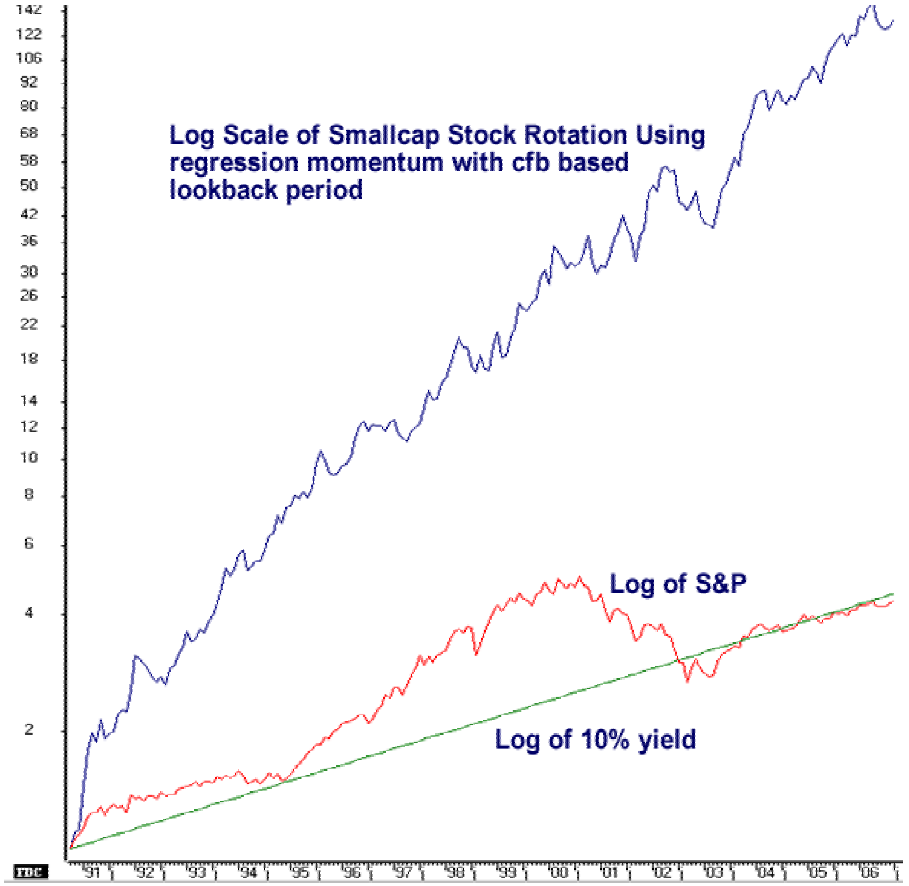
Using CFB to Identify Lookback Periods

We at Mathematical Investment Decisions rotate stock assets by scoring them with various regression based momentum strategies and investing in those assets with the best scores. Scoring is done each day, and the portfolio is changed at regular intervals. In building scoring models or doing many other types of market analysis, the choice of lookback period can be the difference between profits and losses. Trying all possible lookback periods over time and then selecting the optimal one is usually not the best idea, as this "curve-fitting" seldom has any predictive value.

We have experimented with a number of ways to circumvent this delemma, and one of the best is to have the lookback period change dynamically with market conditions. In this vein we have found Jurik Research's CFB to be most useful. CFB has the characteristic of being larger during trending periods and smaller during trading periods. We have also found that longer lookback periods work best in trendy periods, and shorter lookback periods do better (or at least, less bad) during trading periods. We find that multiplying CFB by a suitable factor (2 and 3 are appropriate in a number of markets) can produce excellent dynamic lookback periods.

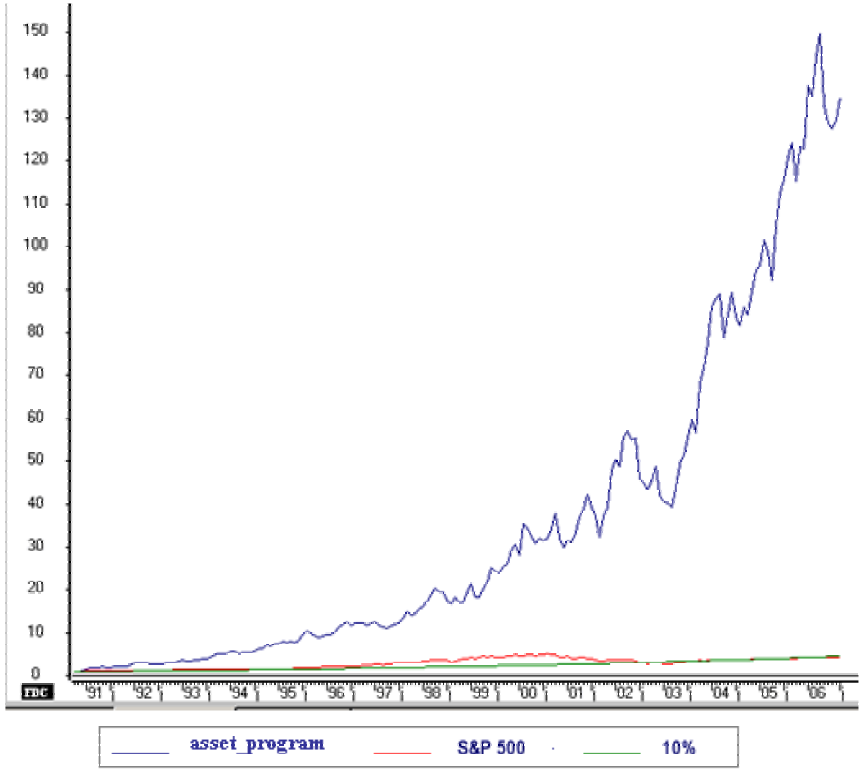
Two illustrations show the result of trading a basket of several hundred small cap stocks by this method. To the right is performance in LOG SCALE, often preferred and recommended by market professionals. The next page has a performance summary table and a plot in linear scale.



Smallcap Rotation with cfb Momentum Scoring

19901031 - 20060912

Assets indexed at 1000 (Monthly close)



Monthly Summary | Quarterly Summary | Yearly Summary

Monthly Performance (%)	2000	2001	2002	2003	2004	2005	2006
January	-8.2	5.39	5.06	-4.6	10.62	1.01	12.07
February	25.81	-1.42	-3.06	-0.39	1.76	6.18	-1.93
March	-2.63	7.28	13.86	-2.04	1.65	-2.55	7.1
April	-4.69	10.6	2.06	10.89	-11.63	-6.83	3.63
May	-5.99	4.92	-3.46	13.31	6.74	13.62	-11.09
June	3.43	9.21	0.77	3.22	6.1	7.64	-3.33
July	-1.68	-7.01	-17.22	8.6	-6.18	2.49	-0.96
August	1.75	-5.44	-1.5	7.28	-2.24	4.55	1.76
September	6.52	-13.39	-3.5	-5.08	5.12	2.89	3.78
October	10.67	15.67	4.71	20.6	-2.17	-7.31	
November	-14.84	4.94	7.37	5.14	6.52	6.82	
December	-6.6	22.87	-13.54	8.7	5.63	-0.25	
Yrly / ytd Return (%)	-2.25	60.44	-11.96	84.07	21.54	29.68	9.66
Max Drawdown (%)	26.56	32.72	29.05	16.81	18.44	14.52	21.95
Profitable Months #	5	8	6	8	8	8	5
Ave. Monthly Return	0.3	4.47	-0.7	5.47	1.83	2.36	1.23
Monthly Return Stdv (%)	10.6	10.08	8.57	7.7	6.36	6.07	6.63

Overall Performance	
Comp. Ann. ROR (%)	36.37
Ave Ann ROR (%)	39.66
Ave. Monthly ROR (%)	2.87
Stdv Monthly ROR (%)	7.71
Max Drawdown (%)	36.89
Profitable Months (%)	63

Overall Performance	
Reward/risk	1.08
Sharpe Ratio	1.22
Sortino Ratio	8.34
Alpha (Ann. %)	28.9
Beta	0.87
Information Ratio	1.11
T-Statistic	3.85