

Appendix Tables For

**Local Overweighting and Underperformance: Evidence from Limited Partner
Private Equity Investments**

Appendix Table A1

Number of Investments by Investment Type and Limited Partner (LP) Type

The table presents the number of investments by type of LP and by type of investment. Percentages represent the percent of the total investments by the LP type in each row.

Limited Partner (LP) Type	Buyout	Venture	Real Estate	Other	Total
Public Sector Pension Fund	3,773 32%	3,020 26%	1,894 16%	3,112 26%	11,799 100%
Private Sector Pension Fund	425 38%	391 35%	87 8%	202 18%	1,105 100%
Endowment	769 26%	1,180 40%	237 8%	776 26%	2,962 100%
Private Institution	462 30%	781 51%	59 4%	222 15%	1,524 100%
Public Institution	307 21%	399 28%	178 12%	554 39%	1,438 100%
Foundation	715 24%	971 33%	271 9%	1,005 34%	2,962 100%
Total	5,682 30%	5,562 30%	2,489 13%	5,095 27%	18,828

Appendix Table A2

Geographical Distribution of Investments

This table presents the geographical distribution of sample PE investments, by the state where the fund is headquartered. Nine states without PE investments are not shown: AK, HI, KS, MS, MT, ND, NV, SD, and WV. The first set of columns gives the total number of investments. The second set gives the total number of PE investments in the state by out-of-state LPs. The third set gives the number of PE investments by in-state LPs.

State(GP)	Total		by Out-of-State LPs		by In-State LPs	
	(1)	(2)	(3)	(4)	(5)	(6)
AL	2	0.01%	2	0.01%	0	0.00%
AR	1	0.01%	0	0.00%	1	0.03%
AZ	1	0.01%	0	0.00%	1	0.03%
CA	4,865	25.84%	3,672	23.42%	1,193	37.87%
CO	187	0.99%	152	0.97%	35	1.11%
CT	1,307	6.94%	1,271	8.11%	36	1.14%
DC	280	1.49%	277	1.77%	3	0.10%
DE	3	0.02%	3	0.02%	0	0.00%
FL	140	0.74%	138	0.88%	2	0.06%
GA	38	0.20%	36	0.23%	2	0.06%
IA	10	0.05%	8	0.05%	2	0.06%
ID	7	0.04%	4	0.03%	3	0.10%
IL	1,358	7.21%	1,075	6.86%	283	8.98%
IN	27	0.14%	9	0.06%	18	0.57%
KY	4	0.02%	1	0.01%	3	0.10%
LA	2	0.01%	0	0.00%	2	0.06%
MA	3,182	16.90%	2,776	17.71%	406	12.89%
MD	175	0.93%	163	1.04%	12	0.38%
ME	5	0.03%	5	0.03%	0	0.00%
MI	55	0.29%	40	0.26%	15	0.48%
MN	148	0.79%	107	0.68%	41	1.30%
MO	18	0.10%	9	0.06%	9	0.29%
NC	89	0.47%	57	0.36%	32	1.02%
NE	8	0.04%	4	0.03%	4	0.13%
NH	10	0.05%	8	0.05%	2	0.06%
NJ	253	1.34%	245	1.56%	8	0.25%
NM	3	0.02%	2	0.01%	1	0.03%
NY	4,400	23.37%	3,853	24.58%	547	17.37%
OH	293	1.56%	172	1.10%	121	3.84%
OK	27	0.14%	27	0.17%	0	0.00%
OR	22	0.12%	15	0.10%	7	0.22%
PA	307	1.63%	163	1.04%	144	4.57%
RI	153	0.81%	142	0.91%	11	0.35%
SC	1	0.01%	0	0.00%	1	0.03%
TN	42	0.22%	36	0.23%	6	0.19%
TX	1,087	5.77%	938	5.98%	149	4.73%
UT	9	0.05%	7	0.04%	2	0.06%
VA	124	0.66%	117	0.75%	7	0.22%
VT	9	0.05%	9	0.06%	0	0.00%
WA	154	0.82%	129	0.82%	25	0.79%
WI	21	0.11%	5	0.03%	16	0.51%
WY	1	0.01%	1	0.01%	0	0.00%
Total	18,828	100.00%	15,678	100.00%	3,150	100.00%
Mean		1.96%		1.96%		1.96%
Median		0.10%		0.06%		0.10%

Appendix Table A3

Geographical Distribution of Investments by Capital Committed

This table presents the geographical distribution of capital committed to PE investments, by the state where the fund is headquartered. Nine states without PE investments are not shown: AK, HI, KS, MS, MT, ND, NV, SD, and WV. Four states without known commitments are not shown: AL, AR, NM, and WY. The first set of columns gives the total dollar value of investments. The second set gives the total dollar value of PE investments in the state by out-of-state LPs. The third set gives the dollar value of PE investments by in-state LPs.

State(GP)	Total		by Out-of-State LPs		by In-State LPs	
	(1)	(2)	(3)	(4)	(5)	(6)
AZ	22	0.0%	0	0.0%	22	0.0%
CA	97,541	19.6%	64,551	14.8%	32,990	54.4%
CO	3,114	0.6%	2,647	0.6%	467	0.8%
CT	28,943	5.8%	26,684	6.1%	2,259	3.7%
DC	16,103	3.2%	16,067	3.7%	35	0.1%
DE	13	0.0%	13	0.0%	0	0.0%
FL	1,258	0.3%	1,243	0.3%	15	0.0%
GA	528	0.1%	528	0.1%	0	0.0%
IA	389	0.1%	379	0.1%	10	0.0%
ID	60	0.0%	32	0.0%	28	0.0%
IL	22,395	4.5%	19,007	4.4%	3,388	5.6%
IN	161	0.0%	114	0.0%	47	0.1%
KY	24	0.0%	0	0.0%	24	0.0%
LA	11	0.0%	0	0.0%	11	0.0%
MA	50,952	10.3%	49,185	11.3%	1,767	2.9%
MD	2,714	0.5%	2,566	0.6%	148	0.2%
ME	4	0.0%	4	0.0%	0	0.0%
MI	715	0.1%	490	0.1%	225	0.4%
MN	7,267	1.5%	6,148	1.4%	1,119	1.8%
MO	47	0.0%	35	0.0%	12	0.0%
NC	2,102	0.4%	1,397	0.3%	705	1.2%
NE	310	0.1%	290	0.1%	20	0.0%
NH	42	0.0%	28	0.0%	14	0.0%
NJ	6,023	1.2%	5,773	1.3%	250	0.4%
NY	189,079	38.1%	183,127	42.0%	5,952	9.8%
OH	3,228	0.6%	1,812	0.4%	1,416	2.3%
OK	141	0.0%	141	0.0%	0	0.0%
OR	791	0.2%	644	0.1%	147	0.2%
PA	8,081	1.6%	4,381	1.0%	3,700	6.1%
RI	7,469	1.5%	7,323	1.7%	146	0.2%
SC	20	0.0%	0	0.0%	20	0.0%
TN	194	0.0%	194	0.0%	0	0.0%
TX	42,502	8.6%	37,862	8.7%	4,640	7.6%
UT	50	0.0%	45	0.0%	5	0.0%
VA	2,923	0.6%	2,514	0.6%	409	0.7%
VT	130	0.0%	130	0.0%	0	0.0%
WA	1,181	0.2%	813	0.2%	368	0.6%
WI	390	0.1%	95	0.0%	295	0.5%
Total	496,917	100%	436,262	100%	60,654	100%
mean		2.56%		2.56%		2.56%
median		0.14%		0.12%		0.08%

Appendix Table A4

Overweighting by LPs of In-State Investments, Pooled Across Time

The table presents the share of in-state investments by LPs located in each state and the equal-weighted and value-weighted home bias of the portfolios of LPs located in each state. Column (1) is the percentage of in-state investments made by LPs that are located in the state. Column (2) presents the overweighting relative to all investments, calculated as the percent of in-state investments in column (1) of this table minus the state's share of all investments by all LPs in the full sample (pooled over time). Column (3) presents the overweighting relative to all out-of-state investments, calculated as the percent of in-state investments in column (1) of this table minus the state's share of all investments by out-of-state LPs in the full sample (also pooled over time). Columns (4), (5) and (6) repeat the exercises in columns (2), (3) and (4), value-weighting the investments by the dollar value of capital committed to the fund by the LP, and including only investments for which the capital committed by the LP is known. WY has no LPs in our sample. Nine states without PE investments are not shown: AK, HI, KS, MS, MT, ND, NV, SD, and WV. For three states (AL, AR, and NM), we have no investments with known commitment amount data.

State(LP)	Equal Weighted			Value Weighted		
	Investments by LPs	Home Bias, % of Portfolio, Relative to		Investments by LPs	Home Bias, % of Portfolio, Relative to	
	% in state (1)	Out-of-State		% in state (4)	All LPs (5)	Out-of-State LP (6)
		All LPs (2)	LPs (3)			
AL	0.0%	0.0%	0.0%			
AR	2.9%	2.9%	2.9%			
AZ	1.0%	1.0%	1.0%	0.6%	0.6%	0.6%
CA	35.1%	9.3%	11.7%	25.0%	5.3%	10.2%
CO	7.9%	6.9%	6.9%	4.5%	3.9%	3.9%
CT	10.4%	3.5%	2.3%	28.7%	22.9%	22.6%
DC	3.6%	2.1%	1.8%	22.1%	18.9%	18.5%
DE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FL	0.7%	0.0%	-0.1%	0.1%	-0.2%	-0.2%
GA	2.5%	2.3%	2.3%	0.0%	-0.1%	-0.1%
IA	0.9%	0.9%	0.9%	0.2%	0.1%	0.1%
ID	3.1%	3.1%	3.1%	1.3%	1.3%	1.3%
IL	18.7%	11.5%	11.8%	21.8%	17.3%	17.4%
IN	5.2%	5.0%	5.1%	0.8%	0.7%	0.8%
KY	3.3%	3.3%	3.3%	0.9%	0.9%	0.9%
LA	0.8%	0.8%	0.8%	0.1%	0.1%	0.1%
MA	41.5%	24.6%	23.8%	26.3%	16.1%	15.1%
MD	3.3%	2.4%	2.3%	2.7%	2.2%	2.1%
ME	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MI	1.4%	1.1%	1.1%	0.9%	0.7%	0.7%
MN	9.7%	8.9%	9.0%	8.6%	7.1%	7.2%
MO	2.3%	2.2%	2.2%	0.3%	0.3%	0.3%
NC	6.9%	6.4%	6.5%	7.2%	6.8%	6.9%
NE	8.0%	8.0%	8.0%	3.1%	3.0%	3.0%
NH	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
NJ	2.8%	1.4%	1.2%	2.8%	1.6%	1.5%
NM	1.3%	1.3%	1.3%			
NY	28.0%	4.6%	3.4%	40.0%	1.9%	-2.0%
OH	19.8%	18.2%	18.7%	7.3%	6.7%	6.9%
OK	0.0%	-0.1%	-0.2%	0.0%	0.0%	0.0%
OR	2.2%	2.0%	2.1%	0.5%	0.3%	0.3%
PA	13.2%	11.5%	12.1%	8.7%	7.1%	7.7%
RI	8.6%	7.8%	7.7%	9.7%	8.2%	8.1%

SC	3.6%	3.6%	3.6%	1.4%	1.4%	1.4%
TN	12.8%	12.5%	12.5%	0.0%	0.0%	0.0%
TX	17.2%	11.4%	11.2%	14.2%	5.6%	5.5%
UT	2.9%	2.9%	2.9%	6.5%	6.5%	6.5%
VA	2.0%	1.3%	1.3%	3.7%	3.1%	3.1%
VT	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%
WA	4.6%	3.8%	3.7%	1.2%	0.9%	1.0%
WI	3.8%	3.7%	3.8%	2.1%	2.0%	2.1%
Mean	5.76%	3.80%	3.80%	6.72%	4.09%	4.09%
Median	2.53%	2.13%	2.06%	2.08%	1.74%	1.42%

Appendix Table A5

Overweighting Multiple Using 5-Year Rolling Benchmarks

The table presents the equal-weighted and valued-weighted home bias of the portfolios of LPs located in each state as in Table 5, but calculating overweighting as a multiple of the benchmark instead of as a difference. Multiples greater than one indicate overweighting. The unit of observation is [LP x vintage]. A multiple relative to out-of-state LP investments can only be calculated if there are out-of-state LP investments during the five years leading up to the year of observation. There are therefore two sets of observation counts: one for all [LP x vintage] observations in which there was an investment, and one for only those observations in which the out-of-state benchmark is nonzero.

State(LP)	Equal Weighted			Value Weighted				
	LP x Vintage Count		Home Bias Multiple, Relative to		LP x Vintage Count		Home Bias Multiple, Relative to	
	All / Nonzero Out		All LPs	Out-of-State LPs	All / Nonzero Out		All LPs	Out-of-State LPs
	(1)	(2)	(3)	(4)	(5)	(6)		
AL	1 / 1	0.0	0.0					
AR	2 / 0	1679.4						
AZ	13 / 0	252.1		10 / 0	681.3			
CA	548 / 548	1.5	1.6	339 / 337	2.0	2.7		
CO	124 / 122	10.0	12.0	88 / 76	16.2	45.3		
CT	96 / 96	1.5	1.3	33 / 33	4.5	4.6		
DC	58 / 58	1.3	1.1	5 / 5	0.9	0.8		
DE	4 / 4	0.0	0.0	4 / 4	0.0	0.0		
FL	51 / 51	2.7	2.5	23 / 23	0.5	0.6		
GA	48 / 48	13.1	12.2	6 / 6	0.0	0.0		
IA	34 / 32	4.7	2.9	18 / 16	7.5	7.6		
ID	12 / 12	99.1	145.9	12 / 12	83.7	143.0		
IL	318 / 318	4.1	4.3	167 / 167	6.8	8.6		
IN	81 / 67	68.9	148.6	37 / 28	452.4	1028.6		
KY	29 / 16	301.7	300.4	27 / 0	1985.9			
LA	16 / 0	309.9		14 / 0	784.4			
MA	394 / 394	2.8	2.7	143 / 143	4.0	3.7		
MD	102 / 102	5.6	5.2	47 / 47	10.2	12.6		
ME	5 / 5	0.0	0.0	0 / 0				
MI	153 / 153	5.8	8.3	52 / 52	2.4	3.7		
MN	123 / 118	16.3	23.2	50 / 41	29.5	40.3		
MO	92 / 52	90.0	152.4	24 / 19	334.1	500.9		
NE	15 / 4	252.6	106.1	7 / 4	3775.2	7.3		
NH	28 / 25	71.8	8.0	17 / 14	713.3	104.7		
NJ	52 / 52	2.2	1.9	15 / 15	0.7	0.6		
NM	14 / 14	215.5	268.2					
NY	553 / 553	1.2	1.2	61 / 61	1.0	0.9		
OH	180 / 180	18.2	38.2	127 / 117	39.8	100.7		
OK	24 / 24	0.0	0.0	11 / 11	0.0	0.0		
OR	35 / 35	48.1	66.3	22 / 22	79.6	143.3		
PA	214 / 202	10.5	19.7	76 / 67	20.4	53.6		
RI	33 / 33	15.4	14.7	18 / 18	13.8	12.6		
TN	28 / 28	69.6	76.9	5 / 5	0.0	0.0		
TX	236 / 236	3.4	3.3	161 / 159	6.8	8.4		
UT	11 / 11	171.6	194.9	7 / 7	763.4	760.2		
VA	67 / 67	1.2	1.2	32 / 32	3.1	3.5		
VT	9 / 9	0.0	0.0	5 / 5	0.0	0.0		
WA	101 / 97	5.1	5.6	54 / 50	36.2	72.0		
WI	72 / 24	46.3	67.2	42 / 16	12.1	77.3		

Appendix Table A6

Home-State Overweighting Multiples, Overall and by LP Type

The table presents overweighting multiples of in-state investments, overall and by LP type, where the LP's in-state overweighting each year is calculated versus benchmarks based on the prior five years of investments. It is analogous to Table 6 but calculates overweighting as a multiple rather than a difference. The difference is taken with respect to the first benchmark so as not to lose [LP x vintage] observations with no out-of-state LP investors.

Sample	N	In-State Investments		Excess over Baseline 1: Share of Investments in State by All LPs		Difference with Public Pension
		mean	std err	mean	std err	
<i>At Investment Level</i>						
All	18,828	0.167	0.003			
States with PE	17,023	0.185	0.003	10.3	0.4***	
<i>By LP Type</i>						
Public Sector Pension	10,356	0.210	0.004	9.6	0.4***	
Private Sector Pension	1,057	0.184	0.012	5.4	0.8***	-4.2***
Endowment	2,796	0.135	0.006	13.8	1.1***	4.3***
Public Institution	1,305	0.087	0.008	20.8	2.0***	11.2***
Private Institution	1,491	0.177	0.010	7.7	1.0***	-1.8*
Foundation	2,814	0.144	0.007	11.2	1.5***	1.6
<i>At LP-Year Level</i>						
All	4,589	0.199	0.004			
States with PE	4,426	0.225	0.005	18.1	2.0***	
<i>By LP Type</i>						
Public Sector Pension	1,943	0.277	0.007	19.6	3.1***	
Private Sector Pension	445	0.187	0.013	8.4	2.0***	-11.2*
Endowment	995	0.163	0.009	20.3	4.7***	0.7
Public Institution	400	0.110	0.010	43.7	12.2***	24.1***
Private Institution	595	0.195	0.012	6.2	1.8***	-13.4**
Foundation	1,043	0.205	0.010	17.7	4.3***	-1.8

Appendix Table A7

In-State Overweighting by Investment Type and Time Period

The table presents overweighting of in-state investments, overall and by investment type, where the in-state overweighting each year is calculated versus benchmarks based on the prior five years of investments. The unit of observation in the top panel is the investment. *** significant at the 1% level, ** significant at the 5% level, * significant at the 10% level.

Sample	N	In-State Investments		Excess over Baseline 1: Share of Investments in State by All LPs		Excess over Baseline 2: Share of Investments in State by Out-of-State LPs		Difference with Public Pension
		mean	std err	mean	std err	mean	std err	
<i>By Investment</i>								
Buyout	5,241	0.150	0.005	0.051	0.005***	0.054	0.005***	
Public Pension	3,361	0.139	0.006	0.053	0.006***	0.058	0.006***	
Private Pension	422	0.230	0.021	0.053	0.018***	0.052	0.018***	-0.006
Endowment	754	0.138	0.013	0.062	0.012***	0.062	0.012***	0.004
Foundation	704	0.165	0.014	0.028	0.013**	0.031	0.013**	-0.027
Venture	5,331	0.239	0.006	0.115	0.005***	0.116	0.005***	
Public Pension	2,801	0.320	0.009	0.150	0.008***	0.154	0.008***	
Private Pension	391	0.113	0.016	0.051	0.013***	0.049	0.013***	-0.105***
Endowment	1,177	0.164	0.011	0.088	0.010***	0.088	0.010***	-0.066***
Foundation	962	0.146	0.011	0.068	0.009***	0.069	0.009***	-0.085***
Real Estate	1,787	0.252	0.010	0.127	0.010***	0.132	0.010***	
Public Pension	1,399	0.274	0.012	0.149	0.011***	0.156	0.012***	
Private Pension	63	0.286	0.057	0.110	0.052**	0.105	0.052**	-0.051
Endowment	97	0.113	0.032	0.048	0.030	0.048	0.031	-0.108**
Foundation	228	0.162	0.024	0.028	0.024	0.028	0.024	-0.128***
Other	4,500	0.143	0.005	0.061	0.005***	0.065	0.005***	
Public Pension	2,718	0.157	0.007	0.072	0.007***	0.078	0.007***	
Private Pension	194	0.180	0.028	0.069	0.024***	0.067	0.024***	-0.011
Endowment	686	0.102	0.012	0.058	0.011***	0.059	0.011***	-0.019
Foundation	902	0.124	0.011	0.028	0.010***	0.030	0.010***	-0.048***
<i>By Time Period</i>								
1980s	694	0.216	0.016	0.125	0.015***	0.125	0.015***	
1990s	5006	0.187	0.006	0.097	0.005***	0.098	0.005***	
2000s	11,694	0.173	0.004	0.113	0.003***	0.117	0.003***	

Appendix Table A8

Neighbor-State Overweighting Overall, by LP Type, and by Investment Type

The table presents overweighting of neighbor-state investments, overall and by LP type, where the LP's neighbor-state overweighting each year is calculated versus benchmarks based on the prior five years of investments. The unit of observation in the top panel is the investment, and in the bottom panel it is the LP-year. The first row of each panel shows statistics for the in-state investment indicator over all observations. The second row shows statistics for the observations for which funds exist in the state of the LP.

Sample	N	Neighbor-State Investments		Excess over Baseline 1: Share of Investments in Neighbor by All LPs		Excess over Baseline 2: Share of Investments in Neighbor by Out-of-State LPs		Difference with Public Pension
		mean	std err	mean	std err	mean	std err	
<i>At Investment Level</i>								
All	18,828	0.097	0.002					
States with PE	18,102	0.099	0.002	0.018	0.001***	0.008	0.001***	
<i>By LP Type</i>								
Public Sector Pension	11,167	0.087	0.003	0.000	0.001	-0.011	0.002***	
Private Sector Pension	1,105	0.129	0.010	0.041	0.005***	0.029	0.005***	0.040***
Endowment	2,933	0.092	0.005	0.042	0.003***	0.035	0.003***	0.046***
Public Institution	1,410	0.042	0.005	0.028	0.003***	0.027	0.003***	0.038***
Private Institution	1,523	0.139	0.009	0.054	0.005***	0.043	0.005***	0.054***
Foundation	2,890	0.140	0.006	0.055	0.003***	0.044	0.003***	0.055***
<i>At LP-Year Level</i>								
All	4,589	0.109	0.003					
States with PE	4,426	0.109	0.003	0.037	0.003***	0.027	0.003***	
<i>By LP Type</i>								
Public Sector Pension	1,943	0.084	0.004	0.010	0.004**	0.000	0.004	
Private Sector Pension	445	0.144	0.012	0.063	0.012***	0.052	0.012***	0.052***
Endowment	995	0.126	0.008	0.072	0.008***	0.064	0.008***	0.064***
Public Institution	400	0.059	0.008	0.047	0.008***	0.045	0.008***	0.045***
Private Institution	595	0.171	0.011	0.088	0.012***	0.077	0.012***	0.077***
Foundation	1,043	0.126	0.007	0.042	0.007***	0.030	0.007***	0.030***

Appendix Table A9

Net IRR Differences, Weighted by Size of Commitment

This table is analogous to a value-weighted version of Table 8. It shows t-tests of differences in net IRR between in-state and out-of-state investments, where the means are weighted by the size of the LP's commitment. The left panel analyzes the raw IRR, and the right panel examines the IRR minus the mean of all other observations in the same state and vintage of the investment fund (the GP). For some LP types, including private pensions and private endowments, the joint coverage of net IRR and LP commitment size would result in extremely small sample sizes, and hence these LP types are not shown.

Group:	IRR Net of Group Means								
	State x Vintage			State x Vintage x Broad Type			State x Vintage x Narrow Type		
	Out of State	In State	Difference	Out of State	In State	Difference	Out of State	In State	Difference
All	-0.89	-4.42	3.54***	-0.30	-1.74	1.44***	-0.39	-1.17	0.78*
	7390	1431	t=5.8	7390	1431	t=3.1	7390	1431	t=1.8
Public Pension	-0.92	-4.62	3.70***	-0.27	-1.78	1.51***	-0.36	-1.18	0.83*
	6663	1342	t=5.8	6663	1342	t=3.2	6663	1342	t=1.8
Endowment	1.07	3.47	-2.40	0.02	0.25	-0.24	-0.38	-0.00	-0.37
	688	75	t=-0.8	688	75	t=-0.0	688	75	t=-0.1
Public Endowment	1.11	3.47	-2.36	-0.01	0.25	-0.27	-0.42	-0.00	-0.41
	673	75	t=-0.8	673	75	t=-0.1	673	75	t=-0.1
Foundation	0.14	-0.16	0.29	-2.35	-7.02	4.67	-2.79	-6.95	4.16
	61	14	t=0.0	61	14	t=1.12	61	14	t=1.5
Non Public Pension	-0.10	3.24	-3.34	-1.07	-0.21	-0.86	-1.31	-0.44	-0.86
	757	89	t=-1.2	757	89	t=-0.3	757	89	t=-0.4