

Investment Committee
Friday, January 13, 2023, 9:00 a.m.

Virtual Only

[Click here to join the meeting](#)

AGENDA

- I. CALL TO ORDER AND ACCEPTANCE OF AGENDA**
- II. ACCEPTANCE OF MINUTES (DECEMBER 2022)**
- III. PRIVATE MARKETS PORTFOLIO REVIEW – MR. MOSS**
- IV. PRIVATE MARKETS UPDATE – EXECUTIVE SESSION¹ – MR. MOSS**
- V. ANNUAL COMPLIANCE REVIEW – MR. POSCH**
- VI. LEGISLATIVE BILLS – MR. ANDERSON**
- VII. DISCUSSION**
- VIII. ADJOURNMENT**

¹ Executive session pursuant to NDCC 44-04-18.4(1), 44-04-19.1(9), and 44-04-19.2 to discuss confidential commercial information and contract negotiating strategy.

**STATE INVESTMENT BOARD
INVESTMENT COMMITTEE MEETING
MINUTES OF THE
DECEMBER 9, 2022, MEETING**

MEMBERS PRESENT: Thomas Beadle, State Treasurer, Chair
Joseph Heringer, Trust Lands Commissioner, Vice Chair
Scott Anderson, CIO
Dr. Prodosh Simlai, External Representative
Dr. Ruilin Tian, External Representative

MEMBER ABSENT: Eric Chin, Deputy CIO

STAFF PRESENT: Derek Dukart, Investment Officer
Jecca Geffre, Outreach & Communications Dir
Missy Kopp, Exec. Assistant
Jan Murtha, Exec. Director
Matt Posch, Sr. Investment Officer
Sara Seiler, Suprv. of Internal Audit
Ryan Skor, CFO/COO

CALL TO ORDER:

Treasurer Beadle called the State Investment Board (SIB) Investment Committee (IC) meeting to order at 9:00 a.m. on Friday, December 9, 2022, at the Retirement and Investment Office (virtual host), 1600 E Century Ave., Bismarck, ND.

The following Investment Committee members were present representing a quorum, Mr. Anderson, Treasurer Beadle, Commissioner Heringer, Dr. Simlai, and Dr. Tian.

AGENDA:

The agenda was considered for the December 9, 2022, meeting.

IT WAS MOVED BY DR. SIMLAI AND SECONDED BY MR. ANDERSON AND CARRIED BY A VOICE VOTE TO APPROVE THE AGENDA FOR THE DECEMBER 9, 2022, MEETING AS DISTRIBUTED.

AYES: COMMISSIONER HERINGER, MR. ANDERSON, DR. SIMLAI, DR. TIAN, AND TREASURER BEADLE

NAYS: NONE

ABSENT: MR. CHIN

MOTION CARRIED

MINUTES:

The minutes were considered for the November 10, 2022, meeting.

IT WAS MOVED BY MR. ANDERSON AND SECONDED BY COMMISSIONER HERINGER AND CARRIED BY A VOICE VOTE TO APPROVE THE MINUTES FOR THE NOVEMBER 10, 2022, MEETING AS DISTRIBUTED.

**AYES: DR. SIMLAI, COMMISSIONER HERINGER, DR. TIAN, MR. ANDERSON, AND
TREASURER BEADLE**

NAYS: NONE

ABSENT: MR. CHIN

MOTION CARRIED

FIXED INCOME (FI) PORTFOLIO REVIEW:

Mr. Anderson began by describing the three-phase approach that staff have been following to find an optimal risk level at the lowest cost. Staff have undertaken a comprehensive portfolio review. Mr. Anderson reviewed the activities in each phase. Staff would like the IC to discuss adding an independent benchmark consultant to ensure we have the most appropriate benchmarks and exposures. Mr. Anderson reviewed the changes in the composition of the portfolio. Staff are implementing a consistent core FI sub-allocation. Manulife and the Long Treasury Fund have been terminated, not because of underperformance, but staff do not want to have a short duration securitized mandate. Terminations also include SSGA US Government Credit Bond Index which is being broken up into component parts of SSGA Gov Index and SSGA Credit Index. The next steps will be to identify a transition manager for the FI transition then coordinate with the Fiscal Division with the goal of completing the transition in the first quarter of 2023. Staff will continue the portfolio analysis across the asset classes. Mr. Anderson discussed FI risk and return and how we measure risk. Mr. Posch highlighted some of the managers in the FI portfolio. Committee discussion followed.

FUND VALUE ALLOCATION PROCESS:

Mr. Anderson reviewed the allocation of value and performance to client funds. Investment performance is constrained by operational capability. There is a fund level opportunity to have reduced operational complexity with fewer Equity, FI, and private market sub-asset allocations and pooling of allocations. There would be better scale advantages, fewer manager searches, optimal active risk and return, implementation time savings, and managed concentration risk. Mr. Anderson outlined the steps to accomplish reduced operational complexity. Mr. Skor reviewed the current plan allocation process and the inefficiencies that exist. The fiscal team is developing a new allocation process which will lead to more efficient rebalancing and enhanced risk management. Staff plan to go live with the new process in the second quarter of 2023. Committee discussion followed.

OTHER

Mr. Anderson and Treasurer Beadle led a conversation about the implementation of SB 2291 which was passed by the Legislature in 2021. The statute prohibits social investments and mandates that we manage our funds for the exclusive benefit of our beneficiaries. Committee discussion followed.

Dr. Simlai left the meeting at 11:46 a.m.

With no further business to come before the Investment Committee, Treasurer Beadle adjourned the meeting at 12:02 p.m.

Prepared by:

Missy Kopp
Assistant to the Board



PRIVATE MARKETS UPDATE

INVESTMENT STAFF
JANUARY 13, 2023

NORTH
Dakota
Be Legendary.

Retirement & Investment

ACROSS CLIENT FUNDS, ASSET CLASSES, SUB-ASSET CLASSES AND MANAGERS

ASSET ALLOCATION

- WHAT ARE THE FUNDS' PURPOSES?
- WHAT ARE THE RISK AND RETURN OBJECTIVES?
- WHAT BENCHMARKS WERE USED IN DEVELOPING THE ASSET ALLOCATIONS?

POLICY STATEMENT & GUIDELINES

- WHAT ARE THE PORTFOLIO EXPECTATIONS?
- WHAT ARE THE RISK CONTROL CONSTRAINTS?
- WHAT ARE THE PORTFOLIO COMPOSITION CONSTRAINTS?

BENCHMARKS

- WHAT BENCHMARKS ARE BEING USED?
- WHAT ARE THE BENCHMARK WEIGHTS?
- WHAT ARE THE REBALANCING RULES?

MANAGER SELECTION

- WHAT ARE THE MANAGERS' BENCHMARKS?
- WHAT ARE THE MANAGERS' INVESTMENT PHILOSOPHIES?
- WHAT ARE RISK CHARACTERISTICS OF THE INVESTMENT MANAGERS' STYLE OF INVESTING?
- HOW DO THE MANAGERS PERFORM IN A RANGE OF RISK ENVIRONMENTS?

PHASE

ACTIVITIES

1.0

DATA GATHERING & ANALYSIS

- STAFFING: GEORGE MOSS (NOV '22), LANCE ZIETTLOW (MAR '23)
- TECHNOLOGY PLATFORM FOR AGGREGATING AND ANALYZING THE ASSETS
- BENCHMARKING
- PACING MODELS FOR EACH STRATEGY AND EACH POOL

2.0

OPTIMIZATION

- MOVE AWAY FROM EXTERNAL FUND-OF-FUNDS, AND TO THE EXTENT POSSIBLE BE CONSISTENT ACROSS POOLS
- ADDRESS CONCERNS IN SUB-ASSET CLASSES
- CONSIDER DEDICATED PRIVATE MARKET CONSULTANT

3.0

ADVANCED FUNDS MANAGEMENT

- FULLY OPERATIONAL INTERNAL FUND-OF-FUNDS STRUCTURE
- MANAGE LIQUIDITY AND EXPOSURES WITH PUBLIC MARKET PROXIES
- BUILD OUT A COINVESTMENT PLATFORM

CURRENT STATUS

AS OF 12/31/22

STRATEGY	CONSOLIDATED PENSION MARKET VALUE		CONSOLIDATED INSURANCE MARKET VALUE		LEGACY FUND MARKET VALUE	
	(\$ millions)	ALLOCATION	(\$ millions)	ALLOCATION	(\$ millions)	ALLOCATION
PRIVATE EQUITY	660	9.5%	-	-	18	0.2%
PRIVATE DEBT	406	5.8%	-	-	299	3.6%
PRIVATE REAL ESTATE	902	13.0%	126	4.4%	504	6.1%
INFRASTRUCTURE & OTHER REAL ASSETS	484	6.9%	89	3.1%	441	5.3%
OPPORTUNISTIC	104	1.5%	44	1.5%	56	0.7%
TOTAL PRIVATE MARKETS	2,557	36.7% ¹	259	9.0%	1,320	16.0%

PLATFORMS & DATA PROVIDERS

MULTI-ASSET AND PRIVATE MARKET

PLATFORM PROVIDER

SOLUTIONS

NASDAQ

TOPQ, SOLOVIS

BLACKROCK

EFRONT

NORTHERN TRUST

BURGISS PRIVATE I, BURGISS CAISSA / INTERNAL SYSTEM

ADDITIONAL DATA PROVIDERS

DESCRIPTION

PITCHBOOK

PRIVATE MARKET RESEARCH AND DATA PROVIDER THAT HAS PARTNERED WITH BLACKROCK AND INTEGRATES INTO EFRONT; MAY LICENSE SEPARATELY AND BE INTEGRATED INTO OTHER PLATFORMS

PREQIN

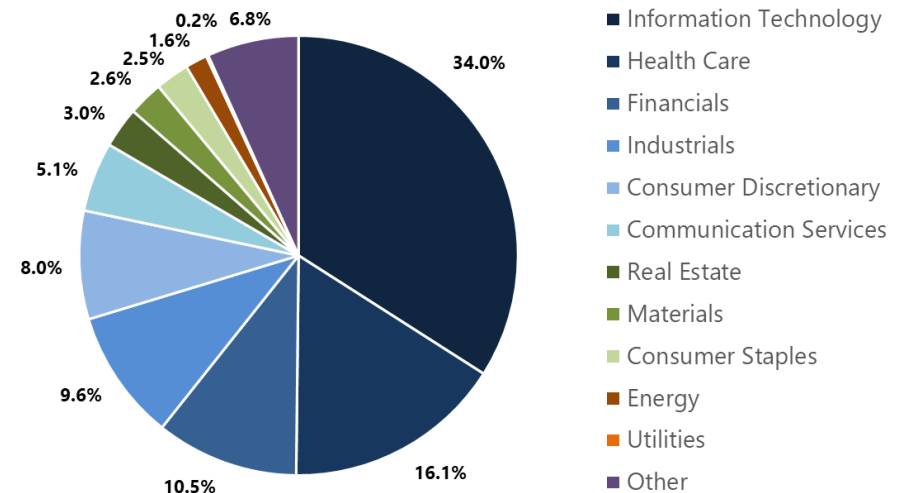
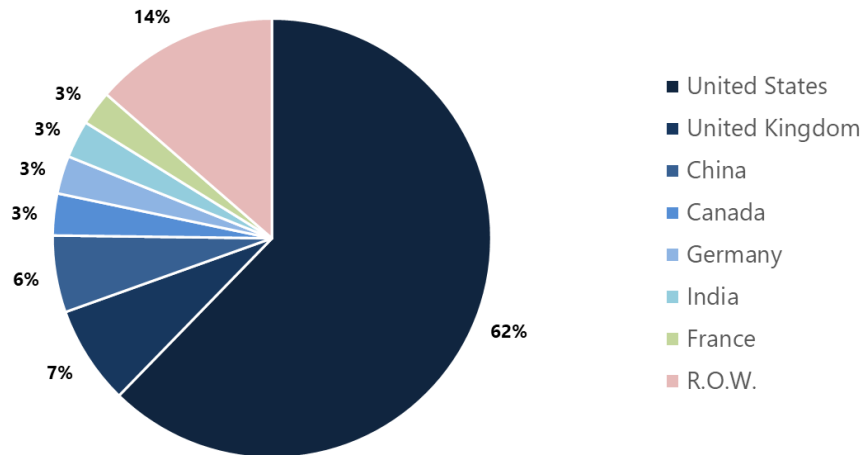
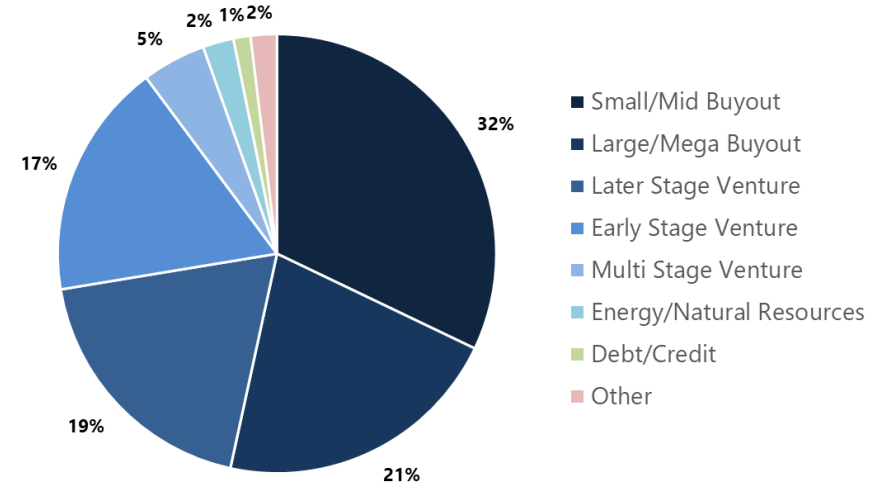
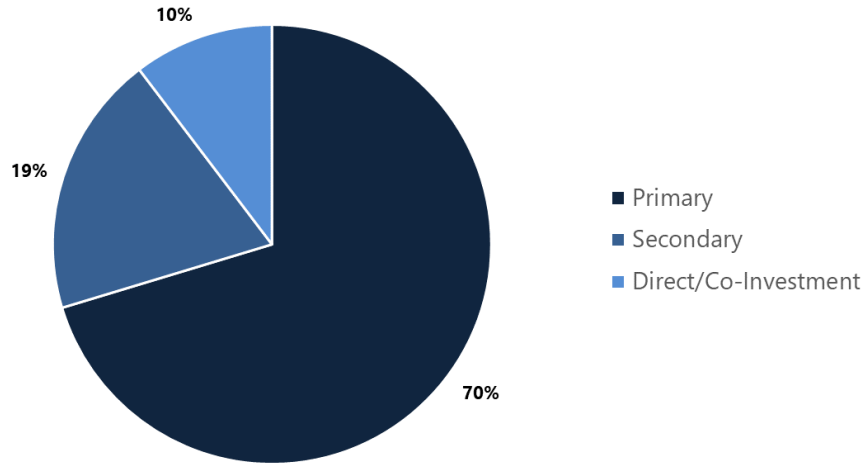
PRIVATE MARKET RESEARCH AND DATA PROVIDER THAT WOULD BE LICENSED SEPARATELY BUT MAY BE INTEGRATED INTO OTHER PLATFORMS.

BLOOMBERG

BLOOMBERG INDICES AND OTHER DATA CAN BE INTEGRATED INTO OTHER PLATFORMS WITH OUR EXISTING LICENSING.

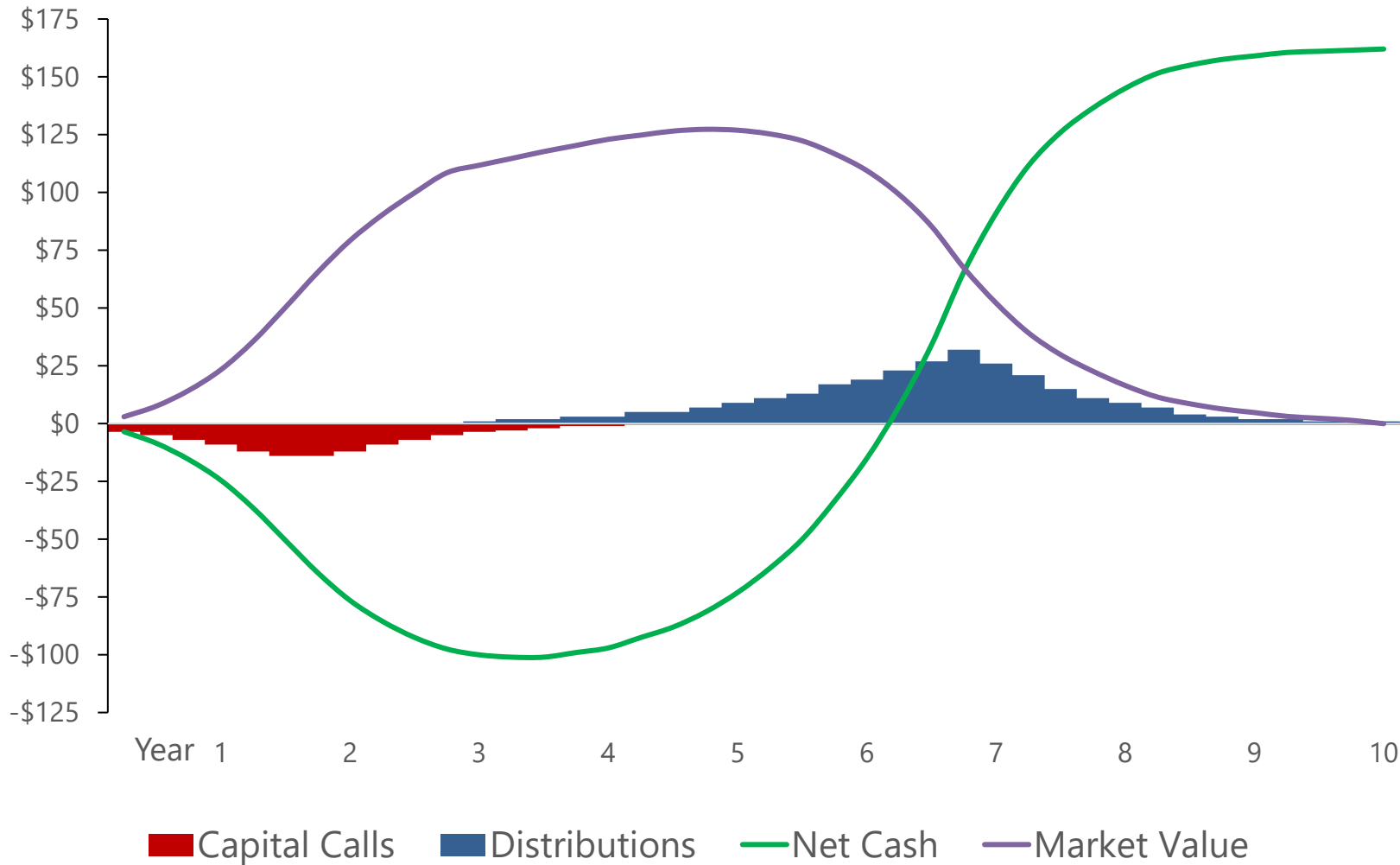
PORTFOLIO CHARACTERISTICS - SAMPLE

NDSIB ADAMS STREET FUND-OF-FUNDS INVESTMENTS



CASH FLOW & MARKET APPRECIATION

J-CURVE EXAMPLE

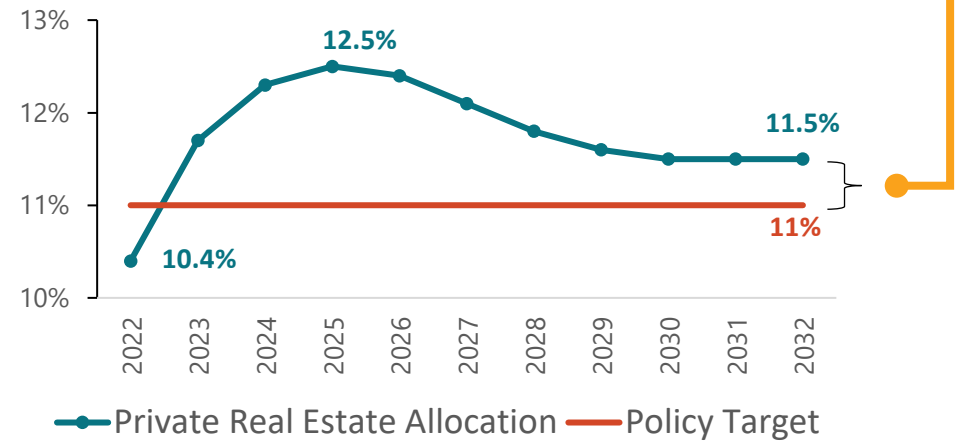
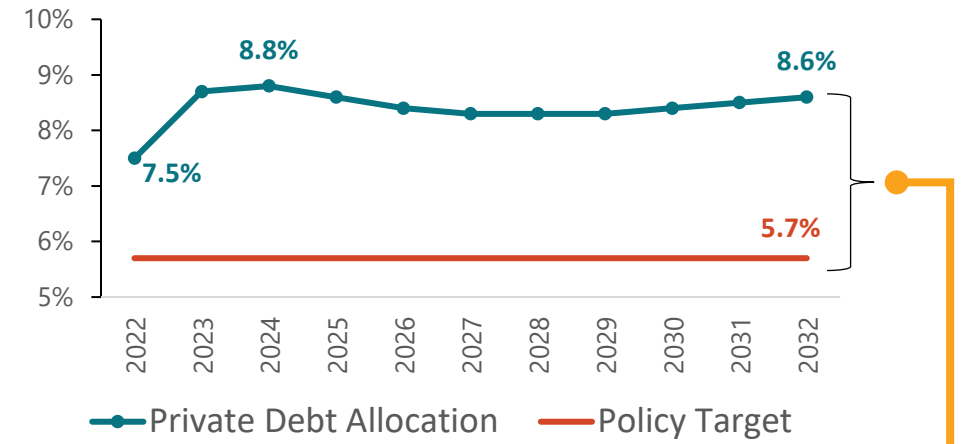
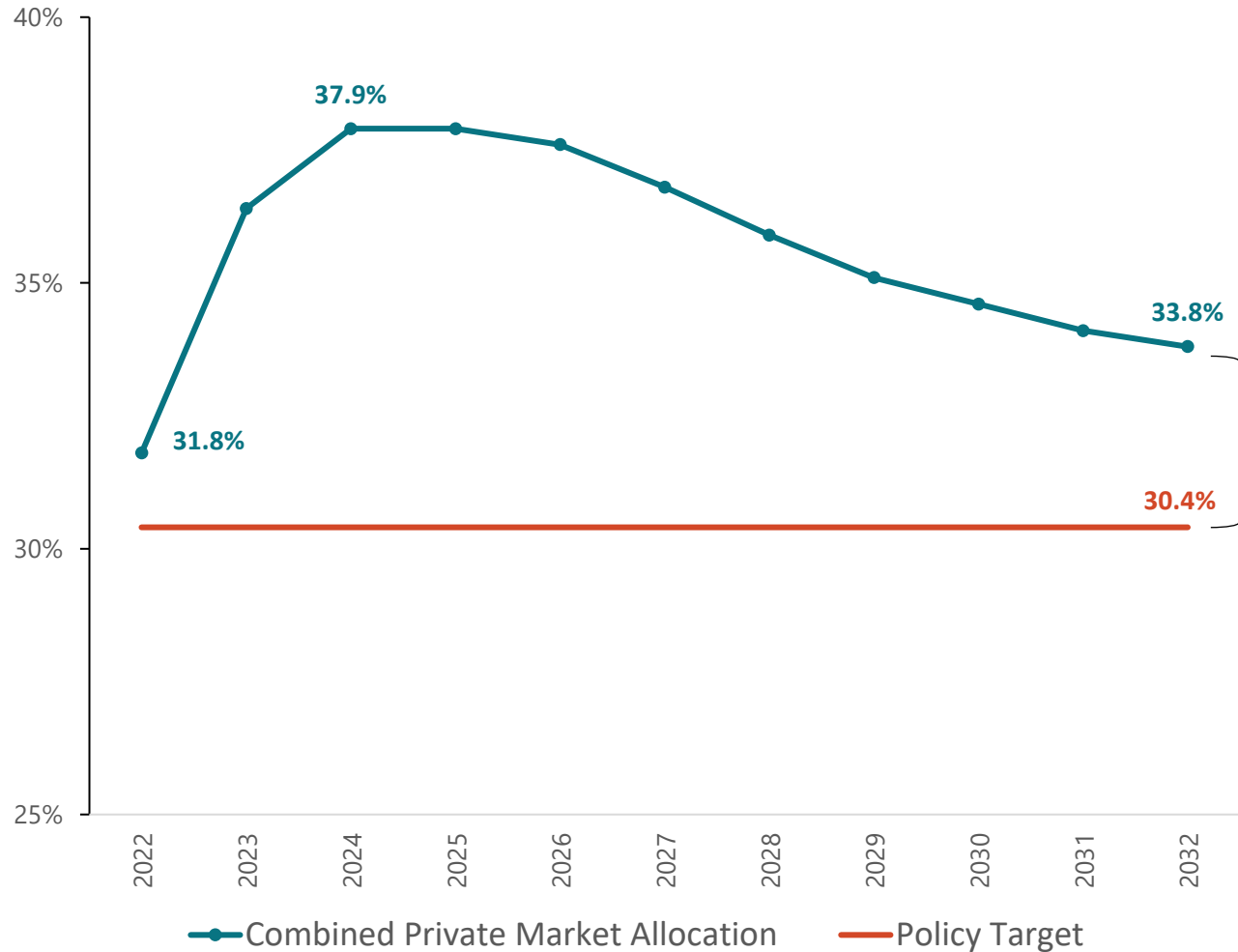


LONG TERM CAPITAL MARKET ASSUMPTIONS

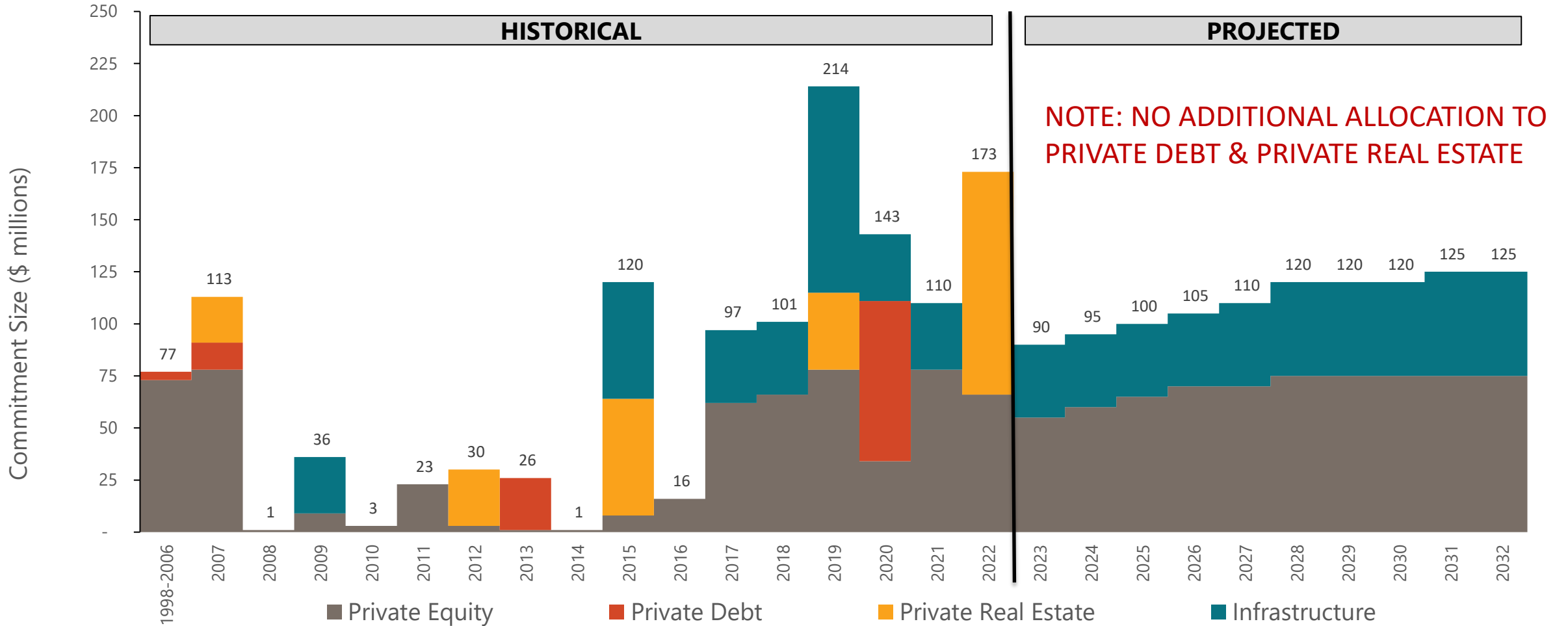
STRATEGY	RETURN	VOLATILITY
PRIVATE EQUITY	8.00%	27.60%
PRIVATE DEBT	5.50%	14.60%
PRIVATE REAL ESTATE	5.75%	14.20%
INFRASTRUCTURE	6.10%	15.45%

* CALLAN 2022 LONG TERM CAPITAL MARKET ASSUMPTIONS

MAINTAINING THE ALLOCATION

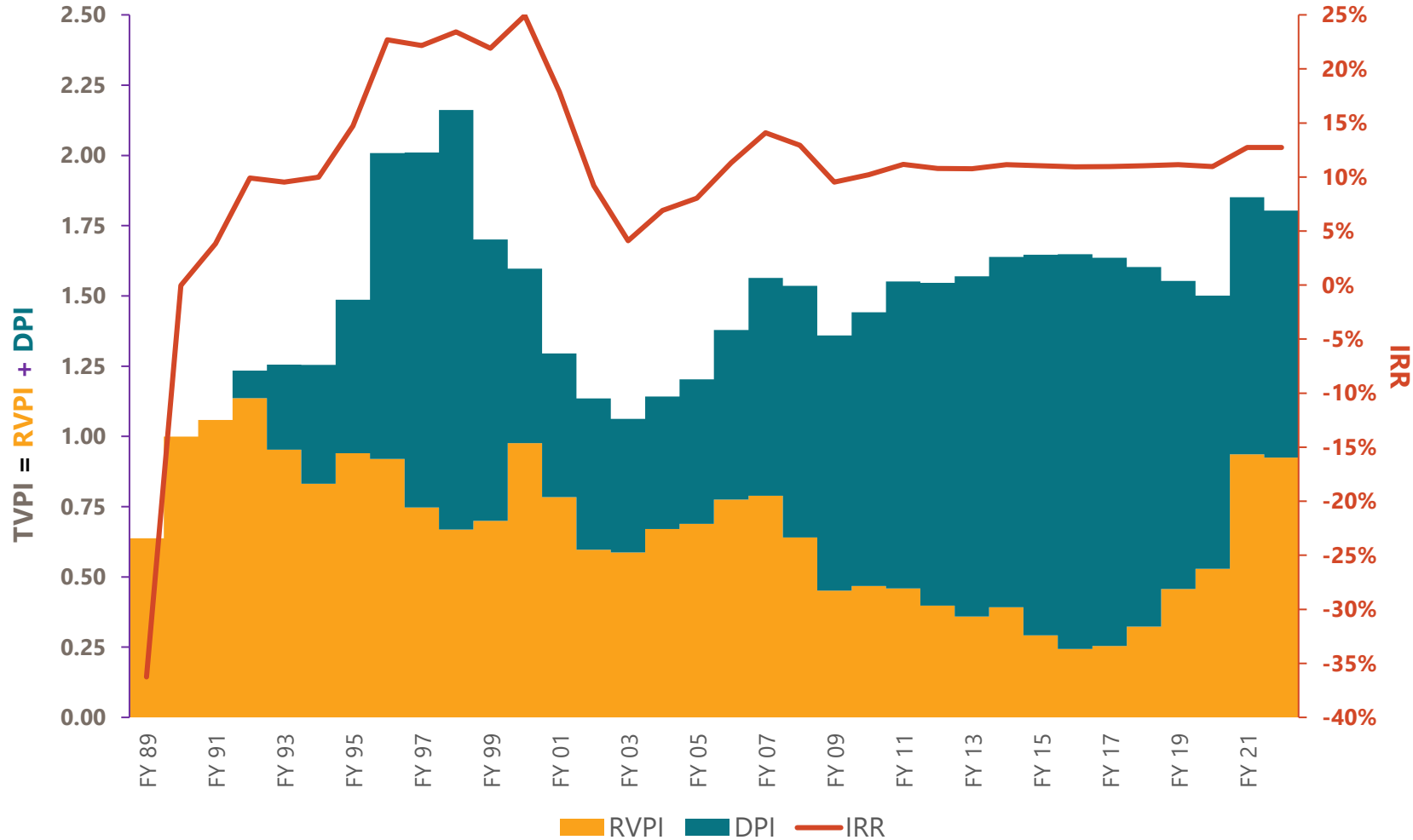


PACING EXAMPLE (ND PERS)



OUTCOME - SAMPLE

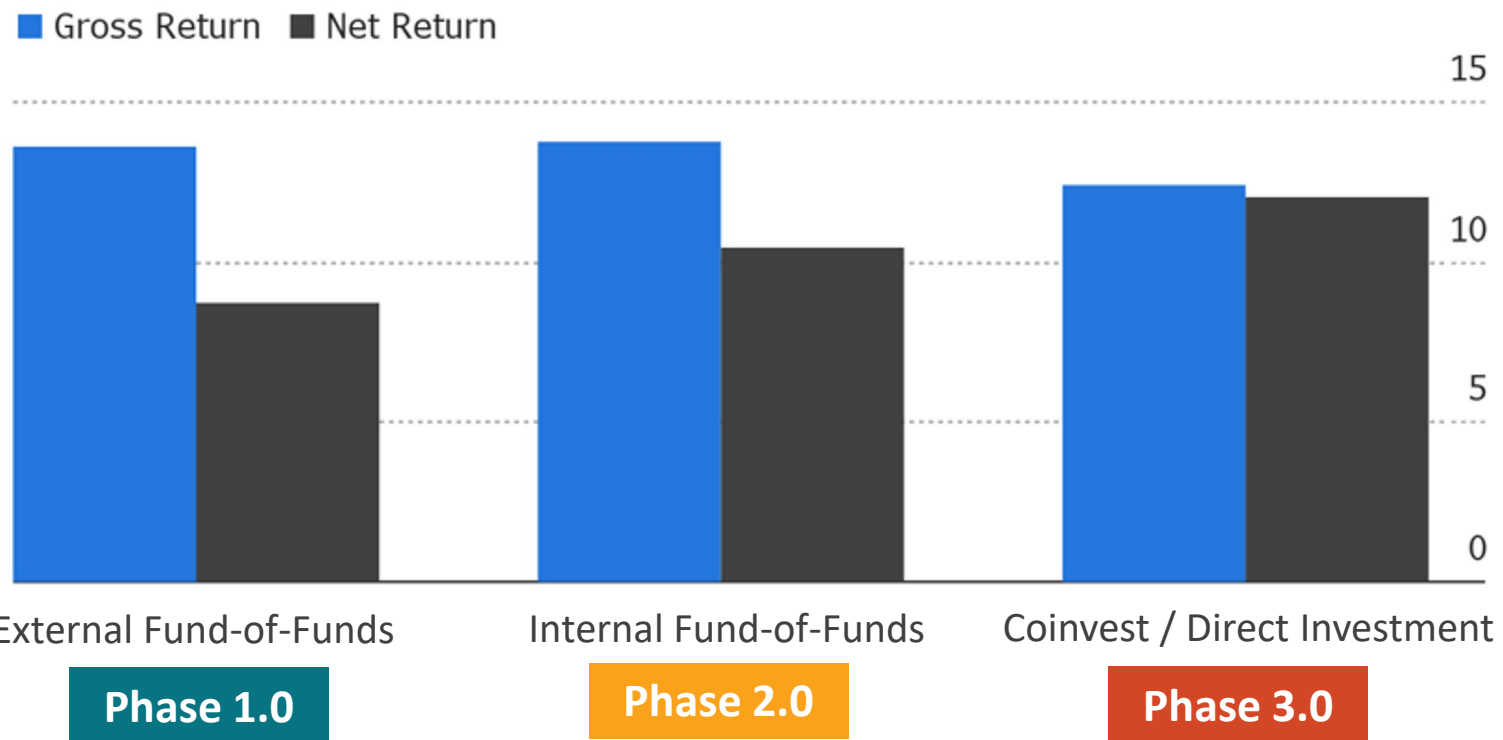
NDSIB ADAMS STREET FUND OF FUND INVESTMENTS



DPI	DISTRIBUTED TO PAID-IN
RVPI	REMAINING VALUE TO PAID-IN
TVPI	TOTAL VALUE TO PAID-IN
IRR	INTERNAL RATE OF RETURN

Cost difference

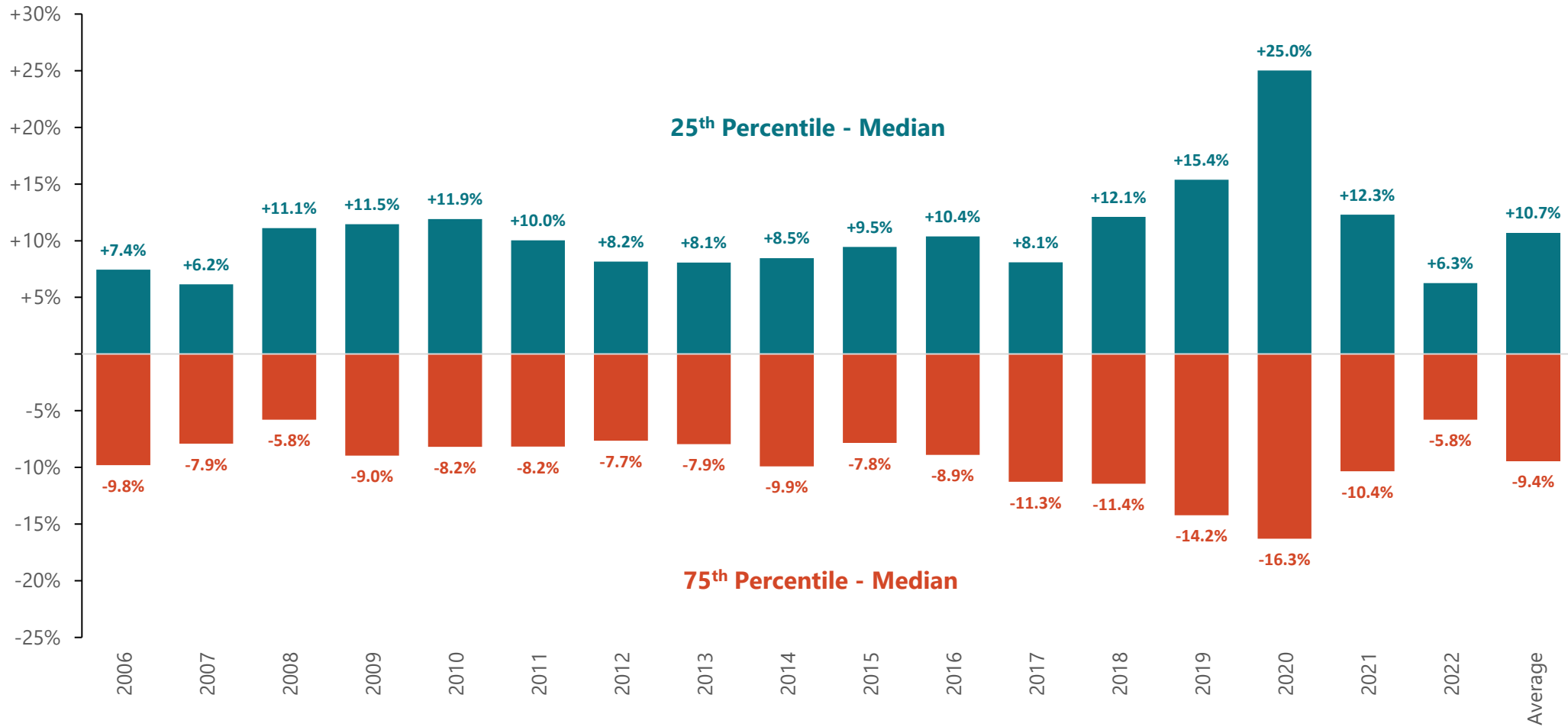
Investors who manage private equity in-house pay less and keep more



Source: Keith Ambachtsheer, CEM Benchmarking
Based on study of annual returns between 1996 and 2018

RETURN DISPERSION

VENTURE CAPITAL IRR DISPERSION BY VINTAGE YEAR



DEDICATED CONSULTANT EXAMPLES



BENCHMARKING EXAMPLES

ALLOCATION	BENCHMARK / PEER GROUP	LONG-TERM PUBLIC MARKET EQUIVALENT (PME)
PRIVATE EQUITY	CAMBRIDGE, BURGESS	MSCI ACWI IMI
PRIVATE DEBT	CAMBRIDGE, BURGESS, S&P	BLOOMBERG HY, BAML HY
REAL ESTATE	NFI-ODCE	FTSE NAREIT ALL REIT
INFRASTRUCTURE	EDHEC INFRA300	MSCI WORLD INFRASTRUCTURE
OPPORTUNISTIC	TOTAL PORTFOLIO	GLOBAL 60/40

DEVELOP THE OVERALL PRIVATE MARKETS STRATEGY

- UTILIZE NEWLY ACQUIRED TOOLS TO ANALYZE CURRENT POSITIONING
- DETERMINE BENCHMARKS / PERFORMANCE MEASUREMENT / REBALANCING APPROACH
- EVALUATE THE MARKET ENVIRONMENT FOR THE VARIOUS STRATEGIES
- DETERMINE THE MIX AND SIZING OF STRATEGIES AND SUB-STRATEGIES
- DEVELOP PACING MODELS
- SURVEY THE MARKET OF PROVIDERS AND DEVELOP FUNDRAISING SCHEDULE
- ENGAGE WITH MANAGERS AND CONDUCT DUE DILIGENCE

PRIVATE MARKETS MANAGER CATALOGUE

PRIVATE EQUITY: 50 SOUTH CAPITAL

50 SOUTH CAPITAL IS A GLOBAL BOUTIQUE ALTERNATIVES FIRM HEADQUARTERED IN CHICAGO. IT IS A WHOLLY OWNED SUBSIDIARY OF NORTHERN TRUST CORPORATION, THE \$183 BILLION FINANCIAL SERVICES FIRM. 50 SOUTH CAPITAL ESTABLISHED THE 1889 GROWTH FUND EXPLICITLY TO MEET THE GUIDELINES FOR THE \$100 MILLION NORTH DAKOTA GROWTH FUND, 100% OF WHICH IS FUNDED FROM THE LEGACY FUND. IT IS A MULTI-STAGE INVESTMENT FUND THAT WILL SEEK TO INVEST IN NORTH DAKOTA BUSINESSES AND ENTREPRENEURS THROUGH TARGETED INVESTMENTS IN VENTURE CAPITAL, PRIVATE CREDIT (INCLUDING VENTURE DEBT), PRIVATE EQUITY, GROWTH EQUITY, INFRASTRUCTURE AND REAL ASSETS OPPORTUNITIES IN BOTH COMPANIES AND PRIVATE FUNDS THAT ARE EITHER BASED IN NORTH DAKOTA OR POSSESS A SIGNIFICANT PRESENCE IN NORTH DAKOTA.

AS OF 06/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
50 SOUTH CAPITAL 1889 GROWTH FUND	2021	LEG	4.77 ¹	NA	NA	NA	NA

1. AS OF 12/31/22, \$20 MILLION HAS NOW BEEN DRAWN DOWN FOR INVESTMENT.

PRIVATE EQUITY: ADAMS STREET

ADAMS STREET PARTNERS (ASP) WAS FOUNDED IN 1972 AS THE GROWTH EQUITY INVESTMENT TEAM OF THE FIRST NATIONAL BANK OF CHICAGO, LATER BRINSON PARTNERS, AND THEN BECOMING PART OF UBS GLOBAL ASSET MANAGEMENT. IN 2001 ADAMS STREET PARTNERS, LLC WAS ESTABLISHED AS AN INDEPENDENT ENTITY, AND IN 2008 THEY BECAME 100% EMPLOYEE-OWNED. ASP IS DEDICATED EXCLUSIVELY TO PRIVATE MARKETS INVESTMENT MANAGEMENT AND CREATED THE FIRST PRIVATE EQUITY FUND OF FUNDS (FOF). TODAY THEY ALSO OFFER SECONDARY, CO-INVESTMENT, AND PRIVATE DEBT STRATEGIES TO THEIR GLOBAL CLIENT BASE. THEY CURRENTLY MANAGE \$44.7 BILLION WITH 215 PEOPLE ACROSS 10 GLOBAL LOCATIONS.

AS OF 6/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
ADAMS ST BRINSON US FUNDS	1998-2006	PEN	0.41	6.73	1.50	0.01	1.51
ADAMS ST BRINSON NON-US FUNDS	1999-2007	PEN	0.25	14.35	1.95	0.01	1.96
ADAMS ST 2008 NON-US	2008-2012	PEN	4.63	11.25	1.44	0.51	1.95
ADAMS ST 2010 FUNDS	2010-2014	PEN	10.20	15.23	1.52	0.76	2.28
ADAMS ST 2015 GLOBAL FUND	2015-2016	PEN	43.18	27.16	0.63	1.66	2.29
ADAMS ST 2016 GLOBAL FUND	2016-2017	PEN	37.59	156.94	0.40	1.54	1.94

PRIVATE EQUITY: ADAMS STREET (CONT.)

AS OF 6/30/22

VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
ADAMS ST 2017 GLOBAL FUND	2017-2019	PEN	79.04	28.73	0.27	1.72	1.99
ADAMS ST 2018 GLOBAL FUND	2018	PEN	63.64	35.17	0.16	1.67	1.83
ADAMS ST 2019 GLOBAL FUND	2019-2020	PEN	48.40	66.31	0.11	1.57	1.69
ADAMS ST 2020 GLOBAL FUND	2020	PEN	27.29	80.32	0.06	1.34	1.40
ADAMS ST 2021 GLOBAL FUND	2021	PEN	5.55	33.73	0.00	1.16	1.16

PRIVATE EQUITY: BLACKROCK

BLACKROCK PRIVATE EQUITY PARTNERS (PEP) WAS FOUNDED IN 1999 WHEN MERRILL LYNCH HIRED RUSS STEENBERG TO BEGIN A PRIVATE EQUITY FUND-OF-FUNDS AND CO-INVESTMENT BUSINESS. RUSS STEENBERG WAS PREVIOUSLY CO-HEAD OF PRIVATE CAPITAL AT AT&T INVESTMENT MANAGEMENT. IN 2006, MERRILL LYNCH INVESTMENT MANAGERS WAS ACQUIRED BY BLACKROCK AND PEP BECAME A WHOLLY OWNED SUBSIDIARY OF PUBLICLY TRADED BLACKROCK. IN 2012, BLACKROCK ACQUIRED THE ENTIRE PRIVATE MARKETS TEAM OF SWISS RE PRIVATE EQUITY PARTNERS AG. PEP MANAGES FUND-OF-FUNDS, DIRECT CO-INVESTMENT VEHICLES, FUND-OF-ONES, SECONDARIES, AND ADVISORY ACCOUNTS FOR CLIENTS COVERING A WIDE ARRAY PRIVATE MARKET MANDATES. A KEY FOCUS OF THE FIRM IS CO-INVESTMENTS, AND ALL PRIMARY PARTNERSHIP INVESTMENT PROFESSIONALS WORK ON BOTH PRIMARY AND CO-INVESTMENT EVALUATIONS. THE PEP TEAM MANAGES APPROXIMATELY \$45 BILLION WITH 191 EMPLOYEES ACROSS 5 GLOBAL LOCATIONS.

AS OF 6/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
BLACKROCK 2017	2017-2019	PEN	215.89	21.95	0.22	1.52	1.74
BLACKROCK 2020	2021	PEN	50.27	15.52	0.00	1.16	1.16

PRIVATE DEBT: ARES

ARES MANAGEMENT CORPORATION (NYSE: ARES) IS A PUBLICLY TRADED, GLOBAL ALTERNATIVE INVESTMENT MANAGER. ARES HAS OFFICES ACROSS THE UNITED STATES, EUROPE, ASIA, AND AUSTRALIA. ARES OPERATES INTEGRATED BUSINESSES ACROSS PRIVATE DEBT, PRIVATE EQUITY, REAL ASSETS, SECONDARY SOLUTIONS AND STRATEGIC INITIATIVES. ARES WAS BUILT UPON THE FUNDAMENTAL PRINCIPLE THAT EACH GROUP BENEFITS FROM BEING PART OF THE BROADER PLATFORM. ARES BELIEVES THE SYNERGIES RESULTING FROM COLLABORATION ACROSS THE ARES CREDIT PLATFORM PROVIDE ITS PROFESSIONALS WITH MORE INFORMED DECISION MAKING AS A RESULT OF SHARED INDUSTRY EXPERTISE, MANAGEMENT RELATIONSHIPS, MARKET INSIGHTS, ACCESS TO SIGNIFICANT DEAL FLOW, A BROADER OPPORTUNITY SET, AND THE ABILITY TO ASSESS RELATIVE VALUE.

AS OF 9/30/22								
VEHICLE	VINTAGE	POOL	NAV (\$MM)	RETURN %				
				1 YR	3 YR	5 YR	10 YR	ITD
ARES ND CREDIT STRATEGIES FUND	2017-OE	PEN	158.22	7.79	7.69	7.65	--	7.17
		LEG	111.06	7.85	7.68	7.64	--	7.17

PRIVATE DEBT: CERBERUS

CERBERUS CAPITAL MANAGEMENT WAS FOUNDED IN 1992 AND IS HEADQUARTERED IN NEW YORK CITY WITH OFFICES AROUND THE GLOBE. THE FIRM BEGAN INVESTING IN DISTRESSED DEBT WITH A FOCUS ON OPPORTUNITIES ARISING OUT OF THE U.S. SAVINGS AND LOAN CRISIS AND THE SUBSEQUENT COLLAPSE OF THE HIGH YIELD BOND MARKET. CERBERUS HAS CONTINUES TO BE OPPORTUNISTIC IN LAUNCHING NEW STRATEGIES BASED ON THE OPPORTUNITY SET, AND HAS EXPANDED IN SIZE AND SCOPE TO \$42 BILLION OF ASSETS UNDER MANAGEMENT ENCOMPASSING THREE PRINCIPAL COMPLEMENTARY INVESTMENT STRATEGIES: REAL ESTATE, GLOBAL CREDIT AND PRIVATE EQUITY.

AS OF 9/30/22								
VEHICLE	VINTAGE	POOL	NAV (\$MM)	RETURN %				
				1 YR	3 YR	5 YR	10 YR	ITD
CERBERUS ND PRIVATE CREDIT FUND	2017-OE	PEN	170.38	6.91	9.00	9.62	--	9.30
		LEG	136.91	7.05	9.19	9.74	--	9.41

PRIVATE DEBT: SIXTH STREET

SIXTH STREET PARTNERS, FOUNDED IN 2009, IS A LEADING GLOBAL INVESTMENT FIRM WITH \$65 BILLION IN ASSETS UNDER MANAGEMENT AND OVER 180 INVESTMENT PROFESSIONALS. THE FIRM IS DESIGNED FOR CROSS-PLATFORM COLLABORATION AT SCALE TO BUILD BUSINESSES, INVEST FOR GROWTH, ACQUIRE ASSETS, PROVIDE DIRECT FINANCING, IDENTIFY VALUE IN PUBLIC MARKETS, PURCHASE ROYALTY STREAMS, AND REGULARLY DEVELOP FIRST-OF-THEIR-KIND STRUCTURES TO MEET THE STRATEGIC OBJECTIVES OF MANAGEMENT TEAMS. THE TAO PLATFORM IS ONE OF THE LARGEST PRIVATE CAPITAL INVESTMENT PLATFORMS IN THE WORLD, AND HAS THE FLEXIBILITY TO INVEST ALONGSIDE ALL OF SIXTH STREET'S INVESTMENT PLATFORMS WHILE ALSO SERVING AS A HOME FOR BETWEEN-THE-BOX STRATEGIES AND ADJACENT OPPORTUNITIES.

AS OF 9/30/22								
VEHICLE	VINTAGE	POOL	NAV (\$MM)	RETURN %				ITD
				1 YR	3 YR	5 YR	10 YR	
SIXTH STREET TAO 5.0	2020-OE	PEN	71.55	6.05	--	--	--	9.82
		LEG	47.70	6.05	--	--	--	9.78

PRIVATE REAL ESTATE: INVESCO

INVESCO ADVISERS, INC., AS SUCCESSOR IN INTEREST TO MULTIPLE INVESTMENT ADVISERS, HAS BEEN AN INVESTMENT ADVISER SINCE NOVEMBER 1976. THE PARENT COMPANY, INVESCO LTD., IS A PUBLICLY OWNED COMPANY WHOSE SHARES ARE LISTED ON THE NEW YORK STOCK EXCHANGE UNDER THE SYMBOL "IVZ" AND IS A CONSTITUENT OF THE S&P 500 INDEX. INVESCO REAL ESTATE WAS ESTABLISHED IN 1983 TO PROVIDE REAL ESTATE INVESTMENT MANAGEMENT SERVICES TO TAX EXEMPT INSTITUTIONAL CLIENTS. ORIGINATING AS PART OF THE LOMAS & NETTLETON ORGANIZATION, THE FIRM WAS PURCHASED BY INVESCO LTD. IN APRIL 1990 AND BECAME INVESCO REAL ESTATE.

AS OF 9/30/22								
VEHICLE	VINTAGE	POOL	NAV (\$MM)	RETURN %				
				1 YR	3 YR	5 YR	10 YR	ITD
		PEN	448.23	19.93	11.37	9.50	10.85	8.57
INVESCO CORE REAL ESTATE - U.S.A.	2004-OE	INS	67.61	19.93	11.38	9.51	10.86	10.50
		LEG	236.93	19.93	11.37	9.50	--	9.73

PRIVATE REAL ESTATE: INVESCO (CONT.)

AS OF 9/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
INVESCO ASIA REAL ESTATE FUND III	2015	PEN	15.91	17.80	0.81	0.70	1.51
INVESCO U.S. VALUE-ADD FUND IV	2015	PEN	3.15	10.80	1.29	0.05	1.34
INVESCO U.S. VALUE-ADD FUND V	2019	PEN	70.69	15.40	0.15	1.19	1.34
INVESCO REAL ESTATE U.S. FUND VI	2022	PEN	34.42	NA	0.00	1.04	1.04
		LEG	34.42				

PRIVATE REAL ESTATE: JP MORGAN

J.P. MORGAN ASSET MANAGEMENT MANAGES OVER \$2.2 TRILLION IN ASSETS (\$187 BILLION IN ALTERNATIVES) WITH MORE THAN 1,100 INVESTMENT SPECIALISTS GLOBALLY.

THE INCOME & GROWTH STRATEGY SEEKS A HIGH QUALITY AND COMPETITIVELY POSITIONED FOUNDATION OF STABILIZED ASSETS WITHIN DYNAMIC US MARKETS DOMINATED BY GROWTH INDUSTRIES WHERE STRONG SECTOR AND GEOGRAPHIC SELECTION PROPELS RENT GROWTH.

THE STRATEGIC PROPERTY STRATEGY SEEKS AN IRREPLACEABLE COLLECTION OF HIGH QUALITY ASSETS IN MAJOR GROWTH MARKETS AND OUTSIZED NET OPERATING INCOME FROM DOMINANT ASSETS WITH SUPERIOR RENT GROWTH TRAJECTORIES.

THE SPECIAL SITUATION STRATEGY SEEKS TO ACQUIRE VALUE-ADD ASSETS, WHICH ARE DE-RISKED THROUGH A VARIETY OF EXECUTIONS INCLUDING DEVELOPMENT, REDEVELOPMENT, REPOSITIONING, LEASE-UP AND RECAPITALIZATION.

AS OF 9/30/22								
VEHICLE	VINTAGE	POOL	NAV (\$MM)	RETURN %				
				1 YR	3 YR	5 YR	10 YR	ITD
JP MORGAN U.S. REAL ESTATE INCOME & GROWTH	2005-OE	INS	58.34	21.42	11.23	8.75	10.58	6.21
		LEG	229.89	21.42	11.23	8.74	--	9.08
JP MORGAN STRATEGIC & SPECIAL SITUATION BLEND	1998-OE	PEN	334.52	17.49	11.52	9.69	11.12	7.91

INFRASTRUCTURE: GROSVENOR

THE GROSVENOR CUSTOMIZED INFRASTRUCTURE STRATEGIES (CIS) ARE FUND-OF-FUNDS FOCUSED ON PROVIDING A COMPREHENSIVE, DIVERSIFIED SOLUTION FOR INVESTORS LOOKING TO ACCESS THE INFRASTRUCTURE ASSET CLASS. THE FUNDS SEEK TO GENERATE STABLE, LONG-TERM YIELD AND ATTRACTIVE RISK-ADJUSTED RETURNS BY INVESTING IN A DIVERSIFIED PORTFOLIO OF PRIMARY CORE AND CORE PLUS INFRASTRUCTURE FUNDS (30%), CO-INVESTMENTS (40%) AND OPPORTUNISTIC SECONDARY FUND PURCHASES (30%).

AS OF 9/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	GROSS IRR %	DPI	RVPI	TVPI
GROSVENOR CIS I	2010-2017	PEN	10.03	10.30	1.26	0.18	1.43
		INS	5.02				
GROSVENOR CIS II	2012-2021	PEN	23.02	15.60	0.65	0.74	1.39
		LEG	57.55				
GROSVENOR CIS III	2017-2022	PEN	16.46	NA	0.00	0.98	0.98
		INS	3.09				
		LEG	21.60				

INFRASTRUCTURE: I SQUARED

I SQUARED (ISQ) IS AN EMPLOYEE-OWNED GLOBAL INFRASTRUCTURE FIRM FOUNDED IN 2012 WITH OVER 200 EMPLOYEES OPERATING OUT OF 7 GLOBAL OFFICES AND OVER \$36 BILLION IN ASSETS UNDER MANAGEMENT. THE ISQ GLOBAL INFRASTRUCTURE FUNDS SEEK TO ACHIEVE LONG-TERM CAPITAL APPRECIATION AS WELL AS CURRENT INCOME THROUGH EQUITY AND EQUITY RELATED INVESTMENTS IN INFRASTRUCTURE AND INFRASTRUCTURE RELATED ASSETS LOCATED GLOBALLY, WITH A FOCUS ON NORTH AMERICA, EUROPE, AND SELECTED GROWTH ECONOMIES IN ASIA AND LATIN AMERICA. THE FUND MAY ALSO INVEST IN DEBT SECURITIES THAT HAVE EQUITY-LIKE RETURNS OR AN EQUITY COMPONENT, OR ARE RELATED TO ITS EQUITY INVESTMENTS, INCLUDING WITHOUT LIMITATION CONVERTIBLE DEBT, BANK LOANS AND PARTICIPATIONS, AND OTHER SIMILAR INSTRUMENTS.

AS OF 9/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
ISQ GLOBAL INFRASTRUCTURE FUND II	2018	PEN	72.83	14.1	0.22	1.11	1.33
		LEG	84.03				
ISQ GLOBAL INFRASTRUCTURE FUND III	2020	PEN	5.82	-15.5	0.00	0.88	0.88
		LEG	8.73				

INFRASTRUCTURE: JP MORGAN

THE JP MORGAN INFRASTRUCTURE INVESTMENTS FUND (IIF) INVESTS IN STABILIZED ASSETS IN OECD COUNTRIES WITH SELECTED VALUE-ADDED OPPORTUNITIES, ACROSS INFRASTRUCTURE INDUSTRY SUB-SECTORS, INCLUDING: TOLL ROADS, BRIDGES AND TUNNELS; OIL AND GAS PIPELINES; ELECTRICITY TRANSMISSION AND DISTRIBUTION FACILITIES; CONTRACTED POWER GENERATION ASSETS; WATER DISTRIBUTION; WASTE-WATER COLLECTION AND PROCESSING; RAILWAY LINES AND RAPID RAIL LINKS; AND SEAPORTS AND AIRPORTS.

AS OF 9/30/22								
VEHICLE	VINTAGE	POOL	NAV (\$MM)	RETURN %				
				1 YR	3 YR	5 YR	10 YR	ITD
		PEN	117.20	-1.27	5.46	5.94	5.91	4.54
JP MORGAN IIF	2007-OE	INS	35.96	-1.09	5.39	5.90	5.77	5.64
		LEG	96.29	-1.27	5.33	5.85	--	6.29

INFRASTRUCTURE: MACQUARIE

MACQUARIE GROUP IS A DIVERSIFIED FINANCIAL SERVICES COMPANY HEADQUARTERED IN SYDNEY AND LISTED ON THE AUSTRALIAN SECURITIES EXCHANGE. THE COMPANY HAS \$148 BILLION IN ASSETS UNDER MANAGEMENT AND OVER 15,000 EMPLOYEES WORLDWIDE. THE MACQUARIE INFRASTRUCTURE AND REAL ASSETS (“MIRA”) SEGMENT IS A LARGE, GLOBAL ALTERNATIVE ASSET MANAGER, INVESTING ACROSS INFRASTRUCTURE, RENEWABLES, REAL ESTATE, AGRICULTURE, PRIVATE CREDIT, AND TRANSPORTATION FINANCE WITH \$135.6 BILLION IN ASSETS UNDER MANAGEMENT. MIRA’S PRINCIPAL INVESTMENT PHILOSOPHY IS TO INVEST IN INFRASTRUCTURE ASSETS THAT EXHIBIT MONOPOLISTIC AND/OR CONTRACTUAL REVENUE DRIVERS, LIMITED SUBSTITUTION RISK AND HIGH BARRIERS TO ENTRY. THE MANAGER HAS CONTINUED TO FOCUS ON INVESTMENTS WHERE THE TEAM’S SECTOR EXPERTISE AND OPERATING EXPERIENCE WILL PROVIDE A COMPETITIVE ADVANTAGE IN SOURCING AND DUE DILIGENCE.

AS OF 9/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
MACQUARIE INFRASTRUCTURE FUND IV	2018	PEN	77.90	13.5	0.25	1.13	1.38
		LEG	89.89				
MACQUARIE INFRASTRUCTURE FUND V	2021	PEN	47.41	18.7	0.00	1.18	1.18
		INS	11.86				
		LEG	71.11				

TIMBER: TIR

TIMBERLAND INVESTMENT RESOURCES, LLC (TIR) WAS FOUNDED IN 2003 AND INVESTS IN TARGETED MARKETS AND REGIONS ON BEHALF OF LEADING INSTITUTIONAL AND HIGH NET-WORTH INVESTORS, FOCUSING ON MIDDLE-MARKET TIMBERLAND PROPERTIES ACROSS THE U.S.

THE INVESTMENT STRATEGY OF SPRINGBANK IS TO MAXIMIZE THE LONG-TERM INVESTMENT POTENTIAL OF THE PROPERTY THROUGH STRATEGIC RETAIL LAND SALES THAT TAKE ADVANTAGE OF THE DEMOGRAPHIC CHANGES IN NORTH GEORGIA, AS WELL AS SEEK TO CAPITALIZE ON TIMBER GROWTH AND HARVESTS.

THE INVESTMENT STRATEGY OF TEREDO IS TO PROVIDE COMPETITIVE INVESTMENT RETURNS THROUGH MAXIMIZATION OF SAW TIMBER VOLUME BY APPLYING INTENSIVE FOREST MANAGEMENT TECHNIQUES WHICH ACCELERATE GROWTH THROUGH THE DIAMETER CLASS DISTRIBUTION.

THE INVESTMENT STRATEGY OF EASTERN TIMBERLAND OPPORTUNITIES (ETO) IS TO CAPITALIZE ON THE PORTFOLIO'S GEOGRAPHIC, MARKET AND LAND-USE DIVERSITY BY PROMOTING LONG-TERM TIMBER GROWTH, EXECUTING NEAR-TERM TIMBER SALES OPPORTUNITIES, AND MARKETING LANDS BETTER SUITED FOR OTHER PURPOSES.

AS OF 9/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
TIR - SPRINGBANK	2003	PEN	67.02	9.19	1.51	0.71	2.21
TIR - TEREDO	2006	PEN	20.46	10.20	2.62	0.46	3.09
TIR - ETO	2008	INS	33.91	3.88	0.87	0.58	1.45

OPPORTUNISTIC: PIMCO

PACIFIC INVESTMENT MANAGEMENT COMPANY LLC ("PIMCO") WAS FOUNDED IN NEWPORT BEACH, CALIFORNIA IN 1971 AND WAS ACQUIRED IN 2000 BY ALLIANZ SE ("ALLIANZ"), A LARGE GLOBAL FINANCIAL SERVICES COMPANY BASED IN GERMANY WITH THE AGREEMENT THAT IT WOULD BE ABLE TO OPERATE AS A SEPARATE AND AUTONOMOUS SUBSIDIARY. WHILE PRIMARILY KNOWN AS ONE OF THE WORLD'S LARGEST FIXED INCOME MANAGERS, PIMCO ALSO MANAGES A BROAD RANGE OF STRATEGIES ACROSS DIFFERENT ASSET CLASSES. WITH REGARD TO ALTERNATIVE CREDIT, ASSETS UNDER MANAGEMENT ARE APPROXIMATELY \$66B SPANNING OPPORTUNISTIC, PRIVATE LENDING, MULTI-STRATEGY CREDIT, LEVERAGED FINANCE, AND HIGH QUALITY PRIVATE CREDIT.

PIMCO DISTRESSED SENIOR CREDIT OPPORTUNITIES (DISCO) FUNDS SEEK DIVERSIFICATION ACROSS COLLATERAL TYPES AND GEOGRAPHIES WITHIN STRUCTURED CREDIT, TARGETING A NET ANNUALIZED RETURN OF 7-9%.

AS OF 09/30/22								
VEHICLE	VINTAGE	POOL	NAV (\$MM)	RETURN %				
				1 YR	3 YR	5 YR	10 YR	ITD
		PEN	100.55	-0.18	4.07	4.90	8.66	10.21
PIMCO DISCO II	2011-OE	INS	41.73	-0.18	4.09	4.91	8.67	10.16
		LEG	54.50	-0.18	4.03	4.87	--	5.74

OPPORTUNISTIC: PIMCO (CONT.)

PIMCO BANK RECAPITALIZATION AND VALUE OPPORTUNITIES (BRAVO) FUNDS CAPITALIZE ON UNIQUE OPPORTUNITIES UTILIZING BOTH DEBT AND EQUITY TO GENERATE RETURNS. MUCH OF THE ACTIVITY HAS CENTERED AROUND REAL ESTATE, BOTH RESIDENTIAL AND COMMERCIAL.

AS OF 9/30/22							
VEHICLE	VINTAGE	POOL	NAV (\$MM)	NET IRR %	DPI	RVPI	TVPI
PIMCO BRAVO II	2013	PEN	7.34				
		INS	3.75	6.90%	1.23	0.17	1.40
		LEG	3.59				

MISCELLANEOUS FUNDS

THIS CATEGORY COMPRISES SOME OF THE OLDEST COMMITMENTS IN THE PENSION POOL WITH VINTAGES THAT ARE MORE THAN 10 YEARS OLD, ARE IN THEIR LIQUIDATION PHASE, COMPRISE LESS THAN 0.25% OF THE ASSETS UNDER MANAGEMENT INDIVIDUALLY, AND LESS THAN 1.0% COLLECTIVELY.

AS OF 6/30/22						
STRATEGY	# Funds	VINTAGE	NAV (\$MM)	DPI	RVPI	TVPI
PRIVATE EQUITY	5	2002-2011	35.52	0.61	0.32	0.93
PRIVATE DEBT	4	2004-2007	1.10	0.93	0.01	0.94
REAL ESTATE	2	2003-2009	0.65	1.38	0.01	1.39
INFRASTRUCTURE & OTHER REAL ASSETS	2	2007-2008	17.60	0.74	0.19	0.93

PRIVATE MARKETS GLOSSARY

Capital Call or Draw Down	The demand for some portion of the money which has been committed.
Carried Interest	That share of the profits of a fund which is reserved for the management team/General Partner. Commonly referred to as simply "Carry".
Closed-Ended	A vehicle such as a Limited Partnership, which has a stated lifetime at the end of which it will be put into liquidation.
Commitment	A legally binding promise by an investor to make a certain amount of money available to a fund upon demand.
Distributed to Paid-in (DPI)	A multiple commonly used in analyzing Private Market funds. It represents the ratio of money distributed (paid out) by the fund to money paid in (drawn down). This ratio is referred to as the realization ratio, and is most meaningful in the later stages of a fund's lifetime.
Distribution	The process of a fund paying money to an investor after exiting an investment.
Fund of Funds	A Private Market fund which invests in other funds, rather than directly investing in or lending to companies.
General Partner (GP)	The manager of a Private Market fund is known as a General Partner since most such funds take the form of Limited Partnerships, and these are required by law to have a General Partner to manage their affairs. General Partner can refer either to the management entity or to individual partners within such entities.
Hurdle Rate	The return which a fund has to at least equal before any carried interest is calculated or payable to the General Partner.
Invested Capital	The total amount of drawn down capital which has actually been invested by a fund. In practice, this will be equal to the amount of drawn down capital less amounts which have been used to pay fees.

PRIVATE MARKETS GLOSSARY

Invested Capital	The total amount of drawn down capital which has actually been invested by a fund. In practice, this will be equal to the amount of drawn down capital less amounts which have been used to pay fees.
Internal Rate of Return (IRR)	The compound return of a series of cash flows over a specified period (usually several years), used as one of the primary measures of Private Market returns. It is the compound return, found by iteration, which will reduce the NPV of any stream of cash flows to zero.
J-curve	The effect of Private Market funds exhibiting strongly negative returns in the early years as money is drawn down, then reversing as distributions begin to be made. So called from the shape made by the returns when plotted on a cumulative compound basis.
Limited Partner (LP)	An investor in Private Market funds is known as a Limited Partner, since most such funds take the form of Limited Partnerships.
Open-Ended or Evergreen	Refers to an investment vehicle which has not stated lifetime, unlike other institutional Limited Partnerships which have a stated lifetime and will thus be closed-ended.
Paid-in Capital	The total amount of committed capital which has actually been called or drawn down.
Residual Value to Paid-in (RVPI)	The ratio of the current value of all remaining investments within a fund to the total amount of capital paid in to date.
Total Value to Paid-in (TVPI)	The ratio of the current value of remaining investments within a fund plus the total value of all distributions to date to the total amount of capital paid into the fund to date.

Confidential information will be sent to Committee members separately.



COMPLIANCE REVIEW

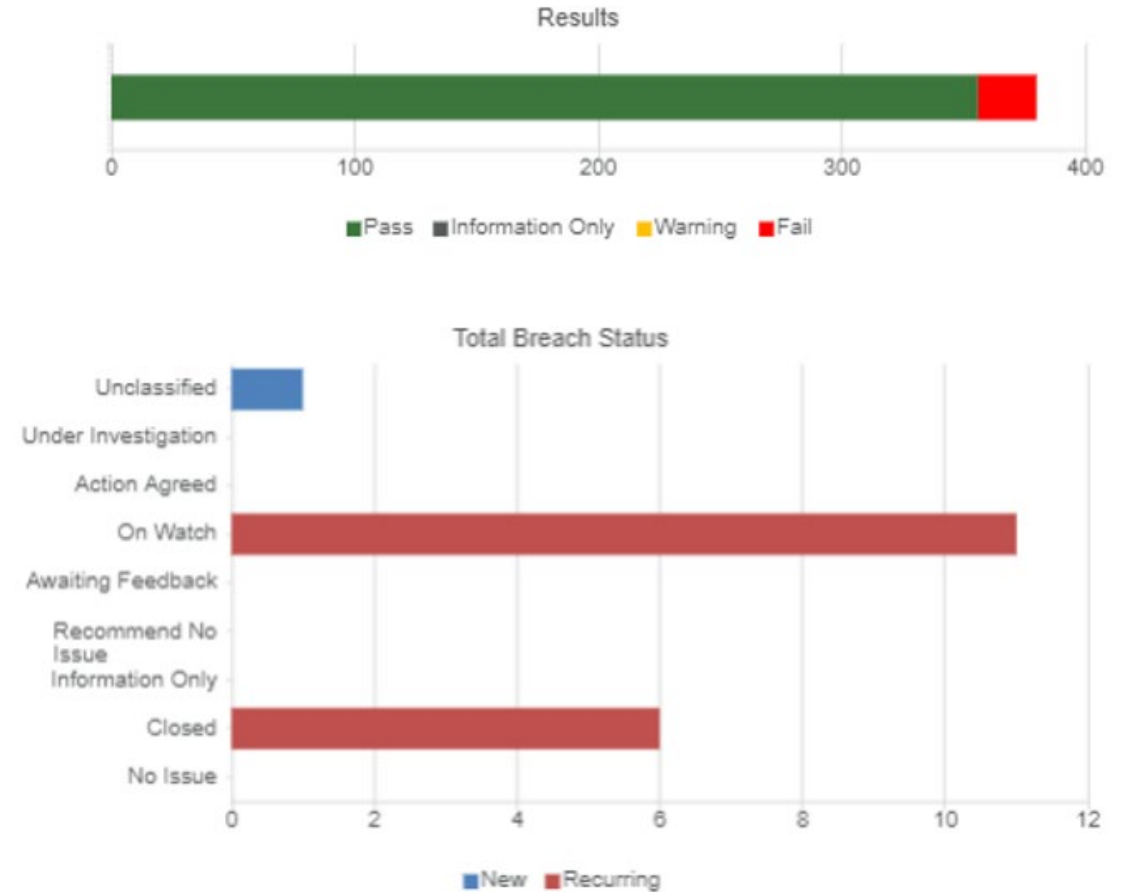
INVESTMENT STAFF
JANUARY 13, 2023

NORTH
Dakota
Be Legendary.

Retirement & Investment

PORTFOLIO COMPLIANCE MONITORING

- NORTHERN TRUST TOOL WENT LIVE AT THE BEGINNING OF THIS YEAR
- MONITORS DAILY POSITIONS OF PUBLIC MARKET PORTFOLIOS
- IDENTIFIES BREACHES OF PORTFOLIO GUIDELINES
- CURRENTLY 380 RULES ARE IMPLEMENTED
- FINAL REVIEW OF RULES TO ENSURE THEY ARE ACCURATELY CODED



INVESTMENT MANAGER NOTIFICATIONS

- MANAGERS ARE REQUIRED TO NOTIFY STAFF WHEN POSITIONS FALL OUT OF PORTFOLIO GUIDELINES
- NOTIFICATIONS WERE PREDOMINANTLY RELATED TO FIXED INCOME SECURITIES
- OVER THE PAST YEAR MANAGERS IDENTIFIED 21 ITEMS FOR REVIEW

INVESTMENT MANAGER	SECURITY DEFAULTS	RATING DOWNGRADES	SECTOR LIMIT BREACH	TOTAL	APPROVED/ WAIVED	ADDITIONAL ACTION
LOOMIS SAYLES	15	-	-	15	15	0
BARINGS	-	3	-	3	3	0
PRUDENTIAL	2	-	-	2	2	0
ARES	-	-	1	1	1	0
TOTAL	17	3	1	21	21	0

ANNUAL DOCUMENT REVIEW

- ON AN ANNUAL BASIS, STAFF REVIEWS DOCUMENTS FOR EACH INVESTMENT MANAGER. THESE INCLUDE:
 - AUDITED FINANCIALS
 - SOC-1 REPORT
 - FORM ADV BROCHURES
 - UPDATED DUE DILIGENCE QUESTIONNAIRE
 - SIGNED CONFIRMATION INDICATING PORTFOLIOS HAVE BEEN MANAGED WITHIN GUIDELINES
- TWO ITEMS WERE DISCLOSED ON THE SIGNED GUIDELINE CONFIRMATION
 - SECTOR LIMIT BREACH
 - TRADING ERROR ON A PORTFOLIO FOR WHICH IT WAS REIMBURSED
- NO MATERIAL ISSUES FOUND IN THE DOCUMENT REVIEW
- DUE DILIGENCE QUESTIONNAIRES ARE STILL IN PROCESS OF BEING REVIEWED

FUTURE COMPLIANCE PROJECTS

- REVIEW AND UPDATE INVESTMENT GUIDELINES FOR EACH MANAGER
- DEVELOP A CONSISTENT FRAMEWORK FOR GUIDELINES PARAMETERS
- COMPLETE THE ONBOARDING OF THE NORTHERN TRUST COMPLIANCE TOOL
 - REVIEW FAILING RULES TO ENSURE THEY ARE IMPLEMENTED CORRECTLY
 - INTEGRATE NORTHERN'S PEEK-THROUGH SERVICE FOR CO-MINGLED FUNDS
- INTEGRATE THE COMPLIANCE PROCESS WITH THE EXISTING DOCUMENT MANAGEMENT PLATFORM "TAMALE"



2023 BILLS IMPACTING INVESTMENTS

Scott M Anderson, CFA
January 9, 2023

NORTH
Dakota
Be Legendary.

Retirement & Investment

2023 BILLS IMPACTING INVESTMENTS

BILL

TOPIC

IMPACT

HB1039

CLOSING PERS DB PLAN EFFECTIVE
12/31/23

CHANGE OF ASSET ALLOCATION, CHANGE OF COST AND
STRATEGY

HB1040

CLOSING PERS DB PLAN EFFECTIVE
12/31/24

CHANGE OF ASSET ALLOCATION, CHANGE OF COST AND
STRATEGY

HB1088

SIB MEMBERSHIP CHANGES

CHANGE OF GOVERNANCE TO BETTER REFLECT CLIENT
COMPOSITION AND NEED FOR BOARD LEVEL EXPERTISE

HB1147

USING LEGACY FUND EARNINGS FOR
A COUNTY AND TOWNSHIP BRIDGE
FUND

IMPACT SPENDING RULE REQUIREMENTS

SB2042

PROCUREMENT PRACTICES

PROCUREMENT PROPOSALS IDENTICAL PRICING AND
EVALUATION SCORES GIVEN TO ND FIRMS