SUMMARY OF FORUM PROJECT

This project is designed to scrape the information of CSI300 constituents from Eastmoney forum and investigate whether there are some relationships between the number of posts and stock prices.

STRATEGY

SETTINGS

1. Periods - from 2015-01-01 to 2019-07-31
2. Universe - CSI300 (490 tickers from 2015-01-01 to 2019-07-31)
3. Benchmark – Equal weighted and CSI Index
4. Transaction cost – 0.001 (0.1%)

MEASUREMENTS

1. Holding period – 1, 3, 5, 10, 15, 20, 30 Days
2. Decile of signals – Decile 1 to Decile 10
3. Lookback Period (sum of previous posts) – Day 1 to Day 10

METHODOLOGY

1. Scraping all the posts of CSI300 constituents including those delisted tickers referred to scraping_table.py
2. Pre-processing the posts into signal matrix referred to backtest.py
    a. Filtering out the IPO period (60 days)
    b. Filtering out the days when those stocks cannot trade (halted or price is locked at the limit for the whole day)
    c. Masking the signal matrix dynamically by only including the valid tickers in different period
3. Backtesting the strategy referred to backtest.py
4. Plotting the heatmap referred to plot_heatmap.py
5. Some auxiliary functions referred to aux_func.py
    a. Downloading the prices from JoinQuant
    b. NLP sentiment analysis
    c. Creating benchmark
    d. Reformatting the data type
    e. Retrieving the constituents of CSI300

RESULTS

3:00:00PM(DAY T) – 8:59:59AM(DAY T+1)

1. Sharpe ratio of **long** the ranking signal (Original or Excess Return)
2. Sharpe ratio of **shorting** the ranking signal (Original or Excess Return)
3. Sharpe ratio of **long** the ranking signal with positive sentiment score(Original or Excess Return)
4. Sharpe ratio of **shorting** the ranking signal with positive sentiment score(Original or Excess Return)
5. Sharpe ratio of **long** the ranking signal with negative sentiment score(Original or Excess Return)
6. Sharpe ratio of **shorting** the ranking signal with negative sentiment score(Original or Excess Return)
7. Daily return of outperforming groups data (CMC5) (Original or Excess Return)
8. Cumulative return plot (CMC5) (Original or Excess Return)
9. Statistics(CMC5) (Original or Excess Return)
    a. 2015 (Original or Excess Return)
    b. 2016 (Original or Excess Return)
    c. 2017(Original or Excess Return)
    d. 2018(Original or Excess Return)
    e. 2019(Original or Excess Return)

2:30:00PM(DAY T) – 2:29:59PM (DAY T+1)

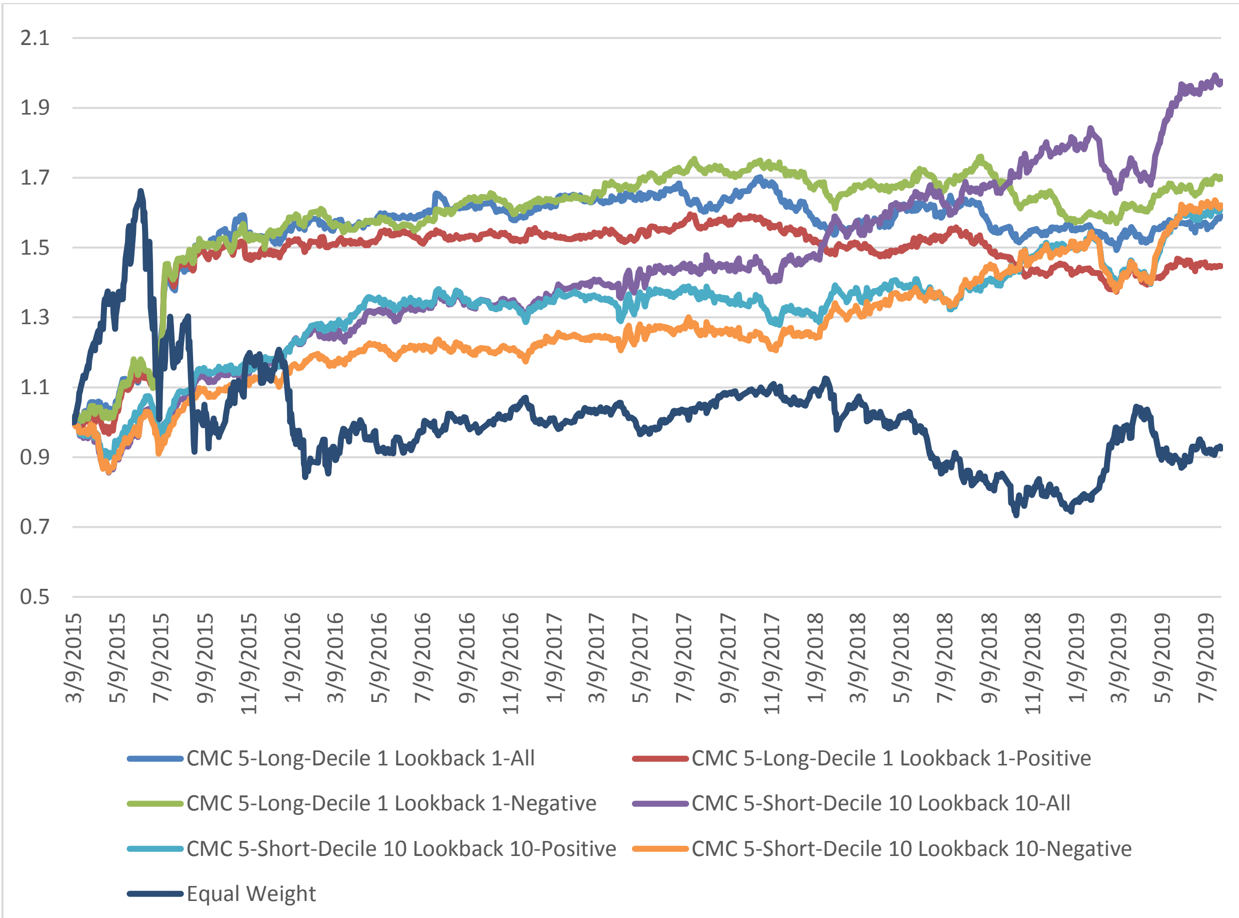
1. Sharpe ratio of **long** the ranking signal (Original or Excess Return)
2. Sharpe ratio of **shorting** the ranking signal (Original or Excess Return)
3. Sharpe ratio of **long** the ranking signal with positive sentiment score(Original or Excess Return)
4. Sharpe ratio of **shorting** the ranking signal with positive sentiment score(Original or Excess Return)
5. Sharpe ratio of **long** the ranking signal with negative sentiment score(Original or Excess Return)
6. Sharpe ratio of **shorting** the ranking signal with negative sentiment score(Original or Excess Return)
7. Daily return of outperforming groups data (CMC5) (Original or Excess Return)
8. Cumulative return plot (CMC5) (Original or Excess Return)
9. Statistics(CMC5) (Original or Excess Return)
    a. 2015 (Original or Excess Return)
    b. 2016 (Original or Excess Return)
    c. 2017(Original or Excess Return)
    d. 2018(Original or Excess Return)
    e. 2019(Original or Excess Return)

KEY FINDINGS

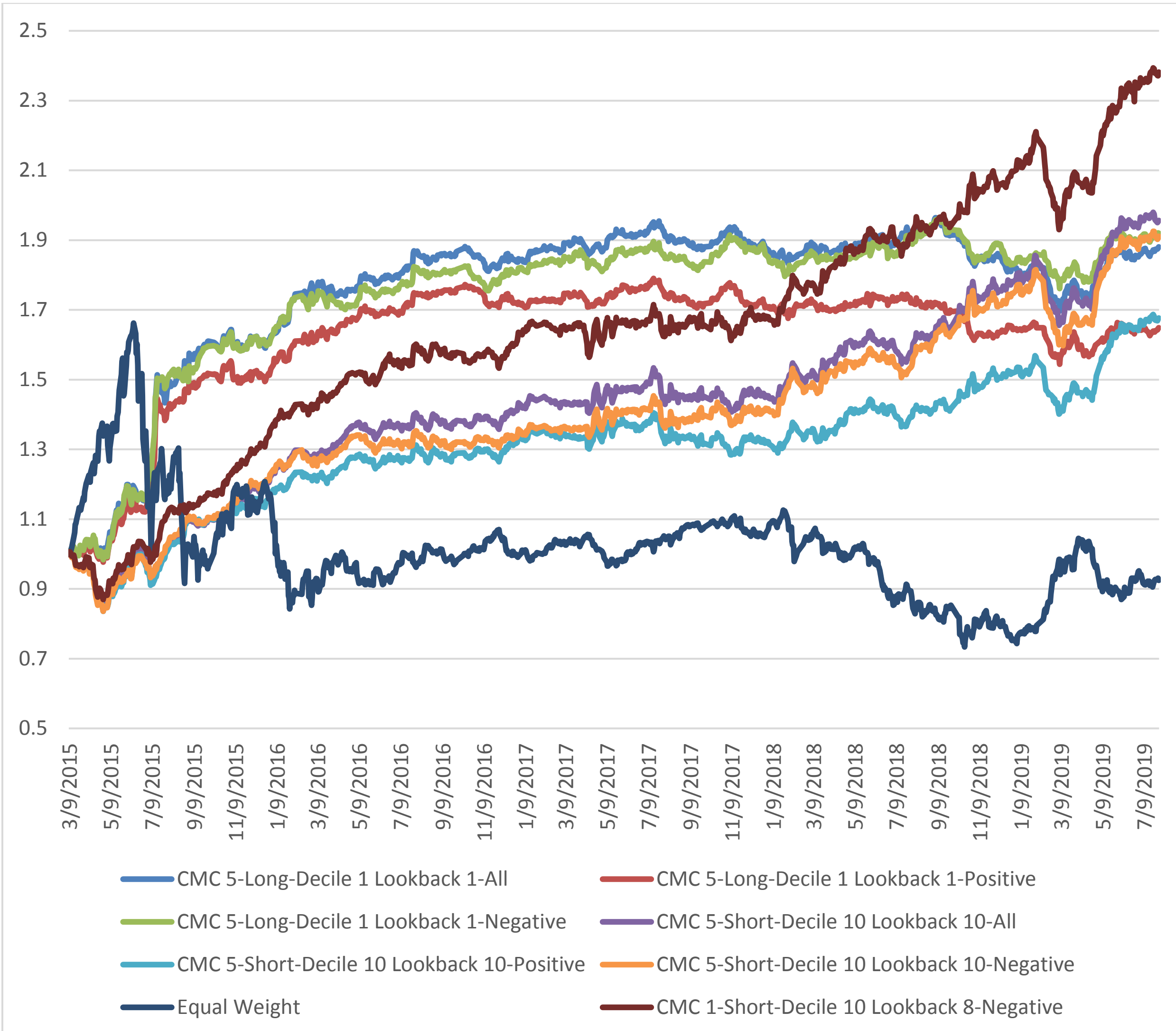
1. The ranking signal is more informative than the ranking change signal.
2. 5 days holding period is the best choice for both directions (long and short)
3. The group with the highest decile values of ranking signal and 10-days lookback period might exist some shorting opportunities
4. The group with the lowest decile values of ranking signal and 1-day lookback period might exist some long opportunities
5. Sentiment information may not be able to drive the performance in the majority of situations only except the scenario where the overwhelming negative posts for the lowest decile group is observed. (See Group CMC.5.Long.Decile.1.Lookback.1.Negative click here)
6. CMC1 is a good signal for 2:30PM to 2:30PM strategy which may have a Sharpe over 2

CUMULATIVE EXCCESS RETURN

3:00:00PM(DAY T) – 8:59:59AM(DAY T+1)

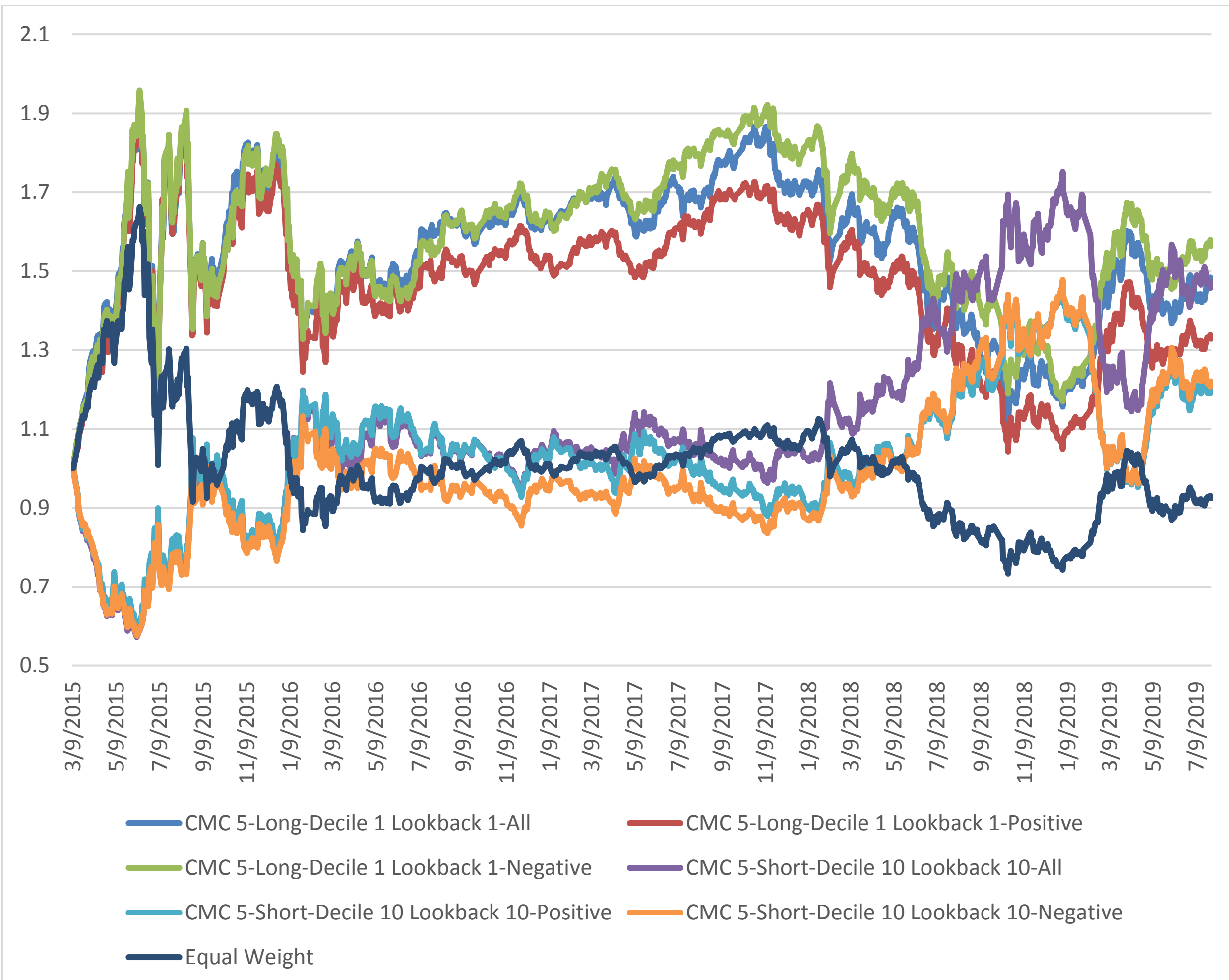


2:30:00PM(DAY T) – 2:29:59PM(DAY T+1)

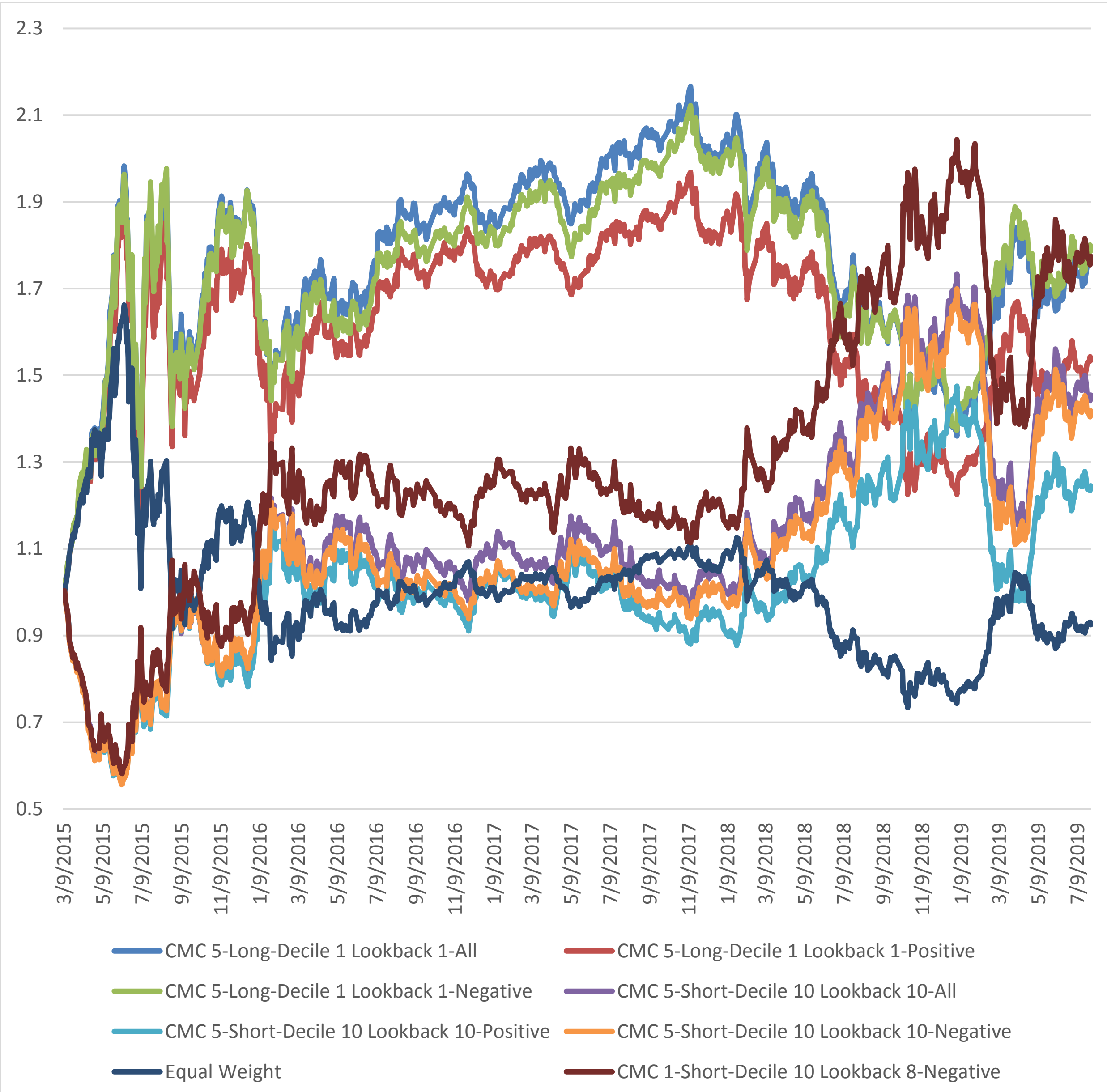


CUMULATIVE RETURN

3:00:00PM(DAY T) – 8:59:59AM(DAY T+1)



2:30:00PM(DAY T) – 2:29:59PM (DAY T+1)



STATISTICS FOR 3:00:00PM-8:59:59AM

2015 – 2019 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	1075	1075	1075	1075	1075	1075
Return	0.590	0.447	0.697	0.977	0.614	0.621
Daily_Max	0.067	0.088	0.077	0.031	0.034	0.031
Daily_Min	-0.029	-0.021	-0.026	-0.026	-0.032	-0.035
Annual_Return	0.116	0.091	0.134	0.175	0.120	0.121
Volatility	0.094	0.094	0.094	0.104	0.103	0.103
SemiDeviation	0.058	0.053	0.056	0.073	0.072	0.075
MaxDrawdown	0.123	0.139	0.108	0.150	0.107	0.148
Sharpe	1.236	0.971	1.424	1.690	1.169	1.175
Sortino	2.016	1.714	2.384	2.390	1.662	1.623
Calmar	0.948	0.659	1.231	1.172	1.127	0.818
Skewness	2.108	4.039	2.871	-0.006	-0.015	-0.323

2015 – 2019 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	1075.000	1075.000	1075.000	1075.000	1075.000	1075.000
Return	0.473	0.328	0.564	0.473	0.203	0.220
Daily_Max	0.100	0.100	0.100	0.097	0.099	0.096
Daily_Min	-0.099	-0.098	-0.099	-0.085	-0.084	-0.082
Annual_Return	0.096	0.070	0.112	0.096	0.045	0.048
Volatility	0.300	0.307	0.304	0.325	0.325	0.317
SemiDeviation	0.219	0.225	0.223	0.213	0.212	0.209
MaxDrawdown	0.425	0.461	0.402	0.429	0.403	0.426
Sharpe	0.320	0.227	0.368	0.296	0.138	0.152
Sortino	0.438	0.310	0.502	0.452	0.211	0.232
Calmar	0.226	0.151	0.278	0.224	0.111	0.113
Skewness	-0.336	-0.334	-0.355	0.726	0.742	0.721

2015 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	203.000	203.000	203.000	203.000	203.000	203.000
Return	0.547	0.505	0.567	0.202	0.202	0.144
Daily_Max	0.067	0.088	0.077	0.031	0.034	0.025
Daily_Min	-0.029	-0.021	-0.026	-0.026	-0.032	-0.035
Annual_Return	0.725	0.666	0.753	0.258	0.258	0.183
Volatility	0.170	0.180	0.174	0.137	0.139	0.148
SemiDeviation	0.103	0.100	0.104	0.100	0.102	.0.114
MaxDrawdown	0.056	0.059	0.070	0.150	0.107	0.148
Sharpe	4.266	3.703	4.318	1.892	1.865	1.236
Sortino	7.033	6.640	7.222	2.581	2.523	1.599
Calmar	13.052	11.293	10.766	1.728	2.424	1.231
Skewness	1.452	2.629	1.906	-0.271	-0.415	-0.905

2015 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	203.000	203.000	203.000	203.000	203.000	203.000
Return	0.783	0.730	0.803	-0.136	-0.137	-0.173
Daily_Max	0.100	0.100	0.100	0.097	0.099	0.096
Daily_Min	-0.099	-0.098	-0.099	-0.085	-0.084	-0.082
Annual_Return	1.060	0.984	1.089	-0.167	-0.168	-0.211
Volatility	0.522	0.532	0.528	0.497	0.500	0.484
SemiDeviation	0.386	0.392	0.392	0.321	0.324	0.314
MaxDrawdown	0.385	0.395	0.402	0.429	0.403	0.426
Sharpe	2.030	1.850	2.063	-0.336	-0.336	-0.436
Sortino	2.747	2.509	2.781	-0.519	-0.517	-0.672
Calmar	2.753	2.487	2.705	-0.388	-0.416	-0.495
Skewness	-0.265	-0.236	-0.289	0.582	0.554	0.597

2016 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000
Return	0.053	0.024	0.046	0.138	0.127	0.089
Daily_Max	0.016	0.015	0.013	0.018	0.022	0.015
Daily_Min	-0.014	-0.010	-0.012	-0.014	-0.011	-0.010
Annual_Return	0.056	0.025	0.048	0.145	0.133	0.093
Volatility	0.056	0.051	0.055	0.082	0.080	0.073
SemiDeviation	0.039	0.035	0.038	0.056	0.056	0.050
MaxDrawdown	0.047	0.025	0.042	0.056	0.069	0.051
Sharpe	0.985	0.491	0.884	1.781	1.651	1.277
Sortino	1.421	0.716	1.265	2.573	2.392	1.854
Calmar	1.188	1.008	1.145	2.590	1.929	1.835
Skewness	0.220	0.331	0.133	0.172	0.258	0.191

2016 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000
Return	-0.092	-0.123	-0.099	0.227	0.215	0.177
Daily_Max	0.046	0.052	0.044	0.090	0.092	0.091
Daily_Min	-0.080	-0.082	-0.078	-0.050	-0.048	-0.053
Annual_Return	-0.096	-0.128	-0.104	0.239	0.226	0.185
Volatility	0.258	0.278	0.262	0.313	0.311	0.302
SemiDeviation	0.205	0.221	0.210	0.190	0.188	0.184
MaxDrawdown	0.263	0.280	0.263	0.219	0.225	0.245
Sharpe	-0.374	-0.459	-0.396	0.762	0.725	0.613
Sortino	-0.470	-0.579	-0.493	1.257	1.204	1.009
Calmar	-0.366	-0.456	-0.393	1.088	1.005	0.756
Skewness	-1.567	-1.504	-1.670	1.300	1.373	1.342

2017 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000
Return	-0.014	-0.009	0.032	0.076	-0.026	0.010
Daily_Max	0.011	0.011	0.008	0.029	0.027	0.031
Daily_Min	-0.012	-0.009	-0.009	-0.026	-0.025	-0.018
Annual_Return	-0.015	-0.009	0.033	0.079	-0.027	0.011
Volatility	0.060	0.049	0.051	0.106	0.101	0.100
SemiDeviation	0.042	0.035	0.036	0.075	0.069	0.068
MaxDrawdown	0.057	0.046	0.038	0.051	0.080	0.073
Sharpe	-0.252	-0.182	0.653	0.745	-0.267	0.109
Sortino	-0.357	-0.253	0.924	1.061	-0.393	0.159
Calmar	-0.263	-0.196	0.880	1.569	-0.337	0.149
Skewness	0.003	-0.079	-0.014	0.076	0.274	0.471

2017 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000
Return	0.050	0.057	0.100	-0.007	-0.100	-0.067
Daily_Max	0.023	0.026	0.025	0.039	0.037	0.041
Daily_Min	-0.038	-0.029	-0.029	-0.034	-0.033	-0.031
Annual_Return	0.052	0.059	0.104	-0.007	-0.104	-0.070
Volatility	0.123	0.116	0.115	0.184	0.179	0.180
SemiDeviation	0.090	0.083	0.082	0.124	0.120	0.120
MaxDrawdown	0.094	0.079	0.079	0.157	0.195	0.185
Sharpe	0.425	0.510	0.906	-0.038	-0.584	-0.388
Sortino	0.583	0.714	1.280	-0.056	-0.873	-0.583
Calmar	0.560	0.749	1.326	-0.045	-0.535	-0.378
Skewness	-0.511	-0.146	-0.089	0.350	0.381	0.531

2018 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	242.000	242.000	242.000	242.000	242.000	242.000
Return	-0.024	-0.057	-0.066	0.214	0.134	0.187
Daily_Max	0.011	0.016	0.016	0.016	0.016	0.019
Daily_Min	-0.014	-0.014	-0.015	-0.018	-0.015	-0.017
Annual_Return	-0.025	-0.060	-0.069	0.226	0.141	0.197
Volatility	0.070	0.062	0.070	0.090	0.092	0.087
SemiDeviation	0.049	0.043	0.048	0.064	0.064	0.063
MaxDrawdown	0.081	0.090	0.103	0.051	0.061	0.038
Sharpe	-0.361	-0.978	-0.993	2.513	1.533	2.277
Sortino	-0.510	-1.412	-1.427	3.529	2.190	3.147
Calmar	-0.309	-0.665	-0.673	4.436	2.315	5.190
Skewness	-0.083	0.156	0.109	-0.043	0.067	-0.111

2018 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	242.000	242.000	242.000	242.000	242.000	242.000
Return	-0.303	-0.328	-0.334	0.609	0.503	0.575
Daily_Max	0.046	0.048	0.046	0.067	0.068	0.064
Daily_Min	-0.066	-0.064	-0.065	-0.052	-0.053	-0.050
Annual_Return	-0.315	-0.341	-0.348	0.647	0.533	0.610
Volatility	0.231	0.238	0.241	0.272	0.273	0.267
SemiDeviation	0.169	0.175	0.174	0.184	0.183	0.183
MaxDrawdown	0.366	0.375	0.364	0.106	0.104	0.106
Sharpe	-1.362	-1.433	-1.442	2.380	1.957	2.289
Sortino	-1.866	-1.955	-1.996	3.519	2.918	3.342
Calmar	-0.861	-0.910	-0.954	6.118	5.138	5.739
Skewness	-0.374	-0.382	-0.301	0.389	0.419	0.292

2019 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	140.000	140.000	140.000	140.000	140.000	140.000
Return	0.015	0.005	0.074	0.107	0.079	0.085
Daily_Max	0.012	0.012	0.014	0.021	0.021	0.023
Daily_Min	-0.010	-0.011	-0.007	-0.013	-0.012	-0.016
Annual_Return	0.026	0.009	0.139	0.201	0.147	0.160
Volatility	0.066	0.067	0.062	0.102	0.098	0.103
SemiDeviation	0.046	0.045	0.039	0.067	0.065	0.068
MaxDrawdown	0.047	0.048	0.021	0.101	0.104	0.109
Sharpe	0.403	0.132	2.239	1.974	1.508	1.556
Sortino	0.581	0.194	3.547	3.006	2.254	2.338
Calmar	0.558	0.185	6.653	1.999	1.421	1.464
Skewness	0.113	0.252	0.684	0.514	0.425	0.449

2019 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative
Periods	140.000	140.000	140.000	140.000	140.000	140.000
Return	0.243	0.233	0.316	-0.131	-0.152	-0.147
Daily_Max	0.055	0.054	0.060	0.086	0.086	0.083
Daily_Min	-0.066	-0.062	-0.064	-0.062	-0.061	-0.064
Annual_Return	0.482	0.460	0.643	-0.224	-0.258	-0.250
Volatility	0.239	0.231	0.241	0.310	0.308	0.306
SemiDeviation	0.167	0.159	0.165	0.214	0.214	0.213
MaxDrawdown	0.146	0.147	0.130	0.347	0.348	0.350
Sharpe	2.017	1.994	2.664	-0.722	-0.839	-0.817
Sortino	2.882	2.899	3.897	-1.045	-1.208	-1.173
Calmar	3.312	3.126	4.928	-0.646	-0.743	-0.714
Skewness	-0.190	-0.033	0.057	0.361	0.353	0.292

STATISTICS FOR 2:30:00PM-2:29:59PM

2015 – 2019 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	1075.000	1075.000	1075.000	1075.000	1075.000	1075.000	1075.000
Return	0.881	0.648	0.920	0.956	0.677	0.911	1.382
Daily_Max	0.077	0.080	0.077	0.027	0.030	0.028	0.028
Daily_Min	-0.029	-0.028	-0.028	-0.026	-0.028	-0.033	-0.028
Annual_Return	0.161	0.126	0.167	0.172	0.130	0.166	0.228
Volatility	0.097	0.095	0.097	0.104	0.105	0.105	0.110
SemiDeviation	0.058	0.057	0.059	0.074	0.074	0.075	0.077
MaxDrawdown	0.136	0.137	0.103	0.147	0.168	0.170	0.136
Sharpe	1.656	1.330	1.717	1.652	1.246	1.572	2.080
Sortino	2.808	2.196	2.854	2.334	1.765	2.207	2.967
Calmar	1.185	0.916	1.621	1.169	0.775	0.977	1.678
Skewness	2.833	2.896	2.640	-0.058	-0.043	-0.121	0.005

2015 – 2019 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	1075.000	1075.000	1075.000	1075.000	1075.000	1075.000	1075.000
Return	0.760	0.534	0.787	0.454	0.245	0.418	0.775
Daily_Max	0.100	0.100	0.100	0.097	0.097	0.097	0.096
Daily_Min	-0.098	-0.098	-0.099	-0.086	-0.084	-0.086	-0.083
Annual_Return	0.143	0.107	0.148	0.093	0.053	0.086	0.146
Volatility	0.294	0.297	0.298	0.327	0.328	0.329	0.327
SemiDeviation	0.213	0.216	0.216	0.214	0.215	0.216	0.214
MaxDrawdown	0.375	0.396	0.367	0.431	0.442	0.446	0.421
Sharpe	0.488	0.360	0.496	0.284	0.163	0.262	0.445
Sortino	0.674	0.495	0.685	0.433	0.248	0.399	0.679
Calmar	0.382	0.270	0.402	0.215	0.121	0.193	0.346
Skewness	-0.229	-0.241	-0.269	0.704	0.718	0.698	0.711

2015 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	203.000	203.000	203.000	203.000	203.000	203.000	203.000
Return	0.625	0.531	0.619	0.223	0.173	0.231	0.359
Daily_Max	0.077	0.080	0.077	0.027	0.030	0.028	0.025
Daily_Min	-0.029	-0.028	-0.028	-0.026	-0.028	-0.033	-0.028
Annual_Return	0.835	0.703	0.826	0.287	0.221	0.297	0.468
Volatility	0.181	0.175	0.179	0.136	0.141	0.140	0.147
SemiDeviation	0.107	0.105	0.108	0.101	0.103	0.104	0.109
MaxDrawdown	0.053	0.050	0.066	0.147	0.168	0.170	0.136
Sharpe	4.616	4.017	4.614	2.114	1.563	2.124	3.190
Sortino	7.815	6.726	7.643	2.841	2.138	2.847	4.300
Calmar	15.669	14.171	12.500	1.945	1.313	1.748	3.435
Skewness	1.869	2.013	1.784	-0.459	-0.300	-0.521	-0.430

2015 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	203.000	203.000	203.000	203.000	203.000	203.000	203.000
Return	0.879	0.764	0.863	-0.121	-0.158	-0.117	-0.022
Daily_Max	0.100	0.100	0.100	0.097	0.097	0.097	0.096
Daily_Min	-0.098	-0.098	-0.099	-0.086	-0.084	-0.086	-0.083
Annual_Return	1.199	1.034	1.176	-0.149	-0.193	-0.144	-0.027
Volatility	0.519	0.524	0.529	0.498	0.503	0.505	0.499
SemiDeviation	0.380	0.384	0.390	0.323	0.325	0.325	0.324
MaxDrawdown	0.375	0.396	0.367	0.431	0.442	0.446	0.421
Sharpe	2.310	1.971	2.224	-0.298	-0.385	-0.286	-0.055
Sortino	3.153	2.689	3.017	-0.460	-0.596	-0.444	-0.085
Calmar	3.197	2.611	3.206	-0.344	-0.437	-0.323	-0.065
Skewness	-0.202	-0.194	-0.263	0.552	0.572	0.592	0.546

2016 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000	243.000
Return	0.136	0.125	0.124	0.172	0.142	0.103	0.203
Daily_Max	0.020	0.014	0.016	0.015	0.016	0.012	0.018
Daily_Min	-0.013	-0.011	-0.011	-0.011	-0.012	-0.012	-0.014
Annual_Return	0.143	0.131	0.130	0.180	0.149	0.107	0.214
Volatility	0.068	0.063	0.066	0.080	0.081	0.081	0.086
SemiDeviation	0.045	0.043	0.043	0.056	0.056	0.057	0.060
MaxDrawdown	0.038	0.037	0.039	0.035	0.038	0.039	0.043
Sharpe	2.093	2.079	1.966	2.257	1.843	1.327	2.480
Sortino	3.145	3.053	3.021	3.224	2.652	1.871	3.570
Calmar	3.777	3.551	3.343	5.100	3.877	2.726	4.994
Skewness	0.539	0.146	0.547	0.090	0.124	-0.030	0.120

2016 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000	243.000
Return	-0.018	-0.029	-0.028	0.264	0.231	0.189	0.297
Daily_Max	0.041	0.046	0.040	0.091	0.092	0.090	0.094
Daily_Min	-0.077	-0.078	-0.076	-0.050	-0.051	-0.054	-0.052
Annual_Return	-0.018	-0.030	-0.029	0.277	0.242	0.198	0.312
Volatility	0.247	0.252	0.246	0.312	0.313	0.312	0.315
SemiDeviation	0.196	0.200	0.195	0.189	0.191	0.193	0.192
MaxDrawdown	0.230	0.246	0.226	0.196	0.215	0.223	0.176
Sharpe	-0.074	-0.119	-0.117	0.888	0.776	0.633	0.991
Sortino	-0.093	-0.150	-0.147	1.462	1.269	1.024	1.631
Calmar	-0.079	-0.122	-0.127	1.416	1.128	0.887	1.775
Skewness	-1.589	-1.569	-1.563	1.311	1.281	1.182	1.316

2017 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000	243.000
Return	0.017	-0.007	0.021	0.015	-0.012	0.044	0.028
Daily_Max	0.011	0.009	0.008	0.022	0.023	0.023	0.028
Daily_Min	-0.009	-0.009	-0.013	-0.019	-0.024	-0.018	-0.021
Annual_Return	0.018	-0.008	0.022	0.015	-0.013	0.046	0.030
Volatility	0.051	0.050	0.056	0.106	0.104	0.105	0.110
SemiDeviation	0.037	0.036	0.040	0.074	0.071	0.074	0.075
MaxDrawdown	0.042	0.048	0.044	0.082	0.086	0.064	0.062
Sharpe	0.351	-0.152	0.394	0.144	-0.122	0.440	0.268
Sortino	0.485	-0.214	0.545	0.207	-0.178	0.627	0.393
Calmar	0.421	-0.160	0.502	0.186	-0.148	0.724	0.478
Skewness	-0.207	-0.059	-0.290	0.123	0.169	0.088	0.300

2017 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	243.000	243.000	243.000	243.000	243.000	243.000	243.000
Return	0.085	0.059	0.089	-0.063	-0.088	-0.036	-0.051
Daily_Max	0.023	0.023	0.020	0.042	0.039	0.041	0.042
Daily_Min	-0.026	-0.031	-0.027	-0.034	-0.032	-0.034	-0.033
Annual_Return	0.089	0.062	0.093	-0.066	-0.092	-0.038	-0.053
Volatility	0.108	0.109	0.109	0.185	0.183	0.184	0.187
SemiDeviation	0.077	0.078	0.077	0.124	0.122	0.124	0.124
MaxDrawdown	0.083	0.084	0.090	0.178	0.195	0.163	0.164
Sharpe	0.824	0.564	0.859	-0.357	-0.501	-0.204	-0.283
Sortino	1.153	0.791	1.218	-0.531	-0.749	-0.302	-0.426
Calmar	1.076	0.729	1.038	-0.371	-0.471	-0.230	-0.323
Skewness	-0.183	-0.224	-0.130	0.400	0.403	0.359	0.486

2018 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	242.000	242.000	242.000	242.000	242.000	242.000	242.000
Return	-0.031	-0.039	-0.015	0.223	0.148	0.232	0.246
Daily_Max	0.012	0.014	0.012	0.022	0.017	0.018	0.017
Daily_Min	-0.014	-0.014	-0.014	-0.023	-0.021	-0.024	-0.020
Annual_Return	-0.032	-0.040	-0.016	0.236	0.156	0.245	0.260
Volatility	0.060	0.062	0.063	0.093	0.091	0.092	0.089
SemiDeviation	0.041	0.044	0.044	0.065	0.065	0.065	0.061
MaxDrawdown	0.079	0.077	0.068	0.057	0.055	0.053	0.043
Sharpe	-0.533	-0.652	-0.248	2.523	1.708	2.653	2.908
Sortino	-0.775	-0.920	-0.353	3.627	2.398	3.774	4.250
Calmar	-0.408	-0.527	-0.228	4.130	2.818	4.640	6.032
Skewness	0.092	-0.046	0.010	0.091	-0.112	-0.035	0.180

2018 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	242.000	242.000	242.000	242.000	242.000	242.000	242.000
Return	-0.308	-0.314	-0.297	0.619	0.519	0.631	0.651
Daily_Max	0.049	0.047	0.047	0.068	0.069	0.066	0.069
Daily_Min	-0.062	-0.059	-0.064	-0.056	-0.054	-0.058	-0.053
Annual_Return	-0.320	-0.326	-0.309	0.658	0.551	0.671	0.693
Volatility	0.230	0.231	0.231	0.278	0.276	0.275	0.272
SemiDeviation	0.167	0.169	0.168	0.188	0.188	0.187	0.184
MaxDrawdown	0.344	0.361	0.325	0.109	0.112	0.116	0.105
Sharpe	-1.395	-1.412	-1.335	2.370	1.995	2.437	2.542
Sortino	-1.914	-1.928	-1.841	3.494	2.936	3.581	3.758
Calmar	-0.932	-0.903	-0.951	6.038	4.930	5.798	6.624
Skewness	-0.339	-0.342	-0.329	0.349	0.347	0.312	0.381

2019 EXCESS RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	140.000	140.000	140.000	140.000	140.000	140.000	140.000
Return	0.033	0.003	0.049	0.099	0.104	0.094	0.136
Daily_Max	0.013	0.013	0.016	0.022	0.023	0.022	0.024
Daily_Min	-0.012	-0.012	-0.011	-0.014	-0.014	-0.013	-0.019
Annual_Return	0.061	0.005	0.090	0.187	0.196	0.177	0.260
Volatility	0.071	0.070	0.071	0.105	0.102	0.108	0.115
SemiDeviation	0.049	0.050	0.047	0.070	0.069	0.072	0.077
MaxDrawdown	0.074	0.072	0.056	0.108	0.107	0.120	0.127
Sharpe	0.856	0.071	1.277	1.772	1.921	1.636	2.259
Sortino	1.249	0.099	1.915	2.677	2.850	2.447	3.375
Calmar	0.824	0.069	1.601	1.733	1.839	1.474	2.051
Skewness	0.238	-0.103	0.460	0.475	0.364	0.459	0.331

2019 RETURN

.	CMC.5 Long Decile.1 Lookback.1 All	CMC.5 Long Decile.1 Lookback.1 Positive	CMC.5 Long Decile.1 Lookback.1 Negative	CMC.5 Short Decile.10 Lookback.10 All	CMC.5 Short Decile.10 Lookback.10 Positive	CMC.5 Short Decile.10 Lookback.10 Negative	CMC.1 Short Decile.10 Lookback.8 Negative
Periods	140.000	140.000	140.000	140.000	140.000	140.000	140.000
Return	0.269	0.231	0.288	-0.137	-0.133	-0.141	-0.107
Daily_Max	0.054	0.052	0.058	0.085	0.087	0.086	0.079
Daily_Min	-0.058	-0.058	-0.055	-0.063	-0.063	-0.064	-0.067
Annual_Return	0.539	0.457	0.580	-0.234	-0.227	-0.240	-0.186
Volatility	0.220	0.223	0.226	0.313	0.313	0.314	0.314
SemiDeviation	0.150	0.153	0.150	0.217	0.216	0.219	0.220
MaxDrawdown	0.112	0.130	0.110	0.334	0.336	0.347	0.325
Sharpe	2.449	2.050	2.570	-0.746	-0.727	-0.763	-0.591
Sortino	3.597	2.986	3.862	-1.075	-1.051	-1.094	-0.846
Calmar	4.805	3.513	5.269	-0.700	-0.677	-0.691	-0.572
Skewness	0.072	0.015	0.285	0.337	0.378	0.306	0.174