Low P/E Stocks versus Extreme Losers

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- This is a study of the returns to (1) buying high E/P (or low P/E) stocks; (2) buying extreme losers; and (3) buying stocks which are extreme losers with high E/P.

- Extreme losers are defined as those whose cumulated monthly return has fallen the most relative to a 12-month moving average of the cumulated monthly returns. That is, we rank the stocks according to the deviation in percentage return from the 12-month moving average and pick the ones with the largest negative deviations.

- The aim of this study is two-fold: (1) to determine to what extent is the performance of very high E/P stocks a matter of mean reversion from extreme lows; (2) to explore ways to make a lot of money without regard to risk.

- The simulations presented are produced using the Multex Fundamental database from 12/1984 to 9/2003. All dead stocks are included in the simulation to avoid survivorship biases.

- The basic strategy is to rank the stocks monthly according to E/P or deviation of cumulated return from its 12-month moving average and rebalance the portfolio monthly. No transaction costs are included.

- The stock universe is all stocks in the Multex Fundamental database with market capitalization above the lowest 10th percentile at the time the stock first appears in the database.

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- The basic conclusion is that mean reversion from extreme lows is strongest for very low market capitalization stocks. The effect ceases to produce viable returns for stocks with market capitalizations above the 30^{th} or 40^{th} percentile. On the other hand, high E/P stocks continue to produce viable returns even for stocks with the highest market capitalizations, albeit with returns becoming lower as market capitalization increases.

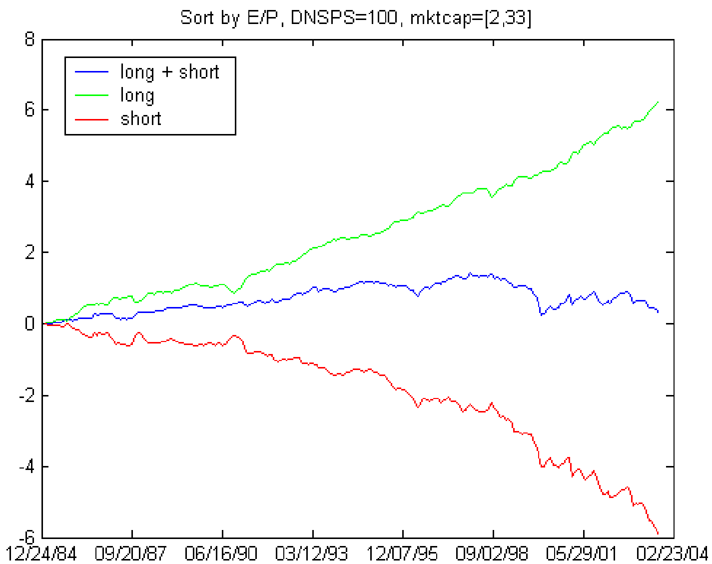
- Thus earnings information is a driver of valuation on its own (it is an source of information "orthogonal" to that contained in prices or returns). The fact that high E/P stocks outperform is not merely a price mean reversion effect alone.

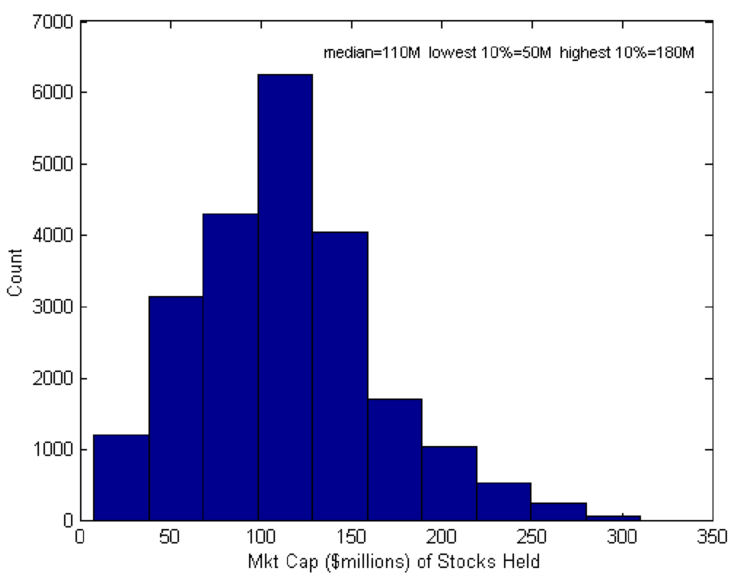
- The highest return strategy is to buy the intersection of very low market capitalizations, extreme losers, and high E/P.

- The table summarizes the results of the simulations presented in the memo:

S/N	Ranking	# Stocks	Mkt Cap Low Prctile	Mkt Cap High Prctile	Annual Return	Sharpe	Std Dev	Avg 5 Worst DD
1	E/P	100	2	33	33%	2	17%	-17%
2	E/P	50	2	33	33%	1.8	18%	-21%
3	E/P	100	33	66	22%	1.2	18%	-27%
4	E/P	50	33	66	21%	1	20%	-31%
5	E/P	100	66	100	17%	0.9	18%	-30%
6	E/P	50	66	100	17%	0.88	19%	-34%
7	Dev Cum Ret	100	2	33	51%	2	26%	-15%
8	Dev Cum Ret	50	2	33	58%	2.1	27%	-11%
9	Dev Cum Ret	100	33	66	12%	0.3	35%	-54%
10	Dev Cum Ret	50	33	66	15%	0.4	40%	-57%
11	Dev Cum Ret	100	66	100	8%	0.3	31%	-57%
12	Dev Cum Ret	50	66	100	7%	0.2	36%	-72%
13	E/P and Dev Cum Ret	varies	2	33	115%	1.7	67%	-40%
14	E/P and Dev Cum Ret	varies	33	66	53%	0.9	60%	-80%
15	E/P and Dev Cum Ret	varies	66	100	39%	0.7	59%	-84%
16	E/P and Dev Cum Ret	varies	10	40	91%	1.6	58%	-61%

Low P/E Stocks versus Extreme Losers

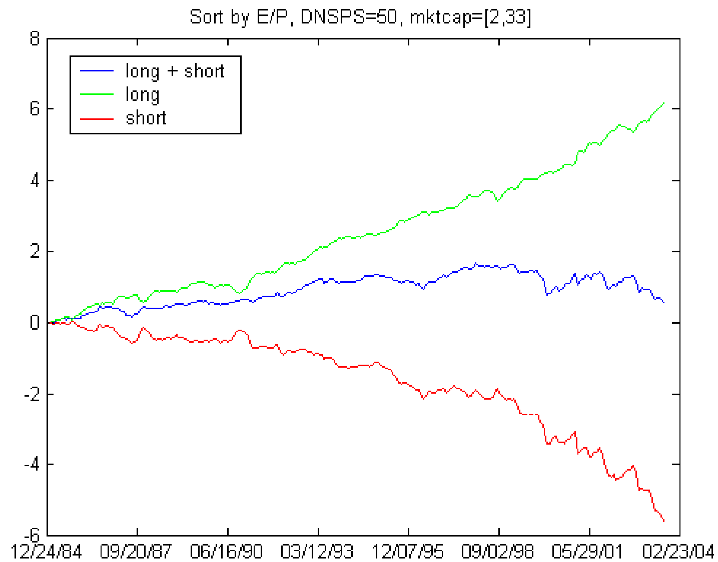


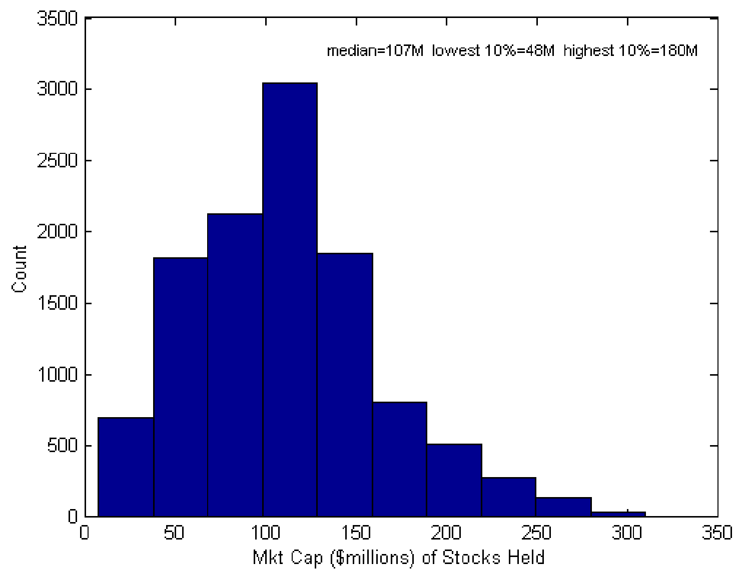


Sort by E/P, DNSPS=100, mktcap=[2,33], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-15.72	-20.74	-17.68	-14.02	-20.99	-2.88	14.69
max	23.17	34.17	56.47	62.49	75.32	125.52	174.85
std	4.8	9.6	13.24	15.82	18	26.4	33.62
r/r	0.58	1.5	3.05	4.65	6.24	11.83	16.83
%pos	0.73	0.83	0.91	0.92	0.96	1	1
%neg	0.27	0.17	0.09	0.08	0.04	0.01	0
avg+	4.84	11.19	18.99	27.19	34.12	64.11	94.33
avg-	-2.84	-5.87	-8.13	-6.74	-10.51	-2.88	
avg	2.78	8.33	16.5	24.5	32.44	63.78	94.33
Annual:							
1986	25.45						
1987	11.25						
1988	25.63						
1989	16.01						
1990	-5.48						
1991	54.1						
1992	43.51						
1993	38.74						
1994	9.18						
1995	45.22						
1996	35.47						
1997	42.35						
1998	16.97						
1999	33.8						
2000	37.72						
2001	74.86						
2002	36.46						
2003	54.21						
CARR	33.35						
R/R	2.01						
skew	0.07						
STD	16.57						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-26.02	19890831	19910131	25	6		
2	-23.87	19980430	19981030	9	4		
3	-19.19	19870831	19880129	8	4		
4	-7.95	20010831	20010928	2	1		
5	-7.01	20020628	20021031	6	3		
Avg DD:	-16.81						

Low P/E Stocks versus Extreme Losers





Sort by E/P, DNSPS=50, mktcap=[2,33], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-15.77	-23.74	-21.23	-20.53	-27.85	-10.21	9.53
max	28.93	42.52	64.67	65.6	82.03	134.73	177.3
std	5.32	10.78	14.61	17.22	19.35	27.81	36.09
r/r	0.52	1.33	2.75	4.24	5.77	11.18	15.6
%pos	0.7	0.8	0.9	0.92	0.95	0.99	1
%neg	0.3	0.2	0.1	0.08	0.05	0.01	0
avg+	5.26	11.87	19.35	27.3	34.66	64.17	93.86
avg-	-3.06	-6.13	-9.88	-9.82	-12.17	-7.44	
avg	2.76	8.28	16.4	24.36	32.23	63.45	93.86
Annual:							
1986	26.68						
1987	8.69						
1988	29.25						
1989	15.61						
1990	-10.9						
1991	51.7						
1992	45.38						
1993	44.85						
1994	8.75						
1995	44.24						
1996	26.45						
1997	38.55						
1998	21.03						
1999	39.59						
2000	35.13						
2001	80.23						
2002	34.8						
2003	52.39						
CARR	33.13						
R/R	1.8						
skew	0.36						
STD	18.4						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-33.31	19890831	19910131	25	6		
2	-27.35	19980430	19981130	11	6		
3	-19.44	19870831	19880129	8	4		
4	-16.94	20020430	20021031	9	3		
5	-8.93	20010731	20010928	3	1		
Avg DD:	-21.2						

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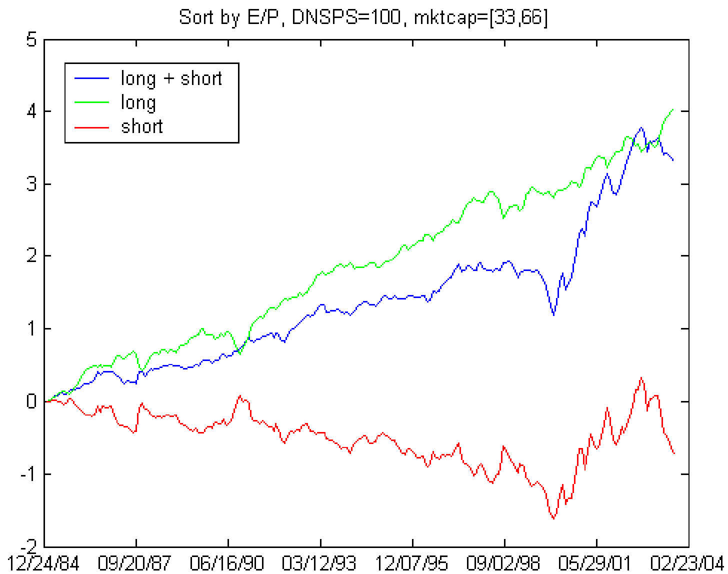

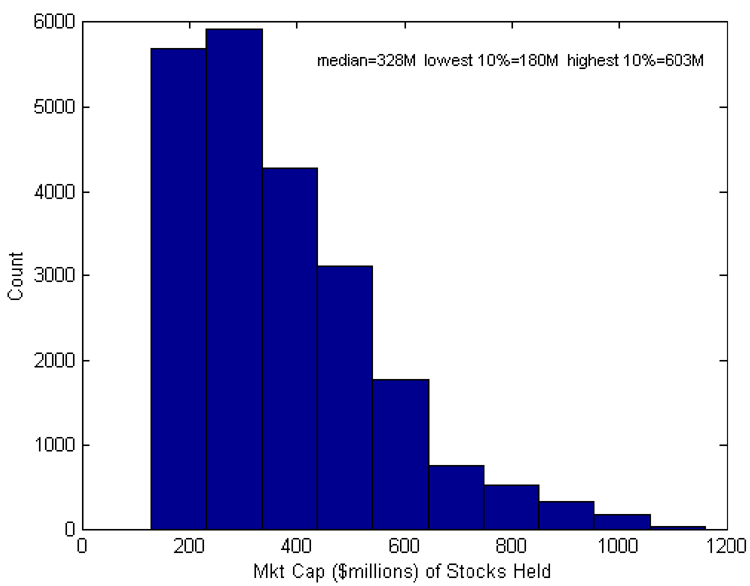

Sort by E/P, DNSPS=100, mktcap=[33,66], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-21.95	-33.68	-33.49	-27.06	-29.19	-4.98	5.01
max	17.62	35.88	49.04	55.19	63.64	84.42	122.49
std	5.26	10.55	13.87	15.67	16.86	19.02	20.76
r/r	0.34	0.89	1.87	2.97	4.19	10.27	17.14
%pos	0.68	0.77	0.82	0.83	0.87	0.98	1
%neg	0.32	0.23	0.18	0.17	0.13	0.02	0
avg+	4.5	9.47	15	20.57	24.72	40.74	59.32
avg-	-3.83	-8.19	-9.66	-9.57	-9.19	-2.08	
avg	1.81	5.4	10.58	15.52	20.4	39.88	59.32
Annual:							
1986	22.32						
1987	-1.13						
1988	24.93						
1989	20.72						
1990	-9.7						
1991	49.05						
1992	30.38						
1993	25.1						
1994	-2.36						
1995	30.73						
1996	26.46						
1997	34.35						
1998	-4.81						
1999	18.83						
2000	13.64						
2001	41.75						
2002	11.64						
2003	48.27						
CARR	21.7						
R/R	1.19						
skew	-0.58						
STD	18.19						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-39.42	19980430	19990528	19	14		
2	-34.27	19890929	19910131	24	6		
3	-26.19	19870831	19880531	14	10		
4	-19.05	20020430	20030331	16	10		
5	-15.14	20010629	20011031	6	3		
Avg DD:	-26.81						

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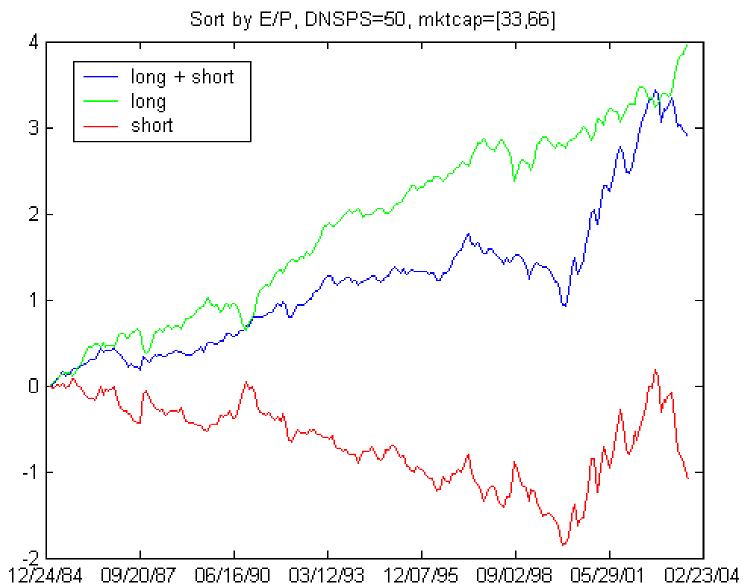

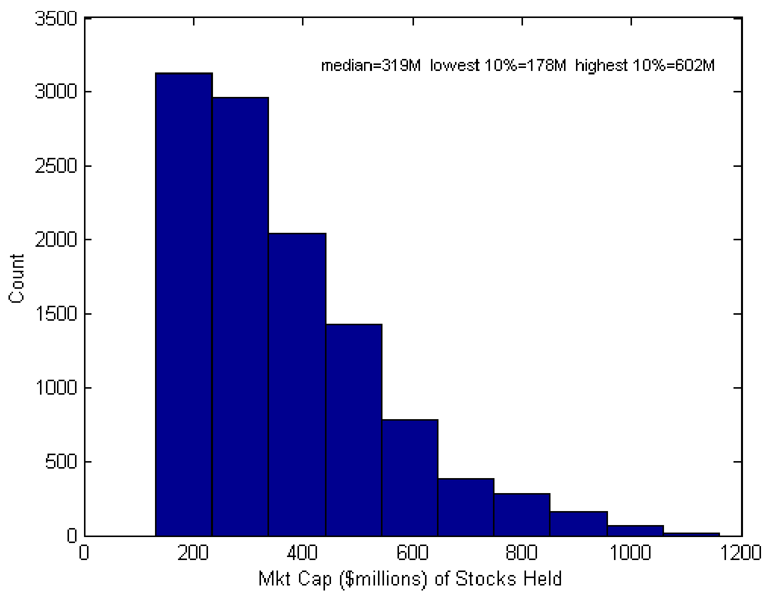

Sort by E/P, DNSPS=50, mktcap=[33,66], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-27.19	-39.55	-43.42	-41.54	-44.35	-9.76	4.62
max	20.38	42.21	55.7	60.63	73.79	95.78	139.81
std	5.92	11.59	15.27	17.17	18.36	21.31	24.78
r/r	0.3	0.79	1.65	2.61	3.69	8.71	13.67
%pos	0.66	0.73	0.79	0.81	0.89	0.96	1
%neg	0.34	0.27	0.21	0.19	0.11	0.05	0
avg+	4.87	10.32	15.73	20.86	23.82	39.86	56.45
avg-	-4.35	-8.66	-10.12	-10.87	-15.61	-4.29	
avg	1.77	5.25	10.28	14.96	19.54	37.88	56.45
Annual:							
1986	18.22						
1987	-3.41						
1988	28.29						
1989	23.97						
1990	-14.45						
1991	57.95						
1992	34.17						
1993	31.37						
1994	-0.73						
1995	29.11						
1996	23.08						
1997	21.06						
1998	-16.57						
1999	22.44						
2000	9.12						
2001	37.47						
2002	12.25						
2003	57.77						
CARR	21.27						
R/R	1.04						
skew	-0.48						
STD	20.46						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-50.01	19970930	19990528	29	14		
2	-37.68	19890929	19910228	25	7		
3	-28.05	19870831	19880331	11	7		
4	-23.98	20020430	20030331	16	10		
5	-15.83	20010531	20011130	9	4		
Avg DD:	-31.11						

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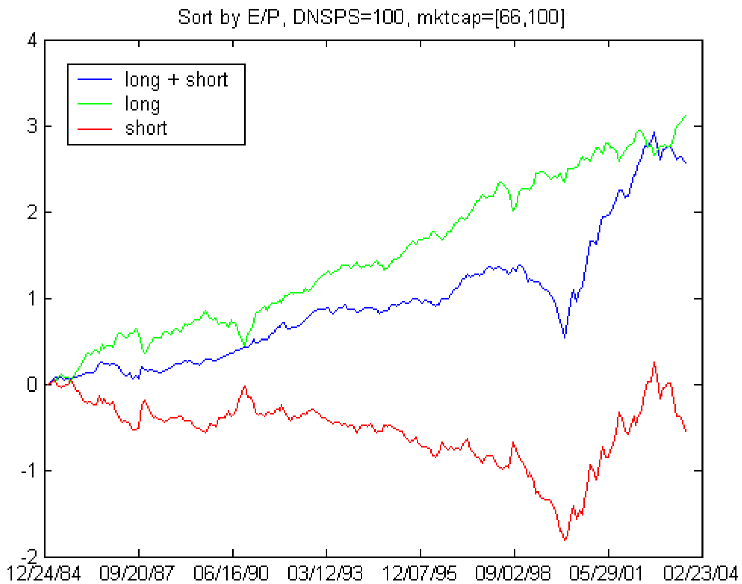

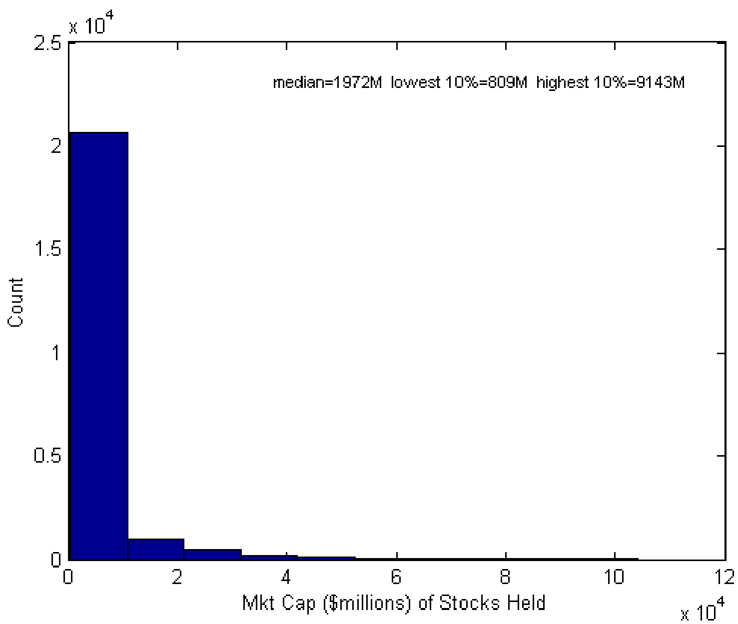

Sort by E/P, DNSPS=100, mktcap=[66,100], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-18.36	-27.83	-27.54	-26.3	-33.29	-18.38	-8.95
max	16.45	27.41	41.37	46.78	51.77	67.81	92.74
std	5.14	9.3	12.1	13.68	14.51	15.89	17.39
r/r	0.27	0.78	1.65	2.64	3.77	9.58	16.2
%pos	0.65	0.73	0.79	0.81	0.84	0.99	0.99
%neg	0.35	0.27	0.21	0.19	0.16	0.02	0.01
avg+	4.25	8.36	12.74	17.08	20.2	31.72	47.53
avg-	-3.81	-7.09	-9.45	-9.45	-7.21	-10.82	-6.51
avg	1.39	4.16	8.16	12.02	15.81	31.08	46.96
Annual:							
1986	23.95						
1987	-2.97						
1988	20.59						
1989	14.94						
1990	-13.46						
1991	39.59						
1992	19.53						
1993	15.15						
1994	-2.46						
1995	32.36						
1996	19.52						
1997	32.21						
1998	8.42						
1999	17.87						
2000	20.05						
2001	11.88						
2002	-0.55						
2003	35.17						
CARR	16.69						
R/R	0.94						
skew	-0.35						
STD	17.76						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-40.58	19890831	19910328	28	9		
2	-33.3	19980331	19990331	18	12		
3	-27.83	19870831	19880930	19	16		
4	-27.19	20020430	20030430	18	12		
5	-20.82	20010531	20020131	12	7		
Avg DD:	-29.94						

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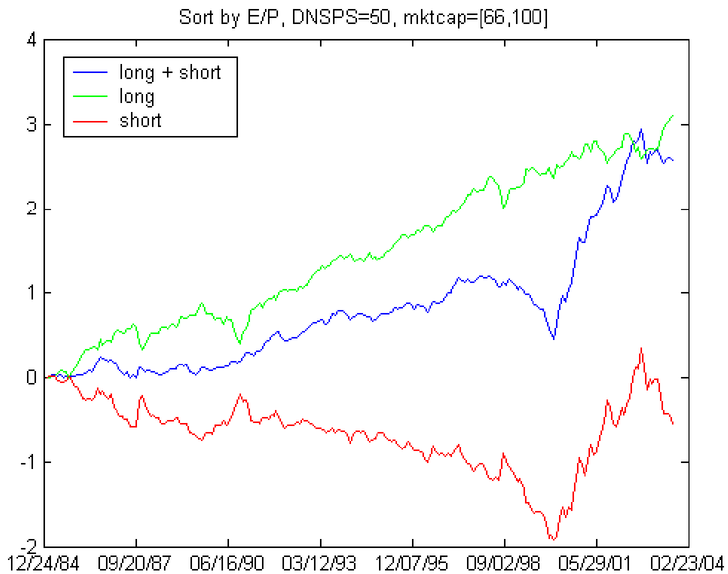

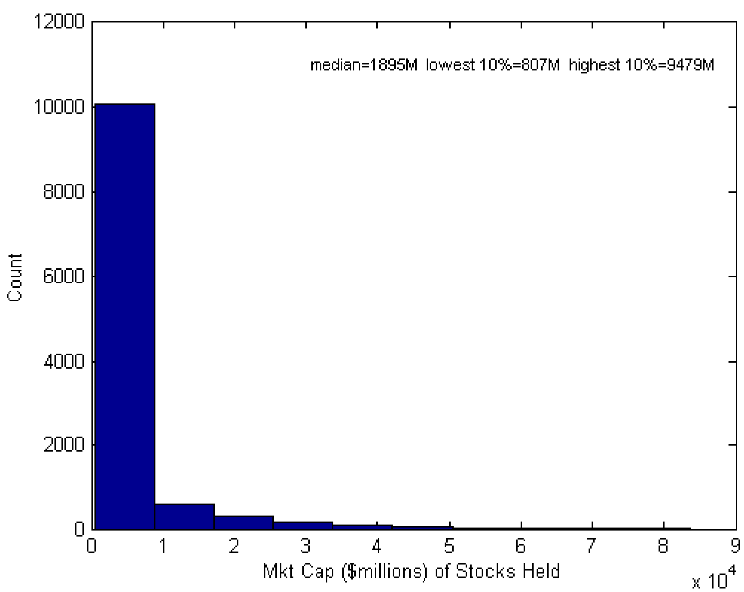

Sort by E/P, DNSPS=50, mktcap=[66,100], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-18.18	-29.98	-31.38	-30.29	-39.44	-22.14	-12.96
max	14.76	30.32	43.97	49.88	56.34	69.36	102.89
std	5.46	9.99	13.35	15.05	15.89	17.18	18.82
r/r	0.26	0.72	1.5	2.4	3.44	8.79	14.9
%pos	0.64	0.73	0.77	0.78	0.83	0.96	0.98
%neg	0.36	0.27	0.23	0.22	0.17	0.05	0.02
avg+	4.5	8.68	13.75	18.29	20.85	32.63	47.63
avg-	-4.04	-7.89	-10.49	-10.36	-8.31	-7.21	-7.13
avg	1.4	4.18	8.19	12.02	15.76	30.84	46.75
Annual:							
1986	24.86						
1987	-3.27						
1988	22.32						
1989	14.78						
1990	-18.21						
1991	42.92						
1992	20.3						
1993	21.08						
1994	-2.4						
1995	28.23						
1996	21.67						
1997	33.28						
1998	1.64						
1999	23.68						
2000	15.97						
2001	6.18						
2002	1.19						
2003	40.9						
CARR	16.7						
R/R	0.88						
skew	-0.37						
STD	18.88						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-46.85	19890831	19910430	29	10		
2	-36.75	19980331	19990331	18	12		
3	-30.04	20020430	20030430	18	12		
4	-28.89	19870831	19881230	24	20		
5	-26.34	20010430	20020228	15	9		
Avg DD:	-33.77						

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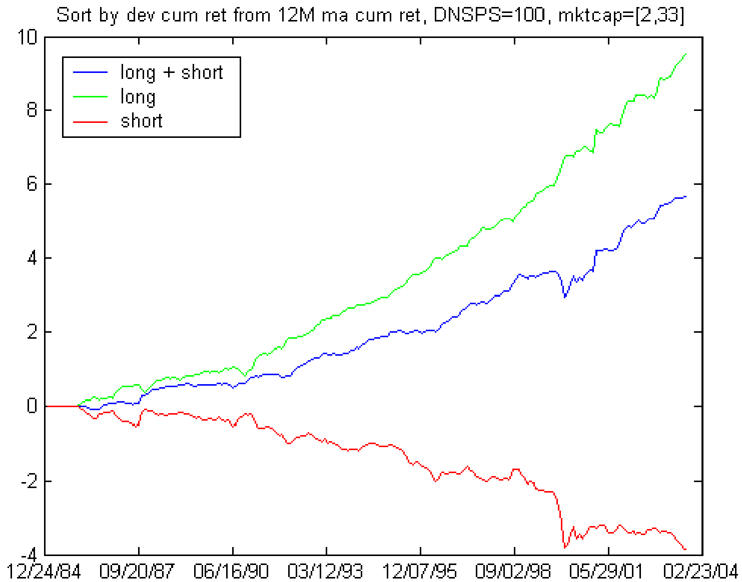

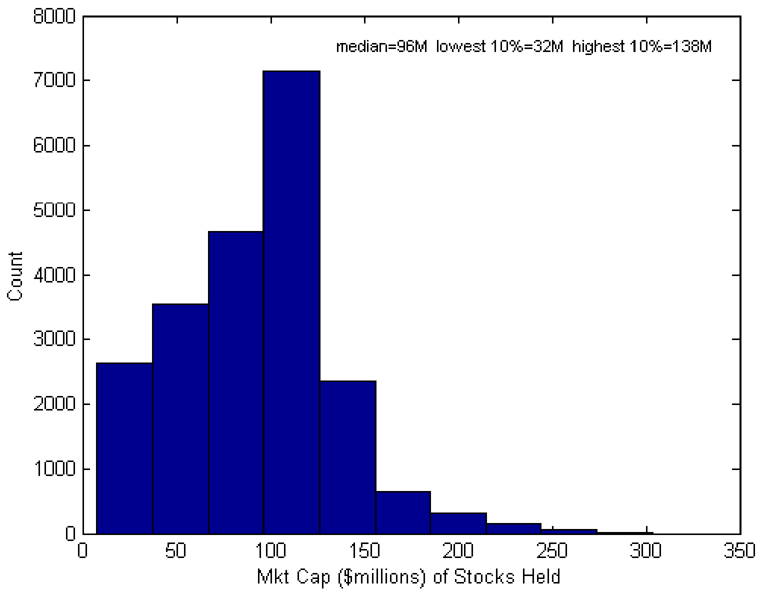

Sort by dev cum ret1, DNSPS=100, mktcap=[2,33], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-12.68	-20.78	-14.14	-7.5	-8.49	9.72	30.24
max	60.51	67.67	84.42	97.29	139.72	200.1	286.99
std	7.39	13.88	19.36	23.39	28.03	48.53	67.36
r/r	0.58	1.61	3.26	4.94	6.35	10.4	13.67
%pos	0.74	0.86	0.92	0.97	0.99	1	1
%neg	0.22	0.11	0.06	0.03	0.01	0	0
avg+	6.72	15.83	28.34	39.92	51.91	102.98	153.47
avg-	-3.1	-6.61	-6.2	-4.39	-7.5		
avg	4.29	12.89	25.76	38.5	51.35	102.98	153.47
Annual:							
1986	15.77						
1987	25.58						
1988	28.53						
1989	18.97						
1990	5.66						
1991	65.3						
1992	56.51						
1993	46.06						
1994	28.26						
1995	63.97						
1996	63.48						
1997	56.15						
1998	59.99						
1999	98.61						
2000	48.66						
2001	139.72						
2002	56.2						
2003	75.27						
CARR	51.26						
R/R	2.01						
skew	2.58						
STD	25.57						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-22.69	19900629	19901231	9	4		
2	-20.24	19870831	19880129	8	4		
3	-15.84	20000929	20001229	5	1		
4	-8.89	20020430	20020930	8	1		
5	-8.29	19980731	19980831	2	1		
Avg DD:	-15.19						

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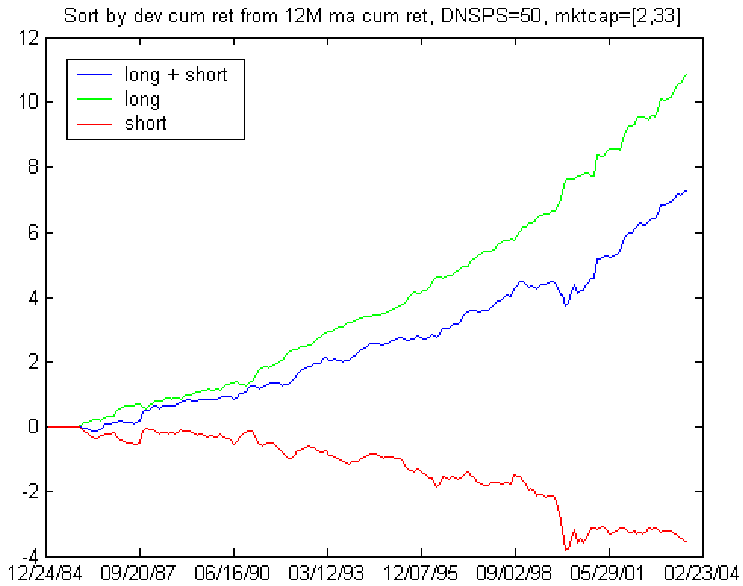
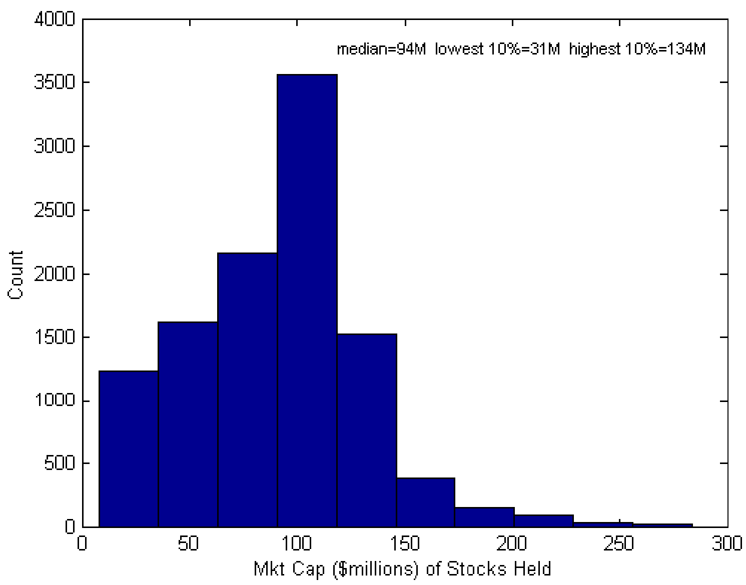
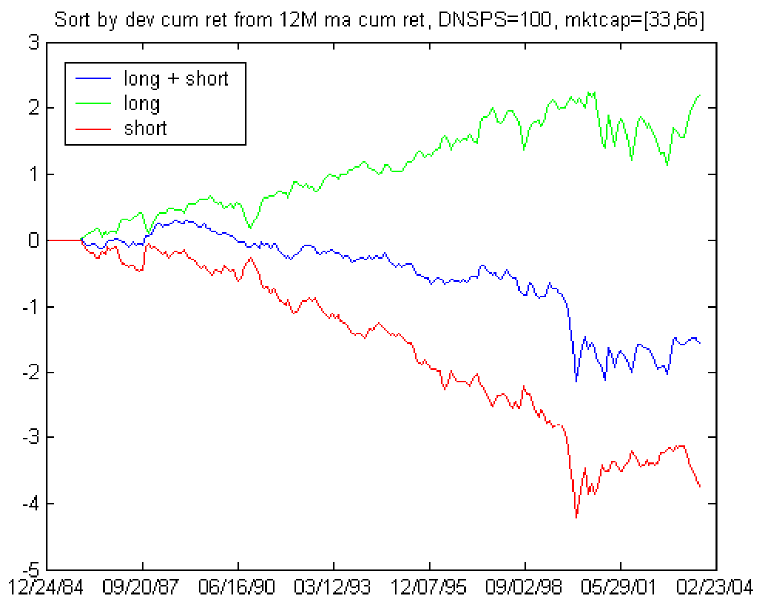


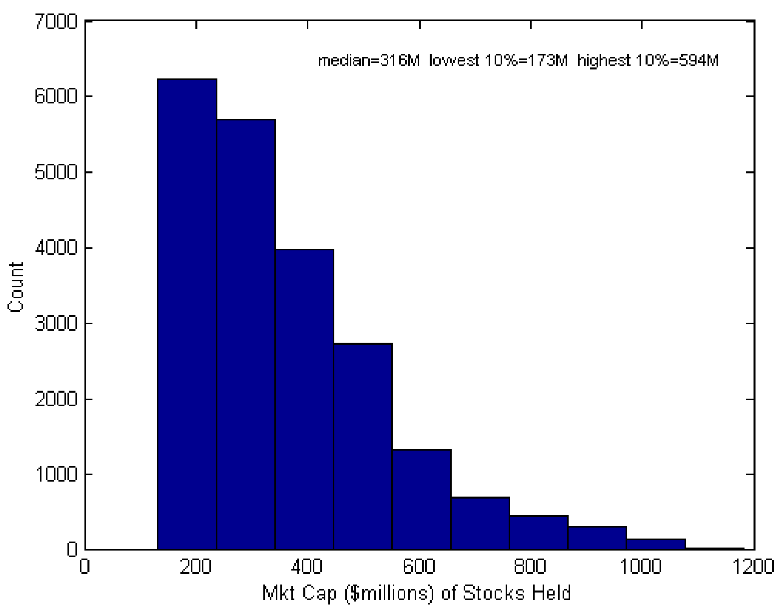


Sort by dev cum ret1, DNSPS=50, mktcap=[2,33], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-9.02	-16.32	-8.51	-2.19	12.43	36.44	56.88
max	65.56	76.94	101.69	113.62	155.22	239	332.82
std	7.86	14.82	20.86	24.97	29.87	52.12	71.57
r/r	0.62	1.71	3.44	5.26	6.78	10.96	14.49
%pos	0.77	0.9	0.95	0.99	1	1	1
%neg	0.19	0.07	0.03	0	0	0	0
avg+	7	16.69	30.79	44.23	58.48	116.65	172.89
avg-	-2.79	-5.5	-3.62	-2.19			
avg	4.88	14.65	29.28	43.81	58.48	116.65	172.89
Annual:							
1986	28.52						
1987	32.09						
1988	25.11						
1989	26.24						
1990	24.63						
1991	77.87						
1992	56.09						
1993	53.15						
1994	26.09						
1995	65.97						
1996	62.69						
1997	61.82						
1998	72.93						
1999	82.95						
2000	73.49						
2001	155.22						
2002	77.36						
2003	81.73						
CARR	58.26						
R/R	2.14						
skew	2.97						
STD	27.19						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-16.32	19870831	19880129	8	4		
2	-13.91	19900731	19901130	6	3		
3	-10.69	20000929	20001229	5	3		
4	-6.95	20020531	20020731	3	2		
5	-6.17	20020830	20020930	2	1		
Avg DD:	-10.81						

Low P/E Stocks versus Extreme Losers

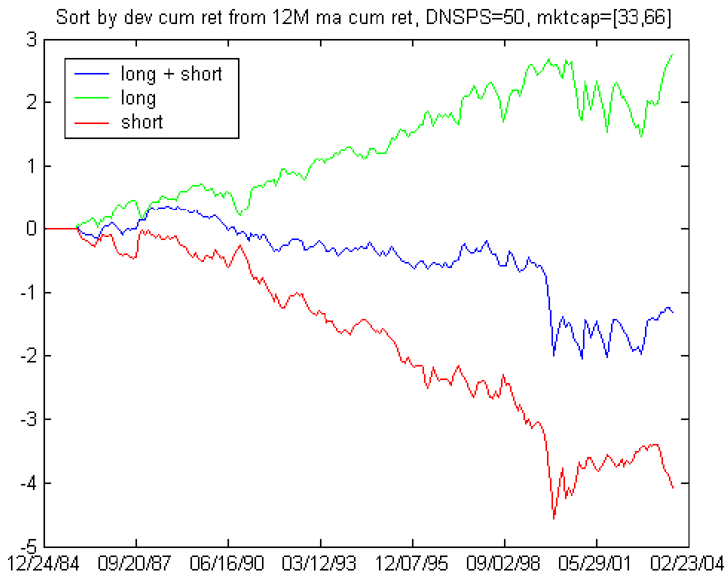


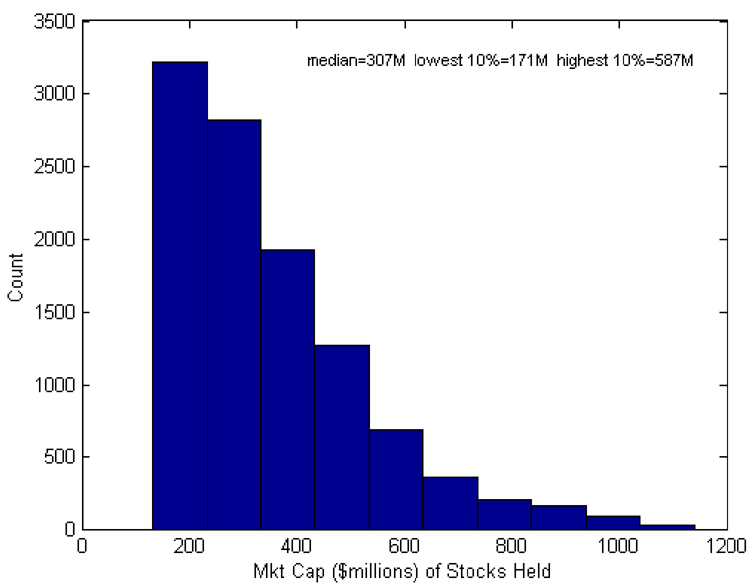


Sort by dev cum ret1, DNSPS=100, mktcap=[33,66], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-32.07	-75.19	-82.7	-79.75	-81.64	-90.89	-85.6
max	49.58	65.55	64.16	88.91	106	99.17	94.57
std	10.16	18.28	21.85	23.85	26.83	30.82	34.84
r/r	0.1	0.28	0.63	1	1.32	3.1	5.03
%pos	0.53	0.6	0.67	0.7	0.74	0.84	0.82
%neg	0.43	0.37	0.32	0.3	0.26	0.17	0.18
avg+	7.54	13.54	16.79	19.35	22.16	30.51	42.01
avg-	-7.12	-14.18	-17.55	-18.78	-23.9	-36.06	-30.89
avg	0.99	2.95	5.61	7.91	10.21	19.52	29.21
Annual:							
1986	7.37						
1987	9.39						
1988	27.67						
1989	9.85						
1990	-24.43						
1991	39.48						
1992	21.49						
1993	21.17						
1994	-11.09						
1995	23.34						
1996	23.53						
1997	24.28						
1998	1.95						
1999	37.88						
2000	-76.21						
2001	47.02						
2002	-22.81						
2003	56.43						
CARR	11.83						
R/R	0.34						
skew	0.42						
STD	35.13						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-108.84	20000831	20020830	35	0		
2	-62.15	19970930	19990430	28	13		
3	-49.84	19890831	19910430	29	10		
4	-29.33	19870831	19880229	9	6		
5	-20.96	19960531	19961231	11	9		
Avg DD:	-54.22						

Low P/E Stocks versus Extreme Losers

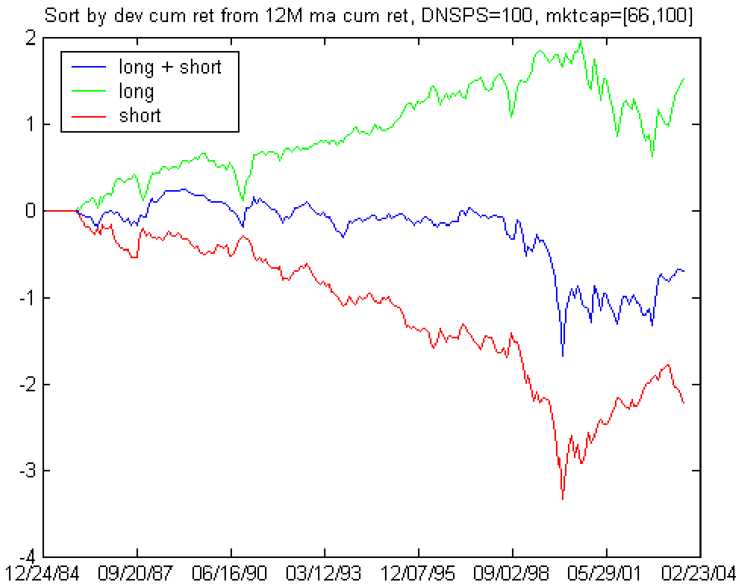


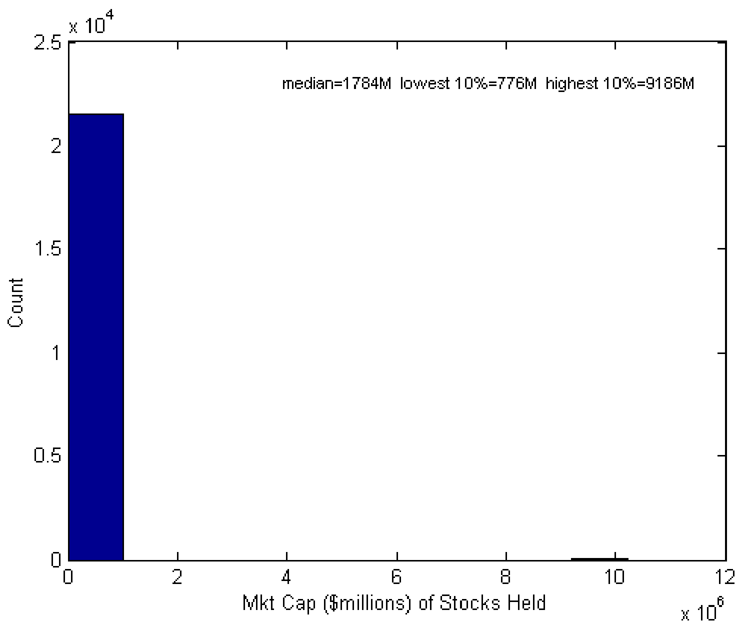


Sort by dev cum ret1, DNSPS=50, mktcap=[33,66], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-35.92	-81.76	-94.04	-86.28	-94.52	-99.04	-99.73
max	61.3	77.43	79.66	111.06	129.48	122.46	106.2
std	11.54	20.74	25.13	27.89	31.42	36.3	41.37
r/r	0.11	0.31	0.69	1.07	1.4	3.28	5.29
%pos	0.52	0.59	0.69	0.7	0.74	0.83	0.86
%neg	0.44	0.38	0.29	0.3	0.26	0.17	0.14
avg+	8.79	15.99	19.11	22.99	26.6	37.57	49.62
avg-	-7.58	-15.39	-21.28	-20.44	-26	-40.6	-41.81
avg	1.24	3.7	7.09	9.96	12.71	24.28	36.49
Annual:							
1986	11.03						
1987	6.22						
1988	30.4						
1989	12.17						
1990	-32.41						
1991	45.16						
1992	27.44						
1993	24.86						
1994	-9.8						
1995	31.91						
1996	25.36						
1997	26.22						
1998	16.06						
1999	46.9						
2000	-94.52						
2001	58.95						
2002	-34.49						
2003	79.53						
CARR	14.83						
R/R	0.37						
skew	0.73						
STD	39.88						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-120.02	19991231	20030731	63	16		
2	-61.23	19980331	19990331	18	12		
3	-52.28	19890831	19910628	32	13		
4	-31.86	19870831	19880531	14	10		
5	-22.97	19960531	19970430	16	15		
Avg DD:	-57.67						

Low P/E Stocks versus Extreme Losers

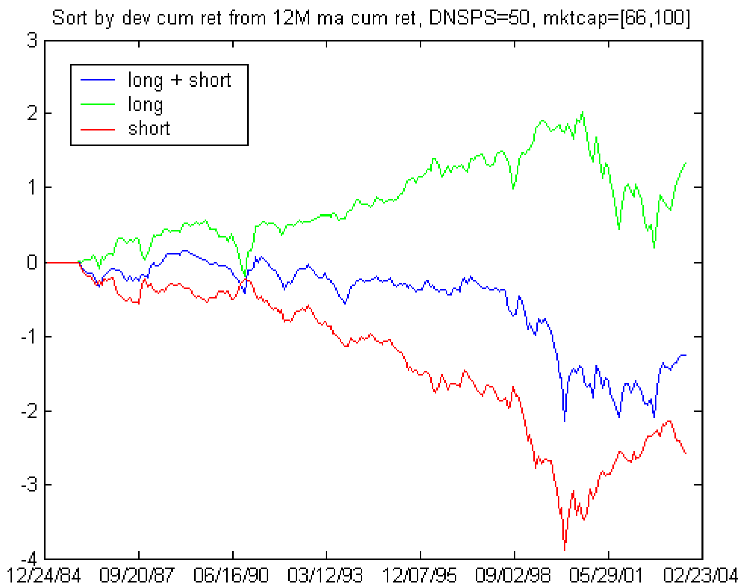


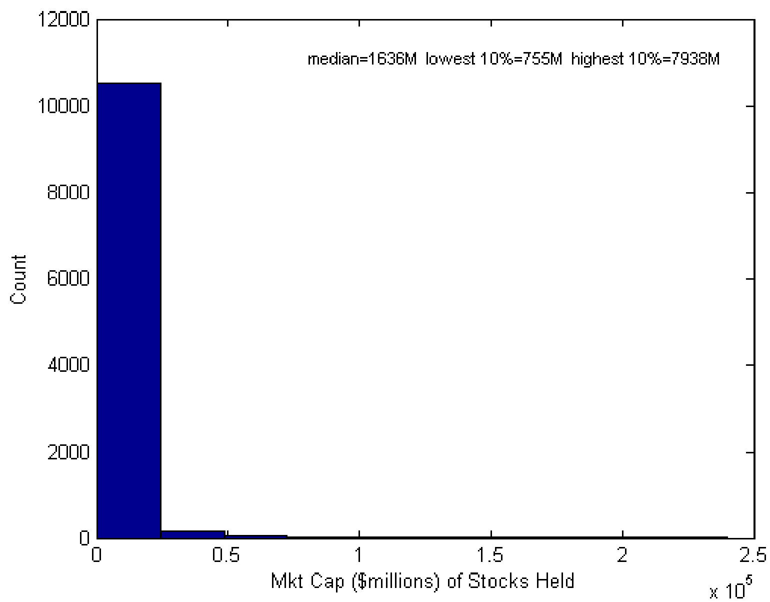


Sort by dev cum ret1, DNSPS=100, mktcap=[66,100], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-27.25	-52.74	-66.59	-70.21	-99.28	-122.48	-108.47
max	35.21	48.53	56.25	75.14	91.57	86.62	72.87
std	8.91	15.38	19.23	21.65	24.9	33.88	36.52
r/r	0.08	0.23	0.49	0.73	0.95	1.85	3.36
%pos	0.55	0.62	0.66	0.71	0.75	0.8	0.81
%neg	0.41	0.34	0.32	0.28	0.25	0.21	0.19
avg+	6.17	10.13	13.45	15.21	17.7	27.02	35.42
avg-	-6.66	-12.5	-15.82	-19.57	-25.07	-42.44	-42.61
avg	0.69	2.03	3.81	5.27	6.8	12.78	20.48
Annual:							
1986	13.34						
1987	4.19						
1988	29.9						
1989	7.36						
1990	-20.72						
1991	27.37						
1992	12.6						
1993	12.51						
1994	3.13						
1995	30.28						
1996	10.23						
1997	4.24						
1998	10.38						
1999	32.07						
2000	-39.88						
2001	-12.3						
2002	-17.35						
2003	43.04						
CARR	8.22						
R/R	0.27						
skew	0.1						
STD	30.79						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-132.97	20000831	20020830	35	0		
2	-54.65	19890831	19910430	29	10		
3	-48.11	19980430	19990226	15	10		
4	-29.19	19870831	19880129	8	4		
5	-20.48	19960531	19970430	16	15		
Avg DD:	-57.08						

Low P/E Stocks versus Extreme Losers

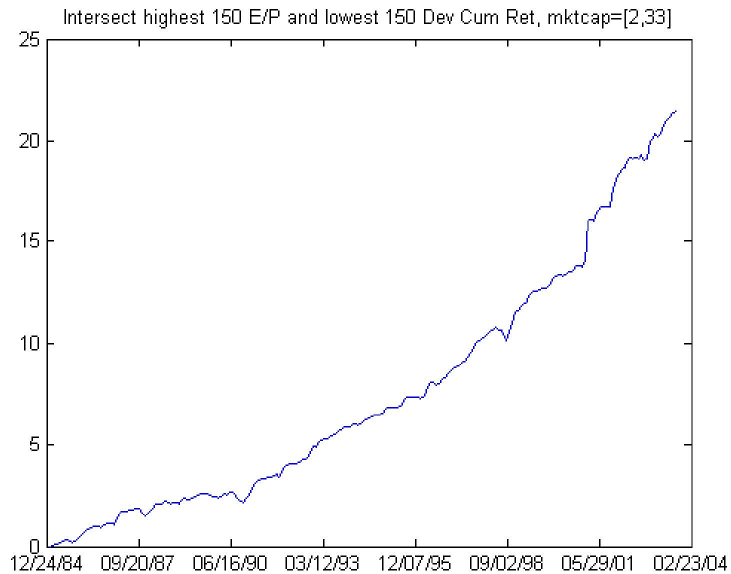


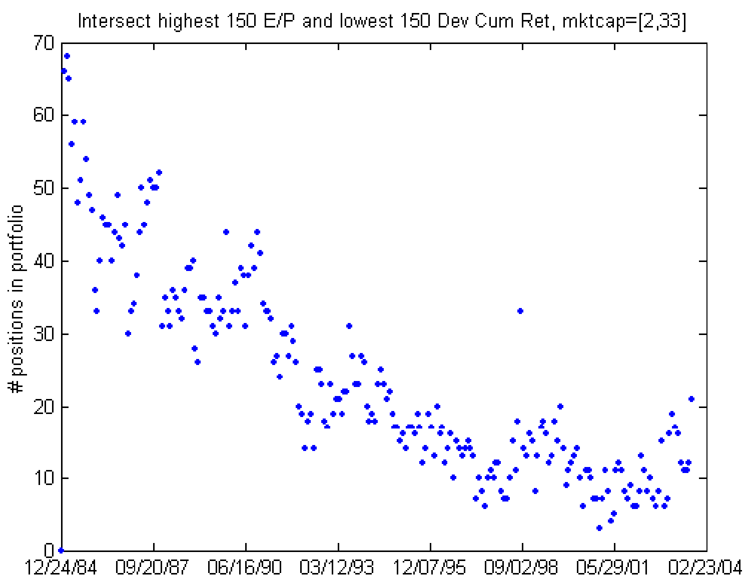


Sort by dev cum ret1, DNSPS=50, mktcap=[66,100], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-29.59	-64.19	-84.31	-91.59	-142.69	-167.67	-154.09
max	36.46	62.63	70.8	95.13	114.2	103.78	86.11
std	10.52	18.8	24.6	28.39	32.66	45.84	48.71
r/r	0.06	0.16	0.32	0.46	0.58	1.06	2.05
%pos	0.53	0.57	0.64	0.68	0.72	0.75	0.77
%neg	0.43	0.39	0.34	0.31	0.28	0.25	0.23
avg+	7.38	12.61	16.16	17.93	20.18	31.13	38.88
avg-	-7.66	-13.91	-20.54	-25.46	-32.71	-53.72	-55.99
avg	0.61	1.77	3.24	4.32	5.46	9.92	16.68
Annual:							
1986	8.42						
1987	1.9						
1988	32.23						
1989	0.36						
1990	-29.33						
1991	26.76						
1992	17.63						
1993	14.18						
1994	7.72						
1995	32.95						
1996	12.32						
1997	1.79						
1998	16.49						
1999	37.9						
2000	-48.09						
2001	-31.3						
2002	-20.91						
2003	51.57						
CARR	7.25						
R/R	0.2						
skew	0.18						
STD	36.36						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-180.71	20000831	20020830	35	0		
2	-74.23	19890831	19920430	47	28		
3	-51.43	19980430	19981231	12	7		
4	-29.25	19870831	19880129	8	4		
5	-24.55	19960531	19970630	19	17		
Avg DD:	-72.03						

Intersection of Low P/E and Extreme Mean Reversion

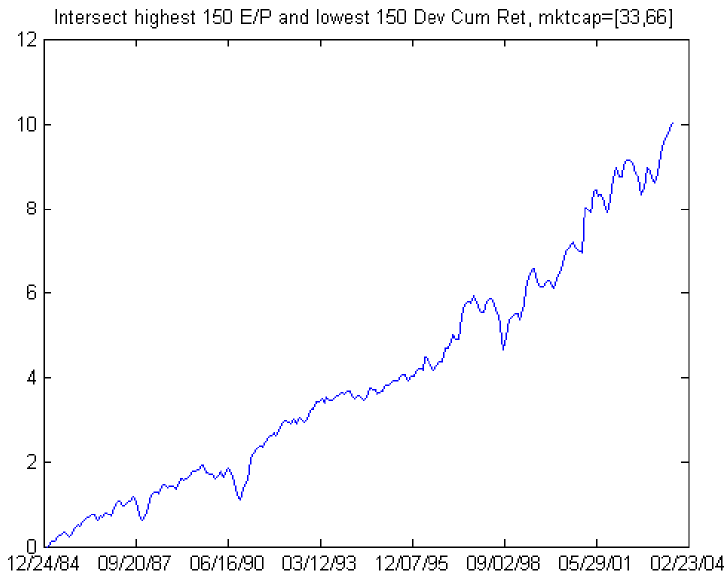


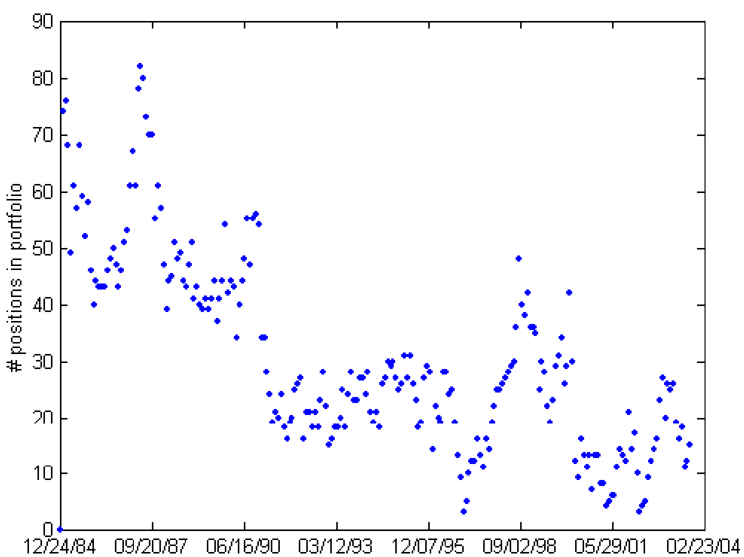


Intersect highest 150 E/P and lowest 150 Dev Cum Ret
mktcap=[2,33], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-38.25	-53.07	-40.84	-21.23	-33.46	0.28	37.91
max	200.37	231.85	289.74	308.68	444.43	630.86	783.89
std	19.44	36.72	53.61	67	81.49	140.65	188.36
r/r	0.49	1.36	2.65	3.88	4.9	7.96	10.61
%pos	0.76	0.89	0.93	0.95	0.98	1	1
%neg	0.24	0.11	0.07	0.05	0.02	0	0
avg+	14.69	34.51	63.73	91.89	118.44	228.6	333.02
avg-	-6.74	-14.92	-15.61	-8.84	-19.55		
avg	9.6	28.92	57.91	86.73	115.18	228.6	333.02
Annual:							
1986	53.16						
1987	57.28						
1988	58.39						
1989	20.91						
1990	6.98						
1991	112.96						
1992	124.26						
1993	99.7						
1994	68.71						
1995	74.86						
1996	133.62						
1997	161.37						
1998	133.71						
1999	140.44						
2000	96.23						
2001	444.43						
2002	172.33						
2003	132.83						
CARR	115.02						
R/R	1.71						
skew	4.89						
STD	67.2						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-61.48	19980430	19980930	8	3		
2	-48.21	19900531	19901231	11	4		
3	-33.27	19870831	19880129	8	4		
4	-30.82	20020830	20021031	3	3		
5	-26.96	19890831	19900430	12	6		
Avg DD:	-40.15						

Intersection of Low P/E and Extreme Mean Reversion

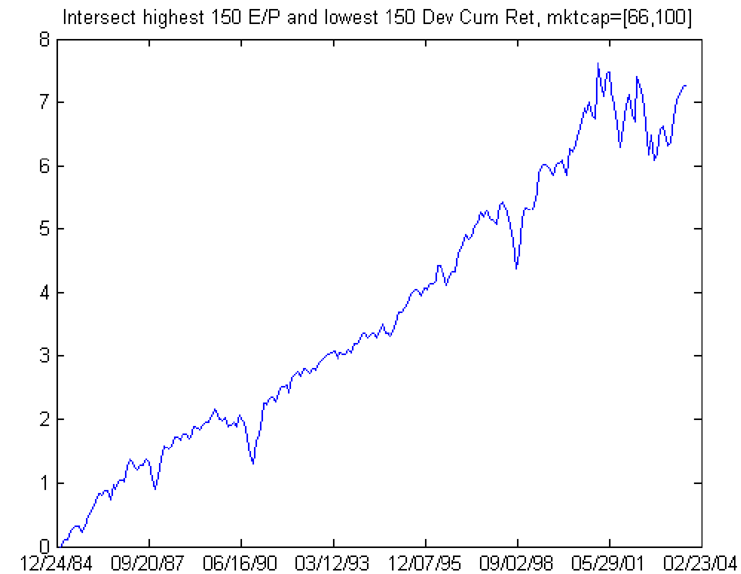


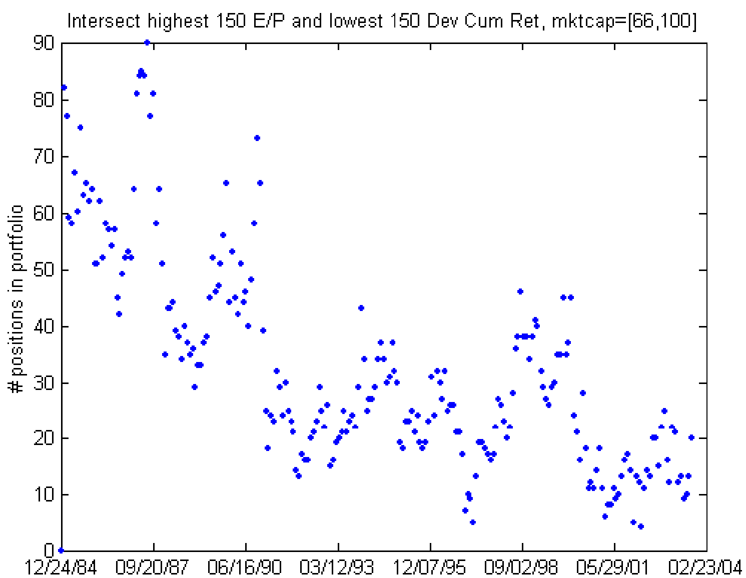


Intersect highest 150 E/P and lowest 150 Dev Cum Ret
mktcap=[33,66], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-53.8	-92.6	-110.87	-101.4	-106.3	-30.16	17.42
max	112.07	109.74	149.45	166.2	204.65	274.75	350.32
std	17.26	32.05	41.31	47.07	51.25	63.1	72.95
r/r	0.26	0.72	1.56	2.45	3.43	7.95	12.59
%pos	0.61	0.7	0.77	0.83	0.88	0.99	1
%neg	0.39	0.3	0.23	0.17	0.12	0.02	0
avg+	13.72	27.79	40.73	52.27	61.69	104.18	153.04
avg-	-10.23	-20.4	-22.2	-28.04	-27.46	-15.9	
avg	4.49	13.4	26.29	38.45	50.76	102.38	153.04
Annual:							
1986	23.11						
1987	0.31						
1988	71.15						
1989	27.36						
1990	-20.49						
1991	120.45						
1992	54.32						
1993	40.33						
1994	-1.43						
1995	39.14						
1996	64.83						
1997	85.66						
1998	-6.03						
1999	78.43						
2000	64.97						
2001	204.65						
2002	-4.87						
2003	113.77						
CARR	53.83						
R/R	0.9						
skew	1.17						
STD	59.65						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-123.52	19970930	19990331	27	12		
2	-82.66	20020531	20030331	15	10		
3	-79.17	19890831	19910131	25	6		
4	-58.09	20010531	20011031	8	3		
5	-54.99	19870831	19880129	8	4		
Avg DD:	-79.68						

Intersection of Low P/E and Extreme Mean Reversion

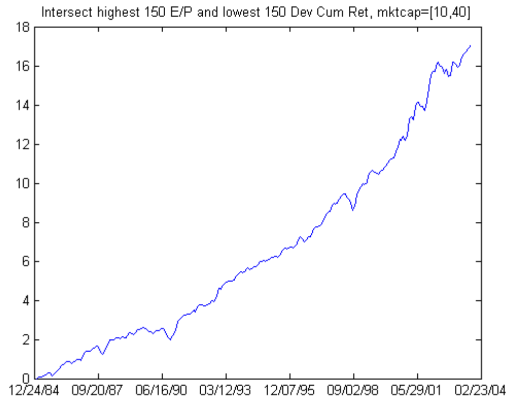


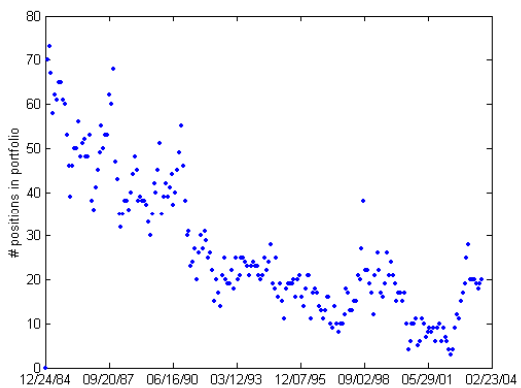


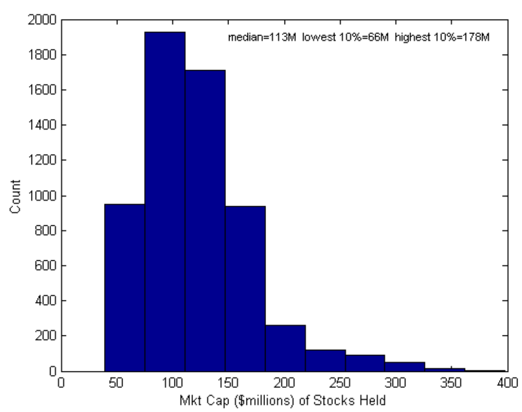
Intersect highest 150 E/P and lowest 150 Dev Cum Ret
mktcap=[66,100], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-48.74	-106.97	-130.58	-101.75	-104.2	-106.39	7.72
max	85.06	97.55	111.37	163.03	160.79	256.15	254.14
std	17.09	29.31	36.75	41.14	44.43	52.99	46.6
r/r	0.19	0.57	1.27	2.03	2.86	6.85	14.92
%pos	0.58	0.73	0.81	0.81	0.84	0.93	1
%neg	0.42	0.27	0.19	0.19	0.16	0.08	0
avg+	13.3	22.37	31.56	42.41	51.14	84.19	115.9
avg-	-10.82	-24.21	-34.95	-35.76	-39.17	-50.92	
avg	3.24	9.72	19.05	27.86	36.66	74.05	115.9
Annual:							
1986	46.96						
1987	8.35						
1988	62.65						
1989	29.27						
1990	-28.89						
1991	91.26						
1992	36.7						
1993	25.19						
1994	12.09						
1995	65.05						
1996	65.63						
1997	40.68						
1998	22.29						
1999	77.25						
2000	65.82						
2001	36.76						
2002	-48.63						
2003	63.94						
CARR	38.97						
R/R	0.66						
skew	0.55						
STD	59.06						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-150.05	20010131	20020830	28	0		
2	-108.39	19980331	19990226	16	10		
3	-86.13	19890831	19910131	25	6		
4	-48.04	19870831	19880129	8	4		
5	-30.55	19960430	19961031	9	6		
Avg DD:	-84.63						

Intersection of Low P/E and Extreme Mean Reversion – Interesting Parameter Combination







Intersect highest 150 E/P and lowest 150 Dev Cum Ret
mktcap=[10,40], no TC, long side only

	1M	3M	6M	9M	12M	24M	36M
min	-36.88	-65.97	-76.19	-32.9	-51.31	-11.55	50.03
max	91.17	181.58	226.08	227.82	314.23	497.35	592.65
std	16.66	32.72	45.07	53.06	61.81	100.33	131.02
r/r	0.46	1.21	2.49	3.87	5.12	9.04	12.5
%pos	0.69	0.82	0.9	0.91	0.96	0.99	1
%neg	0.31	0.18	0.1	0.09	0.04	0.01	0
avg+	14.86	32.32	53.41	76.69	95.72	186.99	273.03
avg-	-8.54	-19.79	-26.39	-12.39	-21.07	-6.87	
avg	7.62	22.89	45.73	68.41	91.31	185.05	273.03
Annual:							
1986	44.68						
1987	48.99						
1988	81.1						
1989	19.27						
1990	-5.02						
1991	130.79						
1992	91.84						
1993	86.94						
1994	58.43						
1995	66.88						
1996	98.65						
1997	129.3						
1998	83.69						
1999	99.11						
2000	157.84						
2001	314.23						
2002	61.87						
2003	92.2						
CARR	91.43						
R/R	1.59						
skew	1.26						
STD	57.58						
5 worst drawdowns:							
	DD	Begin	End	Dur(M)	Recovery		
1	-87.9	19980331	19981030	11	4		
2	-73.57	20020430	20030331	16	10		
3	-62.76	19890831	19901231	24	4		
4	-43.29	20010531	20010928	6	1		
5	-38.59	19870831	19880129	8	4		
Avg DD:	-61.22						