

Non-Traditional Investments CY 2021 Fee Presentation

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December 15, 2022

▪ Non-Traditional Investment Expenses (Calendar Year 2021)	3
▪ Total Expenses by Manager	5
▪ Historical Non-Traditional Investment Expenses	19

Non-Traditional Investments Management Fees, Carried Interest, & Partnership Expenses (CY 2021)

Calendar Year 2021	NAV as of 12/31/2021*	Calendar Year 2021 1 Year IRR*	Net Management Fees	Net Carried Interest (Accrued and Paid)	Partnership Expenses	Total
Private Equity	\$12,613	41.5%	\$112	\$908	\$34	\$1,054
Private Credit	\$5,446	16.7%	\$62	\$119	\$42	\$223
Private Commodities	\$388	46.2%	\$5	\$8	\$0	\$16
Private Infrastructure	\$952	25.2%	\$11	\$14	\$3	\$28
Private Real Estate	\$6,010	37.2%	\$47	\$308	\$15	\$371
Total	\$25,409		\$238	\$1,358	\$95	\$1,692

Amounts in millions of dollars, totals may not sum due to rounding

*Sourced from Burgiss

- PSERS IOP employed a best-efforts approach, by Non-Traditional Investment asset class, to review these figures for reasonableness
- These calendar year figures have not been tracked separately for inclusion in PSERS audited financial statements

▪ Non-Traditional Investment Expenses (Calendar Year 2021)	3
▪ Total Expenses by Manager	5
▪ Historical Non-Traditional Investment Expenses	19

Total Expenses by Manager Calendar Year 2021

Private Equity

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Actis Emerging Markets 3, L.P.	\$ -	\$ -	\$ 328,597	\$ 328,597
Actis Global 4, L.P.	\$ 1,368,000	\$ 2,251,000	\$ 18,000	\$ 3,637,000
Adams Capital Management, L.P.	\$ -	\$ -	\$ 5,605	\$ 5,605
Aisling Capital II L.P.	\$ -	\$ -	\$ 26,184	\$ 26,184
Aisling Capital III, L.P.	\$ -	\$ 76,338	\$ 19,496	\$ 95,834
Aisling Capital IV, L.P.	\$ -	\$ (21,797,169)	\$ 263,924	\$ (21,533,245)
Apax Digital, L.P.	\$ 1,239,434	\$ 5,969,794	\$ 1,144,424	\$ 8,353,652
Apax Europe VII, L.P.	\$ -	\$ 476,092	\$ 12,237	\$ 488,328
Apax X USD, L.P.	\$ 2,011,368	\$ 2,442,790	\$ 1,794,972	\$ 6,249,130
Apollo Investment Fund IX, L.P.	\$ 2,036,347	\$ 13,798,652	\$ 739,787	\$ 16,574,786
Apollo Investment Fund VIII, L.P.	\$ 564,397	\$ 20,354,085	\$ 360,963	\$ 21,279,445
Avenue Special Situations Fund VI, L.P.	\$ -	\$ -	\$ 18,914	\$ 18,914
Bain Capital Asia Fund II, L.P.	\$ 571,508	\$ 1,354,058	\$ 51,960	\$ 1,977,526
Bain Capital Asia Fund III-A, L.P.	\$ 1,205,715	\$ 935,666	\$ 93,910	\$ 2,235,291
Bain Capital Asia Fund IV-B, L.P.	\$ 1,464,461	\$ 4,553,357	\$ 477,578	\$ 6,495,396
Bain Capital Fund XI-A, L.P.	\$ 334,686	\$ 6,848,661	\$ 43,966	\$ 7,227,313
Bain Capital Fund XII-A, L.P.	\$ 1,192,892	\$ 8,372,563	\$ 268,795	\$ 9,834,250
Baring Asia Private Equity Fund IV, L.P.	\$ -	\$ (166,739)	\$ 150,684	\$ (16,055)
Baring Asia Private Equity Fund V, L.P.	\$ 2,199,794	\$ (8,109,704)	\$ 870,260	\$ (5,039,650)
Baring Asia Private Equity Fund VI, L.P.	\$ 842,858	\$ (14,914,322)	\$ 200,287	\$ (13,871,177)
Blue Point Capital Partners II (B), L.P.	\$ -	\$ -	\$ 33,089	\$ 33,089
Blue Point Capital Partners III (B), L.P.	\$ 372,750	\$ 11,813,988	\$ 123,454	\$ 12,310,192
Blue Point Capital Partners IV, L.P.	\$ 732,042	\$ 7,477,482	\$ 193,180	\$ 8,402,704
Bridgepoint Development Capital III, L.P.	\$ 391,493	\$ 7,135,931	\$ 602,631	\$ 8,130,056
Bridgepoint Development Capital IV, L.P.	\$ 2,948,094	\$ -	\$ 520,886	\$ 3,468,980
Bridgepoint Europe III A, L.P.	\$ -	\$ -	\$ 53,819	\$ 53,819
Bridgepoint Europe IV, L.P.	\$ 503,252	\$ 4,556,250	\$ 30,847	\$ 5,090,350

Total Expenses by Manager Calendar Year 2021

Private Equity

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Bridgepoint Europe V, L.P.	\$ 1,334,793	\$ 20,625,398	\$ 134,965	\$ 22,095,156
Bridgepoint Europe VI, L.P.	\$ 1,289,504	\$ 4,860,616	\$ 377,055	\$ 6,527,175
Capital International Private Equity Fund V L.P.	\$ -	\$ -	\$ 28,686	\$ 28,686
Capital International Private Equity Fund VI, L.P.	\$ 433,365	\$ -	\$ 46,106	\$ 479,471
Catterton Growth Partners II, L.P.	\$ 955,961	\$ (11,712,059)	\$ 148,360	\$ (10,607,738)
Catterton Growth Partners III, L.P., L	\$ 1,190,504	\$ 21,411,332	\$ 186,434	\$ 22,788,270
Catterton Growth Partners, L.P.	\$ 242,403	\$ (6,629,577)	\$ 88,426	\$ (6,298,748)
Catterton Partners VI, L.P.	\$ 321,574	\$ 2,539,899	\$ 46,314	\$ 2,907,787
Catterton Partners VII, L.P.	\$ 1,102,997	\$ 3,821,800	\$ 87,926	\$ 5,012,723
Catterton VIII, L.P., L	\$ 1,122,365	\$ 587,637	\$ 183,960	\$ 1,893,962
Cerberus Institutional Partners V, L.P.	\$ 183,361	\$ 16,098,450	\$ 532,281	\$ 16,814,092
Cerberus Institutional Partners VI, L.P.	\$ 2,288,868	\$ 12,219,434	\$ 598,426	\$ 15,106,728
Cerberus Institutional Partners, L.P. (Series 4)	\$ -	\$ 3,621,042	\$ 193,788	\$ 3,814,830
Cinven Fund (Fourth), L.P.	\$ -	\$ -	\$ 3,337	\$ 3,337
Clearlake Capital Partners IV, L.P.	\$ 114,213	\$ 32,192,281	\$ 78,928	\$ 32,385,422
Clearlake Capital Partners V, L.P.	\$ (118,189)	\$ 39,892,898	\$ 331,090	\$ 40,105,799
Clearlake Capital Partners VI, L.P.	\$ (397,849)	\$ 18,335,208	\$ 652,019	\$ 18,589,378
Clearlake Flagship Plus Partners, L.P.	\$ -	\$ 2,150,855	\$ 330,174	\$ 2,481,029
Co-Investment 2000 Fund, L.P.	\$ -	\$ -	\$ 13,250	\$ 13,250
Co-Investment Fund II, L.P.	\$ -	\$ -	\$ 124,865	\$ 124,865
Coller International Partners VI, L.P.	\$ 663,994	\$ 2,764,789	\$ 19,739	\$ 3,448,522
Coller International Partners VII, L.P. - Series A	\$ 985,246	\$ 3,053,812	\$ 162,230	\$ 4,201,288
Crestview Partners II, L.P.	\$ 883,265	\$ 12,697,021	\$ 243,366	\$ 13,823,652
Crestview Partners III, L.P.	\$ 1,201,545	\$ 6,096,673	\$ 332,487	\$ 7,630,705
Crestview Partners, L.P.	\$ 249,664	\$ 3,891,689	\$ 210,817	\$ 4,352,170
Cross Atlantic Technology Fund II	\$ -	\$ -	\$ 13,250	\$ 13,250
Cross Atlantic Technology Fund, L.P.	\$ -	\$ -	\$ 13,250	\$ 13,250

Total Expenses by Manager Calendar Year 2021

Private Equity

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Crown CG Private Equity Fund 2019, L.P.	\$ 1,473,612	\$ -	\$ 155,142	\$ 1,628,754
Crown CG Private Equity Fund 2019S, L.P.	\$ -	\$ 134,578	\$ 56,518	\$ 191,096
CVC Capital Partners Asia Pacific III, L.P.	\$ -	\$ 1,371,509	\$ 48,765	\$ 1,420,274
CVC European Equity Partners V (A), L.P.	\$ -	\$ 2,779,838	\$ 42,625	\$ 2,822,463
DCPF VI Oil and Gas Co-Investment Fund, L.P.	\$ 19,707	\$ 522,668	\$ 7,472	\$ 549,847
Denham Commodity Partners Fund VI, L.P.	\$ 479,059	\$ 371,161	\$ 90,417	\$ 940,637
Energy & Minerals Group Fund III, L.P., The	\$ 811,528	\$ -	\$ 38,870	\$ 850,398
Equistone Partners Europe Fund V E, L.P.	\$ 909,112	\$ -	\$ 20,352	\$ 929,464
Equistone Partners Europe Fund VI E, SCSp	\$ 1,486,798	\$ -	\$ 279,444	\$ 1,766,242
Evergreen Pacific Partners II, L.P.	\$ -	\$ 138,298	\$ 419,946	\$ 558,244
Evergreen Pacific Partners, L.P.	\$ -	\$ -	\$ 305,686	\$ 305,686
First Reserve Fund XII, L.P.	\$ -	\$ -	\$ 112,748	\$ 112,748
Gleacher Mezzanine Fund II, L.P.	\$ -	\$ 123,079	\$ 12,212	\$ 135,291
Gold Hill Venture Lending 03-A, L.P.	\$ -	\$ 53,964	\$ 18,301	\$ 72,265
GoldPoint Partners Co-Investment V, L.P.	\$ 245,335	\$ 3,205,574	\$ 36,048	\$ 3,486,957
Greenoaks Capital Opportunities Fund III	\$ 3,625,684	\$ 17,861,644	\$ 572,394	\$ 22,059,722
Hahn & Company III L.P.	\$ 2,250,000	\$ 3,171,999	\$ 375,078	\$ 5,797,077
Hahn & Company III-S L.P.	\$ 316,086	\$ 1,910,716	\$ 65,825	\$ 2,292,627
Hg Genesis 9 L.P.	\$ 1,975,026	\$ -	\$ 370,060	\$ 2,345,086
Hg Saturn 2 A L.P.	\$ 996,335	\$ -	\$ 370,322	\$ 1,366,657
HgCapital 7 A, L.P.	\$ 175,186	\$ 8,528,033	\$ 25,152	\$ 8,728,371
HgCapital 8 D, L.P.	\$ 1,317,297	\$ -	\$ 286,689	\$ 1,603,987
HGGC Fund II, L.P.	\$ 762,318	\$ 11,912,220	\$ 96,409	\$ 12,770,947
HGGC Fund III, L.P.	\$ 1,190,390	\$ 17,581,871	\$ 116,005	\$ 18,888,266
Incline Elevate Fund, L.P.	\$ 315,239	\$ 26,680,263	\$ 86,504	\$ 27,082,006
Incline Equity Partners III (PSERS), L.P.	\$ -	\$ 4,602,128	\$ 19,874	\$ 4,622,002
Incline Equity Partners IV, L.P.	\$ 269,528	\$ 6,974,835	\$ 58,577	\$ 7,302,940

Total Expenses by Manager Calendar Year 2021

Private Equity

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Incline Equity Partners V, L.P.	\$ 1,846,921	\$ -	\$ 172,778	\$ 2,019,699
Insight Opportunities Fund I, L.P.	\$ 683,723	\$ 1,083,928	\$ 155,172	\$ 1,922,823
Insight Partners XI, L.P.	\$ 2,155,348	\$ (1,366,921)	\$ 295,884	\$ 1,084,311
Insight Partners XII, L.P.	\$ 771,577	\$ -	\$ 64,402	\$ 835,979
Insight Venture Partners X, L.P.	\$ 1,435,461	\$ 70,630,843	\$ 48,305	\$ 72,114,609
Irving Place Capital Partners III SPV, L.P.	\$ -	\$ 24,019,271	\$ 82,035	\$ 24,101,306
K4 Private Investors, L.P.	\$ 1,827,050	\$ 11,003,220	\$ 139,126	\$ 12,969,396
Landmark Equity Partners XIII, L.P.	\$ -	\$ -	\$ 697	\$ 697
Landmark Equity Partners XIV, L.P.	\$ 265,510	\$ 1,886,079	\$ 2,040	\$ 2,153,628
Lindsay Goldberg V, L.P.	\$ 2,467,418	\$ 3,418,641	\$ 746,211	\$ 6,632,270
LLR Equity Partners II, L.P.	\$ -	\$ 88,469	\$ 39,247	\$ 127,716
LLR Equity Partners III, L.P.	\$ -	\$ 32,438,455	\$ 97,970	\$ 32,536,425
LLR Equity Partners IV, L.P.	\$ 1,009,859	\$ 36,305,330	\$ 145,434	\$ 37,460,623
LLR Equity Partners V, L.P.	\$ 2,669,956	\$ 14,959,430	\$ 202,131	\$ 17,831,517
LLR Equity Partners VI, L.P.	\$ 3,469,460	\$ -	\$ 419,269	\$ 3,888,729
Milestone Partners FS 2, L.P.	\$ 121,089	\$ 13,889,903	\$ 59,023	\$ 14,070,015
Milestone Partners III, L.P.	\$ (85,777)	\$ -	\$ 32,406	\$ (53,371)
Milestone Partners IV, L.P.	\$ 340,403	\$ 585,478	\$ 70,144	\$ 996,025
NEPA Venture Fund II	\$ -	\$ (15,993,331)	\$ 36,357	\$ (15,956,974)
New Mountain Partners III L.P.	\$ -	\$ 17,767,485	\$ 34,499	\$ 17,801,984
New Mountain Partners IV, L.P.	\$ 363,092	\$ 1,357,941	\$ 25,972	\$ 1,747,005
New Mountain Partners V, L.P.	\$ 424,022	\$ 24,096,921	\$ 82,701	\$ 24,603,644
New Mountain Partners VI, L.P.	\$ 3,224,849	\$ 594,325	\$ 541,393	\$ 4,360,567
New Mountain Partners, L.P., Allegheny	\$ -	\$ (157,098)	\$ 20,335	\$ (136,763)
New York Life Capital Partners IV-A. L.P.	\$ -	\$ 38,908	\$ 93,259	\$ 132,167
NGP Natural Resources X, L.P.	\$ 403,102	\$ -	\$ 73,960	\$ 477,062
NGP Natural Resources XI, L.P.	\$ 989,305	\$ -	\$ 44,511	\$ 1,033,816

Total Expenses by Manager Calendar Year 2021

Private Equity

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
North Haven Private Equity Asia IV, L.P.	\$ 1,035,147	\$ (6,452,469)	\$ 203,109	\$ (5,214,213)
Oak HC/FT Partners IV, L.P.	\$ 769,996	\$ 794,184	\$ 292,509	\$ 1,856,689
OCM Opportunities Fund VII L.P.	\$ -	\$ -	\$ 9,181	\$ 9,181
OCM Opportunities Fund VII-b L.P.	\$ -	\$ 45,756	\$ 9,450	\$ 55,206
Odyssey Investment Partners Fund V, L.P.	\$ 1,189,321	\$ -	\$ 53,226	\$ 1,242,547
Orchid Asia V, L.P.	\$ 106,759	\$ 191,577	\$ 8,815	\$ 307,151
Orchid Asia VI, L.P.	\$ 784,592	\$ (4,225,080)	\$ 122,527	\$ (3,317,961)
Orchid Asia VII, L.P.	\$ 1,274,030	\$ (1,703,485)	\$ 405,959	\$ (23,496)
PAI Europe IV-B2, L.P.	\$ -	\$ 1,166,622	\$ 163,781	\$ 1,330,403
PAI Europe V, L.P.	\$ -	\$ (66,872)	\$ 14,468	\$ (52,404)
PAI Europe VI, L.P.	\$ 1,094,203	\$ 7,790,726	\$ 52,426	\$ 8,937,355
PAI Europe VII, L.P.	\$ 1,178,013	\$ 6,250,922	\$ 649,639	\$ 8,078,574
Palladium Equity Partners IV, L.P.	\$ 392,944	\$ 5,797,759	\$ 212,262	\$ 6,402,965
Partners Group Secondary 2008, L.P.	\$ -	\$ 155,717	\$ 84,457	\$ 240,173
Partners Group Secondary 2011 (USD), L.P. Inc.	\$ 820,125	\$ 932,641	\$ 21,895	\$ 1,774,661
Partners Group Secondary 2015 (USD) A, L.P.	\$ 1,156,250	\$ 4,242,842	\$ 107,525	\$ 5,506,617
Platinum Equity Capital Partners IV, L.P.	\$ -	\$ 68,607,440	\$ 193,912	\$ 68,801,352
Platinum Equity Capital Partners V, L.P.	\$ 2,710,018	\$ 25,397,427	\$ 662,198	\$ 28,769,643
Platinum Equity Capital Partners-A II, L.P.	\$ -	\$ 3,219,210	\$ -	\$ 3,219,210
Platinum Equity Capital Partners-A III, L.P.	\$ -	\$ 4,689,814	\$ -	\$ 4,689,814
Platinum Equity Capital Partners-A, L.P.	\$ -	\$ 1,940,829	\$ 1,555,102	\$ 3,495,931
Platinum Equity Small Cap Fund, L.P.	\$ 1,456,385	\$ 6,624,754	\$ 567,882	\$ 8,649,021
Portfolio Advisors Secondary Fund III, L.P.	\$ 1,733,989	\$ 5,377,607	\$ 182,000	\$ 7,293,596
Portfolio Advisors Secondary Fund IV, L.P.	\$ 441,678	\$ 3,110,769	\$ 87,136	\$ 3,639,583
Portfolio Advisors Secondary Fund, L.P., PA	\$ 373,246	\$ -	\$ 140,589	\$ 513,835
Sante Health Ventures III	\$ 2,381,944	\$ -	\$ 102,003	\$ 2,483,948
Sante Health Ventures IV	\$ -	\$ -	\$ 176,402	\$ 176,402

Total Expenses by Manager Calendar Year 2021

Private Equity

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
SCP Private Equity Partners II, L.P.	\$ -	\$ -	\$ 107,557	\$ 107,557
Searchlight Capital II, L.P.	\$ 566,401	\$ 13,559,260	\$ 109,985	\$ 14,235,646
Searchlight Capital III, L.P.	\$ 2,593,985	\$ 10,368,812	\$ 651,234	\$ 13,614,031
StarVest Partners , L.P.	\$ 185	\$ -	\$ 11,664	\$ 11,849
StarVest Partners II (Parallel), L.P.	\$ 246,735	\$ -	\$ 109,870	\$ 356,605
StepStone International Investors III L.P.	\$ -	\$ -	\$ 47,887	\$ 47,887
Sterling Capital Partners, L.P.	\$ -	\$ (93,483)	\$ 185,063	\$ 91,580
Sterling Venture Partners, L.P.	\$ -	\$ -	\$ 14,591	\$ 14,591
Strategic Partners Fund III VC, L.P.	\$ -	\$ -	\$ 5,558	\$ 5,558
Strategic Partners Fund III-B, L.P.	\$ -	\$ -	\$ 94,304	\$ 94,304
Strategic Partners Fund IV VC, L.P.	\$ 8,011	\$ 289,273	\$ 26,279	\$ 323,563
Strategic Partners Fund IV, L.P.	\$ 16,876	\$ 670,869	\$ 23,340	\$ 711,085
Strategic Partners Fund V, L.P.	\$ 178,590	\$ 2,058,979	\$ 34,541	\$ 2,272,110
Strategic Partners Fund VI, L.P.	\$ 431,955	\$ 1,203,334	\$ 50,556	\$ 1,685,845
Strategic Partners Fund VII, L.P.	\$ 1,250,000	\$ 6,759,157	\$ 147,025	\$ 8,156,182
Summit Partners Growth Equity Fund IX-A, L.P.	\$ 1,261,762	\$ 35,726,739	\$ 38,531	\$ 37,027,032
Summit Partners Growth Equity Fund VIII-A, L.P.	\$ 990,416	\$ 14,571,636	\$ 31,496	\$ 15,593,548
Summit Partners Growth Equity Fund X-A, L.P.	\$ -	\$ 6,185,404	\$ 584,590	\$ 6,769,994
Summit Partners Growth Equity Fund XI-A, L.P.	\$ -	\$ -	\$ 124,414	\$ 124,414
Summit Partners Venture Capital Fund III-A, L.P.	\$ 171,595	\$ 2,464	\$ 8,769	\$ 182,828
Summit Partners Venture Capital Fund IV-A, L.P.	\$ 712,565	\$ 23,261,905	\$ 36,591	\$ 24,011,061
Tenaya Capital IV-P, L.P.	\$ -	\$ -	\$ 13,455	\$ 13,455
Tenaya Capital VI, L.P.	\$ 507,845	\$ 1,589,010	\$ 34,194	\$ 2,131,049
Tenaya Capital VII, L.P.	\$ 1,420,429	\$ 42,655,129	\$ 71,858	\$ 44,147,417
Tenaya Capital V-P, L.P.	\$ 194,298	\$ 1,379,765	\$ 75,953	\$ 1,650,016
Trilantic Capital Partners IV L.P.	\$ -	\$ 146,550	\$ 75,919	\$ 222,469
Trilantic Capital Partners V (North America), L.P.	\$ 521,210	\$ 4,906,930	\$ 99,640	\$ 5,527,780

Total Expenses by Manager Calendar Year 2021

Private Equity

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Trilantic Capital Partners VI (North America), L.P.	\$ 2,241,195	\$ 8,265,206	\$ 1,347,796	\$ 11,854,197
Valar Velocity Fund 2 LP	\$ -	\$ -	\$ 525,019	\$ 525,019
Venor Special Situations Fund II, L.P.	\$ 442,942	\$ 1,111,033	\$ 248,272	\$ 1,802,247
Versa Capital Fund I, L.P.	\$ -	\$ -	\$ 130,279	\$ 130,279
Versa Capital Fund II, L.P.	\$ 1,071,935	\$ -	\$ 427,906	\$ 1,499,841
Versa Capital Fund III, L.P.	\$ 1,156,225	\$ -	\$ 852,125	\$ 2,008,350
Webster Capital IV, L.P.	\$ 553,492	\$ 12,568,753	\$ 65,140	\$ 13,187,385
Private Equity Total	\$ 112,464,570	\$ 907,595,043	\$ 33,932,528	\$ 1,053,992,140

Total Expenses by Manager Calendar Year 2021

Private Credit

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Apollo European Principal Finance Fund II (Dollar A), L.P.	\$ 170,293	\$ 1,325,370	\$ 148,872	\$ 1,644,534
Apollo European Principal Finance Fund III, (Dollar A), L.P.	\$ 2,189,435	\$ 5,132,742	\$ 738,339	\$ 8,060,517
SSG Capital Partners V Sidecar, L.P.	\$ 792,646	\$ 1,639,894	\$ 283,698	\$ 2,716,238
SSG Capital Partners V, L.P.	\$ 2,335,331	\$ 3,161,411	\$ 267,507	\$ 5,764,249
Avenue Energy Opportunities Fund II, L.P.	\$ 849,996	\$ 5,654,443	\$ 568,668	\$ 7,073,107
Avenue Energy Opportunities Fund, L.P.	\$ 1,266,990	\$ -	\$ 454,248	\$ 1,721,238
Avenue Europe Special Situations Fund III (U.S.), L.P.	\$ 1,155,108	\$ -	\$ 798,087	\$ 1,953,195
Bain Capital Credit Managed Account (PSERS), L.P.	\$ 1,498,235	\$ -	\$ 240,186	\$ 1,738,421
Bain Capital Distressed and Special Situations 2013 (A), L.P.	\$ 990,406	\$ 3,456,025	\$ 205,663	\$ 4,652,094
Bain Capital Distressed and Special Situations 2016 (A), L.P.	\$ 2,450,700	\$ (10,743,078)	\$ 1,041,485	\$ (7,250,894)
Bain Capital Distressed and Special Situations 2019 (A), L.P.	\$ 1,542,447	\$ 3,930,353	\$ 1,303,371	\$ 6,776,171
Bain Capital Middle Market Credit 2010, L.P.	\$ -	\$ 440,436	\$ 74,871	\$ 515,307
Bain Capital Middle Market Credit 2014, LP	\$ 599,837	\$ (319,530)	\$ 112,589	\$ 392,896
Sankaty Credit Opportunities IV, L.P.	\$ -	\$ 585,346	\$ 14,080	\$ 599,426
Brigade Distressed Value Offshore Fund	\$ 1,676,778	\$ 5,862,940	\$ 533,332	\$ 8,073,051
Brigade Structured Credit Offshore Fund	\$ 2,538,325	\$ (60,426)	\$ 420,041	\$ 2,897,941
Carlyle Energy Mezzanine Opportunities Fund II, L.P.	\$ 1,222,745	\$ -	\$ 218,901	\$ 1,441,646
Carlyle Energy Mezzanine Opportunities Fund-Q, L.P.	\$ 127,324	\$ -	\$ 448,940	\$ 576,264
Cerberus Levered Loan Opportunities Fund II, L.P.	\$ -	\$ (3,806,128)	\$ 159,249	\$ (3,646,879)
Cerberus PSERS Levered Loan Opportunities Fund, L.P.	\$ 8,923,505	\$ 9,547,503	\$ 19,058,560	\$ 37,529,567
Clearlake Opportunities Partners (P) II, L.P.	\$ 593,112	\$ 2,904,923	\$ 705,970	\$ 4,204,005
Galton Onshore Mortgage Recovery Fund III, L.P.	\$ -	\$ -	\$ 257,886	\$ 257,886
Galton Onshore Mortgage Recovery Fund IV, L.P.	\$ 381,100	\$ -	\$ 421,768	\$ 802,867
Hayfin SOF II USD Co-Invest, L.P.	\$ 97,516	\$ -	\$ 119,060	\$ 216,576
Hayfin SOF II USD, L.P.	\$ 2,448,680	\$ -	\$ 55,338	\$ 2,504,018
HayFin Special Opportunities Credit Fund (Parallel), L.P.	\$ 234,634	\$ 1,527,493	\$ 59,645	\$ 1,821,771
ICG Europe Fund V, L.P.	\$ 516,514	\$ 1,843,616	\$ 241,178	\$ 2,601,308

Total Expenses by Manager Calendar Year 2021

Private Credit

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
ICG Europe Fund VI, L.P.	\$ 979,741	\$ 10,800,782	\$ 1,005,227	\$ 12,785,749
ICG Europe Fund VII Feeder SCSp	\$ 1,586,189	\$ 16,069,630	\$ 630,572	\$ 18,286,392
Latitude Management Real Estate Capital IV, Inc.	\$ 1,038,383	\$ -	\$ 71,920	\$ 1,110,303
LBC Credit Partners III, L.P.	\$ 655,375	\$ 894,366	\$ 181,131	\$ 1,730,872
LBC-P Credit Fund, L.P.	\$ 6,277,014	\$ 5,109,641	\$ 884,179	\$ 12,270,834
International Infrastructure Finance Company Fund, L.P.	\$ 456,527	\$ (272,299)	\$ 165,938	\$ 350,166
PIMCO BRAVO Fund III Onshore Feeder, LP	\$ 1,623,290	\$ 23,554,597	\$ 306,689	\$ 25,484,576
PIMCO Commercial Real Estate Debt Fund, L.P.	\$ (14)	\$ 2,811,138	\$ 238,380	\$ 3,049,504
Park Square - PSERS Credit Opportunities Fund, L.P.	\$ 4,293,252	\$ 3,676,026	\$ 5,412,750	\$ 13,382,028
Opps NPL (A), L.P.	\$ -	\$ 20,267	\$ 122,576	\$ 142,843
PSERS TAO Partners Parallel Fund, L.P. - (TAO 2.0)	\$ 1,934,061	\$ 5,249,091	\$ 557,211	\$ 7,740,363
PSERS TAO Partners Parallel Fund, L.P. - (TAO 3.0)	\$ 1,913,197	\$ 5,307,595	\$ 499,282	\$ 7,720,074
PSERS TAO Partners Parallel Fund, L.P. - (TAO Contingent)	\$ 780,420	\$ 2,062,749	\$ 434,416	\$ 3,277,585
Sixth Street Fundamental Strategies Partners (A), L.P.	\$ 277,769	\$ 1,191,133	\$ 258,409	\$ 1,727,311
Sixth Street Opportunities Partners II (A), L.P.	\$ -	\$ 251,983	\$ 54,335	\$ 306,318
Sixth Street Opportunities Partners III (A), L.P.	\$ 554,490	\$ 4,503,899	\$ 201,661	\$ 5,260,050
Sixth Street Opportunities Partners IV (A), L.P.	\$ 2,250,000	\$ 1,789,157	\$ 572,415	\$ 4,611,572
Sixth Street Specialty Lending Europe II, L.P.	\$ 462,785	\$ 474,054	\$ 345,639	\$ 1,282,478
Summit Partners Credit Fund II, L.P.	\$ -	\$ -	\$ 201,452	\$ 201,452
TCI Real Estate Partners Fund III, L.P.	\$ -	\$ 985,711	\$ 80,740	\$ 1,066,451
Varde Scratch and Dent Feeder I-A, L.P., The	\$ 410,862	\$ 102,386	\$ 284,135	\$ 797,383
Varde Scratch and Dent Feeder, L.P., The	\$ 274,913	\$ (231,525)	\$ 261,938	\$ 305,325
Whitehorse Liquidity Partners (Onshore) IV, L.P.	\$ 1,400,000	\$ 2,724,178	\$ 121,516	\$ 4,245,694
Private Credit Total	\$ 61,769,912	\$ 119,157,890	\$ 41,844,044	\$ 222,771,847

Total Expenses by Manager Calendar Year 2021

Private Commodities

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Denham Mining Fund, L.P.	\$ 1,972,846	\$ 8,466,440	\$ 180,293	\$ 15,134,140
NGP Natural Resources XII, L.P.	\$ 3,070,867	\$ -	\$ 175,239	\$ 452,577
Private Commodities Total	\$ 5,043,713	\$ 8,466,440	\$ 355,532	\$ 15,586,717

Total Expenses by Manager Calendar Year 2021

Private Infrastructure

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Blackstone Infrastructure Partners L.P.	\$ 3,759,967	\$ 9,459,301	\$ 1,914,871	\$ 15,134,140
Brookfield Global Transition Fund, L.P.	\$ 204,164	\$ -	\$ 248,413	\$ 452,577
GCM Grosvenor Customized Infrastructure Strategies II, LP	\$ 350,750	\$ 925,164	\$ 125,009	\$ 1,400,923
ISQ Global Infrastructure Fund III, L.P.	\$ 4,820,421	\$ -	\$ 708,327	\$ 5,528,748
International Infrastructure Finance Company II, L.P.	\$ 748,887	\$ 1,392,481	\$ 204,608	\$ 2,345,976
Strategic Partners Real Assets II, L.P.	\$ 909,865	\$ 2,596,182	\$ -	\$ 3,506,047
Private Infrastructure Total	\$ 10,794,055	\$ 14,373,128	\$ 3,201,227	\$ 28,368,410

Total Expenses by Manager Calendar Year 2021

Private Real Estate

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
AG Core Plus Realty Fund III, L.P.	\$ 124,984	\$ 695,731	\$ 36,389	\$ 857,104
AG Core Plus Realty Fund IV, L.P.	\$ 1,254,724	\$ 5,204,890	\$ 255,795	\$ 6,715,409
AG Europe Realty Fund II, L.P.	\$ 1,256,624	\$ 4,938,696	\$ 343,951	\$ 6,539,271
AG Europe Realty Fund III, L.P.	\$ 1,128,176	\$ 834,795	\$ 241,353	\$ 2,204,324
AG Realty Value Fund X, L.P.	\$ 1,431,758	\$ 6,058,354	\$ 471,344	\$ 7,961,456
Almanac Realty Securities V, L.P.	\$ -	\$ (6,713)	\$ 33,595	\$ 26,882
Almanac Realty Securities VI, L.P.	\$ 148,952	\$ 9,060	\$ 12,924	\$ 170,936
Almanac Realty Securities VII, L.P.	\$ 594,358	\$ 1,394,100	\$ 33,572	\$ 2,022,030
Almanac Realty Securities VIII, L.P.	\$ 1,538,432	\$ 2,709,160	\$ 34,378	\$ 4,281,970
Ares European Real Estate Fund III, L.P.	\$ -	\$ -	\$ 30,131	\$ 30,131
Ares European Real Estate Fund IV, L.P.	\$ 491,272	\$ 1,182,136	\$ 467,056	\$ 2,140,464
Ares U.S. Real Estate Fund IX, L.P.	\$ 1,068,964	\$ 8,175,422	\$ 189,633	\$ 9,434,019
Ares U.S. Real Estate Fund VII, L.P.	\$ -	\$ 563	\$ 25,078	\$ 25,641
Ares U.S. Real Estate Fund VIII, L.P.	\$ 393,457	\$ 5,065,098	\$ 70,516	\$ 5,529,071
Atlanta Marriott	\$ 131,000	\$ -	\$ -	\$ 131,000
Avenue Real Estate Fund (Parallel) L.P.	\$ 611,607	\$ -	\$ 290,823	\$ 902,430
Bell Institutional Fund IV, LLC	\$ -	\$ -	\$ 1,158	\$ 1,158
Bell Institutional Fund V, L.P.	\$ 424,062	\$ 7,964,871	\$ 461,973	\$ 8,850,906
Bell Institutional Fund VI, L.P.	\$ 879,423	\$ 8,349,217	\$ 600,017	\$ 9,828,657
Bell Institutional Fund VII, L.P.	\$ 701,970	\$ 3,479,563	\$ 575,229	\$ 4,756,762
BlackRock Europe Property Fund III, L.P.	\$ -	\$ -	\$ 244,495	\$ 244,495
Blackstone Real Estate Debt Strategies II, L.P.	\$ (2,743)	\$ 9,293	\$ 76,984	\$ 83,534
Blackstone Real Estate Debt Strategies III, L.P.	\$ 837,799	\$ 1,032,673	\$ 168,991	\$ 2,039,464
Blackstone Real Estate Partners Europe III, L.P.	\$ -	\$ (579,578)	\$ 265,064	\$ (314,514)
Blackstone Real Estate Partners Europe IV, L.P.	\$ 351,405	\$ (97,116)	\$ -	\$ 254,289
Blackstone Real Estate Partners V, L.P.	\$ -	\$ 1,250,951	\$ -	\$ 1,250,951
Blackstone Real Estate Partners VI, L.P.	\$ -	\$ 213,348	\$ -	\$ 213,348

Total Expenses by Manager Calendar Year 2021

Private Real Estate

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Blackstone Real Estate Partners VII, L.P.	\$ 1,251,141	\$ 11,208,155	\$ -	\$ 12,459,296
Blackstone Real Estate Partners VIII, L.P.	\$ 2,542,205	\$ 24,477,125	\$ -	\$ 27,019,330
Brookfield Strategic Real Estate Partners II, L.P.	\$ 1,778,284	\$ 16,636,014	\$ 71,438	\$ 18,485,736
Brookfield Strategic Real Estate Partners III-B, L.P.	\$ 2,607,227	\$ 8,838,233	\$ 170,580	\$ 11,616,040
Brookfield Strategic Real Estate Partners IV, L.P.	\$ 1,777,397	\$ -	\$ -	\$ 1,777,397
Brookfield Strategic Real Estate Partners, L.P.	\$ 684,711	\$ 2,374,685	\$ 546,515	\$ 3,605,911
Cabot Industrial Core Fund II, L.P.	\$ 698,705	\$ 3,145,192	\$ 87,570	\$ 3,931,467
Cabot Industrial Core Fund, L.P.	\$ -	\$ 4,439	\$ 34,080	\$ 38,519
Cabot Industrial Value Fund V, L.P.	\$ 1,278,130	\$ 28,760,799	\$ 220,777	\$ 30,259,706
Cabot Industrial Value Fund VI, L.P.	\$ 1,500,000	\$ 3,350,853	\$ 138,403	\$ 4,989,256
Cabot UK Core Plus Industrial Fund SCSp	\$ -	\$ 1,172,046	\$ 739,857	\$ 1,911,903
Carlyle Realty Partners III, L.P.	\$ -	\$ -	\$ 81,821	\$ 81,821
Carlyle Realty Partners IV, L.P.	\$ -	\$ -	\$ 131,008	\$ 131,008
Carlyle Realty Partners IX, L.P.	\$ 450,942	\$ -	\$ 261,237	\$ 712,179
Carlyle Realty Partners V, L.P.	\$ 133,626	\$ 12,797,762	\$ 80,079	\$ 13,011,467
Carlyle Realty Partners VI, L.P.	\$ 83,508	\$ 292,710	\$ 133,007	\$ 509,225
Carlyle Realty Partners VII, L.P.	\$ 356,854	\$ 1,856,705	\$ 78,684	\$ 2,292,243
Carlyle Realty Partners VIII, L.P.	\$ 1,753,090	\$ 14,048,928	\$ 324,705	\$ 16,126,723
Centerline High Yield CMBS III - Loan/Stock	\$ 98,888	\$ -	\$ -	\$ 98,888
DRA Growth and Income Fund IX, LLC	\$ 1,573,100	\$ 5,797,388	\$ 84,819	\$ 7,455,307
DRA Growth and Income Fund VI, L.P.	\$ -	\$ (49,912)	\$ 10,232	\$ (39,680)
DRA Growth and Income Fund VII, L.P.	\$ 162,117	\$ 702,236	\$ 63,048	\$ 927,401
DRA Growth and Income Fund VIII, LLC	\$ 1,042,491	\$ 709,687	\$ 79,448	\$ 1,831,626
DRA Growth and Income Fund X, LLC	\$ 791,661	\$ -	\$ 161,182	\$ 952,843
Exeter Core Industrial Club Fund II, L.P.	\$ 777,592	\$ 18,599,445	\$ 90,179	\$ 19,467,216
Exeter Industrial Core Fund III, L.P.	\$ 469,429	\$ 4,871,763	\$ 70,514	\$ 5,411,706
Exeter Industrial Value Fund II, L.P.	\$ -	\$ 70,144	\$ 7,191	\$ 77,335

Total Expenses by Manager Calendar Year 2021

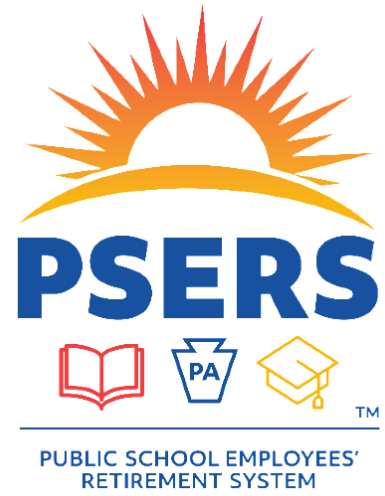
Private Real Estate

Manager	Net Management Fee	Net Carried Interest	Partnership Expenses	Total
Exeter Industrial Value Fund III, L.P.	\$ 136,197	\$ 3,169,143	\$ 38,725	\$ 3,344,065
Exeter Industrial Value Fund IV, L.P.	\$ 1,057,382	\$ 18,289,950	\$ 117,038	\$ 19,464,370
Exeter Industrial Value Fund V, L.P.	\$ 1,200,000	\$ 10,025,020	\$ 108,148	\$ 11,333,168
Five North 5th Street	\$ 53,856	\$ -	\$ -	\$ 53,856
Fortress Investment Fund IV LP	\$ -	\$ -	\$ 58,613	\$ 58,613
Fortress Investment Fund LLC	\$ -	\$ -	\$ 84,003	\$ 84,003
Fortress Investment Fund V (Fund A) L.P.	\$ -	\$ -	\$ 256,743	\$ 256,743
Galleria at Ft Lauderdale, The	\$ 900,000	\$ -	\$ -	\$ 900,000
Keystone Milano LLC	\$ 173,382	\$ 1,396,699	\$ 278,830	\$ 1,848,911
Keystone Miramar LLC	\$ 96,719	\$ 1,436,575	\$ 130,994	\$ 1,664,289
Keystone Orlando LLC	\$ 188,840	\$ 952,395	\$ 212,331	\$ 1,353,566
Keystone Parkland LLC	\$ 278,811	\$ 4,688,810	\$ 473,582	\$ 5,441,204
LAI Strategic Realty Investors, L.P.	\$ -	\$ -	\$ 66,789	\$ 66,789
Latitude Management Real Estate Capital III, Inc.	\$ 349,900	\$ (149,949)	\$ 156,734	\$ 356,685
LEM Multifamily Fund V, L.P.	\$ 500,000	\$ 10,328,260	\$ 491,568	\$ 11,319,828
LEM Multifamily Senior Equity Fund IV, L.P.	\$ 276,307	\$ 4,394,348	\$ 140,963	\$ 4,811,618
Paramount Group Real Estate Fund VII, L.P.	\$ -	\$ -	\$ 22,695	\$ 22,695
PGIM Agricultural Separate Account	\$ 997,780	\$ -	\$ -	\$ 997,780
PGIM Real Estate Capital VII, SCSp	\$ 267,269	\$ 99,018	\$ 1,054,336	\$ 1,420,623
Pramerica Real Estate Capital VI, L.P.	\$ 664,489	\$ 626,510	\$ 1,344,742	\$ 2,635,741
PSERS YES Holdings, L.P.	\$ -	\$ -	\$ 110,752	\$ 110,752
RCG Longview Debt Fund VI, L.P.	\$ 559,734	\$ 230,806	\$ 973,564	\$ 1,764,104
RCG Longview Equity Fund, L.P.	\$ 35,117	\$ -	\$ 34,858	\$ 69,975
Rivercenter Mall	\$ 58,964	\$ -	\$ -	\$ 58,964
Senior Housing Partnership Fund IV, L.P.	\$ -	\$ 19,960	\$ (7,635)	\$ 12,324
Senior Housing Partnership Fund V, L.P.	\$ 754,689	\$ -	\$ 151,737	\$ 906,426
Stockbridge Real Estate Fund II, LP	\$ 72,281	\$ -	\$ 43,753	\$ 116,034
Stockbridge Real Estate Fund III, LP	\$ 298,097	\$ -	\$ 134,222	\$ 432,319
Stockbridge Real Estate Fund, L.P.	\$ 3,113,142	\$ 35,362,464	\$ 330,002	\$ 38,805,608
Strategic Partners Fund IV RE, L.P.	\$ 5,191	\$ -	\$ 36,390	\$ 41,581
UBS (US) Trumbull Property Fund, L.P.	\$ 243,325	\$ -	\$ 12,827	\$ 256,152
Private Real Estate Total	\$ 47,458,794	\$ 308,418,920	\$ 15,454,128	\$ 371,331,842
Grand Total	\$ 237,531,044	\$ 1,358,011,421	\$ 94,787,459	\$ 1,692,050,956

▪ Non-Traditional Investment Expenses (Calendar Year 2021)	3
▪ Total Expenses by Manager	6
▪ Historical Non-Traditional Investment Expenses	19

Non-Traditional Investments Management Fees, Carried Interest, & Partnership Expenses (Historical)

Calendar Year 2020	Net Management Fees	Net Carried Interest (Accrued and Paid)	Partnership Expenses	Total
Private Equity	\$116	\$337	\$34	\$487
Private Credit	\$63	\$14	\$29	\$106
Private Commodities	\$5	\$0	\$0	\$6
Private Infrastructure	\$6	\$5	\$2	\$13
Private Real Estate	\$48	\$24	\$11	\$83
Total	\$238	\$380	\$76	\$695
Calendar Year 2019	Net Management Fees	Net Carried Interest (Accrued and Paid)	Partnership Expenses	Total
Private Equity	\$113	\$203	\$48	\$364
Private Credit	\$62	\$47	\$23	\$132
Private Commodities	\$5	\$0	\$0	\$5
Private Infrastructure	\$4	\$3	\$1	\$7
Private Real Estate	\$51	\$107	\$14	\$171
Total	\$234	\$359	\$87	\$680
Calendar Year 2018	Net Management Fees	Net Carried Interest (Accrued and Paid)	Partnership Expenses	Total
Private Equity	\$115	\$123	\$47	\$284
Private Credit	\$64	\$47	\$30	\$141
Private Commodities	\$7	\$0	\$1	\$8
Private Infrastructure	\$3	\$1	\$1	\$5
Private Real Estate	\$46	\$58	\$13	\$117
Total	\$234	\$229	\$92	\$555



Non-Traditional Investments CY 2021 Fee Presentation

James F. Del Gaudio - Director, Private Credit
Darren Foreman, CAIA – Director, Private Equity
Jarid M. Snyder, CTP – Manager

December 15, 2022