

Figure 1. Fraction of holdings that are passively managed. This graph depicts the average fraction of equity holdings that are passively managed, for US equity, EAFE equity, and emerging market equity.

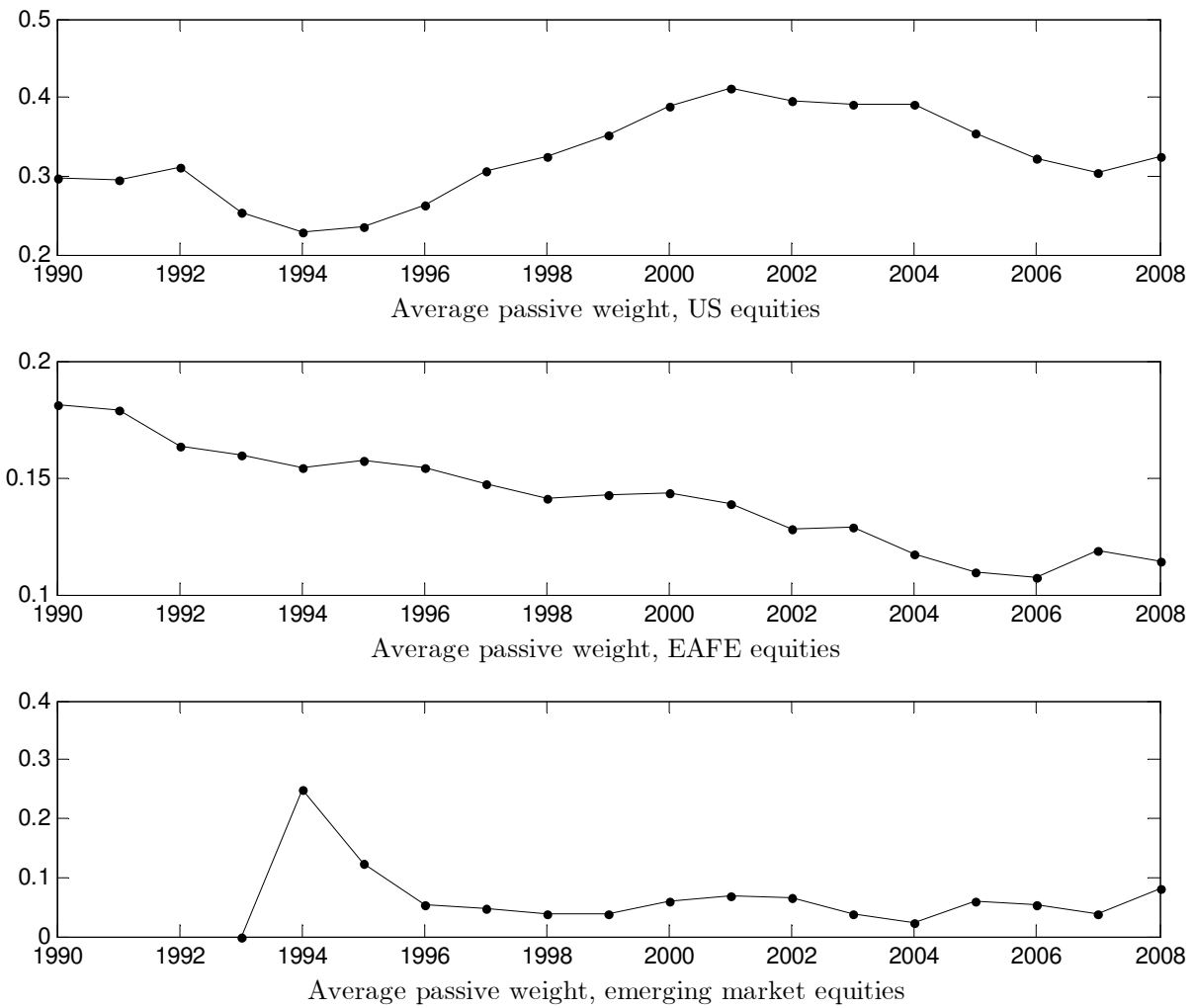


Table I. Sample overview. This table presents key plan-level summary statistics of the CEM Benchmarking, Inc. database of defined benefit pension plans. The estimates presented in the table are estimated using the Fama-MacBeth approach: In each year, cross-sectional statistics are computed for the plans/ asset classes with data in that year; the table presents time-series averages of these cross-sectional estimates.

	# observations	Mean	p25	Median	p75
# funds/ year	19	247.58			
% corporate funds	19	55.20%			
% US funds	19	60.70%			
# observations/ fund	758	11.08	7	12	16
Fund size (\$M)	19	7421.75	5544.66	1828.21	5544.66
Holdings of US equity (\$M)	19	2617.34	1931.15	504.77	1931.15
% passive in US equity	19	32.41%	54.11%	26.98%	54.11%
Holdings of EAFE equity (\$M)	19	836.91	505.88	151.39	505.88
% passive in EAFE equity	19	14.14%	17.71%	0.00%	17.71%
Holdings of emerging market equity (\$M)	19	81.42	22.23	0	22.23
% passive in emerging markets	19	6.51%	4.15%	0.00%	4.15%

Table II. Overview of the data. Panel A of this table presents the number of funds with any active holdings (the first column of each asset class section of the table), the number of funds with any passive holdings (second column), as well as the cross-sectional average of the fraction of assets that are passively managed across all funds with any holdings (third column). The remaining panels are organized in a similar manner and present costs and performance of active and passive holdings, as well as the difference between them. Panel B presents the costs of active and passive management, Panel C – gross returns, and Panel D – abnormal net returns, computed as the difference between gross returns and the sum of costs and benchmark returns. At the bottom of each panel, the summary statistics based on the time series of cross-sectional means are presented.

Panel A: Number of funds with active and passive holdings, fraction of holdings that are passively managed.

year	US equity			EAFE equity			Emerging market equity		
	# w/active	# w/passive	avg %passive	# w/active	# w/passive	avg %passive	# w/active	# w/passive	avg %passive
1990	37	26	29.7%	71	27	18.1%	0	0	
1991	63	43	29.6%	103	35	17.9%	0	0	
1992	88	63	31.1%	139	54	16.3%	0	0	
1993	143	91	25.4%	178	69	16.0%	1	0	0.0%
1994	233	130	22.8%	214	70	15.5%	3	1	25.0%
1995	264	144	23.5%	241	77	15.7%	8	2	12.3%
1996	251	155	26.3%	252	81	15.4%	62	5	5.2%
1997	223	154	30.7%	232	77	14.8%	70	5	4.8%
1998	234	166	32.5%	243	74	14.1%	73	5	3.8%
1999	248	187	35.2%	248	79	14.3%	66	7	3.9%
2000	225	187	39.0%	227	80	14.3%	70	11	6.0%
2001	236	213	41.2%	230	76	13.9%	65	11	7.0%
2002	219	188	39.7%	210	66	12.8%	60	8	6.6%
2003	220	186	39.0%	204	61	12.9%	65	6	3.8%
2004	223	183	39.2%	205	59	11.7%	76	4	2.4%
2005	227	171	35.6%	198	54	11.0%	76	10	6.0%
2006	221	158	32.4%	183	48	10.7%	85	9	5.4%
2007	276	194	30.4%	215	61	11.9%	113	10	3.7%
2008	249	184	32.6%	192	52	11.4%	105	15	8.0%
average	204.21	148.58	32.4%	199.21	63.16	14.1%	52.53	5.74	6.5%

Panel B: Costs of active and passive management (basis points per year).

	US equity:			EAFE equity:			Emerging market equity:		
	Passive	Active	diff	Passive	Active	diff	Passive	Active	diff
1990		24.1		11.5	36.3	24.8			
1991	6.6	39.2	32.6	23.3	48.1	24.8			
1992	6.2	39.6	33.4	21.1	47.1	26.0			
1993	6.8	42.7	35.9	16.2	45.9	29.7		99.5	
1994	7.8	45.9	38.1	15.6	52.8	37.2	1.9	78.4	76.5
1995	6.6	40.5	33.9	12.5	55.7	43.2	16.6	64.1	47.5
1996	5.8	38.9	33.1	12.4	54.9	42.5	27.5	81.9	54.4
1997	5.9	37.4	31.5	9.9	53.3	43.4	39.3	94.1	54.8
1998	5.1	36.6	31.5	8.9	52.5	43.6	31.3	78.8	47.5
1999	4.9	36.6	31.7	9.1	48.6	39.4	28.5	77.0	48.5
2000	4.7	38.1	33.5	7.4	48.5	41.1	28.9	79.8	51.0
2001	5.0	40.0	35.0	7.5	47.8	40.4	23.0	76.1	53.1
2002	4.8	41.7	36.9	7.0	51.9	44.9	22.4	78.3	55.8
2003	4.1	39.6	35.4	7.1	47.4	40.2	18.3	72.4	54.0
2004	3.6	38.5	34.9	6.3	47.5	41.2	21.8	74.4	52.6
2005	4.3	39.7	35.4	9.8	49.0	39.2	24.2	78.0	53.8
2006	3.6	39.0	35.3	5.9	47.6	41.7	15.3	73.2	57.9
2007	3.9	42.7	38.8	9.1	51.0	41.9	10.0	74.8	64.8
2008	4.1	41.5	37.4	7.0	50.8	43.8	14.2	82.7	68.5
average	5.2	39.1	34.7	10.9	49.3	38.4	21.5	79.0	56.0
t-stat	(18.08)	(39.66)	(66.23)	(9.64)	(50.75)	(24.94)	(9.01)	(38.25)	(26.84)

Panel C: Gross returns (in % per year) on active and passive holdings.

	US equity:			EAFE equity:			Emerging market equity:		
	Passive	Active	diff	Passive	Active	diff	Passive	Active	diff
1990		-3.09		-10.59	-9.33	1.26			
1991	33.15	34.04	0.89	17.75	18.96	1.21			
1992	8.60	9.87	1.26	-7.14	-0.03	7.11			
1993	10.96	13.34	2.38	27.78	30.52	2.74		72.74	
1994	0.61	0.12	-0.49	5.07	1.45	-3.62		-2.84	
1995	36.54	33.78	-2.76	12.68	12.04	-0.63	-7.88	-2.59	5.29
1996	22.11	21.81	-0.30	9.49	14.02	4.54	6.15	13.55	7.40
1997	31.04	28.19	-2.85	4.70	6.71	2.00	-11.13	-1.50	9.63
1998	24.74	19.14	-5.60	17.59	13.69	-3.90	-22.08	-21.47	0.61
1999	21.24	20.35	-0.88	30.29	36.04	5.75	49.51	67.37	17.87
2000	-7.43	-1.87	5.56	-12.03	-10.37	1.67	-26.61	-29.12	-2.51
2001	-10.99	-7.22	3.78	-20.08	-17.42	2.65	-5.28	-4.09	1.19
2002	-21.28	-20.47	0.80	-16.24	-13.71	2.53	-7.81	-7.12	0.69
2003	32.95	34.09	1.14	39.29	36.93	-2.36	48.01	55.35	7.34
2004	12.56	13.38	0.81	19.95	19.49	-0.46	27.21	25.39	-1.83
2005	6.33	7.80	1.46	15.64	15.80	0.16	29.98	34.45	4.48
2006	15.62	14.38	-1.24	25.45	26.08	0.62	32.70	32.77	0.07
2007	6.58	6.17	-0.42	12.90	12.62	-0.28	34.87	37.33	2.46
2008	-37.47	-37.89	-0.42	-43.63	-42.54	1.09	-52.87	-52.08	0.79
average	10.33	9.79	0.17	6.78	7.95	1.16	6.77	13.63	3.82
t-stat	(2.19)	(2.27)	(0.29)	(1.44)	(1.72)	(1.78)	(0.82)	(1.55)	(2.63)

Panel D: Net abnormal returns (gross returns minus costs minus benchmark returns, in % per year) of active and passive holdings.

	US equity:			EAFE equity:			Emerging market equity:		
	Passive	Active	diff	Passive	Active	diff	Passive	Active	diff
1990		-0.24		-0.11	-0.02	0.09			
1991	0.96	1.52	0.56	3.67	4.11	0.44			
1992	0.27	1.06	0.80	1.22	3.42	2.20			
1993	0.31	2.21	1.91	-0.95	3.43	4.38		0.45	
1994	0.19	-1.24	-1.43	-0.54	-5.19	-4.65		0.80	
1995	-0.17	-3.40	-3.24	0.95	-0.68	-1.64	1.51	4.48	2.97
1996	0.08	-0.64	-0.72	0.99	5.33	4.34	-1.27	5.75	7.02
1997	-0.39	-4.04	-3.65	0.16	2.37	2.22	-0.15	6.05	6.20
1998	0.61	-5.41	-6.02	0.50	-4.70	-5.20	2.95	-0.95	-3.90
1999	-0.22	-1.07	-0.85	1.37	7.18	5.81	-11.28	3.96	15.25
2000	0.47	5.46	4.99	1.27	2.85	1.59	-0.63	-1.58	-0.95
2001	-0.27	3.00	3.27	-0.19	2.38	2.57	1.13	-0.70	-1.84
2002	0.11	0.54	0.43	-0.12	1.94	2.05	0.33	-0.66	-0.99
2003	0.36	1.74	1.38	0.88	-1.58	-2.46	-3.94	0.82	4.77
2004	-0.12	0.50	0.62	-0.36	-1.28	-0.92	1.13	-0.48	-1.61
2005	0.08	1.31	1.23	-0.31	0.16	0.47	-4.68	0.38	5.05
2006	-0.13	-1.75	-1.63	-0.42	-0.55	-0.12	0.39	0.26	-0.13
2007	0.65	0.08	-0.57	-0.37	-0.22	0.15	0.33	-2.11	-2.44
2008	0.03	-0.88	-0.91	0.25	0.45	0.20	0.27	-0.08	-0.35
average	0.16	-0.07	-0.21	0.42	1.02	0.61	-0.99	1.02	2.08
t-stat	(1.86)	(-0.11)	(-0.35)	(1.72)	(1.42)	(0.93)	(-1.04)	(1.59)	(1.51)

Table III. Active management underperforms passive management in US equities, but outperforms in international equities. The dependent variable is net abnormal returns on pension plan equity holdings (defined as gross return minus cost minus benchmark return) in columns 1 through 8 and net return (gross return minus costs) in columns 9 through 12. Each observation corresponds to active or passive position of a pension fund; funds that have both active and passive holdings contribute two observations for these regressions. The main independent variable is the active dummy, equal to one if a given observation is actively managed. Additional explanatory variables include log of the overall holdings of a given asset class, and corporate fund and non-US fund dummies. Panel A of the table presents regressions on US equity holdings only, and Panel B pools observations on all equity holdings outside of US equity. Some regressions include year and fund fixed effects, as indicated. T-statistics based on robust standard errors (clustered at the plan level) are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: US equity.

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Net abnormal return (gross return minus costs minus benchmark return)								Net return (gross return minus costs)			
Active dummy	-0.375*** (-3.15)	-0.396*** (-3.34)	-0.258** (-2.18)	-0.264** (-2.23)	-0.354*** (-2.61)	-0.510*** (-3.70)	-0.256* (-1.89)	-0.376*** (-2.72)	-0.234* (-1.96)	-0.246** (-2.05)	-0.266* (-1.96)	-0.398*** (-2.88)
Log holdings size		0.119*** (2.82)		0.057 (1.41)		0.356*** (3.40)		0.262** (2.39)		0.053 (1.21)		0.288*** (2.61)
Corporate fund dummy		0.081 (0.68)		0.172 (1.51)						0.294** (2.28)		
Non-US fund dummy		-0.278 (-1.58)		-0.415** (-2.46)						-0.112 (-0.58)		
Observations	6,629	6,629	6,629	6,629	6,629	6,629	6,629	6,629	6,630	6,630	6,630	6,630
R-squared	0.001	0.004	0.089	0.091	0.118	0.120	0.192	0.193	0.934	0.934	0.942	0.942
Year FE	NO	NO	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES
Plan FE	NO	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES	YES

Panel B: All non-US equity asset classes.

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Net abnormal return (gross return minus costs minus benchmark return)								Net return (gross return minus costs)			
Active dummy	0.661*** (4.95)	0.645*** (4.83)	0.763*** (5.76)	0.754*** (5.65)	0.587*** (3.58)	0.563*** (3.19)	0.711*** (4.38)	0.587*** (3.33)	0.994*** (4.87)	0.859*** (4.60)	0.976*** (4.33)	0.907*** (3.51)
Log holdings size		0.078* (1.70)		0.161*** (3.46)		0.045 (0.49)		0.234** (2.29)		0.139** (2.26)		0.128 (0.79)
Corporate fund dummy		0.246* (1.77)		0.225 (1.62)						0.149 (0.84)		
Non-US fund dummy		-0.106 (-0.72)		-0.126 (-0.85)						1.944*** (10.77)		
Observations	8,436	8,436	8,436	8,436	8,436	8,436	8,436	8,436	8,446	8,446	8,446	8,446
R-squared	0.002	0.003	0.082	0.084	0.101	0.101	0.169	0.169	0.840	0.841	0.851	0.851
Year FE	NO	NO	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES
Plan FE	NO	NO	NO	NO	YES	YES	YES	YES	NO	NO	YES	YES

Table IV. Active management outperforms passive management in non-US equities: asset-class-level evidence. This table presents regressions of net abnormal returns separately for international equity categories: EAFE equities, emerging markets equity, Canadian, Australian, and ACWI ex US equity. The structure of the data used to estimate the regressions and the explanatory variables are as described in the header to Table III. T-statistics based on robust standard errors (clustered at the plan level) are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	EAFE equity				Canadian equity				Emerging market equity			
Active dummy	0.611*** (3.51)	0.727*** (4.18)	0.767*** (4.41)	0.506** (2.12)	0.839*** (4.10)	1.150*** (5.07)	1.091*** (4.77)	0.618** (2.19)	1.785** (1.98)	1.806** (2.00)	1.940** (2.15)	2.824** (2.42)
Log slice holdings			0.200*** (3.28)	0.378*** (2.68)			0.034 (0.43)	0.178 (0.75)			0.265 (1.48)	-0.161 (-0.21)
Corporate fund dummy			0.295 (1.59)				0.391* (1.71)				-0.365 (-0.75)	
Non-US fund dummy			-0.334 (-1.55)								1.459 (1.38)	
Observations	4,903	4,903	4,903	4,903	2,103	2,103	2,103	2,103	1,000	1,000	1,000	1,000
R-squared	0.002	0.168	0.173	0.317	0.004	0.277	0.278	0.374	0.004	0.087	0.092	0.362
Year FE	NO	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES
Plan FE	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES

Table V. Performance of local and foreign investors. This table compares the performance of local (US) and foreign (Canadian) investors in US equities. The structure of the data used to estimate the regressions and the explanatory variables are as described in the header to Table III. T-statistics based on robust standard errors (clustered at the plan level) are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)
Dependent variable	Net abnormal return (gross return minus costs minus benchmark return)		
Active dummy	-1.003*** (-3.63)	-1.001*** (-3.61)	-1.376*** (-3.99)
Home market dummy	-0.065 (-0.35)	-0.155 (-0.74)	
Active dummy * home market dummy	1.019*** (3.40)	0.996*** (3.34)	1.297*** (3.51)
Corporate fund dummy		0.161 (1.41)	
Log holdings		0.048 (1.19)	0.204* (1.89)
Observations	6,629	6,629	6,629
R-squared	0.092	0.093	0.195
Year FE	YES	YES	YES
Plan FE	NO	NO	YES

Table VI. Active holdings have higher outperformance for more sophisticated investors. This table estimates the main specifications from Panel B of Table III using proxies for fund sophistication: compares the performance of local (US) and foreign (Canadian) investors in US equities. The structure of the data used to estimate the regressions and the explanatory variables are as described in the header to Table III. T-statistics based on robust standard errors (clustered at the plan level) are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Net abnormal return (gross return minus costs minus benchmark return)									
Active dummy	0.754***	0.587***	0.620	0.378	0.670***	0.456***	0.730***	0.575***	0.696	0.380
	(5.65)	(3.33)	(1.34)	(0.64)	(4.81)	(2.59)	(4.94)	(2.95)	(1.44)	(0.62)
Corporate fund dummy	0.225		0.222		0.231*		0.221		0.230*	
	(1.62)		(1.60)		(1.67)		(1.59)		(1.66)	
Non-US fund dummy	-0.126		-0.125		-0.121		-0.129		-0.129	
	(-0.85)		(-0.85)		(-0.80)		(-0.84)		(-0.82)	
Log holdings	0.161***	0.234**	0.142**	0.208*	0.165***	0.230**	0.158***	0.267**	0.166**	0.251**
	(3.46)	(2.29)	(2.46)	(1.95)	(3.51)	(2.23)	(3.19)	(2.56)	(2.48)	(2.23)
Active dummy * log holdings			0.025	0.038					-0.007	0.016
			(0.34)	(0.42)					(-0.08)	(0.16)
Alternatives weight in top 10%					-0.630**	-0.655*			-0.627**	-0.628*
					(-2.33)	(-1.78)			(-2.26)	(-1.68)
Active dummy * alternatives in top 10%					0.730*	1.111***			0.724*	1.119**
					(1.90)	(2.65)			(1.83)	(2.57)
% internal in this asset class							-0.166	-0.809	-0.035	-0.579
							(-0.36)	(-1.24)	(-0.07)	(-0.85)
Active dummy * % internal in this asset class							0.283	-0.209	0.139	-0.505
							(0.53)	(-0.35)	(0.23)	(-0.77)
Observations	8,436	8,436	8,436	8,436	8,436	8,436	8,436	8,436	8,436	8,436
R-squared	0.084	0.169	0.084	0.169	0.084	0.170	0.084	0.170	0.084	0.170
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Plan FE	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES

