City of Phoenix Employees' Retirement System

COPERS

Portfolio Report

As Of December 2023 Report created: May 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	

Real Estate Overview		Performance at a Glance
Tailwinds	Headwinds	Performance at a Glance
 In our view, the industrial sector fundamentals remain strong, stemming from a secular trend toward more e-commerce, supply chain 	 The historically-sharp increase in base rates has resulted in strong downward pressure on real estate valuations, albeit slower to manifest in private markets 	 The NCREIF Open End Diversified Core ("ODCE") and NCREIF Property Index ("NPI") reported Q4 2023 gross returns of -4.8% and -3.0%, respectively.^{1,2}
reconfiguration and "near-shoring" impacts,	due to severely reduced transaction volumes.	 Transaction volumes during Q4 2023 were down quarter-over-quarter and year- over-year. The NPI reported 126 property transactions during the quarter, a 17%
which have been accelerated by the pandemic, though increased supply could dampen rental	From market observations we concluded that:	decrease from Q4 2022 (153). Industrial was again the most active sector for
rate growth, particularly for mid-size and big- box distribution warehouses.	 Increases in interest have resulted in higher cost of debt for many real estate owners, leading to higher 	transactions during the quarter at 48, followed by apartments (41), office (22), and retail (15). ²
• We observed that overall performance of market-rate multifamily assets remains steady in	yield-requirements (cap rates) for investors as well as non-accretive (negative) leverage at deal origination.	 Most property sectors produced negative returns during the quarter according to NPI, with hotels as the only positive sector. Office continued to be the lowest
most markets, buoyed by higher mortgage rates. Though concerns are emerging in certain markets with high supply that came online in	 Debt availability for new acquisitions is limited as many traditional lenders pull back due to DSCR / debt yield thresholds and higher capital requirements. 	performance property sector, the result of continued headwinds in both operating fundamentals and capital markets. ²
2023 and is continuing into 2024, which is starting to cause upticks in vacancy rates and slower rental rate growth.	• Office leasing continues to be focused primarily on "trophy" properties as the flight to quality trend persists amongst tenants. Recovery in office utilization has	• The ODCE index reported the fourth consecutive quarter of negative appreciation during Q4 2023 (-5.8%), with a consistently-positive income return of 1.0%. The overall appreciation return for the trailing 1-year is -15.2%. ¹
 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 	plateaued, leading to long-term demand concerns. 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.	
the impact of higher interest rates erode	to re-investing capital in hopes of equity recovery.	

disposable incomes. Figure 1: Gross Quarterly Returns | %

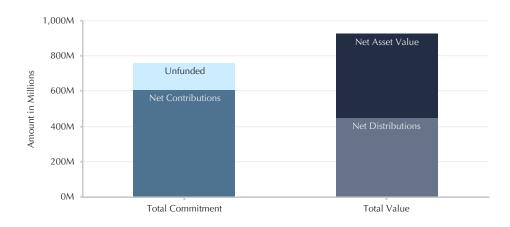


Figure 2: Property Index Returns by Component | %



Source: NCREIF, as of December 31, 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

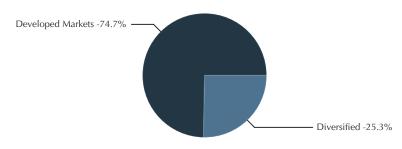


Portfolio Summary

GP Relations	shine				12
	snips				24
Holdings					24
		nin the quarter*			I
# of Underly	ying Active In	vestments			1263
% of Public	Companies				0.2%
Total Comm	itment Amour	it 🔨		:	\$759.9 mm
Net Contribu	utions			:	\$606.9 mm
Net Distribu	tions			:	\$446.4 mm
Net Asset Va	alue			:	\$480.0 mm
Weighted Av	verage Age				10.0Y
Unfunded C	ommitment			:	\$153.0 mm
Minimum A	nnual Pacing				
Maximum A	nnual Pacing				
Minimum Ta	arget Allocatio	n			7.0%
Maximum Ta	arget Allocatic	on			17.0%
1Y IRR	-8.8%	2Y IRR	-1.3%	3Y IRR	5.7%
5Y IRR	5.0%	7Y IRR	6.2%	10Y IRR	7.4%
ITD IRR**	6.0%	ITD TVPI**	1.4x		

* Oct-2023 - Dec-2023 ** Oct-2006 - Dec-2023

Total Exposure by Region



Position Analytics data based on GP provided information as of Dec-2023. Investments made in other currencies are converted to the portfolio's currency using the FX rate at the date of each investment.

-RE Core-31.2%

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

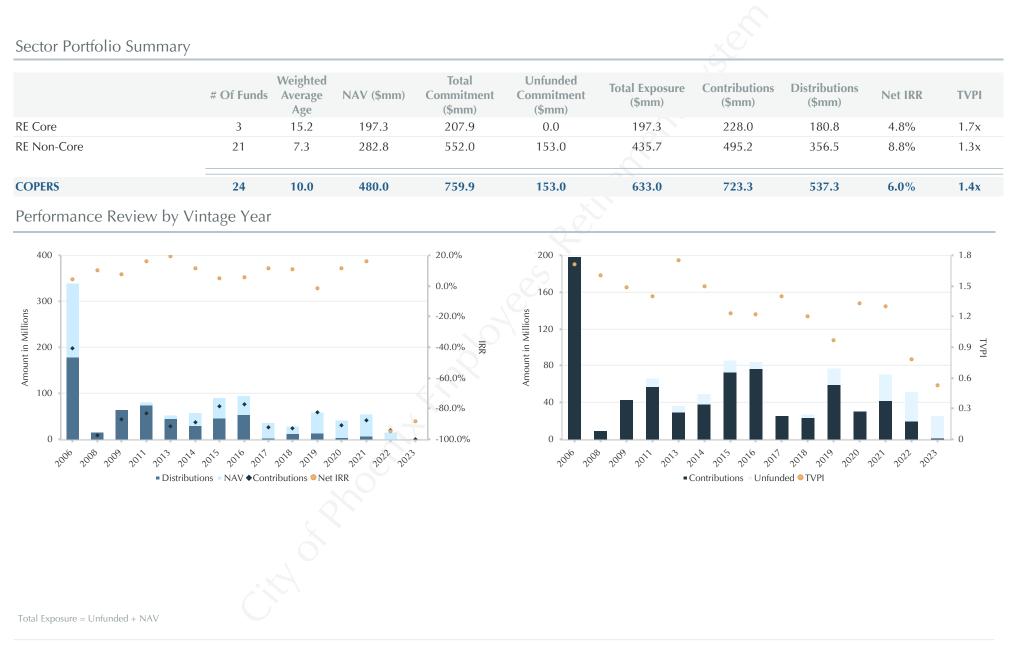
Total Exposure = Unfunded + NAV

Total Exposure by Sector

RE Non-Core-68.8%

Public companies are identified at the time of investment and reviewed at least annually.







	Client Commitment Structure Date	Vintage	Status	Total Commitment (mm)	Unfunded Commitment (mm)	% Funded	NAV (mm)
RE Core				5			
JPMorgan Strategic Property Fund	10/31/2006 Commingled Fund	2006	Stabilized	87.4	0.0	100.0%	73.6
Morgan Stanley Prime Property Fund	10/31/2006 Commingled Fund	2006	Stabilized	90.5	0.0	100.0%	86.6
Realterm Logistics Income Fund	09/30/2020 Commingled Fund	2020	Stabilized	30.0	0.0	100.0%	37.1
				207.9	0.0	100.0%	197.3

Reporting Period: As Of Dec-2023 View this portfolio online



	Client Commitment Date	Structure	Vintage	Status	Total Commitment (mm)	Unfunded Commitment (mm)	% Funded	NAV (mm)	
RE Non-Core					5				
Adler Real Estate Partners Fund V	07/11/2022	Commingled Fund	2021	Investment	20.0	14.4	28.0%	5.5	
American Landmark Fund III	07/13/2021	Commingled Fund	2021	Harvest	30.0	0.0	100.0%	36.7	
American Landmark Fund IV, LP	11/01/2023	Commingled Fund	2022	Investment	20.0	5.0	75.0%	12.6	
Ascentris Value Add Fund III	07/31/2019	Commingled Fund	2019	Investment	25.0	6.4	74.4%	8.9	
Ascentris Value Add Fund III-B	12/31/2021	Commingled Fund	2022	Investment	5.0	3.4	31.2%	1.4	
Focus Senior Housing Fund I	03/31/2017	Commingled Fund	2017	Harvest	25.0	0.0	100.0%	33.5	
Focus Senior Housing Fund II	03/31/2022	Commingled Fund	2022	Investment	25.0	23.1	7.5%	1.1	
Hammes Partners III	04/30/2017	Commingled Fund	2018	Harvest	25.0	3.4	86.2%	16.1	
Hammes Partners IV	02/01/2022	Commingled Fund	2023	Investment	25.0	24.0	4.1%	0.5	
HSI Real Estate Fund V	12/10/2015	Commingled Fund	2016	Harvest	25.0	1.3	94.6%	0.3	
JDM Partners Opportunity Fund I	01/29/2010	Commingled Fund	2009	Liquidated	20.0	0.0	100.0%	-	
Northwood Real Estate Partners Series IV	12/31/2013	Commingled Fund	2014	Harvest	20.0	11.4	43.1%	27.6	
Northwood Real Estate Partners Series V	12/31/2014	Commingled Fund	2015	Harvest	30.0	11.2	62.8%	33.7	
Real Estate Capital Asia Partners II	09/08/2009	Commingled Fund	2009	Liquidated	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%	3.8	
Real Estate Capital Asia Partners IV	12/31/2014	Commingled Fund	2015	Harvest	30.0	1.7	94.2%	10.1	
Real Estate Capital Asia Partners V	01/01/2019	Commingled Fund	2019	Harvest	25.0	4.5	82.1%	18.7	
SC Core Fund	08/15/2016	Commingled Fund	2016	Harvest	30.0	0.0	99.8%	29.8	
TA Realty Fund IX	04/27/2010	Commingled Fund	2008	Liquidated	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%	2.5	
Wheelock Street Real Estate Fund II	11/21/2013	Commingled Fund	2013	Harvest	30.0	6.9	76.8%	6.8	
Wheelock Street Real Estate Fund V	08/09/2016	Commingled Fund	2016	Harvest	25.0	5.8	76.6%	11.1	

	Client Commitment St Date	ructure Vintage	Status	Total Commitment (mm)	Unfunded Commitment (mm)	% Funded	NAV (mm)
Wheelock Street Real Estate Fund VI	05/15/2019 Comm	ingled Fund 2019	Investment	20.0	6.8	66.2%	17.1
Wheelock Street Real Estate Fund VII	02/28/2023 Comm	ingled Fund 2021	Investment	20.0	14.4	28.2%	5.2
Wrightwood High-Yield Partners II	01/01/2009 Comm	ingled Fund 2009	Liquidated	9.0	0.0	100.0%	-
				552.0	153.0	72.3%	282.8
COPERS				759.9	153.0	79.9%	480.0
* Total figures take into account all current and closed portf	olio positions as at Dec-2023						

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





SI Portfolio Return Summary

	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	15.3%	87.4	99.2	78.6	0.0	73.6	53.0	73.6	3.8%	1.5x
Morgan Stanley Prime Property Fund	USD	18.0%	90.5	98.8	99.4	0.0	86.6	87.2	86.6	5.4%	1.9x
Realterm Logistics Income Fund	USD	7.7%	30.0	30.0	2.8	0.0	37.1	9.9	37.1	11.3%	1.3x
Total RE Core	USD	41.1%	207.9	228.0	180.8	0.0	197.3	150.1	197.3	4.8%	1.7x

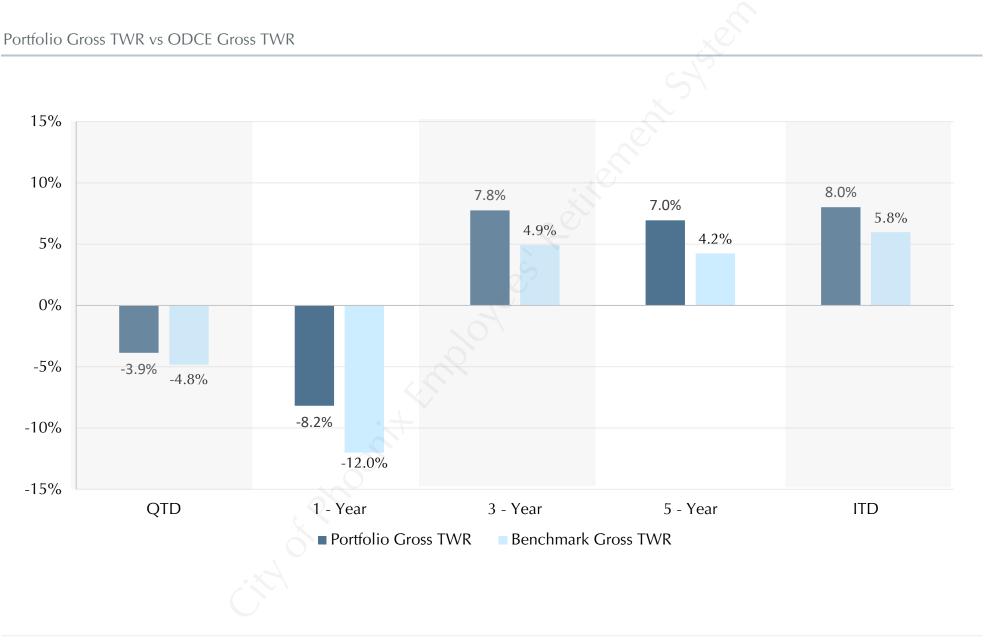
SI Portfolio Return Summary

	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	0.4	14.4	19.9	0.3	5.5	5.2%	1.1x
American Landmark Fund III	USD	7.6%	30.0	30.1	6.4	0.0	36.7	13.0	36.7	18.7%	1.4x
American Landmark Fund IV, LP	USD	2.6%	20.0	16.0	0.0	5.0	17.6	-3.4	12.6	n.m.1	0.8x
Ascentris Value Add Fund III	USD	1.8%	25.0	19.4	2.3	6.4	15.3	-8.2	8.9	-18.6%	0.6x
Ascentris Value Add Fund III-B	USD	0.3%	5.0	1.6	0.0	3.4	4.9	-0.1	1.4	-13.2%	0.9x
Focus Senior Housing Fund I	USD	7.0%	25.0	25.5	2.1	0.0	33.5	10.1	33.5	11.7%	1.4x
Focus Senior Housing Fund II	USD	0.2%	25.0	1.9	0.1	23.1	24.2	-0.7	1.1	-33.3%	0.6x
Hammes Partners III	USD	3.4%	25.0	23.4	12.0	3.4	19.5	4.7	16.1	10.8%	1.2x
Hammes Partners IV	USD	0.1%	25.0	1.0	0.1	24.0	24.5	-0.5	0.5	n.m.1	0.5x
HSI Real Estate Fund V	USD	0.1%	25.0	21.5	25.8	1.3	1.6	4.6	0.3	9.2%	1.2x
Northwood Real Estate Partners Series IV	USD	5.7%	20.0	37.9	29.2	11.4	38.9	18.9	27.6	11.5%	1.5x
Northwood Real Estate Partners Series V	USD	7.0%	30.0	44.0	25.1	11.2	44.9	14.9	33.7	7.2%	1.3x
Real Estate Capital Asia Partners III	USD	0.8%	30.0	32.7	33.8	5.9	9.7	4.9	3.8	6.6%	1.2x
Real Estate Capital Asia Partners IV	USD	2.1%	30.0	28.6	20.5	1.7	11.8	1.9	10.1	1.6%	1.1x
Real Estate Capital Asia Partners V	USD	3.9%	25.0	25.4	8.9	4.5	23.2	2.2	18.7	3.9%	1.1x
SC Core Fund	USD	6.2%	30.0	31.1	6.0	0.0	29.8	4.6	29.8	2.9%	1.1x
Wheelock Street Real Estate Fund I	USD	0.5%	20.0	24.1	39.4	3.2	5.7	17.8	2.5	24.6%	1.7x
Wheelock Street Real Estate Fund II	USD	1.4%	30.0	29.2	44.2	6.9	13.7	21.8	6.8	19.2%	1.7x
Wheelock Street Real Estate Fund V	USD	2.3%	25.0	24.2	20.7	5.8	16.9	7.6	11.1	9.7%	1.3x
Wheelock Street Real Estate Fund VI	USD	3.6%	20.0	14.5	1.4	6.8	23.8	4.0	17.1	14.5%	1.3x
Wheelock Street Real Estate Fund VII	USD	1.1%	20.0	5.8	0.0	14.4	19.5	-0.7	5.2	n.m.1	0.9x
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	58.9%	552.0	495.2	356.5	153.0	435.7	144.1	282.8	8.8%	1.3x
COPERS	USD	100.0%	759.9	723.3	537.3	153.0	633.0	294.1	480.0	6.0%	1.4x
IRR not meaningful for investments held less than 12 month	c			0							

¹ IRR not meaningful for investments held less than 12 months * Total figures take into account all current and closed portfolio positions as at Dec-2023 Total Exposure = Unfunded + NAV



QTD Portfolio TWR vs Benchmark





Top QTD Contributors/Detractors

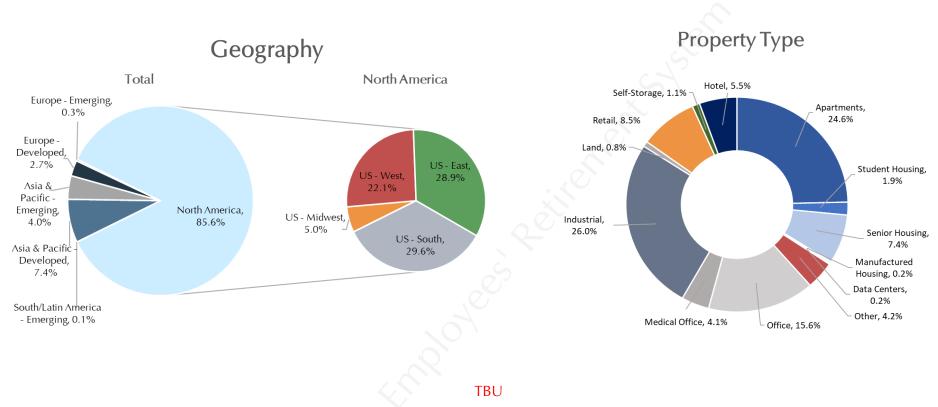
Top Contributors

	Vintage	% Funded Commitment	Total Commitment Amount (\$mm)	Gain (\$mm)	NAV (\$mm)	QTD IRR*	ITD IRR*
Real Estate Capital Asia Partners III	2011	80.2%	30.0	1.6	3.8	70.6%	6.6%
Adler Real Estate Partners Fund V	2021	28.0%	20.0	0.3	5.5	5.2%	5.2%
Wheelock Street Real Estate Fund I	2011	84.1%	20.0	0.3	2.5	12.3%	24.6%
Wheelock Street Real Estate Fund VI	2019	66.2%	20.0	0.3	17.1	1.5%	14.5%
Wheelock Street Real Estate Fund VII	2021	28.2%	20.0	0.2	5.2	n.m.1	n.m.1
		_					
Gain	-	-	110.0	2.5	34.0	8.3%	15.3%
Gain (Remaining)	-	-	152.0	0.4	24.3	1.3%	10.0%
Total Gain	-	-	262.0	2.9	58.3	5.0%	11.2%
* IRR calculated at portfolio currency. IRR not meaning ¹ IRR not meaningful for investments held less than 12		s 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	-6.1	73.6	-7.6%	3.8%
Northwood Real Estate Partners Series V	2015	62.8%	30.0	-3.6	33.7	-9.9%	7.2%
American Landmark Fund IV, LP	2022	75.0%	20.0	-3.4	12.6	n.m.1	n.m.1
Morgan Stanley Prime Property Fund	2006	100.0%	90.5	-2.0	86.6	-2.2%	5.4%
Realterm Logistics Income Fund	2020	100.0%	30.0	-1.7	37.1	-4.4%	11.3%
Loss		Q - 7	257.9	-16.8	243.6	-6.8%	4.8%
Loss (Remaining)		-	240.0	-4.5	178.2	-2.5%	6.4%
Total Loss	-	-	497.9	-21.2	421.8	-5.0%	5.1%
* IRR calculated at portfolio currency. IRR not meaning ¹ IRR not meaningful for investments held less than 12 n		held less than 12 months					
Total Portfolio(24)	-	79.9 %	759.9	-18.4	480.0	-3.8%	6.0%

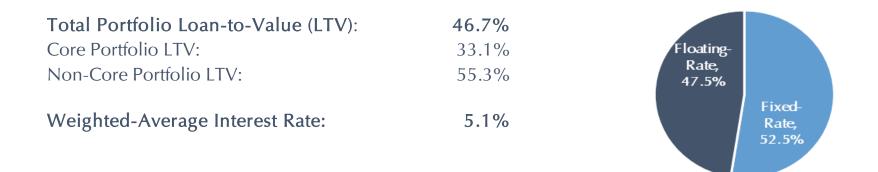




Portfolio Is Well-Diversified by Geography and Property Type

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







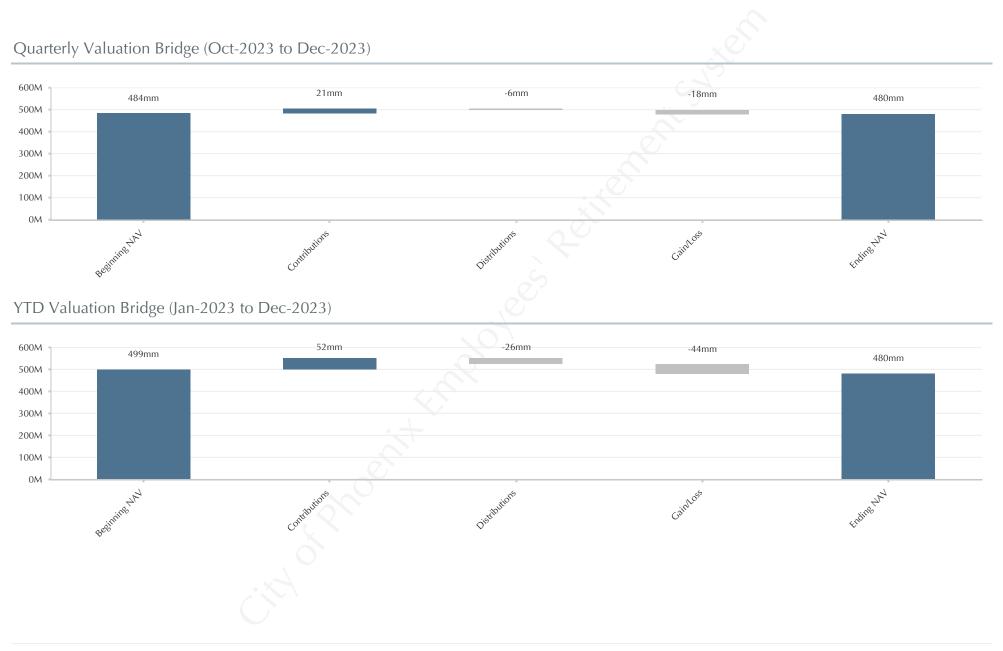




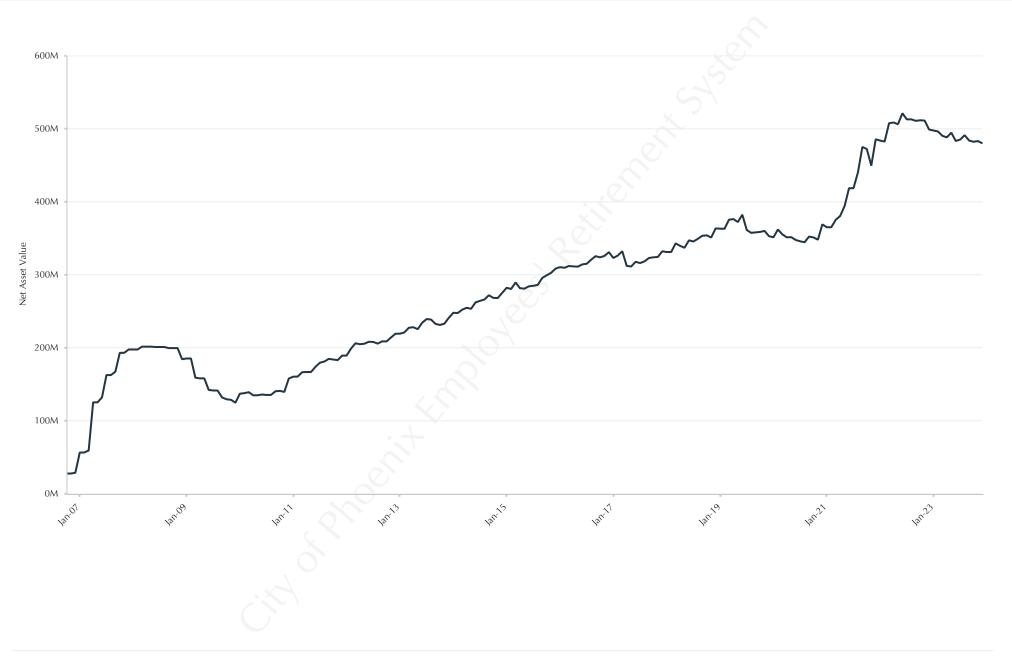
RE Portfolio Fees (% of Market Value)

Туре	2023-Q4	Quarterly Avg.
	Oct-2023 - Dec-2023	Oct-2006 - Dec-2023
AM Fees	0.28%	0.25%
Incentive Fees	-0.54%	0.13%
Other Fees	0.00%	0.00%
Total	-0.25%	0.39%

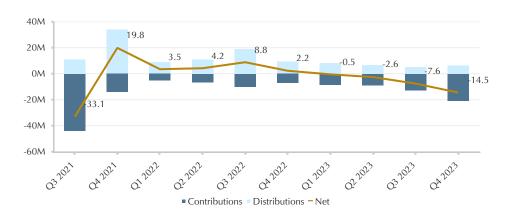






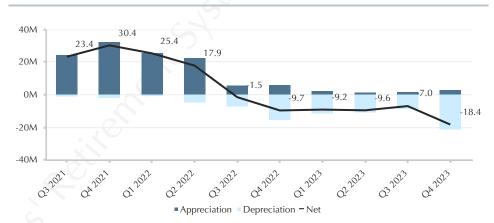






Cash Flows Quarterly

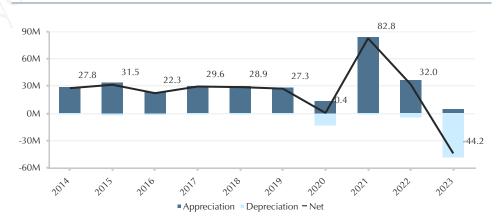




Cash Flows Yearly



Appreciation/Depreciation Yearly





Below are some portfolio updates that occurred subsequent to the end of 4Q2023:

1Q2024 Core Portfolio Flash Returns (gross):

- NCREIF-ODCE Benchmark: -2.4%
- JP Morgan SPF: -5.5%
- Morgan Stanley Prime: -1.1%
- Realterm Logistics Income Fund: +0.7%

Focus Senior Housing Fund II

 In February, the fund called approximately \$0.8 million from COPERS for investment in The Roosevelt at Salt Creek, a senior living facility located in Elmhurst, IL.

Real Estate Capital Asia Partners IV

 In February, the fund made a net distribution of approximately \$0.9 million to COPERS, representing sale proceeds generated from Project Bollywood in the Maldives.

Wheelock Street Real Estate Fund VI

 In March, the fund called over \$0.8 million from COPERS to fund follow-on investments to a variety of portfolio holdings, including Hotel Contessa, Haven South End, Lido Key, 111 Olive & 300 Banyan.



when the second stand st Appendix



Net TWR Analysis									
	QTD	Q3 2023	1Y	2Y	3Y	5Y	7 Y	10Y	ITD
RE Core	-4.7%	-1.2%	-9.5%	-2.2%	5.4%	4.4%	5.3%	7.1%	5.9%
RE Non-Core	-3.1%	-1.6%	-8.2%	-0.7%	5.7%	5.3%	7.0%	7.0%	7.9%
COPERS	-3.8%	-1.4%	-8.8%	-1.4%	5.6%	4.8%	6.0%	7.2%	6.2%



	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	80.2	0.5	-6.6	0.2	0.7	73.6			
Morgan Stanley Prime Property Fund	Core North America	USD	2006	89.4	0.6	-2.6	0.0	0.9	86.6			
Realterm Logistics Income Fund	Core+ North America	USD	2020	39.0	0.2	-1.9	0.0	0.2	37.1			
				208.7	1.4	-11.1	0.2	1.8	197.3			
RE Non-Core				0	2							
Adler Real Estate Partners Fund V	Value-Added North America	USD	2021	5.3	0.0	0.3	0.0	0.1	5.5			
American Landmark Fund III	Value-Added North America	USD	2021	37.0	-0.1	-0.3	0.0	0.0	36.7			
American Landmark Fund IV, LP	Value-Added North America	USD	2022	0.0	-1.0	-2.4	16.0	0.0	12.6			
Ascentris Value Add Fund III	Value-Added North America	USD	2019	9.4	-0.1	-1.2	0.7	0.0	8.9			
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	32.1	0.3	-0.8	1.9	0.0	33.5			
Focus Senior Housing Fund II	Value-Added North America	USD	2022	3.3	0.1	0.0	-2.2	0.1	1.1			
Hammes Partners III	Value-Added North America	USD	2018	16.3	0.1	0.0	0.0	0.3	16.1			
Hammes Partners IV	Value-Added North America	USD	2023	0.6	-0.1	0.0	0.0	0.0	0.5			
HSI Real Estate Fund V	Opportunistic Latin America	USD	2016	0.4	0.0	0.0	0.0	0.2	0.3			
JDM Partners Opportunity Fund I	Opportunistic North America	USD	2009	0.0	0.0	0.0	0.0	0.0	-			
Northwood Real Estate Partners Series IV	Value-Added Global	USD	2014	27.6	-0.3	-0.7	1.0	0.0	27.6			



	Strategy	Currency	Vintage	Opening value (mm)	Net Income (mm)	Net Appreciation (mm)	Contributions I (mm)	Distributions (mm)	Ending Value (mm)
Northwood Real Estate Partners Series V	Value-Added Global	USD	2015	36.3	-0.4	-3.3	1.0	0.0	33.7
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	2.2	0.0	1.6	0.0	0.0	3.8
Real Estate Capital Asia Partners IV	Opportunistic Asia-Pacific	USD	2015	11.2	0.0	-0.3	0.6	1.5	10.1
Real Estate Capital Asia Partners V	Opportunistic Asia-Pacific	USD	2019	19.4	0.0	-0.6	0.3	0.3	18.7
SC Core Fund	Core+ Asia- Pacific	USD	2016	29.8	-0.1	-0.1	0.0	0.0	29.8
TA Realty Fund IX	Value-Added North America	USD	2008	0.0	0.0	0.0	0.0	0.0	_
Wheelock Street Real Estate Fund I	Opportunistic North America	USD	2011	2.2	0.0	0.3	0.0	0.0	2.5
Wheelock Street Real Estate Fund II	Opportunistic North America	USD	2013	8.4	0.1	0.0	0.0	1.7	6.8
Wheelock Street Real Estate Fund V	Opportunistic North America	USD	2016	11.4	0.3	-0.4	0.0	0.2	11.1
Wheelock Street Real Estate Fund VI	Opportunistic North America	USD	2019	16.8	0.0	0.3	0.1	0.1	17.1
Wheelock Street Real Estate Fund VII	Opportunistic North America	USD	2021	3.9	0.0	0.2	1.1	0.0	5.2
Wrightwood High-Yield Partners II	U.S. CRE Transitional Lending	USD	2009	0.0	0.0	0.0	0.0	0.0	_
				275.2	-1.2	-7.4	20.6	4.5	282.8
COPERS		USD		483.9	0.2	-18.6	20.8	6.3	480.0

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



Aksia 📈

SOURCES:

¹ NATIONAL COUNCIL OF REAL ESTATE INVESTMENT FIDUCIARIES ("NCREIF") OPEN-ENDED DIVERSIFIED CORE EQUITY INDEX ("ODCE"). <u>WWW.NCREIF.ORG</u>

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, 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 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.

