

# **Online Appendix to**

## **Patient Capital Outperformance:**

### **The Investment Skill of High Active Share Managers Who Trade Infrequently**

December 2015

Martijn Cremers

*University of Notre Dame*

Ankur Pareek

*Rutgers Business School*

## Appendix A

**Table A1**

Mutual Fund Sample: Medians by Year.

This table provides annual descriptive statistics for the mutual fund sample. Median values for the variables are reported for each sample year.

---

Year	# of Funds	TNA	Expense Ratio	# Stocks	Active Share	Fund Duration	Fund Turnover Ratio	Fund Holding Turnover
1984	63	167.3	0.91%	63	88%	1.12	52%	1.19
1985	85	201.6	0.91%	64	89%	0.98	57%	1.61
1986	88	196.1	0.92%	63.5	90%	1.07	59%	1.41
1987	79	219.6	0.84%	61	86%	1.14	60%	1.62
1988	104	167.4	1.00%	58.5	90%	1.21	64%	1.33
1989	89	184.0	1.06%	55	87%	1.33	52%	1.30
1990	86	143.8	1.09%	60.5	87%	1.36	42%	1.10
1991	104	227.0	1.04%	77	84%	1.42	47%	1.24
1992	165	198.1	1.13%	67	88%	1.27	46%	1.18
1993	163	215.5	1.17%	69	89%	1.28	44%	1.23
1994	225	189.1	1.09%	70	87%	1.11	46%	1.26
1995	355	190.5	1.12%	73	87%	0.89	54%	1.56
1996	482	232.5	1.13%	75	86%	0.86	58%	1.58
1997	540	268.2	1.15%	72	86%	0.87	63%	1.51
1998	696	314.2	1.14%	72	83%	0.91	67%	1.59
1999	817	273.6	1.16%	70	81%	0.93	67%	1.62
2000	878	265.3	1.17%	72	77%	0.90	76%	1.59
2001	975	249.9	1.23%	73	75%	0.91	80%	1.46
2002	1114	172.5	1.25%	75	75%	1.02	70%	1.36
2003	1112	210.6	1.29%	77.5	76%	1.09	69%	1.47
2004	1112	227.1	1.26%	77	78%	1.14	67%	1.42
2005	1137	241.2	1.24%	76	80%	1.19	66%	1.42
2006	1156	241.4	1.21%	74	81%	1.20	65%	1.43
2007	1062	269.5	1.17%	71	81%	1.25	65%	1.37
2008	1075	176.9	1.15%	73	79%	1.24	72%	1.39
2009	1104	228.7	1.16%	81	80%	1.20	75%	1.45
2010	1174	238.5	1.10%	75	79%	1.23	59%	1.31
2011	1145	282.9	1.09%	73	79%	1.42	56%	1.20
2012	1128	318.3	1.08%	72	79%	1.56	50%	1.14
2013	1002	439.9	1.08%	74	80%	1.72	50%	1.14

---

**Table A2**

Percentage of assets in Fund Duration/Active Share groups.

This table reports the percentage of assets in each of the 25 Fund Duration/Active Share groups obtained by independently sorting funds into quintiles at the end of each year by their Fund Duration and Active Share values.

		Active Share					
		Q1	Q2	Q3	Q4	Q5	Sum
Fund Duration	Q1	3.2%	2.4%	1.6%	1.4%	1.1%	9.7%
	Q2	3.7%	3.5%	2.6%	1.7%	1.2%	12.7%
	Q3	4.3%	3.9%	2.9%	2.4%	1.7%	15.2%
	Q4	6.0%	5.5%	3.8%	3.2%	2.4%	20.8%
	Q5	14.6%	9.8%	7.5%	5.8%	3.9%	41.6%
Sum		31.8%	25.1%	18.4%	14.4%	10.3%	

**Table A3**

Institutional Investor Sample: Medians by Year.

This table provides annual descriptive statistics for the institutional investor sample. Median values for the variables are reported for each sample year.

Year	# of Funds	TNA	# Stocks	Active Share	Fund Duration	Fund Holding Turnover	% Total Market Cap
1983	483	441.8	130	70%	1.40	1.06	40%
1984	558	400.2	132.5	71%	1.43	1.00	42%
1985	608	444.5	140.5	71%	1.37	1.14	44%
1986	649	490.8	142	73%	1.29	1.13	45%
1987	716	413.3	128	73%	1.28	1.13	44%
1988	750	399.0	119.5	75%	1.29	0.95	46%
1989	802	458.6	123	73%	1.31	1.06	47%
1990	838	357.4	114.5	72%	1.43	0.94	48%
1991	875	474.5	119	72%	1.44	0.94	50%
1992	927	491.4	117	74%	1.43	0.96	50%
1993	979	469.5	120	77%	1.35	1.05	51%
1994	1019	406.0	115	76%	1.36	1.00	51%
1995	1089	487.8	112	75%	1.39	1.08	52%
1996	1131	513.3	115	75%	1.39	1.09	54%
1997	1222	575.0	119	76%	1.37	1.11	55%
1998	1335	547.0	115	73%	1.32	1.06	56%
1999	1420	540.7	107	72%	1.20	1.21	53%
2000	1493	468.2	103	71%	1.19	1.18	57%
2001	1590	372.4	92.5	71%	1.20	1.03	58%
2002	1675	269.0	87	73%	1.22	0.98	61%
2003	1664	356.9	92	74%	1.34	0.97	62%
2004	1797	402.0	88	75%	1.35	0.99	64%
2005	1906	394.0	83.5	77%	1.36	1.04	65%
2006	2051	398.7	81	78%	1.36	1.04	66%
2007	2248	353.1	73	79%	1.31	1.11	66%
2008	2298	181.7	62	78%	1.31	1.15	67%
2009	2405	233.6	66	79%	1.27	1.16	68%
2010	2447	272.9	70	79%	1.28	1.07	67%
2011	2521	262.4	67	78%	1.33	1.05	68%
2012	2455	308.7	70	77%	1.42	0.94	66%

**Table A4**

## Institutional Investors: Summary Statistics.

This table presents the summary statistics for institutional investors sorted into different groups by their Active Share and Fund Duration values. Panel A and Panel B presents the number of institutions and institutional investor assets (\$ billion) in different Active Share groups. Panel C and Panel D presents the number of institutions and institutional investor assets (\$ billion) in different Fund Duration groups. Panel E reports the percentage of institutional investor assets in each of the 25 Fund Duration/Active Share groups obtained by independently sorting funds into quintiles by their Fund Duration and Active Share values. See the text for a further description.

*Panel A*

Active Share	Number of Institutions								
	All	BNK	INS	INV	IIA	CPS	PPS	UFE	MSC
0-10	11		1	2	3	2	2		1
10-20	26	5	4		8		8		1
20-30	31	3	4	1	16	3	3		1
30-40	43	10	7	3	14	3	4		2
40-50	118	39	3	1	59	3	3	1	9
50-60	281	52	4	7	189	5	2		22
60-70	437	29	10	4	356	7	1		30
70-80	466	19	7	6	391	4	2	1	36
80-90	470	8	4	8	400	1		3	46
90-100	679	4	2	4	560	6	1	3	99
Total	2,562	169	46	36	1,996	34	26	8	247

*Panel B*

Active Share	Total Assets (\$ billion)								
	All	BNK	INS	INV	IIA	CPS	PPS	UFE	MSC
0-10	728.3		8.9	547.4	29.6	9.7	55.3		77.4
10-20	1,998.9	951.0	146.2		663.1		145.5		93.1
20-30	192.4	10.7	32.7	14.0	80.2	5.2	29.0		20.7
30-40	771.4	229.9	129.8	42.3	329.7	2.0	36.4		1.3
40-50	1,537.5	212.1	11.7	365.0	776.5	1.4	20.5	4.5	145.8
50-60	1,445.1	74.3	47.3	292.7	972.7	27.5	2.5		28.0
60-70	771.1	37.4	30.0	71.3	597.2	7.9	6.6		20.5
70-80	914.7	6.1	9.0	85.7	715.3	1.9	10.1	0.0	86.6
80-90	566.8	2.1	11.4	26.9	458.6	0.7		13.8	53.3
90-100	387.9	2.0	0.1	8.8	301.4	13.0	0.03	1.1	61.6
Total	9,314.0	1,525.6	427.1	1,454.2	4,924.3	69.4	305.9	19.4	588.2

Panel C

Duration(years)	Number of Institutions								
	All	BNK	INS	INV	IIA	CPS	PPS	UFE	MSC
0-0.5	416	4		2	344		1	1	64
0.5-1	515	7	4	3	444	4	3	1	49
1-1.5	532	30	10	12	433	5	5	3	34
1.5-2	419	34	9	5	322	8	4		37
2-2.5	345	40	9	7	249	8	7	2	23
2.5-3	204	37	5	3	129	6	2		22
3-3.5	100	14	5	4	61	3	3	1	9
3.5-4	25	1	3		14		1		6
4-4.5	5	2	1						2
4.5-5	1								1
Total	2,562	169	46	36	1,996	34	26	8	247

Panel D

Duration(years)	Total Assets (\$ billion)								
	All	BNK	INS	INV	IIA	CPS	PPS	UFE	MSC
0-0.5	389.8	40.5		3.5	209.6		0.0	0.2	135.9
0.5-1	680.3	44.8	3.4	2.3	561.3	4.2	14.7	0.1	49.4
1-1.5	2,708.7	497.3	136.8	226.3	1,746.9	10.3	36.3	4.9	50.0
1.5-2	2,270.5	198.3	38.8	490.0	1,342.8	7.7	21.7		171.3
2-2.5	1,119.7	28.9	135.3	142.3	657.6	21.5	108.0	14.2	11.9
2.5-3	443.6	34.9	8.6	41.3	310.3	8.4	25.4		14.7
3-3.5	1,628.7	679.4	59.7	548.4	87.5	17.2	91.5	0.01	145.0
3.5-4	18.8	0.1	0.4		8.3		8.3		1.8
4-4.5	48.2	1.4	44.1						2.7
4.5-5	5.6								5.6
Total	9,314.0	1,525.6	427.1	1,454.2	4,924.3	69.4	305.9	19.4	588.2

Panel E

		Active Share					
		Q1	Q2	Q3	Q4	Q5	Sum
Fund Duration	Q1	2.0%	1.4%	1.7%	1.9%	1.0%	7.9%
	Q2	5.2%	4.2%	3.1%	1.9%	0.9%	15.2%
	Q3	14.3%	5.6%	3.5%	1.6%	0.7%	25.7%
	Q4	21.4%	4.4%	3.1%	1.4%	0.7%	31.1%
	Q5	10.6%	4.4%	2.5%	0.9%	1.6%	20.0%
	Sum	53.5%	20.0%	13.9%	7.7%	4.9%	

**Table A.5**

Active Share and Fund Duration: Mutual Fund Alphas of Benchmark-Adjusted Net Returns.

This table reports abnormal returns for mutual funds conditional on their Active Share and Fund Duration. Funds are assigned to one of the 25 portfolios at the end of each year by independently sorting into quintiles based on Fund Duration and Active Share measures. Returns are then calculated over next one year. Panel A reports the equally weighted five-factor alpha obtained as the intercept from the regression of the average monthly net fund returns in excess of their self-declared benchmark on three Fama and French factors, the Carhart momentum factor and the Pastor and Stambaugh traded liquidity factor. If the self-declared benchmark is missing, then the benchmark index with minimum deviation is assigned as that fund's benchmark. The first row reports the returns for five portfolios obtained by sorting funds unconditionally into quintiles by their Active Share. Similarly, the first column reports alphas for portfolios obtained by sorting unconditionally on Fund Duration measure. Rest of the Panel present returns for portfolios obtained by sorting both on Fund Duration and then on Active Share. Panel B presents the value-weighted five-factor alphas.

*Panel A*

Equal Weighted Five-Factor Alpha of Benchmark Adjusted Net Returns							
Fund Duration	Active Share						
	Uncond.	1	2	3	4	5	5-1
Uncond.		-0.38 (0.41)	-0.38 (0.36)	-0.46 (0.41)	0.06 (0.05)	1.40 (1.06)	<b>1.79</b> <b>(2.99)</b>
1	-0.53 (0.44)	-0.90 (0.94)	-0.69 (0.61)	-0.58 (0.46)	-0.28 (0.20)	0.05 (0.04)	0.95 (1.06)
2	-0.29 (0.26)	-0.56 (0.57)	-0.67 (0.61)	-0.71 (0.57)	-0.41 (0.33)	0.67 (0.46)	1.23 (1.46)
3	0.11 (0.10)	-0.55 (0.57)	0.08 (0.08)	-0.72 (0.64)	0.33 (0.25)	1.34 (0.87)	1.89 (1.93)
4	0.28 (0.26)	-0.44 (0.48)	-0.70 (0.67)	0.10 (0.08)	0.47 (0.39)	1.98 (1.44)	<b>2.43</b> <b>(3.35)</b>
5	0.68 (0.63)	-0.10 (0.10)	-0.24 (0.23)	0.12 (0.11)	1.06 (0.85)	<b>3.57</b> <b>(2.44)</b>	<b>3.67</b> <b>(4.10)</b>
5-1	<b>1.21</b> <b>(2.52)</b>	<b>0.79</b> <b>(1.98)</b>	0.45 (0.79)	0.70 (0.93)	1.34 (1.42)	<b>3.51</b> <b>(3.60)</b>	<b>2.72</b> <b>(2.72)</b>



Panel B

Value Weighted Five-Factor Alpha of Benchmark Adjusted Net Returns							
Active Share							
Fund Duration	Uncond.	1	2	3	4	5	5-1
Uncond.		0.08 (0.08)	-0.05 (0.05)	-0.69 (0.62)	-0.21 (0.16)	1.57 (1.02)	1.49 (1.78)
1	-1.16 (0.92)	-0.53 (0.47)	-0.85 (0.65)	-1.18 (0.86)	-1.49 (0.93)	-2.12 (1.33)	-1.59 (1.56)
2	-0.99 (0.85)	-0.25 (0.23)	-0.69 (0.57)	-0.66 (0.50)	-2.29 (1.56)	-0.47 (0.29)	-0.23 (0.20)
3	0.28 (0.24)	-0.77 (0.75)	1.47 (1.13)	-0.90 (0.81)	0.61 (0.40)	1.43 (0.80)	2.19 (1.79)
4	0.38 (0.35)	0.01 (0.01)	-0.56 (0.51)	-0.76 (0.57)	0.20 (0.16)	<b>3.72</b> <b>(2.25)</b>	<b>3.71</b> <b>(3.14)</b>
5	0.52 (0.47)	0.50 (0.46)	0.02 (0.01)	0.23 (0.19)	0.55 (0.38)	2.97 (1.80)	<b>2.47</b> <b>(2.38)</b>
5-1	<b>1.68</b> <b>(3.06)</b>	1.03 (1.71)	0.86 (1.11)	1.41 (1.56)	2.04 (1.66)	<b>5.09</b> <b>(4.31)</b>	<b>4.06</b> <b>(3.26)</b>

**Table A.6****Mutual Fund Active Share and Fund Duration: Additional Regression Evidence**

This table presents results for pooled-panel regressions of future one year five-factor alphas of net fund return (columns 1 – 3) or benchmark-adjusted yearly net returns (columns 4 – 6) on lagged Fund Duration, dummies for High and Low Active Share quintiles, fund turnover ratio, average past turnover ratio (defined in Pastor, Stambaugh and Taylor (2014) as a ratio of most recent turnover ratio and average past turnover ratio), interaction between Active Share dummies and different fund characteristics. Tracking Error, Logarithm of Fund's Total Net Assets, expense ratio, Flows, Flow-Volatility measured over past five years, benchmark fixed effects and year fixed effects are also included as control variables. All independent variables are measured at the end of previous year. Adjusted t-statistics based on standard errors clustered by fund and year are given in parentheses and \*, \*\*, \*\*\* indicate significance at the 10, 5, and 1 percent levels respectively.

Independent Variable	Pooled Panel Regressions					
	Five-Factor Alpha of Net Return			Benchmark Adjusted Yearly Net Return		
	1	2	3	4	5	6
MFDURATION	0.54*** (2.86)	0.37* (1.87)	0.41** (1.99)	0.29 (1.15)	0.13 (0.43)	
HIGH ACTIVESHARE	0.16 (0.46)	-1.38** (2.13)	-0.87* (1.69)	0.91* (1.81)	0.04 (0.07)	1.66 (3.05)
LOW ACTIVESHARE	-0.26 (1.04)	-0.81 (1.19)	-0.49 (0.68)	-0.05 (0.14)	-0.29 (0.61)	0.22 (0.49)
TURN_RATIO	-0.24 (0.93)	-0.23 (0.92)	-0.07 (0.29)	0.02 (0.07)	0.02 (0.06)	0.07 (0.25)
AVG_PAST_TURN	0.08 (0.66)	-0.06 (0.44)				
FLOW	0.20 (0.75)	0.22 (0.82)	0.08 (0.23)	-0.45** (2.06)	-0.43* (1.95)	-0.53** (2.38)
FLOW5YRVOL			-0.58 (0.47)			
MFDURATION*HIGH ACTIVESHARE		0.77*** (2.94)	0.80*** (3.40)		0.66*** (3.55)	

MFDURATION*LOW ACTIVESHARE		0.13	0.13		0.17	
		(0.62)	(0.57)		(0.72)	
TURN_RATIO*HIGH ACTIVESHARE						-0.88***
						(3.93)
TURN_RATIO*LOW ACTIVESHARE						-0.29
						(1.09)
AVG_PAST_TURN*HIGH ACTIVESHARE		0.44*				
		(1.71)				
AVG_PAST_TURN*LOW ACTIVESHARE		0.30				
		(1.56)				
FLOW*HIGH ACTIVESHARE			0.38			
			(0.96)			
FLOW*LOW ACTIVESHARE			-0.53			
			(0.83)			
FLOW5YRVOL*HIGH ACTIVESHARE			-1.20			
			(0.47)			
FLOW5YRVOL*LOW ACTIVESHARE			1.37			
			(0.77)			
TRACKING_ERROR	-117.66	-117.08	-70.41	75.29	76.21	84.62
	(1.27)	(1.26)	(0.71)	(0.46)	(0.46)	(0.52)
LOG(TNA)	-0.12*	-0.12*	-0.13*	-0.12	-0.12	-0.10
	(1.71)	(1.79)	(1.95)	(1.14)	(1.19)	(1.06)
EXP_RATIO	0.01	0.01	0.01	-0.01	-0.01	-0.01
	(0.56)	(0.68)	(0.70)	(0.59)	(0.56)	(0.56)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Benchmark Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered (Firm,Year)	Yes	Yes	Yes	Yes	Yes	Yes
Rsquare (%)	9.04	9.19	9.55	32.10	32.15	32.14
Nobs	13,486	13,486	14,289	14,649	14,649	14,649
Number of Years	24	24	23	24	24	24

**Table A.7**

## Minimum Active Share and Fund Duration: Mutual Fund Alphas of Net Returns

This table reports abnormal returns for mutual funds conditional on 'Minimum Active Share' and Fund Duration measures. Following the methodology in Cremers and Petajisto (2009), we calculate a fund's Active Share corresponding to all benchmark indexes in our sample and choose the benchmark index with the minimum Active Share as that fund's benchmark. Funds are assigned to one of the 25 portfolios at the end of each year by independently sorting into quintiles based on their Fund Duration and Minimum Active Share measures. Returns are then calculated over next one year. Panel A reports the equally weighted five-factor alpha obtained as the intercept from the regression of the average monthly net fund returns in excess of the risk free rate on three Fama and French factors, the Carhart momentum factor and the Pastor and Stambaugh traded liquidity factor. The first row reports the returns for 5 portfolios obtained by sorting funds unconditionally into quintiles by their Active Share. Similarly, the first column reports alphas for portfolios obtained by sorting unconditionally on Fund Duration measure. Rest of the Panel present returns for portfolios obtained by sorting both on Fund Duration and Active Share. Panel B presents the value weighted 5 factor alphas. Similarly, Panel C and Panel D report alphas of the equally weighted and value weighted excess mutual fund net returns, using the index-based seven-factor model introduced in Cremers, Petajisto and Zitzewitz (2013).

*Panel A*

Equal Weighted Five-Factor Alpha of Net Returns						
Active Share_Min						
Holding Duration	1	2	3	4	5	5-1
	<b>-1.03</b> <b>(4.52)</b>	<b>-1.27</b> <b>(3.50)</b>	-0.78 (1.36)	-0.93 (1.34)	-0.57 (0.71)	0.46 (0.56)
1	-0.74 (1.49)	<b>-1.93</b> <b>(3.14)</b>	-0.82 (0.97)	-0.90 (0.91)	-2.05 (1.94)	-1.32 (1.27)
2	<b>-1.18</b> <b>(2.70)</b>	<b>-1.14</b> <b>(2.20)</b>	-1.07 (1.36)	<b>-2.07</b> <b>(2.41)</b>	-1.06 (1.27)	0.12 (0.13)
3	<b>-1.42</b> <b>(4.40)</b>	<b>-1.01</b> <b>(2.02)</b>	-1.06 (1.41)	-1.04 (1.20)	-0.46 (0.38)	0.97 (0.78)
4	<b>-1.25</b> <b>(3.98)</b>	<b>-1.07</b> <b>(2.33)</b>	-0.39 (0.72)	0.22 (0.27)	-0.24 (0.27)	1.01 (1.02)
5	<b>-0.91</b> <b>(3.45)</b>	<b>-1.32</b> <b>(3.11)</b>	-0.22 (0.32)	-0.23 (0.27)	1.85 (1.83)	<b>2.76</b> <b>(2.53)</b>
5-1	-0.17 (0.33)	0.61 (0.87)	0.60 (0.63)	0.67 (0.64)	<b>3.90</b> <b>(3.81)</b>	<b>4.07</b> <b>(3.54)</b>

Panel B

Value Weighted Five-Factor Alpha of Net Returns						
Active Share_Min						
Holding Duration	1	2	3	4	5	5-1
	<b>-0.99</b> <b>(3.69)</b>	<b>-1.11</b> <b>(2.27)</b>	<b>-1.48</b> <b>(2.09)</b>	-1.26 (1.77)	-0.69 (0.89)	0.30 (0.36)
1	-0.69 (1.10)	<b>-2.10</b> <b>(2.65)</b>	<b>-2.49</b> <b>(2.35)</b>	-2.00 (1.81)	<b>-3.51</b> <b>(2.73)</b>	<b>-2.82</b> <b>(2.14)</b>
2	-0.84 (1.16)	<b>-1.95</b> <b>(2.39)</b>	-1.45 (1.28)	<b>-4.34</b> <b>(3.67)</b>	-1.53 (1.56)	-0.69 (0.61)
3	<b>-1.09</b> <b>(2.62)</b>	-0.29 (0.38)	-0.96 (0.90)	-0.97 (0.92)	-1.29 (1.13)	-0.20 (0.16)
4	<b>-1.26</b> <b>(2.74)</b>	-0.99 (1.16)	<b>-2.01</b> <b>(2.48)</b>	-0.35 (0.37)	0.65 (0.64)	1.91 (1.57)
5	-0.75 (1.81)	-0.94 (1.26)	-0.25 (0.28)	-0.18 (0.18)	<b>2.52</b> <b>(2.48)</b>	<b>3.28</b> <b>(2.84)</b>
5-1	-0.06 (0.08)	1.16 (1.07)	2.24 (1.72)	1.83 (1.31)	<b>6.03</b> <b>(4.21)</b>	<b>6.10</b> <b>(4.06)</b>

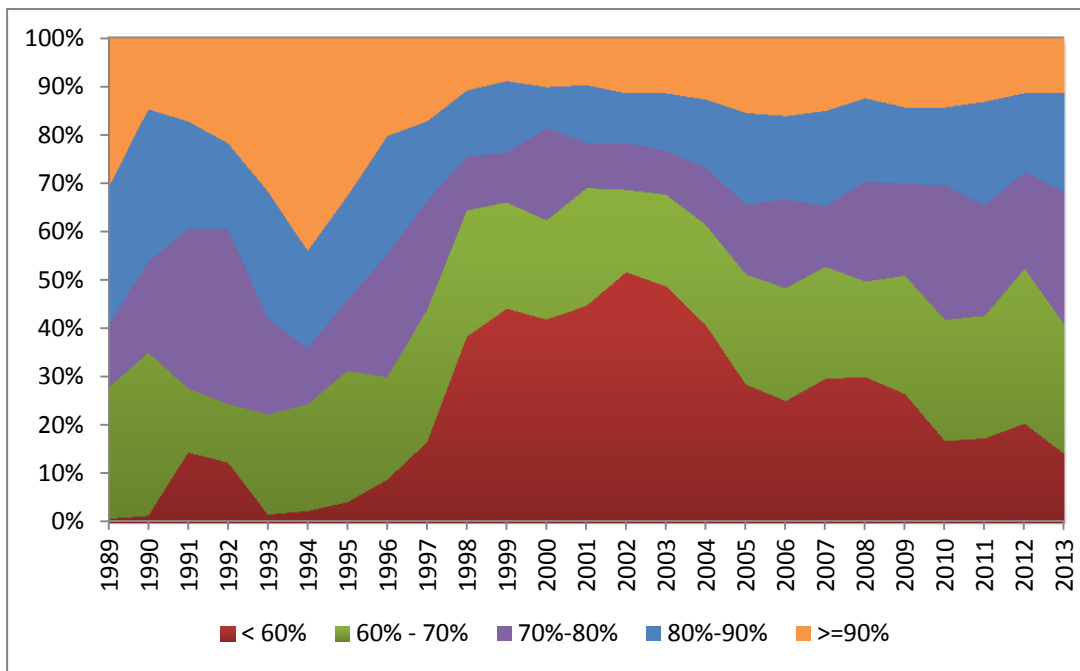
Panel C

Equal Weighted Seven-Factor Alpha of Net Returns						
Active Share_Min						
Holding Duration	1	2	3	4	5	5-1
	<b>-1.26</b> <b>(5.94)</b>	<b>-1.43</b> <b>(4.53)</b>	-0.72 (1.84)	-0.36 (0.86)	0.43 (0.75)	<b>1.69</b> <b>(3.00)</b>
1	-0.89 (1.91)	<b>-2.18</b> <b>(4.49)</b>	-0.74 (1.30)	-0.10 (0.13)	-0.78 (0.94)	0.12 (0.13)
2	<b>-1.34</b> <b>(3.23)</b>	<b>-1.33</b> <b>(2.96)</b>	-0.86 (1.39)	<b>-1.47</b> <b>(2.34)</b>	0.26 (0.42)	<b>1.60</b> <b>(2.28)</b>
3	<b>-1.68</b> <b>(5.34)</b>	<b>-1.13</b> <b>(2.38)</b>	-1.07 (1.78)	-0.34 (0.52)	0.48 (0.48)	<b>2.16</b> <b>(2.04)</b>
4	<b>-1.55</b> <b>(5.23)</b>	<b>-1.22</b> <b>(2.87)</b>	-0.44 (0.99)	0.64 (1.07)	0.82 (1.15)	<b>2.37</b> <b>(2.98)</b>
5	<b>-1.11</b> <b>(4.74)</b>	<b>-1.36</b> <b>(3.42)</b>	-0.26 (0.45)	0.14 (0.19)	<b>2.22</b> <b>(2.93)</b>	<b>3.33</b> <b>(4.07)</b>
5-1	-0.22 (0.44)	0.82 (1.43)	0.48 (0.64)	0.23 (0.27)	<b>3.00</b> <b>(3.52)</b>	<b>3.22</b> <b>(3.19)</b>

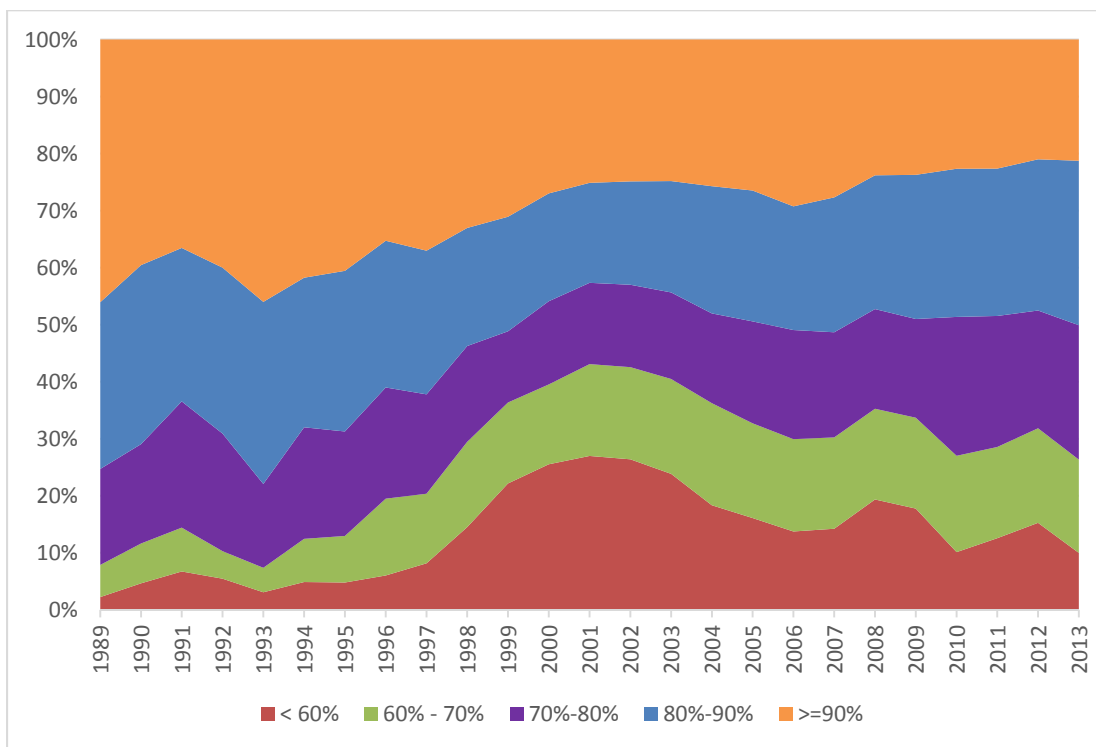


Panel D

Value Weighted Seven-Factor Alpha of Net Returns						
Active Share_Min						
Holding Duration	1	2	3	4	5	5-1
	<b>-1.24</b> <b>(4.50)</b>	<b>-1.20</b> <b>(2.62)</b>	<b>-1.25</b> <b>(2.24)</b>	-0.60 (1.22)	0.19 (0.34)	<b>1.43</b> <b>(2.41)</b>
1	-0.87 (1.42)	<b>-2.25</b> <b>(3.31)</b>	<b>-2.43</b> <b>(3.05)</b>	-1.24 (1.52)	<b>-2.33</b> <b>(2.18)</b>	-1.46 (1.26)
2	-0.89 (1.27)	<b>-2.09</b> <b>(2.82)</b>	-1.10 (1.11)	<b>-3.63</b> <b>(3.62)</b>	-0.26 (0.33)	0.64 (0.61)
3	<b>-1.46</b> <b>(3.38)</b>	-0.38 (0.51)	-1.08 (1.16)	-0.25 (0.28)	-0.25 (0.24)	1.21 (1.12)
4	<b>-1.56</b> <b>(3.29)</b>	-0.97 (1.31)	<b>-1.71</b> <b>(2.24)</b>	-0.13 (0.17)	<b>1.88</b> <b>(2.12)</b>	<b>3.44</b> <b>(3.19)</b>
5	<b>-0.97</b> <b>(2.36)</b>	-0.94 (1.47)	0.01 (0.01)	0.55 (0.61)	<b>2.79</b> <b>(3.18)</b>	<b>3.76</b> <b>(3.76)</b>
5-1	-0.10 (0.14)	1.31 (1.48)	<b>2.44</b> <b>(2.17)</b>	1.79 (1.41)	<b>5.12</b> <b>(3.82)</b>	<b>5.22</b> <b>(3.61)</b>

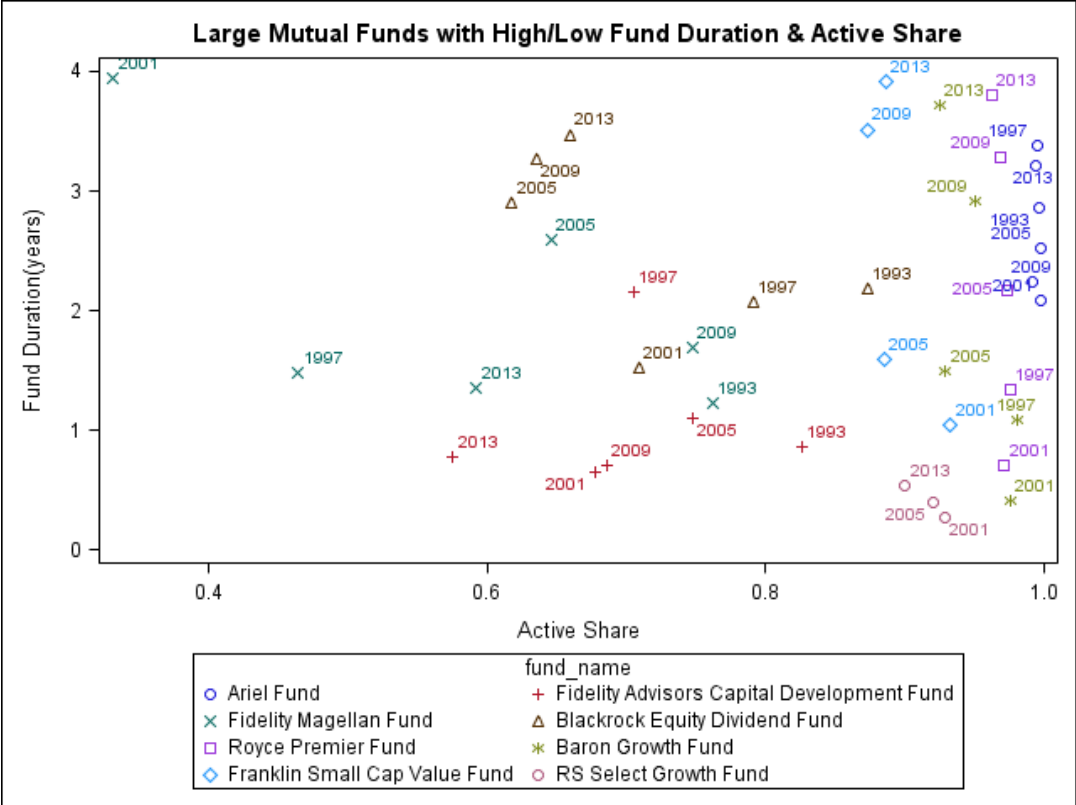


**Fig. A.1. Panel A**  
Percentage of TNA in Actively Managed Mutual Funds by Active Share Range

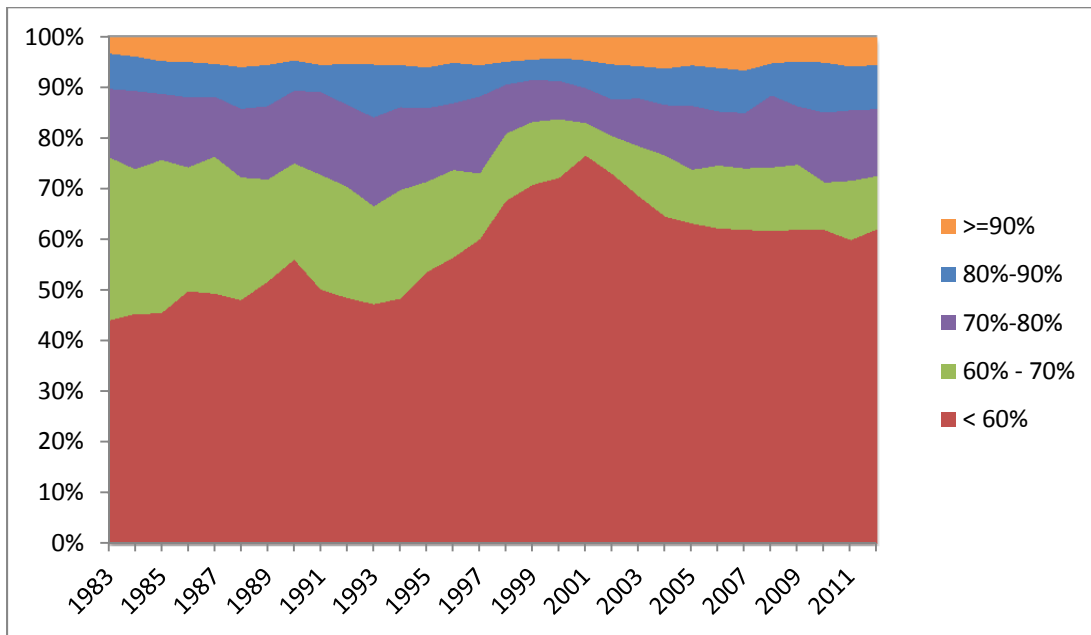


**Fig. A.1. Panel B**  
Percentage of Actively Managed Mutual Funds by Active Share Range

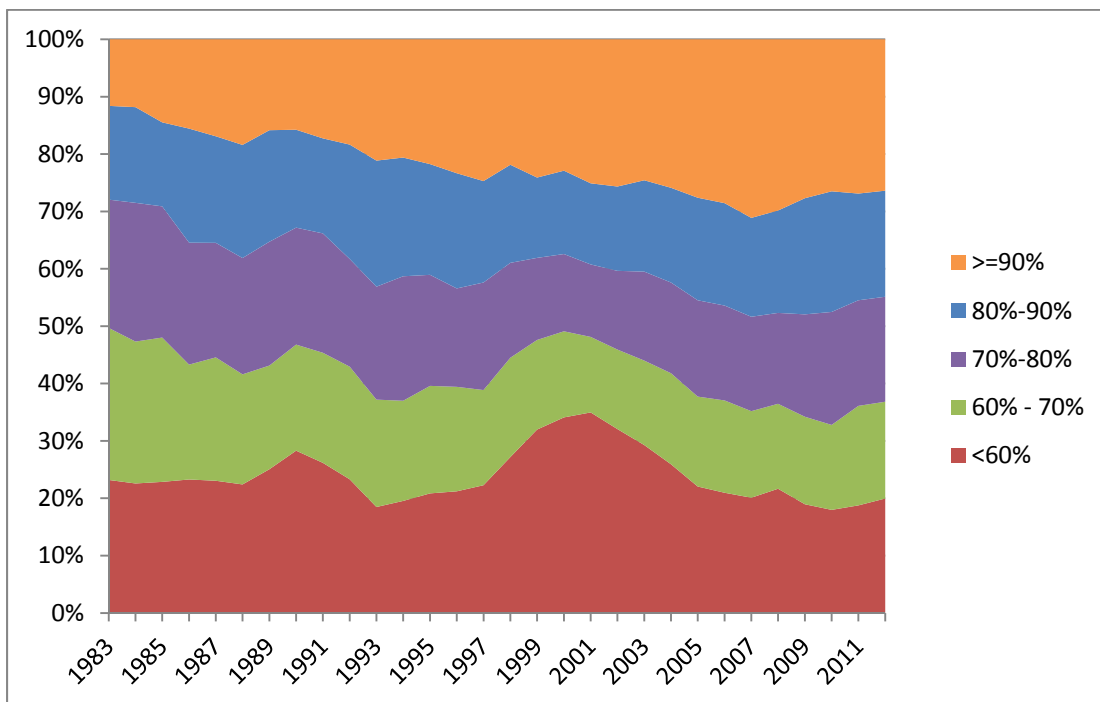




**Fig. A.1. Panel C**  
 Examples of Mutual Funds with High/Low Active Share and Fund Duration

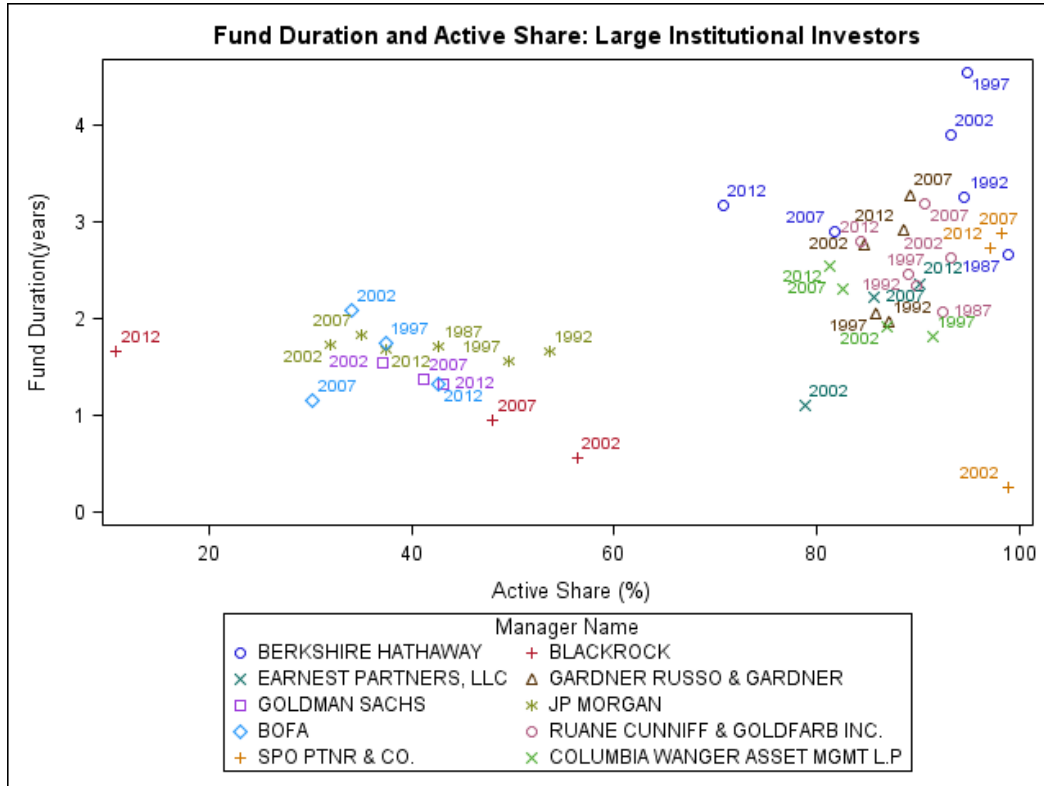


**Fig. A.2. Panel A**  
Percentage of Assets in Institutions by Active Share Range



**Fig. A.2. Panel B**

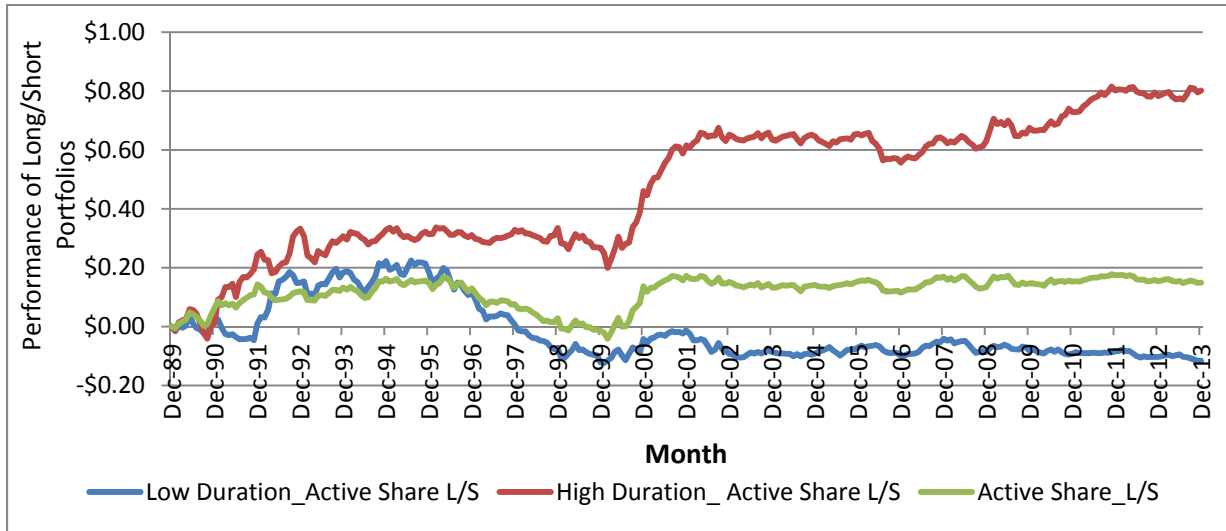
Percentage of Number of Institutions by Active Share Range



**Fig. A.2. Panel C**

Examples of Institutional Portfolios with High/Low Active Share and Fund Duration

Panel A



Panel B

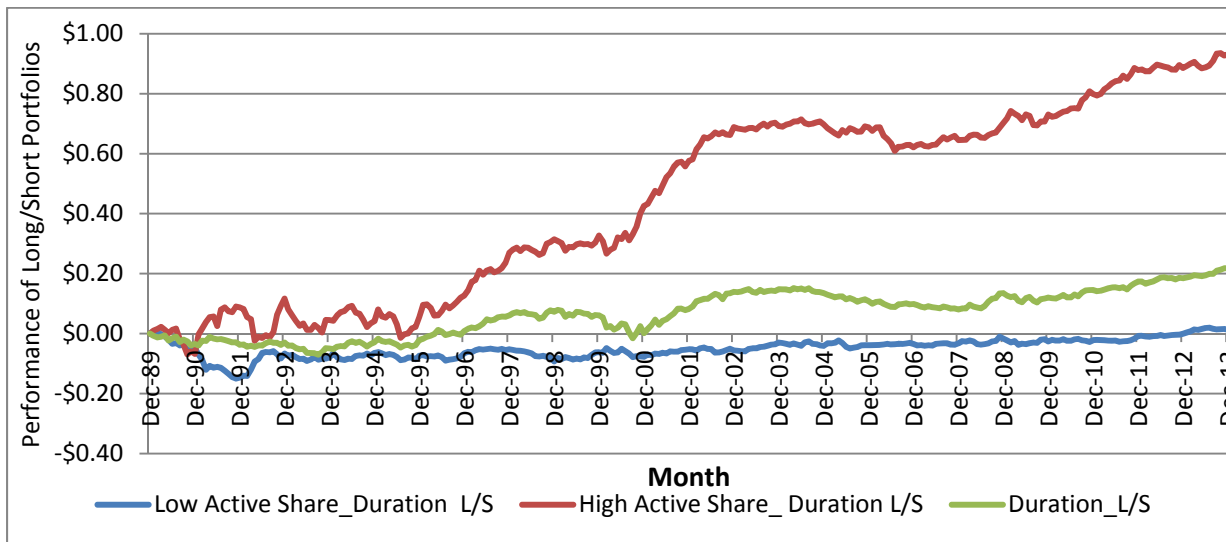
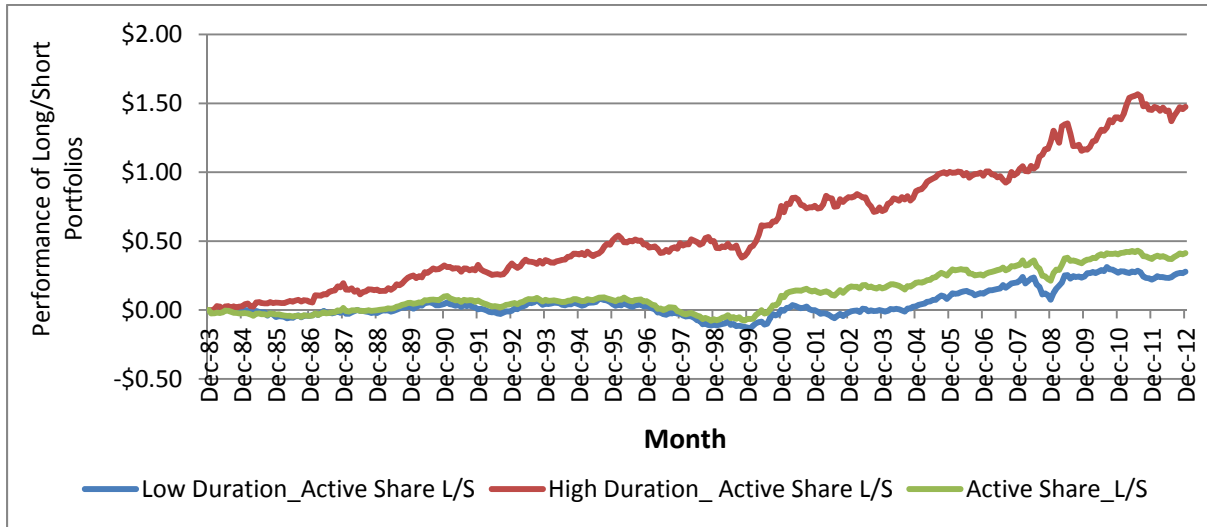


Fig. A.3

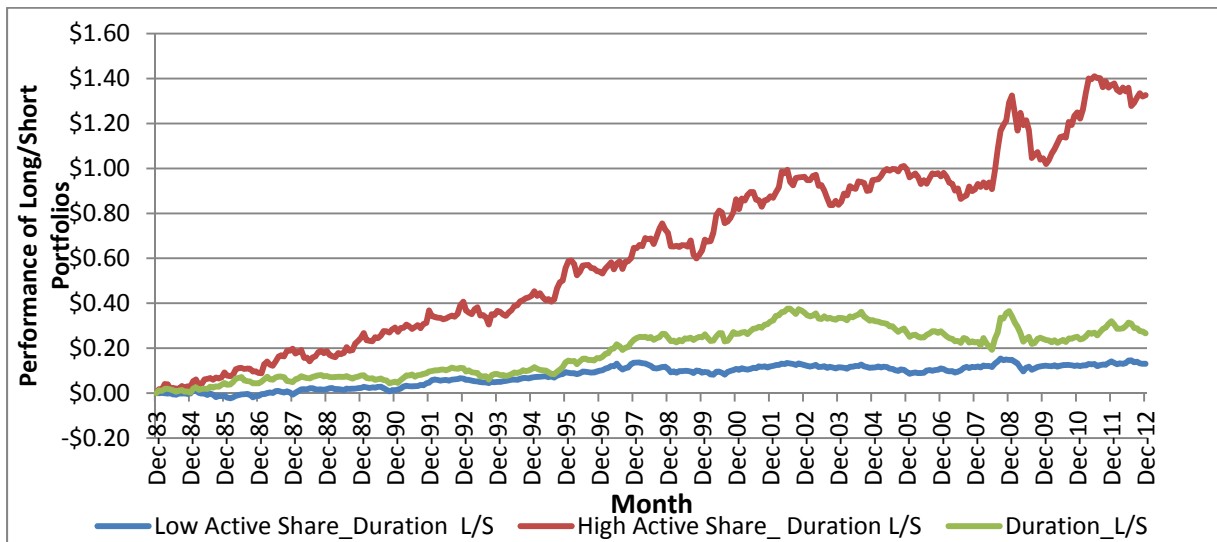
Cumulative Abnormal Net Returns for \$1 Investment in Mutual Fund Portfolios

Panel A of Appendix Fig. A.3 illustrates the difference in performance of mutual funds with high versus low Active Share, unconditionally and conditional on Fund Duration. After calculating monthly five-factor alphas, we use these to compute the abnormal performance of a \$1 investment in different portfolios. The figure plots the difference in the cumulative abnormal performance of investing \$1 in the high Active Share quintile portfolio and -\$1 in the low Active Share quintile portfolio, for the sample of all funds (in green), among funds in the top Fund Duration quintile only (in red) and among funds in the bottom Fund Duration quintile only (in blue). Panel B plots the difference between funds with long and short Fund Duration, unconditionally and conditional on Active Share.

Panel A



Panel B



**Fig. A.4**

Cumulative Abnormal Gross Returns for \$1 Investment in Institutional Holdings

Panel A of Appendix Fig. A.4 illustrates the difference in performance of institutional holdings with high versus low Active Share, unconditionally and conditional on Fund Duration. After calculating monthly five-factor alphas, we use these to compute the abnormal performance of a \$1 investment in different portfolios. The figure plots the difference in the cumulative abnormal performance of investing \$1 in the high Active Share quintile portfolio and -\$1 in the low Active Share quintile portfolio, for the sample of all funds (in green), among funds in the top Fund Duration quintile only (in red) and among funds in the bottom Fund Duration quintile only (in blue). Panel B plots the difference between funds with long and short Fund Duration, unconditionally and conditional on Active Share.