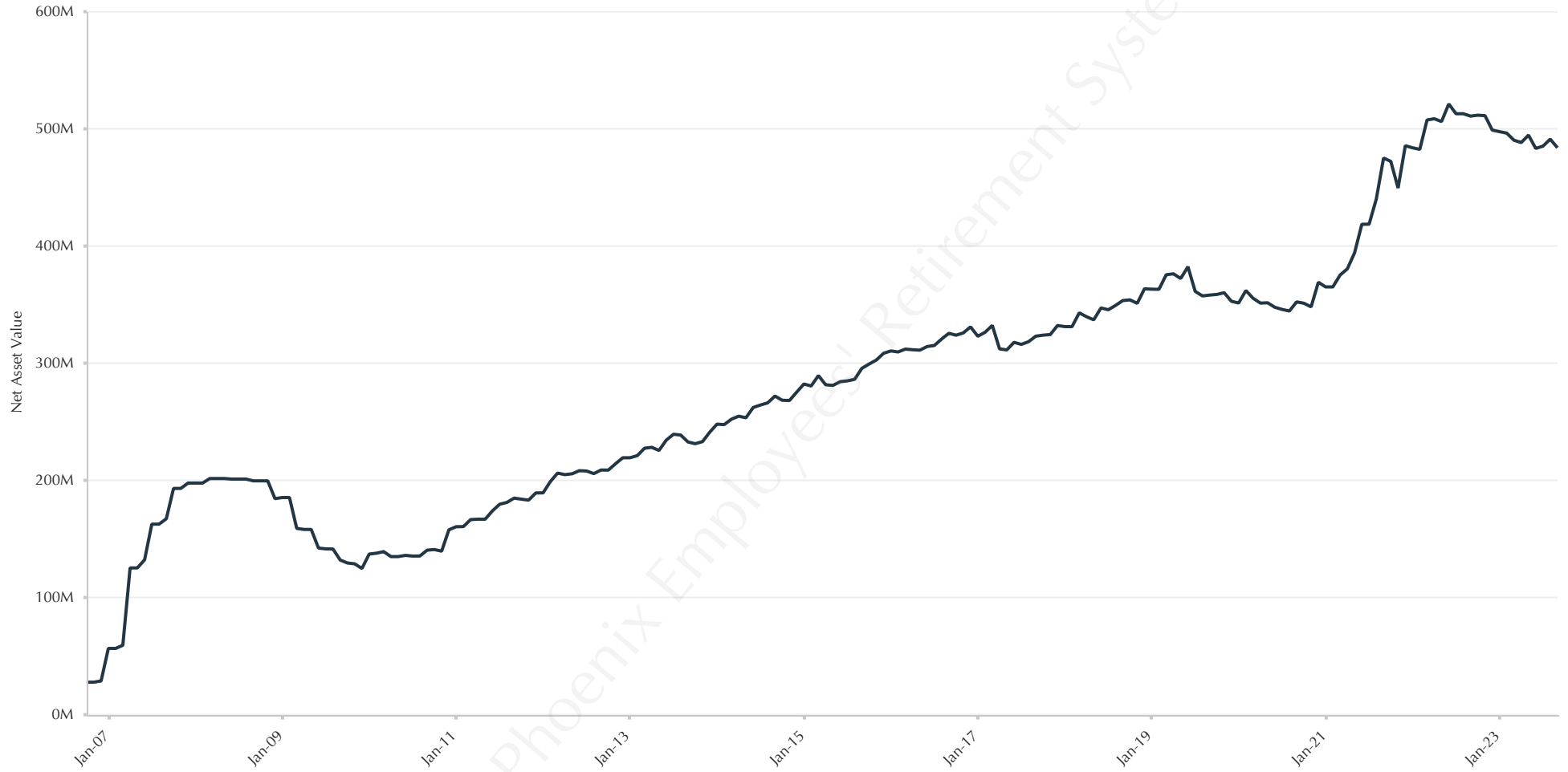
Type	2023-Q3	Quarterly Avg.
	Jul-2023 - Sep-2023	Oct-2006 - Sep-2023
AM Fees	0.31%	0.25%
Incentive Fees	-0.13%	0.14%
Other Fees	0.00%	0.00%
Total	0.18%	0.40%

Quarterly Valuation Bridge (Jul-2023 to Sep-2023)

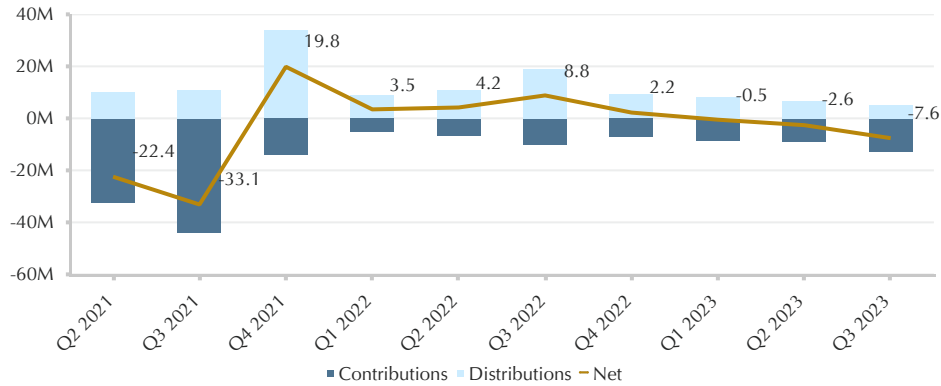


YTD Valuation Bridge (Jan-2023 to Sep-2023)

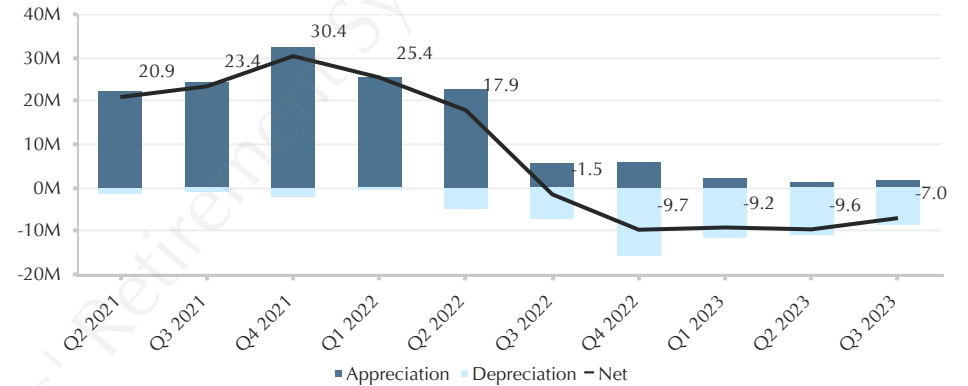




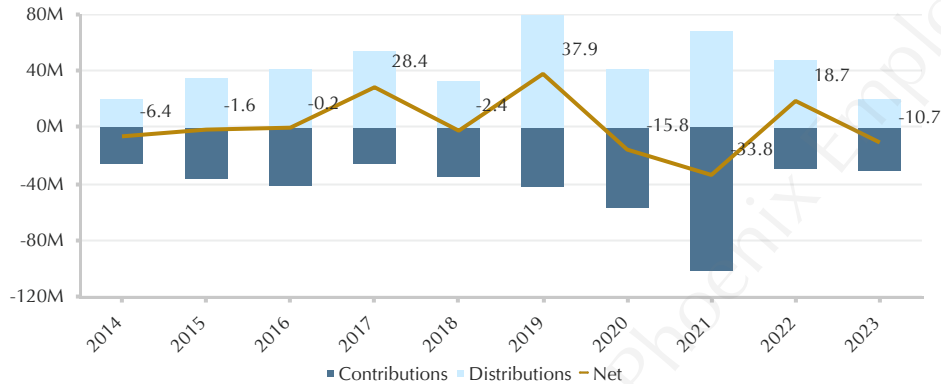
Cash Flows Quarterly



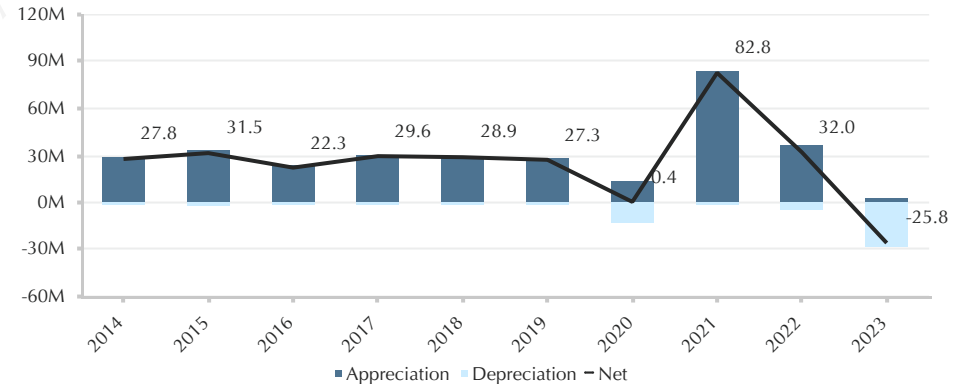
Appreciation/Depreciation Quarterly



Cash Flows Yearly



Appreciation/Depreciation Yearly



Below are some portfolio updates that occurred subsequent to the end of 3Q2023:

4Q2023 Core Portfolio Flash Returns (gross):

- *NCREIF-ODCE Benchmark: -4.8%*
- JP Morgan SPF: - 7.4%
- Morgan Stanley Prime: -1.9%
- Realterm Logistics Income Fund: -5.3%

American Landmark Fund IV

- In December, COPERS closed its commitment to the fund and contributed \$15.0 million for investment in the fund's 29 existing apartment assets, located across a variety of southeast and southwest markets in the U.S., including Texas, Florida, Arizona and North Carolina.

Focus Senior Housing Fund I

- In November, the fund called over \$1.9 million from COPERS for follow-on investments.

Wheelock Street Real Estate Fund VII

- In December, the fund called approximately \$1.1 million from COPERS to repay the Fund's subscription line, which has funded recent strategic investments in Waterlin (residential land in central Florida), Nora (Mixed-use redevelopment in West Palm Beach, FL) and the Camber Platform (infill industrial in Boston, MA).

Appendix

Net TWR Analysis

	QTD	Q2 2023	1Y	2Y	3Y	5Y	7Y	10Y	ITD
RE Core	-1.2%	-1.6%	-9.5%	4.2%	7.7%	5.8%	6.3%	8.0%	6.3%
RE Non-Core	-1.6%	-2.3%	-4.7%	3.5%	9.1%	7.2%	7.8%	7.7%	8.3%
COPERS	-1.4%	-2.0%	-6.9%	3.8%	8.5%	6.4%	7.0%	8.0%	6.5%

City of Phoenix Employees' Retirement System

	Strategy	Currency	Vintage	Opening value (mm)	Net Income (mm)	Net Appreciation (mm)	Contributions (mm)	Distributions (mm)	Ending Value (mm)
RE Core									
JPMorgan Strategic Property Fund	Core North America	USD	2006	83.5	0.5	-3.3	0.2	0.7	80.2
Morgan Stanley Prime Property Fund	Core North America	USD	2006	90.5	0.6	-0.8	0.0	0.9	89.4
Realterm Logistics Income Fund	Core+ North America	USD	2020	38.8	0.2	0.2	0.0	0.2	39.0
				212.8	1.4	-3.9	0.2	1.8	208.7
RE Non-Core									
Adler Real Estate Partners Fund V	Value-Added North America	USD	2021	3.8	0.0	0.0	1.6	0.1	5.3
American Landmark Fund III	Value-Added North America	USD	2019	39.1	-0.1	-1.1	0.0	0.8	37.0
Ascentris Value Add Fund III	Value-Added North America	USD	2019	10.1	-0.1	-0.7	0.1	0.0	9.4
Ascentris Value Add Fund III-B	Value-Added North America	USD	2022	1.4	0.0	0.0	0.0	0.0	1.4
Focus Senior Housing Fund I	Value-Added North America	USD	2017	30.4	-0.1	1.0	0.8	0.0	32.1
Focus Senior Housing Fund II	Value-Added North America	USD	2022	0.2	0.0	0.0	3.1	0.0	3.3
Hammes Partners III	Value-Added North America	USD	2018	16.2	0.2	-0.2	0.8	0.7	16.3
Hammes Partners IV	Value-Added North America	USD	2023	0.0	-0.3	-0.1	1.0	0.0	0.6
HSI Real Estate Fund V	Opportunistic Latin America	USD	2016	0.5	0.0	0.0	0.0	0.0	0.4
JDM Partners Opportunity Fund I	Opportunistic North America	USD	2010	0.0	0.0	0.0	0.0	0.0	-
Northwood Real Estate Partners Series IV	Value-Added Global	USD	2014	27.5	0.0	-0.1	0.6	0.3	27.6
Northwood Real Estate Partners Series V	Value-Added Global	USD	2015	36.0	0.0	-0.2	0.8	0.4	36.3

	Strategy	Currency	Vintage	Opening value (mm)	Net Income (mm)	Net Appreciation (mm)	Contributions (mm)	Distributions (mm)	Ending Value (mm)
Real Estate Capital Asia Partners II	Opportunistic Asia-Pacific	USD	2009	0.0	0.0	0.0	0.0	0.0	-
Real Estate Capital Asia Partners III	Opportunistic Asia-Pacific	USD	2011	2.4	0.0	-0.1	0.0	0.0	2.2
Real Estate Capital Asia Partners IV	Opportunistic Asia-Pacific	USD	2015	11.7	0.0	-0.5	0.0	0.0	11.2
Real Estate Capital Asia Partners V	Opportunistic Asia-Pacific	USD	2019	19.5	0.0	-0.6	0.5	0.1	19.4
SC Core Fund	Core+ Asia-Pacific	USD	2016	31.2	-1.6	0.1	0.1	0.0	29.8
TA Realty Fund IX	Value-Added North America	USD	2010	0.0	0.0	0.0	0.0	0.0	-
Wheelock Street Real Estate Fund I	Opportunistic North America	USD	2011	2.5	0.0	0.0	0.0	0.2	2.2
Wheelock Street Real Estate Fund II	Opportunistic North America	USD	2013	8.4	0.2	0.1	0.1	0.4	8.4
Wheelock Street Real Estate Fund V	Opportunistic North America	USD	2016	10.8	0.3	-0.6	0.8	0.0	11.4
Wheelock Street Real Estate Fund VI	Opportunistic North America	USD	2019	15.8	0.0	0.0	1.3	0.2	16.8
Wheelock Street Real Estate Fund VII	Opportunistic North America	USD	2021	3.1	-0.1	0.0	0.9	0.0	3.9
Wrightwood High-Yield Partners II	U.S. CRE Transitional Lending	USD	2009	0.0	0.0	0.0	0.0	0.0	-
				270.5	-1.5	-3.0	12.6	3.4	275.2
COPERS		USD		483.3	-0.1	-6.9	12.8	5.1	483.9

* Total figures take into account all current and closed portfolio positions as at Sep-2023

SOURCES:

¹ NATIONAL COUNCIL OF REAL ESTATE INVESTMENT FIDUCIARIES (“NCREIF”) OPEN-ENDED DIVERSIFIED CORE EQUITY INDEX (“ODCE”). WWW.NCREIF.ORG

² NATIONAL COUNCIL OF REAL ESTATE INVESTMENT FIDUCIARIES (“NCREIF”) PROPERTY INDEX (“NPI”). WWW.NCREIF.ORG

PRIVATE AND CONFIDENTIAL: These materials are strictly confidential and proprietary, intended solely for the use of the individual or entity to which Aksia LLC, Aksia CA LLC, Aksia Chicago LLC, and/or any of their other affiliates, as applicable (collectively, "Aksia") have sent these materials ("Intended Recipient") and constitute Aksia's trade secrets for all purposes, including for purposes of the Freedom of Information Act or any comparable law or regulation of any government, municipality or regulator. These materials may not be reproduced or distributed, posted electronically or incorporated into other documents in whole or in part except for the personal reference of the Intended Recipient. If you are not the Intended Recipient, you are hereby requested to notify Aksia and either destroy or return these documents to Aksia. The Intended Recipient shall not use Aksia's name or logo or explicitly reference Aksia's research and/or advisory services in the Intended Recipient's materials.

NO OFFERING: These materials do not in any way constitute an offer or a solicitation of an offer to buy or sell funds, private investments or securities mentioned herein. These materials are provided only for use in conjunction with Aksia's services, as such services are defined in an executed agreement between Aksia and the Intended Recipient (hereinafter, the "Agreement"). In the event that an executed Agreement does not exist between Aksia and the Intended Recipient, these materials shall not constitute advice or an obligation to provide such services.

RECOMMENDATIONS: Any Aksia recommendation or opinion contained in these materials is a statement of opinion provided in good faith by Aksia and based upon information which Aksia reasonably believes to be true. Recommendations or opinions expressed in these materials reflect Aksia's judgment as of the date shown, and are subject to change without notice. Actual results may differ materially from any forecasts discussed in the materials. Except as otherwise agreed between Aksia and the Intended Recipient, Aksia is under no future obligation to review, revise or update its recommendations or opinions.

NOT TAX, LEGAL OR REGULATORY ADVICE: An investor should consult its tax, legal and regulatory advisors before allocating to a private investment fund or other investment opportunity. Aksia is not providing due diligence or tax advice concerning the tax treatments of an investment or an investor's allocations to such private investment fund or opportunity. Tax treatment depends on the individual circumstances of each client and may be subject to change in the future.

RESPONSIBILITY FOR INVESTMENT DECISIONS: The Intended Recipient is responsible for performing his, her or its own reviews of any funds or other investment vehicles or opportunities described herein including, but not limited to, a thorough review and understanding of each vehicle's or opportunity's offering materials. The Intended Recipient is advised to consult his, her or its tax, legal and compliance professionals to assist in such reviews. For clients who receive non-discretionary advisory or research services from Aksia: the Intended Recipient acknowledges that it (and not Aksia) is responsible for its investment decisions with respect to any investment vehicles or opportunities described herein.

No assurances can be given that a particular investment or portfolio will meet its investment objectives. Any projections, forecasts or market outlooks provided herein should not be relied upon as events which will occur. *Past performance is not indicative of future results.* Use of advanced portfolio construction processes, risk management techniques and proprietary technology does not assure any level of performance or guarantee against loss of capital.

PERFORMANCE DATA: In cases where an investment manager or general partner implements an investment strategy through multiple investment vehicles (for tax purposes, participation in side pockets and new issues, domicile, currency denomination, etc.) Aksia may use the returns of one class or series of an investment vehicle in a particular program in its reports to represent the returns of all the investment vehicles in such investment program. The returns for the particular class or series used in Aksia's reports may be different from the returns of the class or series in which the Intended Recipient is invested. To obtain the actual performance of the particular class or series in the Intended Recipient's portfolio, the Intended Recipient should contact the investment manager or general partner directly.

RELIANCE ON THIRD PARTY DATA: These materials reflect and rely upon information provided by fund managers and other third parties which Aksia reasonably believes to be accurate and reliable. Such information may be used by Aksia without independent verification of accuracy or completeness, and Aksia makes no representations as to its accuracy and completeness. For the avoidance of doubt, these materials have not been produced, reviewed, verified or approved by the fund managers and other third parties to which the materials relate. As such, they do not necessarily reflect the views or opinions of such fund managers and third parties. Furthermore, any reference to EBITDA (or ratios using EBITDA as a component) included in the report, reflect Adjusted EBITDA provided by the fund manager typically as defined in the loan agreements. Adjusted EBITDA can be expected to be higher than EBITDA figures calculated based on GAAP or IFRS compliant financial statements, which will result in relatively lower debt/EBITDA and higher interest coverage ratios. In addition, any fund IRRs shown are as reported by the manager/administrator or calculated using cash flows provided by the manager/administrator, and may benefit from such fund's use of a subscription line.

RATING DOWNGRADES (LIQUID INVESTMENTS): Aksia client assets, in aggregate, may represent a large percentage of a manager's or fund's assets under management, and, as such, a rating downgrade by Aksia's research teams could result in redemptions or withdrawals that may have an adverse effect on the performance of a fund.

CONFLICTS OF INTEREST DISCLOSURE: Family members of Aksia personnel may from time to time be employed by managers that Aksia recommends to its clients. While this may pose a potential conflict of interest, we monitor such relationships to seek to minimize any impact of such potential conflict.

PRIVATE INVESTMENT FUND DISCLOSURE: Investments in private investment funds and other similar investment opportunities involve a high degree of risk and you could lose all or substantially all of your investment. Any person or institution making such investments must fully understand and be willing to assume the risks involved. Some private investment funds and opportunities described herein may not be suitable for all investors. Such investments or investment vehicles may use leverage, hold significant illiquid positions, suspend redemptions indefinitely, provide no opportunity to redeem, modify investment strategy and documentation without notice, short sell securities, incur high fees and contain conflicts of interests. Such private investment funds or opportunities may also have limited operating history, lack transparency, manage concentrated portfolios, exhibit high volatility, depend on a concentrated group or individual for investment management or portfolio management and lack any regulatory oversight.

For a description of the risks associated with a specific private investment fund or investment opportunity, investors and prospective investors are strongly encouraged to review each private investment fund or opportunity's offering materials which contain a more specific description of the risks associated with each investment. Offering materials may be obtained from the fund manager.

FOR RECIPIENTS OF REPORTS DISTRIBUTED BY AKSIA EUROPE LIMITED: Aksia Europe Limited is authorized and regulated by the Financial Conduct Authority; such authorization does not indicate endorsement or approval by the FCA of the services offered by Aksia.

The Market Abuse Regulation (Regulation (EU) No 596/2014) ("MAR") requires that persons who produce or disseminate investment recommendations or other information recommending or suggesting an investment in financial instruments admitted to trading on an EU market (each a "Recommendation") are required to take reasonable care to ensure that such information is objectively presented, and to disclose their interests or indicate conflicts of interest concerning the financial instruments to which that information relates. Aksia's primary research focus is on private investment funds whose shares are typically not listed on any exchange. Certain private funds may, however, list their shares on an EU market, even though there is typically no secondary market or trading of those shares. Unless stated otherwise, the person or persons responsible for the production of a Recommendation is not aware of any conflicts of interest that may impact the objectivity of any Recommendation. To the extent required by MAR, further information, including information regarding the author(s) of a Recommendation is available upon request at compliance@aksia.com.