

	A	B	C	C
	Date	Portfolio Return %	S&P 500 Return %	Excess Return
1				
2				
3	1981	11.24	-4.92	16.16
4	1982	36.30	21.55	14.75
5	1983	32.86	22.56	10.30
6	1984	11.10	6.27	4.83
7	1985	25.89	32.16	-6.27
8	1986	30.45	18.47	11.98
9	1987	19.98	5.23	14.75
10	1988	16.19	16.81	-0.62
11	1989	23.35	31.49	-8.14
12	1990	3.08	-3.17	6.25
13	1991	31.44	30.55	0.89
14	1992	12.28	7.67	4.61
15	1993	21.28	9.99	11.29
16	1994	0.99	1.31	-0.32
17	1995	26.02	37.43	-11.41
18	1996	13.58	23.07	-9.49
19	1997	26.01	33.36	-7.35
20	1998	19.87	28.58	-8.71
21	1999	26.02	21.04	4.98
22	2000	13.08	-9.11	22.19
23	2001	8.91	-11.88	20.79
24	2002	-0.61	-22.10	21.49
25	2003	33.25	28.70	4.55
26	2004	13.46	10.87	2.59
27	2005	6.68	4.91	1.77
28	2006	14.94	15.80	-0.86
29	2007	10.93	5.49	5.44
30	2008	-19.15	-37.00	17.85
31				
32	count > 0	26	22	19
33	count < 0	2	6	9
34				
35	Percentage gain ratio	1.18		
36	Mean	16.77	11.61	5.15
37	Geometric Mean	16.10	10.04	
38				
39	Variance	151.30	321.30	
40	Covariance	180.34		
41				
42	Std. Dev.	12.30	17.92	9.93
43	Correlation	0.85		
44				
45	Kurtosis	1.22	0.60	
46	Skew	-0.75	-0.82	

49	beta = corr * std dev /std dev S&P 500	0.58	<-- =(B43*B42)/C42
50			
51	Sharpe Ratio = (Rp mean - Rf)/stdev p	0.96	<-- =(B36-B53)/B42
52	Sharpe Ratio using geometric mean	0.90	<-- =(B37-B53)/B42
53	Risk Free Rate	5.00	
54			
55	Jensen's Alpha= (R port - Rf +(Rm -Rf)*b))	15.61	<-- =(B36-B53+(B49*(C36-B53)))
56			
57	Modified Jensen = Jensen alpha / beta	26.82	<-- =B55/B49
58			
59	Treynor = rp-rf/beta	8.18	<-- =B36-(B53/B49)
60	Modified Treynor = rp -rf /systematic risk	1.13	<-- =(B36-B53)/B63
61	beta f = Std dev port. / Std dev S&P	0.69	<-- =B42/C42
62			
63	Systematic risk = beta * Std dev S&P 500	10.43	<-- =B49*C42
64	Specific risk = std dev of residuals	6.51	
65	Diversification = beta f - beta Port*(rm-rf)	-3.16	<-- =B61-(B49*(C36-B53))
66			
67	skew w/o -19.5	0.01	<-- =SKEW(B3:B29)
68			
69	M2 = rp + SR x (σm- σp)	22.14	<-- =B36+B51*(C42-B42)
70	Excess M2 = M2-avg return of S&P	10.53	<-- =B69-C36
71			
72	Beta Timing Ratio	0.74	<-- =0.607/0.823
73			
74	Total Risk Squared =sys risk sqrd +specific risk sqrd	151.24	<-- =B63^2+B64^2
75	Total Risk	12.30	<-- =SQRT(B74)
76			
77	Appraisal ratio = alpha / specific risk	2.40	<-- =B55/B64
78			
79	Fama beta = stdev model / stdev S&P	0.69	<-- =B42/C42
80			
81	Diversification = (Fama beta - model beta)*(rm -rf)	0.69	<-- =(B79-B49)*(C36-B53)
82			
83	Tracking error = std dev of excess returns	9.93	
84			
85	Information Ratio = Av. Excess Return / Tracking error	0.52	
86			
87	Sortino	3.25	<-- =(B36-B53)/B89
88			
89	downside variance	3.62	