

Database exists, assume schema does, too.

#### Seasonal Indexes

	03-31	06-30	09-30	12-31
0	Energy ETF	Information Technology ETF	Information Technology ETF	Information Technology ETF
1	Information Technology ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	Financials ETF
2	Utilities ETF	Energy ETF	SP500	Materials ETF
3	SP1500	Materials ETF	Industrials ETF	SP600
4	Industrials ETF	SP1500	SP1500	Consumer Discretionary ETF
5	SP500	SP500	Health Care ETF	SP400
6	SP600	SP600	Utilities ETF	SP500
7	Health Care ETF	SP400	Consumer Staples ETF	SP1500
8	Consumer Staples ETF	Health Care ETF	Financials ETF	Health Care ETF
9	SP400	Communication Services ETF	Materials ETF	Consumer Staples ETF
10	Financials ETF	Real Estate ETF	Communication Services ETF	Energy ETF
11	Consumer Discretionary ETF	Financials ETF	SP400	Utilities ETF
12	Real Estate ETF	Industrials ETF	Real Estate ETF	Industrials ETF
13	Materials ETF	Consumer Staples ETF	SP600	Real Estate ETF
14	Communication Services ETF	Utilities ETF	Energy ETF	Communication Services ETF

	03-31	06-30	09-30	12-31
SP1500	-0.010622	0.081757	0.041626	0.049958
SP500	-0.011990	0.080771	0.045646	0.050086
SP600	-0.017768	0.080509	0.019158	0.057970
SP400	-0.019859	0.080174	0.020554	0.051549
Communication Services ETF	-0.032872	0.075995	0.022591	0.017899
Consumer Discretionary ETF	-0.021214	0.120254	0.052510	0.052777
Consumer Staples ETF	-0.018663	0.035480	0.034807	0.045915
Energy ETF	0.055913	0.096281	-0.039735	0.042416
Financials ETF	-0.020711	0.061049	0.030176	0.065446
Health Care ETF	-0.017923	0.078706	0.041045	0.047467
Industrials ETF	-0.011020	0.058300	0.045427	0.039920
Information Technology ETF	0.006217	0.121831	0.068693	0.067531
Materials ETF	-0.026671	0.082827	0.027940	0.058669
Real Estate ETF	-0.026416	0.075756	0.019424	0.038472
Utilities ETF	-0.001263	0.026125	0.039218	0.042001

Note if the final data in the prices ends on a quarter, this will aggregate into the seasonal\_index above and there will be no comparison  
Current

06-17

<b>Energy ETF</b>	-0.043815
<b>Consumer Staples ETF</b>	-0.096218
<b>Utilities ETF</b>	-0.125888
<b>Health Care ETF</b>	-0.134327
<b>Materials ETF</b>	-0.161041
<b>SP600</b>	-0.165794
<b>Industrials ETF</b>	-0.178228
<b>SP1500</b>	-0.184779
<b>Financials ETF</b>	-0.187815
<b>SP500</b>	-0.189930
<b>Real Estate ETF</b>	-0.190735
<b>SP400</b>	-0.192427
<b>Communication Services ETF</b>	-0.226489
<b>Information Technology ETF</b>	-0.232112
<b>Consumer Discretionary ETF</b>	-0.260025

standard deviations

03-31    06-30    09-30    12-31

<b>SP1500</b>	0.134644	0.072380	0.037999	0.110320
<b>SP500</b>	0.127411	0.070450	0.039033	0.106496
<b>SP600</b>	0.199479	0.088447	0.037096	0.179394
<b>SP400</b>	0.157662	0.100224	0.037075	0.138781
<b>Communication Services ETF</b>	0.138244	0.095192	0.045269	0.123434
<b>Consumer Discretionary ETF</b>	0.151791	0.146922	0.083611	0.127243
<b>Consumer Staples ETF</b>	0.096633	0.035421	0.049261	0.063730
<b>Energy ETF</b>	0.369457	0.166709	0.099129	0.202483
<b>Financials ETF</b>	0.192299	0.053666	0.014462	0.140299
<b>Health Care ETF</b>	0.079810	0.054107	0.065798	0.098650
<b>Industrials ETF</b>	0.178470	0.072339	0.066050	0.134044
<b>Information Technology ETF</b>	0.135329	0.113409	0.054569	0.136753
<b>Materials ETF</b>	0.163483	0.099766	0.065317	0.127072
<b>Real Estate ETF</b>	0.161483	0.056090	0.032025	0.078165
<b>Utilities ETF</b>	0.092016	0.021473	0.033841	0.054883

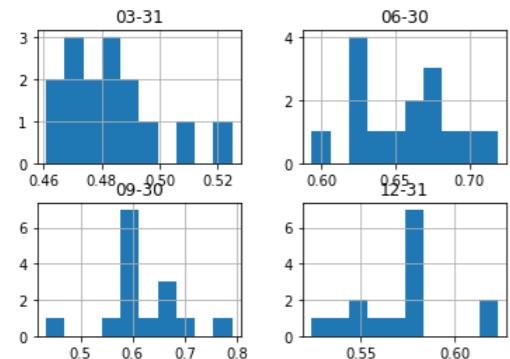
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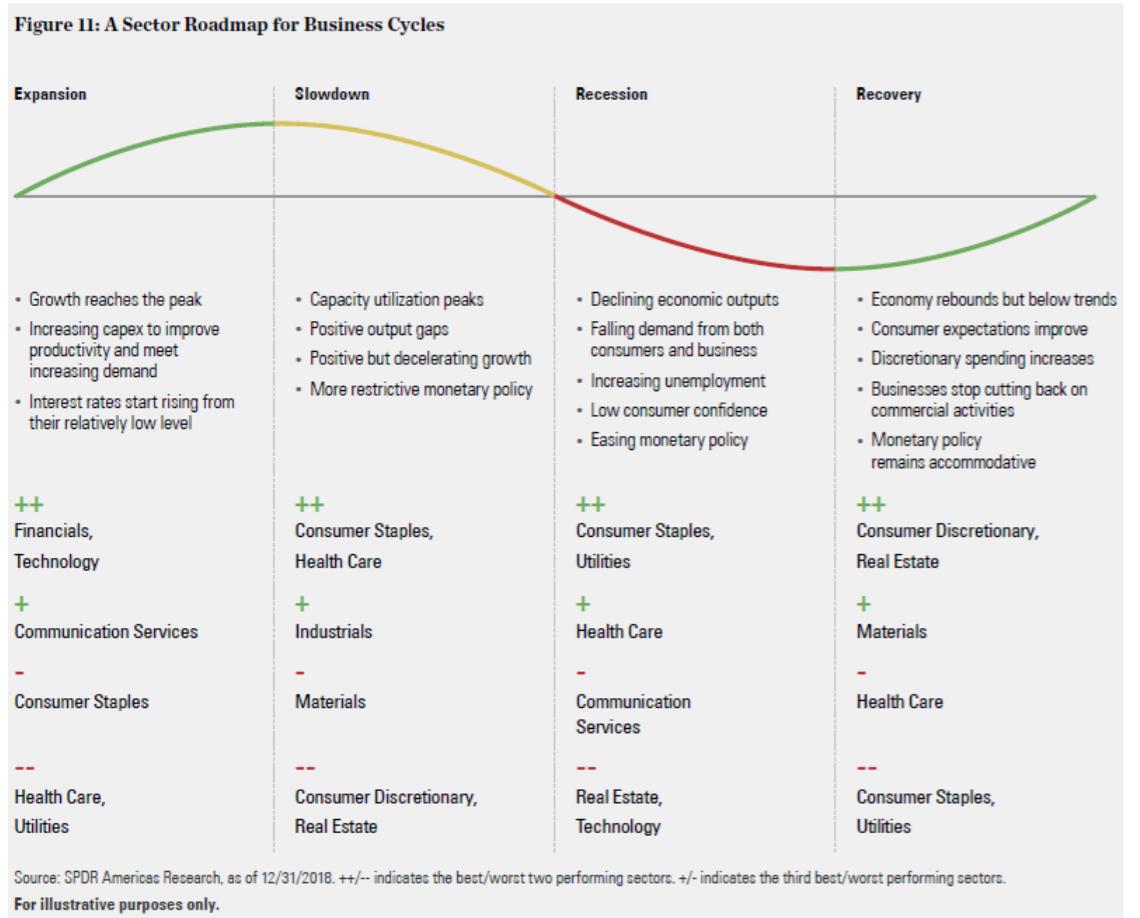
	03-31	06-30	09-30	12-31
<b>SP1500</b>	-0.035281	0.505153	0.489908	0.202519
<b>SP500</b>	-0.042087	0.512730	0.522980	0.210329
<b>SP600</b>	-0.039834	0.407076	0.230960	0.144515
<b>SP400</b>	-0.056330	0.357747	0.247928	0.166115
<b>Communication Services ETF</b>	-0.106341	0.357027	0.223180	0.064848
<b>Consumer Discretionary ETF</b>	-0.062503	0.366041	0.280865	0.185493
<b>Consumer Staples ETF</b>	-0.086371	0.447954	0.315992	0.322196
<b>Energy ETF</b>	0.067680	0.258283	-0.179260	0.093682
<b>Financials ETF</b>	-0.048166	0.508740	0.933164	0.208614
<b>Health Care ETF</b>	-0.100433	0.650529	0.278976	0.215182
<b>Industrials ETF</b>	-0.027615	0.360421	0.307577	0.133187
<b>Information Technology ETF</b>	0.020546	0.480423	0.562966	0.220841
<b>Materials ETF</b>	-0.072960	0.371283	0.191302	0.206478
<b>Real Estate ETF</b>	-0.073157	0.604012	0.271246	0.220111
<b>Utilities ETF</b>	-0.006140	0.544116	0.518265	0.342246

p values

	03-31	06-30	09-30	12-31
<b>SP1500</b>	0.487036	0.675887	0.671106	0.573766
<b>SP500</b>	0.484537	0.678247	0.681422	0.576557
<b>SP600</b>	0.485364	0.644372	0.583899	0.552872
<b>SP400</b>	0.479310	0.627889	0.589904	0.560685
<b>Communication Services ETF</b>	0.461012	0.627646	0.581136	0.523813
<b>Consumer Discretionary ETF</b>	0.477047	0.630688	0.601465	0.567662
<b>Consumer Staples ETF</b>	0.468307	0.657720	0.613641	0.615774
<b>Energy ETF</b>	0.524851	0.593553	0.434579	0.534366
<b>Financials ETF</b>	0.482306	0.677006	0.790214	0.575945
<b>Health Care ETF</b>	0.463168	0.719135	0.600805	0.578288
<b>Industrials ETF</b>	0.489852	0.628793	0.610739	0.548761
<b>Information Technology ETF</b>	0.507551	0.668108	0.693606	0.580304
<b>Materials ETF</b>	0.473215	0.632451	0.569748	0.575182
<b>Real Estate ETF</b>	0.473143	0.705773	0.598102	0.580044
<b>Utilities ETF</b>	0.497743	0.687902	0.679964	0.622630

```
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**Figure 11: A Sector Roadmap for Business Cycles**



# Cycles

	<u>Expansion</u>	<u>Slowdown</u>	<u>Recession</u>	<u>Recovery</u>
Strongest	Tech Financials Real Estate Consumer D Industrials Materials Energy Healthcare Cons. Staples Utilities	Cons. Staples Healthcare Industrials Utilities Tech Energy Financials Materials Consumer D Real Estate	Cons. Staples Energy Utilities Healthcare Consumer D Materials Industrials Financials Tech Real Estate	Real Estate Consumer D Materials Tech Industrials Energy Financials Healthcare Cons. Staples Utilities
Weakest				

	Energy ETF	Consumer Staples ETF	Utilities ETF	Health Care ETF	Materials ETF	SP600	Industrials ETF	SP1500	Financials ETF	SP500	Real Estate ETF	SP400	Communication Services ETF	Information Technology ETF	Consumer Discretionary ETF
2017-03-31 00:00:00	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
2017-06-30 00:00:00	-0.078709	0.010040	0.022113	0.072895	0.026999	0.018327	0.042167	0.030375	0.038955	0.030708	0.017375	0.031752	-0.024136	0.041388	0.028386
2017-09-30 00:00:00	0.069612	-0.012346	0.031518	0.040565	0.066617	0.064962	0.052781	0.044807	0.052789	0.045666	0.008095	0.035020	0.015498	0.083223	0.014521
2017-12-31 00:00:00	0.073946	0.059268	0.000687	0.018576	0.071798	0.038747	0.066175	0.066880	0.073683	0.069917	0.012742	0.074139	0.000763	0.093087	0.097848
2018-03-31 00:00:00	-0.078807	-0.073521	-0.033734	-0.020049	-0.072483	-0.011631	-0.033542	-0.021321	-0.015065	-0.024130	-0.086159	-0.003978	-0.085669	0.020711	-0.001942
2018-06-30 00:00:00	0.150528	0.006353	0.053422	0.055259	0.036210	0.106722	-0.008057	0.052094	-0.011331	0.047568	0.094633	0.045520	0.035862	0.080437	0.088528
2018-09-30 00:00:00	0.021911	0.050064	0.019751	0.137698	0.007338	0.032842	0.094874	0.070536	0.031675	0.078236	0.000044	0.032902	0.023115	0.117719	0.066008
2018-12-31 00:00:00	-0.267451	-0.055862	0.009925	-0.108129	-0.154310	-0.193040	-0.183620	-0.142834	-0.138848	-0.137319	-0.058855	-0.172165	-0.143117	-0.174415	-0.162070
2019-03-31 00:00:00	0.178564	0.111156	0.103055	0.081835	0.126958	0.124660	0.183161	0.151853	0.109942	0.144236	0.173365	0.157497	0.139541	0.217473	0.157197
2019-06-30 00:00:00	-0.048754	0.036556	0.035855	0.017469	0.040951	0.010843	0.034436	0.039106	0.067026	0.040369	0.015389	0.030815	0.035928	0.054745	0.040127
2019-09-30 00:00:00	-0.075658	0.056319	0.090872	-0.035439	-0.013089	-0.004200	0.004465	0.006291	0.013235	0.011423	0.075811	-0.009122	-0.002023	0.016115	0.002509
2019-12-31 00:00:00	0.054552	0.036517	0.002011	0.147851	0.066971	0.082573	0.058155	0.090490	0.096390	0.089876	0.005745	0.066590	0.086727	0.139034	0.056223
2020-03-31 00:00:00	-0.523877	-0.141472	-0.141270	-0.131539	-0.278876	-0.328050	-0.279339	-0.205302	-0.330709	-0.194477	-0.241350	-0.247693	-0.187109	-0.131215	-0.231167
2020-06-30 00:00:00	0.332245	0.094561	0.024507	0.164463	0.260712	0.223617	0.182339	0.206715	0.135641	0.201618	0.135399	0.259149	0.224230	0.318555	0.379795
2020-09-30 00:00:00	-0.188315	0.098022	0.051209	0.062281	0.120651	0.032878	0.118587	0.086119	0.028859	0.090383	0.013268	0.068091	0.097573	0.120087	0.192380
2020-12-31 00:00:00	0.300830	0.074374	0.073335	0.101111	0.172363	0.312278	0.178685	0.132216	0.253698	0.121185	0.092916	0.211458	0.182130	0.138205	0.172875
2021-03-31 00:00:00	0.324479	0.030385	0.031042	0.025327	0.105419	0.184526	0.116450	0.070761	0.165207	0.063518	0.087920	0.084662	0.083288	0.015110	0.073815
2021-06-30 00:00:00	0.126094	0.029888	-0.005272	0.083442	0.049264	0.043034	0.040613	0.080495	0.074954	0.083593	0.115985	0.033635	0.108092	0.114030	0.064435
2021-09-30 00:00:00	-0.026222	-0.018026	0.002739	0.000121	-0.041816	-0.030694	-0.043573	0.000378	0.024323	0.002523	-0.000098	-0.024123	-0.021207	0.006319	-0.012866
2021-12-31 00:00:00	0.050203	0.115277	0.124048	0.077925	0.136524	0.049293	0.080207	0.103038	0.042310	0.106772	0.139811	0.077726	-0.037011	0.141743	0.099010
2022-03-31 00:00:00	0.379204	-0.019862	0.034591	-0.045192	-0.014374	-0.058344	-0.041831	-0.049102	-0.032929	-0.049099	-0.065856	-0.089783	-0.114414	-0.090992	-0.103975
2022-06-17 00:00:00	-0.043815	-0.096218	-0.125888	-0.134327	-0.161041	-0.165794	-0.178228	-0.184779	-0.187815	-0.189930	-0.190735	-0.192427	-0.226489	-0.232112	-0.260025

## AnalyzeSP1500

	2017-03-31 00:00:00	2017-06-30 00:00:00	2017-09-30 00:00:00	2017-12-31 00:00:00	2018-03-31 00:00:00	2018-06-30 00:00:00	2018-09-30 00:00:00	2018-12-31 00:00:00	2019-03-31 00:00:00	2019-06-30 00:00:00	2019-09-30 00:00:00	2019-12-31 00:00:00	2020-03-31 00:00:00	2020-06-30 00:00:00	2020-09-30 00:00:00	2020-12-31 00:00:00	2021-03-31 00:00:00	2021-06-30 00:00:00	2021-09-30 00:00:00	2021-12-31 00:00:00	2022-03-31 00:00:00	2022-06-17 00:00:00
0	Health Care ETF	Information Technology ETF	Consumer Discretionary ETF	Information Technology ETF	Energy ETF	Health Care ETF	Utilities ETF	Information Technology ETF	Financials ETF	Utilities ETF	Health Care ETF	Information Technology ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	SP600	Energy ETF	Energy ETF	Financials ETF	Information Technology ETF	Energy ETF	Energy ETF	Energy ETF
	Industrials ETF	Energy ETF	Information Technology ETF	Consumer Discretionary ETF	SP600	Information Technology ETF	Consumer Staples ETF	Industrials ETF	Information Technology ETF	Real Estate ETF	Information Technology ETF	Health Care ETF	Energy ETF	Materials ETF	Energy ETF	SP600	Real Estate ETF	Information Technology ETF	Real Estate ETF	Utilities ETF	Consumer Staples ETF	Consumer Staples ETF
	Information Technology ETF	Materials ETF	SP400	SP400	Real Estate ETF	Industrials ETF	Real Estate ETF	Energy ETF	Materials ETF	Consumer Staples ETF	Financials ETF	Utilities ETF	Information Technology ETF	Information Technology ETF	Financials ETF	Financials ETF	Information Technology ETF	Utilities ETF	Materials ETF	Materials ETF	Utilities ETF	Utilities ETF
	Financials ETF	SP600	Energy ETF	SP600	Consumer Discretionary ETF	SP500	Health Care ETF	Real Estate ETF	SP500	Information Technology ETF	SP1500	Consumer Staples ETF	Materials ETF	Industrials ETF	SP400	Industrials ETF	Communication Services ETF	SP500	Utilities ETF	Consumer Staples ETF	Health Care ETF	Health Care ETF
	SP400	Financials ETF	Financials ETF	Financials ETF	Information Technology ETF	SP1500	SP500	SP400	Consumer Discretionary ETF	Financials ETF	SP500	Communication Services ETF	SP400	Consumer Staples ETF	Communication Services ETF	Materials ETF	SP500	SP1500	Consumer Staples ETF	Financials ETF	Materials ETF	Materials ETF
	SP500	Industrials ETF	Materials ETF	Health Care ETF	Health Care ETF	Consumer Discretionary ETF	Financials ETF	Consumer Discretionary ETF	SP1500	SP500	Communication Services ETF	SP500	Communication Services ETF	Communication Services ETF	Industrials ETF	Real Estate ETF	Health Care ETF	Health Care ETF	SP500	Industrials ETF	SP600	SP600
	SP1500	SP500	SP500	SP1500	Utilities ETF	Consumer Staples ETF	SP1500	SP1500	Consumer Staples ETF	SP1500	SP600	SP1500	SP600	SP500	SP600	SP500	SP400	SP1500	Real Estate ETF	SP1500	Health Care ETF	Industrials ETF
	Consumer Discretionary ETF	SP1500	SP1500	SP1500	SP500	SP1500	SP400	Communication Services ETF	SP500	Communication Services ETF	Industrials ETF	Materials ETF	Consumer Discretionary ETF	SP1500	SP1500	Materials ETF	Communication Services ETF	Financials ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	SP500	SP1500
	Materials ETF	Health Care ETF	Industrials ETF	Industrials ETF	SP500	SP600	Materials ETF	Communication Services ETF	Communication Services ETF	Utilities ETF	Consumer Discretionary ETF	SP400	Real Estate ETF	SP500	SP400	Information Technology ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	Consumer Staples ETF	Industrials ETF	SP1500	Financials ETF
	Utilities ETF	SP400	Consumer Staples ETF	Utilities ETF	SP400	Financials ETF	Consumer Discretionary ETF	Materials ETF	Industrials ETF	Communication Services ETF	Industrials ETF	SP400	Industrials ETF	Health Care ETF	SP1500	SP1500	Materials ETF	Communication Services ETF	Health Care ETF	SP600	SP500	SP500
	SP600	Utilities ETF	SP600	Materials ETF	Materials ETF	Communication Services ETF	SP400	SP600	SP400	SP600	Consumer Discretionary ETF	Materials ETF	Health Care ETF	Utilities ETF	SP500	SP500	SP600	SP600	SP400	SP400	Real Estate ETF	Real Estate ETF
	Real Estate ETF	Communication Services ETF	Health Care ETF	Consumer Staples ETF	Communication Services ETF	Energy ETF	Information Technology ETF	Consumer Staples ETF	Health Care ETF	SP400	Energy ETF	Industrials ETF	Financials ETF	SP600	Health Care ETF	Utilities ETF	Industrials ETF	Energy ETF	Energy ETF	SP400	SP400	SP400
	Consumer Staples ETF	Consumer Discretionary ETF	Real Estate ETF	Energy ETF	Consumer Staples ETF	Utilities ETF	Industrials ETF	Financials ETF	Real Estate ETF	Materials ETF	Consumer Staples ETF	SP600	Real Estate ETF	Financials ETF	Real Estate ETF	Consumer Staples ETF	SP400	SP600	SP600	Information Technology ETF	Communication Services ETF	Communication Services ETF
	Communication Services ETF	Real Estate ETF	Communication Services ETF	Communication Services ETF	Industrial ETF	Materials ETF	SP600	Utilities ETF	SP600	Health Care ETF	Real Estate ETF	Financials ETF	Consumer Staples ETF	Real Estate ETF	Consumer Staples ETF	Health Care ETF	Consumer Staples ETF	Materials ETF	Financials ETF	Consumer Discretionary ETF	Information Technology ETF	Information Technology ETF
	Energy ETF	Consumer Staples ETF	Utilities ETF	Real Estate ETF	Financials ETF	Real Estate ETF	Energy ETF	Health Care ETF	Energy ETF	Energy ETF	Utilities ETF	Energy ETF	Utilities ETF	Utilities ETF	Utilities ETF	Information Technology ETF	Utilities ETF	Industrials ETF	Communication Services ETF	Communication Services ETF	Consumer Discretionary ETF	Consumer Discretionary ETF

Comparative to Seasonal Indexes, tells you who is over or underperforming.

This is Seasonal Index - Extrapolated Current Quarter.

+: seasonal &gt; current

-: current &gt; seasonal

Note if the final data in the prices ends on a quarter, this will aggregate into the seasonal\_index above and there will be no comparison

2022-06-17

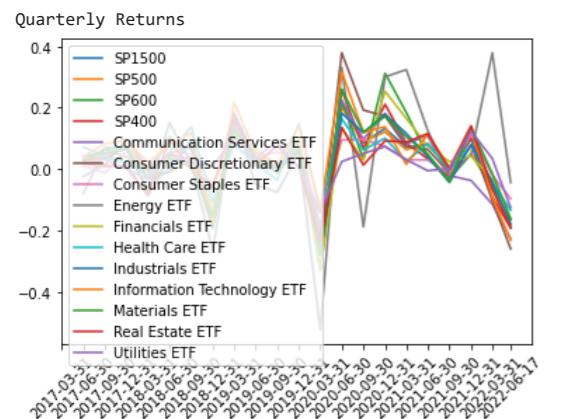
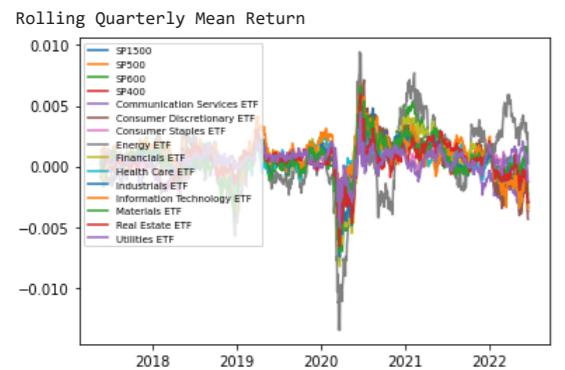
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Consumer Discretionary ETF	0.103945
Energy ETF	0.083099
Materials ETF	0.071426
SP1500	0.070498
SP500	0.069644
SP600	0.069416
SP400	0.069126
Health Care ETF	0.067854
Communication Services ETF	0.065505
Real Estate ETF	0.065298
Financials ETF	0.052571
Industrials ETF	0.050194
Consumer Staples ETF	0.030500
Utilities ETF	0.022444

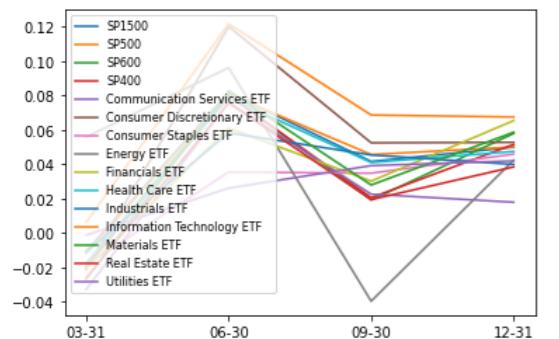
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0	Utilities ETF	Energy ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	Energy ETF	Health Care ETF	Utilities ETF	Information Technology ETF	Utilities ETF	Real Estate ETF	Health Care ETF	Health Care ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	Energy ETF	Energy ETF	Real Estate ETF	Energy ETF	Real Estate ETF	Energy ETF	Information Technology ETF
1	Health Care ETF	SP600	Energy ETF	SP400	Utilities ETF	Energy ETF	Real Estate ETF	Real Estate ETF	Financials ETF	Utilities ETF	Information Technology ETF	Consumer Staples ETF	Energy ETF	Materials ETF	SP600	SP600	Communication Services ETF	Financials ETF	Utilities ETF	Utilities ETF	Consumer Discretionary ETF
2	Industrials ETF	Materials ETF	Industrials ETF	Information Technology ETF	SP600	Industrials ETF	Consumer Staples ETF	Industrials ETF	Consumer Staples ETF	Consumer Staples ETF	Communication Services ETF	Information Technology ETF	Information Technology ETF	Communication Services ETF	Financials ETF	Financials ETF	Energy ETF	Real Estate ETF	Materials ETF	Materials ETF	Energy ETF
3	Financials ETF	Financials ETF	Information Technology ETF	SP600	Real Estate ETF	Information Technology ETF	Health Care ETF	Consumer Discretionary ETF	Industrials ETF	Financials ETF	SP1500	Utilities ETF	SP400	Industrials ETF	Communication Services ETF	Materials ETF	Financials ETF	Utilities ETF	Information Technology ETF	Consumer Staples ETF	Materials ETF
4	Consumer Staples ETF	Information Technology ETF	SP400	Financials ETF	Health Care ETF	SP500	Communication Services ETF	SP400	Communication Services ETF	SP600	SP500	Communication Services ETF	Materials ETF	Consumer Staples ETF	SP400	Industrials ETF	Health Care ETF	Health Care ETF	Consumer Staples ETF	Financials ETF	SP1500
5	SP400	SP400	SP500	Health Care ETF	Consumer Staples ETF	SP1500	SP500	Communication Services ETF	SP500	Communication Services ETF	Financials ETF	SP500	Communication Services ETF	Industrials ETF	Communication Services ETF	SP500	SP500	SP500	Health Care ETF	SP500	SP500
6	SP500	Industrials ETF	SP1500	SP1500	SP1500	Consumer Staples ETF	SP1500	SP1500	Materials ETF	SP400	SP600	SP1500	SP600	SP400	Consumer Discretionary ETF	Real Estate ETF	SP1500	SP500	SP1500	Industrials ETF	SP600
7	SP1500	SP1500	Consumer Staples ETF	SP500	Consumer Discretionary ETF	SP600	Financials ETF	SP500	SP1500	SP500	Industrials ETF	Consumer Discretionary ETF	SP1500	SP500	Materials ETF	SP400	Consumer Staples ETF	Communication Services ETF	SP500	SP400	SP400
8	Materials ETF	SP500	Materials ETF	Industrials ETF	SP500	Consumer Discretionary ETF	SP400	Materials ETF	SP400	SP1500	SP400	Real Estate ETF	Industrials ETF	SP1500	SP1500	Consumer Discretionary ETF	SP400	Industrials ETF	SP1500	Health Care ETF	
9	Real Estate ETF	Health Care ETF	Financials ETF	Utilities ETF	SP400	SP400	Consumer Discretionary ETF	SP600	Real Estate ETF	Energy ETF	Energy ETF	SP400	SP500	Health Care ETF	SP500	SP1500	Industrials ETF	SP600	Health Care ETF	Real Estate ETF	Communication Services ETF
10	SP600	Communication Services ETF	Communication Services ETF	Materials ETF	Communication Services ETF	Financials ETF	Industrials ETF	Financials ETF	Health Care ETF	Industrials ETF	Materials ETF	Materials ETF	Health Care ETF	SP600	Information Technology ETF	SP500	Utilities ETF	Consumer Staples ETF	SP400	SP600	Real Estate ETF
11	Information Technology ETF	Utilities ETF	SP600	Communication Services ETF	Information Technology ETF	SP400	Consumer Staples ETF	Information Technology ETF	Materials ETF	Consumer Discretionary ETF	Industrials ETF	Financials ETF	Utilities ETF	Real Estate ETF	Consumer Staples ETF	Materials ETF	Information Technology ETF	Energy ETF	SP400	Financials ETF	
12	Consumer Discretionary ETF	Real Estate ETF	Real Estate ETF	Consumer Staples ETF	Materials ETF	Real Estate ETF	Information Technology ETF	Energy ETF	SP600	Consumer Discretionary ETF	Consumer Staples ETF	Financials ETF	Real Estate ETF	Financials ETF	Health Care ETF	Health Care ETF	SP600	Consumer Discretionary ETF	SP600	Communication Services ETF	Industrials ETF
13	Communication Services ETF	Consumer Discretionary ETF	Health Care ETF	Real Estate ETF	Industrials ETF	Utilities ETF	SP600	Utilities ETF	Consumer Discretionary ETF	Information Technology ETF	Real Estate ETF	SP600	Consumer Staples ETF	Real Estate ETF	Utilities ETF	Utilities ETF	SP400	Materials ETF	Financials ETF	Consumer Discretionary ETF	Consumer Staples ETF
14	Energy ETF	Consumer Staples ETF	Utilities ETF	Energy ETF	Financials ETF	Materials ETF	Energy ETF	Health Care ETF	Energy ETF	Health Care ETF	Utilities ETF	Energy ETF	Utilities ETF	Energy ETF	Energy ETF	Consumer Staples ETF	Information Technology ETF	Consumer Discretionary ETF	Industrials ETF	Communication Services ETF	Information Technology ETF

Index	Symbol	risk_trend_factor	
0	SP500	SPY	-3.791861
1	SP1500	SPTM	-3.879022
2	SP400	MDYG	-5.134573
3	SP600	SLY	-5.242200

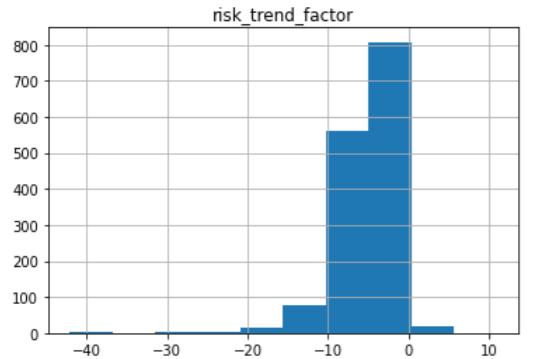
	Symbol	risk_trend_factor	Sector
3	VDE	-0.123306	Energy ETF
2	VDC	-2.283970	Consumer Staples ETF
10	VPU	-2.520459	Utilities ETF
9	VNQ	-3.053370	Real Estate ETF
8	VAW	-3.165271	Materials ETF
5	VHT	-3.323632	Health Care ETF
6	VIS	-4.514668	Industrials ETF
4	VFH	-4.617891	Financials ETF
1	VCR	-4.721407	Consumer Discretionary ETF
7	VGT	-4.954472	Information Technology ETF
0	VOX	-8.783598	Communication Services ETF





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       'pct_2yr', 'MIN_Lookback_One_Year', 'MIN_Lookback_2_Months',
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       '1YMF', 'Market Index', 'Sector'],
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Symbol	latest_p	MIN_Lookback_One_Year	MIN_Lookback_2_Months	MIN_Lookback_1_Months	risk_trend_factor	volume_factor	adf	hurst	Sector	Market Index	index	index_Symbol
<b>ACC</b>	64.230003	49.209999	65.019997	65.019997	10.926848	2.134689	0.978004	0.420279	Real Estate	SP400	NaN	NaN
<b>MTOR</b>	35.939999	32.93	36.279999	36.279999	5.065223	1.664475	0.319063	0.43585	error	SP600	NaN	NaN
<b>TVTY</b>	32.130001	27.870001	32.889999	32.889999	2.341879	1.643789	0.518794	0.448871	error	SP600	NaN	NaN
<b>BANF</b>	94.860001	77.379997	86.82	86.82	2.011991	1.135864	0.955166	0.536352	error	SP600	NaN	NaN
<b>Y</b>	830.5	737.890015	862.869995	862.869995	1.771776	1.56538	0.382688	0.459685	Financial Services	SP400	NaN	NaN
...	...	...	...	...	...	...	...	...	...	...	...	...
<b>ODFL</b>	NaN	NaN	NaN	NaN	-5.178995	NaN	NaN	NaN	Industrials	NaN	SP500	SPY
<b>EW</b>	NaN	NaN	NaN	NaN	-2.677285	NaN	NaN	NaN	Healthcare	NaN	SP500	SPY
<b>PCRX</b>	NaN	NaN	NaN	NaN	-2.849253	NaN	NaN	NaN	Healthcare	NaN	SP600	SLY
<b>CBOE</b>	NaN	NaN	NaN	NaN	-4.539896	NaN	NaN	NaN	Financial Services	NaN	SP500	SPY
<b>PCAR</b>	NaN	NaN	NaN	NaN	-4.010257	NaN	NaN	NaN	Industrials	NaN	SP500	SPY

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temp\_sm

Symbol	index	MIN_Lookback_One_Year	MIN_Lookback_2_Months	MIN_Lookback_1_Months	risk_trend_factor	risk_per_share	volume_factor
<b>A</b>	2022-06-17	147.679993	179.570007	179.570007	-9.088903	18.559998	1.131711
<b>AA</b>	2022-06-17	44.419998	98.089996	98.089996	-3.704472	25.040001	0.98632
<b>AAL</b>	2022-06-17	22.549999	22.549999	22.549999	-3.126898	9.219999	0.707794
<b>AAN</b>	2022-06-17	NaN	35.439999	35.439999	NaN	6.969999	NaN
<b>AAON</b>	2022-06-17	81.25	83.790001	83.790001	-10.22921	9.380001	1.041044
...	...	...	...	...	...	...	...
<b>ZIMV</b>	2022-06-17	NaN	NaN	NaN	NaN	7.92	NaN
<b>ZION</b>	2022-06-17	60.650002	75.440002	75.440002	-4.600841	11.900002	0.978199
<b>ZTS</b>	2022-06-17	187.320007	249.270004	249.270004	-6.71488	31.180008	1.095466
<b>ZUMZ</b>	2022-06-17	50.060001	55.099998	55.099998	-5.921479	12.989998	1.674903
<b>ZYXI</b>	2022-06-17	16.263636	16.263636	16.263636	-10.695845	2.43	0.673641

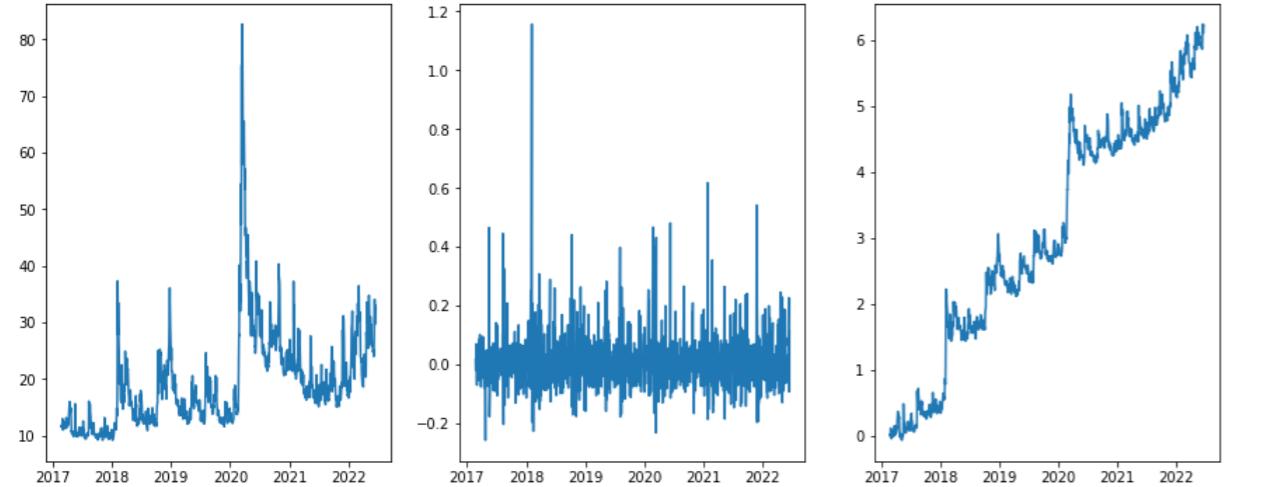
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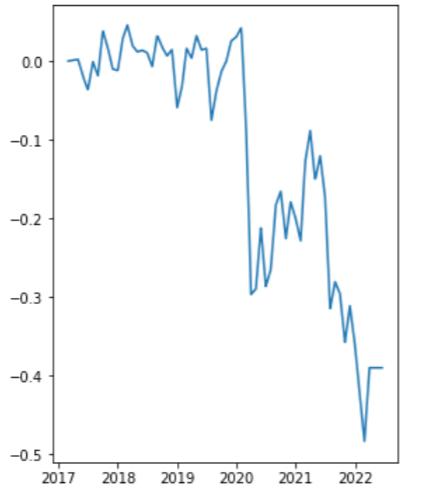
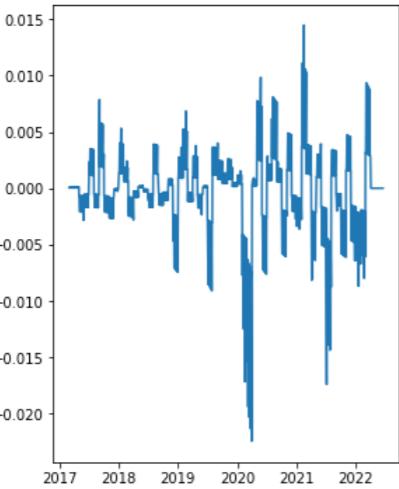
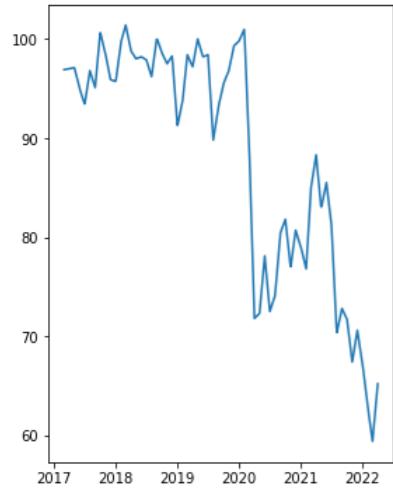
Symbol	MIN_Lookback_One_Year	MIN_Lookback_2_Months	MIN_Lookback_1_Months	risk_trend_factor	risk_per_share	volume_factor	index	sector	sector_risk_trend_factor	index	Sector
ACC	49.209999	65.019997	65.019997	10.926848	1.23	2.134689	VNQ	MDYG	-3.05337	SP400	Real Estate
MTOR	32.93	36.279999	36.279999	5.065223	0.459999	1.664475	error	SLY	error	SP600	error
TVTY	27.870001	32.889999	32.889999	2.341879	1.170002	1.643789	error	SLY	error	SP600	error
BANF	77.379997	86.82	86.82	2.011991	16.68	1.135864	error	SLY	error	SP600	error
Y	737.890015	862.869995	862.869995	1.771776	15.72998	1.56538	VFH	MDYG	-4.617891	SP400	Financial Services
SAFM	177.479996	200.0	200.0	1.751569	27.089996	1.334104	VDC	MDYG	-2.28397	SP400	Consumer Defensive
SJI	29.24	35.32	35.32	1.295238	2.100002	0.791297	error	SLY	error	SP600	error
LNTH	25.790001	64.139999	69.738998	1.178774	19.079998	1.823238	VHT	SLY	-3.323632	SP600	Healthcare
ROG	206.130005	274.51001	274.51001	1.068804	21.51001	0.980653	error	SLY	error	SP600	error
TWI	11.82	15.77	18.889999	0.931088	6.53	1.389288	VIS	SLY	-4.514668	SP600	Industrials
PBF	18.780001	30.129999	32.41	0.887657	19.849998	0.835417	VDE	SLY	-0.123306	SP600	Energy
GO	36.77	36.77	37.82	0.842135	10.793999	1.191531	VDC	MDYG	-2.28397	SP400	Consumer Defensive
HRB	26.23	28.17	34.959999	0.731411	13.180002	0.963511	VCR	MDYG	-4.721407	SP400	Consumer Cyclical
AZPN	162.559998	169.220001	191.460007	0.719312	61.670013	0.677612	VGT	MDYG	-4.954472	SP400	Technology
CEIX	18.93	50.389999	55.259998	0.677246	20.48	1.548727	VDE	SLY	-0.123306	SP600	Energy
PSB	165.850006	189.229996	189.830002	0.57675	22.279999	2.540601	error	MDYG	error	SP400	error
MCK	204.660004	333.440002	339.940002	0.573819	41.25	1.048139	VHT	SPY	-3.323632	SP500	Healthcare
GCP	27.780001	32.279999	32.279999	0.502796	0.895	1.87078	error	SLY	error	SP600	error
WRB	54.953335	71.269997	71.529999	0.374885	7.220001	1.220256	VFH	SPY	-4.617891	SP500	Financial Services
FCN	147.380005	167.279999	170.649994	0.359043	18.800003	0.694756	error	MDYG	error	SP400	error
XOM	64.800003	91.510002	92.919998	0.347413	26.279999	1.153813	VDE	SPY	-0.123306	SP500	Energy
MANT	92.0	92.0	94.730003	0.320637	17.590004	2.782348	VGT	SLY	-4.954472	SP600	Technology
SM	24.780001	43.689999	43.689999	0.305033	22.850002	0.640686	VDE	SLY	-0.123306	SP600	Energy
DINO	39.389999	40.950001	48.290001	0.269915	23.599998	1.094012	VDE	MDYG	-0.123306	SP400	Energy
PLAB	14.56	20.299999	20.299999	0.264129	8.670001	2.163783	VGT	SLY	-4.954472	SP600	Technology
MPC	64.839996	91.879997	98.290001	0.209274	32.779999	1.221452	VDE	SPY	-0.123306	SP500	Energy
LLY	235.850006	314.0	314.0	0.187301	47.25	0.967658	VHT	SPY	-3.323632	SP500	Healthcare
VLO	84.949997	111.519997	131.690002	0.182835	50.099998	1.3872	VDE	SPY	-0.123306	SP500	Energy
APA	24.299999	45.220001	45.27	0.181301	15.830002	0.999608	VDE	SPY	-0.123306	SP500	Energy
PPC	26.280001	29.700001	30.559999	0.177885	8.32	1.275425	VDC	MDYG	-2.28397	SP400	Consumer Defensive
MRO	14.16	27.719999	29.0	0.151107	10.390001	1.000459	VDE	SPY	-0.123306	SP500	Energy
DVN	31.99	64.980003	73.18	0.148782	26.280003	1.104104	VDE	SPY	-0.123306	SP500	Energy
UTHR	212.619995	218.380005	218.380005	0.139402	62.839996	1.481235	VHT	MDYG	-3.323632	SP400	Healthcare
VIVO	27.450001	28.719999	28.719999	0.109712	5.559999	0.591657	error	SLY	error	SP600	error
ROCC	25.59	42.66	42.66	0.108216	23.564001	1.213679	VDE	SLY	-0.123306	SP600	Energy
COP	61.779999	107.519997	108.300003	0.10252	35.310005	0.95084	VDE	SPY	-0.123306	SP500	Energy
OXY	32.52	63.240002	69.169998	0.093736	22.510002	1.190976	VDE	SPY	-0.123306	SP500	Energy
MGPI	76.68	97.610001	104.0	0.074244	15.220001	1.204144	error	SLY	error	SP600	error
MTDR	34.91	59.119999	59.27	0.012469	24.059998	0.702256	VDE	MDYG	-0.123306	SP400	Energy
CIVI	50.98	66.419998	67.610001	-0.161203	29.590004	1.757641	VDE	SLY	-0.123306	SP600	Energy
AZO	1542.300049	2267.22998	2267.399902	-0.188687	526.160034	1.078463	VCR	SPY	-4.721407	SP500	Consumer Cyclical
MUSA	159.0	249.110001	262.579987	-0.239876	45.189987	1.334565	VCR	MDYG	-4.721407	SP400	Consumer Cyclical
UFCS	32.93	32.93	32.93	-0.241611	4.470001	1.187165	error	SLY	error	SP600	error
CVBF	24.370001	24.370001	24.370001	-0.307694	2.34	1.598852	VFH	SLY	-4.617891	SP600	Financial Services
EOG	87.989998	127.949997	132.350006	-0.308981	42.980003	0.966433	VDE	SPY	-0.123306	SP500	Energy
CYTK	30.139999	47.900002	47.900002	-0.373333	11.25	0.618546	VHT	SLY	-3.323632	SP600	Healthcare
ULTA	351.720001	437.220001	438.630005	-0.406162	98.680023	1.308411	VCR	SPY	-4.721407	SP500	Consumer Cyclical

Symbol	MIN_Lookback_One_Year	MIN_Lookback_2_Months	MIN_Lookback_1_Months	risk_trend_factor	risk_per_share	volume_factor	index	sector	sector_risk_trend_factor	index	Sector
EQT	23.24	45.5	45.5	-0.406587	15.790001	1.286201	VDE	MDYG	-0.123306	SP400	Energy
PTEN	10.99	18.719999	18.77	-0.410714	6.72	1.071603	VDE	SLY	-0.123306	SP600	Energy
LPI	75.059998	99.260002	99.260002	-0.436873	66.77	1.480449	VDE	SLY	-0.123306	SP600	Energy
NTCT	31.91	34.869999	35.349998	-0.451351	7.4	1.227115	VGT	SLY	-4.954472	SP600	Technology
BMY	67.959999	78.129997	78.470001	-0.471015	6.900002	1.240092	VHT	SPY	-3.323632	SP500	Healthcare
PSX	94.339996	94.339996	98.660004	-0.476348	33.190002	1.286747	VDE	SPY	-0.123306	SP500	Energy
NOC	379.029999	490.820007	490.820007	-0.478305	60.379974	0.996341	VIS	SPY	-4.514668	SP500	Industrials
SNEX	70.470001	77.5	77.5	-0.482537	14.030006	1.141643	error	SLY	error	SP600	error
TALO	18.24	20.6	21.370001	-0.496599	8.82	1.661246	VDE	SLY	-0.123306	SP600	Energy
FANG	92.309998	147.990005	147.990005	-0.501874	42.680008	1.13222	VDE	SPY	-0.123306	SP500	Energy
CVX	113.110001	174.759995	175.649994	-0.502048	36.610001	1.062215	VDE	SPY	-0.123306	SP500	Energy
CTRA	20.33	31.42	33.0	-0.506416	10.129999	1.576163	VDE	SPY	-0.123306	SP500	Energy
DLTR	120.370003	177.149994	177.190002	-0.509804	47.939995	1.139688	VDC	SPY	-2.28397	SP500	Consumer Defensive
EXLS	108.07	153.139999	154.979996	-0.516764	25.949997	1.162846	error	SLY	error	SP600	error
PDCE	49.919998	79.389999	79.389999	-0.539647	26.610001	1.314132	VDE	MDYG	-0.123306	SP400	Energy
SAFT	87.980003	93.18	93.18	-0.545302	11.920006	1.224409	error	SLY	error	SP600	error
RRC	16.32	34.610001	34.610001	-0.564298	11.819998	0.930726	VDE	MDYG	-0.123306	SP400	Energy
HES	90.970001	117.059998	119.43	-0.576982	32.670006	1.067832	VDE	SPY	-0.123306	SP500	Energy
VRTX	234.580002	292.75	292.75	-0.630965	48.830002	0.879467	VHT	SPY	-3.323632	SP500	Healthcare
HALO	46.619999	46.619999	46.619999	-0.639725	11.630001	0.928279	VHT	MDYG	-3.323632	SP400	Healthcare
CSL	197.210007	260.690002	275.130005	-0.659255	44.520004	0.893561	VIS	MDYG	-4.514668	SP400	Industrials
NFG	55.220001	74.32	74.32	-0.690476	10.919998	1.09896	VDE	MDYG	-0.123306	SP400	Energy
CAL	28.34	29.360001	29.360001	-0.694553	10.280001	1.602114	VCR	SLY	-4.721407	SP600	Consumer Cyclical
UNM	31.98	34.029999	36.73	-0.695054	7.280003	0.872299	VFH	MDYG	-4.617891	SP400	Financial Services
HSY	175.550003	231.0	231.600006	-0.706836	28.380005	1.169855	VDC	SPY	-2.28397	SP500	Consumer Defensive
GFF	29.190001	29.42	31.700001	-0.713654	15.820002	1.243283	VIS	SLY	-4.514668	SP600	Industrials
PXD	175.369995	260.0	279.980011	-0.727749	68.759995	1.317982	VDE	SPY	-0.123306	SP500	Energy

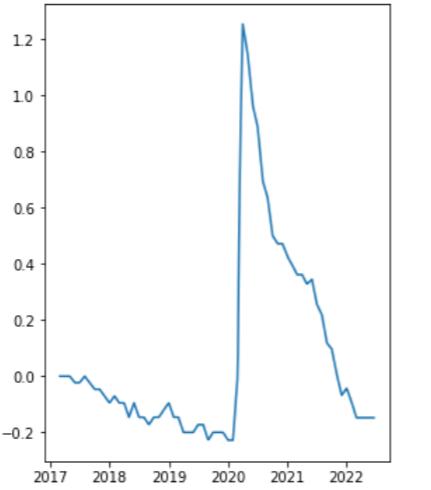
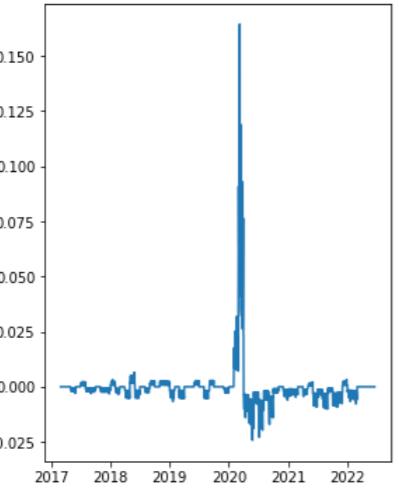
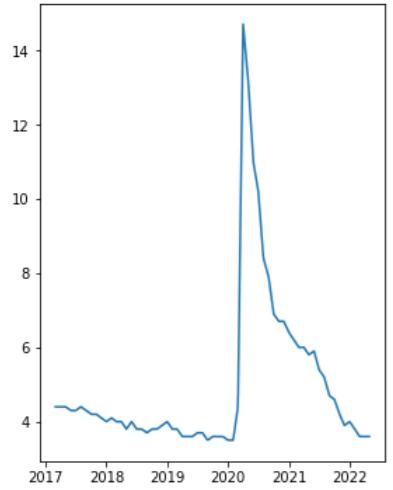
nominal, pct\_change, pct\_change().cumsum  
Market volatility



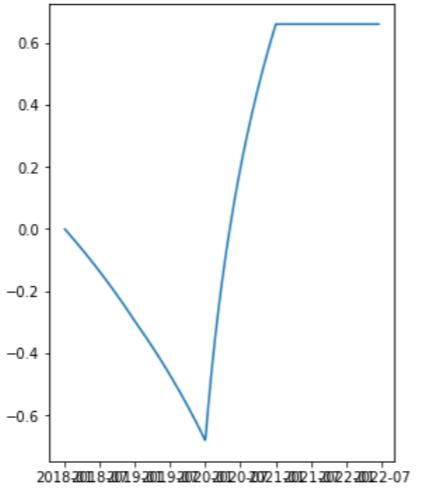
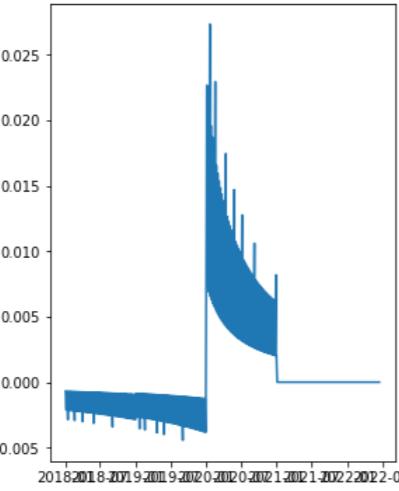
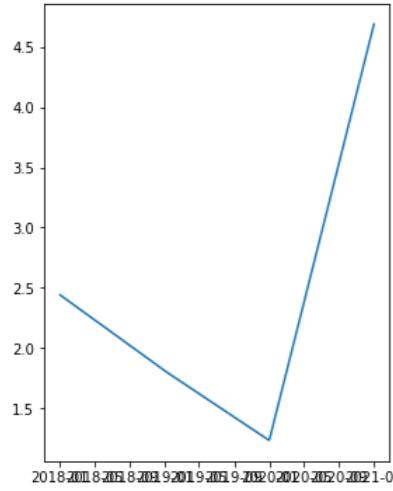
Consumer Confidence



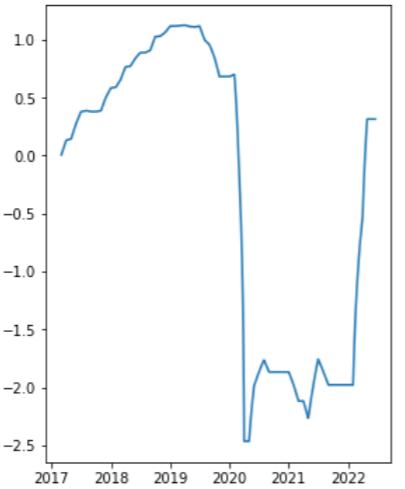
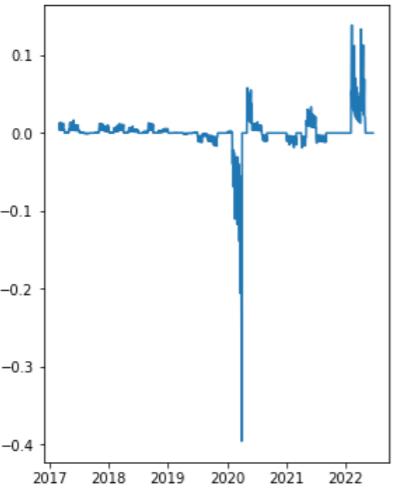
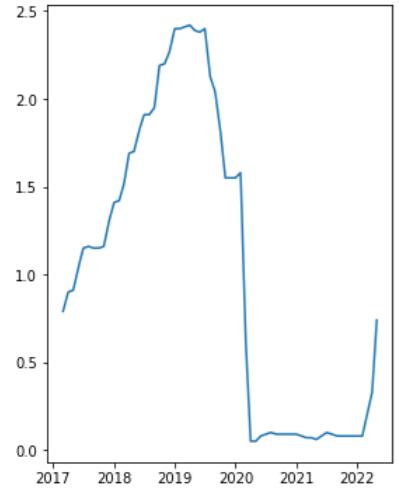
Unemployment



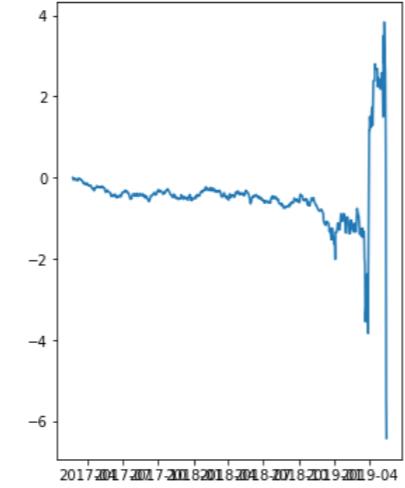
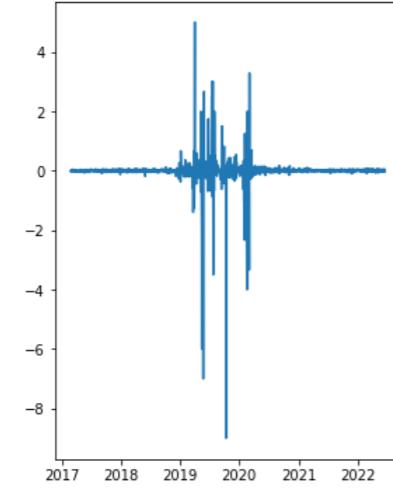
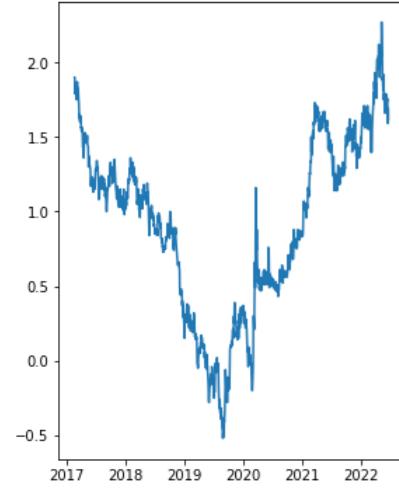
Inflation



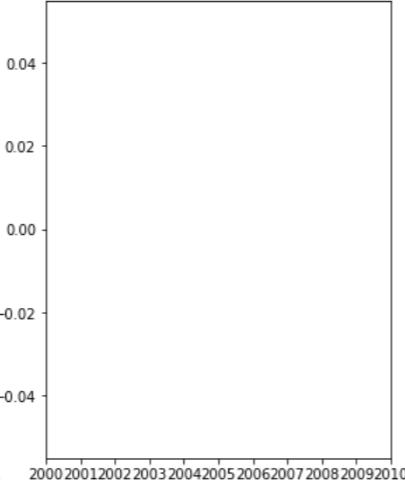
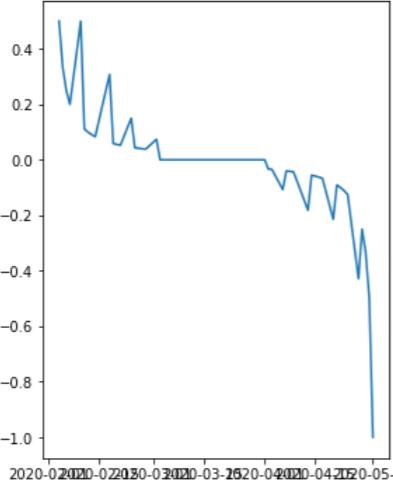
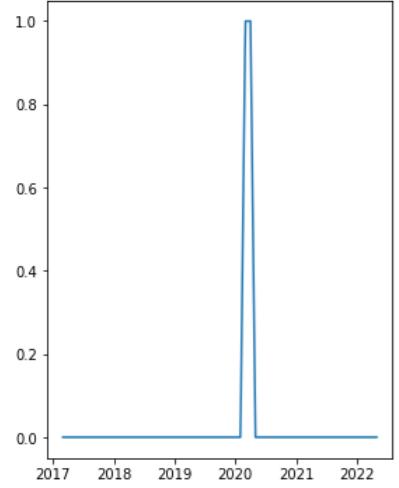
Interest Rates



10 Year to 3 Month



Recession Indicator



```

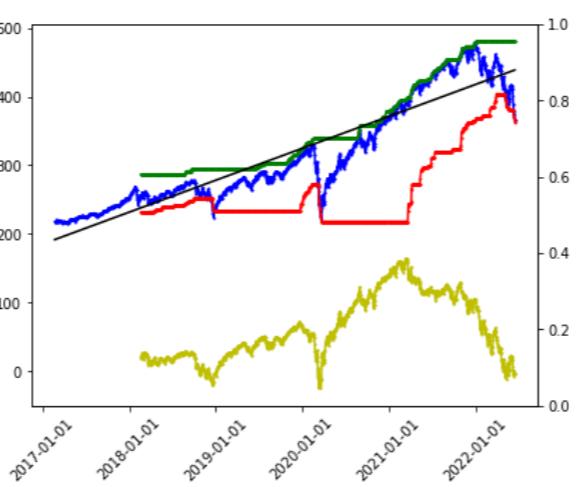
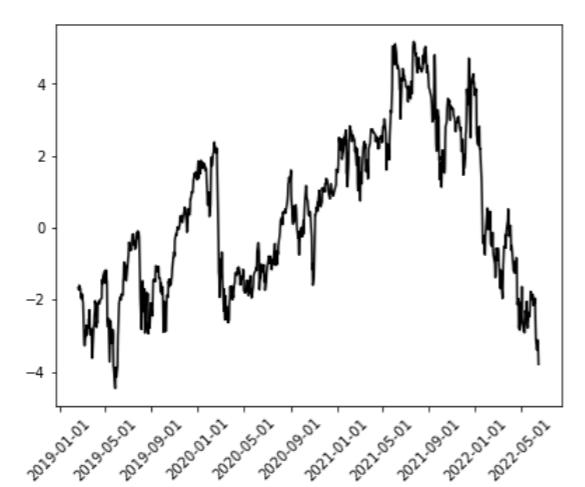
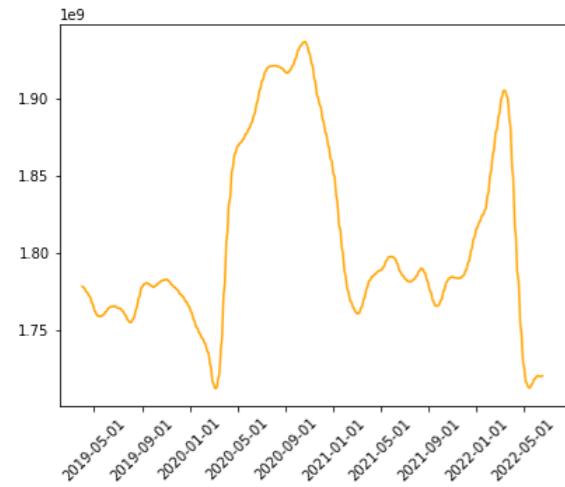
adf < .05 or .01, mean reverting
Hurst
> .5 - The time series is mean reverting.
= .5 - The time series is a Geometric Brownian Motion.
< .5 - The time series is trending.
symbol: SPY
sector: error
sector: error
Index: SP500
vol_30d_2yr: 1719938470.5078125
Sector 1YMF: -287.8400573730469
1YMF: -287.8400573730469
risk trend factor: -3.791860877423899
    totalAssets trailingPE
SPY 3.781762e+11 3.819317

```

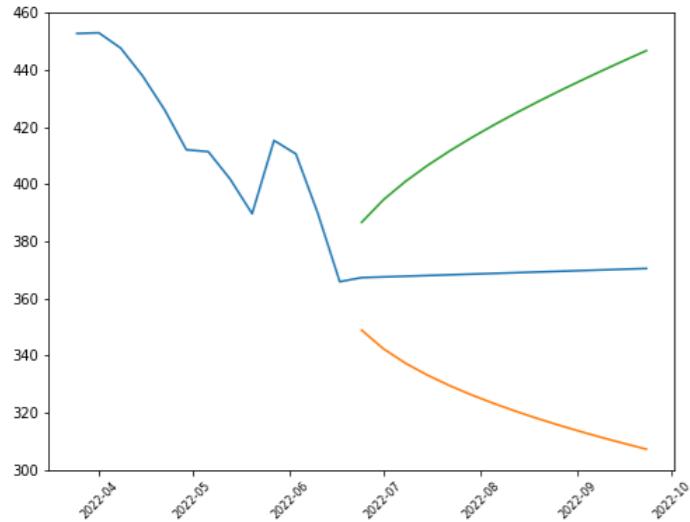
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	365.859985	364.518828	396.470318	428.421808	419.420001	25.514981	368.390039	470.449963

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>SPY</b>	1.183517	365.859985	1719938470.507812	0.369677	0.658465	0.422658

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



ets next 13 weeks  
 2022-06-17  
 2022-06-24  
 inner cv scores:  
 best model: [None, 'add', False]  
 best inner cv score, sdev (11 folds): 1596.0716274191827 2394.562471851756  
 test cv mean error, stdev (10 folds): 1700.9872506465222 2487.2161986245947  
 sell date: 2022-09-23  
 expected return: 0.012609898116259509  
 discounted return: 0.00012919448362835873  
 quarter return: 1.011956033500666

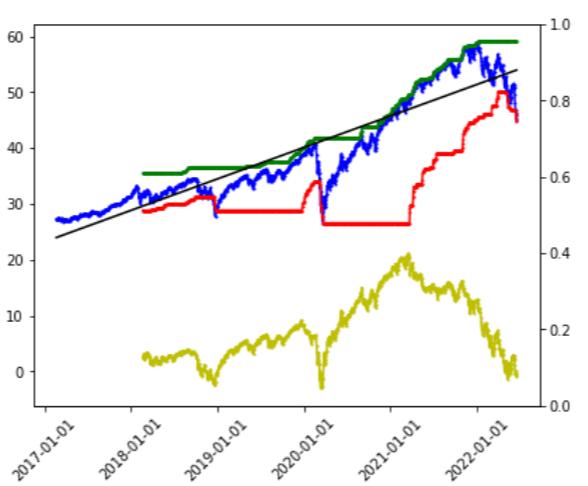
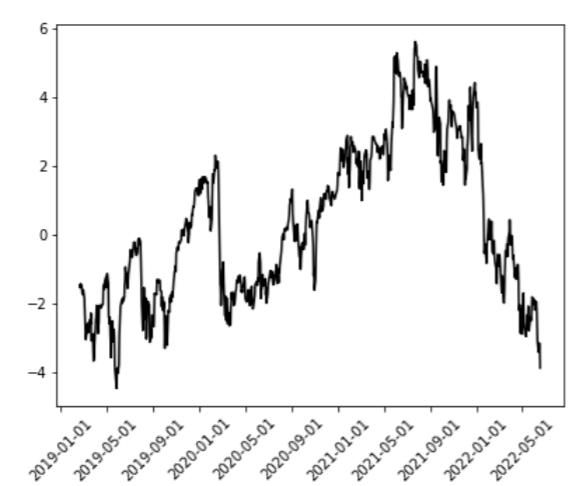
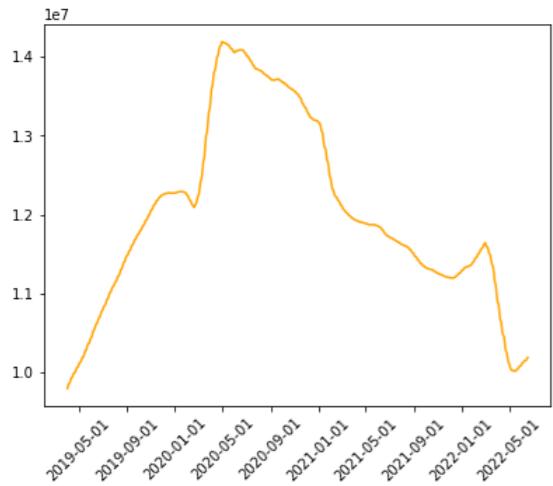


```
['options', ('2022-06-30', '2022-09-16', '2022-09-30', '2022-12-16', '2023-01-20', '2023-03-17', '2023-06-16', '2023-12-15', '2024-01-19', '2024-12-20')]
symbol: SPTM
sector: error
sector: error
Index: SP1500
vol_30d_2yr: 10189559.1796875
Sector 1YMF: -34.95000076293945
1YMF: -34.95000076293945
risk trend factor: -3.8790224724143685
    totalAssets
SPTM 5.538233e+09
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	45.310001	44.984943	48.919841	52.854739	51.683968	3.088065	45.507837	57.860099

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SPTM	1.653055	45.310001	10189559.179688	0.388272	0.658826	0.429487

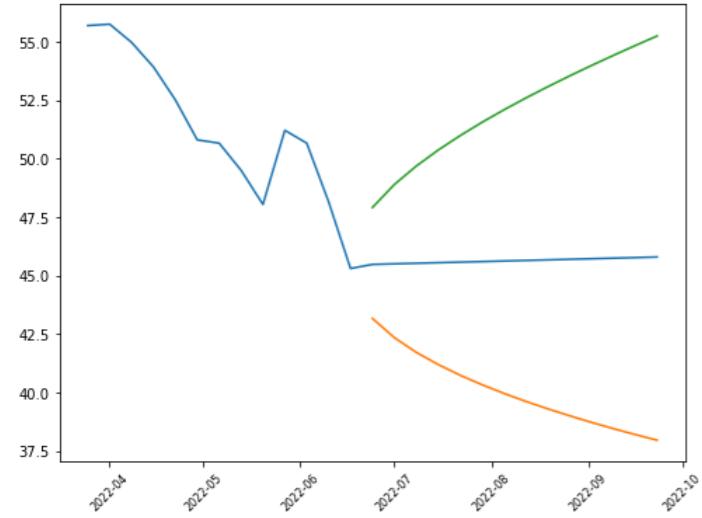
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'add', False]
best inner cv score, sdev (11 folds): 26.39441594514144 42.33055953910225
test cv mean error, stdev (10 folds): 28.190454062363578 43.99523397061348
sell date: 2022-09-23
expected return: 0.010819797251917467
discounted return: 0.00011095133058369733
quarter return: 1.0102592248470592

```



```

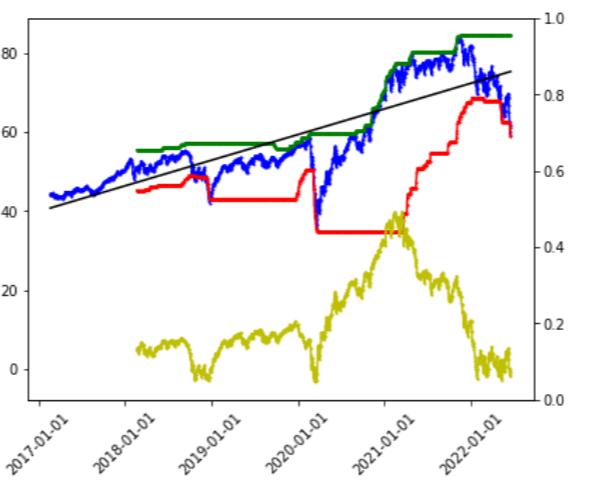
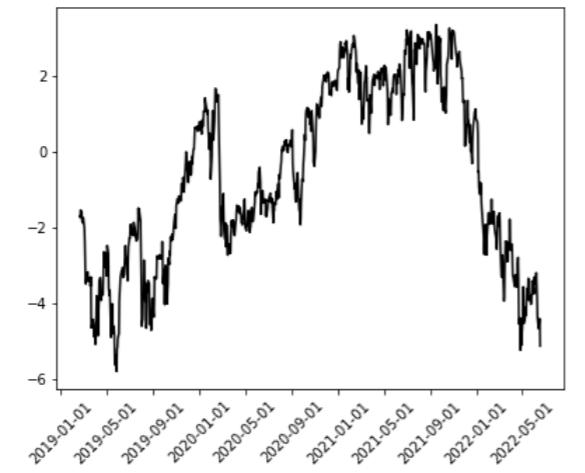
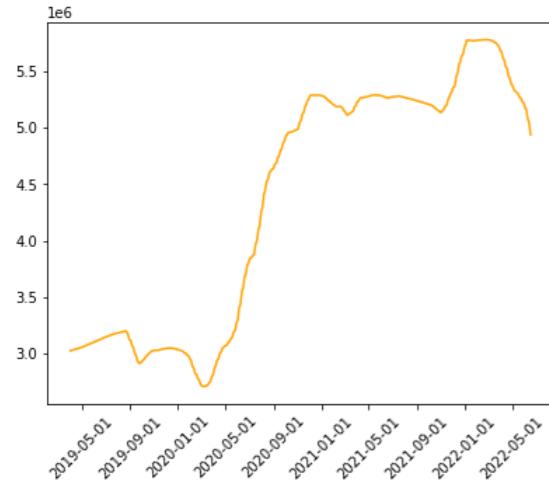
symbol: MDYG
sector: error
sector: error
Index: SP400
vol_30d_2yr: 4938966.40625
Sector 1YMF: -69.05999755859375
1YMF: -69.05999755859375
risk trend factor: -5.134573474205833
Empty DataFrame
Columns: []
Index: [MDYG]

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	59.93	59.511554	65.413016	71.314478	69.046349	4.323319	60.399712	77.692987

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MDYG	0.576598	59.93	4938966.40625	0.256027	0.494117	0.451147

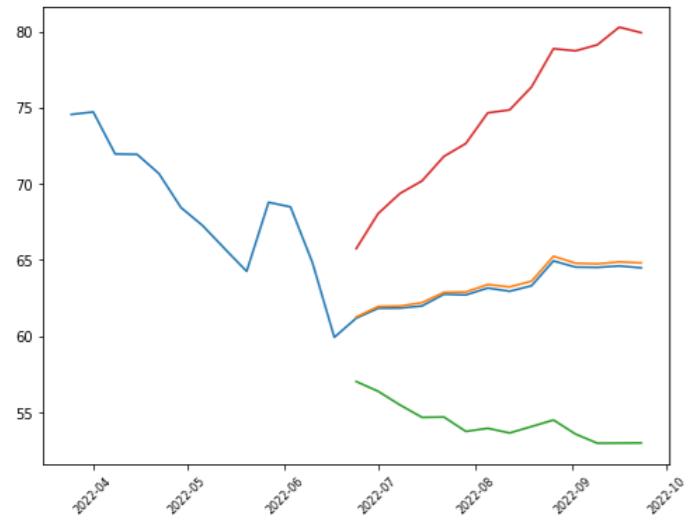
l axis		r axis	
		legend	
<b>blue</b>	symbol	<b>magenta</b>	sector
<b>green</b>	trailing_1yr_max	<b>cyan</b>	index
<b>red</b>	trailing_1yr_min		
<b>orange</b>	30d_vol_2yr		
<b>black</b>	risk_trend_factor/linear		
<b>yellow</b>	supply_trend_1yr		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', False]
best inner cv score, sdev (11 folds): 85.23639796405821 165.1931289207267
test cv mean error, stdev (10 folds): 92.56630045262767 171.54196178018105
sell date: 2022-08-26
expected return: 0.08365938612054122
discounted return: 0.0011650786730228457
quarter return: 1.1130732000891566

```



```

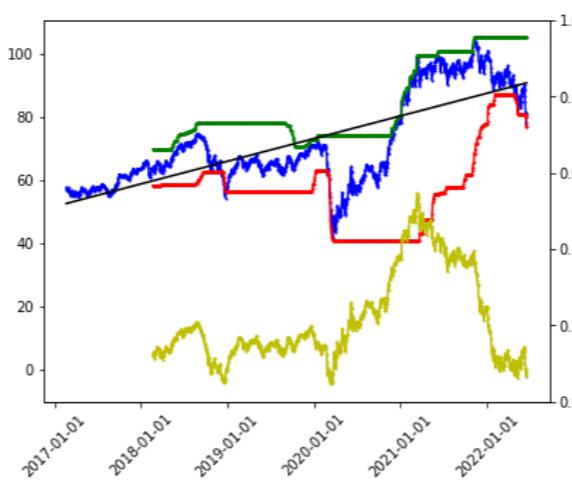
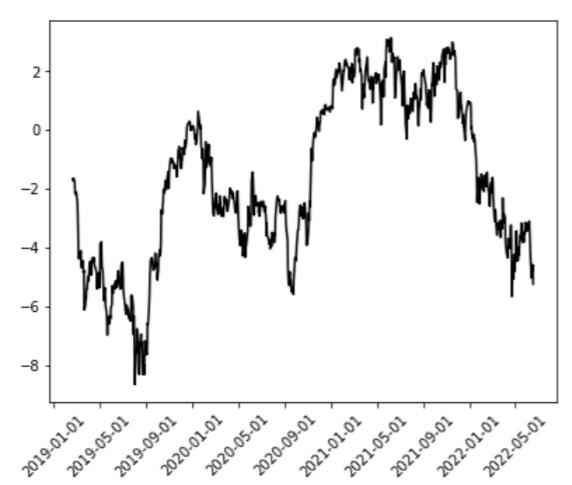
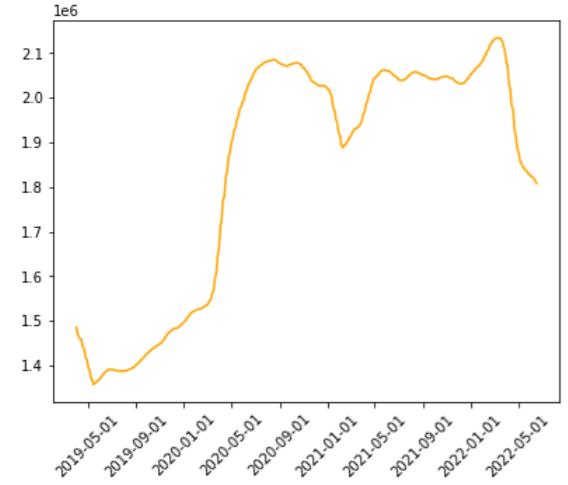
symbol: SLY
sector: error
sector: error
Index: SP600
Index: SP600
vol_30d_2yr: 1808137.109375
Sector 1YMF: -77.27001953125
1YMF: -77.27001953125
risk trend factor: -5.242200185196592
Empty DataFrame
Columns: []
Index: [SLY]

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDDev	90d_lower	90d_upper
2022-06-17	78.089996	78.068302	85.071269	92.074236	88.226349	4.474948	79.276452	97.176246

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SLY	1.23276	78.089996	1808137.109375	0.449524	0.532018	0.51304

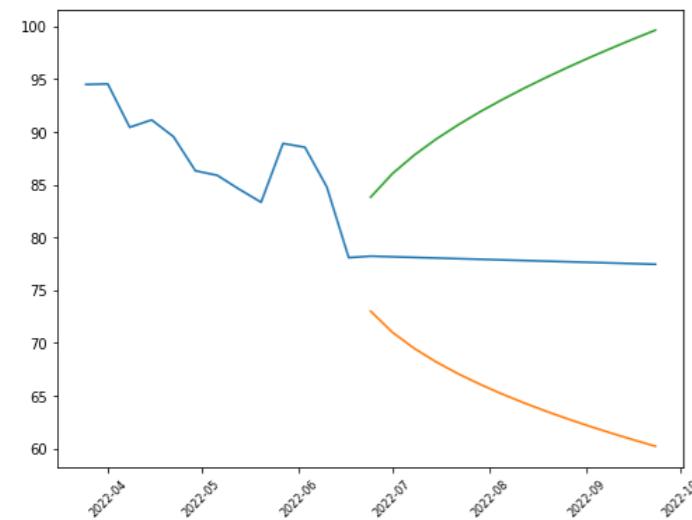
l axis		r axis	
legend	symbol	legend	sector
blue	trailing_1yr_max	magenta	sector
green	trailing_1yr_min	cyan	index
red	30d_vol_2yr		
orange	risk_trend_factor/linear		
black	supply_trend_1yr		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'add', False]
best inner cv score, sdev (11 folds): 128.19891410392745 187.56519320285497
test cv mean error, stdev (10 folds): 137.65292399200544 194.20507371501196
sell date: 2022-06-24
expected return: 0.0017720941375875762
discounted return: 0.0002951311811882906
quarter return: 1.0275199289237973

```



```

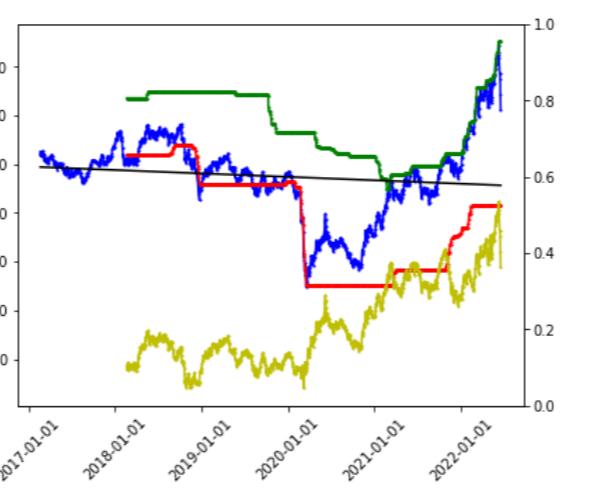
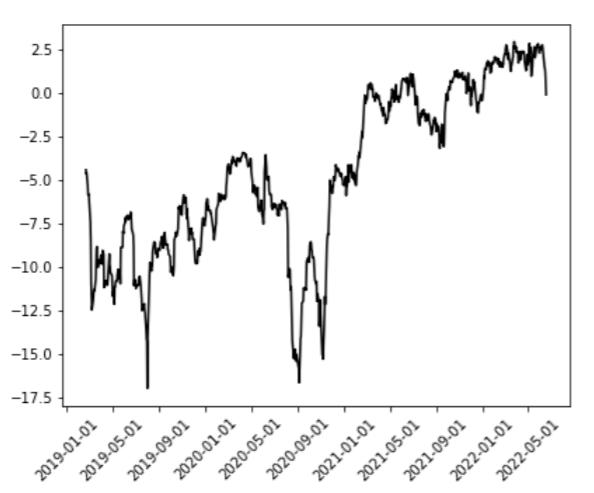
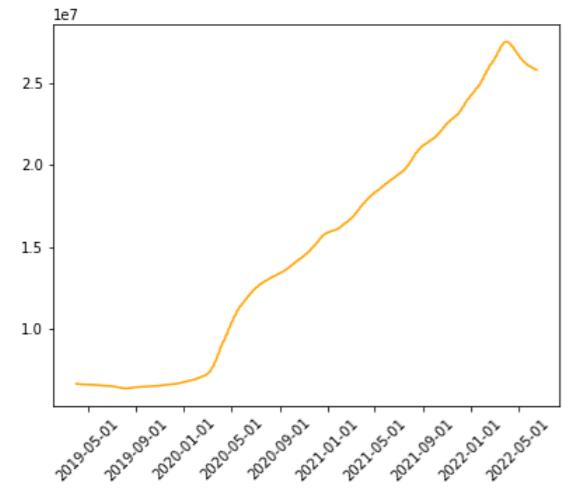
symbol: VDE
sector: error
sector: Energy
Index: nan
vol_30d_2yr: 25785341.015625
Sector 1YMF: -3.82000732421875
1YMF: -3.82000732421875
risk trend factor: -0.12330558135216596
    totalAssets   trailingPE
VDE  1.106882e+10     8.493072

```

Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper	
2022-06-17	102.349998	106.909959	119.43381	131.957661	112.539048	6.727104	99.08484	125.993256

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
VDE	0.896641	102.349998	25785341.015625	0.70127	0.621023	0.512979

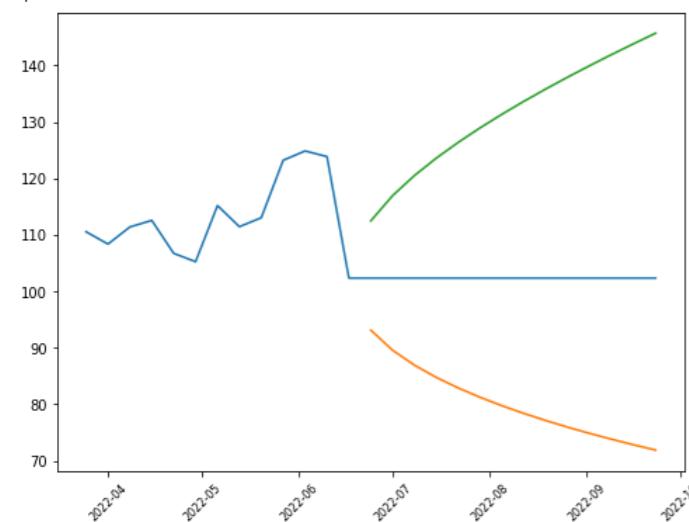
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, None]
best inner cv score, sdev (11 folds): 193.7677791961435 221.58392963783731
test cv mean error, stdev (10 folds): 212.28899085676767 224.13387420460697
sell date: 2022-06-24
expected return: 1.90756226590671e-05
discounted return: 3.1792451740120242e-06
quarter return: 1.000292532870458

```



```

symbol: VDC
sector: error
sector: Consumer Defensive
Index: nan
vol_30d_2yr: 3264449.609375
Sector 1YMF: -74.80001831054688
1YMF: -74.80001831054688
risk trend factor: -2.283970024749523
    totalAssets
VDC 8.239956e+09

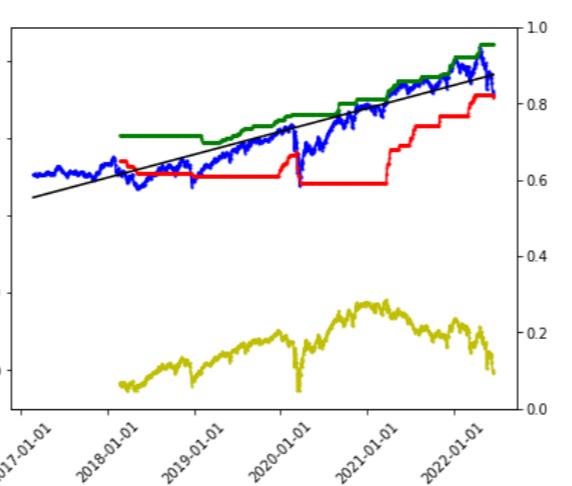
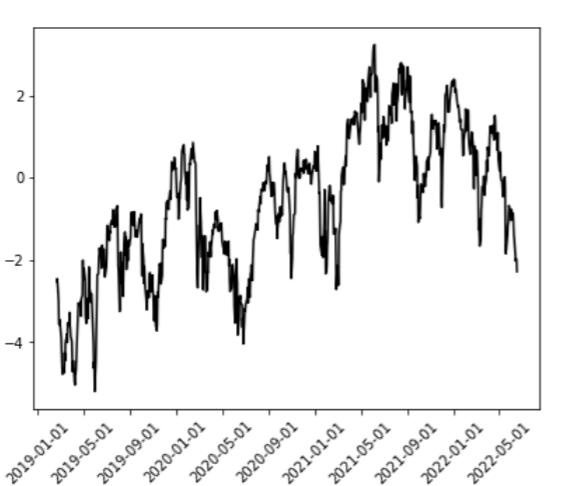
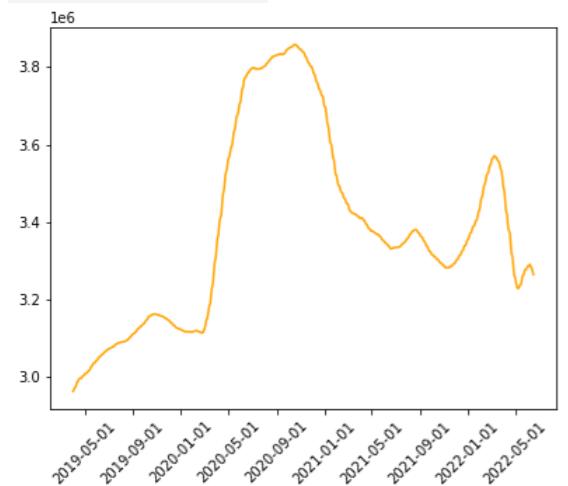
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	177.059998	176.153403	185.845715	195.538026	194.674128	7.920194	178.833739	210.514517

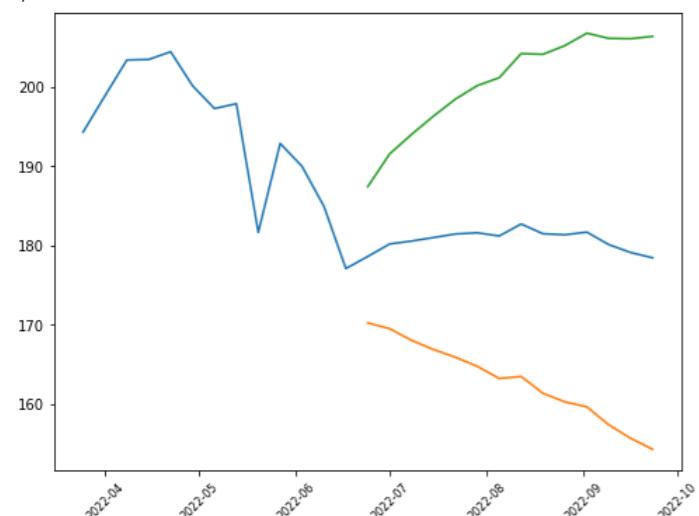
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VDC	1.413592	177.059998	3264449.609375	0.48903	0.752482	0.355797

I axis      r axis

legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', False]  
best inner cv score, sdev (11 folds): 191.4979112634542 238.74580654353574  
test cv mean error, stdev (10 folds): 195.94534280335694 249.96392830264483  
sell date: 2022-08-12  
expected return: 0.03173660560517127  
discounted return: 0.0005682233296850914  
quarter return: 1.0536514465752513

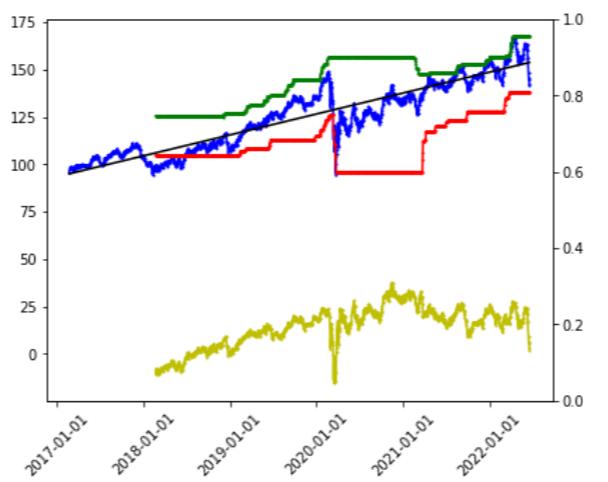
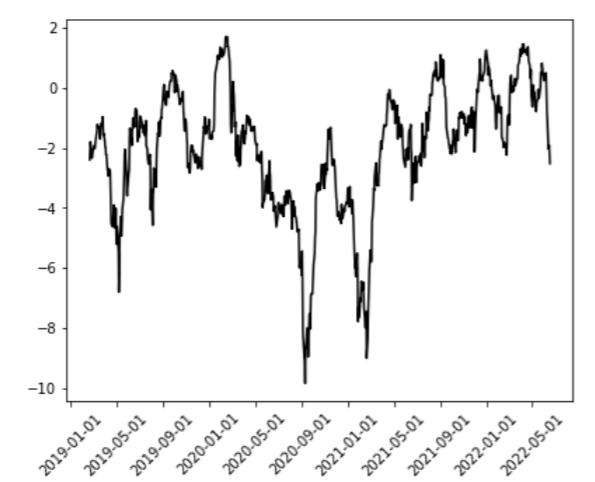
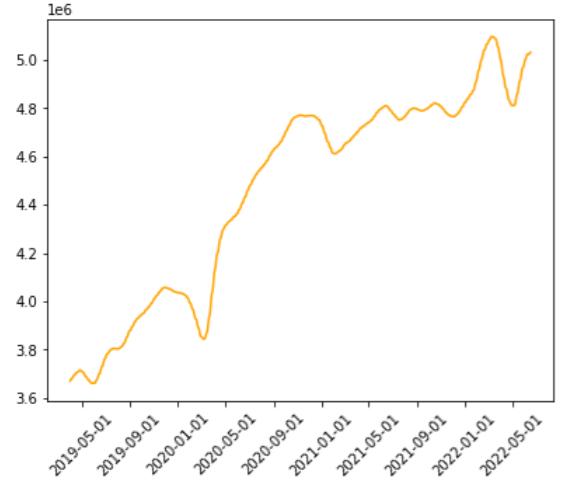


```
[ 'options', ('2022-07-15',) ]
symbol: VPU
sector: error
sector: Utilities
Index: nan
vol_30d_2yr: 5031661.71875
Sector 1YMF: -59.12998962402344
1YMF: -59.12998962402344
risk trend factor: -2.5204591944584465
    totalAssets
VPU 7.854255e+09
```

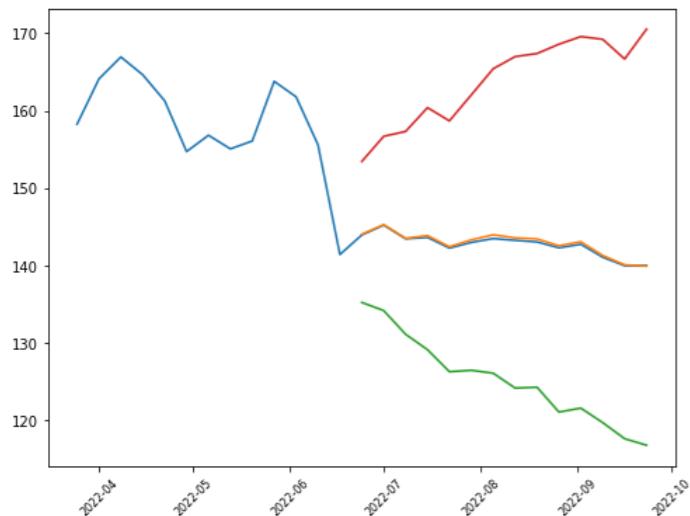
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	141.440002	142.694749	156.469524	170.244299	158.564286	5.736683	147.09092	170.037651

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VPU	1.250581	141.440002	5031661.71875	0.451674	0.569436	0.290073

	l axis	r axis
<b>blue</b>	symbol	<b>magenta</b> sector
<b>green</b>	trailing_1yr_max	<b>cyan</b> index
<b>red</b>	trailing_1yr_min	
<b>orange</b>	30d_vol_2yr	
<b>black</b>	risk_trend_factor/linear	
<b>yellow</b>	supply_trend_1yr	



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', None]
best inner cv score, sdev (11 folds): 259.9034946148252 631.266718476635
test cv mean error, stdev (10 folds): 285.00332045950483 656.8252852895172
sell date: 2022-07-01
expected return: 0.026860038182346727
discounted return: 0.0020409753036201295
quarter return: 1.2063247872828784
```

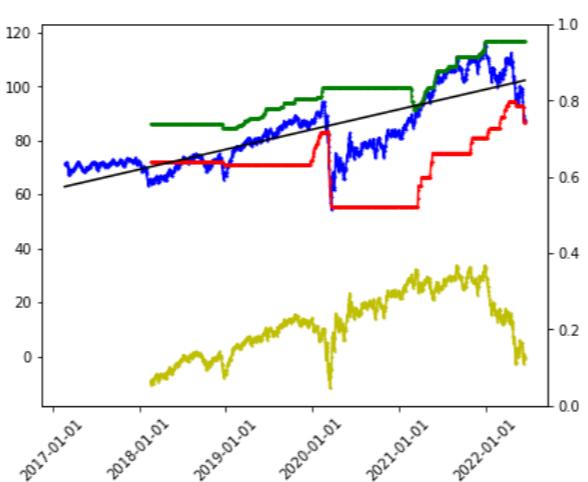
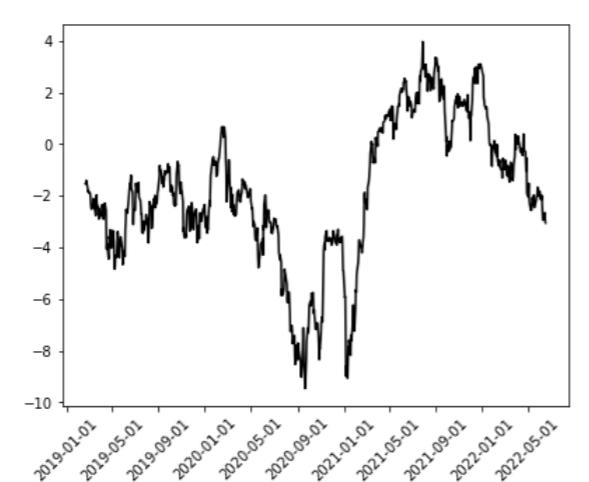
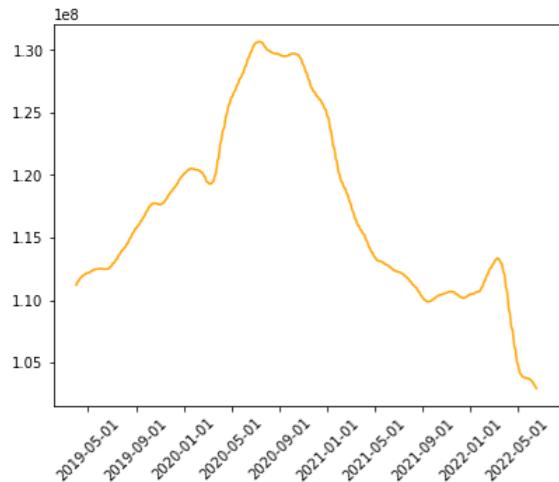


symbol: VNY  
 sector: error  
 sector: Real Estate  
 Index: nan  
 vol\_30d\_2yr: 102932828.515625  
 Sector 1YMF: -76.09000396728516  
 1YMF: -76.09000396728516  
 risk trend factor: -3.053370235265123  
 totalAssets  
 VNQ 7.839537e+10

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	87.699997	86.580768	94.91381	103.246851	101.788572	7.189885	87.408801	116.168343

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VNQ	1.231534	87.699997	102932828.515625	0.296727	0.445676	0.39584

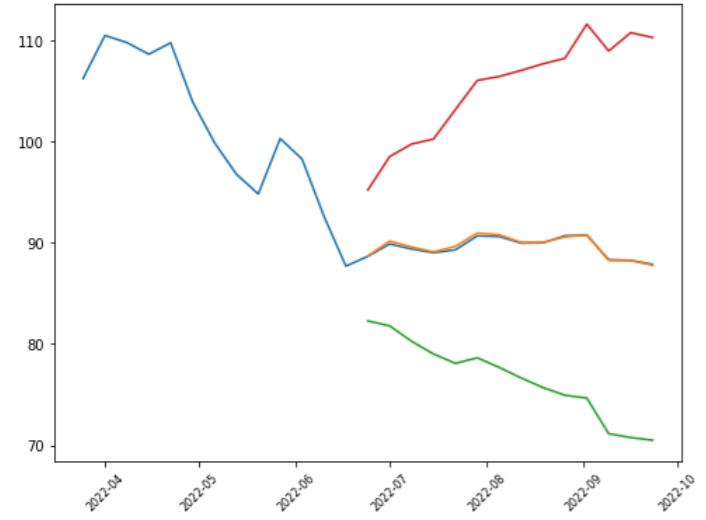
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', False]
best inner cv score, sdev (11 folds): 153.28750939085472 322.62959820325
test cv mean error, stdev (10 folds): 167.1334773908058 335.24622008859063
sell date: 2022-09-02
expected return: 0.03485491172904534
discounted return: 0.0004509073516794082
quarter return: 1.0423461924237896

```



```
['options', ('2023-01-20', '2024-01-19')]
```

```

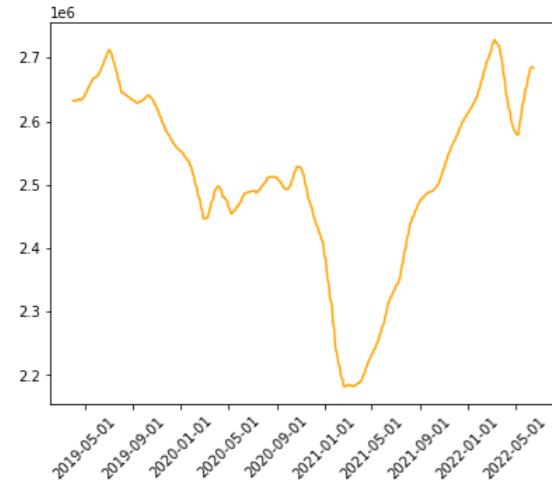
symbol: VAW
sector: error
sector: Basic Materials
Index: nan
vol_30d_2yr: 2683599.21875
Sector 1YMF: -109.739990234375
1YMF: -109.739990234375
risk trend factor: -3.165271062358118
    totalAssets
VAW 5.085875e+09

```

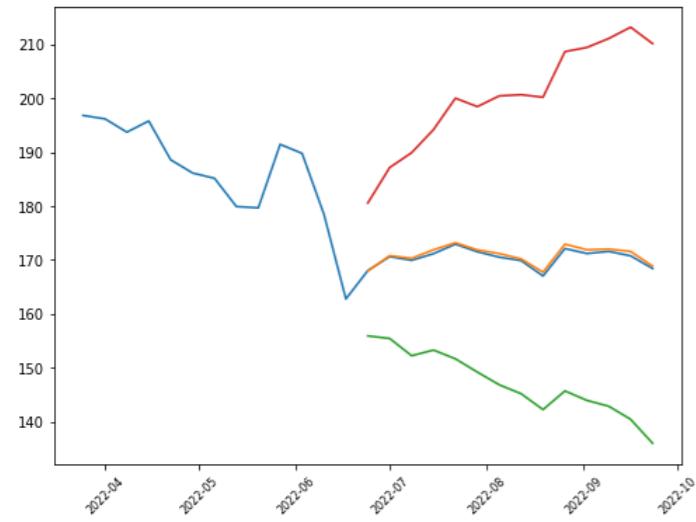
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	162.800003	163.360294	181.546031	199.731768	187.277779	8.558355	170.161068	204.394489

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VAW	1.040096	162.800003	2683599.21875	0.553392	0.650248	0.42433

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



ets next 13 weeks  
 2022-06-17  
 2022-06-24  
 inner cv scores:  
 best model: ['add', 'mul', True]  
 best inner cv score, sdev (11 folds): 287.23750917230495 405.6415038695585  
 test cv mean error, stdev (10 folds): 311.0194778798581 418.06474407205803  
 sell date: 2022-07-22  
 expected return: 0.062301865982123776  
 discounted return: 0.001779172775185911  
 quarter return: 1.1776706438001052



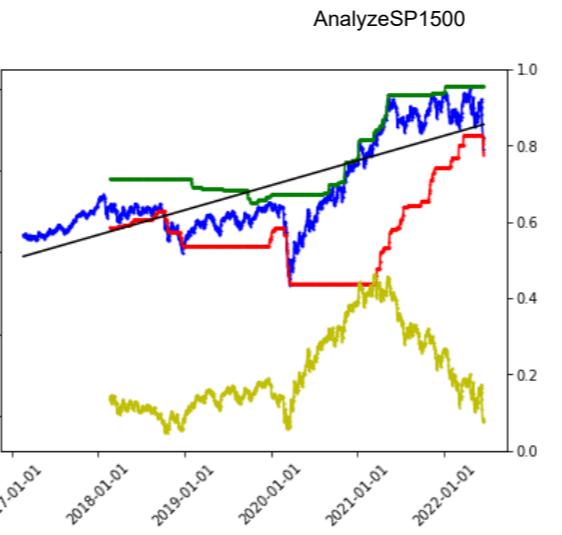
```

['options', ('2022-08-19',)]
symbol: VHT
sector: error
sector: Healthcare
Index: nan
vol_30d_2yr: 5367987.5
Sector 1YMF: -122.20997619628906
1YMF: -122.20997619628906
risk trend factor: -3.3236323632363236
  totalAssets  trailingPE
VHT  1.866525e+10      4.748669

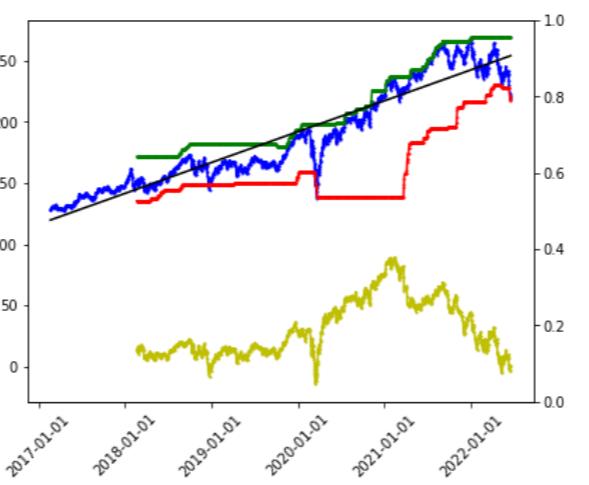
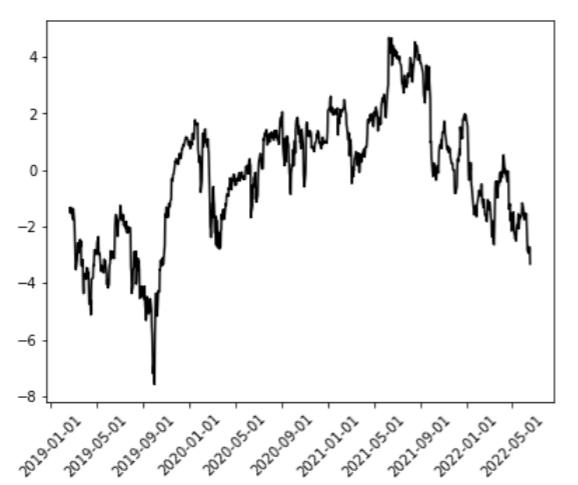
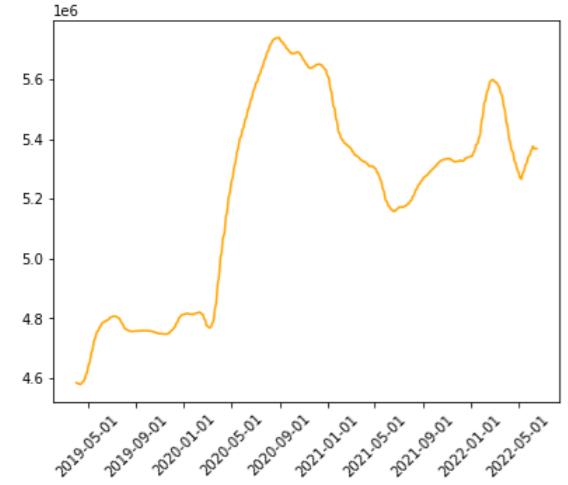
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	220.210007	218.770447	234.353333	249.93622	243.78492	11.544258	220.696404	266.873435

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VHT	1.223885	220.210007	5367987.5	0.406751	0.629182	0.332826



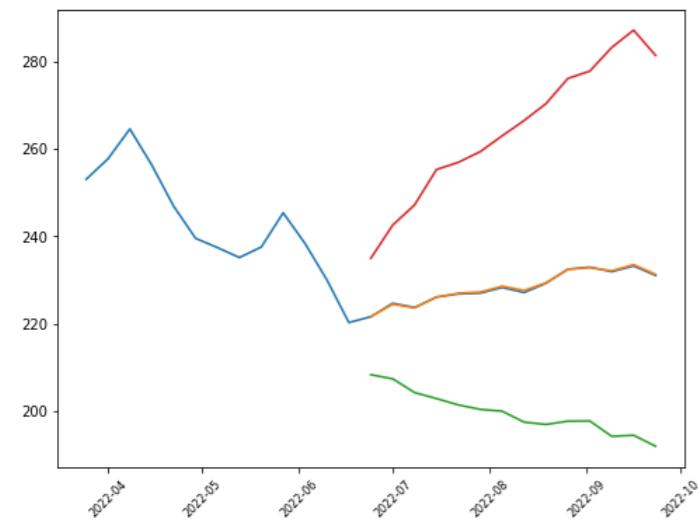
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', False]
best inner cv score, sdev (11 folds): 387.95682447809116 524.4913714720713
test cv mean error, stdev (10 folds): 393.71372312447875 549.7597247376215
sell date: 2022-09-16
expected return: 0.05878535463964933
discounted return: 0.0006348943405740659
quarter return: 1.0601302150853982

```



```

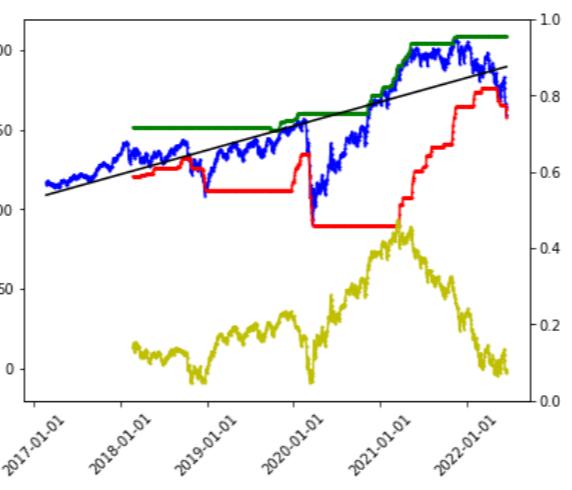
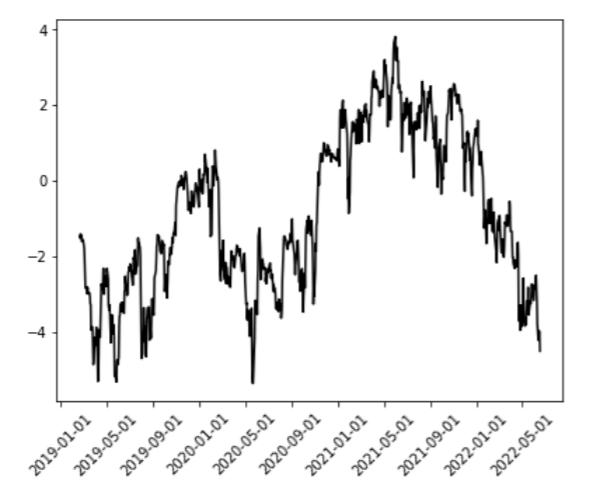
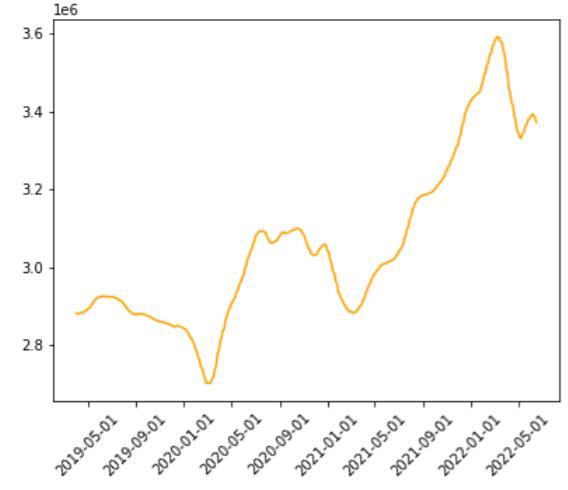
symbol: VIS
sector: error
sector: Industrials
Index: nan
vol_30d_2yr: 3372254.1015625
Sector 1YMF: -141.5800018310547
1YMF: -141.5800018310547
risk trend factor: -4.514668337867341
Empty DataFrame
Columns: []
Index: [VIS]

```

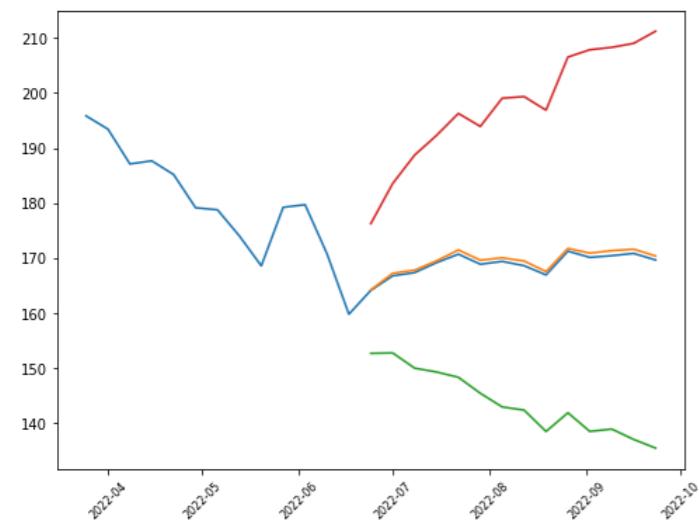
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	159.809998	159.424409	172.598254	185.772099	181.362857	9.892736	161.577386	201.148329

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VIS	0.869685	159.809998	3372254.101562	0.42518	0.484643

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'mul', False]  
best inner cv score, sdev (11 folds): 486.58908964120036 806.4213625334521  
test cv mean error, stdev (10 folds): 522.7693332022224 837.2262815693581  
sell date: 2022-08-26  
expected return: 0.07168349595243555  
discounted return: 0.0010038480510021763  
quarter return: 1.096702221413307

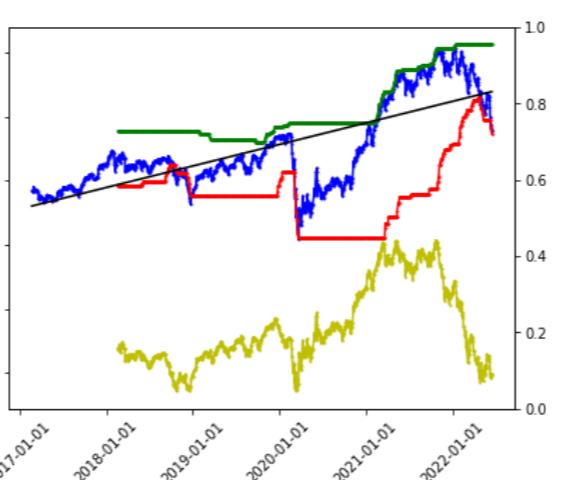
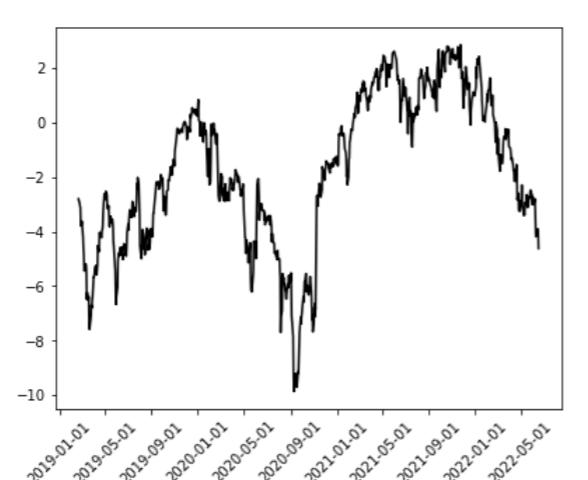
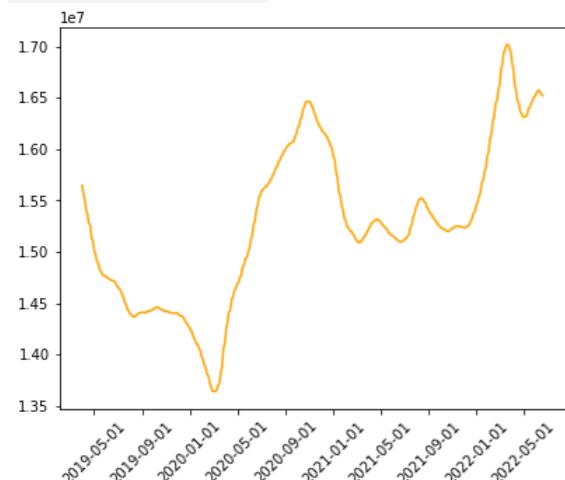


```
['options', ('2022-08-19',)]  
symbol: VFH  
sector: error  
sector: Financial Services  
Index: nan  
vol_30d_2yr: 16520124.669375  
Sector 1YMF: -72.2699966430664  
1YMF: -72.2699966430664  
risk trend factor: -4.617890709055871  
    totalAssets  
VFH 1.046217e+10
```

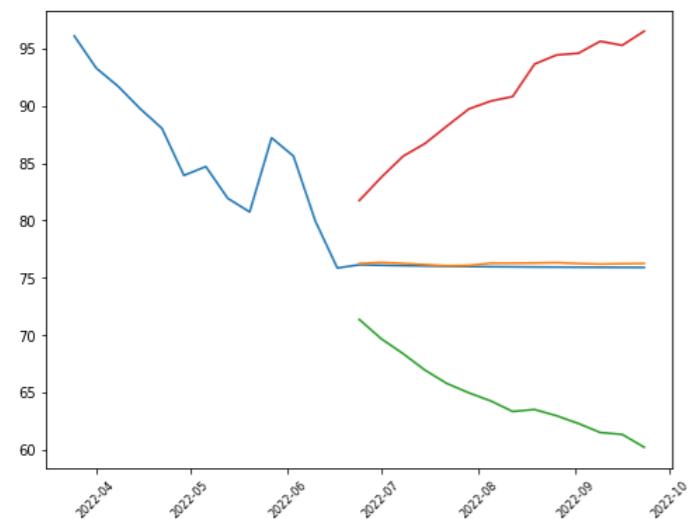
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	75.849998	74.907534	82.472858	90.038182	86.832222	5.55532	75.721582	97.942862

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VFH	1.270717	75.849998	16520124.609375	0.43829	0.480904	0.491635

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



ets next 13 weeks  
 2022-06-17  
 2022-06-24  
 inner cv scores:  
 best model: [None, 'mul', True]  
 best inner cv score, sdev (11 folds): 103.91258398370228 124.6246611164399  
 test cv mean error, stdev (10 folds): 110.84480948786195 128.6695386720602  
 sell date: 2022-06-24  
 expected return: 0.0036980731679567285  
 discounted return: 0.0006153979641310148  
 quarter return: 1.058231585076761

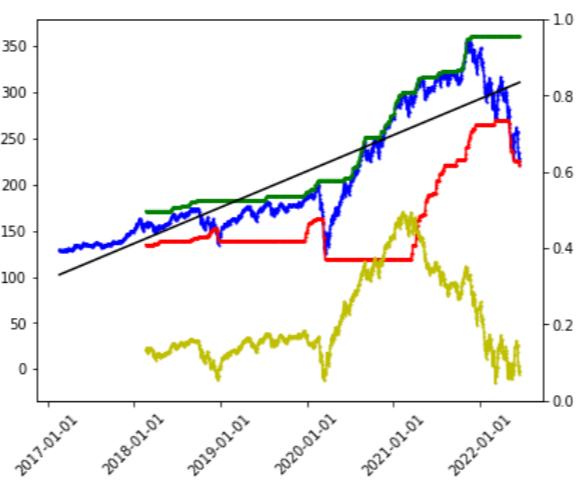
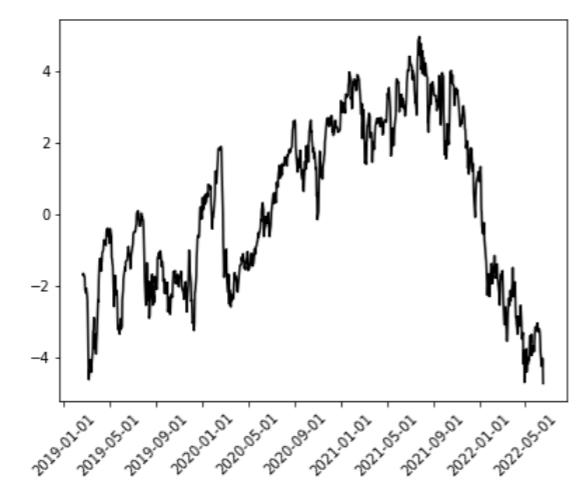
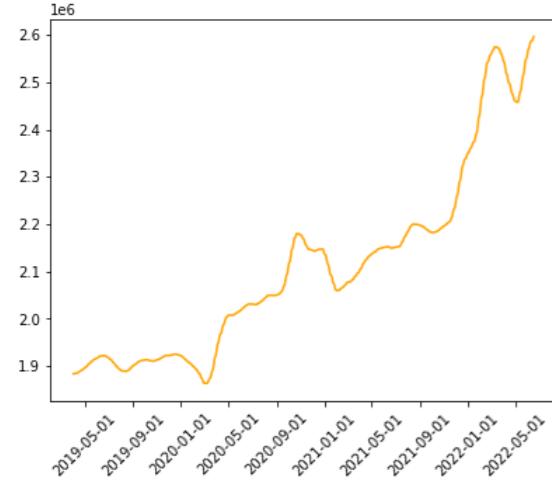


```
[ 'options', ('2022-08-19',) ]
symbol: VCR
sector: error
sector: Consumer Cyclical
Index: nan
vol_30d_2yr: 2596418.1640625
Sector 1YMF: -359.96002197265625
1YMF: -359.96002197265625
risk trend factor: -4.72140697901556
    totalAssets
VCR 6.015592e+09
```

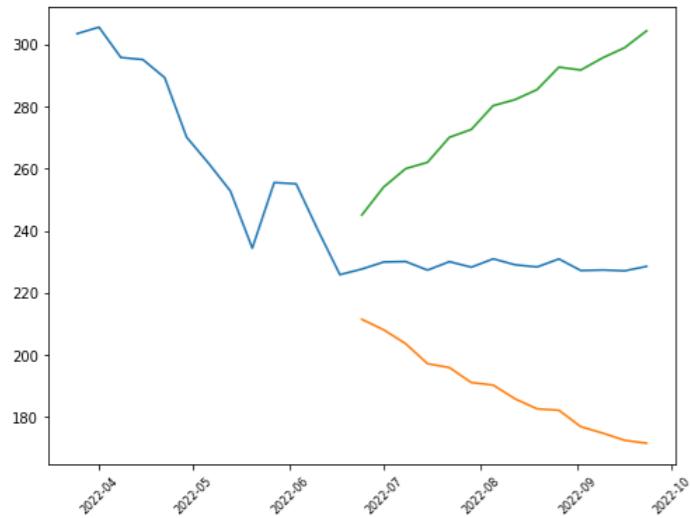
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	225.869995	218.39857	242.946031	267.493493	271.133333	28.125894	214.881544	327.385121

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VCR	1.292819	225.869995	2596418.164062	0.205768	0.641228	0.473825

	l axis	r axis
<b>legend</b>		<b>legend</b>
blue	symbol	magenta sector
green	trailing_1yr_max	cyan index
red	trailing_1yr_min	
orange	30d_vol_2yr	
black	risk_trend_factor/linear	
yellow	supply_trend_1yr	



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', True]  
best inner cv score, sdev (11 folds): 1227.26264257436 1850.6109716481537  
test cv mean error, stdev (10 folds): 1337.1747831112584 1906.3986362227797  
sell date: 2022-08-05  
expected return: 0.022549355093616153  
discounted return: 0.00046466785822185663  
quarter return: 1.0436659989392758

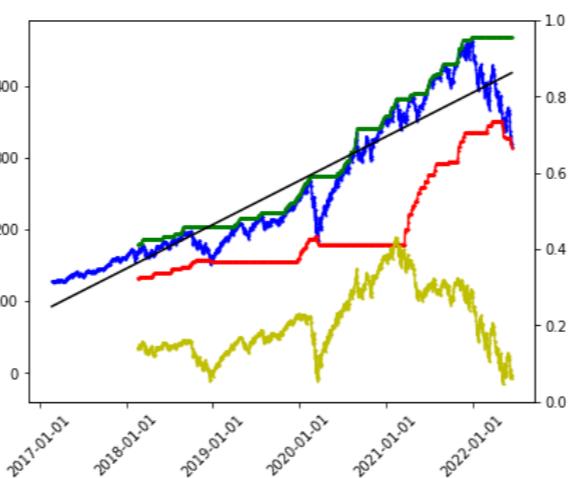
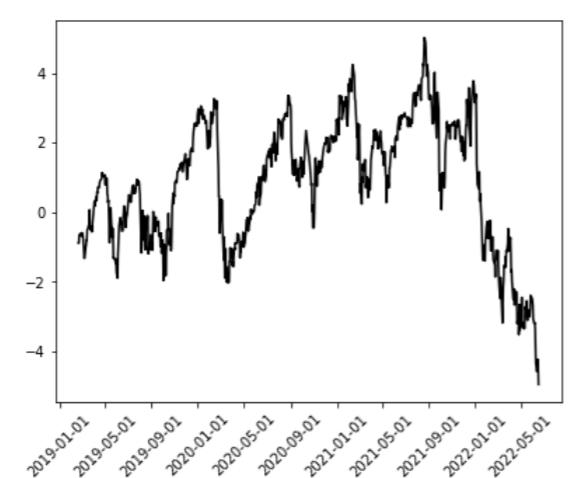
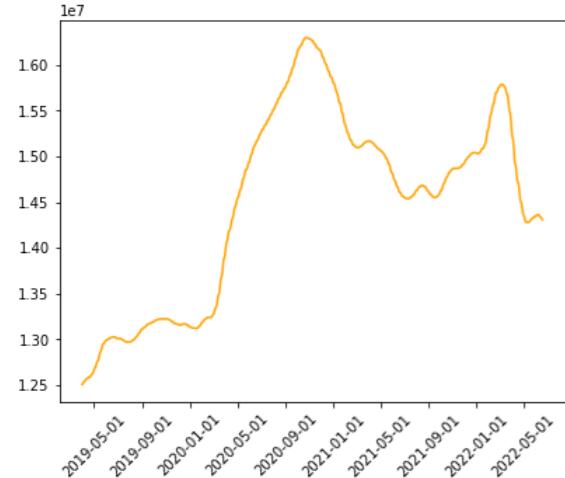


symbol: VGT  
 sector: error  
 sector: Technology  
 Index: nan  
 vol\_30d\_2yr: 14308852.5390625  
 Sector 1YMF: -363.4599914550781  
 1YMF: -363.4599914550781  
 risk trend factor: -4.954471974241429  
 totalAssets  
 VGT 5.138536e+10

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	319.809998	313.391914	345.179842	376.96777	371.755716	29.840347	312.075022	431.43641

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VGT	1.152846	319.809998	14308852.539062	0.262275	0.685573	0.43018

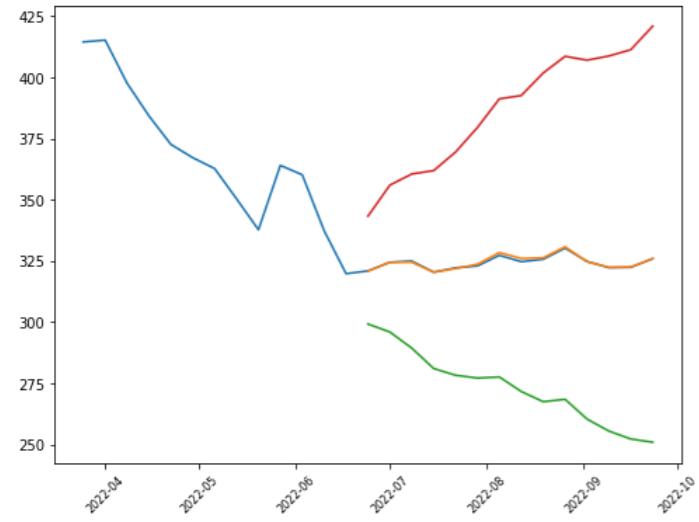
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', True]
best inner cv score, sdev (11 folds): 1350.1936609353836 1233.3594889668884
test cv mean error, stdev (10 folds): 1427.6804086206787 1267.7724547418923
sell date: 2022-08-26
expected return: 0.0327109593312599
discounted return: 0.00046659206584798163
quarter return: 1.0438506864569341

```



```

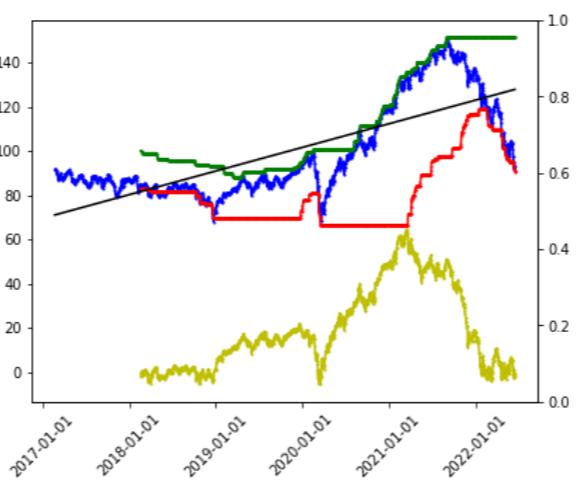
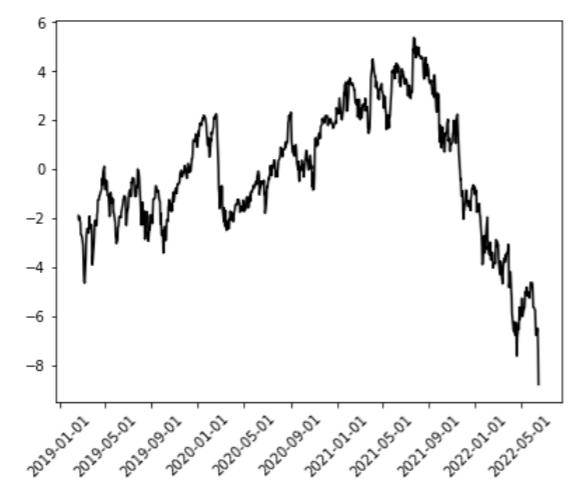
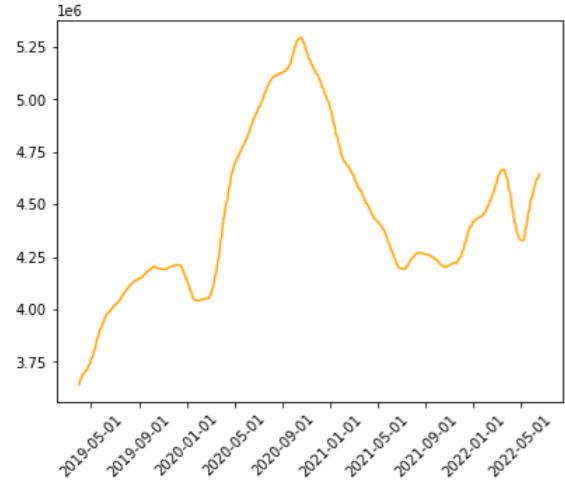
['options', ('2022-08-19',)]
symbol: VOX
sector: error
sector: Communication Services
Index: nan
vol_30d_2yr: 4644931.8359375
Sector 1YMF: -166.010009765625
1YMF: -166.010009765625
risk trend factor: -8.783597691159713
Empty DataFrame
Columns: []
Index: [VOX]

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	92.860001	91.464788	99.415079	107.365371	107.439841	9.28909	88.861661	126.018022

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>VOX</b>	1.840996	92.860001	4644931.835938	0.059723	0.708136	0.512969

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		



```

inner cv scores:  

best model: ['add', None]  

best inner cv score, sdev (11 folds): 132.73255032829235 122.26444955631752  

test cv mean error, stdev (10 folds): 142.340035105828 124.21072039962147  

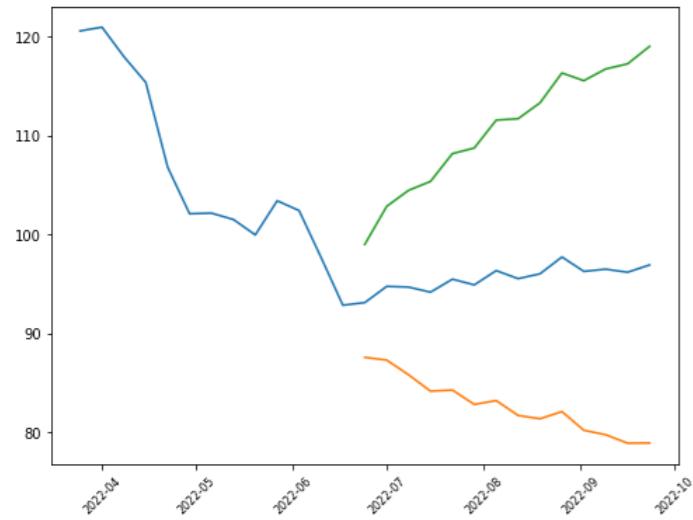
sell date: 2022-08-26  

expected return: 0.052466544660606414  

discounted return: 0.000741383377643956  

quarter return: 1.070560132013161

```



```
[ 'options', ('2022-07-15',) ]
symbol: ACC
sector: Real Estate
Index: SP400
vol_30d_2yr: 27009982.03125
Sector 1YMF: 13.440017700195312
1YMF: 13.440017700195312
risk trend factor: 10.926847725292072
    beta currentRatio debtToEquity dividendRate dividendYield \
ACC 1.00147      2.184     122.276      1.88      0.029

earningsGrowth ebitda ebitdaMargins forwardPE grossMargins \
ACC 1.498 466354240 0.47421 98.81539 0.5349

grossProfits heldPercentInstitutions industry marketCap \
ACC 498042000 0.97986 REIT-Residential 8938053632

operatingMargins payoutRatio pegRatio priceToBook \
ACC 0.19318 4.7 1.96 2.993987

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
ACC 9.088625 0.06005 1.888 0.01582

returnOnEquity revenueGrowth revenuePerShare sector \
ACC 0.01872 0.176 7.081 Real Estate

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
ACC 139156992 0.86 87656000 0.63 4008523008

totalRevenue trailingPE
ACC 983433024 513.84
```

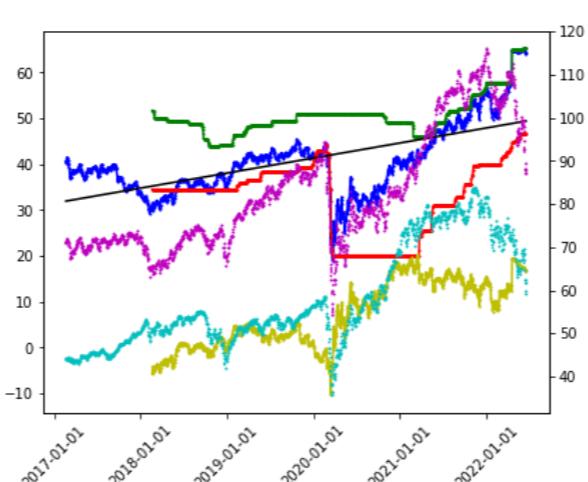
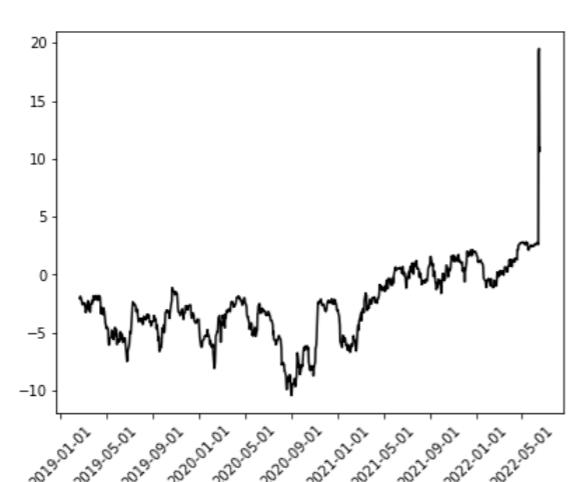
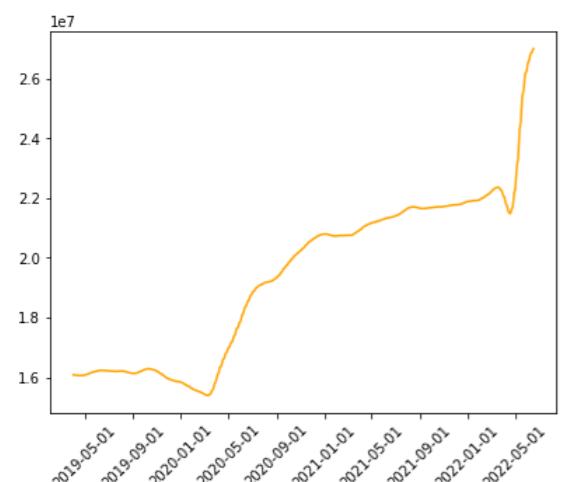
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSD	90d_lower	90d_upper
<b>2022-06-17</b>	64.230003	64.240713	64.712222	65.183731	62.082857	3.916774	54.249309	69.916406

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
ACC	2.134689	64.230003	27009982.03125	0.97101	0.978004 0.420279

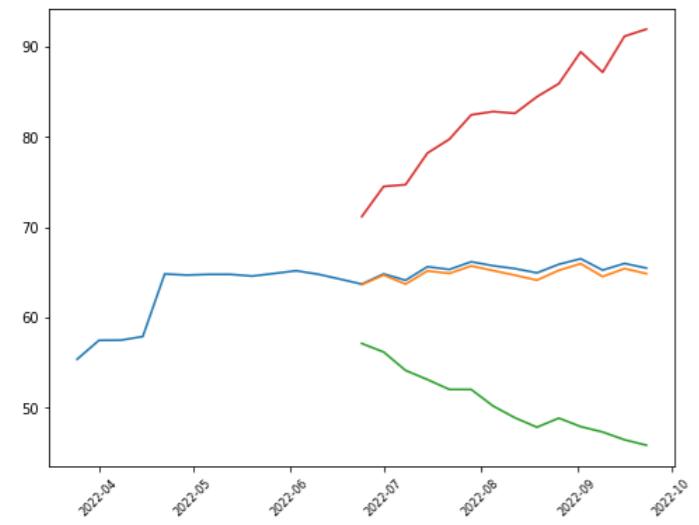
I axis      r axis

legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -76.09000396728516  
Sector Volume Factor: 1.2315342134094496  
Sector Risk Trend Factor: -3.053370235265123  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', False]
best inner cv score, sdev (11 folds): 60.642543509569535 138.4797986966537
test cv mean error, stdev (10 folds): 66.26512803918772 144.03706611000356
sell date: 2022-09-02
expected return: 0.03505054443547022
discounted return: 0.0004533956570731412
quarter return: 1.0425847300311661
```



```
[ 'quarterly_balance_sheet', 2022-03-31 2021-12-31 2021-09-30 \
Capital Surplus 4.693018e+09 4.694242e+09 4.538210e+09
Total Liab 4.218002e+09 4.273301e+09 4.501487e+09
Total Stockholder Equity 3.093994e+09 3.117378e+09 2.982993e+09
Minority Interest 1.842520e+08 1.839070e+08 6.423900e+07
Deferred Long Term Liab 7.300000e+06 3.450000e+07 2.750000e+07
Total Assets 7.496248e+09 7.574586e+09 7.548719e+09
Common Stock 1.393000e+06 1.391000e+06 1.390000e+06
Other Current Assets 1.698800e+07 1.432600e+07 2.016300e+07
Other Liab 1.522020e+08 1.697290e+08 1.850330e+08
Treasury Stock -1.600417e+08 -1.578255e+09 -1.556607e+09
Other Assets 2.143290e+08 1.773490e+08 2.318220e+08
Cash 8.765600e+07 1.203510e+08 4.207300e+07
Total Current Liabilities 5.727700e+07 1.168230e+08 9.838000e+07
Other Stockholder Equity -1.596530e+09 -1.574312e+09 -1.551896e+09
Property Plant Equipment 7.156799e+09 7.198609e+09 7.232212e+09
Total Current Assets 1.251200e+08 1.678280e+08 8.468500e+07
Net Tangible Assets 3.093994e+09 3.086578e+09 2.982993e+09
Net Receivables 2.047600e+07 3.268700e+07 2.218800e+07
Long Term Debt 3.509626e+09 3.513684e+09 3.723677e+09
Accounts Payable 5.727700e+07 9.306700e+07 9.838000e+07
Intangible Assets NaN 3.080000e+07 NaN
```

2021-06-30

```
Capital Surplus 4.515450e+09
Total Liab 4.437234e+09
Total Stockholder Equity 3.035925e+09
Minority Interest 6.528200e+07
Deferred Long Term Liab 2.460000e+07
Total Assets 7.538441e+09
Common Stock 1.386000e+06
Other Current Assets 2.747600e+07
Other Liab 1.373950e+08
Treasury Stock -1.480911e+09
Other Assets 2.333970e+08
Cash 3.028300e+07
Total Current Liabilities 6.970500e+07
Other Stockholder Equity -1.476181e+09
Property Plant Equipment 7.237327e+09
Total Current Assets 6.771700e+07
Net Tangible Assets 3.035925e+09
Net Receivables 9.775000e+06
Long Term Debt 3.734507e+09
Accounts Payable 6.970500e+07
Intangible Assets NaN ]
```

2022-03-31 2021-12-31 \

```
[ 'quarterly_cashflow', 2022-03-31 2021-12-31 \
Net Income 39183000.0 40712000.0
Change To Liabilities 0.0 -5928000.0
Total Cashflows From Investing Activities NaN -39104000.0
Net Borrowings NaN -203737000.0
Total Cash From Financing Activities NaN -2685000.0
Change To Operating Activities NaN -4668000.0
Issuance Of Stock NaN 1000.0
Change In Cash NaN 72441000.0
Total Cash From Operating Activities NaN 11423000.0
Depreciation NaN 69294000.0
Other Cashflows From Investing Activities NaN -436000.0
Dividends Paid NaN -65817000.0
Change To Account Receivables NaN 8001000.0
Other Cashflows From Financing Activities NaN 266868000.0
Change To Netincome NaN 5202000.0
Repurchase Of Stock NaN NaN
```

2021-09-30 2021-06-30

```
Net Income -11439000.0 -9402000.0
Change To Liabilities 28335000.0 11132000.0
Total Cashflows From Investing Activities -57467000.0 -76294000.0
Net Borrowings -10415000.0 53424000.0
Total Cash From Financing Activities -57209000.0 17226000.0
Change To Operating Activities 40390000.0 -29447000.0
Issuance Of Stock 21198000.0 38476000.0
Change In Cash 4477000.0 -7470000.0
Total Cash From Operating Activities 119153000.0 51598000.0
Depreciation 69445000.0 68741000.0
Other Cashflows From Investing Activities 2944000.0 -961000.0
Dividends Paid -65948000.0 -65379000.0
Change To Account Receivables -12413000.0 3867000.0
Other Cashflows From Financing Activities -523000.0 -9295000.0
Change To Netincome 3365000.0 5289000.0
Repurchase Of Stock -1521000.0 -1521000.0 ]
[ 'quarterly_earnings', Revenue Earnings
Quarter
Q22021 208521000 -9402000
3Q2021 228877000 -11439000
4Q2021 272289000 40712000
1Q2022 273746000 39183000]
```

```
[ 'quarterly_financials',
Research Development           None   None   None
Effect Of Accounting Charges  None   None   None
Income Before Tax              43060000.0 42051000.0 -13019000.0
Minority Interest               184252000.0 183907000.0 64239000.0
Net Income                      39183000.0 40712000.0 -11439000.0
Selling General Administrative  9098000.0 25234000.0 10309000.0
Gross Profit                    154845000.0 177993000.0 9480000.0
Ebit                           75195000.0 80965000.0 15046000.0
Operating Income                75195000.0 80965000.0 15046000.0
Other Operating Expenses        NaN    2500000.0 2500000.0
Interest Expense                -31675000.0 -31922000.0 -30741000.0
Extraordinary Items             None   None   None
Non Recurring                  None   None   None
Other Items                     None   None   None
Income Tax Expense              340000.0 340000.0 340000.0
Total Revenue                   273746000.0 272289000.0 228877000.0
Total Operating Expenses        198551000.0 191324000.0 213831000.0
Cost Of Revenue                 118901000.0 94296000.0 134077000.0
Total Other Income Expense Net -32135000.0 -38914000.0 -28065000.0
Discontinued Operations         None   None   None
Net Income From Continuing Ops 42720000.0 41711000.0 -13359000.0
Net Income Applicable To Common Shares 39183000.0 40299000.0 -12006000.0
```

2021-06-30

```
Research Development           None
Effect Of Accounting Charges  None
Income Before Tax              -10712000.0
Minority Interest               65282000.0
Net Income                      -9402000.0
Selling General Administrative 12093000.0
Gross Profit                    99534000.0
Ebit                           18700000.0
Operating Income                18700000.0
Other Operating Expenses        2500000.0
Interest Expense                -30658000.0
Extraordinary Items             None
Non Recurring                  None
Other Items                     None
Income Tax Expense              341000.0
Total Revenue                   208521000.0
Total Operating Expenses        189821000.0
Cost Of Revenue                 108987000.0
Total Other Income Expense Net -29412000.0
Discontinued Operations         None
Net Income From Continuing Ops -11053000.0
Net Income Applicable To Common Shares -9973000.0 ]
```

Holder Shares Date Reported % Out \

```
0 Vanguard Specialized-Real Estate Index Fund 6638008 2022-01-30 0.0476
1 Vanguard Total Stock Market Index Fund 3960227 2021-12-30 0.0284
2 iShares Core S&P Midcap ETF 3862557 2022-01-30 0.0277
3 Vanguard Small-Cap Index Fund 3503603 2021-12-30 0.0251
4 Allspring Special Mid Cap Value Fund 3211005 2022-02-27 0.0230
5 Vanguard Small-Cap Growth Index Fund 2184685 2021-12-30 0.0157
6 Vanguard Extended Market Index Fund 1858080 2021-12-30 0.0133
7 JP Morgan Small Cap Equity Fund 1574099 2021-12-30 0.0113
8 SPDR S&P Mid Cap 400 ETF Trust 1194316 2022-01-30 0.0086
9 Price (T.Rowe) Small Cap Stock Fund 1085917 2021-12-30 0.0078
```

```
Value
0 346902298
1 226881404
2 201857228
3 200721415
4 172784179
5 125160693
6 106449403
7 90180131
8 62414954
9 62212184 ]
```

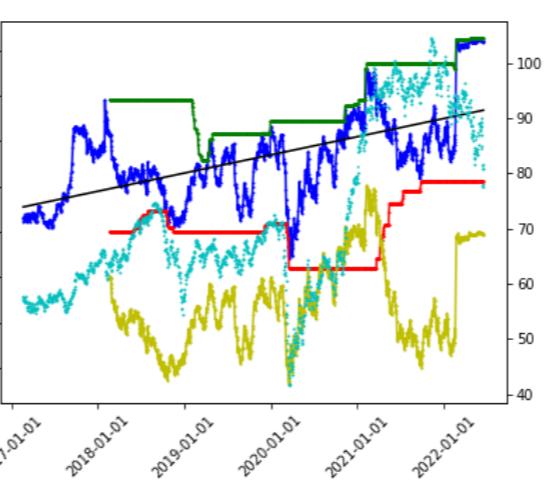
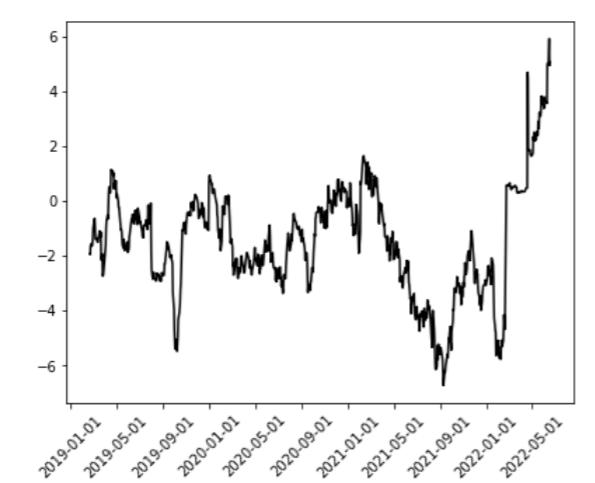
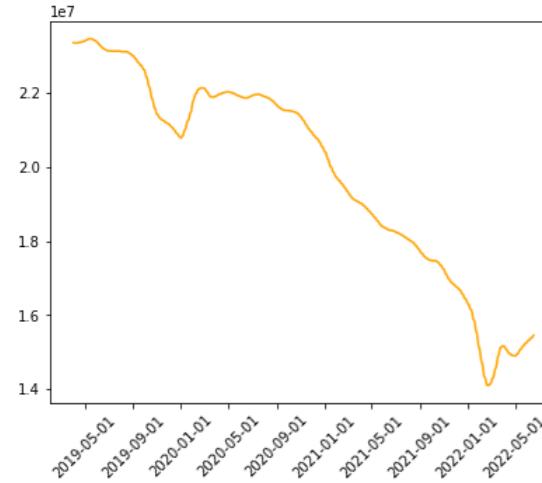
```
symbol: MTOR
sector: error
sector: error
Index: SP600
vol_30d_2yr: 15456103.3203125
Sector 1YMF: 2.329998016357422
1YMF: 2.329998016357422
risk trend factor: 5.06522316023419
Empty DataFrame
Columns: []
Index: [MTOR]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	35.939999	35.942037	36.098889	36.25574	35.883651	0.243988	35.395675	36.371626

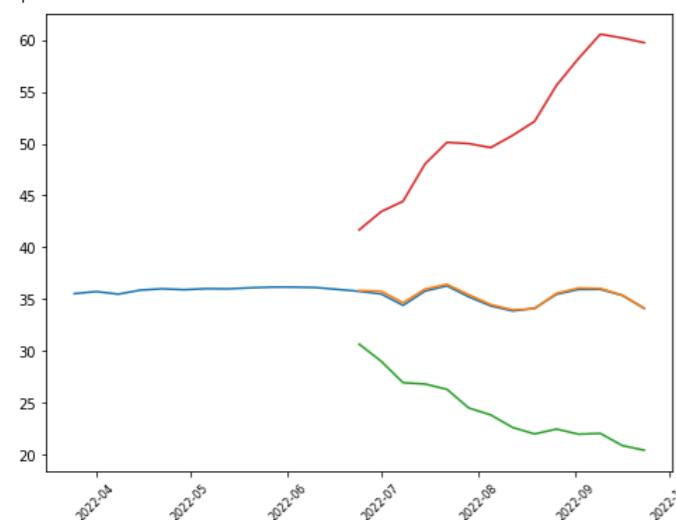
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MTOR	1.664475	35.939999	15456103.320312	0.980154	0.319063	0.43585

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Index 1YMF: -77.27001953125  
 Index Volume Factor: 1.232760496116622  
 Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
 2022-06-17  
 2022-06-24  
 inner cv scores:  
 best model: ['mul', None]  
 best inner cv score, sdev (11 folds): 25.65779561194668 21.942882097397383  
 test cv mean error, stdev (10 folds): 25.484578190486864 23.006716636536158  
 sell date: 2022-07-22  
 expected return: 0.009446180653314162  
 discounted return: 0.00027656307402290636  
 quarter return: 1.0257666508377978



```
[ 'options', ('2022-08-19',) ]
symbol: TVTY
sector: error
sector: error
Index: SP600
vol_30d_2yr: 10900973.046875
Sector 1YMF: 2.7400035858154297
1YMF: 2.7400035858154297
risk trend factor: 2.3418794362082624
Empty DataFrame
Columns: []
Index: [TVTY]
```

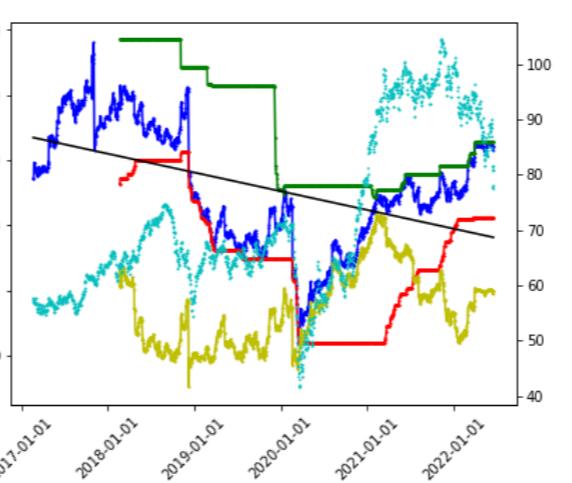
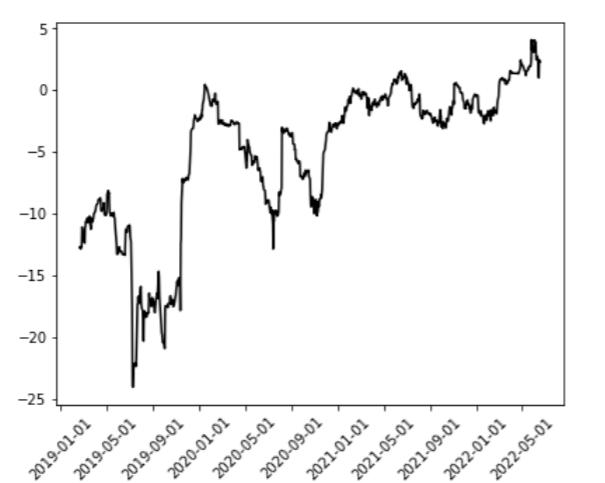
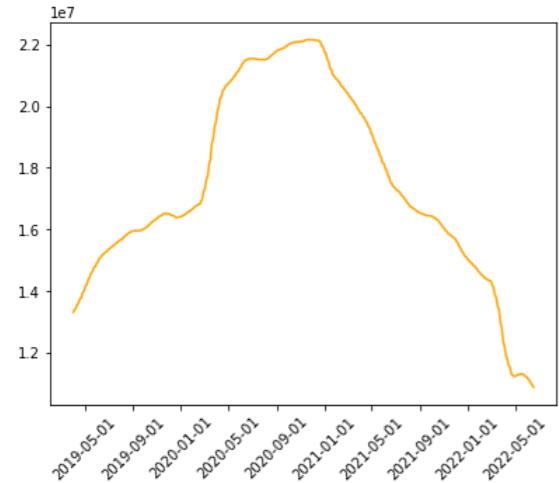
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	32.130001	31.878985	32.19127	32.503555	31.861111	0.826432	30.208246	33.513976

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
TVTY	1.643789	32.130001	10900973.046875	0.966327	0.518794	0.448871

I axis                            r axis

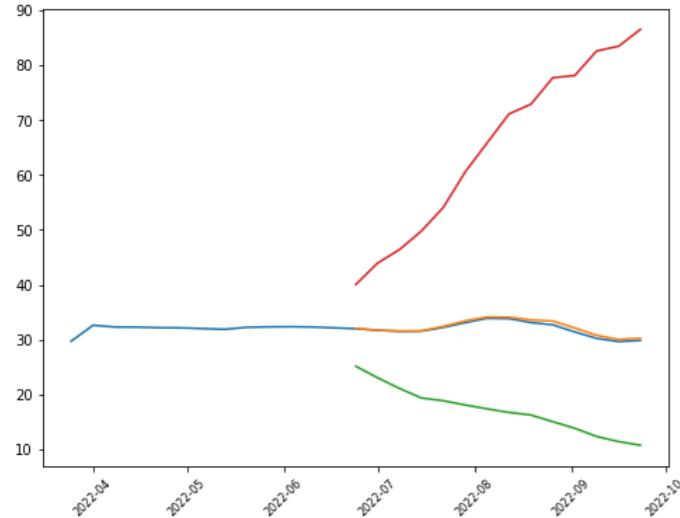
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_lyr		

Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



lets next 13 weeks

2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'mul', True]  
best inner cv score, sdev (11 folds): 18.83227344372547 14.82782276471226  
test cv mean error, stdev (10 folds): 19.958987625493084 15.095907110456098  
sell date: 2022-08-05  
expected return: 0.05408821482336362  
discounted return: 0.0010980220080683  
quarter return: 1.1062352736529146



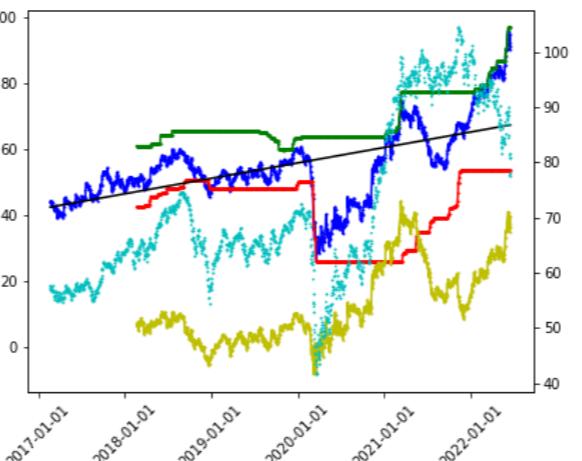
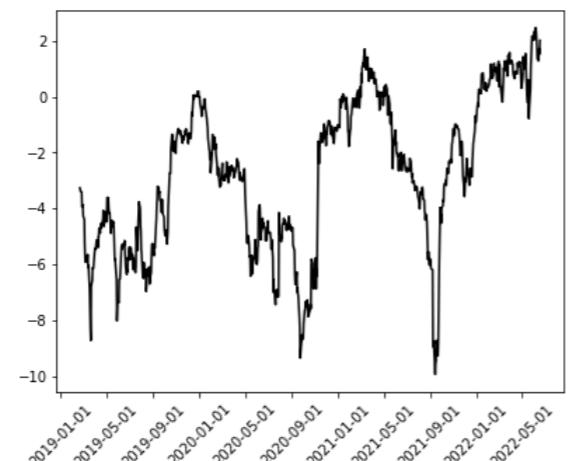
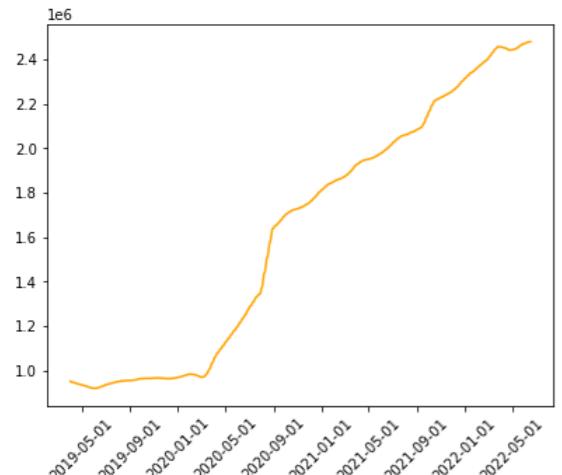
```
['options', ('2022-08-19',)]
symbol: BANF
sector: error
sector: error
Index: SP600
vol_30d_2yr: 2480755.6640625
Sector 1YMF: 33.56000518798828
1YMF: 33.56000518798828
risk trend factor: 2.0119906818931326
Empty DataFrame
Columns: []
Index: [BANF]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	94.860001	81.144325	89.856826	98.569327	85.566191	4.220089	77.126013	94.006368

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
BANF	1.135864	94.860001	2480755.664062	0.965783	0.955166	0.536352

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

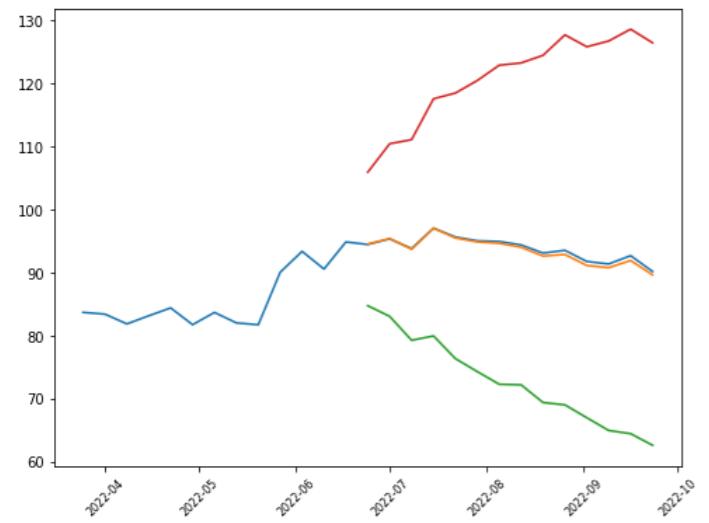
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', None]
best inner cv score, sdev (11 folds): 111.50549198081326 87.12427024896579
test cv mean error, stdev (10 folds): 118.63567504629381 88.26362601419291
sell date: 2022-07-15
expected return: 0.022973657467744026
discounted return: 0.000841603444492911
quarter return: 1.0804687270711635

```



```

symbol: Y
sector: Financial Services
Index: SP400
vol_30d_2yr: 1623886.71875
Sector 1YMF: 27.8699951171875
1YMF: 27.8699951171875
risk trend factor: 1.771775570386466
    beta currentRatio debtToEquity earningsGrowth      ebitda \
Y  0.663839      1.597      31.5     -0.433  1620000000

```

```

ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
Y  0.13423   9.936376   90016496    0.44211  5101669000

```

```

heldPercentInstitutions           industry      marketCap \
Y          0.86723 Insurance--Property & Casualty  11220848640

```

```

operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
Y  1928840960      0.11935        0     0.15  1.305451

```

```

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
Y          0.929715      0.0771      1.004     0.02938

```

```

returnOnEquity revenueGrowth revenuePerShare      sector \
Y  0.11868      0.025      878.577 Financial Services

```

```

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
Y  13454900      2.32  2298860032       170.857 2822777088

```

```

totalRevenue trailingPE
Y 12069126144  12.31154

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSD	90d_lower	90d_upper
--	-----------	---------	----------	---------	--------	-------	-----------	-----------

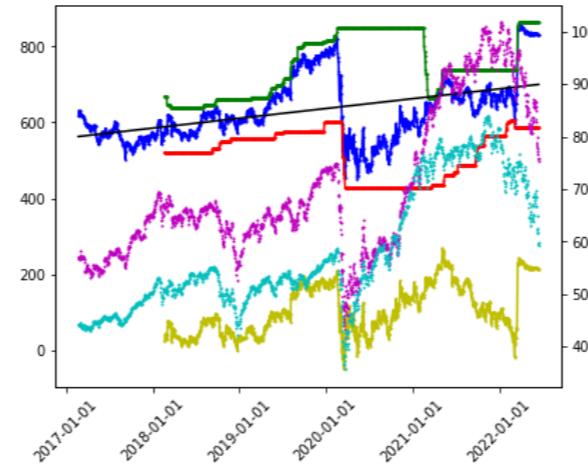
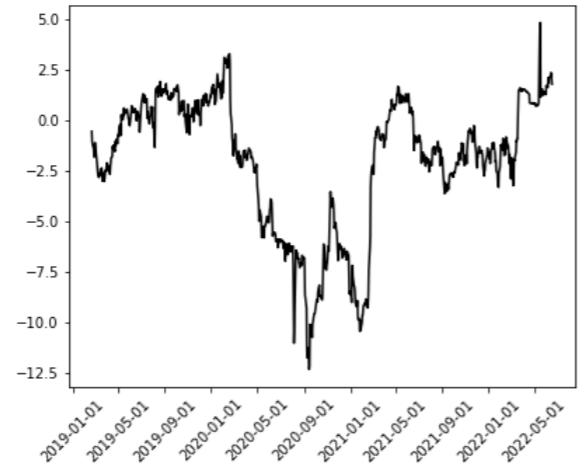
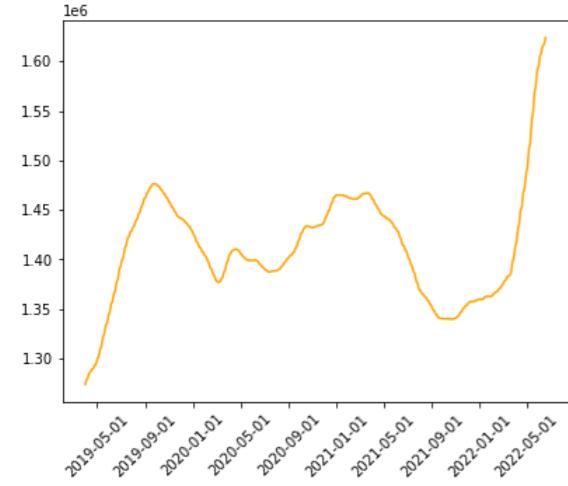
2022-06-17	830.5	830.573879	833.250157	835.926435	838.613332	7.460501	823.69233	853.534333
------------	-------	------------	------------	------------	------------	----------	-----------	------------

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
--	---------------	----------	-------------	---------	-----	-------

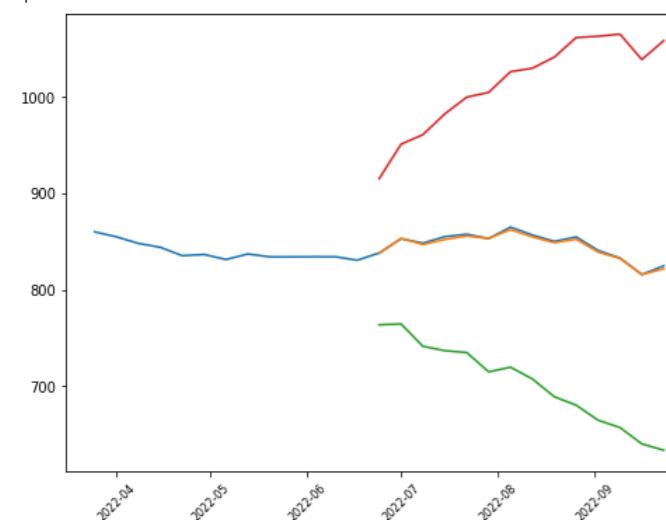
Y	1.56538	830.5	1623886.71875	0.919536	0.382688	0.459685
---	---------	-------	---------------	----------	----------	----------

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -72.2699966430664  
Sector Volume Factor: 1.2707168073107045  
Sector Risk Trend Factor: -4.617890709055871  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'mul', False]  
best inner cv score, sdev (11 folds): 7631.685635736606 8525.188460803654  
test cv mean error, stdev (10 folds): 8115.113080337962 8822.79372246698  
sell date: 2022-08-05  
expected return: 0.04148541188041907  
discounted return: 0.0008471914721568385  
quarter return: 1.0810238683982902



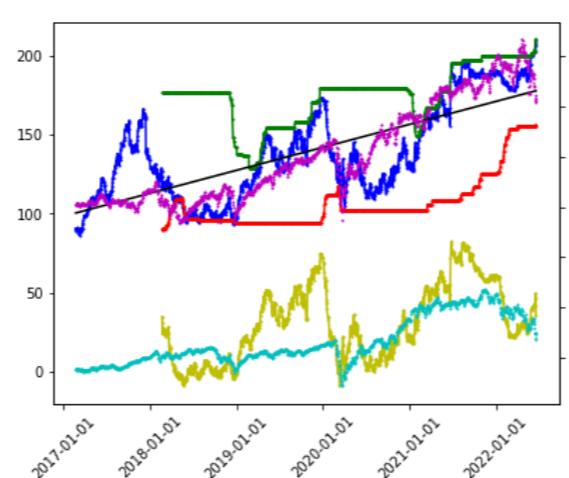
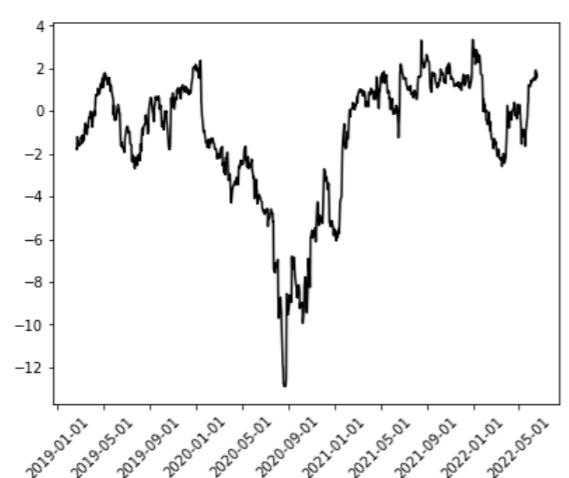
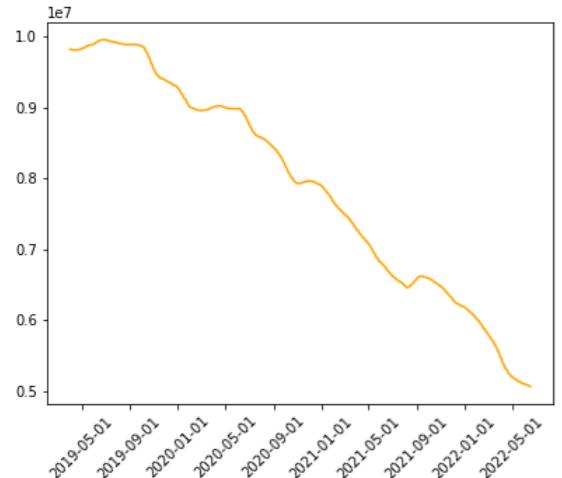
```
[{'options': ('2022-07-15',)],  
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  2022-5  
  palmoil      False  
  controversialWeapons  False  
  gambling      False  
  socialScore    8.71  
  nuclear       False  
  furLeather    False  
  alcoholic     False  
  gmo           False  
  catholic      False  
  socialPercentile  None  
  peerCount     96  
  governanceScore 11.77  
  environmentPercentile  None  
  animalTesting  False  
  tobacco        False  
  totalEsg      21.71  
  highestControversy  1  
  esgPerformance AVG_PERF  
  coal          False  
  pesticides    False  
  adult         False  
  percentile   30.32  
  peerGroup     Insurance  
  smallArms     False  
  environmentScore 1.23  
  governancePercentile  None  
  militaryContract False]  
symbol: SAFM  
sector: Consumer Defensive  
Index: SP400  
vol_30d_2yr: 5061001.171875  
Sector 1YMF: 47.44999694824219  
1YMF: 47.44999694824219  
risk trend factor: 1.7515689687220128  
  beta currentRatio debtToEquity dividendRate dividendYield \  
SAFM 0.640199      5.529      0.877      1.76      0.0084  
  
  earningsGrowth  ebitda ebitdaMargins forwardPE freeCashflow \  
SAFM 2.316 1342139008 0.23866 6.811968 669912512  
  
  grossMargins grossProfits heldPercentInstitutions  industry \  
SAFM 0.25714 907758000 0.8102 Packaged Foods  
  
  marketCap operatingCashflow operatingMargins payoutRatio pegRatio \  
SAFM 4649520640 954787008 0.20787 0.0455 -0.48  
  
  priceToBook priceToSalesTrailing12Months profitMargins quickRatio \  
SAFM 1.97168 0.826786 0.15341 3.785  
  
  returnOnAssets returnOnEquity revenueGrowth revenuePerShare \  
SAFM 0.30256 0.44602 0.358 255.051  
  
  sector sharesOutstanding shortRatio totalCash \  
SAFM Consumer Defensive 22320200 4.01 829123968  
  
  totalCashPerShare totalDebt totalRevenue trailingPE  
SAFM 37.147 20690000 5623608832 5.38993  
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper  
2022-06-17 208.309998 186.953267 199.289207 211.625148 191.30127 7.50937 176.282531 206.320009
```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SAFM	1.334104	208.309998	5061001.171875	0.98121	0.675913	0.476629

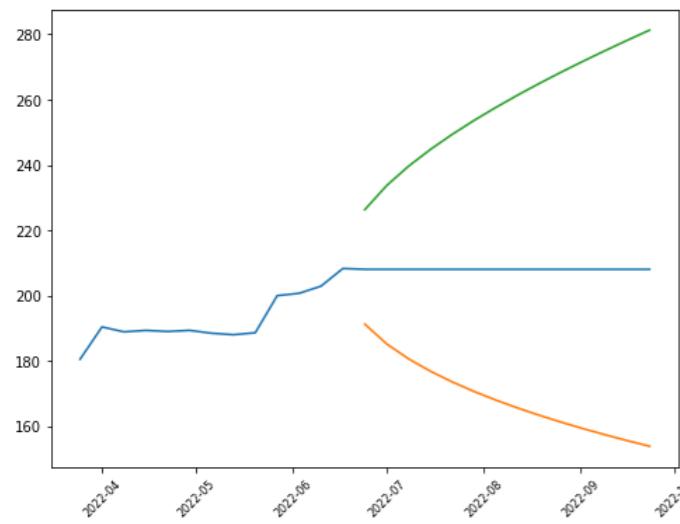
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -74.80001831054688  
Sector Volume Factor: 1.4135920452708397  
Sector Risk Trend Factor: -2.283970024749523  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: [None, None]  
best inner cv score, sdev (11 folds): 435.2291108176721 593.833764340624  
test cv mean error, stdev (10 folds): 459.8899865755935 617.424203375141  
sell date: 2022-06-24  
expected return: -0.0012086240294819552  
discounted return: -0.00020153885574014652  
quarter return: 0.9816274284294342



['options', ('2022-08-19', '2022-12-16')]

symbol: SJI  
sector: error  
sector: error  
Index: SP600  
vol\_30d\_2yr: 26850614.0625  
Sector 1YMF: 2.720003128051758  
1YMF: 2.720003128051758  
risk trend factor: 1.295238173088975  
Empty DataFrame  
Columns: []  
Index: [SJI]

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	34.200001	33.571564	34.29746	35.023356	34.252857	0.376732	33.499393	35.006321

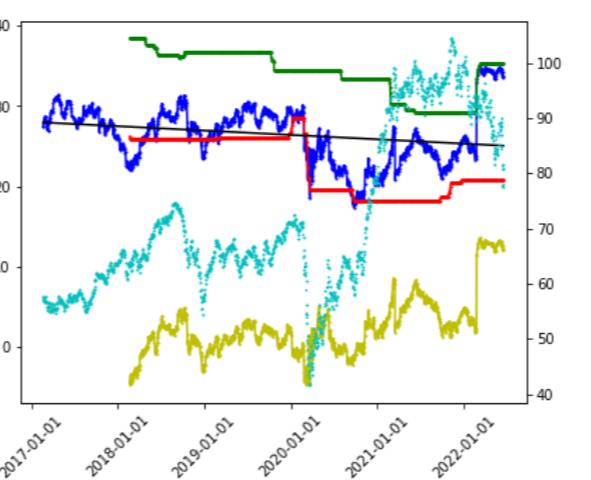
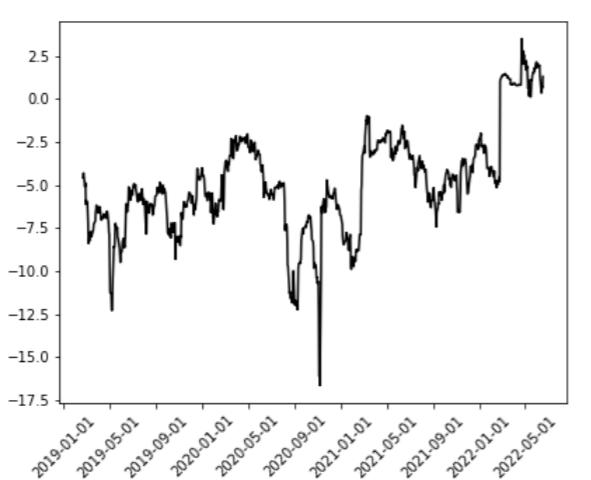
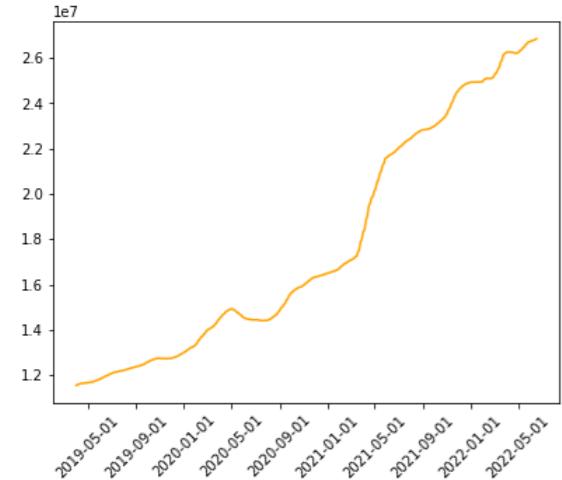
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SJI	0.791297	34.200001	26850614.0625	0.934426	0.172286	0.415691

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Index 1YMF: -77.27001953125

Index Volume Factor: 1.232760496116622

Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks

2022-06-17

2022-06-24

inner cv scores:

best model: ['mul', 'add', True]

best inner cv score, sdev (11 folds): 8.124417003418456 7.859126305360561

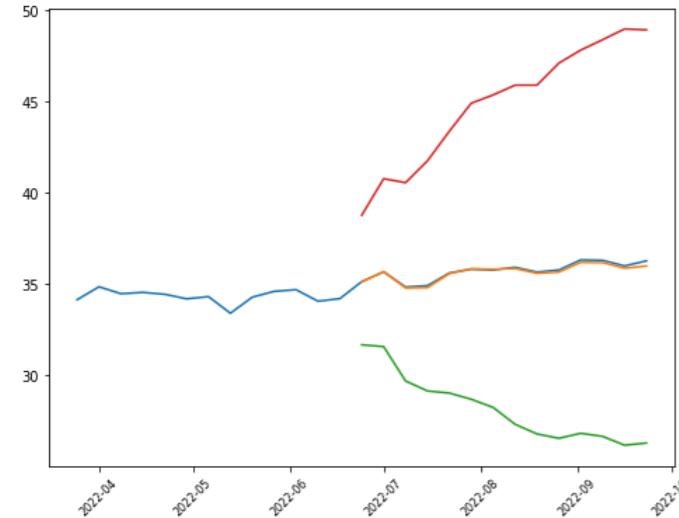
test cv mean error, stdev (10 folds): 8.673775444676817 8.038839881457797

sell date: 2022-09-02

expected return: 0.062094459769236734

discounted return: 0.0007929835089000026

quarter return: 1.075650475691347



```
[ 'options', ('2022-07-15',) ]
symbol: LNTH
sector: Healthcare
Index: SP600
vol_30d_2yr: 14149384.1796875
Sector 1YMF: 22.491004943847656
1YMF: 22.491004943847656
risk trend factor: 1.1787739665678139
    beta currentRatio debtToEquity earningsGrowth      ebitda \
LNTH  0.750453      1.828      36.846      3.692  108329000

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
LNTH  0.20002  18.234236  77142872  0.50913  187695000

    heldPercentInstitutions           industry   marketCap \
LNTH  1.01237  Diagnostics & Research  4167462400

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
LNTH  54362000      0.11518          0     0.55  8.071249

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
LNTH  7.695022      -0.06892      1.563      0.04389

    returnOnEquity revenueGrowth revenuePerShare      sector \
LNTH  -0.07151      1.258      7.998  Healthcare

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
LNTH  68634096      1.86  105355000      1.535  190072992

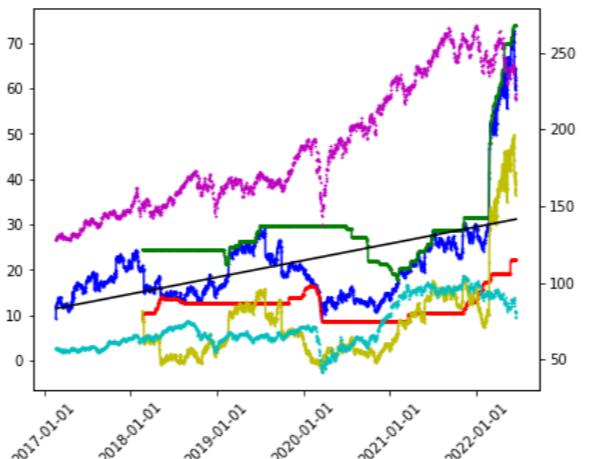
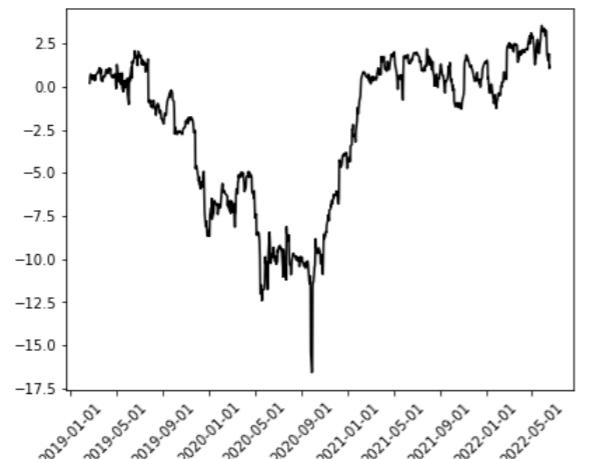
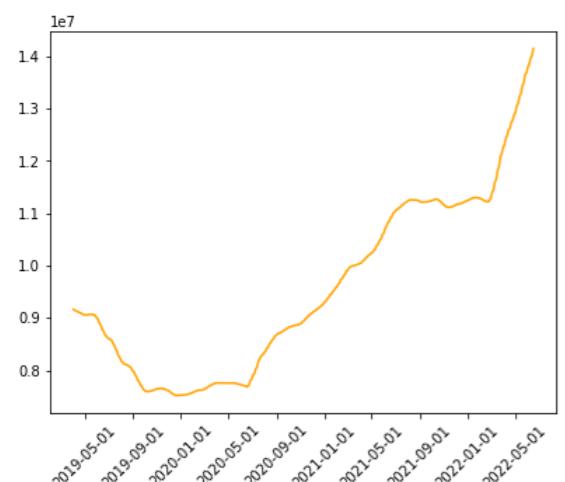
    totalRevenue
LNTH  541579008
```

	Adj	Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	60.720001	58.693247	66.262412	73.831578	61.742857	5.236883	51.269091	72.216623	

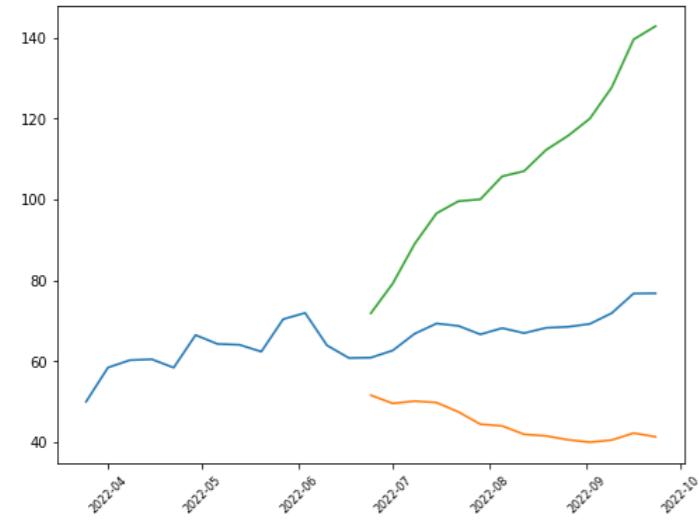
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
LNTH	1.823238	60.720001	14149384.179688	0.79355	0.965336	0.533209

l axis		r axis	
legend	symbol	legend	sector
blue	trailing_1yr_max	magenta	index
green	trailing_1yr_min	cyan	
red	30d_vol_2yr		
orange	risk_trend_factor/linear		
black	supply_trend_1yr		

Sector 1YMF: -122.20997619628906  
Sector Volume Factor: 1.2238851152317325  
Sector Risk Trend Factor: -3.3236323632363236  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'add', False]
best inner cv score, sdev (11 folds): 44.12135433697958 56.91591689823112
test cv mean error, stdev (10 folds): 42.361417550444955 59.40784968218662
sell date: 2022-09-23
expected return: 0.26388207127562513
discounted return: 0.0024172260009476254
quarter return: 1.2487167790741427
```



```
[ 'quarterly_balance_sheet', 2022-03-31 2021-12-31 2021-09-30 \
Intangible Assets 340204000.0 348510000.0 356883000.0
Capital Surplus 691516000.0 685472000.0 680819000.0
Total Liab 417316000.0 399345000.0 348472000.0
Total Stockholder Equity 515850000.0 464439000.0 499344000.0
Other Current Liab 89178000.0 NaN NaN
Total Assets 933166000.0 863784000.0 847816000.0
Common Stock 686000.0 677000.0 677000.0
Other Current Assets 12860000.0 2705000.0 12043000.0
Retained Earnings -178263000.0 -221225000.0 -181010000.0
Other Liab 64083000.0 129181000.0 88437000.0
Good Will 61189000.0 61189000.0 61189000.0
Treasury Stock 1911000.0 -485000.0 -1142000.0
Other Assets 78005000.0 92734000.0 103495000.0
Cash 105355000.0 98580000.0 91475000.0
Total Current Liabilities 177657000.0 90497000.0 76903000.0
Deferred Long Term Asset Charges 47868000.0 62764000.0 66493000.0
Short Long Term Debt 12500000.0 11687000.0 10766000.0
Other Stockholder Equity 1911000.0 -485000.0 -1142000.0
Property Plant Equipment 125634000.0 125560000.0 124728000.0
Total Current Assets 324747000.0 235791000.0 201521000.0
Long Term Investments 3387000.0 NaN NaN
Net Tangible Assets 114457000.0 54740000.0 81272000.0
Net Receivables 172283000.0 89336000.0 64054000.0
Long Term Debt 159165000.0 162729000.0 166479000.0
Inventory 34249000.0 35129000.0 33949000.0
Accounts Payable 22383000.0 20787000.0 20508000.0

2021-06-30
Intangible Assets 365259000.0
Capital Surplus 676059000.0
Total Liab 349662000.0
Total Stockholder Equity 508140000.0
Other Current Liab NaN
Total Assets 857802000.0
Common Stock 676000.0
Other Current Assets 8102000.0
Retained Earnings -167595000.0
Other Liab 106587000.0
Good Will 61189000.0
Treasury Stock -1000000.0
Other Assets 126648000.0
Cash 91500000.0
Total Current Liabilities 73826000.0
Deferred Long Term Asset Charges 64777000.0
Short Long Term Debt 11269000.0
Other Stockholder Equity -1000000.0
Property Plant Equipment 118493000.0
Total Current Assets 186213000.0
Long Term Investments NaN
Net Tangible Assets 81692000.0
Net Receivables 54892000.0
Long Term Debt 168514000.0
Inventory 31719000.0
Accounts Payable 21471000.0 ]
[ 'quarterly_cashflow', 2022-03-31 2021-12-31 2021-09-30 \
Change To Liabilities 1506000.0 649000.0 -1112000.0
Total Cashflows From Investing Activities -1390000.0 -4544000.0 -2420000.0
Net Borrowings -2609000.0 -2591000.0 -2620000.0
Total Cash From Financing Activities -2179000.0 -2100000.0 -1726000.0
Change To Operating Activities -1674000.0 10133000.0 3754000.0
Issuance Of Stock 5934000.0 678000.0 961000.0
Net Income 42962000.0 -40215000.0 -13415000.0
Change In Cash 6846000.0 7034000.0 -25000.0
Repurchase Of Stock -5504000.0 -187000.0 -67000.0
Effect Of Exchange Rate 151000.0 -211000.0 -219000.0
Total Cash From Operating Activities 10264000.0 13889000.0 4340000.0
Depreciation 11786000.0 12200000.0 12339000.0
Change To Inventory -1634000.0 -2924000.0 -2513000.0
Change To Account Receivables -85155000.0 -25381000.0 -9272000.0
Change To Netincome 42227000.0 59181000.0 14314000.0
Capital Expenditures -3190000.0 -4544000.0 -2420000.0

2021-06-30
Change To Liabilities 1778000.0
Total Cashflows From Investing Activities -2656000.0
Net Borrowings -2565000.0
Total Cash From Financing Activities -715000.0
Change To Operating Activities 9341000.0
Issuance Of Stock 2043000.0
Net Income -26657000.0
Change In Cash 22639000.0
Repurchase Of Stock -193000.0
Effect Of Exchange Rate 141000.0
Total Cash From Operating Activities 25869000.0
Depreciation 9626000.0
```

```

Change To Inventory           -2001000.0
Change To Account Receivables 3897000.0
Change To Netincome          2970000.0
Capital Expenditures         -2656000.0 ]
['quarterly_earnings',      Revenue Earnings
Quarter
2Q2021   101064000 -26657000
3Q2021   102073000 -13415000
4Q2021   129562000 -40215000
1Q2022   208880000 42962000]
['quarterly_financials',
Research Development        12203000.0 11293000.0 11252000.0
Effect Of Accounting Charges None    None    None
Income Before Tax            57901000.0 -41007000.0 -19837000.0
Minority Interest             None    None    None
Net Income                   42962000.0 -40215000.0 -13415000.0
Selling General Administrative 57942000.0 42593000.0 36285000.0
Gross Profit                 12907000.0 57988000.0 42669000.0
Ebit                         58925000.0 4022000.0 -4788000.0
Operating Income              58925000.0 4022000.0 -4788000.0
Other Operating Expenses      None    None    None
Interest Expense              -1509000.0 -1528000.0 -1569000.0
Extraordinary Items           None    None    None
Non Recurring                 None    None    None
Other Items                   None    None    None
Income Tax Expense            14939000.0 -792000.0 -6422000.0
Total Revenue                 208880000.0 129562000.0 102073000.0
Total Operating Expenses      149955000.0 125540000.0 106861000.0
Cost Of Revenue                7981000.0 71654000.0 59404000.0
Total Other Income Expense Net -1024000.0 -45029000.0 -15049000.0
Discontinued Operations       None    None    None
Net Income From Continuing Ops 42962000.0 -40215000.0 -13415000.0
Net Income Applicable To Common Shares 42962000.0 -40215000.0 -13415000.0

2021-06-30
Research Development        12061000.0
Effect Of Accounting Charges None
Income Before Tax            -28536000.0
Minority Interest             None
Net Income                   -26657000.0
Selling General Administrative 60808000.0
Gross Profit                 46088000.0
Ebit                         -26781000.0
Operating Income              -26781000.0
Other Operating Expenses      None
Interest Expense              -1937000.0
Extraordinary Items           None
Non Recurring                 None
Other Items                   None
Income Tax Expense            -1879000.0
Total Revenue                 101064000.0
Total Operating Expenses      127845000.0
Cost Of Revenue                54976000.0
Total Other Income Expense Net -1755000.0
Discontinued Operations       None
Net Income From Continuing Ops -26657000.0
Net Income Applicable To Common Shares -26657000.0 ]
['mutualfund_holders',      Holder Shares Date Reported \
0     iShares Core S&P Smallcap ETF 4760862 2022-01-30
1     Vanguard Total Stock Market Index Fund 1818068 2021-12-30
2     iShares Russell 2000 ETF 1546604 2022-01-30
3     Artisan International Small-Mid Fund 1430335 2021-12-30
4     Thrivent Small Cap Stock Fund 983011 2022-01-30
5     Vanguard Extended Market Index Fund 869393 2021-12-30
6     John Hancock Small Cap Core Fd 846280 2022-01-30
7 Blair (William) Mutual Funds,Inc-Small Cap Val... 724920 2022-02-27
8     Price (T.Rowe) Small-Cap Value Fund 720839 2021-12-30
9     Price (T.Rowe) Health Sciences Fund 720458 2021-12-30

% Out  Value
0  0.0694 120973503
1  0.0265 52523984
2  0.0225 39299207
3  0.0208 41322378
4  0.0143 24978309
5  0.0127 25116763
6  0.0123 21503974
7  0.0106 34665674
8  0.0105 20825038
9  0.0105 20814031 ]
['options', ('2022-07-15',)]
symbol: ROC
sector: error
sector: error
Index: SP600
vol_30d_2yr: 3248345.8984375

```

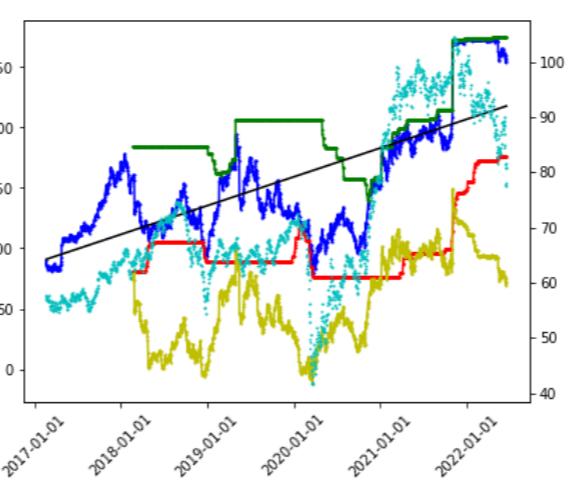
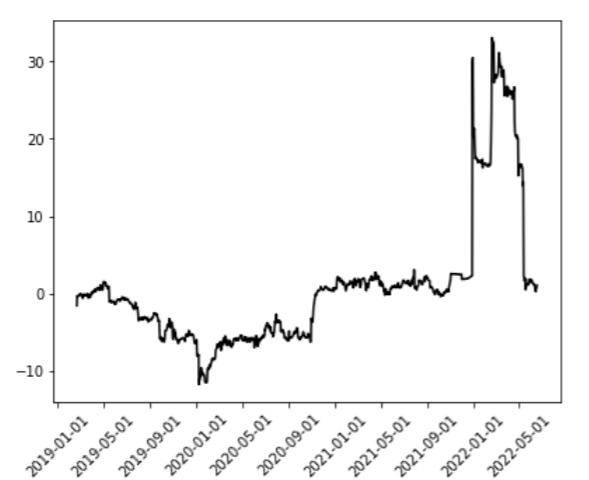
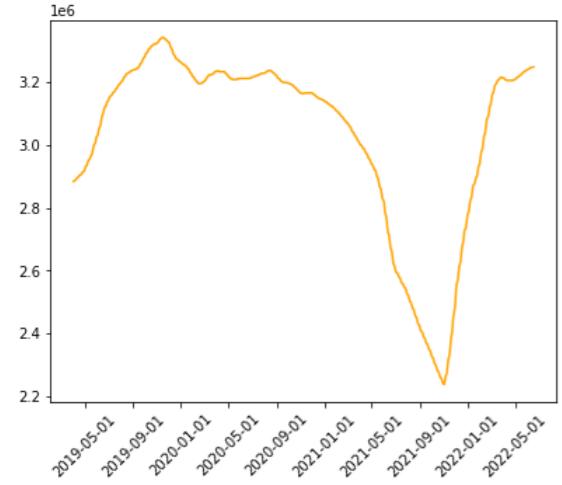
Sector 1YMF: 22.989990234375  
 1YMF: 22.989990234375  
 risk trend factor: 1.068804267635208  
 Empty Dataframe  
 Columns: []  
 Index: [ROG]

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	259.380005	254.172765	260.19492	266.217074	267.576983	6.298768	254.979447	280.17452

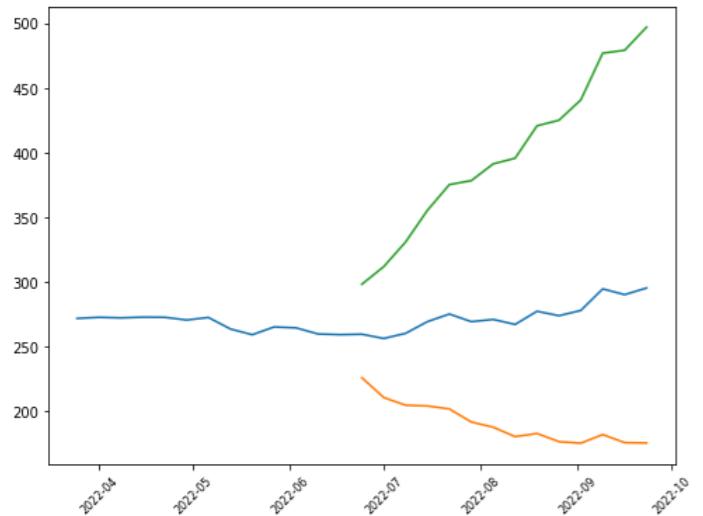
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
ROG	0.980653	259.380005	3248345.898438	0.91539	0.71811	0.478768

	I axis	r axis
	legend	legend
blue	symbol	magenta sector
green	trailing_1yr_max	cyan index
red	trailing_1yr_min	
orange	30d_vol_2yr	
black	risk_trend_factor/linear	
yellow	supply_trend_1yr	

Index 1YMF: -77.27001953125  
 Index Volume Factor: 1.232760496116622  
 Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
 2022-06-17  
 2022-06-24  
 inner cv scores:  
 best model: ['add', 'add', False]  
 best inner cv score, sdev (11 folds): 1011.9720205311853 1503.6247098356484  
 test cv mean error, stdev (10 folds): 1106.8167127613508 1545.32393368847  
 sell date: 2022-09-23  
 expected return: 0.1391103510623887  
 discounted return: 0.0013436602947727305  
 quarter return: 1.131488216494553



```

symbol: TWI
sector: Industrials
Index: SP600
vol_30d_2yr: 10530212.5
Sector 1YMF: 6.0800018310546875
1YMF: 6.0800018310546875
risk trend factor: 0.9310876079145333
    beta currentRatio debtToEquity earningsGrowth ebitda \
TWI 2.412885      1.853     219.119      0.682 163579008

ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
TWI      0.08464   8.09589   -24455124      0.13457 227051000

heldPercentInstitutions           industry marketCap \
TWI      0.77816 Farm & Heavy Construction Machinery 1110906752

operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
TWI      8171000      0.06043      0      0.38 4.470499

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
TWI      0.574797      0.03101      0.829      0.06237

returnOnEquity revenueGrowth revenuePerShare sector \
TWI      0.28169      0.378      30.825 Industrials

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
TWI      62656900      2.29 98144000      1.566 538417984

totalRevenue trailingPE
TWI 1932694016 18.801697

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 17.52 16.247353 18.072381 19.897408 15.954921 1.924943 12.105034 19.804807

```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
TWI	1.389288	17.52	10530212.5	0.876816	0.791457	0.500704

	l axis	r axis
--	--------	--------

legend	legend
--------	--------

blue	symbol	magenta	sector
------	--------	---------	--------

green	trailing_1yr_max	cyan	index
-------	------------------	------	-------

red	trailing_1yr_min
-----	------------------

orange	30d_vol_2yr
--------	-------------

black	risk_trend_factor/linear
-------	--------------------------

yellow	supply_trend_1yr
--------	------------------

Sector 1YMF: -141.5800018310545

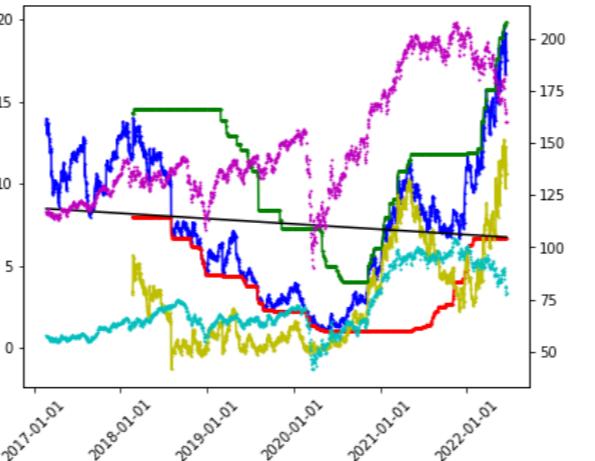
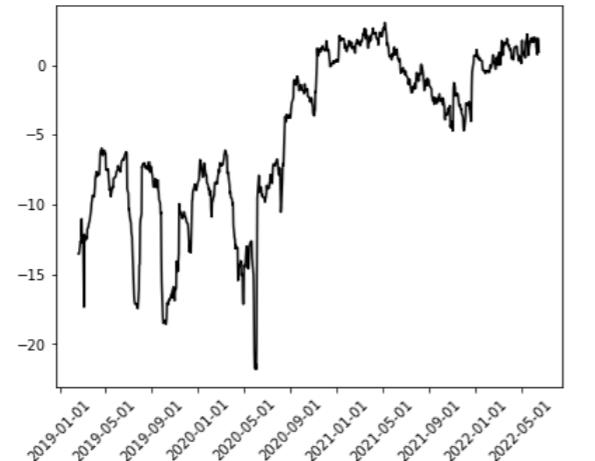
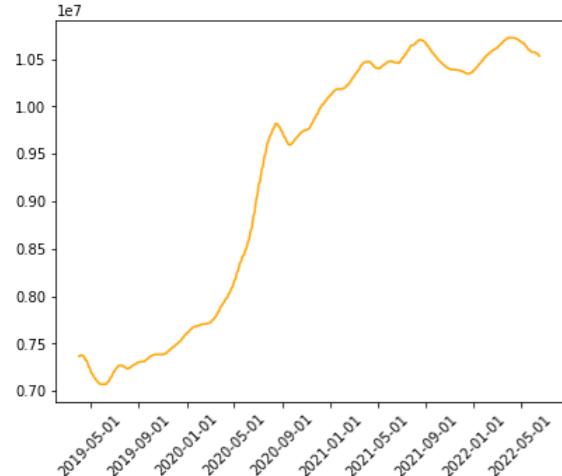
Sector Volume Factor: 0.8696853533786545

Sector Risk Trend Factor: -4.514668337867341

Index 1YMF: -77.27001953125

Index Volume Factor: 1.232760496116622

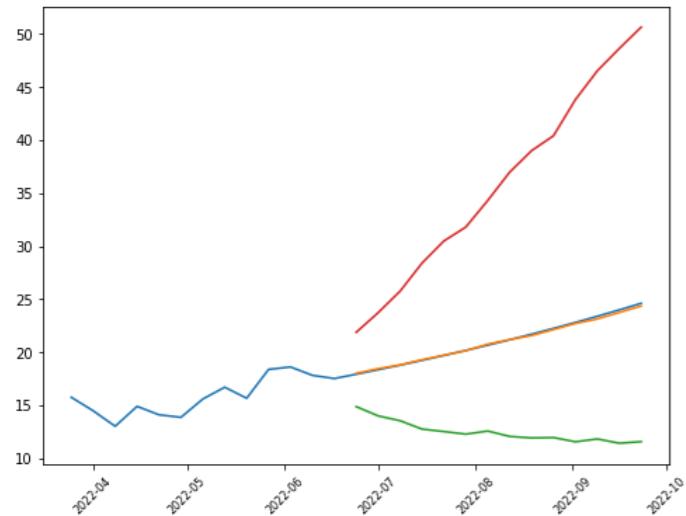
Index Risk Trend Factor: -5.242200185196592



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'mul', False]
best inner cv score, sdev (11 folds): 4.4397757974774485 6.24831348618501
test cv mean error, stdev (10 folds): 4.868334990724327 6.397286244207556
sell date: 2022-09-23
expected return: 0.40453744844593575
discounted return: 0.0035082843170333167
quarter return: 1.3801570639888343

```



```

['options', ('2022-07-15',)]
symbol: PBF
sector: Energy
Index: SP600
vol_30d_2yr: 92668774.0234375
Sector 1YMF: 17.619998931884766
1YMF: 17.619998931884766
risk trend factor: 0.8876574451557954
          beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
PBF    2.259981        1.254       197.914   690400000     0.02194  11.930909

          freeCashflow grossMargins grossProfits heldPercentInstitutions \
PBF    284750016       0.0362      671100000           0.80139

          industry marketCap operatingCashflow \
PBF  Oil & Gas Refining & Marketing 3964366848      803299968

          operatingMargins payoutRatio pegRatio priceToBook \
PBF        0.0135         0       -0.18     2.070946

          priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PBF            0.125972       0.00798       0.629      0.02192

          returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
PBF        0.14223        0.856       261.505  Energy      120828000

          shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
PBF        2.81  1434599936       11.873  4999499776  31470299136

          trailingPE
PBF  15.904024

          Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper

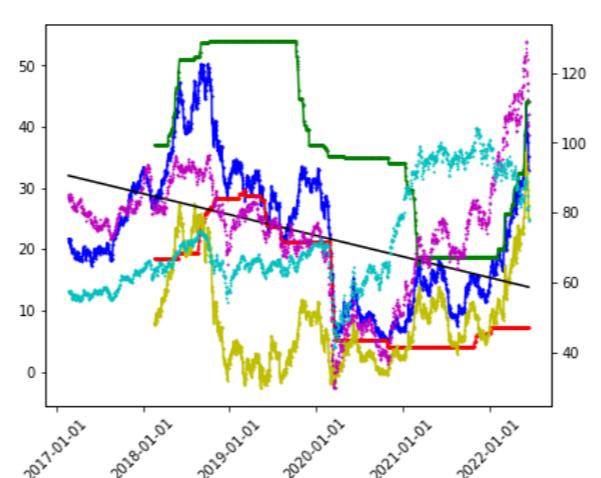
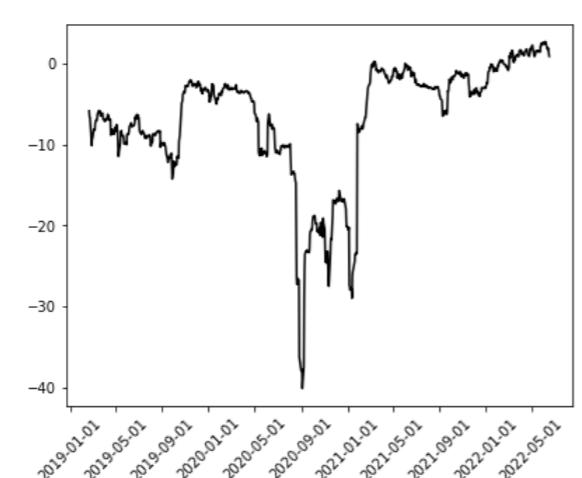
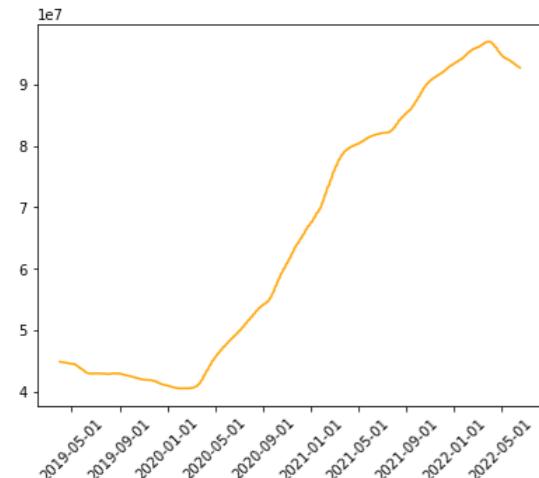
```

**2022-06-17** 32.98 27.175062 35.668889 44.162716 29.964286 5.34115 19.281986 40.64658

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
PBF	0.835417	32.98	92668774.023438	0.721917	0.581704	0.554972

l axis		r axis	
legend		legend	
<b>blue</b>	symbol		
<b>green</b>	trailing_1yr_max	<b>magenta</b>	sector
<b>red</b>	trailing_1yr_min		<b>cyan</b>
<b>orange</b>	30d_vol_2yr		index
<b>black</b>	risk_trend_factor/linear		

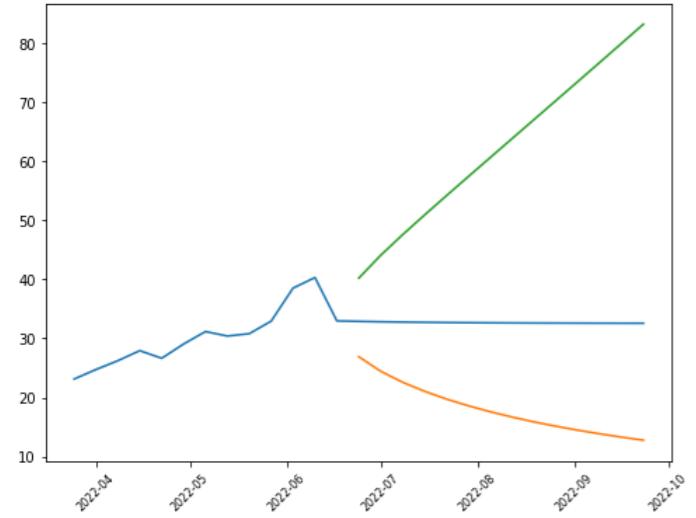
```
yellow      supply_trend_1yr
Sector 1YMF: -3.82000732421875
Sector Volume Factor: 0.8966412344901694
Sector Risk Trend Factor: -0.12330558135216596
Index 1YMF: -77.27001953125
Index Volume Factor: 1.232760496116622
Index Risk Trend Factor: -5.242200185196592
```



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'add', True]
best inner cv score, sdev (11 folds): 32.03876276506622 24.823205586847095
test cv mean error, stdev (10 folds): 30.71500796571063 25.661938537196313
sell date: 2022-06-24
expected return: -0.0025007517238123207
discounted return: -0.00041722690767520554
quarter return: 0.962334779386255

```



```
['options', ('2022-07-15', '2022-12-16', '2023-01-20', '2024-01-19')]
```

```

symbol: GO
sector: Consumer Defensive
Index: SP400
Index: SP400
vol_30d_2yr: 21744971.2890625
Sector 1YMF: 9.090003967285156
1YMF: 9.090003967285156
risk trend factor: 0.8421349867224205
beta currentRatio debtToEquity earningsGrowth ebitda \
GO -0.204778 1.904 144.187 -0.368 158646000

```

```

ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
GO 0.05023 34.782608 -14480875 0.30639 948786000

```

```

heldPercentInstitutions industry marketCap operatingCashflow \
GO 1.0557 Grocery Stores 3854695936 175503008

```

```

operatingMargins payoutRatio pegRatio priceToBook \
GO 0.02681 0 3.5 3.760813

```

```

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
GO 1.220403 0.01741 0.611 0.02033

```

```

returnOnEquity revenueGrowth revenuePerShare sector \
GO 0.05577 0.105 32.914 Consumer Defensive

```

```

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
GO 96367400 6.55 137996000 1.432 1476578944

```

```

totalRevenue trailingPE
GO 3158543104 71.42857

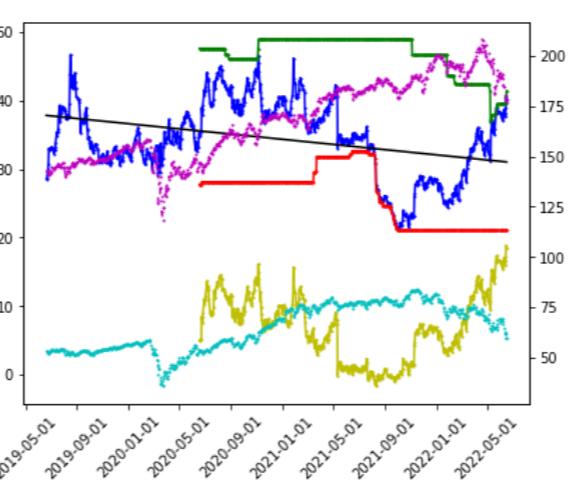
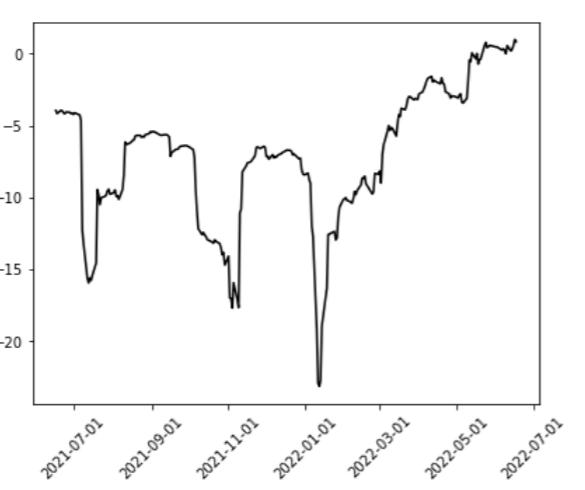
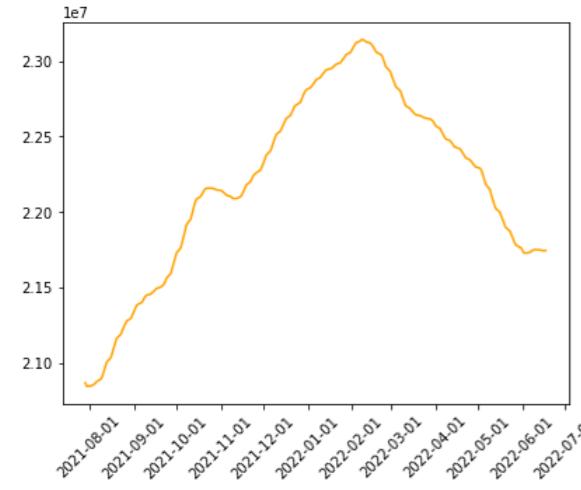
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	40.150002	35.915072	38.024936	40.134801	35.226667	2.439389	30.347888	40.105445

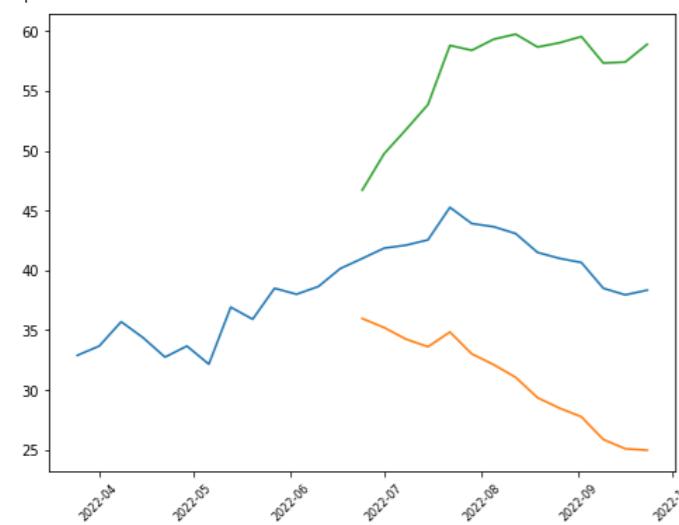
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
GO	1.191531	40.150002	21744971.289062	0.687007	0.173605	0.403873

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -74.80001831054688  
Sector Volume Factor: 1.4135920452708397  
Sector Risk Trend Factor: -2.283970024749523  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', True]  
best inner cv score, sdev (11 folds): 23.788531080664846 17.286788357766444  
test cv mean error, stdev (10 folds): 23.78853331644342 17.286791788688287  
sell date: 2022-07-22  
expected return: 0.12744091149424003  
discounted return: 0.0035341830305344324  
quarter return: 1.38343789336099



```

['options', ('2022-07-15', '2023-01-20', '2024-01-19')]
symbol: HRB
sector: Consumer Cyclical
Index: SP400
vol_30d_2yr: 54249330.46875
Sector 1YMF: 9.64000129699707
1YMF: 9.64000129699707
risk trend factor: 0.73141120475963
          beta currentRatio debtToEquity dividendRate dividendYield \
HRB    0.695099      1.103     5314.905        1.08      0.0327

          earningsGrowth      ebitda ebitdaMargins forwardPE grossMargins \
HRB    -0.008   806428032      0.30238   8.967391      0.472

          grossProfits heldPercentInstitutions           industry marketCap \
HRB    1400058000            0.93136 Personal Services 5266601984

          operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
HRB    80728000      0.25066      0.3344      0.99    117.43773

          priceToSalesTrailing12Months profitMargins quickRatio revenueGrowth \
HRB            1.97476      0.16063      0.971       0.039

          revenuePerShare           sector sharesOutstanding shortRatio \
HRB      15.645 Consumer Cyclical      159594000      3.1

          totalCash totalCashPerShare  totalDebt totalRevenue trailingPE
HRB  1041740032            6.527  2384054016  2666958080  13.502455

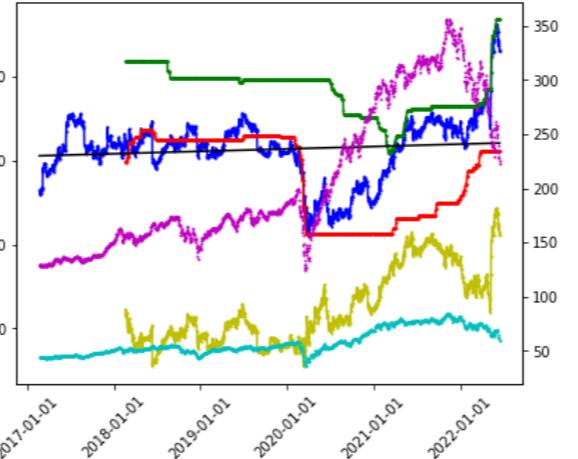
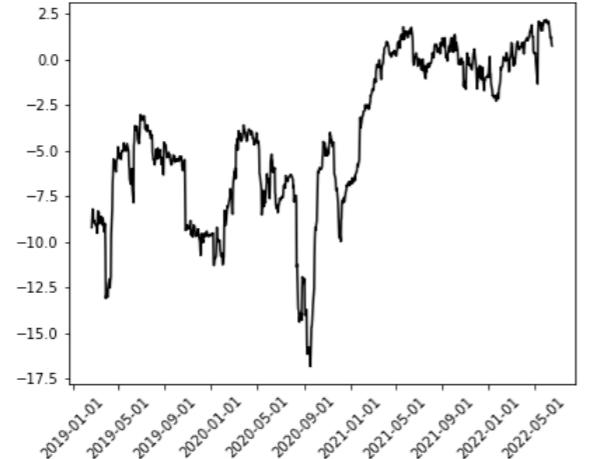
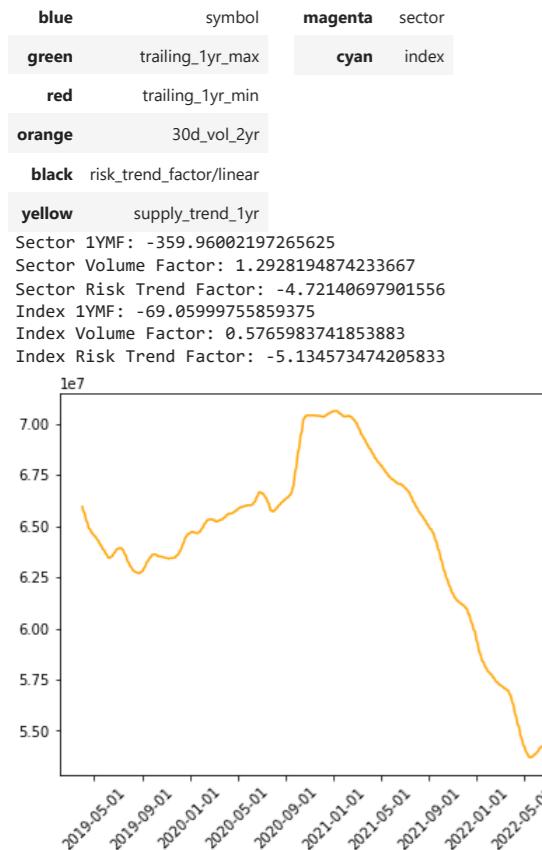
          Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	33.0	32.411108	34.624444	36.837781	29.692222	4.042801	21.60662	37.77782

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
HRB	0.963511	33.0	54249330.46875	0.83894	0.727369	0.435637

**Legend** **Legend**

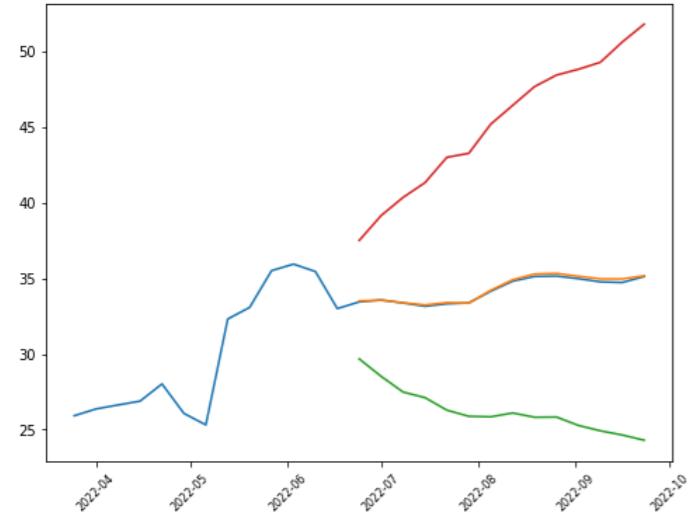


file:///C:/Users/User/Documents/wiki/wiki/dev/python/Python-Stock/code/Screener/AnalyzeSP1500.html

```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', False]
best inner cv score, sdev (11 folds): 6.864336558336649 6.361525597489048
test cv mean error, stdev (10 folds): 7.2923108715859275 6.519291756252031
sell date: 2022-08-26
expected return: 0.06514875311312678
discounted return: 0.0009151208401509958
quarter return: 1.0877948985018

```



```

['options', ('2022-07-15', '2023-01-20', '2024-01-19')]
symbol: AZPN
sector: Technology
Index: SP400
Index: SP400
vol_30d_2yr: 9413646.875
Sector 1YMF: 44.3599853515625
1YMF: 44.3599853515625
risk trend factor: 0.7193120754472356
currentRatio debtToEquity earningsGrowth ebitda ebitdaMargins \
AZPN 1.176 40.561 0.231 27337000 0.08523

```

```

forwardPE grossMargins grossProfits heldPercentInstitutions \
AZPN 34.490196 0.46746 137630000 1.03086

```

```

industry marketCap operatingCashflow operatingMargins \
AZPN Software—Application 12029022208 45755000 -0.08421

```

```

payoutRatio pegRatio priceToBook priceToSalesTrailing12Months \
AZPN 0 4.59 16.632854 37.503967

```

```

profitMargins quickRatio revenueGrowth revenuePerShare sector \
AZPN -0.07406 1.116 0.154 4.811 Technology

```

```

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
AZPN 62168700 2.78 285216992 4.282 314292000

```

```

totalRevenue
AZPN 320740000

```

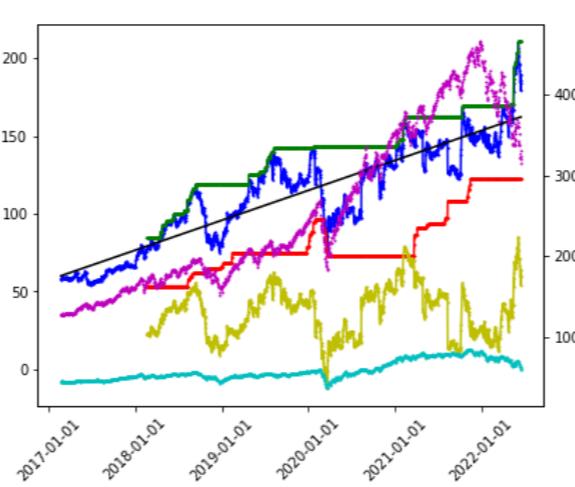
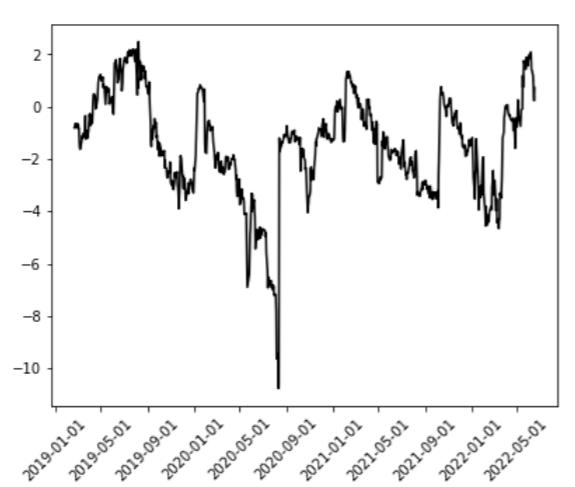
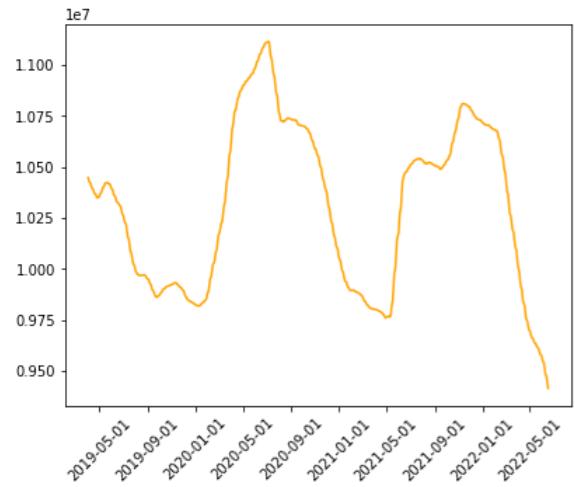
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDDev	90d lower	90d upper
2022-06-17	189.199997	179.517829	194.02619	208.534551	172.712063	17.04983	138.612402	206.811723

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
AZPN	0.677612	189.199997	9413646.875	0.817172	0.799656 0.381343

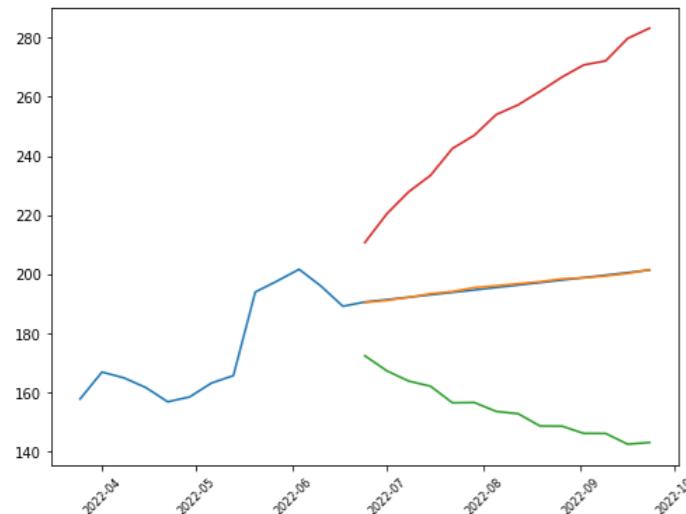
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

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Sector 1YMF: -363.4599914550781  
Sector Volume Factor: 1.1528457613891094  
Sector Risk Trend Factor: -4.954471974241429  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: [None, 'mul', False]  
best inner cv score, sdev (11 folds): 489.454013865896 509.74593432044645  
test cv mean error, stdev (10 folds): 536.2813274769147 511.57059288027745  
sell date: 2022-09-23  
expected return: 0.06468623197866812  
discounted return: 0.000646395812373024  
quarter return: 1.0612518511466449



```
[ 'options', ('2022-07-15', '2022-12-16') ]
symbol: CEIX
sector: Energy
Index: SP600
vol_30d_2yr: 10292389.84375
Sector 1YMF: 13.870006561279297
1YMF: 13.870006561279297
risk trend factor: 0.677246429262603
    beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
CEIX  2.034072      0.842      95.981  241890000      0.16404  2.585434

freeCashflow grossMargins grossProfits heldPercentInstitutions \
CEIX  252373632      0.3951     422536000      0.82577

industry marketCap operatingCashflow operatingMargins payoutRatio \
CEIX Thermal Coal  1606689280      375780000      0.01441      0

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
CEIX  2.403771      1.089613      0.00221      0.658

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
CEIX  0.00507      0.0052      0.616      42.718 Energy

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
CEIX  34814500      2.05  222906000      6.403  641545984

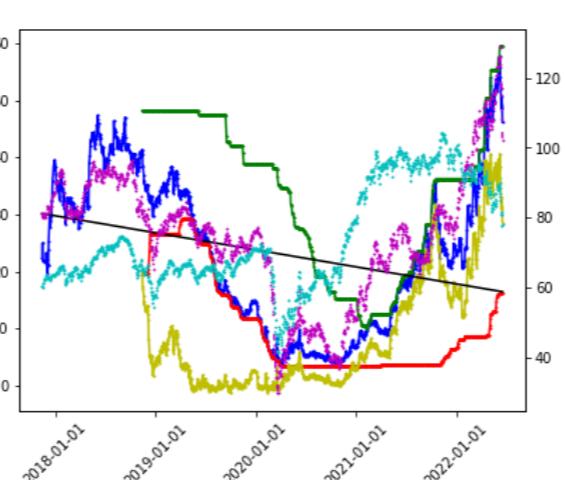
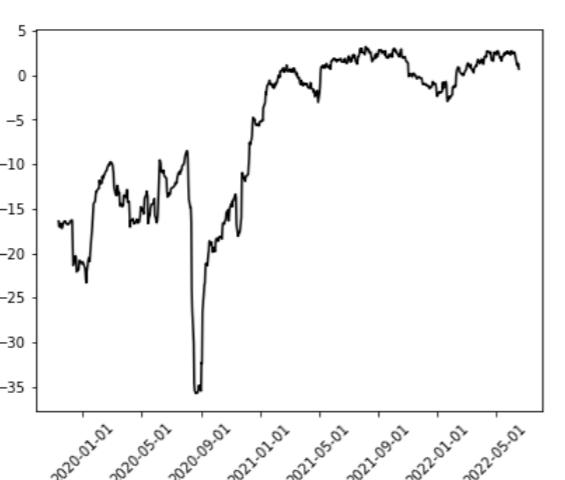
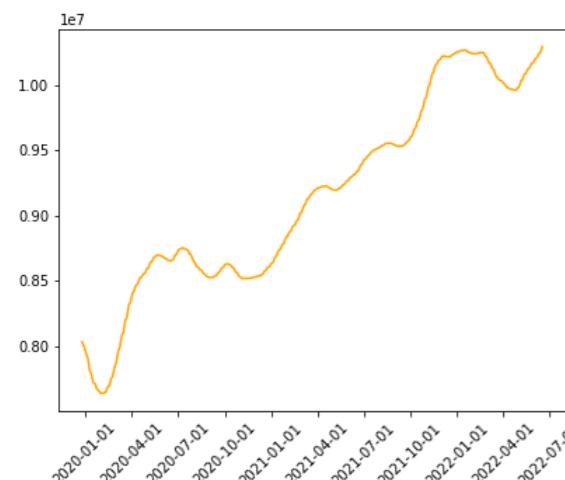
totalRevenue trailingPE
CEIX  1474550016  512.7778

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSD 90d_lower 90d_upper
2022-06-17 46.150002 47.268535 52.341873 57.415211 46.69127 6.413974 33.863321 59.519218
```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
CEIX	1.548727	46.150002	10292389.84375	0.762563	0.855686	0.521917

	l axis	r axis	
legend	legend	legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

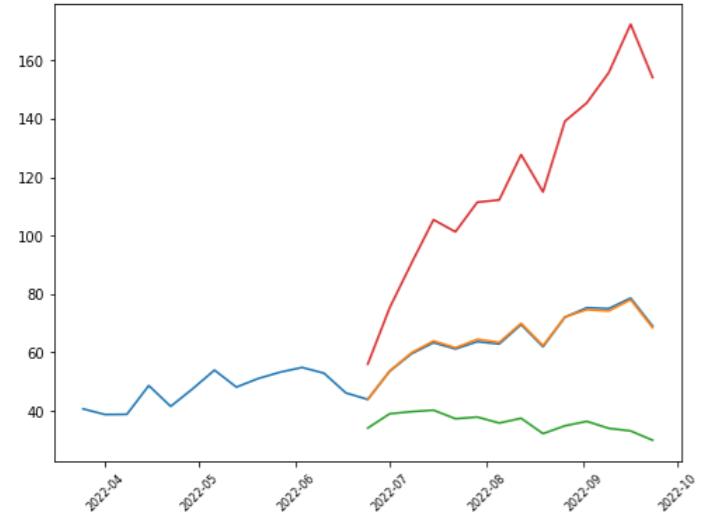
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', False]
best inner cv score, sdev (11 folds): 36.22631654903543 60.302806177252826
test cv mean error, stdev (10 folds): 36.22631680755455 60.30280614072491
sell date: 2022-09-16
expected return: 0.7036936565173771
discounted return: 0.005937542553579478
quarter return: 1.7239852264024262

```



```

['options', ('2022-08-19',)]
symbol: PSB
sector: error
sector: error
Index: SP400
vol_30d_2yr: 2723370.8984375
Sector 1YMF: 12.849990844726562
1YMF: 12.849990844726562
risk trend factor: 0.576750069513787
Empty DataFrame
Columns: []
Index: [PSB]

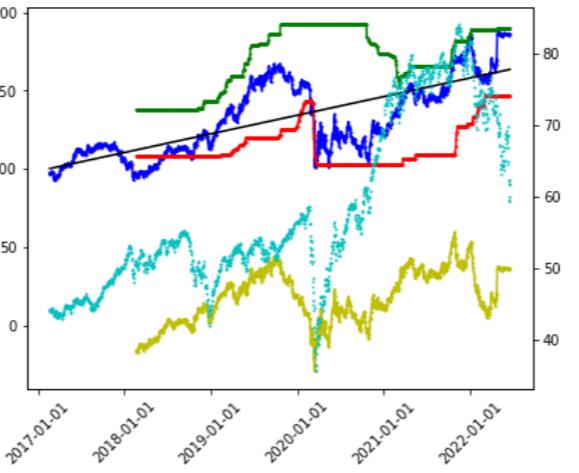
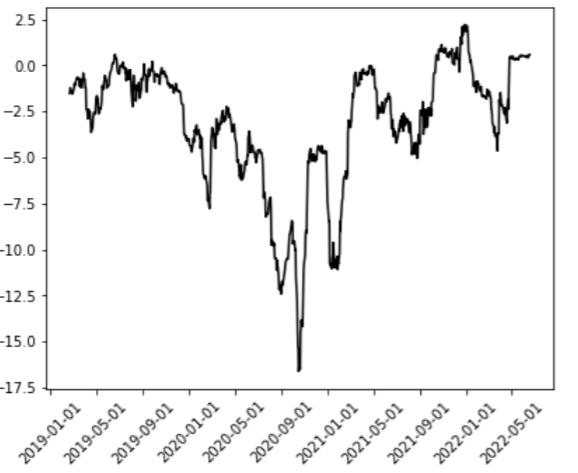
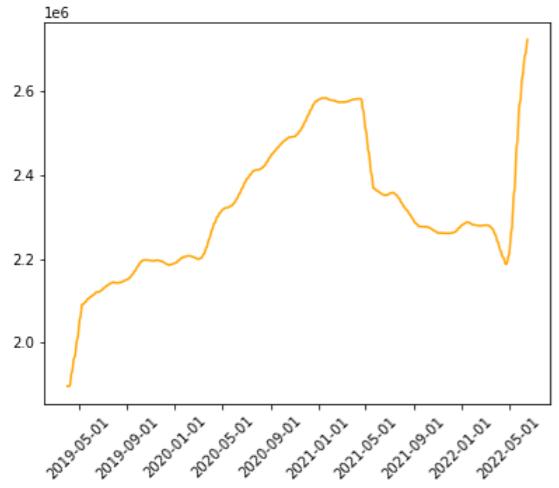
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	185.919998	185.696223	186.664367	187.632511	178.031091	10.476157	157.078776	198.983405

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>PSB</b>	2.540601	185.919998	2723370.898438	0.951471	0.840486	0.47672

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

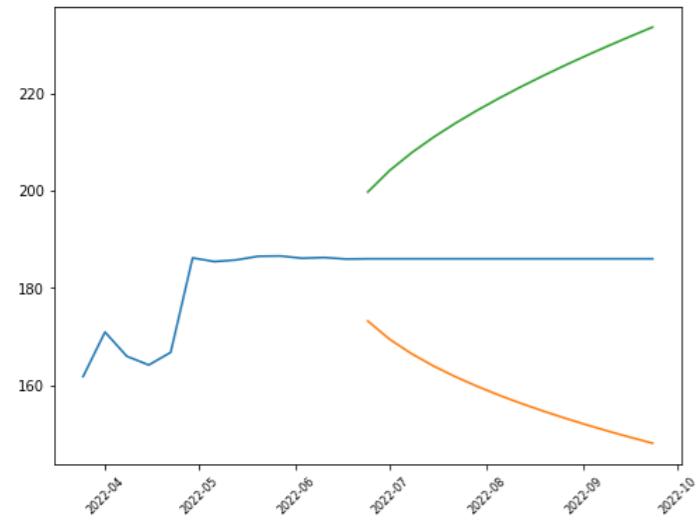
Index 1YMF: -69.05999755859375  
 Index Volume Factor: 0.5765983741853883  
 Index Risk Trend Factor: -5.134573474205833



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, None]
best inner cv score, sdev (11 folds): 369.7292384773061 494.7603840645874
test cv mean error, stdev (10 folds): 405.85316500636833 504.8884061424503
sell date: 2022-06-24
expected return: 0.0002559406349787676
discounted return: 4.26522420718473e-05
quarter return: 1.0039316296028944

```



```

symbol: MCK
sector: Healthcare
Index: SP500
vol_30d_2yr: 22868822.0703125
Sector 1YMF: 23.670013427734375
1YMF: 23.670013427734375
risk trend factor: 0.5738185073390152
    beta currentRatio dividendRate dividendYield      ebitda \
MCK  0.716666       0.98       1.88       0.0058  3516999936

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
MCK  0.01368   13.643667  2778374912     0.0503  11967000000

    heldPercentInstitutions      industry      marketCap \
MCK          0.898  Medical Distribution  45891629056

    operatingCashflow operatingMargins payoutRatio pegRatio \
MCK        4917000192       0.0105       0.2521       1.05

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
MCK        0.178562       0.00549       0.445       0.02686

    returnOnEquity revenueGrowth revenuePerShare      sector \
MCK        14.01754       0.096      1655.966  Healthcare

    sharesOutstanding shortRatio      totalCash totalCashPerShare      totalDebt \
MCK        152682000       2.69    2753999872       18.385  8098999808

    totalRevenue
MCK  257005993984

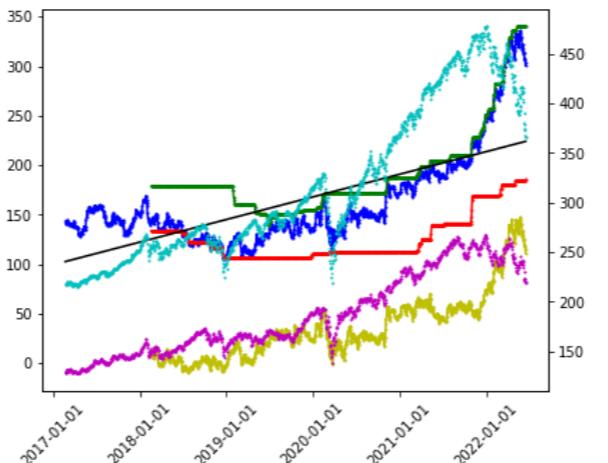
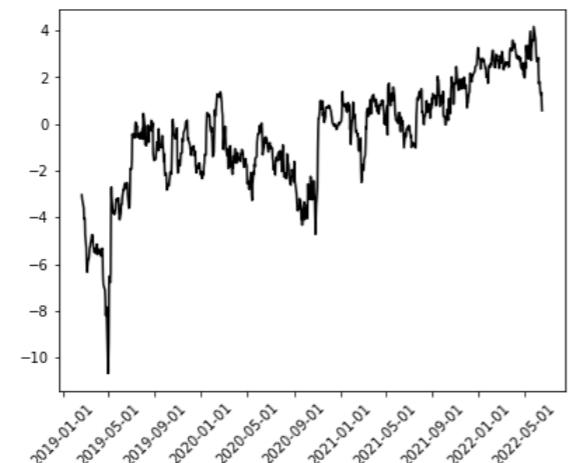
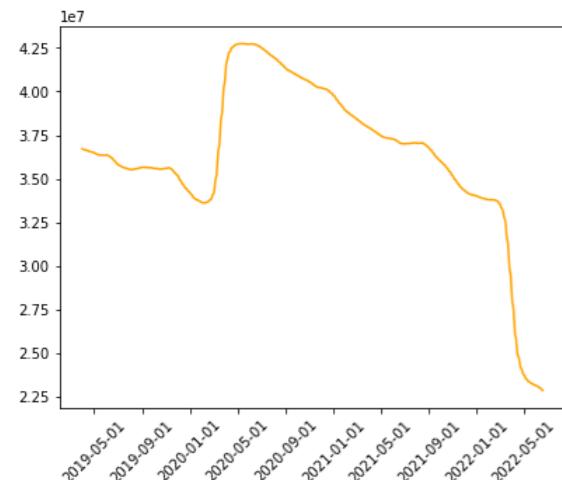
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	300.570007	299.443248	318.421081	337.398913	317.445859	10.066372	297.313115	337.578604

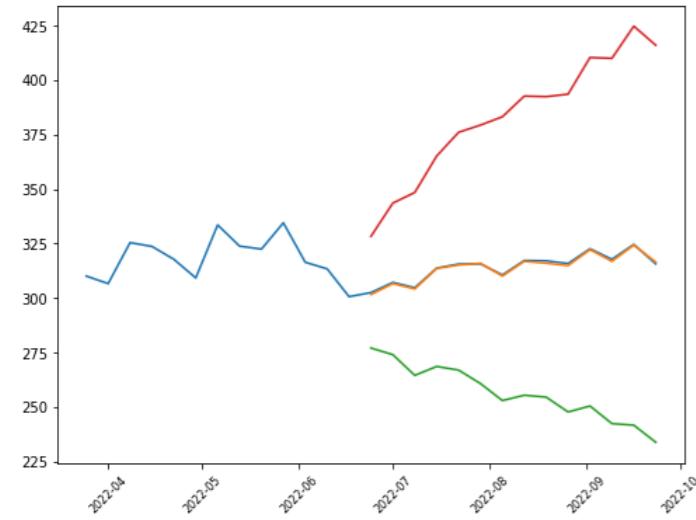
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
<b>MCK</b>	1.048139	300.570007	22868822.070312	0.803327	0.997242	0.461301

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -122.20997619628906  
Sector Volume Factor: 1.2238851152317325  
Sector Risk Trend Factor: -3.3236323632363236  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', False]
best inner cv score, sdev (11 folds): 416.29612841155847 356.83690726109813
test cv mean error, stdev (10 folds): 436.74556789463134 368.05695025775367
sell date: 2022-09-16
expected return: 0.07985210210346133
discounted return: 0.000853965412807689
quarter return: 1.081697202285379
```



```
[ 'quarterly_balance_sheet', 2021-12-31 2021-09-30 2021-06-30 \
Intangible Assets 2.130000e+09 2.385000e+09 2.797000e+09
Capital Surplus 7.411000e+09 7.311000e+09 7.057000e+09
Total Liab 6.449500e+10 6.368800e+10 6.293200e+10
Total Stockholder Equity -1.274000e+09 -5.710000e+08 -5.290000e+08
Minority Interest 4.870000e+08 4.840000e+08 4.910000e+08
Other Current Liab 5.975000e+09 3.504000e+09 6.850000e+08
Total Assets 6.370800e+10 6.360100e+10 6.289400e+10
Common Stock 2.000000e+06 2.000000e+06 2.000000e+06
Other Current Assets 5.940000e+09 3.470000e+09 1.230000e+08
Retained Earnings 8.734000e+09 8.812000e+09 8.618000e+09
Other Liab 1.007600e+10 9.988000e+09 1.065700e+10
Good Will 9.462000e+09 9.473000e+09 9.520000e+09
Treasury Stock -1.742100e+10 -1.669600e+10 -1.620600e+10
Other Assets 1.971000e+09 2.173000e+09 2.607000e+09
Cash 2.754000e+09 2.151000e+09 2.423000e+09
Total Current Liabilities 4.745200e+10 4.607500e+10 4.383500e+10
Short Long Term Debt 4.660000e+08 7.500000e+07 8.070000e+08
Other Stockholder Equity -1.655000e+09 -1.665000e+09 -1.627000e+09
Property Plant Equipment 3.645000e+09 3.990000e+09 4.620000e+09
Total Current Assets 4.649800e+10 4.558000e+10 4.335000e+10
Long Term Investments 2.000000e+06 NaN NaN
Net Tangible Assets -1.286600e+10 -1.242900e+10 -1.284600e+10
Net Receivables 1.835500e+10 2.014000e+10 2.019800e+10
Long Term Debt 5.323000e+09 5.769000e+09 6.282000e+09
Inventory 1.902400e+10 1.934200e+10 2.001600e+10
Accounts Payable 3.718300e+10 3.892200e+10 3.838900e+10
```

```
2021-03-31
```

```
Intangible Assets 3.391000e+09
Capital Surplus 6.925000e+09
Total Liab 6.356900e+10
Total Stockholder Equity -2.100000e+07
Minority Interest 1.467000e+09
Other Current Liab 1.670000e+08
Total Assets 6.501500e+10
Common Stock 2.000000e+06
Other Current Assets 1.340000e+08
Retained Earnings 8.202000e+09
Other Liab 1.110100e+10
Good Will 9.493000e+09
Treasury Stock -1.515000e+10
Other Assets 1.799000e+09
Cash 6.278000e+09
Total Current Liabilities 4.410300e+10
Short Long Term Debt 7.740000e+08
Other Stockholder Equity -1.480000e+09
Property Plant Equipment 4.681000e+09
Total Current Assets 4.538200e+10
Long Term Investments 2.690000e+08
Net Tangible Assets -1.290500e+10
Net Receivables 1.918100e+10
Long Term Debt 6.292000e+09
Inventory 1.924600e+10
Accounts Payable 3.897500e+10 ]
```

```
2021-12-31 2021-09-30 \
```

```
[ 'quarterly_cashflow', 2021-12-31 2021-09-30 \
Change To Liabilities 1.810000e+08 2.040000e+09
Total Cashflows From Investing Activities -1.150000e+08 -5.800000e+07
Net Borrowings 3.620000e+08 -1.136000e+09
Total Cash From Financing Activities -4.380000e+08 -1.743000e+09
Change To Operating Activities 3.300000e+07 1.300000e+08
Issuance Of Stock 6.300000e+07 4.000000e+07
Net Income -7.000000e+06 2.670000e+08
Change In Cash 6.260000e+08 -2.000000e+06
Repurchase Of Stock -7.140000e+08 -2.640000e+08
Effect Of Exchange Rate 1.700000e+07 7.000000e+06
Total Cash From Operating Activities 1.377000e+09 1.792000e+09
Depreciation 1.850000e+08 1.950000e+08
Other Cashflows From Investing Activities -3.000000e+07 -3.100000e+07
Dividends Paid -7.200000e+07 -6.500000e+07
Change To Inventory -4.950000e+08 -2.630000e+08
Change To Account Receivables 3.860000e+08 -1.266000e+09
Other Cashflows From Financing Activities -7.700000e+07 -3.180000e+08
Change To Netincome 9.580000e+08 5.950000e+08
Capital Expenditures -6.700000e+07 -9.300000e+07
```

```
2021-06-30 2021-03-31
```

```
Change To Liabilities -6.090000e+08 2.507000e+09
Total Cashflows From Investing Activities -9.900000e+07 -2.050000e+08
Net Borrowings -2.000000e+08 -1.620000e+08
Total Cash From Financing Activities -2.151000e+09 -5.170000e+08
Change To Operating Activities -1.650000e+08 3.700000e+07
Issuance Of Stock 7.100000e+07 3.700000e+07
Net Income 4.860000e+08 6.660000e+08
Change In Cash -3.861000e+09 2.664000e+09
Repurchase Of Stock -1.008000e+09 -2.440000e+08
```

	Revenue	Earnings
Quarter		
1Q2021	59142000000	6660000000
2Q2021	62674000000	486000000
3Q2021	66576000000	267000000
4Q2021	68614000000	-7000000]

	2021-12-31	2021-09-30	\
['quarterly_financials',			
Research Development	None	None	
Effect Of Accounting Charges	None	None	
Income Before Tax	277000000.0	442000000.0	
Minority Interest	487000000.0	484000000.0	
Net Income	-7000000.0	267000000.0	
Selling General Administrative	3105000000.0	2669000000.0	
Gross Profit	3428000000.0	3352000000.0	
Ebit	323000000.0	683000000.0	
Operating Income	323000000.0	683000000.0	
Other Operating Expenses	None	None	
Interest Expense	-41000000.0	-45000000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	238000000.0	132000000.0	
Total Revenue	68614000000.0	66576000000.0	
Total Operating Expenses	68291000000.0	65893000000.0	
Cost Of Revenue	65186000000.0	63224000000.0	
Total Other Income Expense Net	-46000000.0	-24100000.0	
Discontinued Operations	NaN	NaN	
Net Income From Continuing Ops	39000000.0	310000000.0	
Net Income Applicable To Common Shares	-7000000.0	267000000.0	

	2021-06-30	2021-03-31	\
Research Development	None	None	
Effect Of Accounting Charges	None	None	
Income Before Tax	562000000.0	1829000000.0	
Minority Interest	491000000.0	1467000000.0	
Net Income	486000000.0	666000000.0	
Selling General Administrative	2232000000.0	2224000000.0	
Gross Profit	3032000000.0	3116000000.0	
Ebit	800000000.0	892000000.0	
Operating Income	800000000.0	892000000.0	
Other Operating Expenses	None	None	
Interest Expense	-49000000.0	-52000000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	26000000.0	316000000.0	
Total Revenue	62674000000.0	59142000000.0	
Total Operating Expenses	61874000000.0	58250000000.0	
Cost Of Revenue	59642000000.0	56026000000.0	
Total Other Income Expense Net	-238000000.0	137000000.0	
Discontinued Operations	-3000000.0	-3000000.0	
Net Income From Continuing Ops	536000000.0	713000000.0	
Net Income Applicable To Common Shares	486000000.0	666000000.0	]

	Holder	Shares	Date Reported	% Out	\
['mutualfund_holders',					
0 Vanguard Total Stock Market Index Fund	4329453	2021-12-30	0.0298		
1 Vanguard 500 Index Fund	3233507	2021-12-30	0.0222		
2 MFS Series Trust I-MFS Value Fund	2893200	2022-02-27	0.0199		
3 JP Morgan Large Cap Growth Fund	2293009	2021-12-30	0.0158		
4 Vanguard Mid-Cap Index Fund	1726299	2021-12-30	0.0119		
5 SPDR S&P 500 ETF Trust	1640864	2022-01-30	0.0113		
6 Fidelity 500 Index Fund	1563585	2022-02-27	0.0108		
7 iShares Core S&P 500 ETF	1269846	2022-01-30	0.0087		
8 Putnam Large Cap Value Fund	1220237	2022-01-30	0.0084		
9 Vanguard Index-Value Index Fund	1166709	2021-12-30	0.0080		

	Value				
0	1076172132				
1	803752834				
2	795514272				
3	569973247				
4	429106142				
5	421242606				
6	429923331				
7	325994865				
8	313259242				
9	290008856				

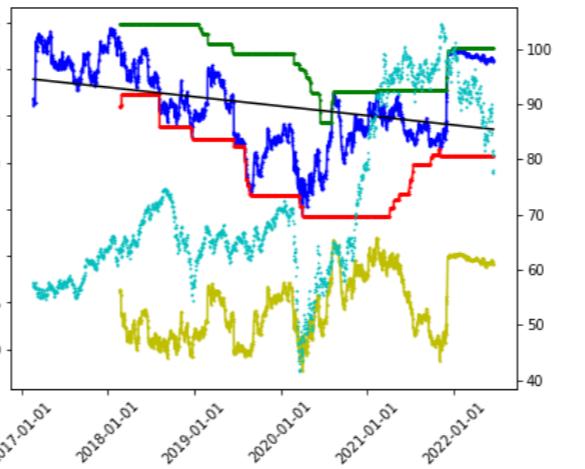
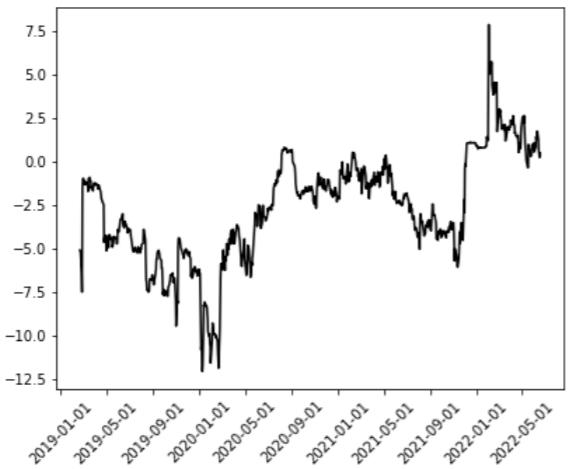
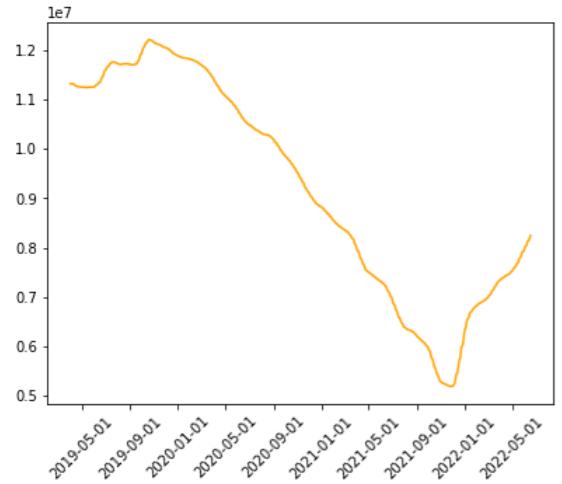
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['options', ('2022-08-19', '2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 7.37
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile 0
peerCount 58
governanceScore 5.52
environmentPercentile 0
animalTesting False
tobacco False
totalEsg 15.17
highestControversy 3
esgPerformance LAG_PERF
coal False
pesticides False
adult False
percentile 10.18
peerGroup Healthcare
smallArms False
environmentScore 2.29
governancePercentile 0
militaryContract False]
symbol: GCP
sector: error
sector: error
Index: SP600
vol_30d_2yr: 8243886.328125
Sector 1YMF: 0.45000267028808594
1YMF: 0.45000267028808594
risk trend factor: 0.5027960224875223
Empty DataFrame
Columns: []
Index: [GCP]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	30.93	30.835356	31.038381	31.241406	31.187778	0.232375	30.723027	31.652528

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
GCP	1.87078	30.93	8243886.328125	0.913628	0.155232	0.442804

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

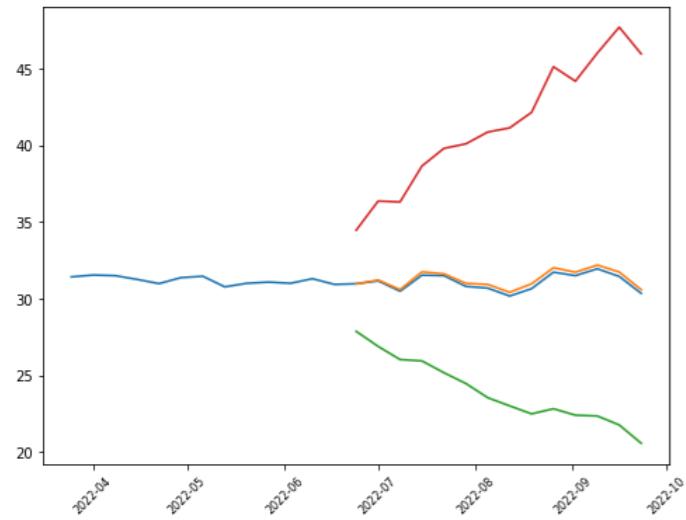
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```

inner cv scores:
best model: ['mul', 'mul', False]
best inner cv score, sdev (11 folds): 8.24007593643425 9.316800374474898
test cv mean error, stdev (10 folds): 8.753590751571059 9.621973498794299
sell date: 2022-09-09
expected return: 0.03288150330289676
discounted return: 0.00038986480080027697
quarter return: 1.0365113174464204

```



```
[ 'options', ('2022-08-19', '2022-12-16') ]
symbol: WRB
sector: Financial Services
Index: SP500
vol_30d_2yr: 24741280.6640625
Sector 1YMF: 2.7066688537597656
1YMF: 2.7066688537597656
risk trend factor: 0.37488481940951457
    beta currentRatio debtToEquity dividendRate dividendYield \
WRB  0.741517      0.453      44.413      0.35      0.0049

earningsGrowth     ebitda ebitdaMargins forwardPE freeCashflow \
WRB      1.585 1969144064      0.19279 15.017057 2491864832

grossMargins grossProfits heldPercentInstitutions \
WRB      0.44661 4029355000      0.69611

industry marketCap operatingCashflow \
WRB Insurance--Property & Casualty 18677542912      2350679040

operatingMargins payoutRatio pegRatio priceToBook \
WRB      0.18096      0.07      1.94      2.720776

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
WRB      1.828621      0.13546      0.278      0.03724

returnOnEquity revenueGrowth revenuePerShare      sector \
WRB      0.20909      0.352      36.85 Financial Services

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
WRB      265192992      1.22 3303750912      12.458 3059073024

totalRevenue trailingPE
WRB 10214005760 14.222536
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	66.82	65.019435	68.896032	72.772628	67.946191	1.725853	64.494485	71.397896

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
WRB	1.220256	66.82	24741280.664062	0.845794	0.942554

I axis      r axis

legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -72.2699966430664

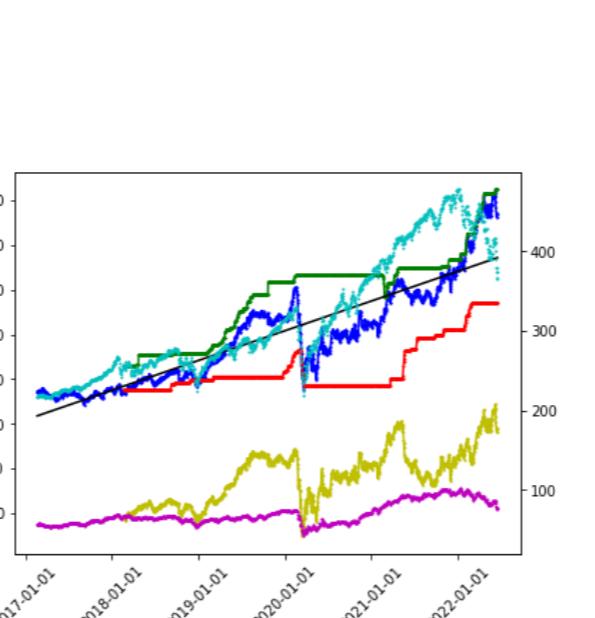
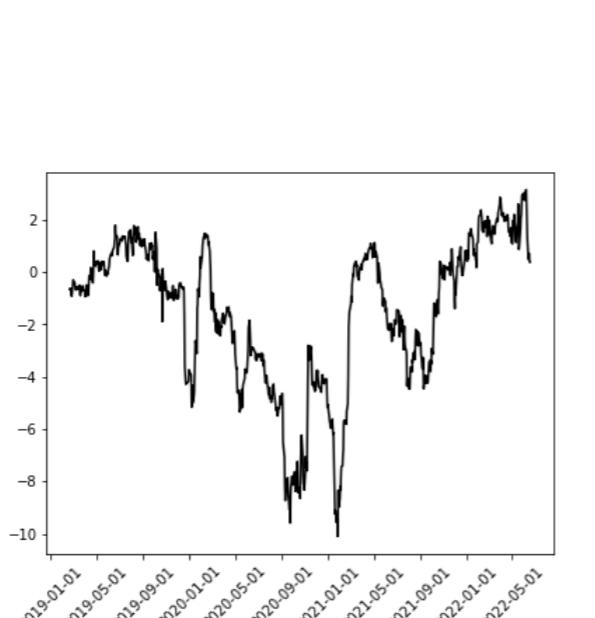
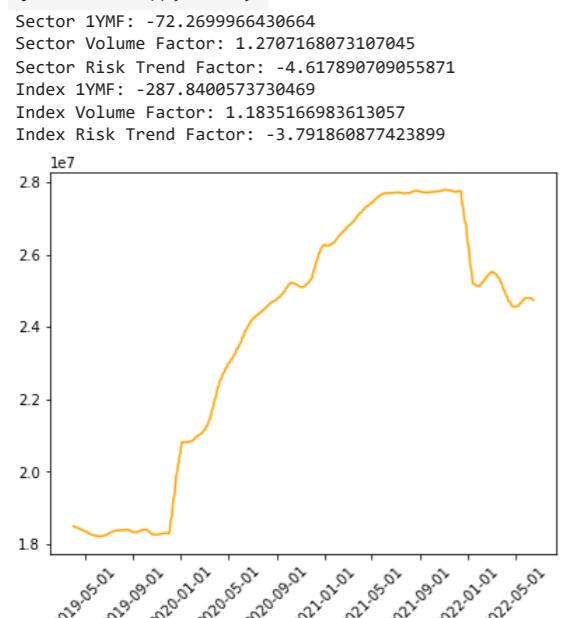
Sector Volume Factor: 1.2707168073107045

Sector Risk Trend Factor: -4.617890709055871

Index 1YMF: -287.8400573730469

Index Volume Factor: 1.1835166983613057

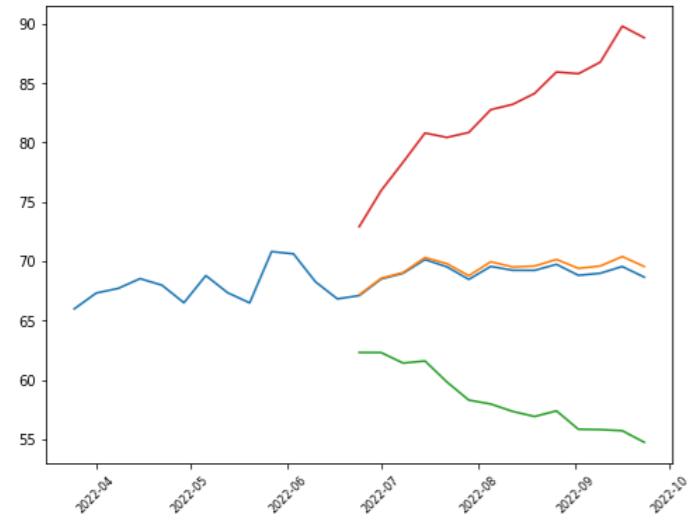
Index Risk Trend Factor: -3.791860877423899



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', True]
best inner cv score, sdev (11 folds): 34.12905588548999 62.70947455214477
test cv mean error, stdev (10 folds): 37.07787258818386 65.03903145015686
sell date: 2022-07-15
expected return: 0.049542609100456374
discounted return: 0.001792510514275314
quarter return: 1.1791140381877312

```



```

['options', ('2022-07-15',)]
['sustainability', Value

```

```

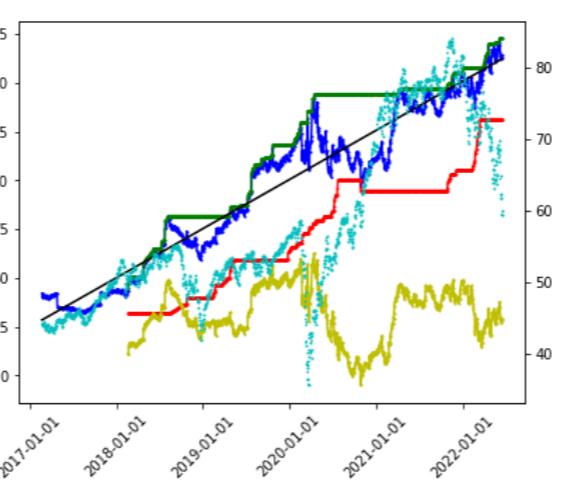
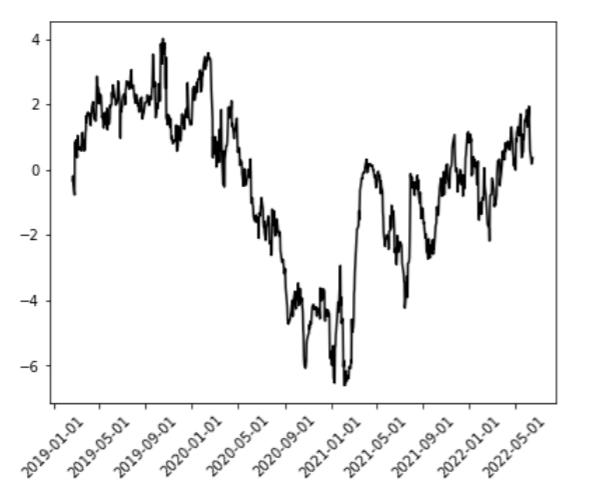
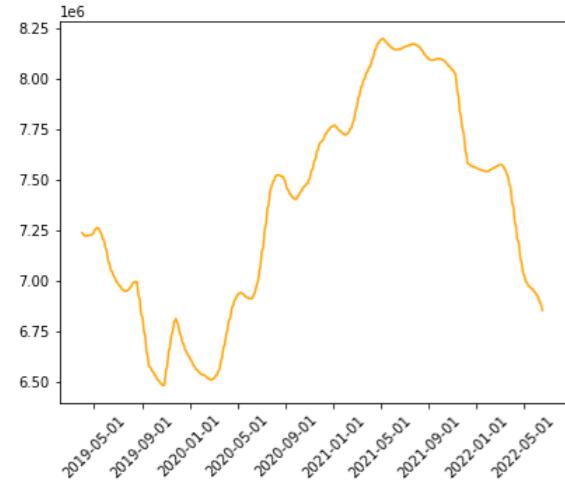
2022-5
palmoil      False
controversialWeapons  False
gambling      False
socialScore    7.83
nuclear        False
furLeather     False
alcoholic      False
gmo            False
catholic       False
socialPercentile None
peerCount      96
governanceScore 12.16
environmentPercentile None
animalTesting   False
tobacco        False
totalEsg       21.95
highestControversy 1
esgPerformance AVG_PERF
coal           False
pesticides     False
adult          False
percentile     31.22
peerGroup      Insurance
smallArms      False
environmentScore 1.95
governancePercentile None
militaryContract False]
symbol: FCN
sector: error
sector: error
Index: SP400
vol_30d_2yr: 6853053.3203125
Sector 1YMF: 6.7500152587890625
1YMF: 6.7500152587890625
risk trend factor: 0.3590433065465876
Empty DataFrame
Columns: []
Index: [FCN]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	164.020004	159.077845	165.278412	171.47898	162.282857	5.027495	152.227867	172.337847

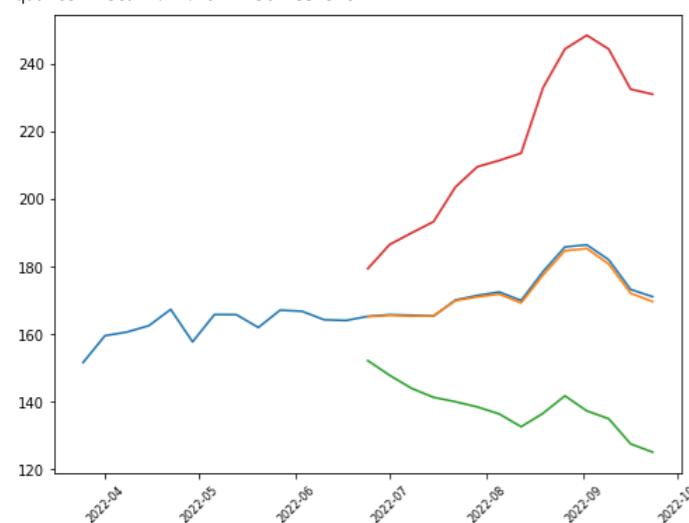
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>FCN</b>	0.694756	164.020004	6853053.320312	0.888589	0.922824	0.404937

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Index 1YMF: -69.05999755859375  
 Index Volume Factor: 0.5765983741853883  
 Index Risk Trend Factor: -5.134573474205833



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', True]
best inner cv score, sdev (11 folds): 113.70674145487628 46.52872208500513
test cv mean error, stdev (10 folds): 109.63912895990282 46.89790816448097
sell date: 2022-09-02
expected return: 0.1364131271629469
discounted return: 0.001684007435712731
quarter return: 1.1674225614352378
```



```

symbol: XOM
sector: Energy
Index: SP500
vol_30d_2yr: 552640281.25
Sector 1YMF: 9.1300048828125
1YMF: 9.1300048828125
risk trend factor: 0.34741268291096833
    beta currentRatio debtToEquity dividendRate dividendYield \
XOM 1.040834      1.072      26.929      3.52      0.0409

earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
XOM      1.003 53895000064      0.17427 9.558269 31484874752

grossMargins grossProfits heldPercentInstitutions      industry \
XOM      0.31806 90045000000      0.56863 Oil & Gas Integrated

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
XOM 362840784896      53653000192      0.10859      0.5804      0.32

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
XOM 2.143942      1.173221      0.08339      0.739

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
XOM 0.06097      0.1559      0.525      72.369 Energy

sharesOutstanding shortRatio      totalCash totalCashPerShare      totalDebt \
XOM 4213199872      1.61 11073999872      2.629 47537000448

totalRevenue trailingPE
XOM 309269004288 14.281923

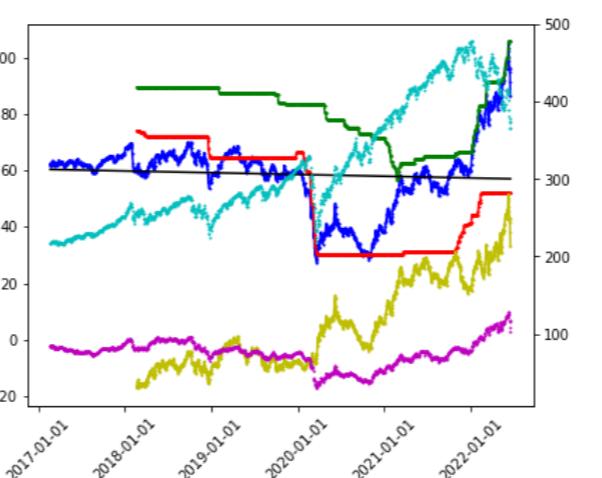
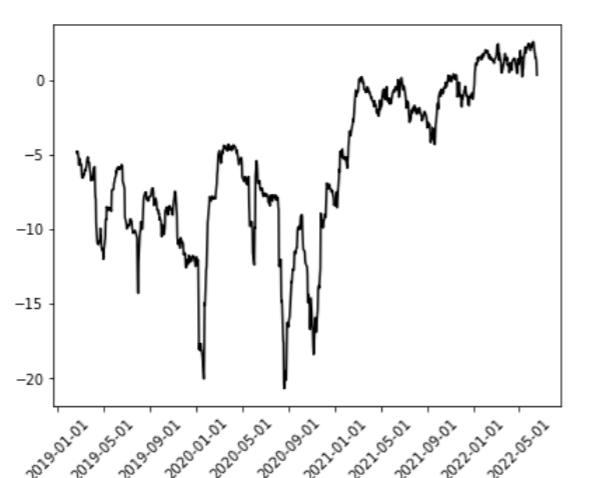
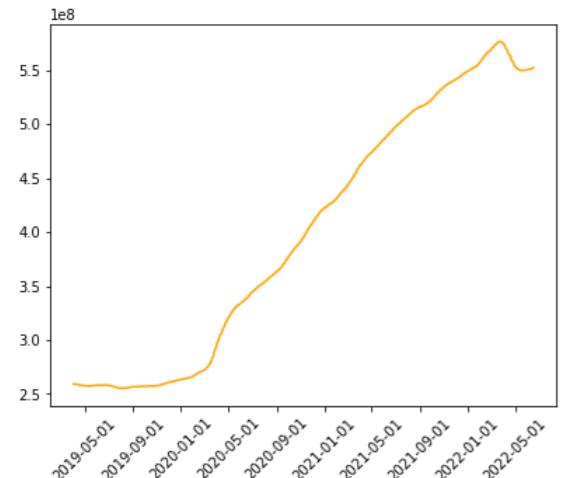
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	86.120003	88.433461	96.553809	104.674158	88.917204	6.448671	76.019861	101.814547

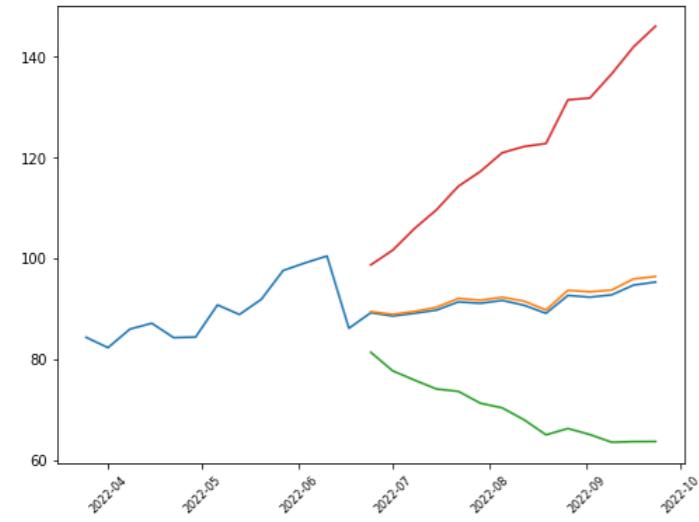
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
XOM	1.153813	86.120003	552640281.25	0.738786	0.784328	0.530974

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'mul', True]
best inner cv score, sdev (11 folds): 135.34503845255395 164.1915316416947
test cv mean error, stdev (10 folds): 148.3675395927328 166.70199015093507
sell date: 2022-09-23
expected return: 0.10644560071069155
discounted return: 0.0010433554212150309
quarter return: 1.1006915437325049
```



```

['options', ('2022-07-15', '2023-01-20', '2024-01-19', '2026-02-21')]
['sustainability',                                     Value
2022-5
palmoil                         False
controversialWeapons            False
gambling                         False
socialScore                      9.82
nuclear                          False
furLeather                       False
alcoholic                        False
gmo                             False
catholic                         False
socialPercentile                None
peerCount                        66
governanceScore                 8.14
environmentPercentile           None
animalTesting                    True
tobacco                          False
totalEsg                          36.46
highestControversy               3
esgPerformance                  OUT_PERF
coal                            False
pesticides                       False
adult                           False
percentile                      81.8
peerGroup                        Oil & Gas Producers
smallArms                        False
environmentScore                 18.51
governancePercentile             None
militaryContract                False]
symbol: MANT
sector: Technology
Index: SP600
vol_30d_2yr: 4428022.265625
Sector 1YMF: 5.6399993896484375
1YMF: 5.6399993896484375
risk trend factor: 0.32063661839633545
    beta currentRatio debtToEquity dividendRate dividendYield \
MANT 0.737745      1.584     23.665      1.64      0.02

    earningsGrowth   ebitda ebitdaMargins forwardPE freeCashflow \
MANT -0.07 264191008 0.10344 25.047745 89507376

    grossMargins grossProfits heldPercentInstitutions      industry \
MANT 0.14856 379411000 0.71066 Software--Application

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
MANT 3867116288 212171008 0.07374 0.4669 4.97

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
MANT 2.299301 1.514167 0.05365 1.462

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare      sector \
MANT 0.0485 0.08419 -0.007 62.85 Technology

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
MANT 39355500 2.93 53374000 1.308 396480000

    totalRevenue trailingPE
MANT 2553956096 28.230194

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 94.790001 94.21236 94.956032 95.699705 88.233333 5.546632 77.140069 99.326598

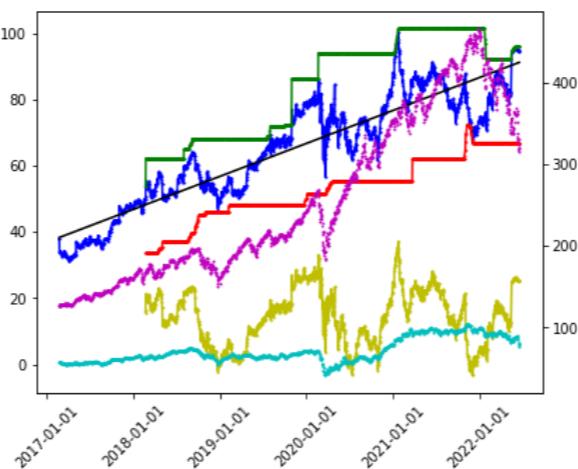
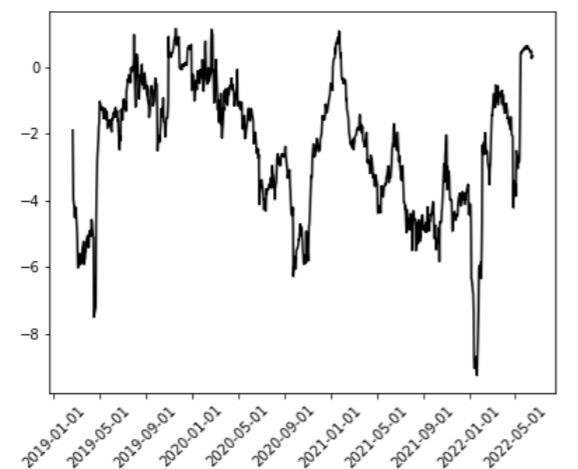
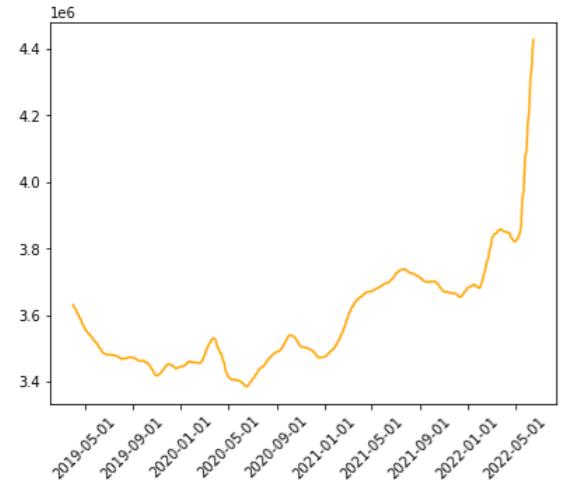
```

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
MANT	2.782348	94.790001	4428022.265625	0.833671	0.571232	0.363702

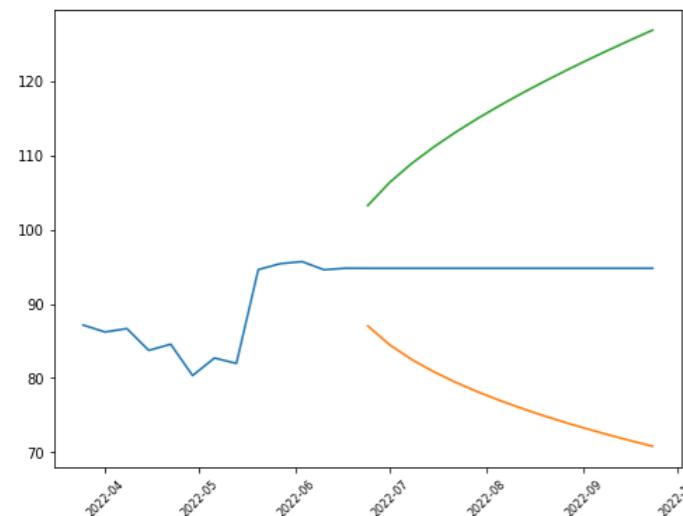
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -363.4599914550781  
Sector Volume Factor: 1.1528457613891094  
Sector Risk Trend Factor: -4.954471974241429  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: [None, None]  
best inner cv score, sdev (11 folds): 79.08238413212514 56.43302789094877  
test cv mean error, stdev (10 folds): 75.67081892433727 58.09585830158451  
sell date: 2022-06-24  
expected return: -0.0001107076330911617  
discounted return: -1.8452123363044137e-05  
quarter return: 0.9983038291148213



```

['options', ('2022-08-19',)]
symbol: SM
sector: Energy
Index: SP600
vol_30d_2yr: 85332599.609375
Sector 1YMF: 6.969999313354492
1YMF: 6.969999313354492
risk trend factor: 0.3050327621527311
          beta currentRatio debtToEquity dividendRate dividendYield      ebitda \
SM   5.488235        0.717       93.916        0.02        0.0006  1315937024

          ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
SM     0.45427    8.413136    570353344       0.8671   2136878000

          heldPercentInstitutions      industry      marketCap operatingCashflow \
SM           0.88028  Oil & Gas E&P   4823732224        1396240000

          operatingMargins payoutRatio pegRatio priceToBook \
SM         0.18012        0.007       0.12    2.946938

          priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
SM            1.66518        0.11608       0.7        0.06264

          returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
SM         0.17312        0.931       23.974   Energy        121474000

          shortRatio totalCash totalCashPerShare totalDebt totalRevenue
SM         2.26  419887008        3.446  1986428032  2896824064

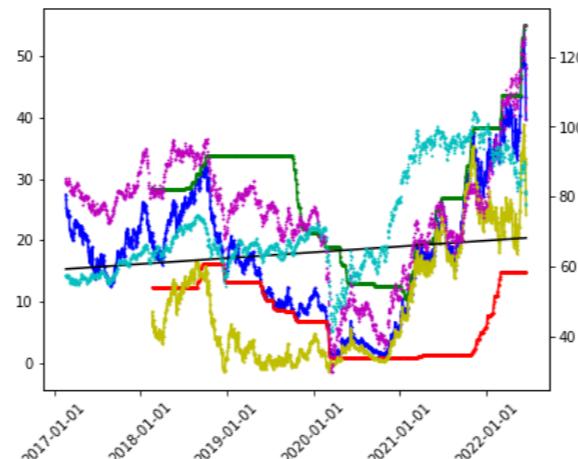
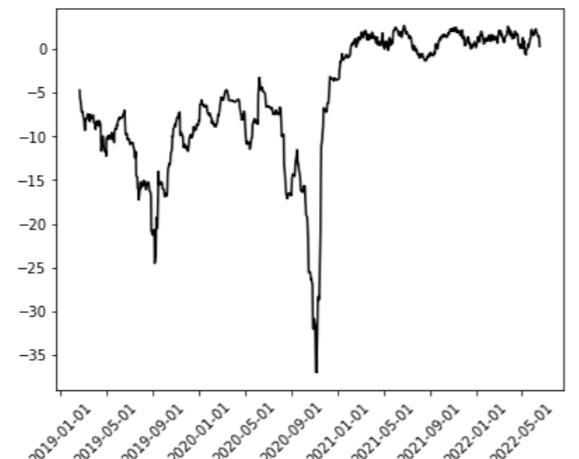
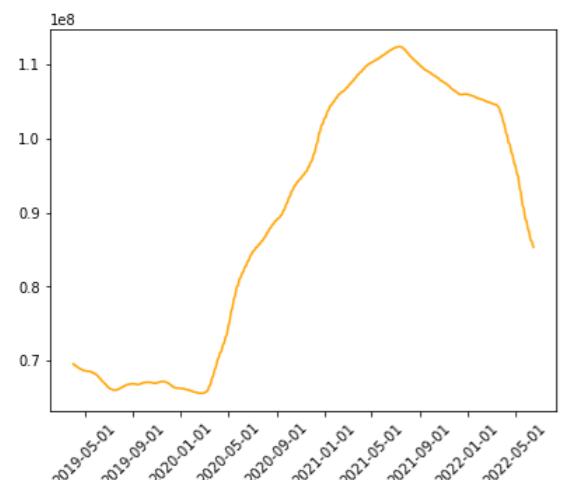
          Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper

```

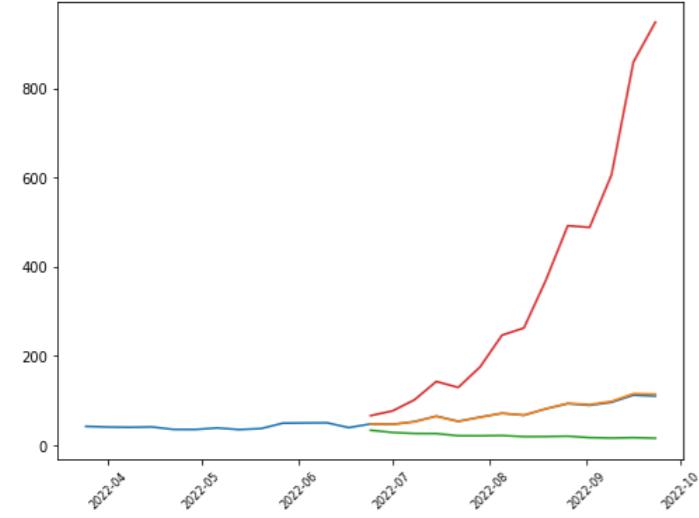
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SM	0.640686	39.709999	85332599.609375	0.715458	0.803847	0.471215

l axis		r axis	
legend		legend	
<b>blue</b>	symbol	<b>magenta</b>	sector
<b>green</b>	trailing_1yr_max	<b>cyan</b>	index
<b>red</b>	trailing_1yr_min		
<b>orange</b>	30d_vol_2yr		
<b>black</b>	risk_trend_factor/linear		

```
yellow      supply_trend_1yr
Sector 1YMF: -3.82000732421875
Sector Volume Factor: 0.8966412344901694
Sector Risk Trend Factor: -0.12330558135216596
Index 1YMF: -77.27001953125
Index Volume Factor: 1.232760496116622
Index Risk Trend Factor: -5.242200185196592
```



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'mul', True]
best inner cv score, sdev (11 folds): 38.188574153717546 45.77804828171256
test cv mean error, stdev (10 folds): 41.84793318398103 46.45312350427326
sell date: 2022-09-16
expected return: 1.833752341458087
discounted return: 0.011640583124967963
quarter return: 2.9001093832715084
```



```
[ 'quarterly_balance_sheet', 2022-03-31 2021-12-31 2021-09-30 \
Capital Surplus 1.844478e+09 1.840228e+09 1.838620e+09
Total Liab 3.280672e+09 3.170846e+09 3.425061e+09
Total Stockholder Equity 2.115109e+09 2.063131e+09 1.636899e+09
Deferred Long Term Liab 2.300000e+06 2.700000e+06 3.100000e+06
Other Current Liab 5.381270e+08 4.047460e+08 5.520440e+08
Total Assets 5.395781e+09 5.233977e+09 5.061960e+09
Common Stock 1.219000e+06 1.219000e+06 1.215000e+06
Other Current Assets 9.649000e+06 2.409500e+07 2.451400e+07
Retained Earnings 2.820790e+08 2.345330e+08 -1.903670e+08
Other Liab 2.415590e+08 1.809150e+08 2.438640e+08
Treasury Stock -1.266700e+07 -1.284900e+07 -1.256900e+07
Other Assets 5.397300e+07 2.576600e+07 6.020700e+07
Cash 4.198870e+08 3.327160e+08 2.980000e+07
Total Current Liabilities 1.058721e+09 8.893270e+08 1.103567e+09
Other Stockholder Equity -1.266700e+07 -1.284900e+07 -1.256900e+07
Property Plant Equipment 4.582973e+09 4.595024e+09 4.665483e+09
Total Current Assets 7.588350e+08 6.131870e+08 3.362700e+08
Net Tangible Assets 2.115109e+09 2.063131e+09 1.636899e+09
Net Receivables 3.210760e+08 2.472010e+08 2.722480e+08
Long Term Debt 1.980392e+09 2.081164e+09 2.077630e+09
Accounts Payable 5.145580e+08 2.507200e+07 5.424740e+08
```

```
2021-06-30
Capital Surplus 1.838859e+09
Total Liab 3.500489e+09
Total Stockholder Equity 1.552509e+09
Deferred Long Term Liab 3.500000e+06
Other Current Liab 5.450620e+08
Total Assets 5.052998e+09
Common Stock 1.210000e+06
Other Current Assets 3.130300e+07
Retained Earnings -2.747450e+08
Other Liab 2.566960e+08
Treasury Stock -1.281500e+07
Other Assets 6.877900e+07
Cash NaN
Total Current Liabilities 1.0516668e+09
Other Stockholder Equity -1.281500e+07
Property Plant Equipment 4.714809e+09
Total Current Assets 2.694100e+08
Net Tangible Assets 1.552509e+09
Net Receivables 2.295120e+08
Long Term Debt 2.192125e+09
Accounts Payable 4.962850e+08 ]
```

```
2022-03-31 2021-12-31 \
```

```
[ 'quarterly_cashflow',
Change To Liabilities 0.0 218238000.0
Total Cashflows From Investing Activities -150127000.0 -122484000.0
Net Borrowings -104770000.0 -184770000.0
Total Cash From Financing Activities -104794000.0 -4230000.0
Change To Operating Activities -137962000.0 -51950000.0
Net Income 48764000.0 424900000.0
Change In Cash 87171000.0 302916000.0
Total Cash From Operating Activities 342092000.0 429630000.0
Depreciation 160481000.0 208761000.0
Other Cashflows From Financing Activities -24000.0 -4339000.0
Change To Netincome 266799000.0 -273197000.0
Capital Expenditures -150127000.0 -124576000.0
Issuance Of Stock NaN 1324000.0
Dividends Paid NaN -1215000.0
Change To Account Receivables NaN -101047000.0
Other Cashflows From Investing Activities NaN NaN
```

```
2021-09-30 2021-06-30
```

```
Change To Liabilities 0.0 0.0
Total Cashflows From Investing Activities -174795000.0 -222322000.0
Net Borrowings -118792000.0 -74213000.0
Total Cash From Financing Activities -123524000.0 -74077000.0
Change To Operating Activities 21078000.0 82529000.0
Net Income 85593000.0 -222995000.0
Change In Cash 29800000.0 29800000.0
Total Cash From Operating Activities 328119000.0 296399000.0
Depreciation 211451000.0 213464000.0
Other Cashflows From Financing Activities -4732000.0 -1000.0
Change To Netincome 6092000.0 218679000.0
Capital Expenditures -183409000.0 -222614000.0
Issuance Of Stock 1324000.0 1315000.0
Dividends Paid -1215000.0 -1178000.0
Change To Account Receivables -101047000.0 -101047000.0
Other Cashflows From Investing Activities -221000.0 292000.0 ]
```

```
[ 'quarterly_earnings', Revenue Earnings
```

```
Quarter
```

```
Q22021 538649000 -222995000
3Q2021 724539000 85593000
4Q2021 814260000 424900000
1Q2022 819376000 48764000]
```

```
[ 'quarterly_financials',
Research Development           None      None      None
Effect Of Accounting Charges   None      None      None
Income Before Tax              61625000.0 434933000.0 85554000.0
Minority Interest               None      None      None
Net Income                      48764000.0 424900000.0 85593000.0
Selling General Administrative 24996000.0 37062000.0 25530000.0
Gross Profit                     723085000.0 714875000.0 629894000.0
Ebit                           101736000.0 474411000.0 126257000.0
Operating Income                 101736000.0 474411000.0 126257000.0
Other Operating Expenses        426826000.0 -17909000.0 257947000.0
Interest Expense                 -39387000.0 -40085000.0 -40861000.0
Extraordinary Items             None      None      None
Non Recurring                   None      None      None
Other Items                      None      None      None
Income Tax Expense               12861000.0 10033000.0 -3900.0
Total Revenue                    819376000.0 814260000.0 724539000.0
Total Operating Expenses         717640000.0 339849000.0 598282000.0
Cost Of Revenue                  96291000.0 99385000.0 94645000.0
Total Other Income Expense Net -40111000.0 -39478000.0 -40703000.0
Discontinued Operations          None      None      None
Net Income From Continuing Ops 48764000.0 424900000.0 85593000.0
Net Income Applicable To Common Shares 48764000.0 424900000.0 85593000.0
```

2021-06-30

```
Research Development             None
Effect Of Accounting Charges   None
Income Before Tax              -223157000.0
Minority Interest               None
Net Income                      -222995000.0
Selling General Administrative 246390000.0
Gross Profit                     443993000.0
Ebit                           -180624000.0
Operating Income                 -180624000.0
Other Operating Expenses        377800000.0
Interest Expense                 -39536000.0
Extraordinary Items             None
Non Recurring                   None
Other Items                      None
Income Tax Expense               -162000.0
Total Revenue                    538649000.0
Total Operating Expenses         719273000.0
Cost Of Revenue                  94656000.0
Total Other Income Expense Net -42533000.0
Discontinued Operations          None
Net Income From Continuing Ops -222995000.0
Net Income Applicable To Common Shares -222995000.0 ]
```

```
[ 'mutualfund_holders',
0       iShares Core S&P Smallcap ETF 8545223 2022-01-30
1       Vanguard Total Stock Market Index Fund 3454105 2021-12-30
2       Vanguard Small-Cap Index Fund 3058030 2021-12-30
3       iShares Russell 2000 ETF 2729906 2022-01-30
4       SPDR (R) Ser Tr-SPDR (R) S&P (R) Oil & Gas Exp... 2729590 2022-01-30
5       Vanguard Small Cap Value Index Fund 1938357 2021-12-30
6       Vanguard Extended Market Index Fund 1597503 2021-12-30
7       iShares S&P Small-Cap 600 Growth ETF 1404764 2022-01-30
8       First Trust NASDAQ Oil & Gas ETF 1361871 2022-02-27
9       iShares Russell 2000 Value ETF 1284094 2022-01-30
```

% Out	Value
0 0.0701	280368766
1 0.0283	101827015
2 0.0251	90150724
3 0.0224	89568215
4 0.0224	89557847
5 0.0159	57142764
6 0.0131	47094388
7 0.0115	46090306
8 0.0112	48360039
9 0.0105	42131124

[ 'options', ('2022-08-19', '2023-01-20', '2024-01-19')]

symbol: DINO  
sector: Energy  
Index: SP400  
vol\_30d\_2yr: 51433534.1796875  
Sector 1YMF: 6.369998931884766  
1YMF: 6.369998931884766  
risk trend factor: 0.2699152264297761

```
beta currentRatio debtToEquity dividendRate dividendYield \
DINO 1.54401     1.728     43.018     1.6     0.0278
```

```
earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
DINO      0 1260462976     0.05641 10.206038 -1079519232
```

```
grossMargins grossProfits heldPercentInstitutions \
DINO      0.0784    1615735000     0.62669
```

```

industry      marketCap operatingCashflow \
DINO Oil & Gas Refining & Marketing 12826910720          805392000

operatingMargins payoutRatio pegRatio priceToBook \
DINO           0.03909       0.1032      0.35    1.580395

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
DINO           0.574075      0.02551     0.791     0.03679

returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
DINO           0.09048        1.128      134.828 Energy      223232000

shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
DINO           3.27      592278016        2.653   3818710016 22343598080

trailingPE
DINO 16.929876

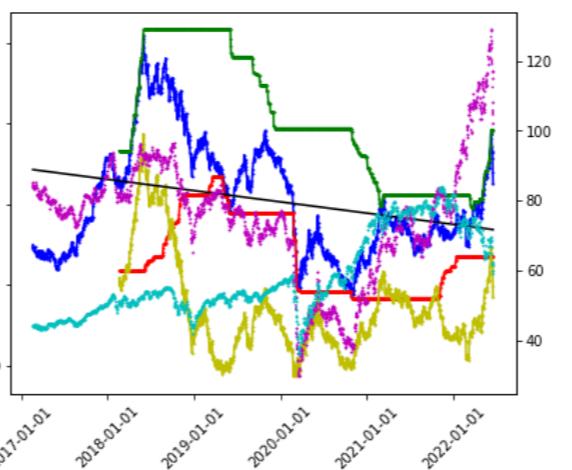
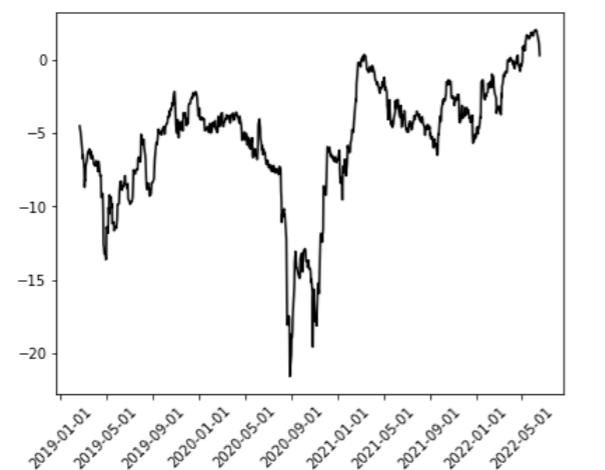
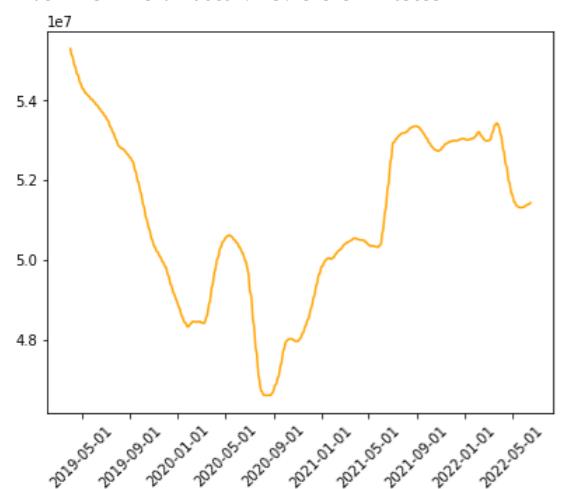
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	45.0	43.432974	51.035714	58.638454	43.785397	6.19363	31.398138	56.172656

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
DINO	1.094012	45.0	51433534	179688	0.676181	0.488602	0.560442

l axis		r axis	
legend		legend	
<b>blue</b>	symbol	<b>magenta</b>	sector
<b>green</b>	trailing_1yr_max	<b>cyan</b>	index
<b>red</b>	trailing_1yr_min		
<b>orange</b>	30d_vol_2yr		
<b>black</b>	risk_trend_factor/linear		

```
yellow          supply_trend_1yr
Sector 1YMF: -3.82000732421875
Sector Volume Factor: 0.8966412344901694
Sector Risk Trend Factor: -0.12330558135216596
Index 1YMF: -69.05999755859375
Index Volume Factor: 0.5765983741853883
Index Risk Trend Factor: -5.134573474205833
```



ets next 13 weeks

2022-06-17

2022-06-24

inner cv scores:

best model: ['ad

best inner cv score, sdev (11 fo

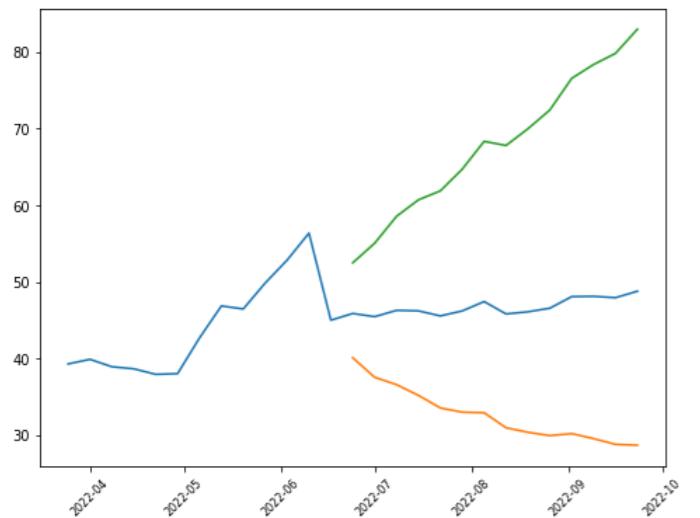
test cv mean error, stdev (10 folds): 75.88424312064323 79.44551851019251  
cell date: 2022-09-23

self date: 2022-09-23  
expected return: 0.08411619645637987

expected return: 0.084.  
discounted return: 0.01

quantile return: 1.0796123410781488

quarterly return: 1.0798122410781488



symbol: PLAB  
 sector: Technology  
 Index: SP600  
 vol\_30d\_2yr: 10786618.9453125  
 Sector 1YMF: 2.2899999618530273  
 1YMF: 2.2899999618530273  
 risk trend factor: 0.26412914530661946  
 beta currentRatio debtToEquity earningsGrowth ebitda \  
 PLAB 0.980357 3.417 7.842 1.889 233440992  
 ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \  
 PLAB 0.31281 10.108109 90646496 0.30828 167044000  
 heldPercentInstitutions industry marketCap \  
 PLAB 0.90554 Semiconductor Equipment & Materials 1385207808  
 operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \  
 PLAB 195842000 0.19934 0 1.19 1.62538  
 priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \  
 PLAB 1.856183 0.12032 2.814 0.07156  
 returnOnEquity revenueGrowth revenuePerShare sector \  
 PLAB 0.12739 0.28 12.342 Technology  
 sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \  
 PLAB 61729400 3.37 329281984 5.433 82548000  
 totalRevenue trailingPE  
 PLAB 746267008 15.338346  
 Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d\_lower 90d\_upper  
 2022-06-17 19.15 14.678059 19.802381 24.926703 17.249841 2.549321 12.151199 22.348483

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
PLAB	2.163783	19.15	10786618.945312	0.729861	0.736899	0.332818

l axis r axis

legend		legend	
blue	symbol	magenta	sector

green	trailing_1yr_max	cyan	index
-------	------------------	------	-------

red	trailing_1yr_min
-----	------------------

orange	30d_vol_2yr
--------	-------------

black	risk_trend_factor/linear
-------	--------------------------

yellow	supply_trend_1yr
--------	------------------

Sector 1YMF: -363.4599914550781

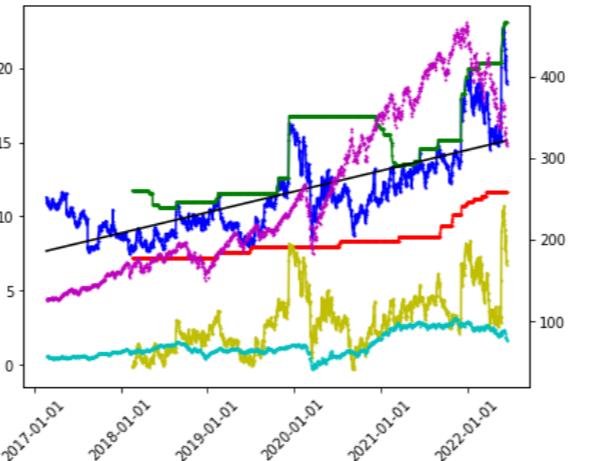
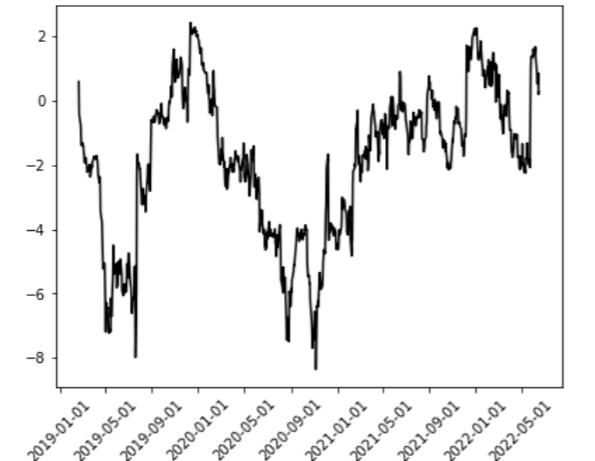
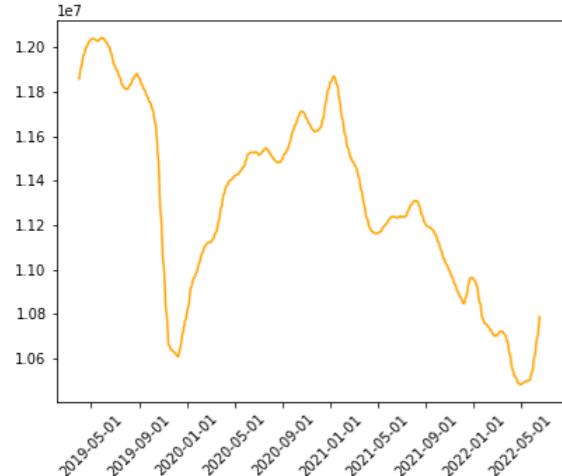
Sector Volume Factor: 1.1528457613891094

Sector Risk Trend Factor: -4.954471974241429

Index 1YMF: -77.27001953125

Index Volume Factor: 1.232760496116622

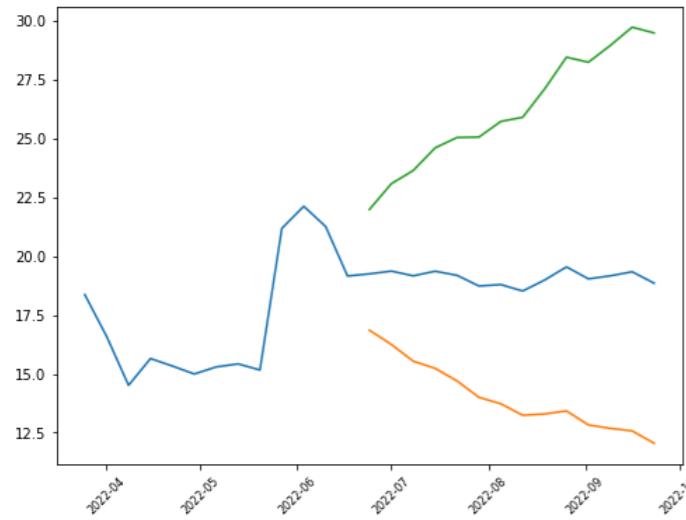
Index Risk Trend Factor: -5.242200185196592



```

inner cv scores:
best model: ['add', 'add', False]
best inner cv score, sdev (11 folds): 4.5674735160682465 5.146782235909608
test cv mean error, stdev (10 folds): 4.2931597086211815 5.320767742517799
sell date: 2022-08-26
expected return: 0.020160538588419565
discounted return: 0.000289317288879154
quarter return: 1.0269706384550663

```



```
[ 'options', ('2022-12-16',) ]
symbol: MPC
sector: Energy
Index: SP500
vol_30d_2yr: 141817662.109375
Sector 1YMF: 6.860008239746094
1YMF: 6.860008239746094
risk trend factor: 0.20927420668724137
    beta currentRatio debtToEquity dividendRate dividendYield      ebitda \
MPC  1.75499      1.449     89.568      2.32      0.0266  8572000256

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
MPC      0.06306  11.191026  18097874944      0.08778  10443000000

    heldPercentInstitutions           industry      marketCap \
MPC      0.79745  Oil & Gas Refining & Marketing  47223455744

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
MPC      6418999808      0.0386      0.5472      0.35      1.98454

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
MPC      0.347428      0.07964      1.045      0.03693

    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
MPC      0.12817      0.679      222.006  Energy      540995008

    shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
MPC      2.78  10597000192      19.588  28034000896  135922999296

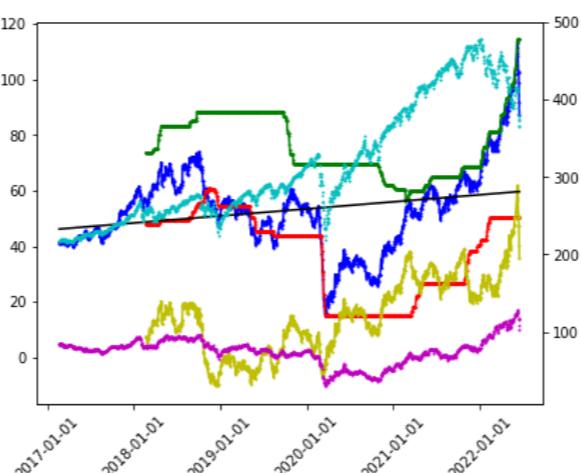
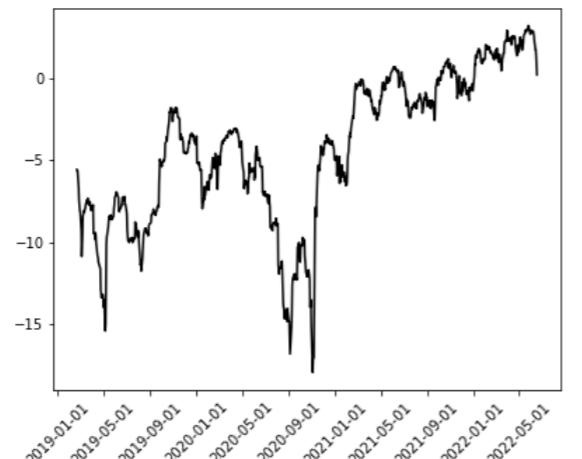
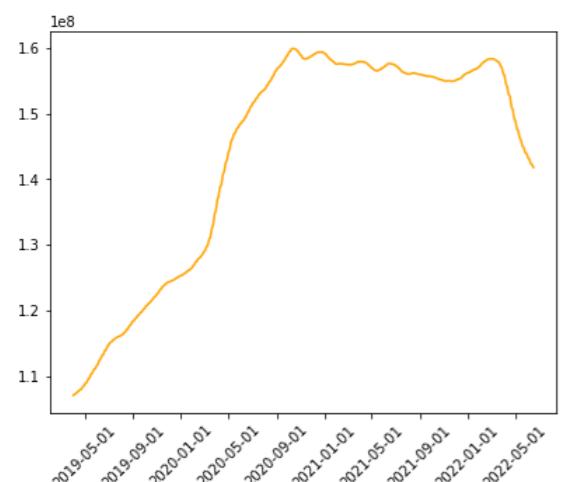
    trailingPE
MPC      4.97776
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDDev	90d_lower	90d_upper
<b>2022-06-17</b>	87.290001	89.493723	102.090159	114.686595	92.392331	8.807067	74.778196	110.006465

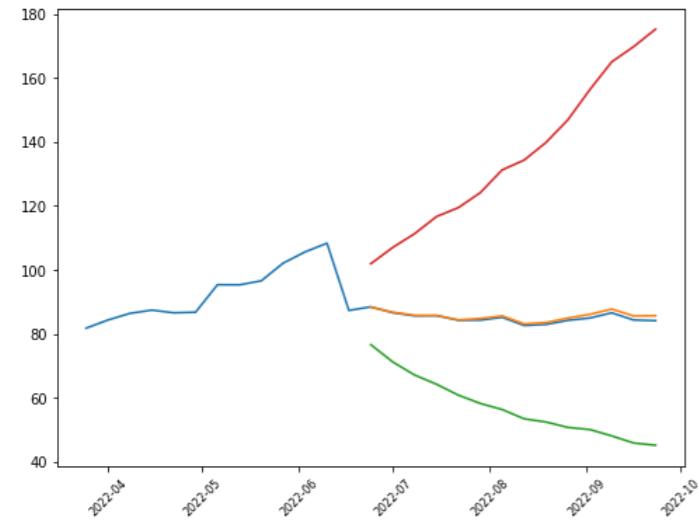
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MPC	1.221452	87.290001	141817662.109375	0.691764	0.549549

l axis		r axis	
legend	symbol	legend	sector
blue		magenta	
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.79180877423899



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'mul', True]
best inner cv score, sdev (11 folds): 143.4033886365892 157.92853524383602
test cv mean error, stdev (10 folds): 150.6730426711074 163.87263656740802
sell date: 2022-06-24
expected return: 0.012946334184793143
discounted return: 0.0021461742004171835
quarter return: 1.2180320105399547
```



```
[ 'options', ('2022-07-15', '2022-09-16', '2023-01-20', '2024-01-19') ]
[ 'sustainability', Value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 7.01
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 39
governanceScore 5.87
environmentPercentile None
animalTesting False
tobacco False
totalEsg 28.78
highestControversy 3
esgPerformance AVG_PERF
coal False
pesticides False
adult False
percentile 57.14
peerGroup Refiners & Pipelines
smallArms False
environmentScore 15.91
governancePercentile None
militaryContract False]
symbol: LLY
sector: Healthcare
Index: SP500
vol_30d_2yr: 70977344.3359375
Sector 1YMF: 8.8499755859375
1YMF: 8.8499755859375
risk trend factor: 0.18730107060185186
    beta currentRatio debtToEquity dividendRate dividendYield \
LLY 0.430392 1.267 174.931 3.92 0.0134

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
LLY 0.409 10721399808 0.36563 38.83845 4736287744

grossMargins grossProfits heldPercentInstitutions \
LLY 0.7556 21345300000 0.84303

industry marketCap operatingCashflow \
LLY Drug Manufacturers-General 278272606208 8062499840

operatingMargins payoutRatio pegRatio priceToBook \
LLY 0.30994 0.5245 5.44 34.015434

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
LLY 9.489974 0.20903 0.772 0.12117

returnOnEquity revenueGrowth revenuePerShare sector \
LLY 0.74019 0.148 32.376 Healthcare

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
LLY 956592000 1.74 2571599872 2.857 16551999488

totalRevenue trailingPE
LLY 29322799104 44.412212

```

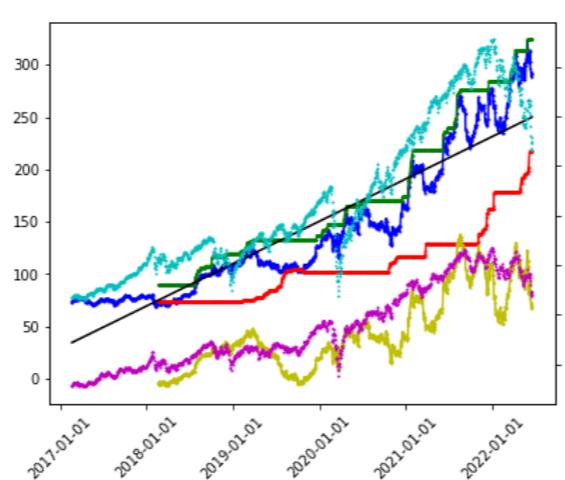
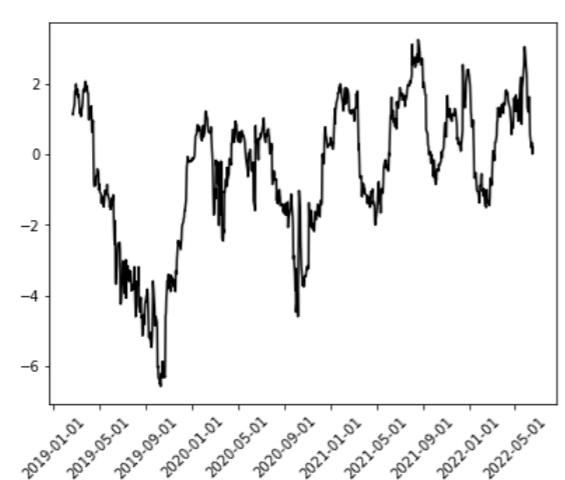
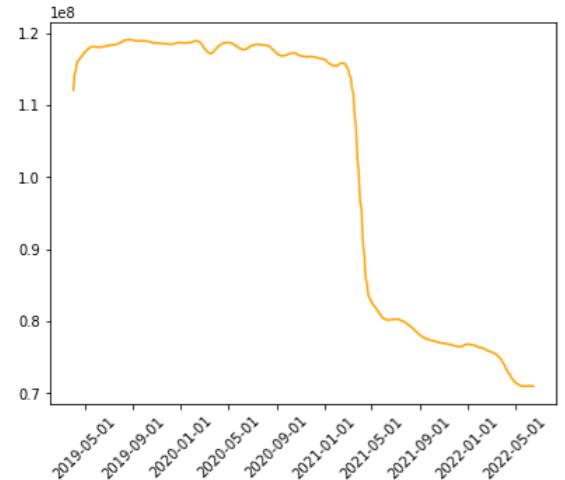
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDDev	90d_lower	90d_upper
<b>2022-06-17</b>	290.899994	284.096885	302.232381	320.367877	296.315556	9.524706	277.266144	315.364968

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>LLY</b>	0.967658	290.899994	70977344.335938	0.829733	0.979741	0.407173

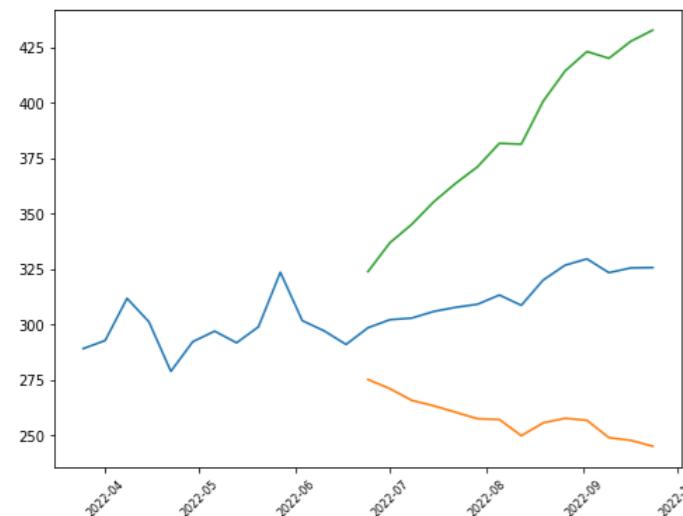
	I axis	r axis
<b>blue</b>	symbol	magenta sector
<b>green</b>	trailing_1yr_max	cyan index
<b>red</b>	trailing_1yr_min	
<b>orange</b>	30d_vol_2yr	
<b>black</b>	risk_trend_factor/linear	
<b>yellow</b>	supply_trend_1yr	

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Sector 1YMF: -122.20997619628906  
Sector Volume Factor: 1.2238851152317325  
Sector Risk Trend Factor: -3.3236323632363236  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', False]  
best inner cv score, sdev (11 folds): 404.300468795574 288.1892634819623  
test cv mean error, stdev (10 folds): 433.70233236467357 286.09339973931145  
sell date: 2022-09-02  
expected return: 0.13279535875519005  
discounted return: 0.0016419827219595895  
quarter return: 1.1629251651523083



```
[ 'quarterly_balance_sheet', 2022-03-31 2021-12-31 2021-09-30 \
Intangible Assets 7.482400e+09 7.691900e+09 7.887700e+09
Capital Surplus 6.656300e+09 6.833400e+09 6.758000e+09
Total Liab 3.745730e+10 3.965120e+10 4.023290e+10
Total Stockholder Equity 9.330800e+09 8.979200e+09 7.757000e+09
Minority Interest 1.312000e+08 1.756000e+08 1.971000e+08
Other Current Liab 3.135000e+09 3.814100e+09 2.513000e+09
Total Assets 4.691930e+10 4.880600e+10 4.818700e+10
Common Stock 5.941000e+08 5.963000e+08 5.982000e+08
Other Current Assets 3.880000e+07 9.900000e+06 5.500000e+06
Retained Earnings 9.369400e+09 8.958500e+09 9.639400e+09
Other Liab 8.875200e+09 8.674200e+09 1.099380e+10
Good Will 3.892000e+09 3.892000e+09 3.884100e+09
Treasury Stock -7.289000e+09 -7.409000e+09 -9.238600e+09
Other Assets 6.506600e+09 6.380000e+09 6.122000e+09
Cash 2.459200e+09 3.818500e+09 3.788200e+09
Total Current Liabilities 1.338600e+10 1.505270e+10 1.368200e+10
Deferred Long Term Asset Charges 2.464900e+09 2.489300e+09 2.625600e+09
Short Long Term Debt 1.355900e+09 1.539500e+09 1.580000e+09
Other Stockholder Equity -7.238500e+09 -7.356300e+09 -9.185900e+09
Property Plant Equipment 9.102700e+09 9.985100e+09 8.920400e+09
Total Current Assets 1.696470e+10 1.845240e+10 1.780830e+10
Long Term Investments 2.970900e+09 3.404600e+09 3.564500e+09
Net Tangible Assets -2.043600e+09 -2.684700e+09 -4.014800e+09
Short Term Investments 1.091000e+08 9.010000e+07 3.710000e+07
Net Receivables 7.763600e+09 8.112500e+09 6.992300e+09
Long Term Debt 1.519610e+10 1.538700e+10 1.555710e+10
Inventory 3.893000e+09 3.886000e+09 3.907400e+09
Accounts Payable 1.433300e+09 1.670600e+09 1.566800e+09
```

2021-06-30

```
Intangible Assets 7.985400e+09
Capital Surplus 6.669200e+09
Total Liab 4.114550e+10
Total Stockholder Equity 6.444400e+09
Minority Interest 2.191000e+08
Other Current Liab 3.878400e+09
Total Assets 4.780900e+10
Common Stock 5.981000e+08
Other Current Assets 5.400000e+06
Retained Earnings 8.530100e+09
Other Liab 1.127500e+10
Good Will 3.884200e+09
Treasury Stock -9.353000e+09
Other Assets 6.104000e+09
Cash 3.220000e+09
Total Current Liabilities 1.509320e+10
Deferred Long Term Asset Charges 2.674900e+09
Short Long Term Debt 1.625700e+09
Other Stockholder Equity -9.300300e+09
Property Plant Equipment 8.855500e+09
Total Current Assets 1.729550e+10
Long Term Investments 3.684400e+09
Net Tangible Assets -5.425200e+09
Short Term Investments 5.120000e+07
Net Receivables 6.869700e+09
Long Term Debt 1.477730e+10
Inventory 3.824900e+09
Accounts Payable 1.597800e+09 ]
```

2022-03-31 2021-12-31 \

```
[ 'quarterly_cashflow', 2022-03-31 2021-12-31 \
Investments -2.320000e+07 -1.180000e+07
Change To Liabilities 0.000000e+00 -6.641000e+08
Total Cashflows From Investing Activities -1.013800e+09 -3.790000e+08
Net Borrowings -2.104000e+08 -2.600000e+06
Total Cash From Financing Activities -2.878300e+09 -1.526500e+09
Change To Operating Activities -4.550000e+07 2.063500e+09
Net Income 1.902900e+09 1.726100e+09
Change In Cash -1.359300e+09 3.030000e+07
Repurchase Of Stock -1.500000e+09 -7.500000e+08
Effect Of Exchange Rate 3.360000e+07 -2.207000e+08
Total Cash From Operating Activities 2.499200e+09 2.156500e+09
Depreciation 4.357000e+08 4.457000e+08
Other Cashflows From Investing Activities -1.334000e+08 2.700000e+07
Dividends Paid -8.855000e+08 -7.733000e+08
Other Cashflows From Financing Activities -2.824000e+08 -6.000000e+05
Change To Netincome 2.061000e+08 4.592000e+08
Capital Expenditures -3.654000e+08 -2.914000e+08
Change To Inventory NaN -2.359000e+08
Change To Account Receivables NaN -1.278300e+09
```

2021-09-30 2021-06-30

```
Investments -1.077000e+08 -2.440000e+07
Change To Liabilities 0.000000e+00 0.000000e+00
Total Cashflows From Investing Activities -6.165000e+08 -4.833000e+08
Net Borrowings 3.077000e+08 2.000000e+08
Total Cash From Financing Activities -4.632000e+08 -1.083200e+09
```

Change To Operating Activities	-6.665000e+08	2.212000e+08
Net Income	1.110100e+09	1.390200e+09
Change In Cash	5.682000e+08	2.176000e+08
Repurchase Of Stock	-7.500000e+08	-5.000000e+08
Effect Of Exchange Rate	1.660000e+07	8.600000e+06
Total Cash From Operating Activities	1.631300e+09	1.775500e+09
Depreciation	3.823000e+08	3.693000e+08
Other Cashflows From Investing Activities	-5.320000e+07	7.240000e+07
Dividends Paid	-7.704000e+08	-7.683000e+08
Other Cashflows From Financing Activities	-5.000000e+05	-1.490000e+07
Change To Netincome	8.054000e+08	-2.052000e+08
Capital Expenditures	-3.368000e+08	-3.813000e+08
Change To Inventory	-2.359000e+08	-2.359000e+08
Change To Account Receivables	-1.278300e+09	-1.278300e+09
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Quarter

2Q2021	6740100000	1390200000
3Q2021	6772800000	1110100000
4Q2021	7999900000	1726100000
1Q2022	7810000000	1902900000

['quarterly\_financials',

	2022-03-31	2021-12-31	\
Research Development	1610100000.0	1959400000.0	
Effect Of Accounting Charges	None	None	
Income Before Tax	2053600000.0	1839900000.0	
Minority Interest	131200000.0	175600000.0	
Net Income	1902900000.0	1726100000.0	
Selling General Administrative	1464600000.0	1519400000.0	
Gross Profit	5737900000.0	5854300000.0	
Ebit	2663200000.0	2375500000.0	
Operating Income	2663200000.0	2375500000.0	
Other Operating Expenses	None	None	
Interest Expense	-84900000.0	-81400000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	150700000.0	113800000.0	
Total Revenue	7810000000.0	7999900000.0	
Total Operating Expenses	5146800000.0	5624400000.0	
Cost Of Revenue	2072100000.0	2145600000.0	
Total Other Income Expense Net	-609600000.0	-535600000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	1902900000.0	1726100000.0	
Net Income Applicable To Common Shares	1902900000.0	1726100000.0	

	2021-09-30	2021-06-30	\
Research Development	1708900000.0	1672800000.0	
Effect Of Accounting Charges	None	None	
Income Before Tax	1245300000.0	1593900000.0	
Minority Interest	197100000.0	219100000.0	
Net Income	1110100000.0	1390200000.0	
Selling General Administrative	1505300000.0	1614600000.0	
Gross Profit	5342000000.0	5209900000.0	
Ebit	2127800000.0	1922500000.0	
Operating Income	2127800000.0	1922500000.0	
Other Operating Expenses	None	None	
Interest Expense	-83600000.0	-86900000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	135200000.0	203700000.0	
Total Revenue	6772800000.0	6740100000.0	
Total Operating Expenses	4645000000.0	4817600000.0	
Cost Of Revenue	1430800000.0	1530200000.0	
Total Other Income Expense Net	-882500000.0	-328600000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	1110100000.0	1390200000.0	
Net Income Applicable To Common Shares	1110100000.0	1390200000.0	

	Holder	Shares	Date Reported	\
0	Vanguard Total Stock Market Index Fund	24466874	2021-12-30	
1	Vanguard 500 Index Fund	16814257	2021-12-30	
2	Vanguard/Primecap Fund	16263898	2021-12-30	
3	Vanguard Specialized-Health Care Fund	10213125	2022-01-30	
4	SPDR S&P 500 ETF Trust	8436788	2022-01-30	
5	Fidelity 500 Index Fund	8130898	2022-02-27	
6	iShares Core S&P 500 ETF	6602520	2022-01-30	
7	Vanguard Index-Value Index Fund	6578581	2021-12-30	
8	Fidelity Contrafund Inc	6465969	2022-02-27	
9	Vanguard Institutional Index Fund-Institutional...	5982359	2021-12-30	

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1	0.0177	4644434068
2	0.0171	4492389045
3	0.0167	2506198743
4	0.0089	2070303407
5	0.0086	2032317955

% Out	Value
0.0258	6758239936
0.0177	4644434068
0.0171	4492389045
0.0167	2506198743
0.0089	2070303407
0.0086	2032317955

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6 0.0069 1620192382
7 0.0069 1817135643
8 0.0068 1616168951
9 0.0063 1652447202 ]
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['sustainability', Value
2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 17.4
nuclear False
furLeather False
alcoholic False
gmo False
catholic True
socialPercentile 0
peerCount 83
governanceScore 11.56
environmentPercentile 0
animalTesting True
tobacco False
totalEsg 32.4
highestControversy 2
esgPerformance LEAD_PERF
coal False
pesticides False
adult False
percentile 70.21
peerGroup Pharmaceuticals
smallArms False
environmentScore 3.43
governancePercentile 0
militaryContract False]
symbol: VLO
sector: Energy
Index: SP500
vol_30d_2yr: 90552079.1015625
Sector 1YMF: 9.160011291503906
1YMF: 9.160011291503906
risk trend factor: 0.1828345622851758
    beta currentRatio debtToEquity dividendRate dividendYield \
VLO 1.762704 1.178 64.483 3.92 0.0349

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
VLO 6672999936 0.05306 9.871818 4647625216 0.05998

    grossProfits heldPercentInstitutions industry \
VLO 5487000000 0.80514 Oil & Gas Refining & Marketing

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
VLO 45886316544 6498999808 0.0341 0.6312 0.36

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
VLO 2.438094 0.364858 0.02019 0.7

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
VLO 0.04701 0.14702 0.886 308.815 Energy

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
VLO 408096000 1.46 2638000128 6.464 13160999936

    totalRevenue trailingPE
VLO 125765001216 18.10045

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 112.440002 114.972524 130.979841 146.987158 116.34127 14.566462 87.208346 145.474193

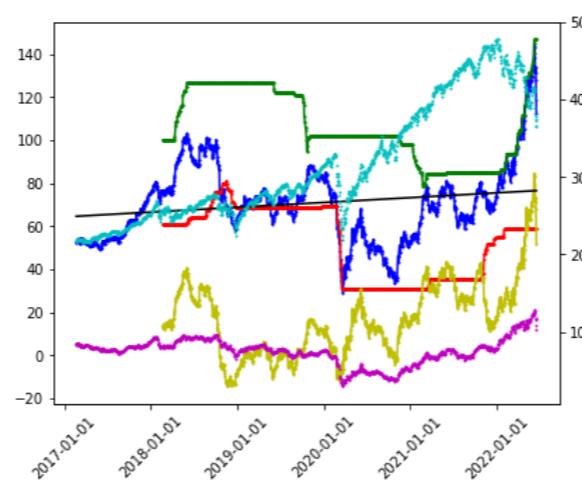
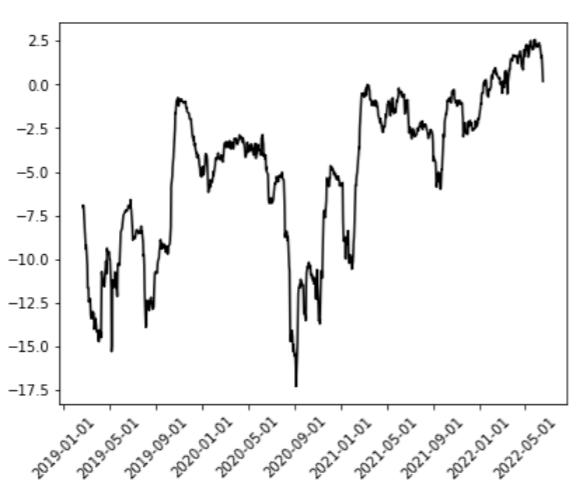
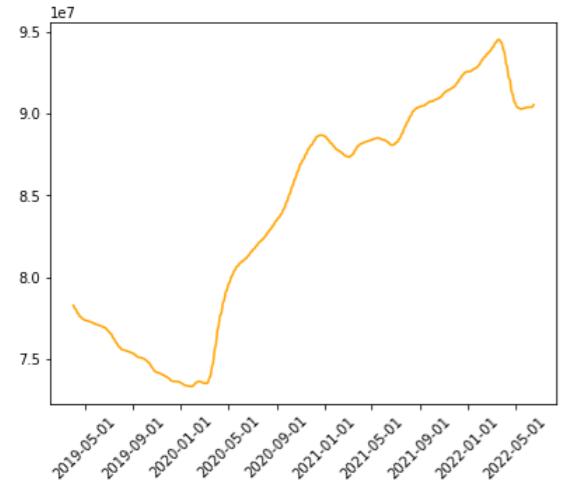
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	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VLO	1.3872	112.440002	90552079.101562	0.691389	0.569718	0.530999

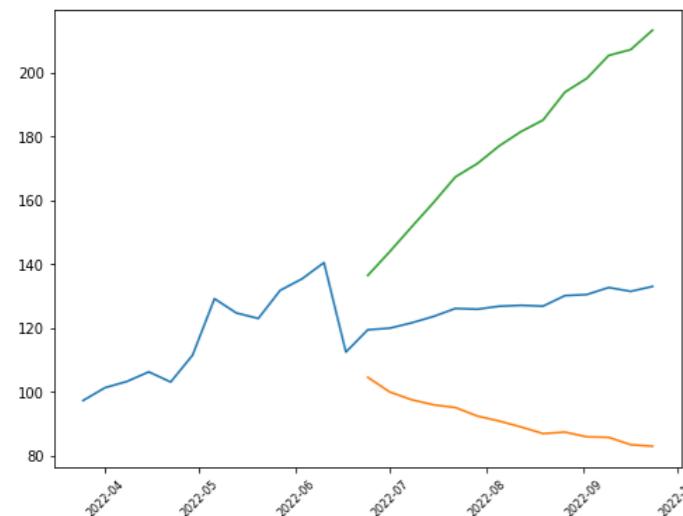
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legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

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Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', False]  
best inner cv score, sdev (11 folds): 317.1519136674356 364.5895840215621  
test cv mean error, stdev (10 folds): 348.46648405824834 368.0112236822125  
sell date: 2022-09-23  
expected return: 0.1830403392601269  
discounted return: 0.001734364991082149  
quarter return: 1.1728343844214058



```

['options', ('2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 7.23
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 39
governanceScore 4.98
environmentPercentile None
animalTesting False
tobacco False
totalEsg 30.94
highestControversy 3
esgPerformance OUT_PERF
coal False
pesticides False
adult False
percentile 65.34
peerGroup Refiners & Pipelines
smallArms False
environmentScore 18.74
governancePercentile None
militaryContract False]
symbol: APA
sector: Energy
Index: SP500
vol_30d_2yr: 204531248.4375
Sector 1YMF: 2.8700027465820312
1YMF: 2.8700027465820312
risk trend factor: 0.1813014791288129
    beta currentRatio dividendRate dividendYield earningsGrowth \
APA 4.42549      1.124      0.5      0.0122      38.999

    ebitda ebitdaMargins freeCashflow grossMargins grossProfits \
APA 4470000128      0.55701   2259500032      0.63302   5080000000

    heldPercentInstitutions industry operatingCashflow operatingMargins \
APA      0.92629 Oil & Gas E&P      3496000000      0.3696

    payoutRatio pegRatio profitMargins quickRatio returnOnAssets \
APA      0.0339      0.16      0.12125     0.801      0.14233

    returnOnEquity revenueGrowth revenuePerShare sector shortRatio \
APA      27.07216      0.05      21.457 Energy      1.45

    totalCash totalCashPerShare totalDebt totalRevenue
APA 302000000      0.871   7760999936   8024999936

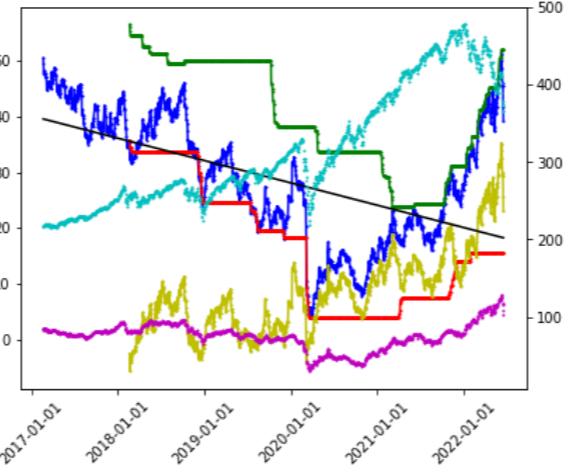
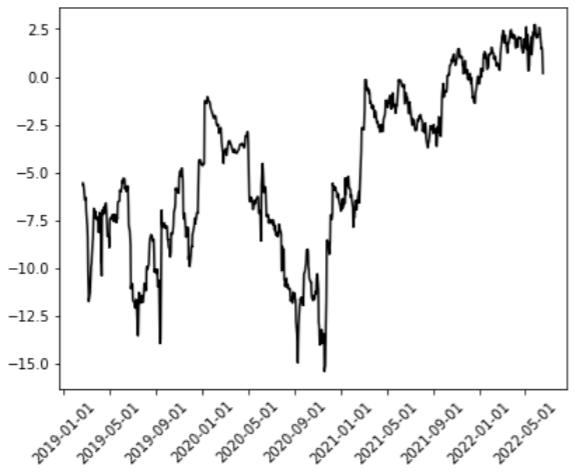
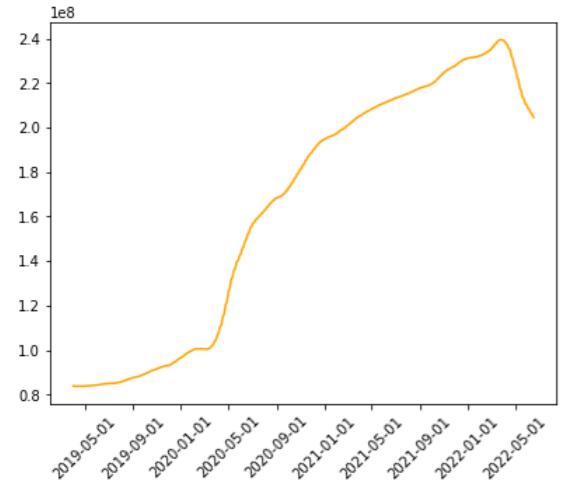
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	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSD	90d_lower	90d_upper
<b>2022-06-17</b>	39.220001	39.703868	46.051746	52.399625	42.946032	3.294685	36.356662	49.535402

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>APA</b>	0.999608	39.220001	204531248.4375	0.713933	0.302651	0.445144

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

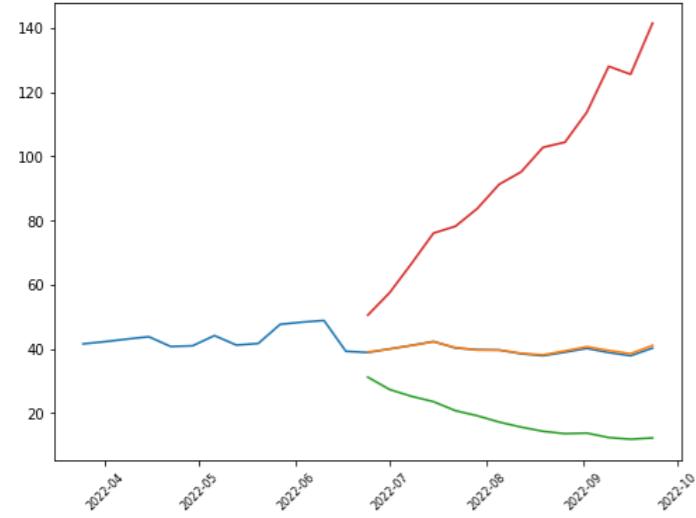
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```

inner cv scores:
best model: ['add', 'mul', True]
best inner cv score, sdev (11 folds): 47.195178427734554 46.896895021789376
test cv mean error, stdev (10 folds): 51.47031681916078 47.09783220586969
sell date: 2022-07-15
expected return: 0.07803719469902784
discounted return: 0.002786912363174965
quarter return: 1.2918035249477826

```



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Capital Surplus	1.164500e+10	1.168600e+10	1.170400e+10	
Total Liab	1.330800e+10	1.270500e+10	1.281900e+10	
Total Stockholder Equity	-1.595000e+09	-1.095000e+09	-9.640000e+08	
Minority Interest	1.590000e+09	1.580000e+09	1.657000e+09	
Deferred Long Term Liab	5.700000e+08	5.150000e+08	5.120000e+08	
Other Current Liab	3.370000e+08	2.760000e+08	2.990000e+08	
Total Assets	1.330300e+10	1.331000e+10	1.351200e+10	
Common Stock	2.620000e+08	2.620000e+08	2.620000e+08	
Other Current Assets	1.550000e+08	1.020000e+08	7.600000e+07	
Retained Earnings	-9.488000e+09	-9.870000e+09	-9.757000e+09	
Other Liab	3.744000e+09	3.673000e+09	2.626000e+09	
Treasury Stock	-4.014000e+09	-3.173000e+09	-3.173000e+09	
Other Assets	1.223000e+09	1.255000e+09	5.120000e+08	
Cash	3.020000e+08	3.770000e+08	1.249000e+09	
Total Current Liabilities	2.117000e+09	1.839000e+09	1.773000e+09	
Deferred Long Term Asset Charges	1.300000e+07	Nan	Nan	
Other Stockholder Equity	2.200000e+07	1.500000e+07	1.500000e+07	
Property Plant Equipment	8.335000e+09	8.336000e+09	8.501000e+09	
Total Current Assets	2.380000e+09	2.181000e+09	2.945000e+09	
Long Term Investments	1.365000e+09	1.538000e+09	1.554000e+09	
Net Tangible Assets	-1.595000e+09	-1.095000e+09	-9.640000e+08	
Net Receivables	1.394000e+09	1.170000e+09	1.068000e+09	
Long Term Debt	7.261000e+09	7.159000e+09	8.386000e+09	
Inventory	4.730000e+08	4.760000e+08	4.790000e+08	
Accounts Payable	7.310000e+08	6.870000e+08	6.030000e+08	
Short Long Term Debt	Nan	2.130000e+08	2.130000e+08	
	2021-03-31			
Capital Surplus	1.172700e+10			
Total Liab	1.278300e+10			
Total Stockholder Equity	-1.258000e+09			
Minority Interest	1.602000e+09			
Deferred Long Term Liab	4.930000e+08			
Other Current Liab	2.000000e+08			
Total Assets	1.312700e+10			
Common Stock	2.620000e+08			
Other Current Assets	1.450000e+08			
Retained Earnings	-1.007300e+10			
Other Liab	2.732000e+09			
Treasury Stock	-3.174000e+09			
Other Assets	4.970000e+08			
Cash	5.380000e+08			
Total Current Liabilities	1.338000e+09			
Deferred Long Term Asset Charges	Nan			
Other Stockholder Equity	1.500000e+07			
Property Plant Equipment	8.718000e+09			
Total Current Assets	2.345000e+09			
Long Term Investments	1.567000e+09			
Net Tangible Assets	-1.258000e+09			
Net Receivables	1.071000e+09			
Long Term Debt	8.678000e+09			
Inventory	5.020000e+08			
Accounts Payable	5.240000e+08			
Short Long Term Debt	Nan			
['quarterly_cashflow',				
	2021-12-31	2021-09-30	\	
Investments	-1.000000e+06	-3.000000e+06		
Change To Liabilities	2.600000e+07	6.200000e+07		
Total Cashflows From Investing Activities	-2.910000e+08	-1.490000e+08		
Net Borrowings	1.020000e+08	-1.335000e+09		
Total Cash From Financing Activities	-8.690000e+08	-1.494000e+09		
Change To Operating Activities	1.800000e+08	-1.800000e+07		
Net Income	3.820000e+08	-1.130000e+08		
Change In Cash	-7.500000e+07	-8.720000e+08		
Repurchase Of Stock	-8.470000e+08	-8.470000e+08		
Total Cash From Operating Activities	1.085000e+09	7.710000e+08		
Depreciation	3.650000e+08	3.690000e+08		
Other Cashflows From Investing Activities	8.000000e+06	3.200000e+07		
Dividends Paid	-2.400000e+07	-9.000000e+06		
Change To Inventory	1.000000e+07	-3.900000e+07		
Change To Account Receivables	-1.210000e+08	-1.000000e+08		
Other Cashflows From Financing Activities	-1.000000e+08	-1.500000e+08		
Change To Netincome	2.430000e+08	6.100000e+08		
Capital Expenditures	-3.150000e+08	-2.360000e+08		
	2021-06-30	2021-03-31		
Investments	-3000000.0	-21000000.0		
Change To Liabilities	8200000.0	7500000.0		
Total Cashflows From Investing Activities	-12600000.0	-26700000.0		
Net Borrowings	-7900000.0	-5800000.0		
Total Cash From Financing Activities	-13200000.0	-12800000.0		
Change To Operating Activities	10400000.0	-7900000.0		
Net Income	31600000.0	38800000.0		
Change In Cash	71100000.0	27600000.0		
Repurchase Of Stock	-84700000.0	-84700000.0		
Total Cash From Operating Activities	96900000.0	67100000.0		

	Revenue	Earnings
Depreciation	382000000.0	388000000.0
Other Cashflows From Investing Activities	5000000.0	7000000.0
Dividends Paid	-10000000.0	-9000000.0
Change To Inventory	23000000.0	-3000000.0
Change To Account Receivables	3000000.0	-168000000.0
Other Cashflows From Financing Activities	-43000000.0	-61000000.0
Change To Netincome	5900000.0	7000000.0
Capital Expenditures	-30600000.0	-25600000.0
['quarterly_earnings',		
Quarter		

1Q2021	1932000000	388000000
2Q2021	1830000000	316000000
3Q2021	2099000000	-113000000
4Q2021	2164000000	382000000]

	2021-12-31	2021-09-30	\
--	------------	------------	---

['quarterly_financials',			
Research Development	None	None	
Effect Of Accounting Charges	None	None	
Income Before Tax	654000000.0	122000000.0	
Minority Interest	1590000000.0	1580000000.0	
Net Income	382000000.0	-113000000.0	
Selling General Administrative	137000000.0	70000000.0	
Gross Profit	1467000000.0	1301000000.0	
Ebit	937000000.0	774000000.0	
Operating Income	937000000.0	774000000.0	
Other Operating Expenses	15000000.0	88000000.0	
Interest Expense	-94000000.0	-101000000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	169000000.0	152000000.0	
Total Revenue	2164000000.0	2099000000.0	
Total Operating Expenses	1227000000.0	1325000000.0	
Cost Of Revenue	697000000.0	798000000.0	
Total Other Income Expense Net	-283000000.0	-652000000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	485000000.0	-30000000.0	
Net Income Applicable To Common Shares	382000000.0	-113000000.0	

	2021-06-30	2021-03-31	
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Research Development	None	None	
Effect Of Accounting Charges	None	None	
Income Before Tax	495000000.0	620000000.0	
Minority Interest	1657000000.0	1602000000.0	
Net Income	316000000.0	388000000.0	
Selling General Administrative	86000000.0	83000000.0	
Gross Profit	1196000000.0	1116000000.0	
Ebit	510000000.0	745000000.0	
Operating Income	510000000.0	745000000.0	
Other Operating Expenses	223000000.0	-103000000.0	
Interest Expense	-111000000.0	-112000000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	87000000.0	170000000.0	
Total Revenue	1830000000.0	1932000000.0	
Total Operating Expenses	1320000000.0	1187000000.0	
Cost Of Revenue	634000000.0	816000000.0	
Total Other Income Expense Net	-15000000.0	-125000000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	408000000.0	450000000.0	
Net Income Applicable To Common Shares	316000000.0	388000000.0	]

	Holder	Shares	Date Reported	% Out	\
--	--------	--------	---------------	-------	---

0	Oakmark Fund	12743809	2021-12-30	0.0377	
1	Select Sector SPDR Fund-Energy Select	10683025	2022-01-30	0.0316	
2	Vanguard Total Stock Market Index Fund	10325855	2021-12-30	0.0305	
3	Vanguard Small-Cap Index Fund	9149341	2021-12-30	0.0271	
4	Vanguard/Windsor II	8002477	2022-01-30	0.0237	
5	Vanguard 500 Index Fund	7693595	2021-12-30	0.0227	
6	Vanguard Small Cap Value Index Fund	5800585	2021-12-30	0.0171	
7	Oakmark Select Fund	5500000	2021-12-30	0.0163	
8	SPDR S&P 500 ETF Trust	4043068	2022-01-30	0.0120	
9	Fidelity 500 Index Fund	3720217	2022-02-27	0.0110	

Value
-------

0	342681024
1	354783260
2	277662240
3	246025779
4	265762261
5	206880769
6	155977730
7	147895000
8	134270288
9	132551331
	]
	['options', ('2022-07-15', '2023-01-20', '2024-01-19')]
	symbol: PPC

```

sector: Consumer Defensive
Index: SP400
vol_30d_2yr: 17241312.5
Sector 1YMF: 1.4799995422363281
1YMF: 1.4799995422363281
risk trend factor: 0.1778845668897103
    beta currentRatio debtToEquity earningsGrowth      ebitda \
PPC  1.12745      1.532     134.448      1.805   1548861056

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
PPC      0.09838   11.328186   873572608     0.10458   1365827000

    heldPercentInstitutions      industry marketCap operatingCashflow \
PPC      0.19334  Packaged Foods  7149453824   697006016

    operatingMargins payoutRatio pegRatio priceToBook \
PPC      0.0732        0     0.59     2.745392

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PPC      0.454094     0.01342     0.724     0.08575

    returnOnEquity revenueGrowth revenuePerShare      sector \
PPC      0.07645     0.295     64.613  Consumer Defensive

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
PPC      243676000     2.43   725539968     3.019   3755959040

    totalRevenue
PPC  15744428032

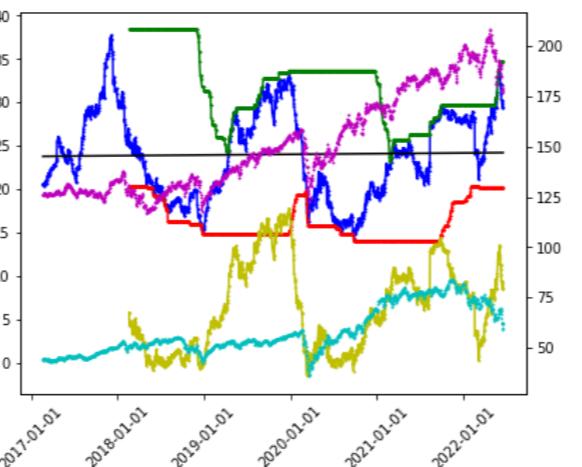
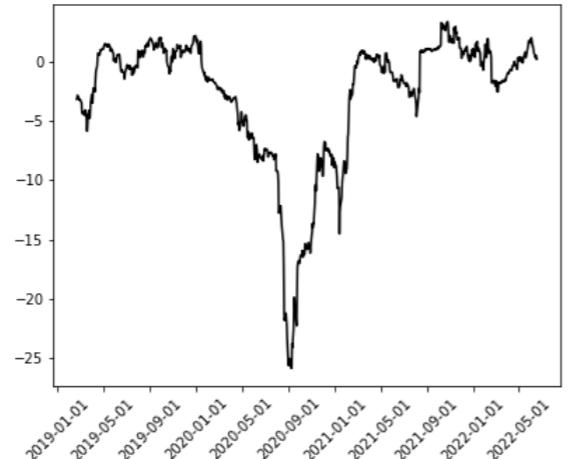
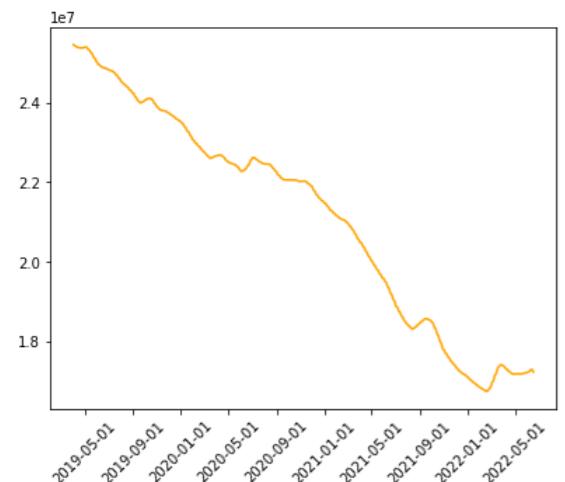
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	29.34	28.165931	31.419048	34.672164	28.426667	2.86898	22.688707	34.164626

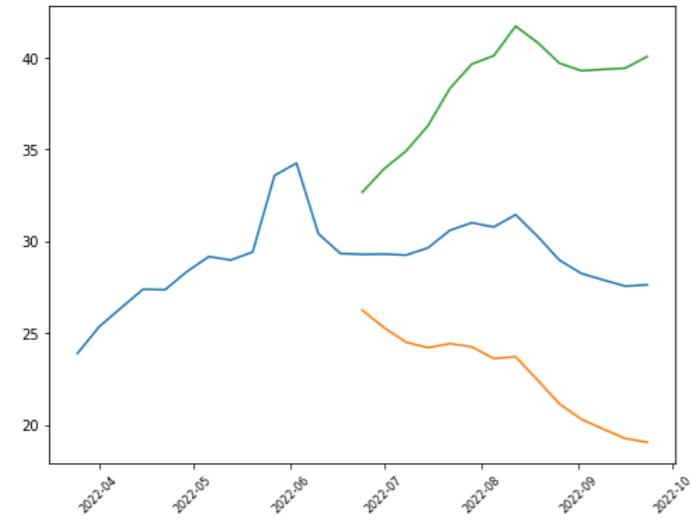
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
PPC	1.275425	29.34	17241312.5	0.741748	0.282386	0.556574

	l axis	r axis
<b>legend</b>		
blue	symbol	magenta
green	trailing_1yr_max	cyan
red	trailing_1yr_min	index
orange	30d_vol_2yr	
black	risk_trend_factor/linear	
yellow	supply_trend_1yr	

Sector 1YMF: -74.80001831054688  
Sector Volume Factor: 1.4135920452708397  
Sector Risk Trend Factor: -2.283970024749523  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'add', False]
best inner cv score, sdev (11 folds): 26.767895755767032 40.45510267955412
test cv mean error, stdev (10 folds): 28.55364084597685 42.01427297956826
sell date: 2022-08-12
expected return: 0.07198653654402982
discounted return: 0.0012646809148548765
quarter return: 1.1233071343863057
```



```
[ 'quarterly_balance_sheet',
  Intangible Assets          9.385640e+08  9.632430e+08  1.028664e+09
  Capital Surplus             1.966066e+09  1.964028e+09  1.962750e+09
  Total Liab                 6.524261e+09  6.324271e+09  6.216460e+09
  Total Stockholder Equity    2.781630e+09  2.577080e+09  2.604243e+09
  Minority Interest           1.197600e+07  1.185400e+07  1.214000e+07
  Other Current Liab         3.009220e+08  3.085060e+08  4.109530e+08
  Total Assets                9.317867e+09  8.913205e+09  8.832843e+09
  Common Stock                2.616000e+06  2.614000e+06  2.614000e+06
  Other Current Assets        6.858900e+07  4.054500e+07  6.656900e+07
  Retained Earnings            1.284007e+09  1.003569e+09  9.668150e+08
  Other Liab                  4.077630e+08  4.709210e+08  5.265940e+08
  Good Will                   1.320100e+09  1.337252e+09  1.381872e+09
  Treasury Stock              -4.710590e+08  -3.931310e+08  -3.279360e+08
  Other Assets                 3.726000e+07  3.772400e+07  3.165500e+07
  Cash                         7.255400e+08  4.276610e+08  5.110840e+08
  Total Current Liabilities   2.475775e+09  2.390823e+09  2.270929e+09
  Deferred Long Term Asset Charges 5.191000e+06  5.314000e+06  5.465000e+06
  Short Long Term Debt        3.616200e+07  2.541400e+07  2.023000e+07
  Other Stockholder Equity    -9.890200e+07  -4.799700e+07  1.719800e+07
  Property Plant Equipment    3.229118e+09  3.269032e+09  3.148945e+09
  Total Current Assets        3.792825e+09  3.305954e+09  3.241707e+09
  Net Tangible Assets          5.229660e+08  2.765850e+08  1.937070e+08
  Net Receivables             1.086588e+09  1.042610e+09  9.425350e+08
  Long Term Debt              3.373573e+09  3.187543e+09  3.191270e+09
  Inventory                    1.708995e+09  1.575658e+09  1.556821e+09
  Accounts Payable            1.448846e+09  1.400394e+09  1.183460e+09
```

2021-06-27

```
Intangible Assets          5.895360e+08
Capital Surplus             1.959558e+09
Total Liab                 5.154333e+09
Total Stockholder Equity    2.582482e+09
Minority Interest           1.203000e+07
Other Current Liab         5.448970e+08
Total Assets                7.748845e+09
Common Stock                2.614000e+06
Other Current Assets        1.300070e+08
Retained Earnings            9.060900e+08
Other Liab                  4.179760e+08
Good Will                   1.024900e+09
Treasury Stock              -2.857800e+08
Other Assets                 3.233100e+07
Cash                         3.918050e+08
Total Current Liabilities   2.244714e+09
Deferred Long Term Asset Charges 5.494000e+06
Short Long Term Debt        2.593100e+07
Other Stockholder Equity    5.935400e+07
Property Plant Equipment    2.972778e+09
Total Current Assets        3.129300e+09
Net Tangible Assets          9.680460e+08
Net Receivables             9.186950e+08
Long Term Debt              2.268842e+09
Inventory                    1.530014e+09
Accounts Payable            1.100759e+09 ]
```

2022-03-27 2021-12-26 \

```
[ 'quarterly_cashflow',
  Change To Liabilities      -2454000.0  84657000.0
  Total Cashflows From Investing Activities -85576000.0 -111842000.0
  Net Borrowings               196412000.0  -235000.0
  Total Cash From Financing Activities 166330000.0  -235000.0
  Change To Operating Activities -8946000.0  -75981000.0
  Net Income                   280438000.0  36754000.0
  Change In Cash                305677000.0  -115074000.0
  Repurchase Of Stock          -28984000.0  -28984000.0
  Effect Of Exchange Rate     -2073000.0  -1961000.0
  Total Cash From Operating Activities 226996000.0  -1036000.0
  Depreciation                  102142000.0  106488000.0
  Change To Inventory           -146035000.0  -28211000.0
  Change To Account Receivables -66669000.0  -120429000.0
  Other Cashflows From Financing Activities -1098000.0  -1098000.0
  Change To Netincome           -17969000.0  -54879000.0
  Capital Expenditures          -81578000.0  -100851000.0
```

2021-09-26 2021-06-27

```
Change To Liabilities          8.445000e+06  506657000.0
Total Cashflows From Investing Activities -1.049512e+09  -73266000.0
Net Borrowings                  9.280300e+08  -97181000.0
Total Cash From Financing Activities 9.143870e+08  -105831000.0
Change To Operating Activities 1.507300e+07  -25391000.0
Net Income                      6.072500e+07  -166687000.0
Change In Cash                  7.517800e+07  79777000.0
Repurchase Of Stock             -2.898400e+07  -28984000.0
Effect Of Exchange Rate        -2.240000e+06  371000.0
Total Cash From Operating Activities 2.125430e+08  258503000.0
Depreciation                   9.207600e+07  95728000.0
Change To Inventory              2.429400e+07  -91397000.0
```

```

Change To Account Receivables      -2.133800e+07  -62718000.0
Other Cashflows From Financing Activities -1.364300e+07  -8650000.0
Change To Netincome                1.158100e+07   -20393000.0
Capital Expenditures              -9.707600e+07  -81577000.0 ]
['quarterly_earnings',           Revenue    Earnings
Quarter
2Q2021   3637698000  -166687000
3Q2021   3827566000  60725000
4Q2021   4038769000  36754000
1Q2022   4240395000  280438000]

```

```
['quarterly_financials',          2022-03-27  2021-12-26 \

```

	None	None
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	355779000.0	41659000.0
Minority Interest	11976000.0	11854000.0
Net Income	280438000.0	36754000.0
Selling General Administrative	120323000.0	35329000.0
Gross Profit	541980000.0	352500000.0
Ebit	421657000.0	317171000.0
Operating Income	421657000.0	317171000.0
Other Operating Expenses	None	None
Interest Expense	-36296000.0	-34974000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	75219000.0	5191000.0
Total Revenue	4240395000.0	4038769000.0
Total Operating Expenses	3818738000.0	3721598000.0
Cost Of Revenue	3698415000.0	3686269000.0
Total Other Income Expense Net	-65878000.0	-275512000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	280560000.0	36468000.0
Net Income Applicable To Common Shares	280438000.0	36754000.0

```
2021-09-26  2021-06-27

```

	None	None
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	91220000.0	-176315000.0
Minority Interest	12140000.0	12030000.0
Net Income	60725000.0	-166687000.0
Selling General Administrative	250844000.0	102959000.0
Gross Profit	371843000.0	380241000.0
Ebit	120999000.0	277282000.0
Operating Income	120999000.0	277282000.0
Other Operating Expenses	None	None
Interest Expense	-29833000.0	-50651000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	30385000.0	-9812000.0
Total Revenue	3827566000.0	3637698000.0
Total Operating Expenses	3706567000.0	3360416000.0
Cost Of Revenue	3455723000.0	3257457000.0
Total Other Income Expense Net	-29779000.0	-453597000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	60835000.0	-166503000.0
Net Income Applicable To Common Shares	60725000.0	-166687000.0 ]

```
Holder Shares Date Reported \

```

Holder	Shares	Date Reported
0 Vanguard Total Stock Market Index Fund	1391177	2021-12-30
1 iShares Core S&P Midcap ETF	1354194	2022-01-30
2 Vanguard Small-Cap Index Fund	1226527	2021-12-30
3 Vanguard Small Cap Value Index Fund	778076	2021-12-30
4 Vanguard Extended Market Index Fund	647608	2021-12-30
5 DFA U.S. Small Cap Value Series	494751	2022-01-30
6 First Tr Exchg Tr AlphaDEX Fd-FT Consumer Stap... 7 SPDR S&P Mid Cap 400 ETF Trust	488488 418251	2022-02-27 2022-01-30
8 IShares S&P Midcap 400 Value ETF	353867	2022-01-30
9 Vanguard Consumer Staples Index Fund	342523	2022-02-27

```
% Out  Value
0 0.0058 39231191
1 0.0056 37876806
2 0.0051 34588061
3 0.0032 21941743
4 0.0027 18262545
5 0.0021 13838185
6 0.0020 11518547
7 0.0017 11698480
8 0.0015 9897659
9 0.0014 8076692 ]
['options', ('2023-01-20',)]
symbol: MRO
sector: Energy
Index: SP500
vol_30d_2yr: 490057840.234375
Sector 1YMF: 1.5699996948242188
```

1YMF:	1.5699996948242188								
risk trend factor:	0.15110678525882204								
beta	currentRatio	debtToEquity	dividendRate	dividendYield	\				
MRO	2.766666	1.112	38.48	0.32	0.0119				
ebitda	ebitdaMargins	forwardPE	freeCashflow	grossMargins	\				
MRO	33089999936	0.58921	12.321428	1785500032	0.77546				
grossProfits	heldPercentInstitutions	industry	marketCap	\					
MRO	4355000000	0.802	Oil & Gas E&P	18801668096					
operatingCashflow	operatingMargins	payoutRatio	pegRatio	priceToBook	\				
MRO	3239000064	0.20495	0.0769	0.59	1.764964				
priceToSalesTrailing12Months	profitMargins	quickRatio	returnOnAssets	\					
MRO	3.347875	0.16845	1.052	0.04117					
returnOnEquity	revenueGrowth	revenuePerShare	sector	sharesOutstanding	\				
MRO	0.08905	1.091	7.136	Energy	778537024				
shortRatio	totalCash	totalCashPerShare	totalDebt	totalRevenue					
MRO	0.93	580000000	0.794	4112000000	5616000000				
Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper		
2022-06-17	24.15	25.128986	29.471905	33.814823	26.957624	2.372893	22.211838	31.7034	

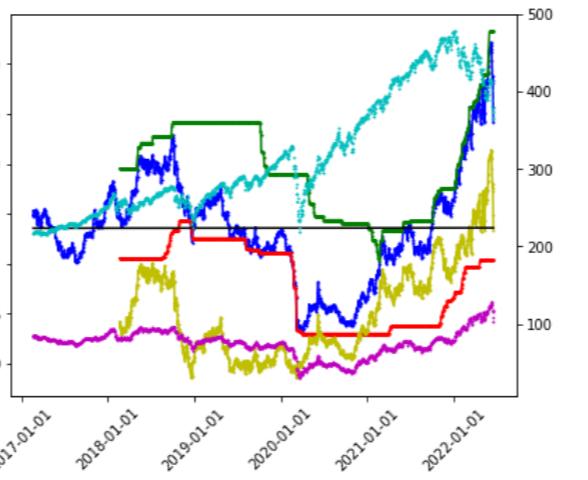
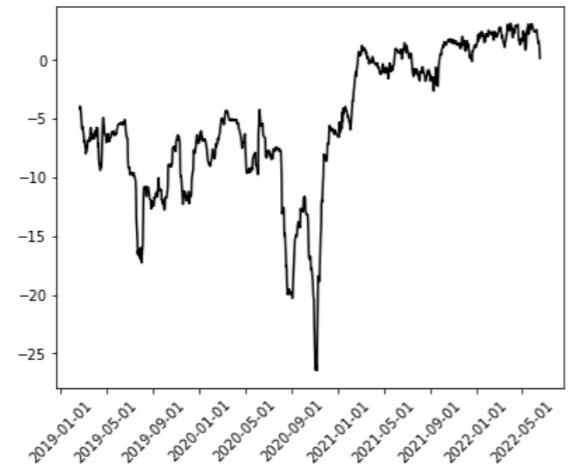
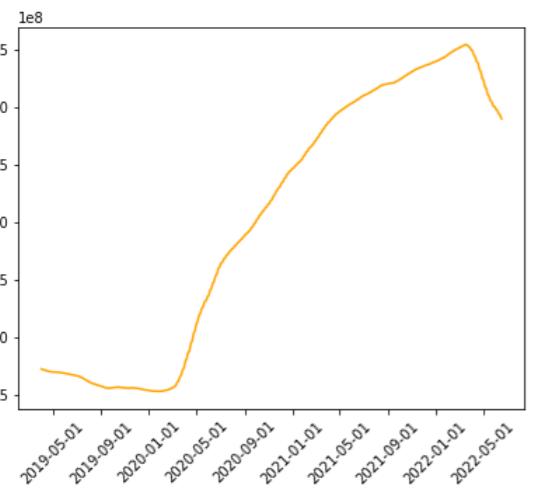
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>MRO</b>	1.000459	24.15	490057840.234375	0.691969	0.80545	0.53536
l axis		r axis				

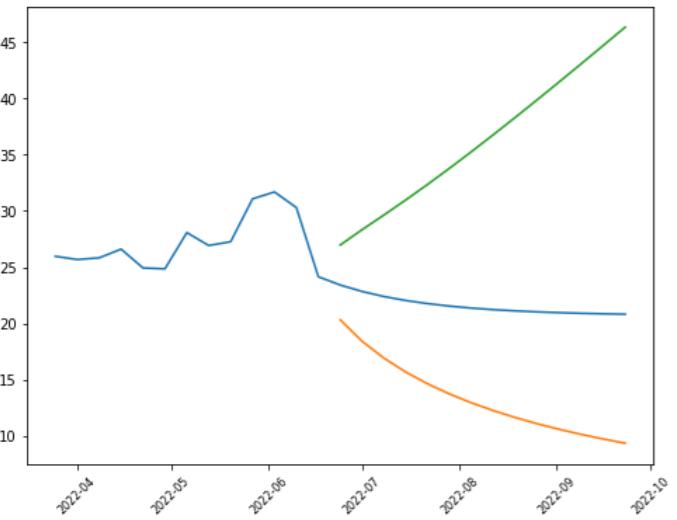
**Legend:**

color	symbol	sector
blue	trailing_1yr_max	magenta
green	trailing_1yr_min	cyan
red	30d_vol_2yr	index
orange	risk_trend_factor/linear	
black	supply_trend_1yr	
yellow		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899

```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'add', True]
best inner cv score, sdev (11 folds): 12.692432470075477 12.658305740019543
test cv mean error, stdev (10 folds): 13.81643891808431 12.742004519767413
sell date: 2022-06-24
expected return: -0.030545518513457035
discounted return: -0.005156949693432056
quarter return: 0.6214704447404967
```





```
[ 'quarterly_balance_sheet', 2021-12-31 2021-09-30 2021-06-30 \
Capital Surplus 7.221000e+09 7.213000e+09 7.201000e+09
Total Liab 6.308000e+09 6.365000e+09 7.166000e+09
Total Stockholder Equity 1.068500e+10 1.079600e+10 1.063400e+10
Other Current Liab 3.680000e+08 4.960000e+08 5.020000e+08
Total Assets 1.699400e+10 1.716100e+10 1.780000e+10
Common Stock 9.370000e+08 9.370000e+08 9.370000e+08
Other Current Assets 2.200000e+07 2.500000e+07 1.900000e+07
Retained Earnings 7.271000e+09 6.669000e+09 6.524000e+09
Other Liab 6.440000e+08 6.420000e+08 6.650000e+08
Treasury Stock -4.743000e+09 -4.023000e+09 -4.028000e+09
Other Assets 1.100000e+08 1.040000e+08 9.300000e+07
Cash 5.800000e+08 4.850000e+08 9.700000e+08
Total Current Liabilities 1.637000e+09 1.676000e+09 1.575000e+09
Short Long Term Debt 3.900000e+07 3.900000e+07 3.500000e+07
Other Stockholder Equity 8.200000e+07 8.200000e+07 7.700000e+07
Property Plant Equipment 1.458500e+10 1.484300e+10 1.511100e+10
Total Current Assets 1.821000e+09 1.655000e+09 2.075000e+09
Long Term Investments 4.770000e+08 5.590000e+08 5.210000e+08
Net Tangible Assets 1.068500e+10 1.079600e+10 1.063400e+10
Net Receivables 1.142000e+09 1.068000e+09 1.008000e+09
Long Term Debt 3.980000e+08 3.983000e+08 4.882000e+08
Inventory 7.700000e+07 7.700000e+07 7.800000e+07
Accounts Payable 1.110000e+09 1.028000e+09 9.370000e+08

2021-03-31
Capital Surplus 7.195000e+09
Total Liab 7.562000e+09
Total Stockholder Equity 1.067100e+10
Other Current Liab 3.810000e+08
Total Assets 1.823300e+10
Common Stock 9.370000e+08
Other Current Assets 2.600000e+07
Retained Earnings 6.540000e+09
Other Liab 6.950000e+08
Treasury Stock -4.001000e+09
Other Assets 9.600000e+07
Cash 1.125000e+09
Total Current Liabilities 1.899000e+09
Short Long Term Debt 5.010000e+08
Other Stockholder Equity 1.120000e+08
Property Plant Equipment 1.542500e+10
Total Current Assets 2.150000e+09
Long Term Investments 5.620000e+08
Net Tangible Assets 1.067100e+10
Net Receivables 9.210000e+08
Long Term Debt 4.910000e+09
Inventory 7.800000e+07
Accounts Payable 9.180000e+08 ]
[ 'quarterly_cashflow', 2021-12-31 2021-09-30 \
Investments 4.600000e+07 9.000000e+06
Change To Liabilities 1.410000e+08 1.070000e+08
Total Cashflows From Investing Activities -2.820000e+08 -2.650000e+08
Total Cash From Financing Activities -7.690000e+08 -1.036000e+09
Change To Operating Activities -2.000000e+07 -7.000000e+06
Net Income 6.490000e+08 1.840000e+08
Change In Cash 9.500000e+07 -4.850000e+08
Repurchase Of Stock -7.240000e+08 -1.000000e+06
Total Cash From Operating Activities 1.146000e+09 8.160000e+08
Depreciation 4.630000e+08 5.830000e+08
Dividends Paid -4.700000e+07 -3.900000e+07
Change To Account Receivables -7.600000e+07 -6.000000e+07
Other Cashflows From Financing Activities 2.000000e+06 -9.600000e+07
Change To Netincome -1.100000e+07 8.000000e+06
Capital Expenditures -2.740000e+08 -2.890000e+08
Net Borrowings NaN -9.000000e+08
Other Cashflows From Investing Activities NaN 1.000000e+06
Change To Inventory NaN 1.000000e+06

2021-06-30 2021-03-31
Investments 6000000.0 6000000.0
Change To Liabilities 2000000.0 10100000.0
Total Cashflows From Investing Activities -256000000.0 -207000000.0
Total Cash From Financing Activities -554000000.0 -32000000.0
Change To Operating Activities 12000000.0 61000000.0
Net Income 16000000.0 97000000.0
Change In Cash -155000000.0 383000000.0
Repurchase Of Stock -1000000.0 -9000000.0
Total Cash From Operating Activities 655000000.0 622000000.0
Depreciation 60000000.0 51200000.0
Dividends Paid -32000000.0 -23000000.0
Change To Account Receivables -78000000.0 -175000000.0
Other Cashflows From Financing Activities -22000000.0 -22000000.0
Change To Netincome 85000000.0 28000000.0
Capital Expenditures -274000000.0 -209000000.0
Net Borrowings -50000000.0 -50000000.0
```

```

Other Cashflows From Investing Activities 1000000.0 -1000000.0
Change To Inventory 1000000.0 -2000000.0 ]
['quarterly_earnings', Revenue Earnings
Quarter
1Q2021 118000000 97000000
2Q2021 125900000 16000000
3Q2021 143900000 18400000
4Q2021 173800000 64900000]
['quarterly_financials',
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 683000000.0 188000000.0
Minority Interest None None
Net Income 649000000.0 184000000.0
Selling General Administrative 61000000.0 70000000.0
Gross Profit 1393000000.0 1089000000.0
Ebit 755000000.0 254000000.0
Operating Income 755000000.0 254000000.0
Other Operating Expenses 94000000.0 167000000.0
Interest Expense -74000000.0 -57000000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 34000000.0 4000000.0
Total Revenue 1738000000.0 1439000000.0
Total Operating Expenses 983000000.0 1185000000.0
Cost Of Revenue 345000000.0 35000000.0
Total Other Income Expense Net -72000000.0 -65000000.0
Discontinued Operations None None
Net Income From Continuing Ops 649000000.0 184000000.0
Net Income Applicable To Common Shares 649000000.0 184000000.0

2021-06-30 2021-03-31
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 26000000.0 107000000.0
Minority Interest None None
Net Income 16000000.0 97000000.0
Selling General Administrative 69000000.0 75000000.0
Gross Profit 966000000.0 907000000.0
Ebit 54000000.0 87000000.0
Operating Income 54000000.0 87000000.0
Other Operating Expenses 240000000.0 227000000.0
Interest Expense -59000000.0 -13000000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 10000000.0 10000000.0
Total Revenue 1259000000.0 1180000000.0
Total Operating Expenses 1205000000.0 1093000000.0
Cost Of Revenue 293000000.0 273000000.0
Total Other Income Expense Net -28000000.0 2000000.0
Discontinued Operations None None
Net Income From Continuing Ops 16000000.0 97000000.0
Net Income Applicable To Common Shares 16000000.0 97000000.0 ]
['mutualfund_holders',
Holder Shares Date Reported % Out \
0 Vanguard/Windsor II 26018487 2022-01-30 0.0368
1 Select Sector SPDR Fund-Energy Select 22895120 2022-01-30 0.0324
2 Vanguard Total Stock Market Index Fund 22131478 2021-12-30 0.0313
3 Vanguard Small-Cap Index Fund 19611815 2021-12-30 0.0277
4 Vanguard 500 Index Fund 16486851 2021-12-30 0.0233
5 Vanguard Small Cap Value Index Fund 12430773 2021-12-30 0.0176
6 Fidelity Low-Priced Stock Fund 12282677 2022-02-27 0.0174
7 SPDR S&P 500 ETF Trust 8364080 2022-01-30 0.0118
8 Fidelity 500 Index Fund 7972838 2022-02-27 0.0113
9 Invesco Comstock Fd 7808667 2022-01-30 0.0110

Value
0 506579941
1 445767986
2 363398868
3 322026002
4 270714093
5 204113292
6 277097193
7 162848637
8 179867225
9 152034746 ]
['options', ('2022-07-15', '2022-09-16', '2023-01-20', '2024-01-19')]
['sustainability',
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 10.01
nuclear False

```

```

furLeather      False
alcoholic       False
gmo             False
catholic        False
socialPercentile 0
peerCount       66
governanceScore 8.13
environmentPercentile 0
animalTesting   False
tobacco          False
totalEsg         42.05
highestControversy 2
esgPerformance None
coal             False
pesticides       False
adult            False
percentile       90.8
peerGroup        Oil & Gas Producers
smallArms        False
environmentScore 23.91
governancePercentile 0
militaryContract False]
symbol: DVN
sector: Energy
Index: SP500
vol_30d_2yr: 237878397.65625
Sector 1YMF: 3.9099979400634766
1YMF: 3.9099979400634766
risk trend factor: 0.14878225091792957
    beta currentRatio debtToEquity dividendRate dividendYield \
DVN 2.784803     1.376     71.922      5.08      0.0739

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
DVN 5506999808     0.41984    11.09369   2805625088     0.56522

    grossProfits heldPercentInstitutions industry marketCap \
DVN 7414000000     0.86307    Oil & Gas E&P 39279542272

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
DVN 4898999808     0.25288     0.4991     0.43     4.401456

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
DVN 2.994552     0.21445     1.207     0.13402

    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
DVN 0.45627      2.003      19.784    Energy 677000000

    shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
DVN 1.7 209900064           3.16 6760000000 13116999680

    trailingPE
DVN 28.808342

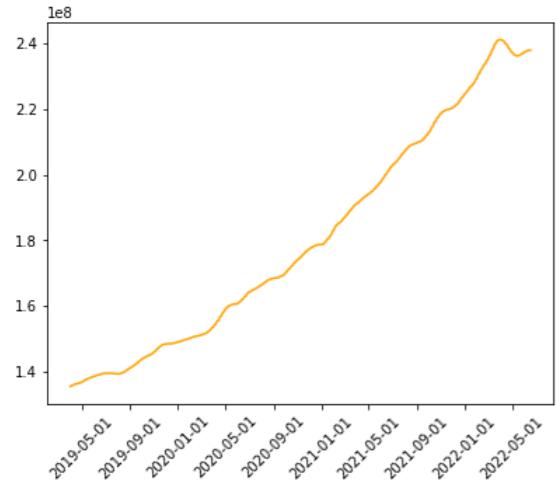
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSD	90d_lower	90d_upper
2022-06-17	58.02	63.067854	72.56	82.052146	65.759365	6.444488	52.870389	78.648341

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
DVN	1.104104	58.02	237878397.65625	0.701688	0.885466	0.540317

l axis	r axis
<b>blue</b> symbol	<b>magenta</b> sector
<b>green</b> trailing_1yr_max	<b>cyan</b> index
<b>red</b> trailing_1yr_min	
<b>orange</b> 30d_vol_2yr	
<b>black</b> risk_trend_factor/linear	
<b>yellow</b> supply_trend_1yr	

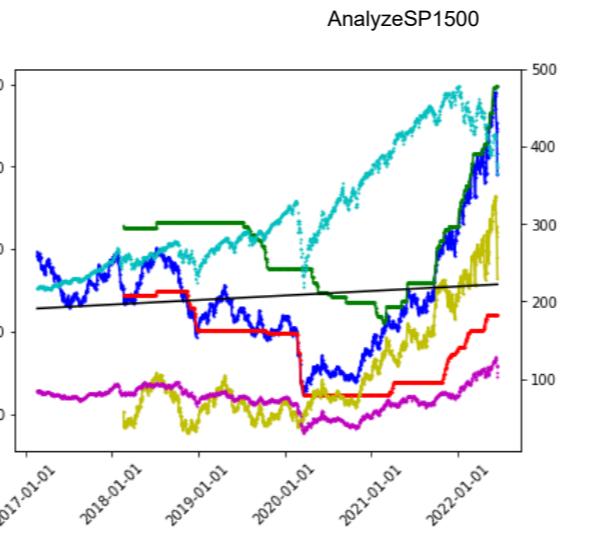
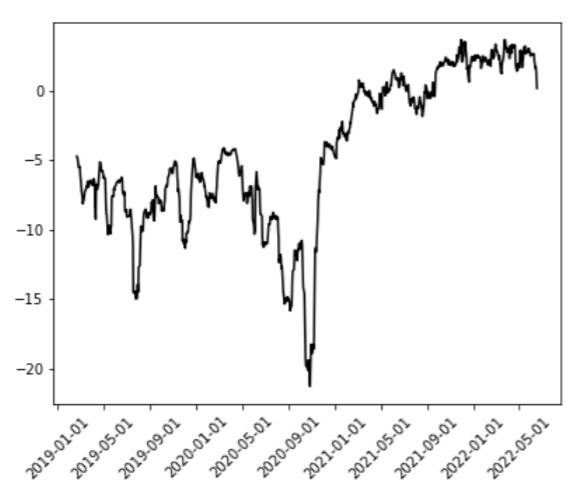
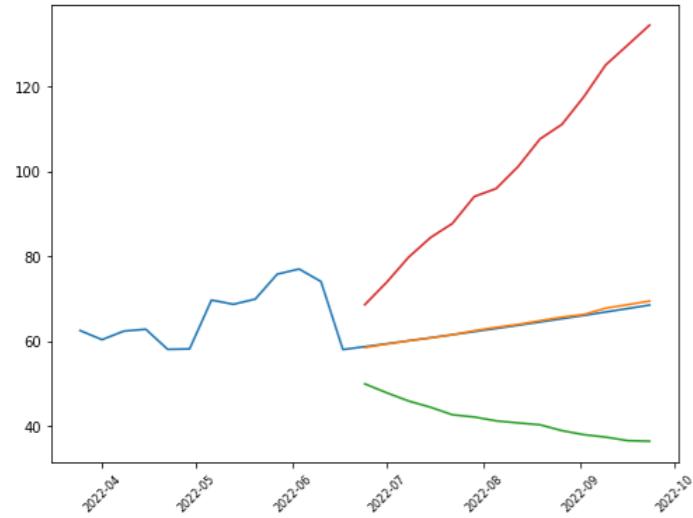
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'mul', False]
best inner cv score, sdev (11 folds): 68.71417548477189 62.1797578559326
test cv mean error, stdev (10 folds): 74.83647438011172 61.97295578707844
sell date: 2022-09-23
expected return: 0.1808220391019067
discounted return: 0.0017149827102662663
quarter return: 1.1707484793447243

```



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Capital Surplus	7.636000e+09	8.206000e+09	8.189000e+09	
Total Liab	1.162600e+10	1.199600e+10	1.153000e+10	
Total Stockholder Equity	9.262000e+09	8.924000e+09	8.399000e+09	
Minority Interest	1.370000e+08	1.370000e+08	1.360000e+08	
Other Current Liab	2.545000e+09	2.940000e+09	2.554000e+09	
Total Assets	2.102500e+10	2.105700e+10	2.006500e+10	
Common Stock	6.600000e+07	6.800000e+07	6.800000e+07	
Other Current Assets	5.240000e+08	4.860000e+08	5.030000e+08	
Retained Earnings	1.692000e+09	7.500000e+08	2.430000e+08	
Other Liab	1.805000e+09	1.743000e+09	1.698000e+09	
Good Will	7.530000e+08	7.530000e+08	7.530000e+08	
Treasury Stock	-1.320000e+08	-1.000000e+08	-1.010000e+08	
Other Assets	3.780000e+08	3.670000e+08	3.970000e+08	
Cash	2.099000e+09	2.144000e+09	1.348000e+09	
Total Current Liabilities	3.087000e+09	3.505000e+09	3.072000e+09	
Deferred Long Term Asset Charges	7.000000e+06	Nan	Nan	
Other Stockholder Equity	-1.320000e+08	-1.000000e+08	-1.010000e+08	
Property Plant Equipment	1.524300e+10	1.532200e+10	1.544100e+10	
Total Current Assets	4.249000e+09	4.227000e+09	3.076000e+09	
Long Term Investments	4.020000e+08	3.880000e+08	3.980000e+08	
Net Tangible Assets	8.500000e+09	8.171000e+09	7.646000e+09	
Net Receivables	1.626000e+09	1.597000e+09	1.225000e+09	
Long Term Debt	6.482000e+09	6.492000e+09	6.502000e+09	
Accounts Payable	5.000000e+08	5.370000e+08	4.870000e+08	
Short Long Term Debt	Nan	Nan	Nan	

2021-03-31

Capital Surplus	8.172000e+09
Total Liab	1.197100e+10
Total Stockholder Equity	8.353000e+09
Minority Interest	1.330000e+08
Other Current Liab	2.124000e+09
Total Assets	2.045700e+10
Common Stock	6.700000e+07
Other Current Assets	5.290000e+08
Retained Earnings	2.180000e+08
Other Liab	1.724000e+09
Good Will	7.530000e+08
Treasury Stock	-1.040000e+08
Other Assets	3.060000e+08
Cash	1.683000e+09
Total Current Liabilities	2.945000e+09
Deferred Long Term Asset Charges	Nan
Other Stockholder Equity	-1.040000e+08
Property Plant Equipment	1.552900e+10
Total Current Assets	3.467000e+09
Long Term Investments	4.020000e+08
Net Tangible Assets	7.600000e+09
Net Receivables	1.255000e+09
Long Term Debt	7.042000e+09
Accounts Payable	5.640000e+08
Short Long Term Debt	2.260000e+08

[ 'quarterly\_cashflow', ]

	2021-12-31	2021-09-30	\
Investments	-1.700000e+07	9.000000e+06	
Change To Liabilities	-1.800000e+07	4.690000e+08	
Total Cashflows From Investing Activities	-5.180000e+08	-4.740000e+08	
Total Cash From Financing Activities	-1.149000e+09	-3.370000e+08	
Change To Operating Activities	-2.200000e+07	-2.900000e+07	
Net Income	1.506000e+09	8.380000e+08	
Change In Cash	-5.000000e+07	7.820000e+08	
Repurchase Of Stock	-5.890000e+08	-3.000000e+06	
Effect Of Exchange Rate	1.000000e+06	-5.000000e+06	
Total Cash From Operating Activities	1.616000e+09	1.598000e+09	
Depreciation	5.850000e+08	5.790000e+08	
Dividends Paid	-7.300000e+07	-7.400000e+07	
Change To Account Receivables	-3.100000e+07	-3.320000e+08	
Other Cashflows From Financing Activities	-6.000000e+06	-5.000000e+06	
Change To Netincome	-4.010000e+08	1.130000e+08	
Capital Expenditures	-5.150000e+08	-4.840000e+08	
Net Borrowings	Nan	Nan	

2021-06-30 2021-03-31

Investments	8.000000e+06	10000000.0
Change To Liabilities	7.200000e+07	16000000.0
Total Cashflows From Investing Activities	-4.520000e+08	-130000000.0
Total Cash From Financing Activities	-9.820000e+08	-824000000.0
Change To Operating Activities	-7.600000e+07	-95000000.0
Net Income	2.560000e+08	213000000.0
Change In Cash	-3.390000e+08	-359000000.0
Repurchase Of Stock	-9.000000e+06	-33000000.0
Effect Of Exchange Rate	2.000000e+06	3000000.0
Total Cash From Operating Activities	1.093000e+09	592000000.0
Depreciation	5.360000e+08	481000000.0
Dividends Paid	-7.500000e+07	-128000000.0
Change To Account Receivables	-1.000000e+08	-63000000.0

```

Other Cashflows From Financing Activities -2.000000e+06 -28000000.0
Change To Netincome 2.840000e+08 25000000.0
Capital Expenditures -5.090000e+08 -499000000.0
Net Borrowings -7.420000e+08 -560000000.0 ]
['quarterly_earnings', Revenue Earnings
Quarter
1Q2021 246100000 21300000
2Q2021 297700000 25600000
3Q2021 362500000 83800000
4Q2021 405400000 150600000]

```

```
['quarterly_financials', 2021-12-31 2021-09-30 \
```

	None	None
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	1662000000.0	964000000.0
Minority Interest	137000000.0	137000000.0
Net Income	1506000000.0	838000000.0
Selling General Administrative	95000000.0	95000000.0
Gross Profit	2380000000.0	2088000000.0
Ebit	1727000000.0	1068000000.0
Operating Income	1727000000.0	1068000000.0
Other Operating Expenses	-24000000.0	344000000.0
Interest Expense	-92000000.0	-93000000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	150000000.0	120000000.0
Total Revenue	4054000000.0	3625000000.0
Total Operating Expenses	2327000000.0	2557000000.0
Cost Of Revenue	1674000000.0	1537000000.0
Total Other Income Expense Net	-65000000.0	-104000000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	1512000000.0	844000000.0
Net Income Applicable To Common Shares	1487000000.0	832000000.0

```
2021-06-30 2021-03-31
```

	None	None
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	304000000.0	-32000000.0
Minority Interest	136000000.0	133000000.0
Net Income	256000000.0	213000000.0
Selling General Administrative	94000000.0	107000000.0
Gross Profit	1655000000.0	1291000000.0
Ebit	320000000.0	202000000.0
Operating Income	320000000.0	202000000.0
Other Operating Expenses	70200000.0	51200000.0
Interest Expense	-98000000.0	-105000000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	43000000.0	-248000000.0
Total Revenue	2977000000.0	2461000000.0
Total Operating Expenses	2657000000.0	2259000000.0
Cost Of Revenue	1322000000.0	1170000000.0
Total Other Income Expense Net	-16000000.0	-234000000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	261000000.0	216000000.0
Net Income Applicable To Common Shares	253000000.0	211000000.0

```
['mutualfund_holders', Holder Shares Date Reported \
```

	Holder	Shares	Date Reported
0	Vanguard Total Stock Market Index Fund	19232335	2021-12-30
1	Select Sector SPDR Fund-Energy Select	18515332	2022-01-30
2	Vanguard Mid-Cap Index Fund	15295295	2021-12-30
3	Vanguard 500 Index Fund	13333264	2021-12-30
4	Undiscovered Managers Behavioral Value Fund	7254904	2021-12-30
5	SPDR S&P 500 ETF Trust	6678214	2022-01-30
6	Fidelity 500 Index Fund	6447707	2022-02-27
7	iShares Core S&P 500 ETF	5236340	2022-01-30
8	Vanguard Index-Value Index Fund	5169015	2021-12-30
9	Victory Portfolios-Sycamore Established Value ...	5050000	2022-01-30

% Out	Value
0 0.0291	847184356
1 0.0281	936320339
2 0.0232	673757744
3 0.0202	587330279
4 0.0110	319578521
5 0.0101	337717281
6 0.0098	383960951
7 0.0079	264801713
8 0.0078	227695110
9 0.0077	255378500

```
['options', ('2022-07-15', '2023-01-20', '2024-01-19')] 
```

```
['sustainability', Value
```

```
2022-5
```

	Value
palmoil	False
controversialWeapons	False
gambling	False

```

socialScore          8.78
nuclear             False
furLeather          False
alcoholic            False
gmo                 False
catholic             False
socialPercentile    0
peerCount            66
governanceScore     7.86
environmentPercentile 0
animalTesting        False
tobacco              False
totalEsg             34.39
highestControversy  2
esgPerformance      LEAD_PERF
coal                False
pesticides           False
adult               False
percentile          76.03
peerGroup            Oil & Gas Producers
smallArms            False
environmentScore    17.75
governancePercentile 0
militaryContract    False]
symbol: UTHR
sector: Healthcare
Index: SP400
vol_30d_2yr: 8360250.78125
Sector 1YMF: 8.760009765625
1YMF: 8.760009765625
risk trend factor: 0.13940181852529768
  beta currentRatio debtToEquity earningsGrowth   ebitda \
UTHR  0.639732      8.84      19.156     7.246  959200000

  ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
UTHR  0.54244  11.61131  514424992  0.92908  1563000000

  heldPercentInstitutions industry marketCap operatingCashflow \
UTHR  0.99621  Biotechnology  10230438912  797100032

  operatingMargins payoutRatio pegRatio priceToBook \
UTHR  0.51422      0      6.92  2.448979

  priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
UTHR  5.785466  0.38873  8.333  0.11365

  returnOnEquity revenueGrowth revenuePerShare   sector \
UTHR  0.18038  0.218  39.252  Healthcare

  sharesOutstanding shortRatio  totalCash totalCashPerShare  totalDebt \
UTHR  45299500  4.37  2267699968  50.06  800000000

  totalRevenue trailingPE
UTHR  1768300032  15.645306

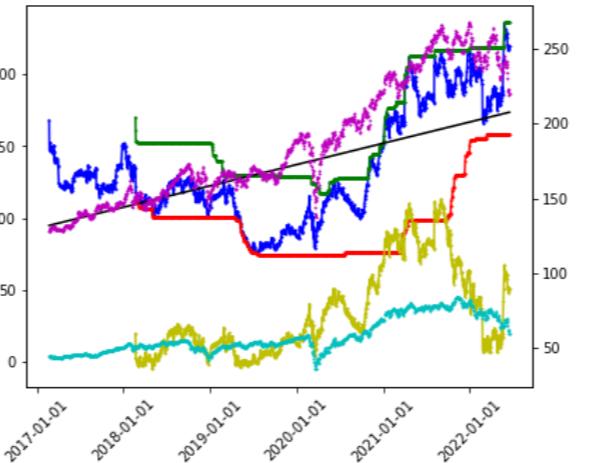
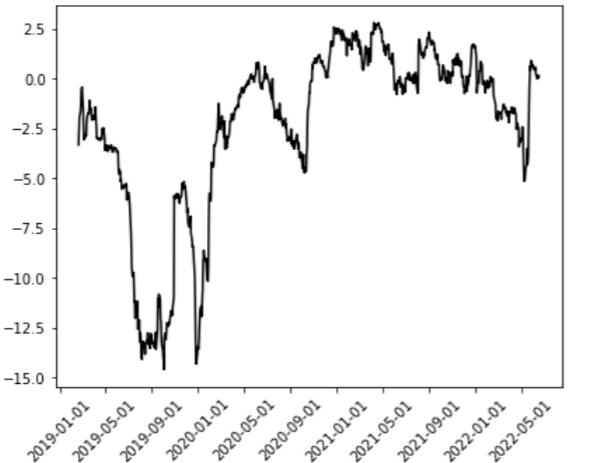
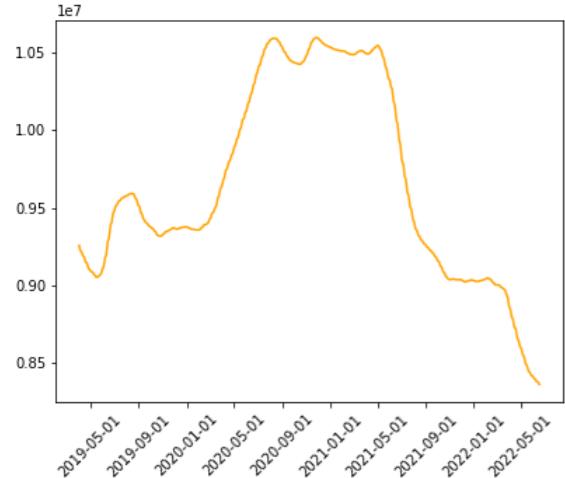
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	219.380005	194.589531	219.462223	244.334915	195.494921	19.533079	156.428764	234.561078

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>UTHR</b>	1.481235	219.380005	8360250.78125	0.878858	0.826178	0.414478

	I axis	r axis	
<b>legend</b>	<b>legend</b>	<b>legend</b>	
<b>blue</b>	symbol	<b>magenta</b>	sector
<b>green</b>	trailing_1yr_max	<b>cyan</b>	index
<b>red</b>	trailing_1yr_min		
<b>orange</b>	30d_vol_2yr		
<b>black</b>	risk_trend_factor/linear		
<b>yellow</b>	supply_trend_1yr		

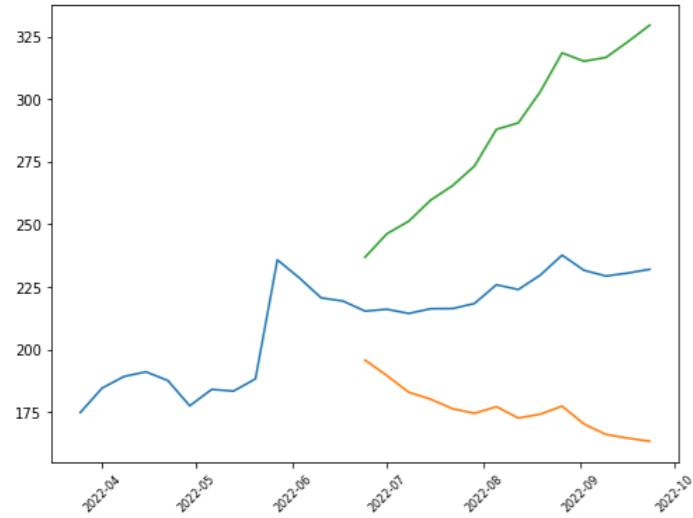
Sector 1YMF: -122.20997619628906  
Sector Volume Factor: 1.2238851152317325  
Sector Risk Trend Factor: -3.3236323632363236  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



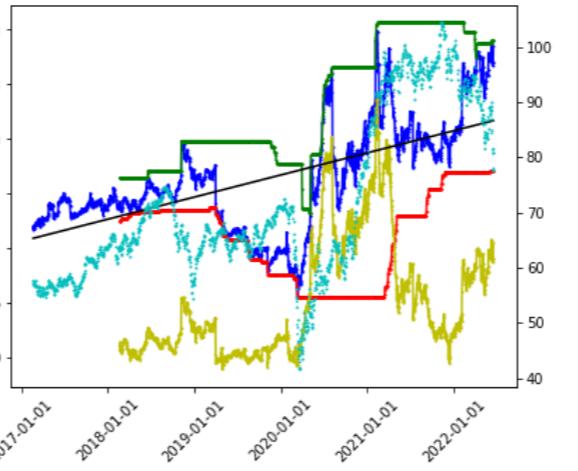
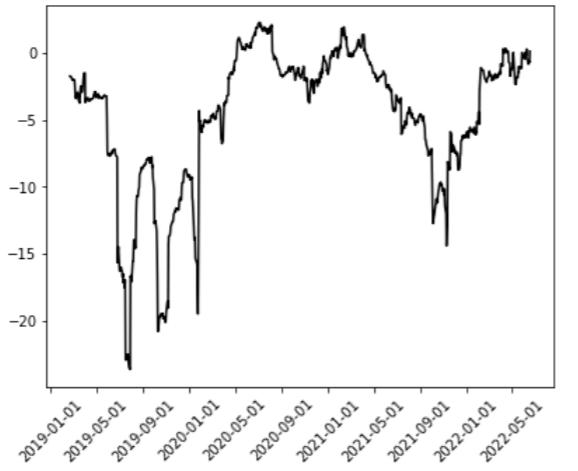
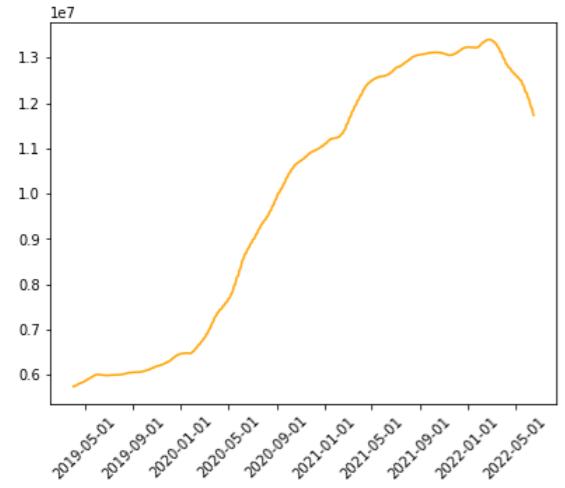
```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'add', False]
best inner cv score, sdev (11 folds): 531.9682941978095 452.0653837271293
test cv mean error, stdev (10 folds): 561.166735867955 464.135091498849
sell date: 2022-08-26
expected return: 0.08353942336232305
discounted return: 0.0011634723460982599
quarter return: 1.1129089192358042

```



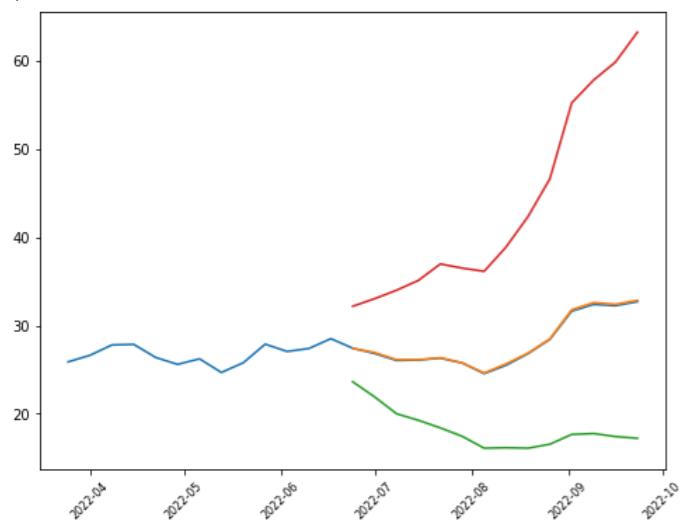




```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'mul', True]
best inner cv score, sdev (11 folds): 13.788280356464544 13.738014778596314
test cv mean error, stdev (10 folds): 15.089252087061718 13.747310761770128
sell date: 2022-09-23
expected return: 0.14727365429632056
discounted return: 0.0014173787118039183
quarter return: 1.1391775064546943

```



```

['options', ('2022-07-15',)]
symbol: ROCC
sector: Energy
Index: SP600
vol_30d_2yr: 11962556.0546875
Sector 1YMF: 2.549999237060547
1YMF: 2.549999237060547
risk trend factor: 0.10821588524114191
    beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
ROCC  2.866152      0.497     80.978   323780000      0.45632  3.112757

freeCashflow grossMargins grossProfits heldPercentInstitutions \
ROCC  111158752      0.9232    508729000      0.83062

```

```

industry marketCap operatingCashflow operatingMargins payoutRatio \
ROCC  Oil & Gas E&P 800399808      390172992      0.23271      0

```

```

pegRatio priceToBook priceToSalesTrailing12Months profitMargins \
ROCC  0.13      2.546801      1.128053      0.06175

```

```

quickRatio returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
ROCC  0.404      0.08139      0.19205      1.903      39.08

```

```

sector sharesOutstanding shortRatio totalCash totalCashPerShare \
ROCC  Energy      21163400      2.3      6358000      0.3

```

```

totalDebt totalRevenue trailingPE
ROCC  525808992    709540992    16.0731

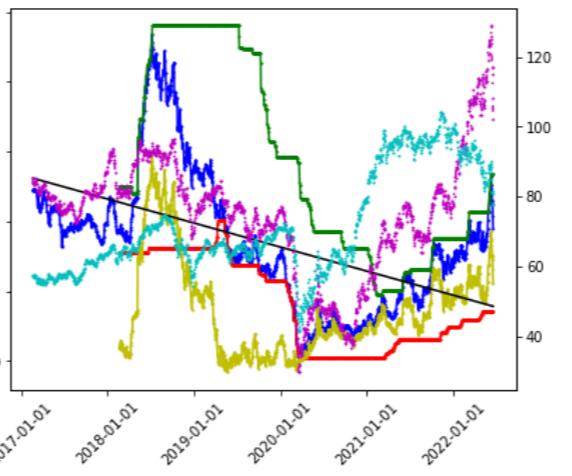
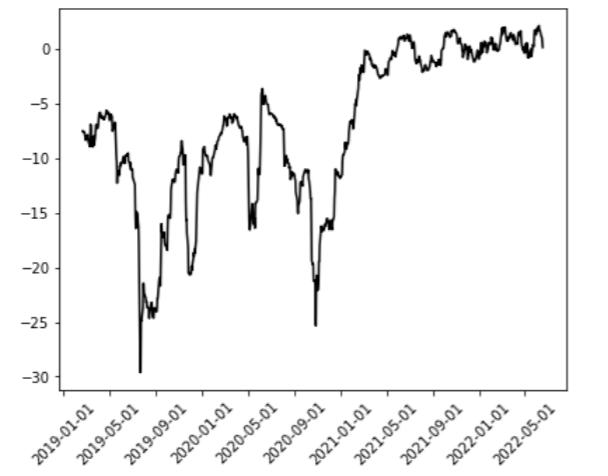
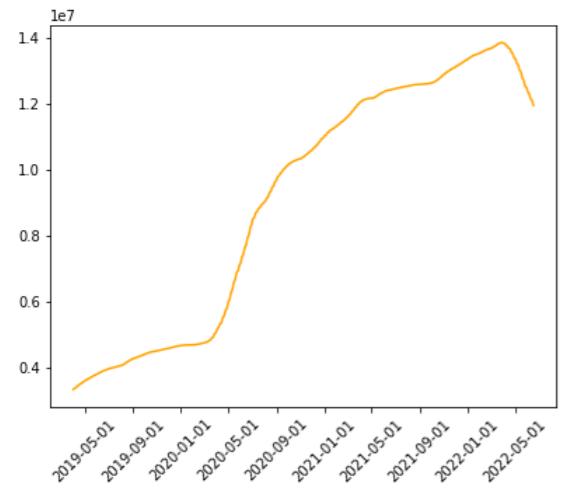
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	37.82	32.048974	43.306825	54.564677	37.893968	5.380754	27.132461	48.655476

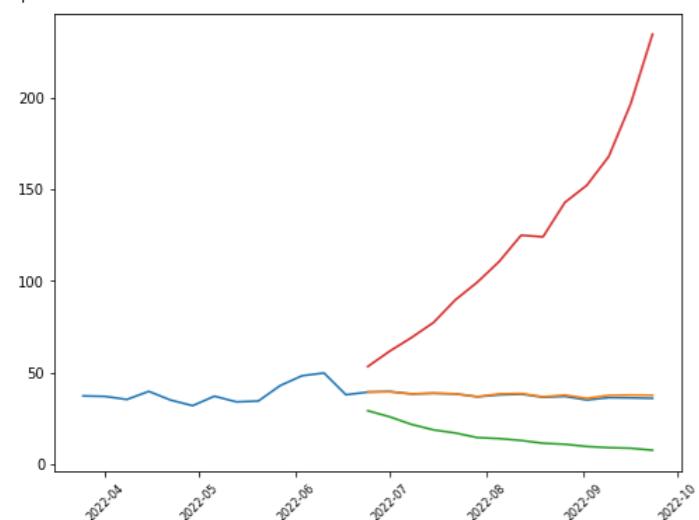
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
ROCC	1.213679	37.82	11962556.054688	0.666102	0.594188	0.577777

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'mul', True]  
best inner cv score, sdev (11 folds): 73.681655909482 104.52540953783401  
test cv mean error, stdev (10 folds): 78.01204468659131 108.68230111797764  
sell date: 2022-07-01  
expected return: 0.046128351250736964  
discounted return: 0.003474951760013667  
quarter return: 1.3759458452054782



```
[ 'options', ('2022-07-15', '2022-12-16') ]
symbol: COP
sector: Energy
Index: SP500
vol_30d_2yr: 189274208.203125
Sector 1YMF: 3.6199951171875
1YMF: 3.6199951171875
risk trend factor: 0.1025203790799483
    beta currentRatio debtToEquity dividendRate dividendYield \
COP 1.350272      1.513     38.088      1.92      0.0176

earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
COP      4.853   25497999360      0.46444   7.529317  10752749568

grossMargins grossProfits heldPercentInstitutions      industry \
COP      0.52295   22936000000      0.81349   Oil & Gas E&P

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
COP 121247997952      19983998976      0.33401      0.2348      0.48

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
COP 2.463471      2.208525      0.23417      1.287

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
COP      0.1295      0.27835      0.828      41.447   Energy

sharesOutstanding shortRatio      totalCash totalCashPerShare      totalDebt \
COP 1293449984      2.15   7144000000      5.523  18745999360

totalRevenue trailingPE
COP 54899998720      9.71701

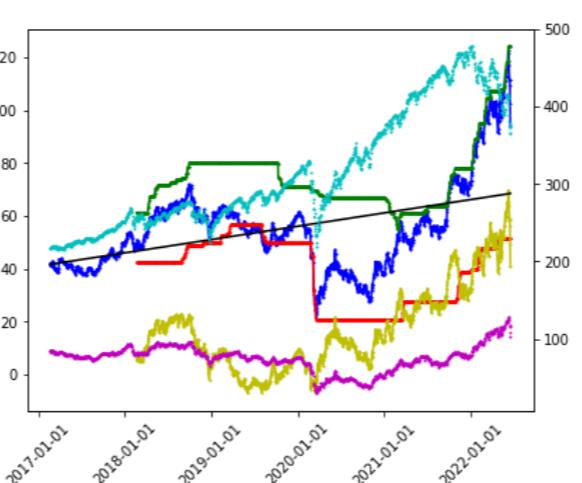
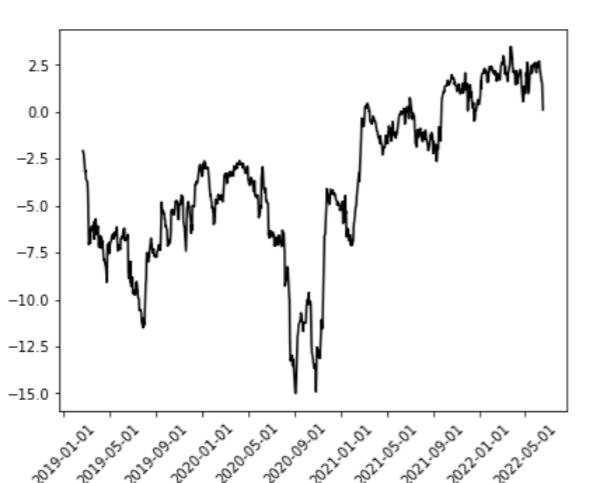
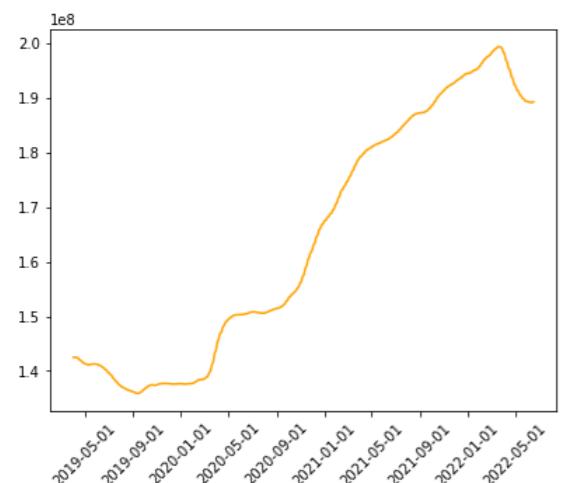
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
```

2022-06-17 93.739998 99.652102 112.199365 124.746628 104.355397 7.447422 89.460553 119.250241

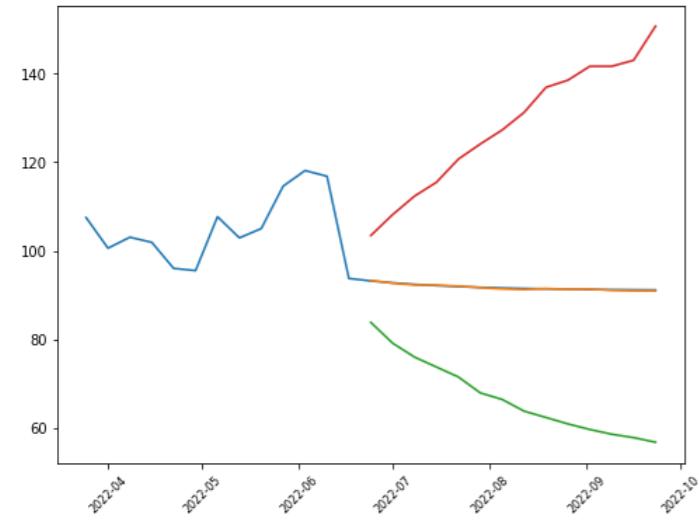
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
COP	0.95084	93.739998	189274208.203125	0.685759	0.80033	0.48084

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.79180877423899



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'mul', True]
best inner cv score, sdev (11 folds): 146.57805508986883 144.15463593296505
test cv mean error, stdev (10 folds): 160.23674169113747 144.24443854330687
sell date: 2022-06-24
expected return: -0.005859008557960844
discounted return: -0.0009788938850212592
quarter return: 0.9138376538273771
```



```

['options', ('2022-08-19', '2023-01-20', '2024-01-19')]
['sustainability',                                     Value
2022-5
palmoil                         False
controversialWeapons            False
gambling                         False
socialScore                      9.71
nuclear                          False
furLeather                       False
alcoholic                        False
gmo                             False
catholic                         False
socialPercentile                None
peerCount                        66
governanceScore                 7.68
environmentPercentile           None
animalTesting                    False
tobacco                          False
totalEsg                          34.92
highestControversy               2
esgPerformance                  OUT_PERF
coal                            False
pesticides                       False
adult                           False
percentile                      77.49
peerGroup                        Oil & Gas Producers
smallArms                        False
environmentScore                 17.53
governancePercentile             None
militaryContract                False]
symbol: OXY
sector: Energy
Index: SP500
vol_30d_2yr: 498984476.953125
Sector 1YMF: 2.1100006103515625
1YMF: 2.1100006103515625
risk trend factor: 0.0937361355002032
    beta currentRatio debtToEquity dividendRate dividendYield \
OXY 1.955081      1.156     111.198      0.52      0.0086

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
OXY 15392000000      0.53054   6.773723   9129875456      0.64697

    grossProfits heldPercentInstitutions      industry      marketCap \
OXY 16297000000      0.82197   Oil & Gas E&P  52182794240

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
OXY 12762999808      0.25255   0.0242     0.24     3.445545

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
OXY 1.798662      0.25314     0.844      0.05964

    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
OXY 0.34101       0.577      30.999   Energy        937190976

    shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
OXY 2.02 1908999936      2.037  27696001024  29012000768

    trailingPE
OXY 8.324114

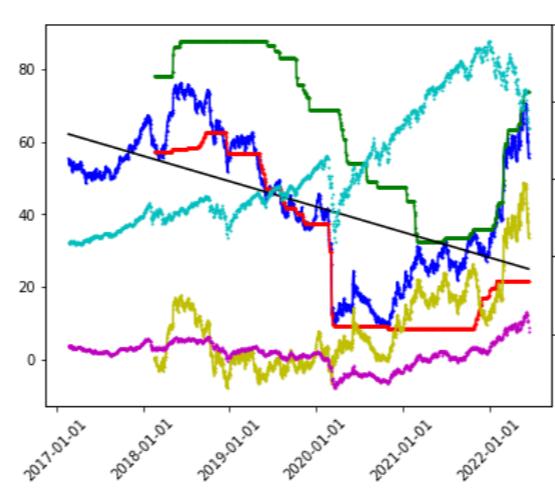
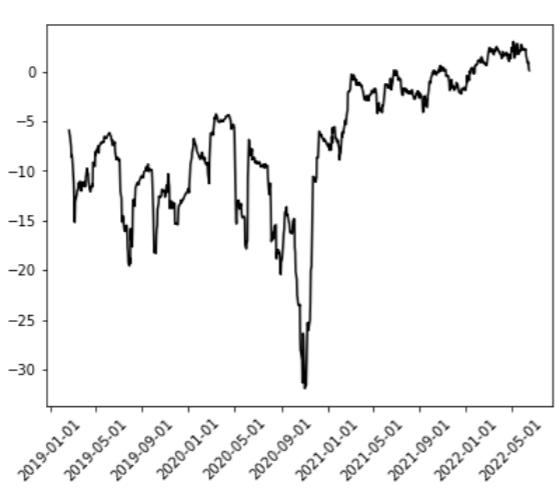
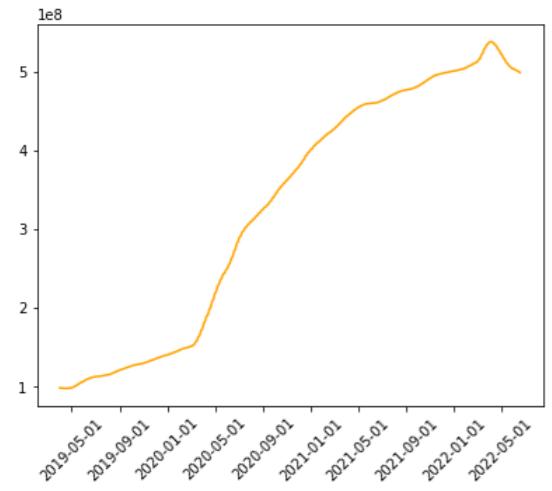
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 55.68 56.839295 65.607143 74.374991 61.382222 4.693201 51.995819 70.768625

```

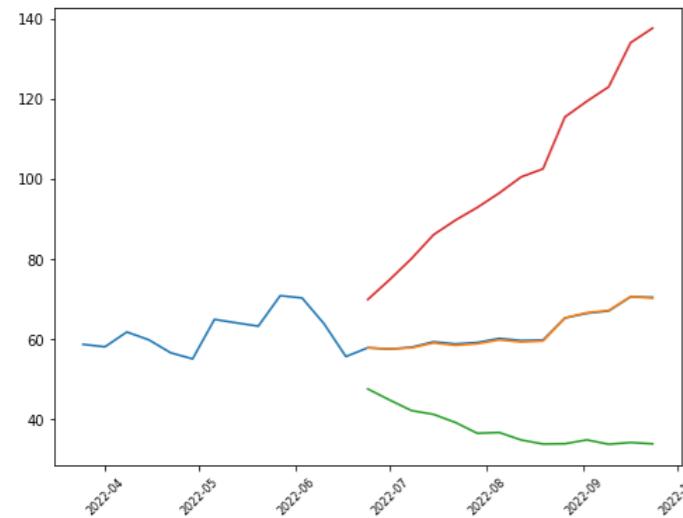
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
OXY	1.190976	55.68	498984476.953125	0.71978	0.690434	0.542013
	axis		r axis			
	<b>legend</b>		<b>legend</b>			
<b>blue</b>	symbol	<b>magenta</b>	sector			
<b>green</b>	trailing_1yr_max	<b>cyan</b>	index			
<b>red</b>	trailing_1yr_min					
<b>orange</b>	30d_vol_2yr					
<b>black</b>	risk_trend_factor/linear					
<b>yellow</b>	supply_trend_1yr					

6/20/22, 7:14 PM

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



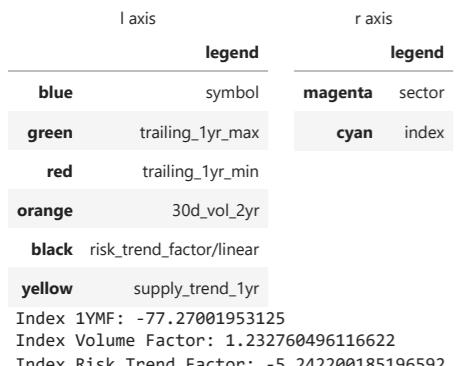
ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['mul', None]  
best inner cv score, sdev (11 folds): 67.2199336556931 59.73887056699645  
test cv mean error, stdev (10 folds): 72.47517021468275 60.18150296369074  
sell date: 2022-09-16  
expected return: 0.26756470126000104  
discounted return: 0.0026378898086187874  
quarter return: 1.2742609135760552

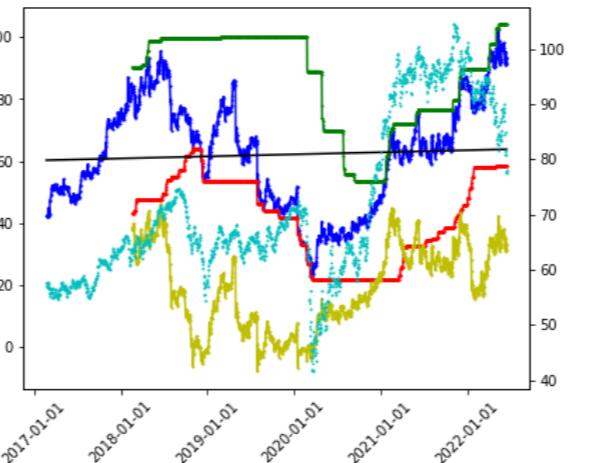
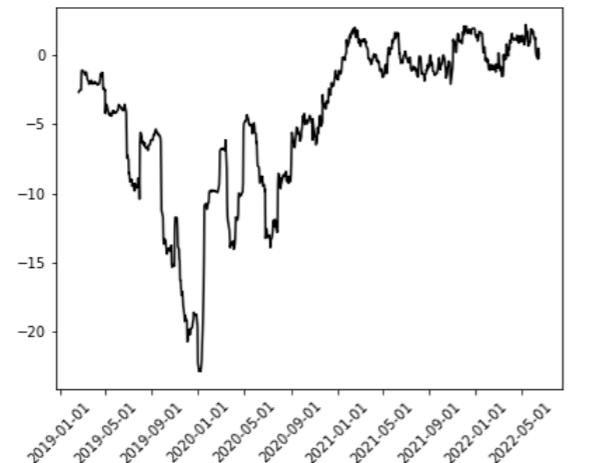
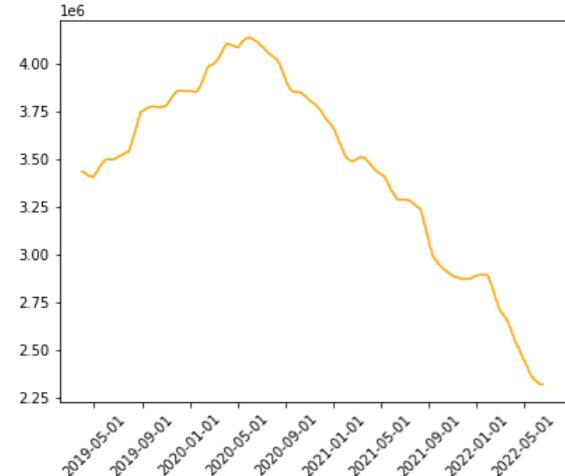


```
['options', ('2022-08-19', '2023-01-20', '2024-01-19')]
['sustainability',                                     Value
2022-5
palmoil          False
controversialWeapons  False
gambling          False
socialScore        12.04
nuclear           False
furLeather        False
alcoholic         False
gmo               False
catholic          False
socialPercentile None
peerCount          66
governanceScore   6.88
environmentPercentile None
animalTesting     False
tobacco           False
totalEsg          43.53
highestControversy 2
esgPerformance    LEAD_PERF
coal              False
pesticides        False
adult             False
percentile        92.95
peerGroup          Oil & Gas Producers
smallArms          False
environmentScore   24.61
governancePercentile None
militaryContract  False]
symbol: MGPI
sector: error
sector: error
Index: SP600
vol_30d_2yr: 2319158.7890625
Sector 1YMF: 1.1299972534179688
1YMF: 1.1299972534179688
risk trend factor: 0.07424422882968507
Empty DataFrame
Columns: []
Index: [MGPI]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDDev	90d_lower	90d_upper
2022-06-17	93.139999	89.504506	94.30381	99.103114	92.664127	3.996399	84.671329	100.656925

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MGPI	1.204144	93.139999	2319158.789062	0.847493	0.649088	0.471114

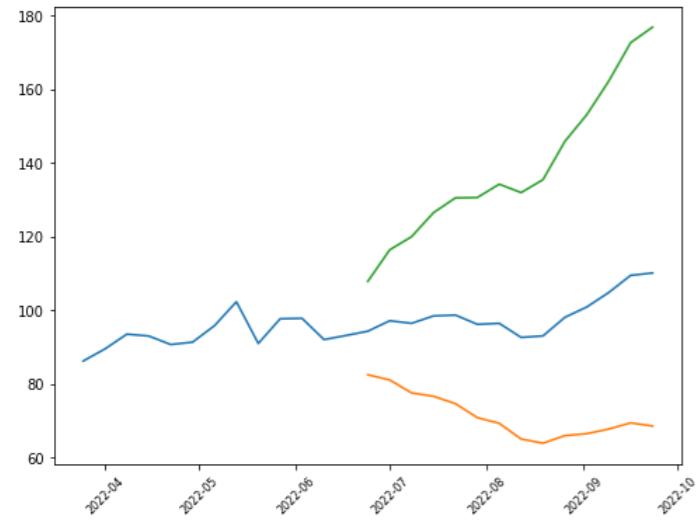




```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'add', False]
best inner cv score, sdev (11 folds): 108.84844376995493 108.33051212540643
test cv mean error, stdev (10 folds): 117.69850195448052 109.76106514492068
sell date: 2022-09-23
expected return: 0.1823336205591928
discounted return: 0.0017281939806363944
quarter return: 1.172169866801382

```



```

symbol: MTDR
sector: Energy
Index: SP400
vol_30d_2yr: 48684538.4765625
Sector 1YMF: 0.3000030517578125
1YMF: 0.3000030517578125
risk trend factor: 0.01246895603489608
    beta currentRatio debtToEquity dividendRate dividendYield \
MTDR 3.830762      0.997     64.833      0.2      0.0036

    earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
MTDR      2.392  1377725952      0.67726   5.21385   29532376

    grossMargins grossProfits heldPercentInstitutions      industry \
MTDR      0.85318  1462239000      0.94358  Oil & Gas E&P

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
MTDR  6048000000      1212914048      0.49636      0.0245      0.52

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
MTDR  2.853322      2.97308      0.35956      0.801

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
MTDR  0.15195      0.40598      0.966      17.345  Energy

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
MTDR  118125000      5.18  63001000      0.533  1515442944

    totalRevenue trailingPE
MTDR  2034253952      8.356456

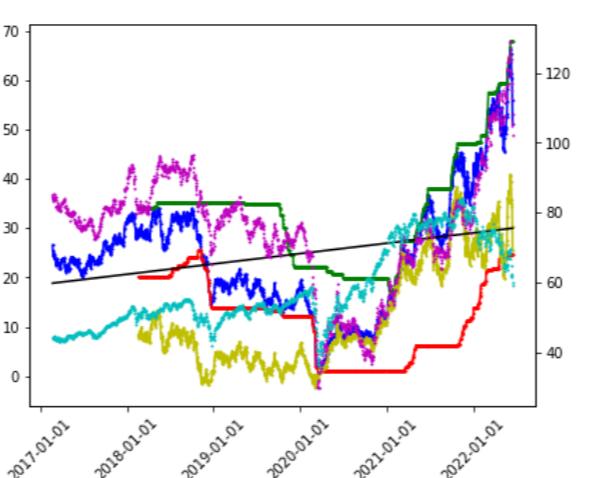
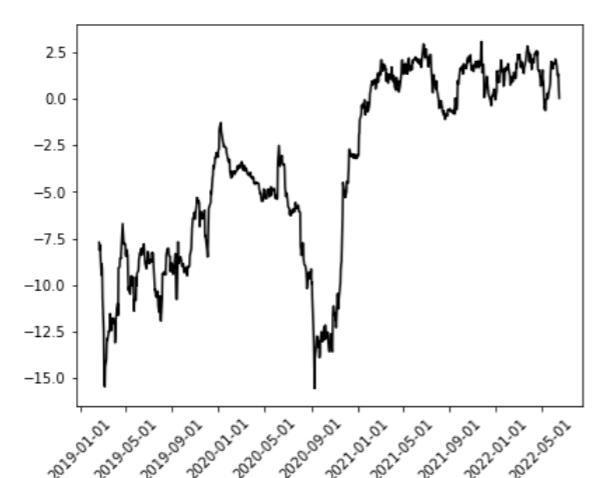
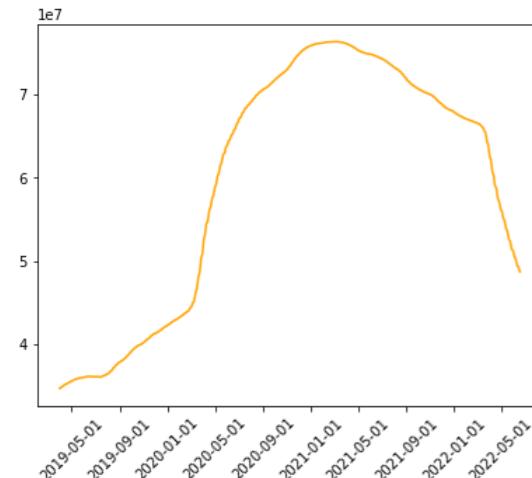
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	51.200001	48.705794	59.342064	69.978334	55.003573	5.257912	44.487749	65.519397

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
MTDR	0.702256	51.200001	48684538.476562	0.730363	0.889052	0.461003

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

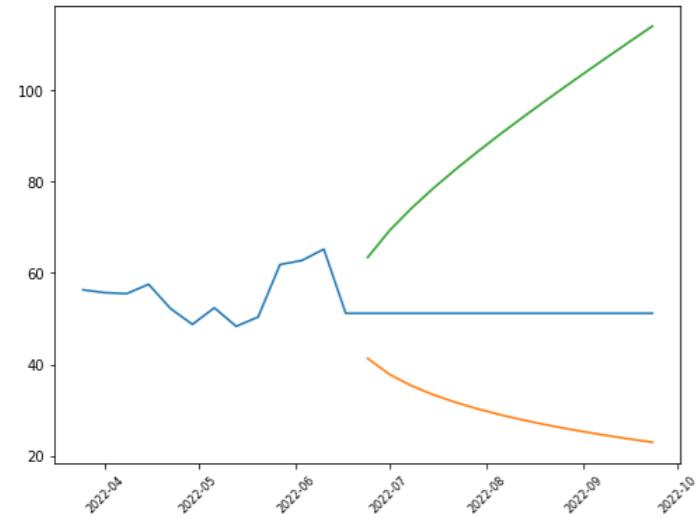
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, None]
best inner cv score, sdev (11 folds): 50.80379825693239 41.064777707204016
test cv mean error, stdev (10 folds): 55.70621239599544 39.882041781440286
sell date: 2022-06-24
expected return: 2.4217904656762308e-05
discounted return: 4.036276713748066e-06
quarter return: 1.0003714056622668

```



```

['options', ('2022-07-15', '2023-01-20')]
symbol: CIVI
sector: Energy
Index: SP600
vol_30d_2yr: 11280458.3984375
Sector 1YMF: -4.769992828369141
1YMF: -4.769992828369141
risk trend factor: -0.16120284517848887
    beta currentRatio debtToEquity dividendRate dividendYield      ebitda \
CIVI  1.69646      0.505     11.399      1.85      0.0308  910931008

```

```

      ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
CIVI      0.54408   4.123542   855249152     0.79951   731177000

```

```

      heldPercentInstitutions      industry      marketCap operatingCashflow \
CIVI      1.04414  Oil & Gas E&P  5104847872      764176000

```

```

      operatingMargins payoutRatio pegRatio priceToBook \
CIVI      0.26443     0.2792     0.33     1.100427

```

```

      priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
CIVI      3.049008     0.16167     0.477     0.06714

```

```

      returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
CIVI      0.09524      10.028      31.498   Energy      84967504

```

```

      shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
CIVI      6.11  154348992      1.817  528631008  1674264960

```

```

      trailingPE
CIVI  11.968128

```

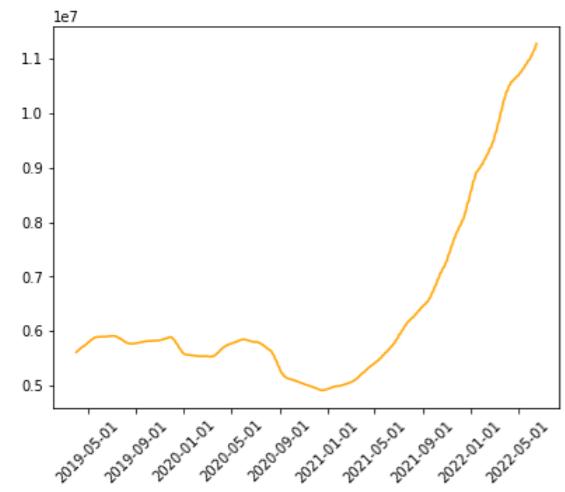
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	60.080002	60.574303	74.092381	87.610459	65.567778	7.658155	50.251469	80.884087

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>CIVI</b>	1.757641	60.080002	11280458.398438	0.651117	0.000393	0.470352

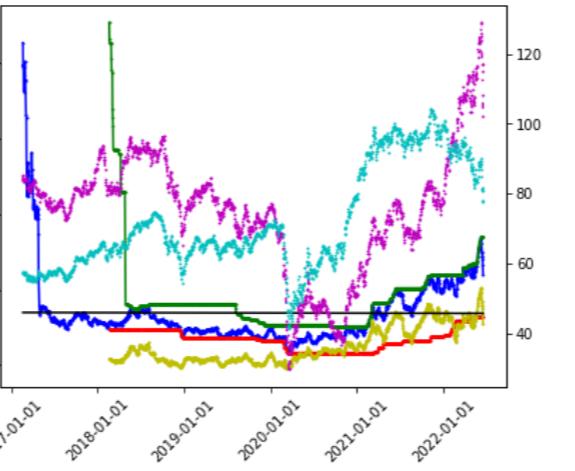
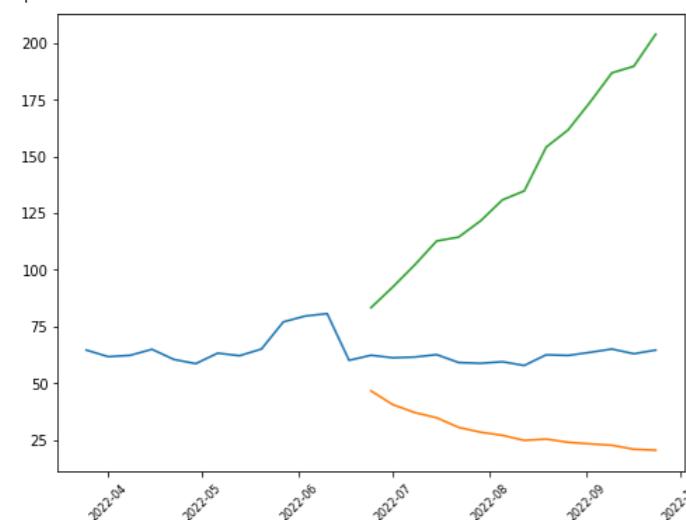
ADFuller H0 rejected @ .05, Mean Reverting TS  
Month Mean Reverting buy signal

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', False]  
best inner cv score, sdev (11 folds): 57.07527951568502 43.09794828343172  
test cv mean error, stdev (10 folds): 61.65999107957166 42.56713606078584  
sell date: 2022-09-09  
expected return: 0.08288132183729856  
discounted return: 0.0009598022339978307  
quarter return: 1.0922714821898638



```

['options', ('2022-07-15', '2022-12-16')]
symbol: AZO
sector: Consumer Cyclical
Index: SP500
vol_30d_2yr: 4250866.015625
Sector 1YMF: -99.27978515625
1YMF: -99.27978515625
risk trend factor: -0.18868743102283064
          beta currentRatio earningsGrowth      ebitda ebitdaMargins forwardPE \
AZO  0.901339        0.776        0.096  3682660096        0.23282  16.41704

          grossMargins grossProfits heldPercentInstitutions      industry \
AZO      0.52377    7717785000                    0.96976  Specialty Retail

          marketCap operatingMargins payoutRatio pegRatio \
AZO  40288190464        0.20572        0       1.97

          priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
AZO            2.547087        0.15207        0.033      0.14193

          revenueGrowth revenuePerShare      sector sharesOutstanding \
AZO        0.059        767.647  Consumer Cyclical      19576000

          shortRatio totalCash totalCashPerShare  totalDebt totalRevenue \
AZO        2.53  263044000           13.437  8716979200  15817359360

          trailingPE
AZO  18.16484

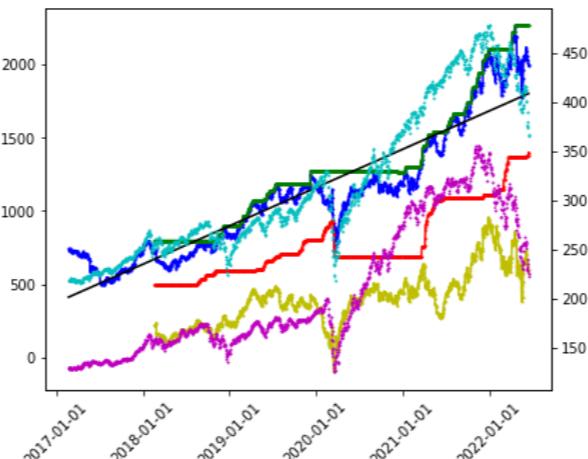
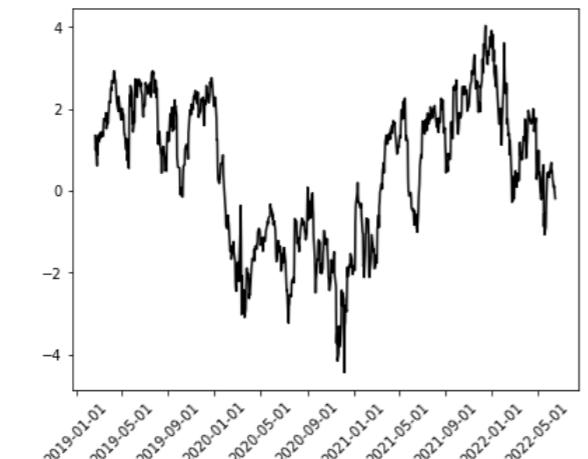
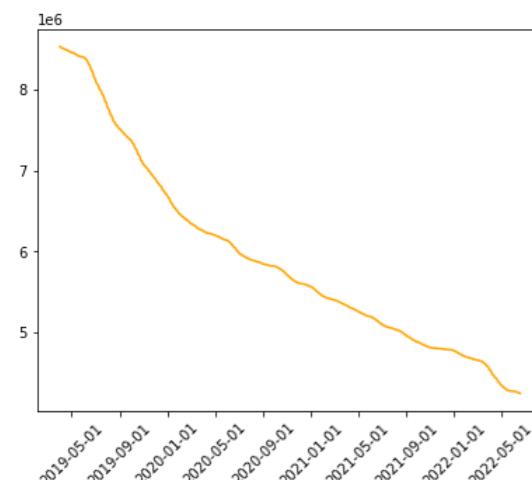
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	1992.550049	1816.773252	2002.902222	2189.031191	2042.225716	100.990553	1840.24461	2244.206822

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
AZO	1.078463	1992.550049	4250866.015625	0.768227	0.970995	0.404903

l axis		r axis
legend		legend
<b>blue</b>	symbol	<b>magenta</b> sector
<b>green</b>	trailing_1yr_max	<b>cyan</b> index
<b>red</b>	trailing_1yr_min	
<b>orange</b>	30d_vol_2yr	
<b>black</b>	risk_trend_factor/linear	

```
yellow      supply_trend_1yr
Sector 1YMF: -359.96002197265625
Sector Volume Factor: 1.2928194874233667
Sector Risk Trend Factor: -4.72140697901556
Index 1YMF: -287.8400573730469
Index Volume Factor: 1.1835166983613057
Index Risk Trend Factor: -3.791860877423899
```



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', None]
best inner cv score, sdev (11 folds): 63137.31188390248 88854.74003212538
test cv mean error, stdev (10 folds): 68455.14549345404 91507.58934823258
sell date: 2022-09-16
expected return: 0.07133760961127086
discounted return: 0.0007659372934596398
quarter return: 1.072979392980291
```



```

['options', ('2022-09-16', '2022-12-16')]
['sustainability', value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 7.17
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 57
governanceScore 4.12
environmentPercentile None
animalTesting False
tobacco False
totalEsg 11.34
highestControversy 2
esgPerformance UNDER_PERF
coal False
pesticides False
adult False
percentile 3.53
peerGroup Retailing
smallArms False
environmentScore 0.05
governancePercentile None
militaryContract False]
symbol: MUSA
sector: Consumer Cyclical
Index: SP400
vol_30d_2yr: 5753261.328125
Sector 1YMF: -10.839996337890625
1YMF: -10.839996337890625
risk trend factor: -0.23987606577725132
    beta currentRatio debtToEquity dividendRate dividendYield \
MUSA 0.820982 1.083 283.285 1.24 0.005

    earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
MUSA 2.025 950200000 0.05637 19.691177 451787488

    grossMargins grossProfits heldPercentInstitutions industry \
MUSA 0.07071 1064700000 0.86324 Specialty Retail

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
MUSA 6157129216 846800000 0.04334 0.0569 3.33

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
MUSA 7.779171 0.365287 0.02931 0.733

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
MUSA 0.11155 0.62846 0.501 658.653

    sector sharesOutstanding shortRatio totalCash \
MUSA Consumer Cyclical 24201600 4.6 356200000

    totalCashPerShare totalDebt totalRevenue trailingPE
MUSA 14.718 2242200064 16855600128 13.386478

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 219.949997 223.738215 240.378096 257.017977 230.259682 18.979918 192.299846 268.219518

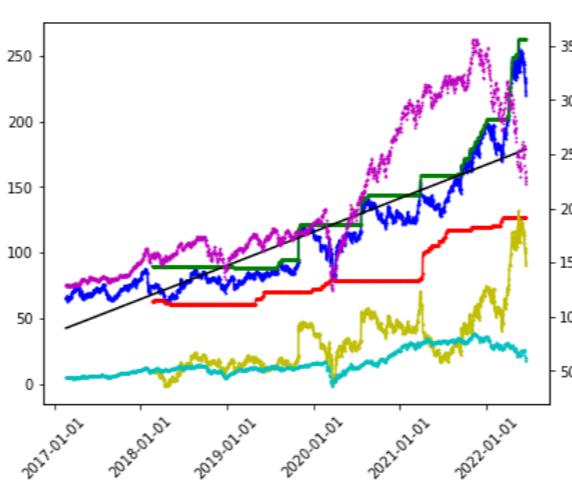
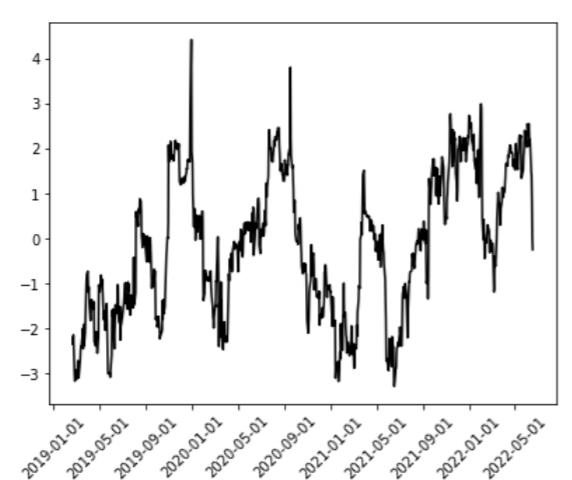
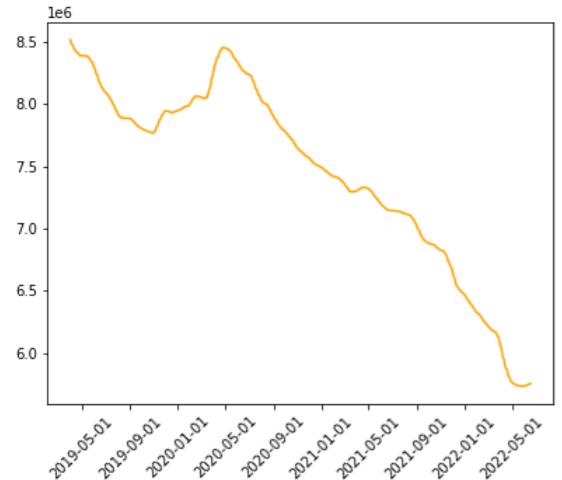
```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MUSA	1.334565	219.949997	5753261.328125	0.722226	0.983263	0.407464

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -359.96002197265625  
Sector Volume Factor: 1.2928194874233667  
Sector Risk Trend Factor: -4.72140697901556  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



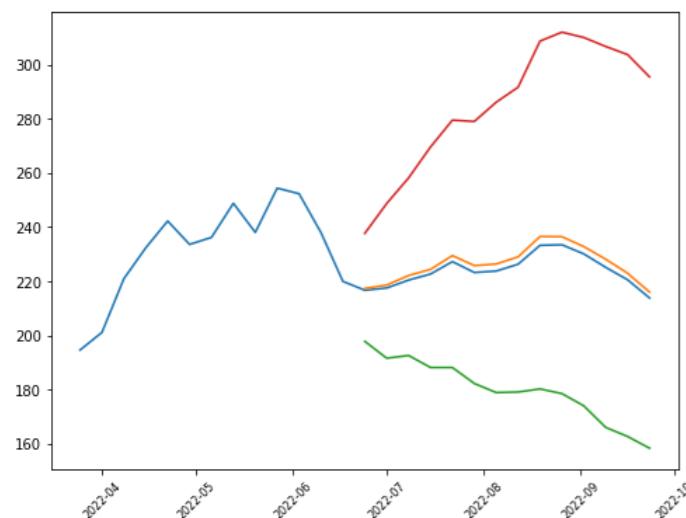
ets next 13 weeks

2022-06-17

2022-06-24

inner cv scores:

best model: ['mul', 'add', True]  
best inner cv score, sdev (11 folds): 715.3257830805561 661.0824765975951  
test cv mean error, stdev (10 folds): 648.0064679024345 656.4161816818842  
sell date: 2022-08-26  
expected return: 0.06149875115961356  
discounted return: 0.0008653281758577158  
quarter return: 1.0828275996323262



['options', ('2022-07-15', '2022-11-18')]

symbol: UFCS  
sector: error  
sector: error  
Index: SP600  
vol\_30d\_2yr: 1723938.8671875  
Sector 1YMF: -1.0800018310546875  
1YMF: -1.0800018310546875  
risk trend factor: -0.24161108190588027  
Empty DataFrame  
Columns: []  
Index: [UFCSS]

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	32.57	29.682972	31.6	33.517028	30.725873	0.016477	28.69292	32.758826

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
UFCSS	1.187165	32.57	1723938.867188	0.782015	0.585692	0.498098

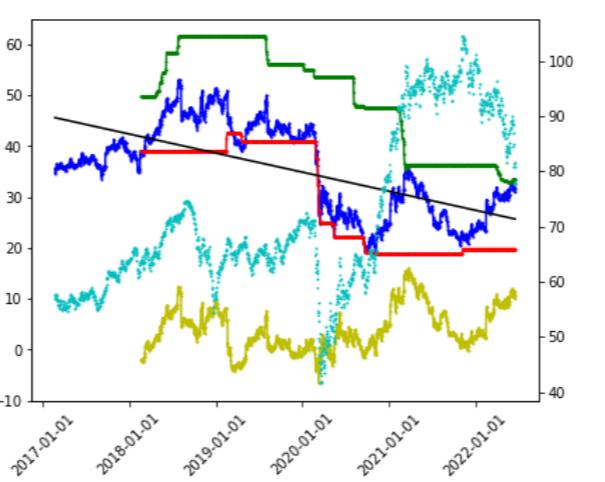
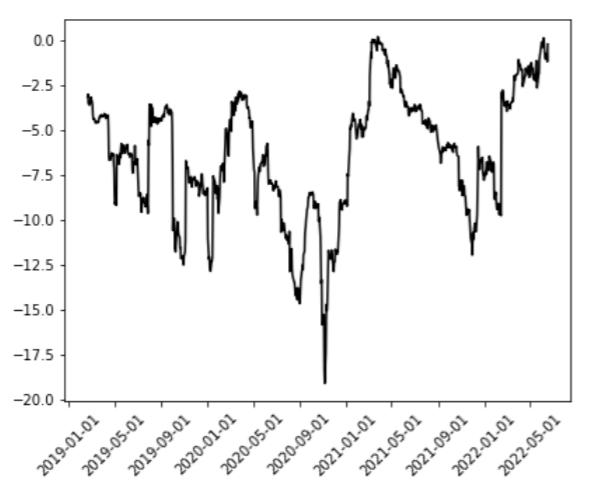
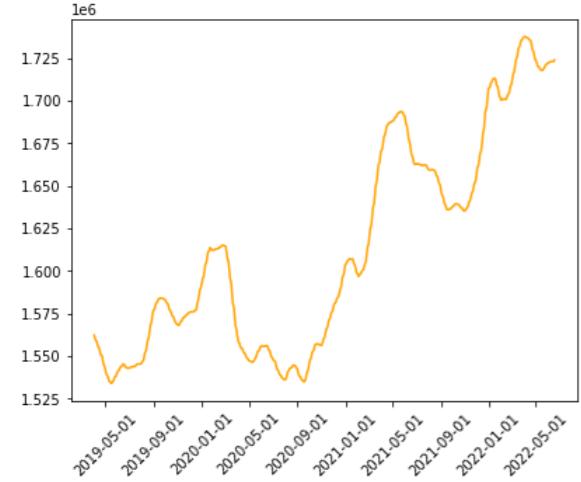
## AnalyzeSP1500

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Index 1YMF: -77.27001953125

Index Volume Factor: 1.232760496116622

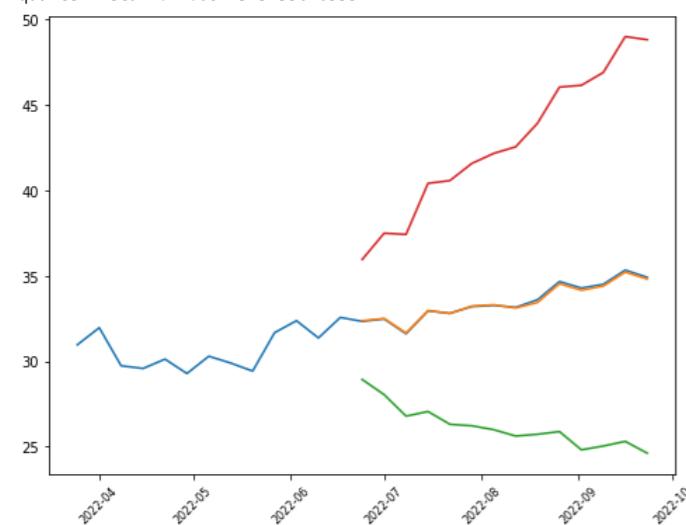
Index Risk Trend Factor: -5.242200185196592



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', False]
best inner cv score, sdev (11 folds): 13.34140757695232 9.2016866490542
test cv mean error, stdev (10 folds): 14.540631099273885 8.79345756381533
sell date: 2022-09-16
expected return: 0.08518140898826108
discounted return: 0.0009087145226485127
quarter return: 1.0871545453020353

```



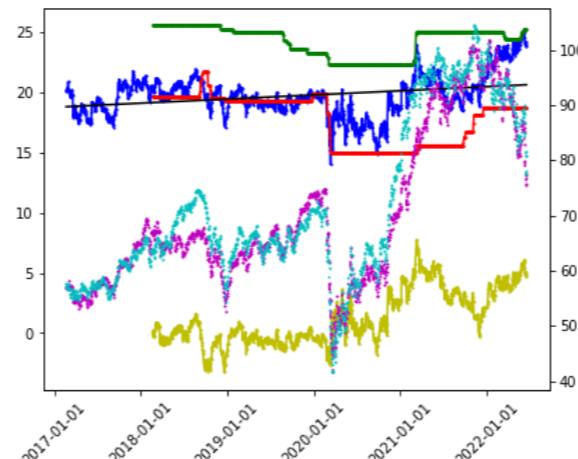
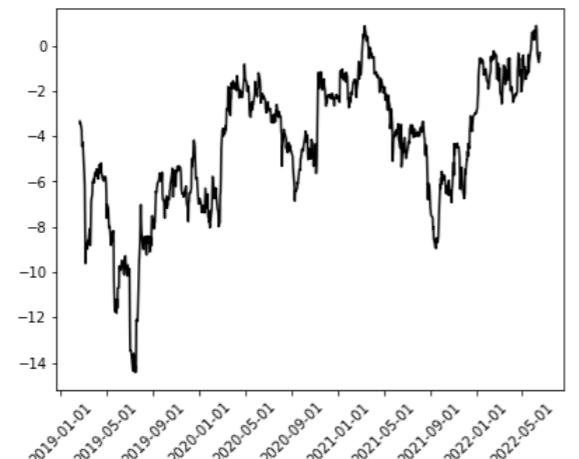
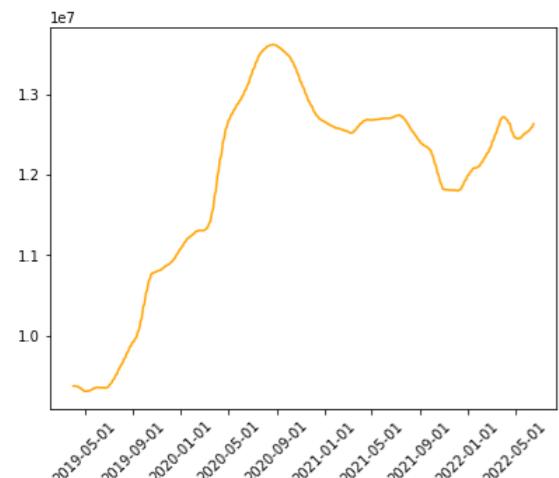
```
[ 'options', ('2022-08-19',) ]
symbol: CVBF
sector: Financial Services
Index: SP600
vol_30d_2yr: 12635628.7109375
Sector 1YMF: -0.7200050354003906
1YMF: -0.7200050354003906
risk trend factor: -0.30769443950852354
    beta dividendRate dividendYield earningsGrowth ebitdaMargins \
CVBF  0.377941      0.72      0.0305     -0.34      0
forwardPE grossMargins grossProfits heldPercentInstitutions \
CVBF  16.874126      0     483535000      0.72487
industry marketCap operatingMargins payoutRatio pegRatio \
CVBF  Banks-Regional 3270145792      0.60509      0.5143     1.53
priceToBook priceToSalesTrailing12Months profitMargins returnOnAssets \
CVBF  1.584373      6.935887     0.41187     0.01199
returnOnEquity revenueGrowth revenuePerShare          sector \
CVBF  0.09482      -0.091      3.428  Financial Services
sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
CVBF  135522000      3.87   1659897984      11.72  598908992
totalRevenue trailingPE
CVBF  471481984  15.272151
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSD	90d_lower	90d_upper
<b>2022-06-17</b>	24.129999	23.52193	24.381429	25.240927	23.704776	0.67123	22.362315	25.047236

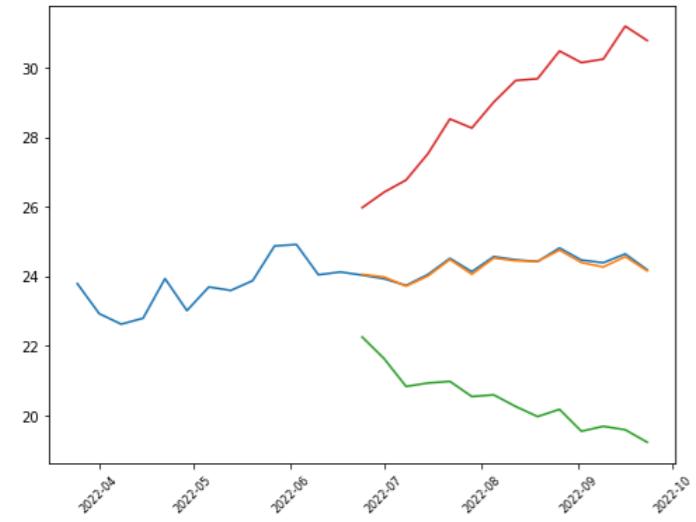
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
<b>CVBF</b>	1.598852	24.129999	12635628.710938	0.887047	0.445451	0.318304

l axis		r axis	
legend	legend	legend	legend
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -72.2699966430664  
Sector Volume Factor: 1.2707168073107045  
Sector Risk Trend Factor: -4.617890709055871  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', False]
best inner cv score, sdev (11 folds): 3.115250571845985 2.0162683413279776
test cv mean error, stdev (10 folds): 3.3206175302063086 2.001984259093406
sell date: 2022-08-26
expected return: 0.028650177231196176
discounted return: 0.0004094669280247931
quarter return: 1.0383814958869377
```



```
[{'quarterly_balance_sheet', 2022-03-31 2021-12-31 2021-09-30 \
Intangible Assets 2.731000e+07 2.539400e+07 2.728600e+07
Total Liab 1.546409e+10 1.380219e+10 1.413768e+10
Total Stockholder Equity 2.075043e+09 2.081503e+09 2.063920e+09
Total Assets 1.753914e+10 1.588370e+10 1.620160e+10
Common Stock 2.221305e+09 1.209903e+09 1.208569e+09
Other Liab 1.194280e+08 9.571600e+07 8.888300e+07
Good Will 7.658220e+08 6.637070e+08 6.637070e+08
Treasury Stock -1.462620e+08 -3.968000e+06 3.078000e+06
Other Assets 9.004589e+09 8.111415e+09 8.115782e+09
Cash 1.653039e+09 1.732548e+09 2.561363e+09
Total Current Liabilities 1.534467e+10 1.369213e+10 1.402944e+10
Other Stockholder Equity -1.462620e+08 -3.968000e+06 3.078000e+06
Property Plant Equipment 5.343500e+07 6.837000e+07 6.921500e+07
Total Current Assets 1.659898e+09 1.822471e+09 2.671922e+09
Long Term Investments 6.028083e+09 5.192340e+09 4.653686e+09
Net Tangible Assets 1.281911e+09 1.392402e+09 1.372927e+09
Short Term Investments 6.859000e+06 2.599900e+07 2.726000e+07
Accounts Payable 1.474576e+10 1.302678e+10 1.335197e+10
Other Current Assets NaN 3.420400e+07 3.025300e+07
Retained Earnings NaN 8.755680e+08 8.522730e+08
Deferred Long Term Asset Charges NaN 2.500100e+07 NaN
Net Receivables NaN 7.602000e+06 3.687000e+07

2021-06-30
Intangible Assets 2.930000e+07
Total Liab 1.348421e+10
Total Stockholder Equity 2.055074e+09
Total Assets 1.553929e+10
Common Stock 1.214882e+09
Other Liab 8.605700e+07
Good Will 6.637070e+08
Treasury Stock 1.325100e+07
Other Assets 8.337049e+09
Cash 2.331865e+09
Total Current Liabilities 1.337953e+10
Other Stockholder Equity 1.325100e+07
Property Plant Equipment 7.021800e+07
Total Current Assets 2.452381e+09
Long Term Investments 3.986633e+09
Net Tangible Assets 1.362067e+09
Short Term Investments 2.625800e+07
Accounts Payable 1.277949e+10
Other Current Assets 3.512400e+07
Retained Earnings 8.269410e+08
Deferred Long Term Asset Charges NaN
Net Receivables 4.071000e+07 ]
```

2022-03-31 2021-12-31 \

```
[{'quarterly_cashflow', 45560000.0 47696000.0
Net Income 45560000.0 47696000.0
Change To Liabilities 0.0 0.0
Investments NaN -862160000.0
Total Cashflows From Investing Activities NaN -894601000.0
Net Borrowings NaN -14910000.0
Total Cash From Financing Activities NaN 7124000.0
Change To Operating Activities NaN 2916000.0
Issuance Of Stock NaN 291000.0
Change In Cash NaN -828815000.0
Repurchase Of Stock NaN -91000.0
Total Cash From Operating Activities NaN 58662000.0
Depreciation NaN 717000.0
Other Cashflows From Investing Activities NaN 1293000.0
Dividends Paid NaN -24392000.0
Other Cashflows From Financing Activities NaN 46226000.0
Change To Netincome NaN 7333000.0
Capital Expenditures NaN -2399000.0

2021-09-30 2021-06-30
Net Income 49753000.0 51179000.0
Change To Liabilities 0.0 0.0
Investments -378753000.0 -38963000.0
Total Cashflows From Investing Activities -146757000.0 175741000.0
Net Borrowings 81372000.0 41087000.0
Total Cash From Financing Activities 3103740000.0 607064000.0
Change To Operating Activities 15390000.0 -29432000.0
Issuance Of Stock 22000.0 73000.0
Change In Cash 229498000.0 806566000.0
Repurchase Of Stock -7712000.0 -32000.0
Total Cash From Operating Activities 65881000.0 23761000.0
Depreciation -2305000.0 -1312000.0
Other Cashflows From Investing Activities 1293000.0 -18941000.0
Dividends Paid -24467000.0 -24466000.0
Other Cashflows From Financing Activities 261159000.0 590402000.0
Change To Netincome 3043000.0 3326000.0
Capital Expenditures 21000.0 -1637000.0 ]
['quarterly_earnings', Revenue Earnings
Quarter
```

```

2Q2021 121724000 51179000
3Q2021 117782000 49753000
4Q2021 110880000 47696000
1Q2022 121096000 45560000]
['quarterly_financials',
Research Development      None    None    None
Effect Of Accounting Charges None    None    None
Income Before Tax          63366000.0 66800000.0 69683000.0
Minority Interest           None    None    None
Net Income                  45560000.0 47696000.0 49753000.0
Selling General Administrative 45525000.0 40640000.0 40366000.0
Gross Profit                121096000.0 110880000.0 117782000.0
Ebit                         0.0     0.0     0.0
Operating Income             70494000.0 64945000.0 72506000.0
Other Operating Expenses     5077000.0 5295000.0 4910000.0
Interest Expense              None    None    None
Extraordinary Items           None    None    None
Non Recurring                 None    None    None
Other Items                   None    None    None
Income Tax Expense            17806000.0 19104000.0 19930000.0
Total Revenue                 121096000.0 110880000.0 117782000.0
Total Operating Expenses      50602000.0 45935000.0 45276000.0
Cost Of Revenue                 0.0     0.0     0.0
Total Other Income Expense Net -7128000.0 1855000.0 -2823000.0
Discontinued Operations        None    None    None
Net Income From Continuing Ops 45560000.0 47696000.0 49753000.0
Net Income Applicable To Common Shares 45560000.0 47499000.0 49526000.0

```

2021-06-30

```

Research Development      None
Effect Of Accounting Charges None
Income Before Tax          71679000.0
Minority Interest           None
Net Income                  51179000.0
Selling General Administrative 40489000.0
Gross Profit                121724000.0
Ebit                         0.0
Operating Income             77346000.0
Other Operating Expenses     3889000.0
Interest Expense              None
Extraordinary Items           None
Non Recurring                 None
Other Items                   None
Income Tax Expense            20500000.0
Total Revenue                 121724000.0
Total Operating Expenses      44378000.0
Cost Of Revenue                 0.0
Total Other Income Expense Net -5667000.0
Discontinued Operations        None
Net Income From Continuing Ops 51179000.0
Net Income Applicable To Common Shares 50942000.0 ]

```

Holder Shares Date Reported \

```

0          iShares Core S&P Smallcap ETF 8960862 2022-01-30
1          Neuberger & Berman Genesis Fund 3665105 2022-02-27
2          Vanguard Total Stock Market Index Fund 3663017 2021-12-30
3          Vanguard Small-Cap Index Fund 3240182 2021-12-30
4          iShares Russell 2000 ETF 3000907 2022-01-30
5          iShares S&P Smallcap 600 Value ETF 2118512 2022-01-30
6          Vanguard Small Cap Value Index Fund 2055670 2021-12-30
7          Allspring Special Small Cap Value Fund 1855074 2022-02-27
8          Vanguard Extended Market Index Fund 1718314 2021-12-30
9          Advisors Inner Circle Fund II-Champlain Small ... 1500000 2021-12-30

```

% Out	Value
0 0.0635	197407789
1 0.0260	86423175
2 0.0260	78425193
3 0.0230	69372296
4 0.0213	66109981
5 0.0150	46670819
6 0.0146	44011894
7 0.0132	43742644
8 0.0122	36789102
9 0.0106	32115000 ]

symbol: EOG  
sector: Energy  
Index: SP500  
vol\_30d\_2yr: 97142371.875  
Sector 1YMF: -13.280006408691406

1YMF: -13.280006408691406  
risk trend factor: -0.3089810463346336

beta currentRatio debtToEquity dividendRate dividendYield \
EOG 1.658348 1.354 24.707 3 0.0269

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
EOG -0.422 9639999488 0.42867 7.303466 3687624960

```

grossMargins grossProfits heldPercentInstitutions      industry \
EOG      0.67685 13034000000          0.89124 Oil & Gas E&P

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
EOG 65406570496    7749000192        0.25347     0.265     0.57

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
EOG      3.036243       2.90851      0.19464     1.153

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
EOG      0.09594      0.20694      0.667      38.672 Energy

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
EOG      585713024      1.67 4008999936       6.845 5321999872

totalRevenue trailingPE
EOG 22488000512 14.899266

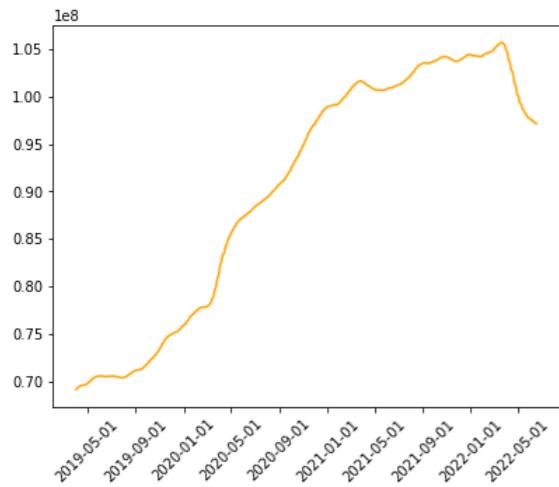
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	111.669998	116.00035	133.675556	151.350762	125.214127	8.653608	107.906911	142.521343

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>EOG</b>	0.966433	111.669998	97142371.875	0.688961	0.584303 0.478009

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



ets next 13 weeks

2022-06-17

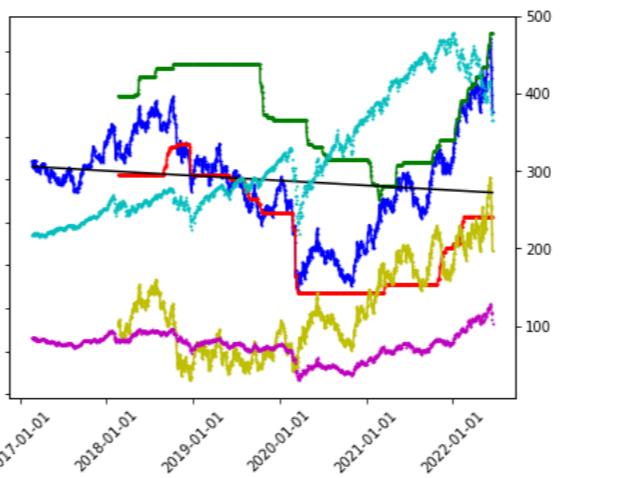
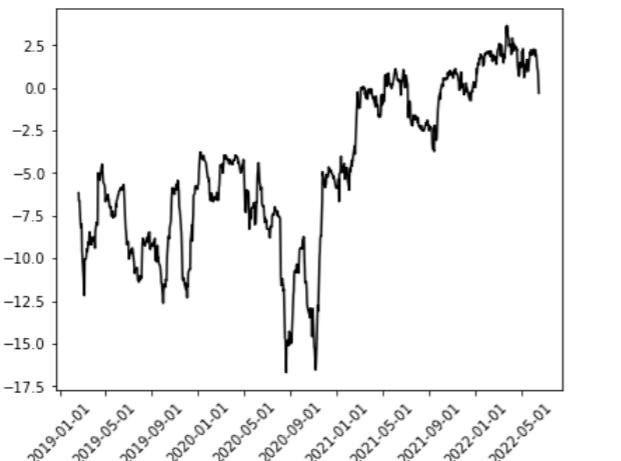
2022-06-24

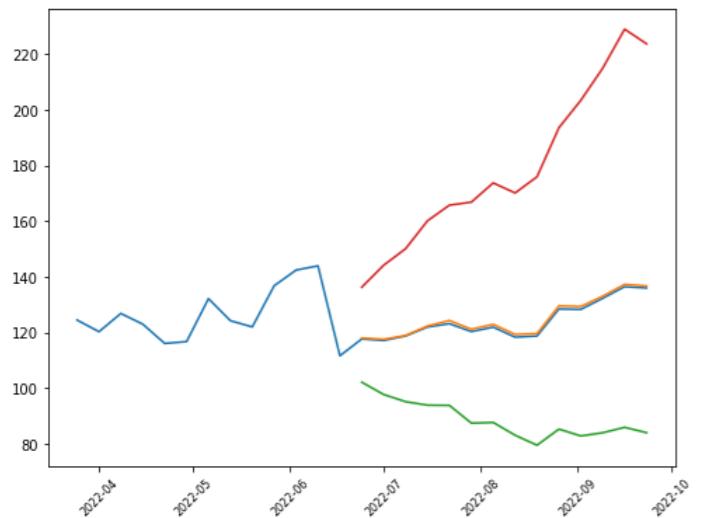
inner cv scores:

```

best model: ['mul', 'add', False]
best inner cv score, sdev (11 folds): 263.50765728004404 194.33682292950965
test cv mean error, stdev (10 folds): 286.67242832517366 188.78777840262532
sell date: 2022-09-16
expected return: 0.22256139976037265
discounted return: 0.0022352518573900415
quarter return: 1.2280329733852624

```





```
['options', ('2022-07-15', '2023-01-20', '2024-01-19', '2026-03-20')]
['sustainability', Value]
```

```
2022-5
```

```
palmOil False
controversialWeapons False
gambling False
socialScore 8.13
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 66
governanceScore 7.73
environmentPercentile None
animalTesting False
tobacco False
totalEsg 36.25
highestControversy 1
esgPerformance OUT_PERF
coal False
pesticides False
adult False
percentile 81.37
peerGroup Oil & Gas Producers
smallArms False
environmentScore 20.39
governancePercentile None
militaryContract False]
```

```
symbol: CYTK
```

```
sector: Healthcare
```

```
Index: SP600
```

```
vol_30d_2yr: 23676993.75
```

```
Sector 1YMF: -4.1999969482421875
```

```
1YMF: -4.1999969482421875
```

```
risk trend factor: -0.3733330620659722
```

```
    beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
CYTK  1.22366   9.328   279.088  -220479008     0 -9.596244
```

```
    freeCashflow grossMargins grossProfits heldPercentInstitutions \
CYTK  -149753248   -1.68057   -89510000     1.14096
```

```
    industry marketCap operatingCashflow operatingMargins \
CYTK  Biotechnology 3501462016   -139814000     -3.43789
```

```
    payoutRatio pegRatio priceToBook priceToSalesTrailing12Months \
CYTK  0   -0.6   30.080944     53.84545
```

```
    profitMargins quickRatio returnOnAssets returnOnEquity revenueGrowth \
CYTK  0   9.201   -0.19497   -2.79897     -0.825
```

```
    revenuePerShare sector sharesOutstanding shortRatio totalCash \
CYTK  0.809  Healthcare 85652200     9.63  608974016
```

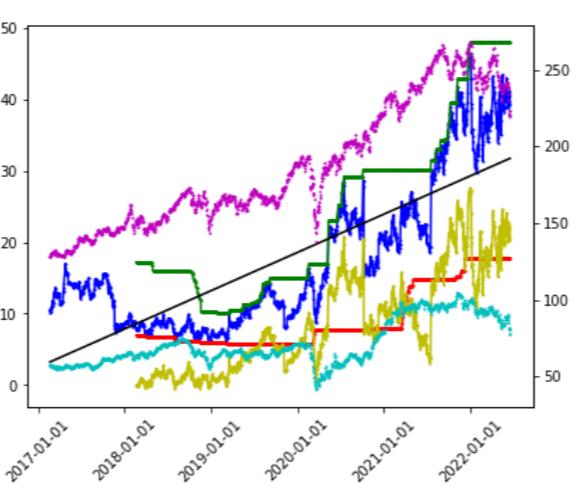
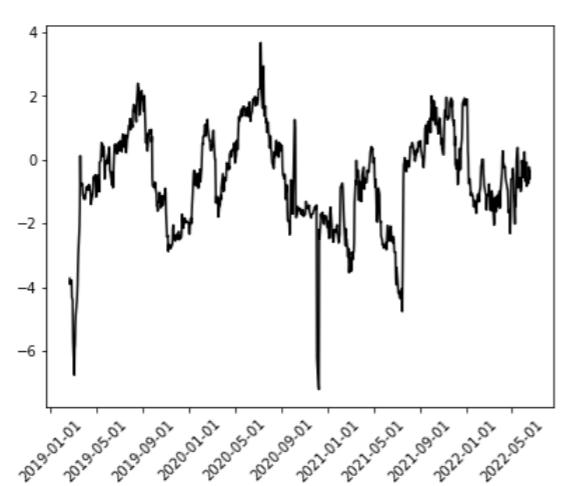
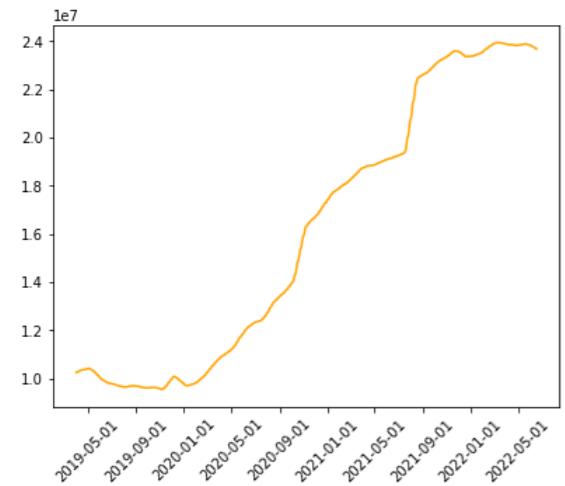
```
    totalCashPerShare totalDebt totalRevenue
CYTK  7.11  324471008  65028000
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	40.580002	37.816359	39.913492	42.010626	39.092064	2.21228	34.667503	43.516624

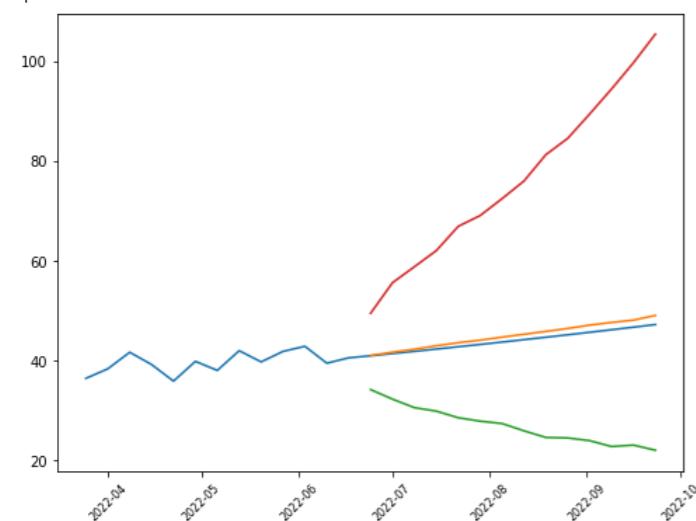
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
CYTK	0.618546	40.580002	23676993.75	0.779452	0.984005	0.353422

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -122.20997619628906  
Sector Volume Factor: 1.2238851152317325  
Sector Risk Trend Factor: -3.3236323632363236  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: [None, 'mul', False]  
best inner cv score, sdev (11 folds): 24.198114077612242 21.543997143388985  
test cv mean error, stdev (10 folds): 25.43219886436263 22.221736587069383  
sell date: 2022-09-23  
expected return: 0.1641286618363941  
discounted return: 0.0015679586588457362  
quarter return: 1.1550449072443965



```
[ 'options', ('2022-08-19', '2023-01-20', '2024-01-19') ]
symbol: ULTA
sector: Consumer Cyclical
Index: SP500
vol_30d_2yr: 17968125.78125
Sector 1YMF: -40.080047607421875
1YMF: -40.080047607421875
risk trend factor: -0.40616171652986643
    beta currentRatio debtToEquity earningsGrowth ebitda \
ULTA 1.65196     1.464     120.281      0.789 1561005056

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
ULTA 0.18086 22.113407 763609024 0.43536 3757531000

    heldPercentInstitutions industry marketCap operatingCashflow \
ULTA 0.92322 Specialty Retail 21422397440 1059265024

    operatingMargins payoutRatio pegRatio priceToBook \
ULTA 0.14987     0     0.46 10.792322

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
ULTA 2.482061 0.11422 0.427 0.16407

    returnOnEquity revenueGrowth revenuePerShare sector \
ULTA 0.55777 0.241 158.417 Consumer Cyclical

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
ULTA 54120200 1.74 431560000 8.247 1846755968

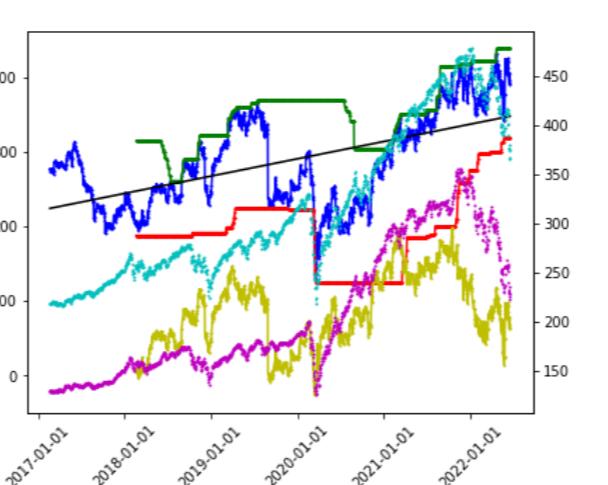
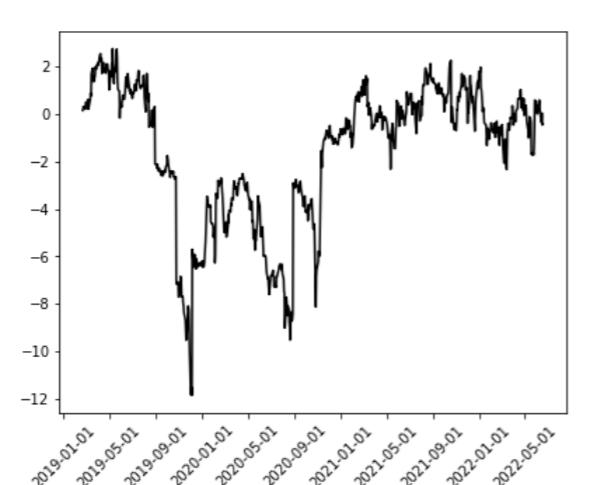
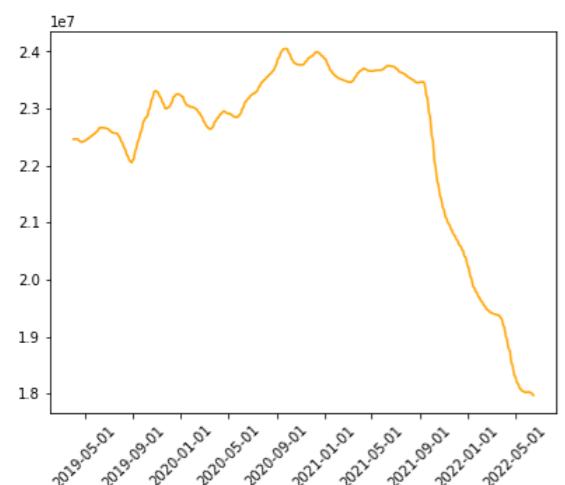
    totalRevenue trailingPE
ULTA 8630889472 25.36884
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	395.829987	334.79461	392.247617	449.700624	397.276032	20.780001	355.716031	438.836034

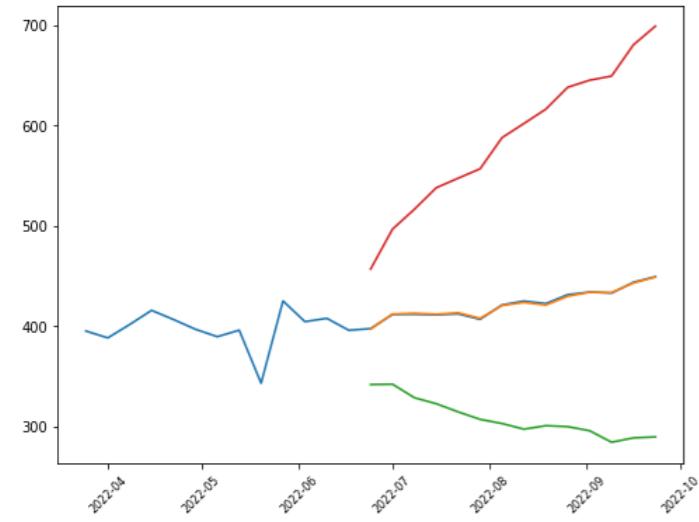
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
ULTA	1.308411	395.829987	17968125.78125	0.830576	0.517356	0.398236

l axis	r axis
<b>legend</b>	<b>legend</b>
blue symbol	magenta sector
green trailing_1yr_max	cyan index
red trailing_1yr_min	
orange 30d_vol_2yr	
black risk_trend_factor/linear	
yellow supply_trend_1yr	

Sector 1YMF: -359.96002197265625  
Sector Volume Factor: 1.2928194874233667  
Sector Risk Trend Factor: -4.72140697901556  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', None]
best inner cv score, sdev (11 folds): 2384.3378017500263 3651.6916988205103
test cv mean error, stdev (10 folds): 2511.063421259521 3806.79780264185
sell date: 2022-09-23
expected return: 0.13502035319233277
discounted return: 0.0013065288806024533
quarter return: 1.1276346429644923
```



```
[ 'quarterly_balance_sheet', 2022-01-29 2021-10-30 2021-07-31 \
Intangible Assets 1.538000e+06 1.770000e+06 2.001000e+06
Capital Surplus 9.349450e+08 9.158140e+08 8.892060e+08
Total Liab 3.229006e+09 3.300967e+09 3.074772e+09
Total Stockholder Equity 1.535373e+09 1.986800e+09 1.879813e+09
Deferred Long Term Liab 2.259600e+07 NaN NaN
Other Current Liab 3.663650e+08 2.726280e+08 3.093070e+08
Total Assets 4.764379e+09 5.287767e+09 4.954585e+09
Common Stock 5.300000e+05 5.490000e+05 5.510000e+05
Other Current Assets 5.909000e+06 3.750100e+07 1.854400e+07
Retained Earnings 6.533760e+08 1.123749e+09 1.034831e+09
Other Liab 9.835800e+07 1.109300e+08 1.077000e+08
Good Will 1.087000e+07 1.087000e+07 1.087000e+07
Treasury Stock -5.347800e+07 -5.331200e+07 -4.477500e+07
Other Assets 7.138500e+07 6.542100e+07 6.396100e+07
Cash 4.315600e+08 6.050530e+08 7.701440e+08
Total Current Liabilities 1.558010e+09 1.624116e+09 1.381533e+09
Property Plant Equipment 2.396732e+09 2.373198e+09 2.379673e+09
Total Current Assets 2.281183e+09 2.833693e+09 2.494934e+09
Long Term Investments 2.671000e+06 2.815000e+06 3.146000e+06
Net Tangible Assets 1.522965e+09 1.974160e+09 1.866942e+09
Net Receivables 2.336820e+08 1.692120e+08 1.544160e+08
Inventory 1.499218e+09 1.916343e+09 1.443685e+09
Accounts Payable 5.527300e+08 7.474510e+08 5.352570e+08

2021-05-01
Intangible Assets 2.233000e+06
Capital Surplus 8.613120e+08
Total Liab 3.242827e+09
Total Stockholder Equity 1.844717e+09
Deferred Long Term Liab NaN
Other Current Liab 4.278950e+08
Total Assets 5.087544e+09
Common Stock 5.580000e+05
Other Current Assets NaN
Retained Earnings 1.027414e+09
Other Liab 1.067550e+08
Good Will 1.087000e+07
Treasury Stock -4.456700e+07
Other Assets 5.938200e+07
Cash 9.474560e+08
Total Current Liabilities 1.522763e+09
Property Plant Equipment 2.448056e+09
Total Current Assets 2.563756e+09
Long Term Investments 3.247000e+06
Net Tangible Assets 1.831614e+09
Net Receivables 1.543420e+08
Inventory 1.353565e+09
Accounts Payable 5.528370e+08 ]
['quarterly_cashflow', 2022-01-29 2021-10-30 \
Investments -4297000.0 -4297000.0
Change To Liabilities -118997000.0 213910000.0
Total Cashflows From Investing Activities -68066000.0 -51113000.0
Total Cash From Financing Activities -749835000.0 -127422000.0
Change To Operating Activities -40398000.0 -66587000.0
Issuance Of Stock 10089000.0 7489000.0
Net Income 289366000.0 215289000.0
Change In Cash -173493000.0 -165091000.0
Repurchase Of Stock -759924000.0 -134911000.0
Total Cash From Operating Activities 644408000.0 13444000.0
Depreciation 62800000.0 65157000.0
Change To Inventory 417125000.0 -472658000.0
Change To Account Receivables -64470000.0 -14796000.0
Change To Netincome 53681000.0 92002000.0
Capital Expenditures -63769000.0 -51113000.0
Effect Of Exchange Rate NaN NaN

2021-07-31 2021-05-01
Investments -4297000.0 -4297000.0
Change To Liabilities -21848000.0 72287000.0
Total Cashflows From Investing Activities -22742000.0 -34563000.0
Total Cash From Financing Activities -225916000.0 -394043000.0
Change To Operating Activities -81403000.0 -48028000.0
Issuance Of Stock 17776000.0 5032000.0
Net Income 250893000.0 230289000.0
Change In Cash -177312000.0 -98595000.0
Repurchase Of Stock -243692000.0 -399075000.0
Total Cash From Operating Activities 71346000.0 330067000.0
Depreciation 68978000.0 70599000.0
Change To Inventory -90120000.0 -185350000.0
Change To Account Receivables -74000.0 38767000.0
Change To Netincome 77425000.0 80072000.0
Capital Expenditures -22742000.0 -34563000.0
Effect Of Exchange Rate NaN -56000.0 ]
['quarterly_earnings', Revenue Earnings
Quarter
```

```

2Q2021 1938519000 230289000
3Q2021 1967207000 250893000
4Q2021 1995775000 215289000
1Q2022 2729388000 289366000]
['quarterly_financials',
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 375155000.0 283826000.0
Minority Interest None None
Net Income 289366000.0 215289000.0
Selling General Administrative 1038945000.0 504037000.0
Gross Profit 1416306000.0 789474000.0
Ebit 375622000.0 283605000.0
Operating Income 375622000.0 283605000.0
Other Operating Expenses None None
Interest Expense -467000.0 -413000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 85789000.0 68537000.0
Total Revenue 2729388000.0 1995775000.0
Total Operating Expenses 2353766000.0 1712170000.0
Cost Of Revenue 1313082000.0 1206301000.0
Total Other Income Expense Net -467000.0 221000.0
Discontinued Operations None None
Net Income From Continuing Ops 289366000.0 215289000.0
Net Income Applicable To Common Shares 289366000.0 215289000.0

2021-07-31 2021-05-01
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 331882000.0 304966000.0
Minority Interest None None
Net Income 250893000.0 230289000.0
Selling General Administrative 465347000.0 446214000.0
Gross Profit 797963000.0 753788000.0
Ebit 331259000.0 302985000.0
Operating Income 331259000.0 302985000.0
Other Operating Expenses None None
Interest Expense -425000.0 -358000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 80989000.0 74677000.0
Total Revenue 1967207000.0 1938519000.0
Total Operating Expenses 1635948000.0 1635534000.0
Cost Of Revenue 1169244000.0 1184731000.0
Total Other Income Expense Net 623000.0 1981000.0
Discontinued Operations None None
Net Income From Continuing Ops 250893000.0 230289000.0
Net Income Applicable To Common Shares 250893000.0 230289000.0 ]
['mutualfund_holders',
Holder Shares Date Reported % Out \
0 Vanguard Total Stock Market Index Fund 1544846 2021-12-30 0.0296
1 Vanguard Mid-Cap Index Fund 1229135 2021-12-30 0.0235
2 Vanguard 500 Index Fund 1151274 2021-12-30 0.0220
3 SPDR S&P 500 ETF Trust 580910 2022-01-30 0.0111
4 Legg Mason Clearbridge Large Cap Growth Fd 569422 2022-02-27 0.0109
5 Fidelity 500 Index Fund 556669 2022-02-27 0.0107
6 Eaton Vance Atlanta Capital SMID-Cap Fd 537510 2021-12-30 0.0103
7 MFS Mid Cap Growth Fund 463397 2022-02-27 0.0089
8 iShares Core S&P 500 ETF 447715 2022-01-30 0.0086
9 Vanguard Growth Index Fund 431505 2021-12-30 0.0083

Value
0 637001799
1 506821525
2 474716321
3 211300203
4 213248539
5 208472540
6 221636873
7 173542176
8 162851854
9 177926771 ]
['options', ('2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 7.23
nuclear False
furLeather False
alcoholic False
gmo False
catholic False

```

```

socialPercentile          0
peerCount                 57
governanceScore           5.01
environmentPercentile     0
animalTesting              False
tobacco                   False
totalEsg                  16.07
highestControversy         2
esgPerformance            LAG_PERF
coal                       False
pesticides                False
adult                      False
percentile                12.44
peerGroup                 Retailing
smallArms                 False
environmentScore           3.83
governancePercentile      0
militaryContract           False]
symbol: EQT
sector: Energy
Index: SP400
vol_30d_2yr: 138427084.1796875
Sector 1YMF: -6.420003890991211
1YMF: -6.420003890991211
risk trend factor: -0.4065866699651676
    beta currentRatio debtToEquity dividendRate dividendYield \
EQT  0.947822      0.398      61.543      0.5      0.013

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
EQT  -1089323008     -0.13465   5.732057   2408109568     0.734

    grossProfits heldPercentInstitutions industry marketCap \
EQT  4672261000      0.96148 Oil & Gas E&P 13281123328

    operatingCashflow operatingMargins pegRatio priceToBook \
EQT  2283751936      -0.3565     0.23     1.619867

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
EQT  1.641695      -0.32564     0.162     -0.09046

    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
EQT  -0.3018       1.206      23.313 Energy      369536000

    shortRatio totalCash totalCashPerShare totalDebt totalRevenue
EQT  2.55 16913000      0.046 5050277888 8089885184

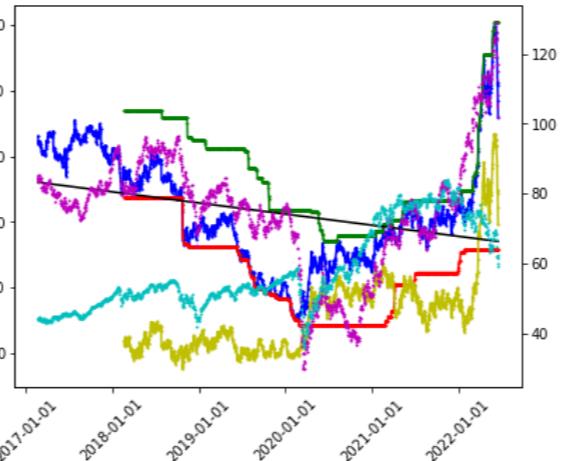
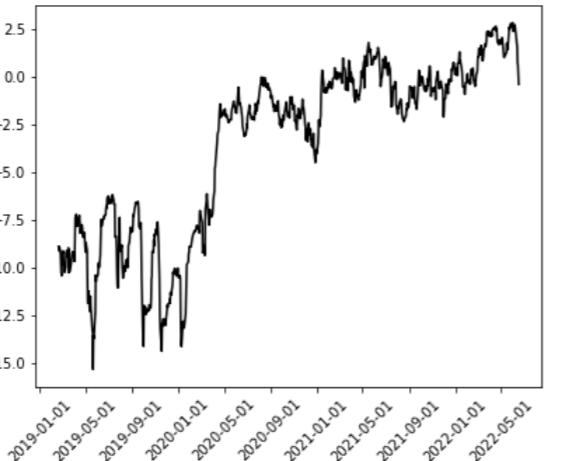
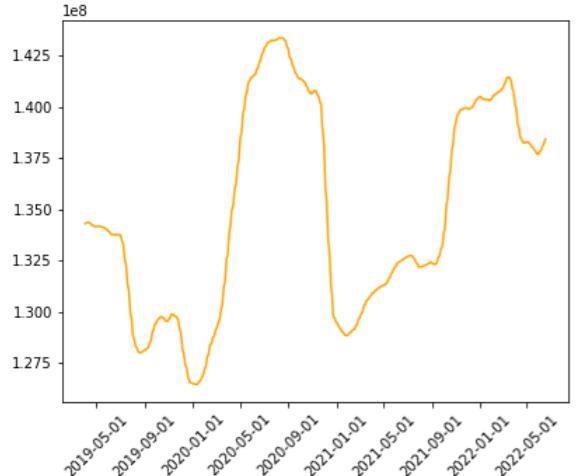
```

	Adj	Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	35.939999	37.757538	45.406984	53.05643	40.584762	5.367299	29.850164	51.31936	

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>EQT</b>	1.286201	35.939999	138427084.179688	0.637252	0.584446	0.494719

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

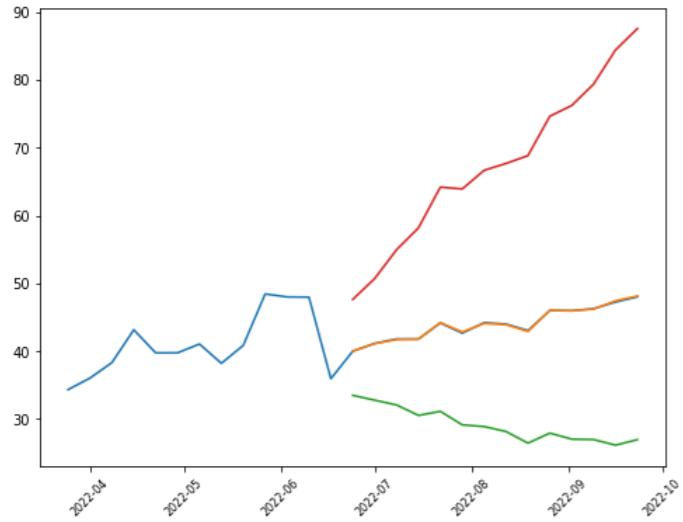
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', False]
best inner cv score, sdev (11 folds): 30.031748475549897 49.88330860000595
test cv mean error, stdev (10 folds): 32.88875319441041 51.45281031290238
sell date: 2022-09-23
expected return: 0.33571990522681505
discounted return: 0.002988688191711386
quarter return: 1.3159373779794563

```



```
[options, ('2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 10.21
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 66
governanceScore 7.64
environmentPercentile None
animalTesting False
tobacco False
totalEsg 37.38
highestControversy 1
esgPerformance OUT_PERF
coal False
pesticides False
adult False
percentile 83.58
peerGroup Oil & Gas Producers
smallArms False
environmentScore 19.53
governancePercentile None
militaryContract False]
symbol: PTEN
sector: Energy
Index: SP600
vol_30d_2yr: 69871969.140625
Sector 1YMF: -2.760000228881836
1YMF: -2.760000228881836
risk trend factor: -0.41071430345376264
    beta currentRatio debtToEquity dividendRate dividendYield \
PTEN 2.397321 1.345 55.638 0.16 0.0084

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
PTEN 246764992 0.15181 26.236109 25499124 0.21108

    grossProfits heldPercentInstitutions industry marketCap \
PTEN 275133000 0.97507 Oil & Gas Drilling 4085963776

    operatingCashflow operatingMargins pegRatio priceToBook \
PTEN 120548000 -0.18632 3.89 2.579192

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PTEN 2.513624 -0.3549 1.075 -0.06246

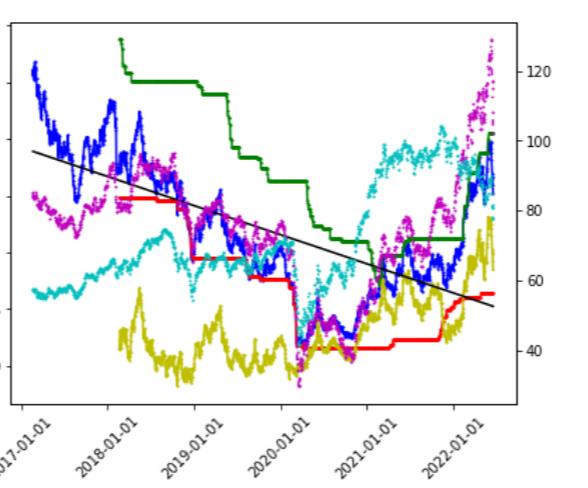
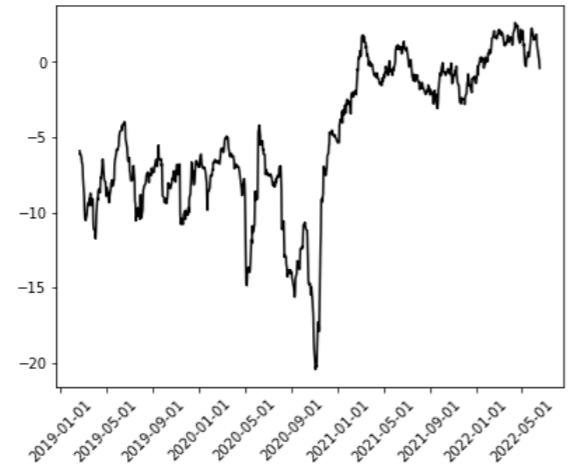
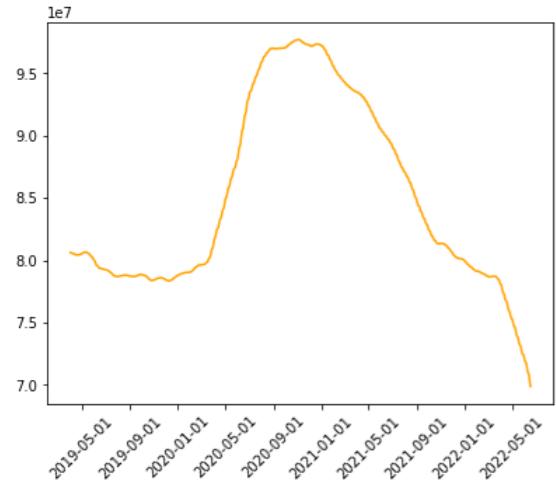
    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
PTEN -0.33217 1.114 8.05 Energy 216303008

    shortRatio totalCash totalCashPerShare totalDebt totalRevenue
PTEN 2.76 48264000 0.223 877241984 1625527040
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 15.24 15.042063 17.914127 20.786191 16.707143 1.496207 13.714728 19.699558
```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
PTEN	1.071603	15.24	69871969.140625	0.70854	0.193969	0.465514

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

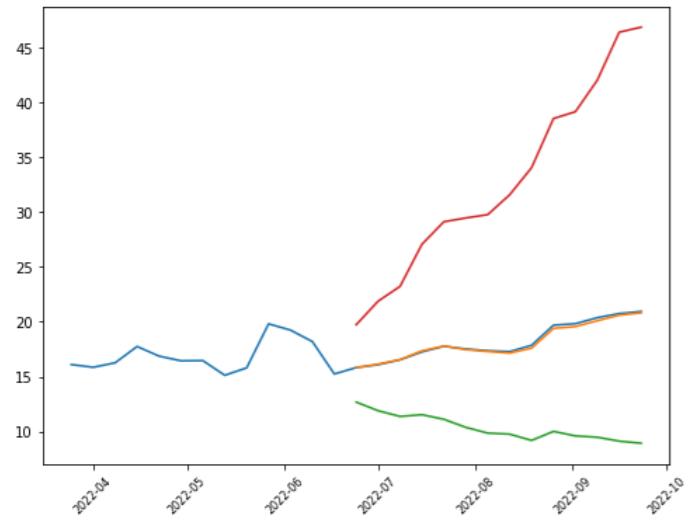
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', False]
best inner cv score, sdev (11 folds): 5.190537105976883 4.645520582620731
test cv mean error, stdev (10 folds): 5.602469605227471 4.676791144425836
sell date: 2022-09-23
expected return: 0.3739947243693804
discounted return: 0.0032808584606571767
quarter return: 1.351675471914011

```



```

['options', ('2022-08-19', '2023-01-20')]
symbol: LPI
sector: Energy
Index: SP600
vol_30d_2yr: 14333690.68359375
Sector 1YMF: -29.169998168945312
1YMF: -29.169998168945312
risk trend factor: -0.4368728166685758
    beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
LPI  3.87549       0.448     280.154   404096000      0.28987  3.592152

```

```

        freeCashflow grossMargins grossProfits heldPercentInstitutions \
LPI  -657876864      0.65925    919042000      0.65067

```

```

        industry marketCap operatingCashflow operatingMargins payoutRatio \
LPI  Oil & Gas E&P 1390741760      496671008      0.13235      0

```

```

        pegRatio priceToBook priceToSalesTrailing12Months profitMargins \
LPI  -0.22      5.735708      0.997609      0.10402

```

```

        quickRatio returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
LPI  0.396      0.05774      0.58906      1.5      97.899

```

```

        sector sharesOutstanding shortRatio totalCash totalCashPerShare \
LPI  Energy 17070600      1.76  56798000      3.35

```

```

        totalDebt totalRevenue
LPI  1439378048  1394075008

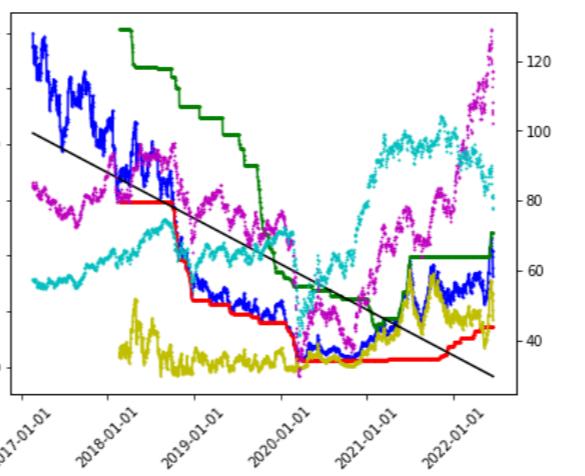
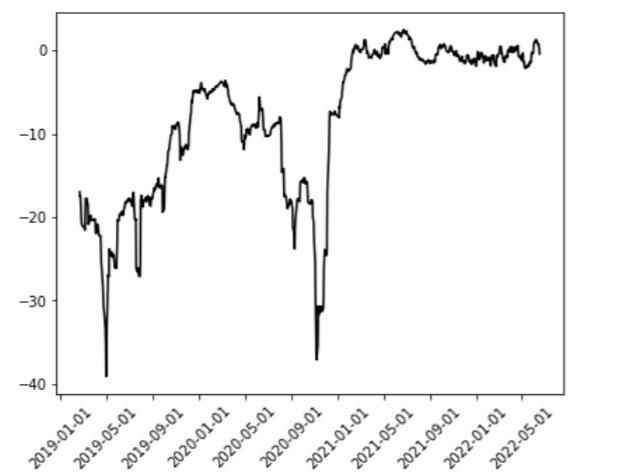
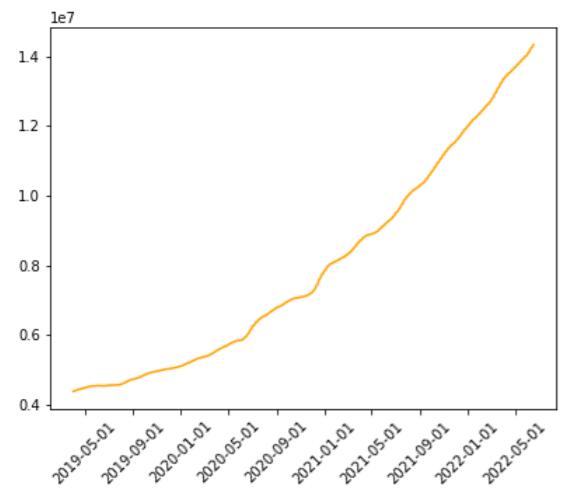
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	81.470001	55.385982	91.38381	127.381638	80.369841	15.040964	50.287912	110.45177

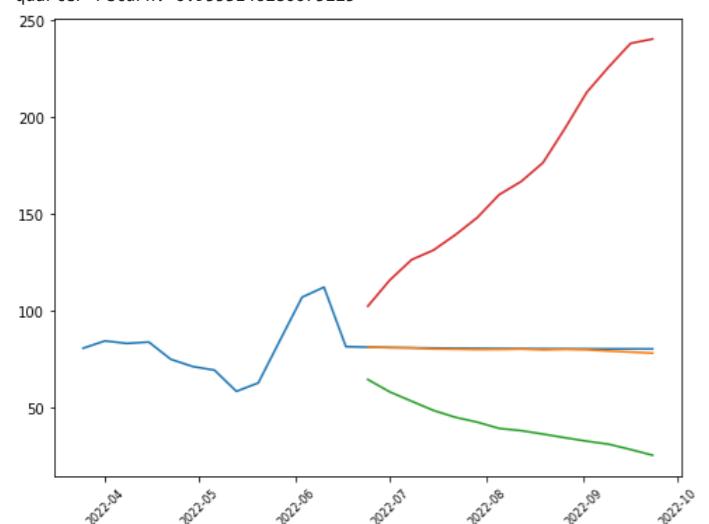
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
LPI	1.480449	81.470001	14333690.683594	0.651878	0.115073	0.409738

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: [None, 'mul', True]  
best inner cv score, sdev (11 folds): 231.248257243034 166.92299271305848  
test cv mean error, stdev (10 folds): 246.78009461880447 167.32004507129605  
sell date: 2022-06-24  
expected return: -0.0029769430921259606  
discounted return: -0.0004967737338769096  
quarter return: 0.9553146280075225



```
[{'quarterly_balance_sheet', 2021-12-31 2021-09-30 2021-06-30 \
Capital Surplus 2.788628e+09 2.715196e+09 2.473709e+09
Total Liab 2.038044e+09 2.034910e+09 1.941088e+09
Total Stockholder Equity 5.137800e+08 2.240620e+08 -1.542820e+08
Deferred Long Term Liab 8.100000e+06 3.630000e+07 3.200000e+06
Other Current Liab 3.529620e+08 4.316830e+08 4.279700e+08
Total Assets 2.551824e+09 2.258972e+09 1.786806e+09
Common Stock 1.710000e+05 1.610000e+05 1.360000e+05
Other Current Assets 4.346000e+06 2.049400e+07 1.866500e+07
Retained Earnings -2.275019e+09 -2.491295e+09 -2.628127e+09
Other Liab 7.954700e+07 1.041390e+08 1.387280e+08
Other Assets 5.430400e+07 8.209600e+07 9.670500e+07
Cash 5.679800e+07 5.139600e+07 1.935430e+08
Total Current Liabilities 5.269130e+08 5.748110e+08 4.896750e+08
Short Long Term Debt 5.200000e+04 1.310000e+05 1.790000e+05
Property Plant Equipment 2.261663e+09 1.982329e+09 1.387284e+09
Total Current Assets 2.358570e+08 1.945470e+08 3.028170e+08
Net Tangible Assets 5.137800e+08 2.240620e+08 -1.542820e+08
Net Receivables 1.518070e+08 1.226570e+08 9.060900e+07
Long Term Debt 1.425858e+09 1.349896e+09 1.306112e+09
Inventory 1.016000e+07 NaN NaN
Accounts Payable 6.668600e+07 5.724100e+07 4.638300e+07
Deferred Long Term Asset Charges NaN 2.200000e+06 3.600000e+06

2021-03-31
Capital Surplus 2.426769e+09
Total Liab 1.543471e+09
Total Stockholder Equity -6.856800e+07
Deferred Long Term Liab 2.100000e+06
Other Current Liab 1.927360e+08
Total Assets 1.474903e+09
Common Stock 1.290000e+05
Other Current Assets 2.612300e+07
Retained Earnings -2.495466e+09
Other Liab 9.939500e+07
Other Assets 1.848700e+07
Cash 4.426200e+07
Total Current Liabilities 2.922430e+08
Short Long Term Debt NaN
Property Plant Equipment 1.318327e+09
Total Current Assets 1.380890e+08
Net Tangible Assets -6.856800e+07
Net Receivables 6.770400e+07
Long Term Debt 1.145374e+09
Inventory NaN
Accounts Payable 4.466500e+07
Deferred Long Term Asset Charges 2.200000e+06 ]]

['quarterly_cashflow', 2021-12-31 2021-09-30 \
Change To Liabilities 10045000.0 11558000.0
Total Cashflows From Investing Activities -279061000.0 -349183000.0
Net Borrowings 75000000.0 50000000.0
Total Cash From Financing Activities 74904000.0 36180000.0
Change To Operating Activities 62018000.0 633000.0
Net Income 216276000.0 136832000.0
Change In Cash 5402000.0 -213588000.0
Repurchase Of Stock -180000.0 -848000.0
Total Cash From Operating Activities 209559000.0 99415000.0
Depreciation 7932000.0 67727000.0
Change To Account Receivables -2915000.0 -32048000.0
Other Cashflows From Financing Activities 84000.0 -13145000.0
Change To Netincome -130488000.0 -86796000.0
Capital Expenditures -279061000.0 -742618000.0
Issuance Of Stock NaN 173000.0

2021-06-30 2021-03-31
Change To Liabilities 719000.0 9065000.0
Total Cashflows From Investing Activities -99547000.0 -69020000.0
Net Borrowings 160000000.0 -35000000.0
Total Cash From Financing Activities 203723000.0 -6626000.0
Change To Operating Activities 65178000.0 -25871000.0
Net Income -132661000.0 -75439000.0
Change In Cash 220722000.0 -4495000.0
Repurchase Of Stock -451000.0 -1290000.0
Total Cash From Operating Activities 116546000.0 71151000.0
Depreciation 43901000.0 42249000.0
Change To Account Receivables -22905000.0 -3728000.0
Other Cashflows From Financing Activities -1452000.0 2798000.0
Change To Netincome 161204000.0 123886000.0
Capital Expenditures -99665000.0 -69209000.0
Issuance Of Stock 45626000.0 26866000.0 ]]

['quarterly_earnings', Revenue Earnings
Quarter
1Q2021 250230000 -75439000
2Q2021 294371000 -132661000
3Q2021 379250000 136832000
4Q2021 470224000 216276000]
```

```
[ 'quarterly_financials',
Research Development None None None
Effect Of Accounting Charges None None None
Income Before Tax 219328000.0 139509000.0 -133983000.0
Minority Interest None None None
Net Income 216276000.0 136832000.0 -132661000.0
Selling General Administrative 13619000.0 15008000.0 21101000.0
Gross Profit 331794000.0 249997000.0 182123000.0
Ebit 258808000.0 74290000.0 -97024000.0
Operating Income 258808000.0 74290000.0 -97024000.0
Other Operating Expenses -15225000.0 98021000.0 218070000.0
Interest Expense -31150000.0 -30423000.0 -25900000.0
Extraordinary Items None None None
Non Recurring None None None
Other Items None None None
Income Tax Expense 3052000.0 2677000.0 -1322000.0
Total Revenue 470224000.0 379250000.0 294371000.0
Total Operating Expenses 211416000.0 384960000.0 391395000.0
Cost Of Revenue 138430000.0 129253000.0 112248000.0
Total Other Income Expense Net -39480000.0 65219000.0 -36959000.0
Discontinued Operations None None None
Net Income From Continuing Ops 216276000.0 136832000.0 -132661000.0
Net Income Applicable To Common Shares 216276000.0 136832000.0 -132661000.0
```

2021-03-31

```
Research Development None
Effect Of Accounting Charges None
Income Before Tax -76201000.0
Minority Interest None
Net Income -75439000.0
Selling General Administrative 13073000.0
Gross Profit 155128000.0
Ebit -51566000.0
Operating Income -51566000.0
Other Operating Expenses 155512000.0
Interest Expense -25942000.0
Extraordinary Items None
Non Recurring None
Other Items None
Income Tax Expense -762000.0
Total Revenue 250230000.0
Total Operating Expenses 301796000.0
Cost Of Revenue 95102000.0
Total Other Income Expense Net -24635000.0
Discontinued Operations None
Net Income From Continuing Ops -75439000.0
Net Income Applicable To Common Shares -75439000.0 ]
```

```
[ 'mutualfund_holders',
0 SPDR (R) Ser Tr-SPDR (R) S&P (R) Oil & Gas Exp... 1283155 2022-01-30
1 iShares Core S&P Smallcap ETF 1007152 2022-01-30
2 Vanguard Total Stock Market Index Fund 437939 2021-12-30
3 iShares Russell 2000 ETF 291546 2022-01-30
4 Vanguard Extended Market Index Fund 182706 2021-12-30
5 Direxion Shares ETF Tr- Daily S&P Oil & Gas Ex... 147088 2022-01-30
6 Fidelity Strategic Advisors Small-Mid Cap Fund 139883 2022-02-27
7 Vanguard Tax Managed Fund-Small Cap Fund 120804 2021-12-30
8 DFA U.S. Small Cap Series 118021 2022-01-30
9 First Tr Exchange Traded Fd-First Tr Natural G... 117256 2022-02-27
```

	% Out	Value
0	0.0742	86176689
1	0.0582	67640328
2	0.0253	26333272
3	0.0168	19580229
4	0.0106	10986111
5	0.0085	9878430
6	0.0081	10709442
7	0.0070	7263944
8	0.0068	7926290
9	0.0068	8977119 ]

[ 'options', ('2022-07-15', '2022-12-16', '2023-01-20')]

symbol: NTCT  
sector: Technology  
Index: SP600

vol\_30d\_2yr: 9623952.1484375  
Sector 1YMF: -3.339996337890625  
1YMF: -3.339996337890625  
risk trend factor: -0.45135087973882726  
beta currentRatio debtToEquity ebitda ebitdaMargins forwardPE \

NTCT 0.644642 1.936 20.158 145480992 0.17004 15.90411  
freeCashflow grossMargins grossProfits heldPercentInstitutions \
NTCT 260617744 0.74966 641389000 0.96181  
industry marketCap operatingCashflow operatingMargins \
NTCT Software-Infrastructure 2581519360 296012992 0.05813

```
payoutRatio pegRatio priceToBook priceToSalesTrailing12Months \
NTCT          0      9.69    1.252652            3.017292

profitMargins quickRatio returnOnAssets returnOnEquity revenueGrowth \
NTCT     0.04193     1.788      0.0099      0.01764      -0.104

revenuePerShare sector sharesOutstanding shortRatio totalCash \
NTCT     11.559   Technology    74117696      5.93  703198016

totalCashPerShare totalDebt totalRevenue trailingPE
NTCT      9.488  415337984  855574976  72.56251

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17    32.93  32.684032  35.016032  37.348031  33.294127  1.677396  29.939335  36.648919

volume_factor latest_p vol_30d_2yr pct_2yr adf hurst
```

```
NTCT    1.227115    32.93  9623952.148438  0.734933  0.034064  0.345791
```

ADFuller H0 rejected @ .05, Mean Reverting TS

Month Mean Reverting buy signal

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -363.4599914550781

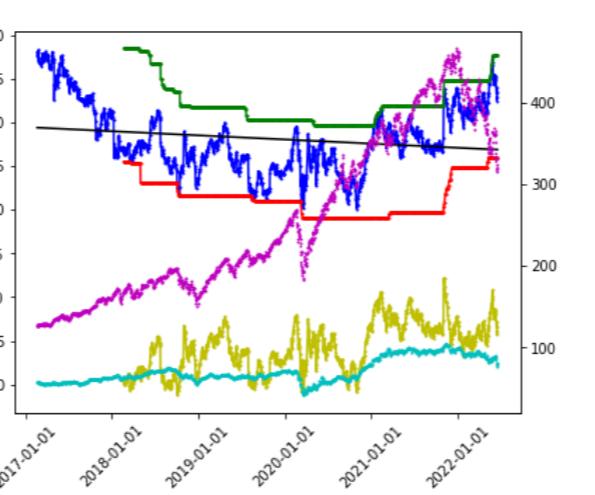
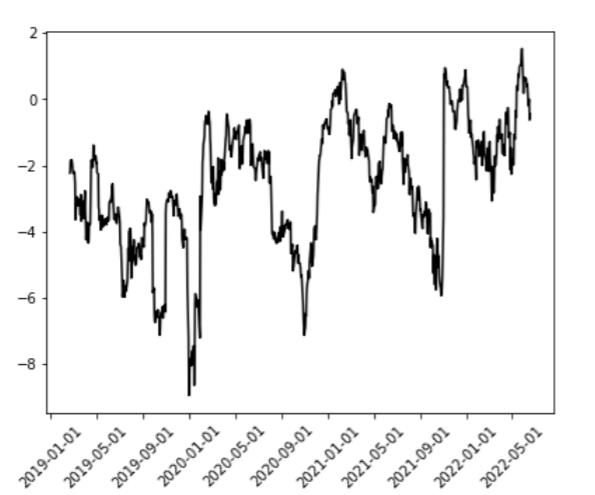
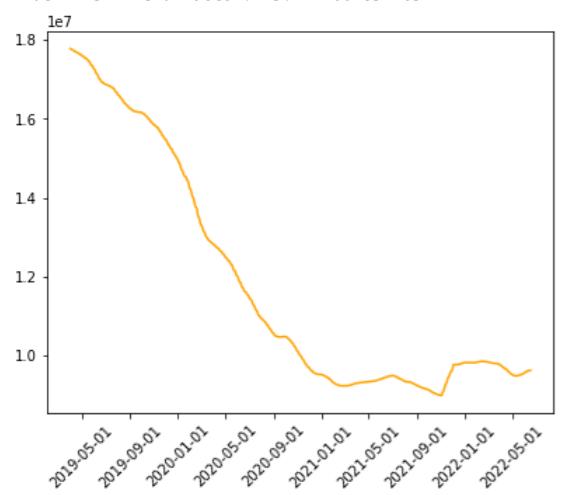
Sector Volume Factor: 1.1528457613891094

Sector Risk Trend Factor: -4.954471974241429

Index 1YMF: -77.27001953125

Index Volume Factor: 1.232760496116622

Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks

2022-06-17

2022-06-24

inner cv scores:

best model: ['add', None]

best inner cv score, sdev (11 folds): 10.19920331942748 5.86648363530566

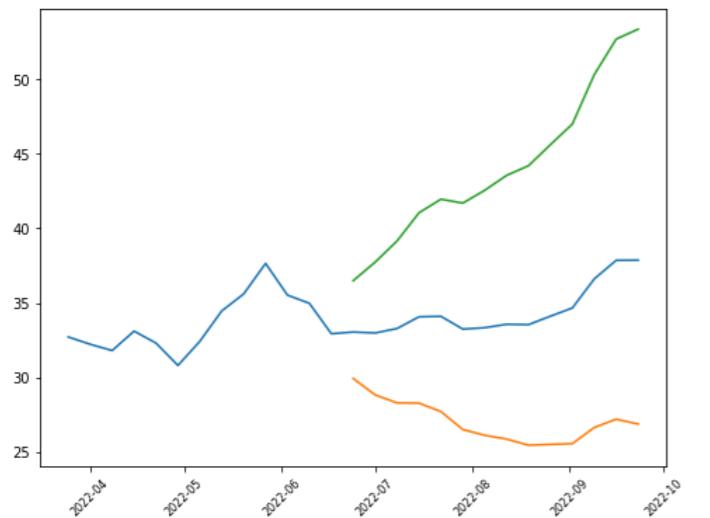
test cv mean error, stdev (10 folds): 10.486504110255629 6.078588173761055

sell date: 2022-09-23

expected return: 0.14994166035568707

discounted return: 0.0014413595240705401

quarter return: 1.141689978715372



```
[ 'options', ('2022-12-16',) ]
symbol: BMY
sector: Healthcare
Index: SP500
vol_30d_2yr: 251915320.8984375
Sector 1YMF: -3.2500076293945312
1YMF: -3.2500076293945312
risk trend factor: -0.4710154943017281
    beta currentRatio debtToEquity dividendRate dividendYield \
BMY 0.479582      1.32      145.347      2.16      0.0293

earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
BMY      -0.337 21088999424      0.44908 9.141264 14867624960

grossMargins grossProfits heldPercentInstitutions \
BMY      0.80128 37048000000      0.79264

industry      marketCap operatingCashflow \
BMY Drug Manufacturers-General 157060743168      16195000320

operatingMargins payoutRatio pegRatio priceToBook \
BMY      0.22193      0.7305      2.12      4.97337

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
BMY      3.344564      0.13311      1.152      0.06046

returnOnEquity revenueGrowth revenuePerShare      sector \
BMY      0.18085      0.052      21.36  Healthcare

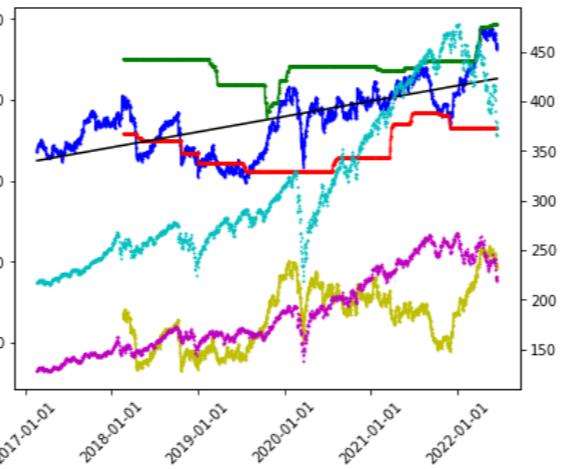
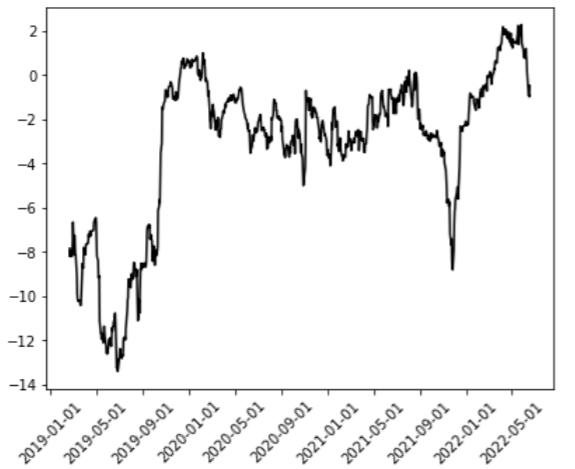
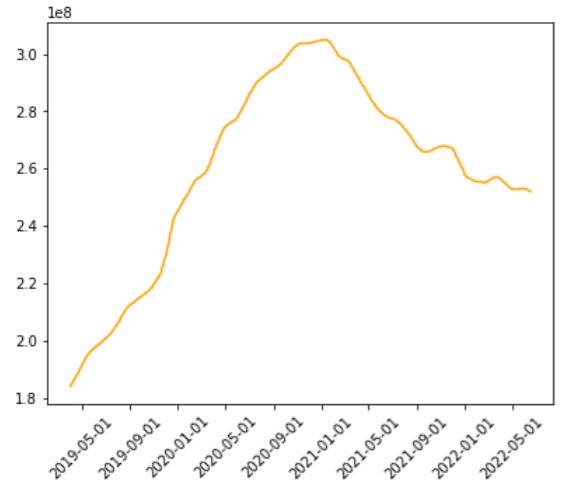
sharesOutstanding shortRatio      totalCash totalCashPerShare      totalDebt \
BMY      2129059968      2.09 15196000256      7.137 45994999808

totalRevenue trailingPE
BMY 46960001024 26.131773

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 73.769997 72.385736 75.350794 78.315851 75.403174 1.748022 71.90713 78.899219
```

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
BMY	1.240092	73.769997	251915320.898438	0.809374	0.645642	0.477511

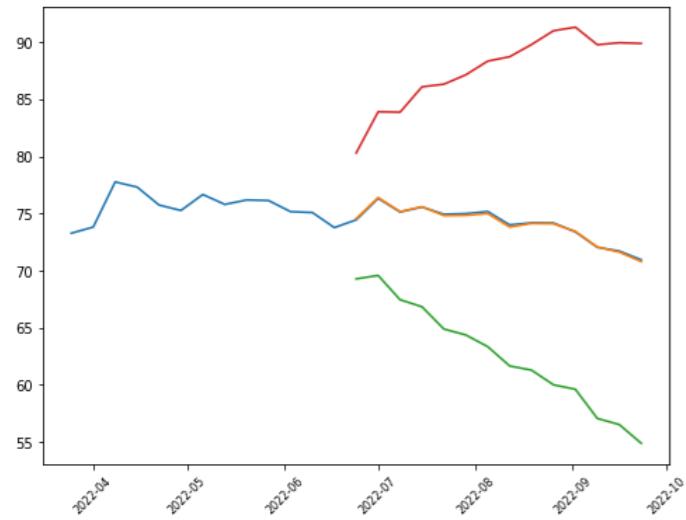
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		
Sector 1YMF:	-122.20997619628906		
Sector Volume Factor:	1.2238851152317325		
Sector Risk Trend Factor:	-3.3236323632363236		
Index 1YMF:	-287.8400573738469		
Index Volume Factor:	1.1835166983613057		
Index Risk Trend Factor:	-3.791860877423899		



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', None]
best inner cv score, sdev (11 folds): 86.50903586996206 125.59465263993609
test cv mean error, stdev (10 folds): 81.65701896902372 130.73816916040838
sell date: 2022-07-01
expected return: 0.03473648557860149
discounted return: 0.002630128966783607
quarter return: 1.2733538077339723

```



```

['options', ('2023-01-20', '2024-01-19')]
['sustainability',                               Value
2022-5
palmoil           False
controversialWeapons  False
gambling          False
socialScore        14.93
nuclear            False
furLeather         False
alcoholic          False
gmo                False
catholic           True
socialPercentile   None
peerCount          83
governanceScore    7.56
environmentPercentile  None
animalTesting      True
tobacco             False
totalEsg            22.83
highestControversy 2
esgPerformance     AVG_PERF
coal               False
pesticides          False
adult               False
percentile          34.61
peerGroup           Pharmaceuticals
smallArms           False
environmentScore    0.34
governancePercentile  None
militaryContract   False]
symbol: PSX
sector: Energy
Index: SP500
vol_30d_2yr: 72319717.1875
Sector 1YMF: -15.809989929199219
1YMF: -15.809989929199219
risk trend factor: -0.4763479592118208
  currentRatio debtToEquity dividendRate dividendYield      ebitda \
PSX      1.128       65.25      3.88       0.041  3537999872

  ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
PSX      0.02802  13.13643  2430874880      0.08505  9374000000

  heldPercentInstitutions           industry      marketCap \
PSX      0.68375  Oil & Gas Refining & Marketing  39661662208

  operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
PSX      6881999872      0.01601      0.633      1.22    2.186021

  priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PSX      0.3141      0.02022      0.783      0.02175

  returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
PSX      0.13575      0.697      285.373  Energy      438201984

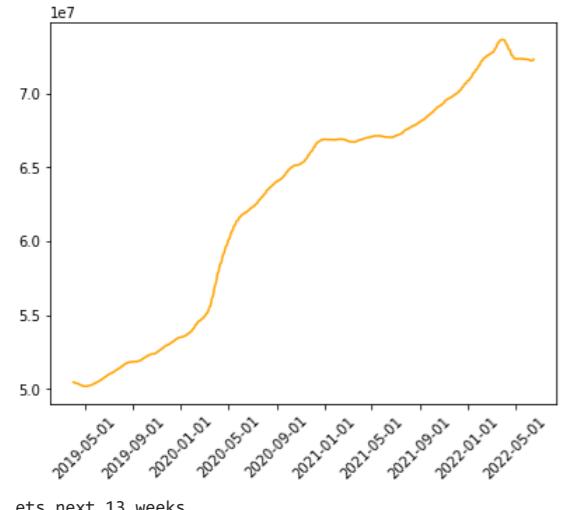
  shortRatio totalCash totalCashPerShare totalDebt totalRevenue
PSX      2.5  3335000064      6.932  14433999872  126270996480
  Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 90.510002 91.355788 101.374286 111.392784 91.798413 8.517034 74.764345 108.832481

```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
PSX	1.286747	90.510002	72319717.1875	0.694604	0.093536	0.512375

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

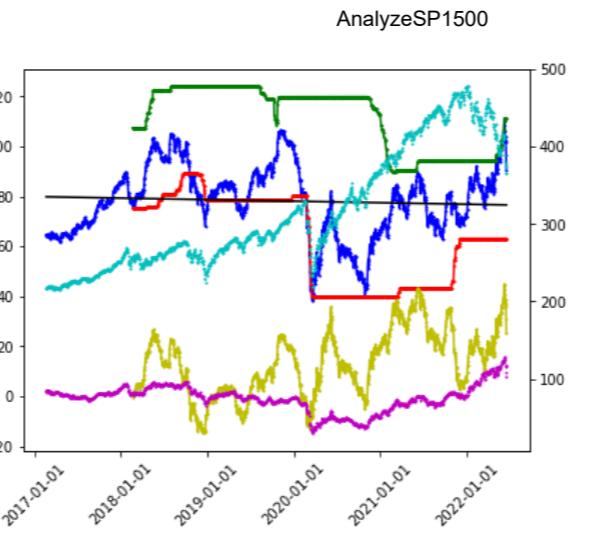
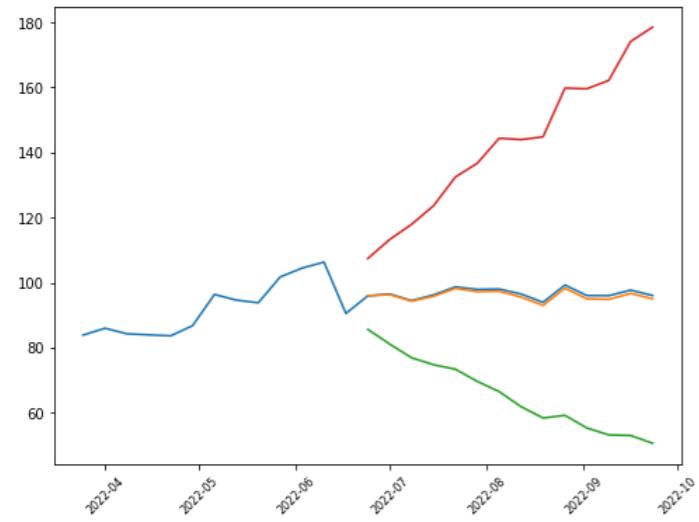
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', True]
best inner cv score, sdev (11 folds): 284.4482562736264 352.84569795287524
test cv mean error, stdev (10 folds): 310.5239011990068 359.82049014659225
sell date: 2022-08-26
expected return: 0.0965010881959715
discounted return: 0.0013360262005039925
quarter return: 1.1306948724119517

```



```
[ 'quarterly_balance_sheet', 2022-03-31 2021-12-31 2021-09-30 \
Intangible Assets 8.190000e+08 8.130000e+08 8.220000e+08
Capital Surplus 1.966700e+10 2.050400e+10 2.048800e+10
Total Liab 3.851700e+10 3.395700e+10 3.581000e+10
Total Stockholder Equity 2.181500e+10 1.916600e+10 1.813900e+10
Minority Interest 3.060000e+08 2.471000e+09 2.458000e+09
Other Current Liab 1.467000e+09 1.406000e+09 1.346000e+09
Total Assets 6.063800e+10 5.559400e+10 5.640700e+10
Common Stock 7.000000e+06 7.000000e+06 6.000000e+06
Other Current Assets 2.020000e+08 9.900000e+07 3.200000e+07
Retained Earnings 1.639100e+10 1.621600e+10 1.535000e+10
Other Liab 7.031000e+09 7.472000e+09 7.239000e+09
Good Will 1.484000e+09 1.484000e+09 1.425000e+09
Treasury Stock -1.425000e+10 -1.756100e+10 -1.770500e+10
Other Assets 1.833000e+09 1.603000e+09 1.857000e+09
Cash 3.335000e+09 3.147000e+09 2.897000e+09
Total Current Liabilities 1.760300e+10 1.280100e+10 1.392100e+10
Short Long Term Debt 1.474000e+09 1.456000e+09 1.489000e+09
Other Stockholder Equity -5.140000e+08 -4.450000e+08 -5.890000e+08
Property Plant Equipment 2.233300e+10 2.348500e+10 2.237700e+10
Total Current Assets 1.985400e+10 1.469700e+10 1.601900e+10
Long Term Investments 1.431500e+10 1.351200e+10 1.390700e+10
Net Tangible Assets 1.951200e+10 1.686900e+10 1.589200e+10
Net Receivables 1.045500e+10 7.470000e+09 8.006000e+09
Long Term Debt 1.296000e+10 1.270200e+10 1.342100e+10
Inventory 4.530000e+09 3.394000e+09 4.400000e+09
Accounts Payable 1.318400e+10 8.461000e+09 9.215000e+09
```

2021-06-30

```
Intangible Assets 8.250000e+08
Capital Surplus 2.046300e+10
Total Liab 3.637500e+10
Total Stockholder Equity 1.814900e+10
Minority Interest 2.453000e+09
Other Current Liab 1.393000e+09
Total Assets 5.697700e+10
Common Stock 6.000000e+06
Other Current Assets 1.800000e+07
Retained Earnings 1.534500e+10
Other Liab 7.722000e+09
Good Will 1.425000e+09
Treasury Stock -1.766500e+10
Other Assets 1.894000e+09
Cash 2.207000e+09
Total Current Liabilities 1.455100e+10
Short Long Term Debt 2.489000e+09
Other Stockholder Equity -5.490000e+08
Property Plant Equipment 2.368800e+10
Total Current Assets 1.578000e+10
Long Term Investments 1.336500e+10
Net Tangible Assets 1.589900e+10
Net Receivables 8.062000e+09
Long Term Debt 1.292400e+10
Inventory 4.752000e+09
Accounts Payable 8.945000e+09 ]
```

2022-03-31 2021-12-31 \

```
[ 'quarterly_cashflow', 2022-03-31 2021-12-31 \
Investments 1.500000e+07 3.100000e+07
Change To Liabilities 4.809000e+09 -7.980000e+08
Total Cashflows From Investing Activities -4.280000e+08 -5.570000e+08
Net Borrowings -2.400000e+07 -4.760000e+08
Total Cash From Financing Activities -5.120000e+08 -9.780000e+08
Change To Operating Activities -8.490000e+08 3.000000e+07
Issuance Of Stock 2.300000e+07 2.000000e+06
Net Income 5.820000e+08 1.273000e+09
Change In Cash 1.880000e+08 2.500000e+08
Effect Of Exchange Rate -8.000000e+06 -1.500000e+07
Total Cash From Operating Activities 1.136000e+09 1.800000e+09
Depreciation 3.380000e+08 4.540000e+08
Other Cashflows From Investing Activities -7.400000e+07 8.000000e+06
Dividends Paid -4.040000e+08 -4.030000e+08
Change To Inventory -1.152000e+09 1.006000e+09
Change To Account Receivables -3.042000e+09 5.430000e+08
Other Cashflows From Financing Activities -1.070000e+08 -1.010000e+08
Change To Netincome 3.310000e+08 -3.390000e+08
Capital Expenditures -3.700000e+08 -5.970000e+08
```

2021-09-30 2021-06-30

```
Investments 7.800000e+07 1.000000e+08
Change To Liabilities 2.410000e+08 7.030000e+08
Total Cashflows From Investing Activities -4.960000e+08 -3.520000e+08
Net Borrowings -5.210000e+08 -3.900000e+07
Total Cash From Financing Activities -1.005000e+08 -5.420000e+08
Change To Operating Activities 4.400000e+07 -1.300000e+08
Issuance Of Stock 2.000000e+06 4.000000e+06
Net Income 4.020000e+08 2.960000e+08
Change In Cash 6.900000e+08 8.560000e+08
```

	Revenue	Earnings
Quarter		
2Q2021	27035000000	296000000
3Q2021	30246000000	402000000
4Q2021	32554000000	1273000000
1Q2022	36011000000	582000000]

	2022-03-31	2021-12-31	\
Research Development	None	None	
Effect Of Accounting Charges	None	None	
Income Before Tax	828000000.0	1627000000.0	
Minority Interest	306000000.0	2471000000.0	
Net Income	582000000.0	1273000000.0	
Selling General Administrative	1773000000.0	1905000000.0	
Gross Profit	2516000000.0	3264000000.0	
Ebit	275000000.0	921000000.0	
Operating Income	275000000.0	921000000.0	
Other Operating Expenses	130000000.0	69000000.0	
Interest Expense	-135000000.0	-141000000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	171000000.0	256000000.0	
Total Revenue	36011000000.0	32554000000.0	
Total Operating Expenses	35736000000.0	31633000000.0	
Cost Of Revenue	33495000000.0	29290000000.0	
Total Other Income Expense Net	553000000.0	706000000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	657000000.0	1371000000.0	
Net Income Applicable To Common Shares	580000000.0	1271000000.0	

	2021-09-30	2021-06-30	
Research Development	None	None	
Effect Of Accounting Charges	None	None	
Income Before Tax	448000000.0	436000000.0	
Minority Interest	2458000000.0	2453000000.0	
Net Income	402000000.0	296000000.0	
Selling General Administrative	1590000000.0	1608000000.0	
Gross Profit	2717000000.0	1817000000.0	
Ebit	686000000.0	-262000000.0	
Operating Income	686000000.0	-262000000.0	
Other Operating Expenses	80000000.0	107000000.0	
Interest Expense	-151000000.0	-143000000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	-4000000.0	6200000.0	
Total Revenue	30246000000.0	27035000000.0	
Total Operating Expenses	29560000000.0	27297000000.0	
Cost Of Revenue	27529000000.0	25218000000.0	
Total Other Income Expense Net	-238000000.0	698000000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	488000000.0	374000000.0	
Net Income Applicable To Common Shares	400000000.0	291000000.0	]

	Holder	Shares	Date Reported	\
0	Select Sector SPDR Fund-Energy Select	12885545	2022-01-30	
1	Vanguard Total Stock Market Index Fund	12454940	2021-12-30	
2	Vanguard 500 Index Fund	9279357	2021-12-30	
3	Vanguard Mid-Cap Index Fund	4953997	2021-12-30	
4	SPDR S&P 500 ETF Trust	4644780	2022-01-30	
5	Fidelity 500 Index Fund	4487208	2022-02-27	
6	iShares Core S&P 500 ETF	3644889	2022-01-30	
7	Vanguard Index-Value Index Fund	3348114	2021-12-30	
8	Vanguard Institutional Index Fund-Institutional...	3301601	2021-12-30	
9	Vanguard Energy Index Fund	2553262	2022-02-27	

	% Out	Value
0	0.0268	1092565360
1	0.0259	902484952
2	0.0193	672382208
3	0.0183	358966622
4	0.0097	393830896
5	0.0093	378002401
6	0.0076	309050138
7	0.0070	242604340
8	0.0069	239234008
9	0.0053	215086790

```

['sustainability',
2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 7
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile 0
peerCount 39
governanceScore 5.96
environmentPercentile 0
animalTesting False
tobacco False
totalEsg 29.35
highestControversy 3
esgPerformance None
coal False
pesticides False
adult False
percentile 59.45
peerGroup Refiners & Pipelines
smallArms False
environmentScore 16.39
governancePercentile 0
militaryContract False]
symbol: NOC
sector: Industrials
Index: SP500
vol_30d_2yr: 18840431.25
Sector 1YMF: -28.880035400390625
1YMF: -28.880035400390625
risk trend factor: -0.4783048635578619
    beta currentRatio debtToEquity dividendRate dividendYield \
NOC 0.740686 1.306 109.076 6.28 0.0139

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
NOC -0.546 8807000064 0.24944 17.700558 4150625024

grossMargins grossProfits heldPercentInstitutions industry \
NOC 0.20962 7268000000 0.84402 Aerospace & Defense

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
NOC 69847056384 3144999936 0.21409 0.1734 2.97

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
NOC 6.173153 1.978278 0.16328 1.131

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
NOC 0.11339 0.48421 -0.039 222.722 Industrials

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
NOC 157338000 1.81 2174000128 13.973 14492999680

totalRevenue trailingPE
NOC 35306999808 15.658906

```

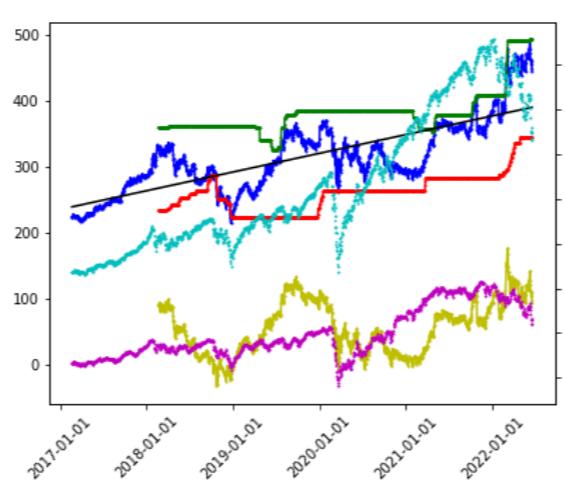
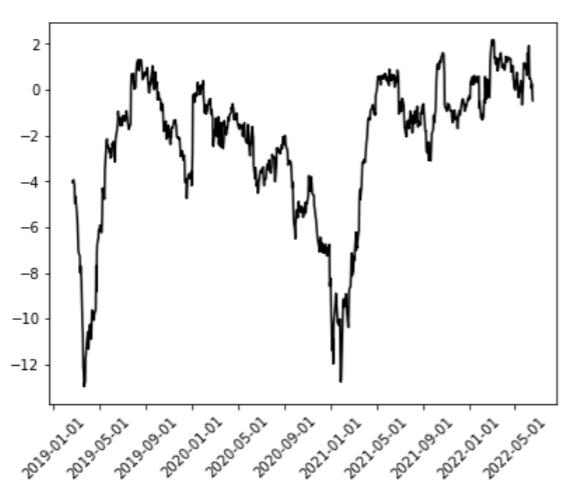
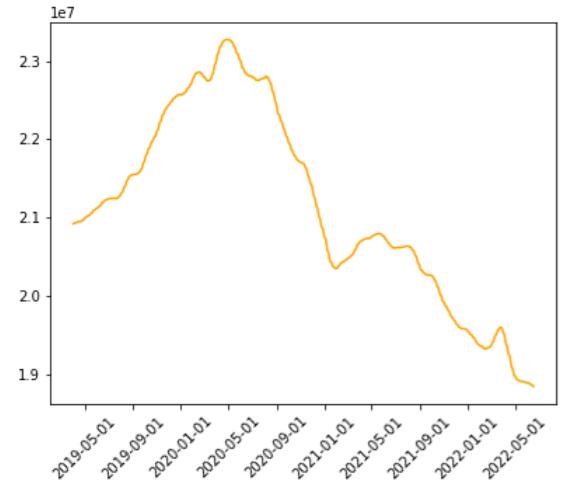
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSD	90d_lower	90d_upper
2022-06-17	443.929993	440.378773	462.968095	485.557416	457.224603	10.945286	435.33403	479.115175

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
NOC	0.996341	443.929993	18840431.25	0.769029	0.762454	0.423677

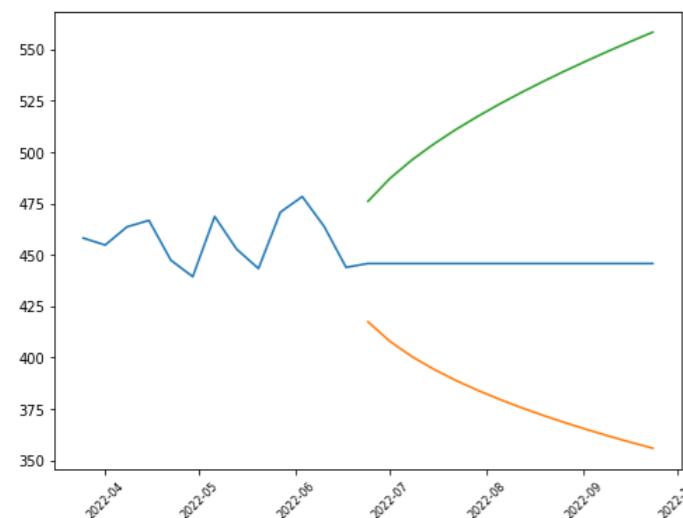
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -141.5800018310547  
Sector Volume Factor: 0.8696853533786545  
Sector Risk Trend Factor: -4.514668337867341  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: [None, None]  
best inner cv score, sdev (11 folds): 1037.1044364754455 887.0591236372442  
test cv mean error, stdev (10 folds): 1104.5418414308785 903.070007392854  
sell date: 2022-06-24  
expected return: 0.004203311359570917  
discounted return: 0.0006993281031300036  
quarter return: 1.0664290164326926



AnalyzeSP1500

```
[{'quarterly_balance_sheet': 2022-03-31 2021-12-31 2021-09-30 \
Intangible Assets 5.330000e+08 5.780000e+08 6.290000e+08
Total Liab 2.861600e+10 2.965300e+10 3.092900e+10
Total Stockholder Equity 1.328700e+10 1.292600e+10 1.141700e+10
Other Current Liab 5.261000e+09 4.842000e+09 4.583000e+09
Total Assets 4.190300e+10 4.257900e+10 4.234600e+10
Common Stock 1.560000e+08 1.560000e+08 1.590000e+08
Retained Earnings 1.327700e+10 1.291300e+10 1.139800e+10
Other Liab 5.280000e+09 5.756000e+09 7.969000e+09
Good Will 1.752300e+10 1.751500e+10 1.751600e+10
Treasury Stock -1.460000e+08 -1.430000e+08 -1.400000e+08
Other Assets 2.572000e+09 2.093000e+09 2.038000e+09
Cash 2.174000e+09 3.530000e+09 4.055000e+09
Total Current Liabilities 8.850000e+09 9.530000e+09 8.819000e+09
Deferred Long Term Asset Charges 2.200000e+08 2.000000e+08 4.180000e+08
Short Long Term Debt 7.000000e+06 6.000000e+06 6.000000e+06
Other Stockholder Equity -1.460000e+08 -1.430000e+08 -1.400000e+08
Property Plant Equipment 9.719000e+09 9.549000e+09 8.829000e+09
Total Current Assets 1.155600e+10 1.242600e+10 1.292800e+10
Net Tangible Assets -4.769000e+09 -5.167000e+09 -6.728000e+09
Net Receivables 7.831000e+09 7.530000e+09 7.387000e+09
Long Term Debt 1.282500e+10 1.277700e+10 1.277400e+10
Inventory 8.380000e+08 8.110000e+08 8.720000e+08
Accounts Payable 2.050000e+09 2.197000e+09 2.184000e+09
Deferred Long Term Liab NaN 3.040000e+08 3.090000e+08
Other Current Assets NaN 1.820000e+08 2.050000e+08
Long Term Investments NaN 4.180000e+08 4.060000e+08

2021-06-30
Intangible Assets 6.800000e+08
Total Liab 3.097000e+10
Total Stockholder Equity 1.117200e+10
Other Current Liab 4.588000e+09
Total Assets 4.214200e+10
Common Stock 1.600000e+08
Retained Earnings 1.114400e+10
Other Liab 8.226000e+09
Good Will 1.751800e+10
Treasury Stock -1.320000e+08
Other Assets 2.022000e+09
Cash 3.941000e+09
Total Current Liabilities 8.591000e+09
Deferred Long Term Asset Charges 4.330000e+08
Short Long Term Debt 6.000000e+06
Other Stockholder Equity -1.320000e+08
Property Plant Equipment 8.739000e+09
Total Current Assets 1.276200e+10
Net Tangible Assets -7.026000e+09
Net Receivables 7.328000e+09
Long Term Debt 1.276400e+10
Inventory 8.630000e+08
Accounts Payable 2.001000e+09
Deferred Long Term Liab 3.040000e+08
Other Current Assets 2.210000e+08
Long Term Investments 4.210000e+08 ]
['quarterly_cashflow', 2022-03-31 2021-12-31 \
Change To Liabilities -7.320000e+08 3.270000e+08
Total Cashflows From Investing Activities -2.490000e+08 -7.410000e+08
Total Cash From Financing Activities -6.190000e+08 -1.226000e+09
Change To Operating Activities 1.600000e+07 6.000000e+07
Net Income 9.550000e+08 2.710000e+09
Change In Cash -1.356000e+09 -5.250000e+08
Repurchase Of Stock -3.660000e+08 -9.820000e+08
Total Cash From Operating Activities -4.880000e+08 1.442000e+09
Depreciation 3.030000e+08 3.310000e+08
Other Cashflows From Investing Activities -5.000000e+06 -8.000000e+06
Dividends Paid -2.510000e+08 -2.460000e+08
Change To Inventory -2.700000e+07 6.100000e+07
Change To Account Receivables -8.720000e+08 3.050000e+08
Other Cashflows From Financing Activities -2.000000e+06 2.000000e+06
Change To Netincome -4.920000e+08 -1.904000e+09
Capital Expenditures -2.440000e+08 -7.330000e+08
Net Borrowings NaN NaN

2021-09-30 2021-06-30
Change To Liabilities 2.510000e+08 3.870000e+08
Total Cashflows From Investing Activities -2.230000e+08 -1.740000e+08
Total Cash From Financing Activities -8.260000e+08 -4.300000e+08
Change To Operating Activities -2.000000e+07 3.780000e+08
Net Income 1.063000e+09 1.037000e+09
Change In Cash 1.140000e+08 4.240000e+08
Repurchase Of Stock -5.830000e+08 -1.440000e+08
Total Cash From Operating Activities 1.163000e+09 1.028000e+09
Depreciation 3.140000e+08 3.000000e+08
Other Cashflows From Investing Activities -4.000000e+06 -4.000000e+06
Dividends Paid -2.510000e+08 -2.480000e+08
```

```

Change To Inventory           -9.000000e+06 -3.000000e+06
Change To Account Receivables 3.600000e+07 -1.550000e+08
Other Cashflows From Financing Activities 8.000000e+06 -2.000000e+06
Change To Netincome          -2.540000e+08 -7.690000e+08
Capital Expenditures        -2.470000e+08 -2.300000e+08
Net Borrowings               NaN -3.600000e+07 ]
[ 'quarterly_earnings',      Revenue   Earnings
Quarter
2Q2021 9151000000 1037000000
3Q2021 8720000000 1063000000
4Q2021 8639000000 2710000000
1Q2022 8797000000 9550000000

```

```
[ 'quarterly_financials',      2022-03-31 2021-12-31 \

```

```

Research Development          None     None
Effect Of Accounting Charges None     None
Income Before Tax            1144000000.0 3345000000.0
Minority Interest             None     None
Net Income                   955000000.0 2710000000.0
Selling General Administrative 600000000.0 -1914000000.0
Gross Profit                 1873000000.0 1551000000.0
Ebit                         1273000000.0 3465000000.0
Operating Income              1273000000.0 3465000000.0
Other Operating Expenses      None     None
Interest Expense              -133000000.0 -133000000.0
Extraordinary Items           None     None
Non Recurring                None     None
Other Items                  None     None
Income Tax Expense            189000000.0 635000000.0
Total Revenue                 8797000000.0 8639000000.0
Total Operating Expenses      7524000000.0 5174000000.0
Cost Of Revenue               6924000000.0 7088000000.0
Total Other Income Expense Net -129000000.0 -120000000.0
Discontinued Operations       None     None
Net Income From Continuing Ops 955000000.0 2710000000.0
Net Income Applicable To Common Shares 955000000.0 2710000000.0

```

```
2021-09-30 2021-06-30

```

```

Research Development          None     None
Effect Of Accounting Charges None     None
Income Before Tax            1275000000.0 1302000000.0
Minority Interest             None     None
Net Income                   1063000000.0 1037000000.0
Selling General Administrative 524000000.0 632000000.0
Gross Profit                 1934000000.0 2043000000.0
Ebit                         1410000000.0 1411000000.0
Operating Income              1410000000.0 1411000000.0
Other Operating Expenses      None     None
Interest Expense              -132000000.0 -136000000.0
Extraordinary Items           None     None
Non Recurring                None     None
Other Items                  None     None
Income Tax Expense            212000000.0 265000000.0
Total Revenue                 8720000000.0 9151000000.0
Total Operating Expenses      7310000000.0 7740000000.0
Cost Of Revenue               6786000000.0 7108000000.0
Total Other Income Expense Net -135000000.0 -109000000.0
Discontinued Operations       None     None
Net Income From Continuing Ops 1063000000.0 1037000000.0
Net Income Applicable To Common Shares 1063000000.0 1037000000.0 ]

```

```
[ 'mutualfund_holders',      Holder   Shares Date Reported % Out \

```

```

0 Vanguard Specialized-Dividend Growth Fund 4467888 2022-01-30 0.0287
1 Washington Mutual Investors Fund 4405809 2022-01-30 0.0283
2 Vanguard Total Stock Market Index Fund 4054777 2021-12-30 0.0261
3 MFS Series Trust I-MFS Value Fund 3658688 2022-02-27 0.0235
4 Vanguard 500 Index Fund 3156013 2021-12-30 0.0203
5 American Balanced Fund 2536093 2021-12-30 0.0163
6 JP Morgan Equity Income Fund 1756855 2021-12-30 0.0113
7 SPDR S&P 500 ETF Trust 1596474 2022-01-30 0.0103
8 Investment Company Of America 1576590 2021-12-30 0.0101
9 American Mutual Fund Inc 1565602 2022-01-30 0.0101

```

```
Value

```

```

0 1652671771
1 1629708749
2 1569482533
3 1617652312
4 1221597951
5 981645517
6 680025864
7 590535732
8 610250691
9 579116179 ]

```

```
[ 'options', ('2022-08-19', '2023-01-20', '2024-01-19')] 
```

```
[ 'sustainability',           Value
2022-5
palmOil                      False

```

controversialWeapons	True
gambling	False
socialScore	15.7
nuclear	False
furLeather	False
alcoholic	False
gmo	False
catholic	False
socialPercentile	0
peerCount	22
governanceScore	5.32
environmentPercentile	0
animalTesting	False
tobacco	False
totalEsg	28.49
highestControversy	3
esgPerformance	None
coal	False
pesticides	False
adult	False
percentile	56.08
peerGroup	Aerospace & Defense
smallArms	True
environmentScore	7.47
governancePercentile	0
militaryContract	True

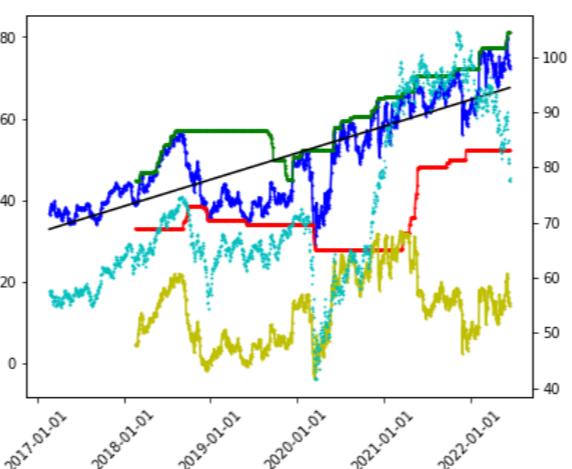
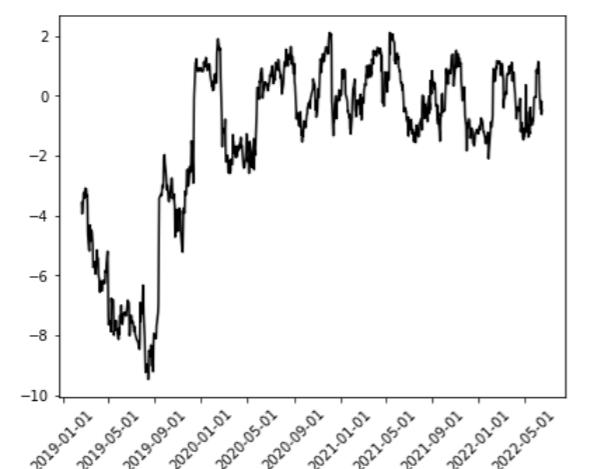
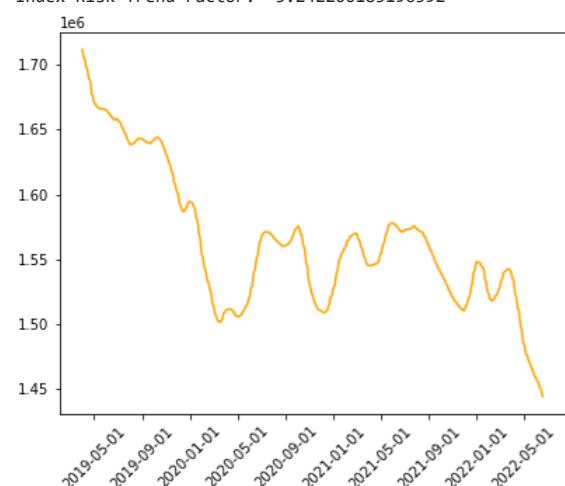
```
militaryContract  
symbol: SNEX  
sector: error  
sector: error  
Index: SP600  
vol_30d_2yr: 14444321.875  
Sector 1YMF: -6.769996643066406  
1YMF: -6.769996643066406  
risk_trend_factor: -0.48253696013085795
```

```
Empty DataFrame  
Columns: []  
Index: [SNEX]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDDev	90d_lower	90d_up
<b>2022-06-17</b>	72.900002	69.379346	74.933492	80.487639	73.35127	3.022209	67.306851	79.395

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SNEX	1.141643	72.900002	1444321.875	0.751221	0.686282	0.374695

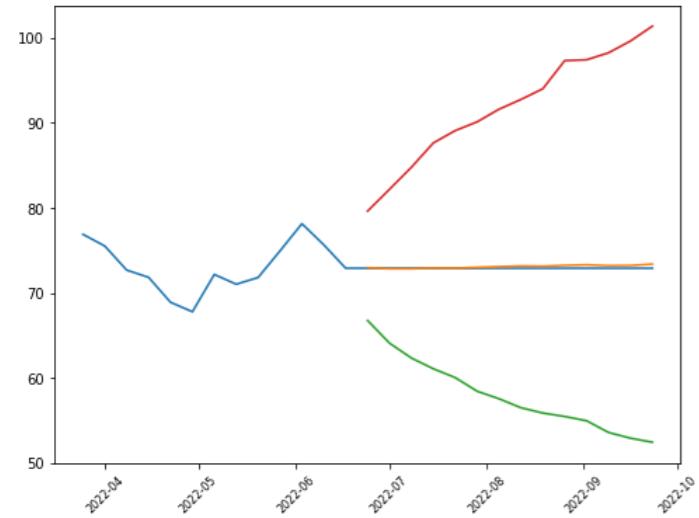
	I axis	r axis
	legend	legend
<b>blue</b>	symbol	
<b>green</b>	trailing_1yr_max	<b>magenta</b>
<b>red</b>	trailing_1yr_min	<b>cyan</b>
<b>orange</b>	30d_vol_2yr	sector
<b>black</b>	risk_trend_factor/linear	
<b>yellow</b>	supply_trend_1yr	



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: [None, 'mul', True]
best inner cv score, sdev (11 folds): 60.19721421430899 70.3914407848702
test cv mean error, stdev (10 folds): 63.77709988290337 72.86619337686182
sell date: 2022-06-24
expected return: 3.6648608282101023e-06
discounted return: 6.108092052148351e-07
quarter return: 1.0000561960086543

```



```

['options', ('2022-07-15',)]
symbol: TALO
sector: Energy
Index: SP600
vol_30d_2yr: 20408781.4453125
Sector 1YMF: -4.379999160766602
1YMF: -4.379999160766602
risk trend factor: -0.4965985614871265
    beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
TALO  2.369307        0.569     141.375   465148000       0.33517  4.945783

```

```

    freeCashflow grossMargins grossProfits heldPercentInstitutions \
TALO  236123744      0.80056    957576000       0.84615

```

```

    industry marketCap operatingCashflow operatingMargins \
TALO  Oil & Gas E&P  2032841856      458041984       0.01077

```

```

    payoutRatio priceToBook priceToSalesTrailing12Months profitMargins \
TALO      0     2.924484      1.464788      -0.09216

```

```

    quickRatio returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
TALO      0.505      0.00331      -0.17028       0.551      16.939

```

```

    sector sharesOutstanding shortRatio totalCash totalCashPerShare \
TALO  Energy        82535200      3.62    78348000       0.949

```

```

    totalDebt totalRevenue
TALO  982737024  1387805952

```

	Adj	Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d lower	90d upper
<b>2022-06-17</b>	18.610001	18.420168	21.889841	25.359515	19.298889	2.422677	14.453534	24.144243	

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
---------------	----------	-------------	---------	-----	-------

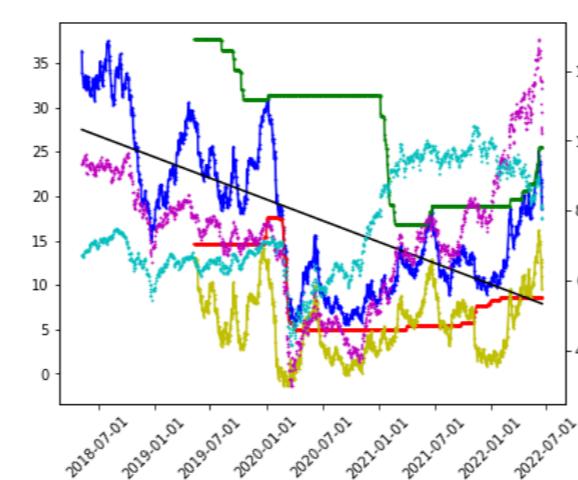
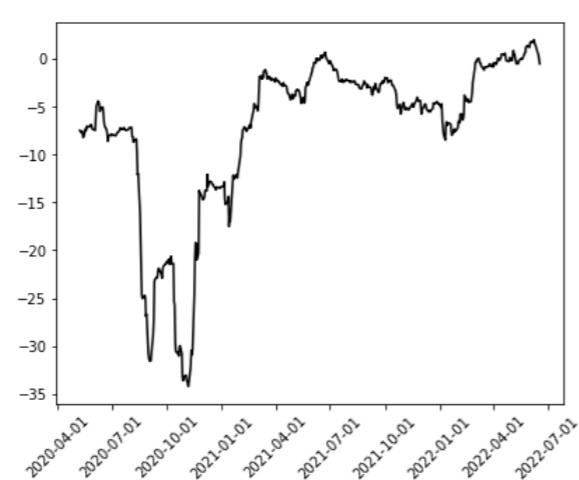
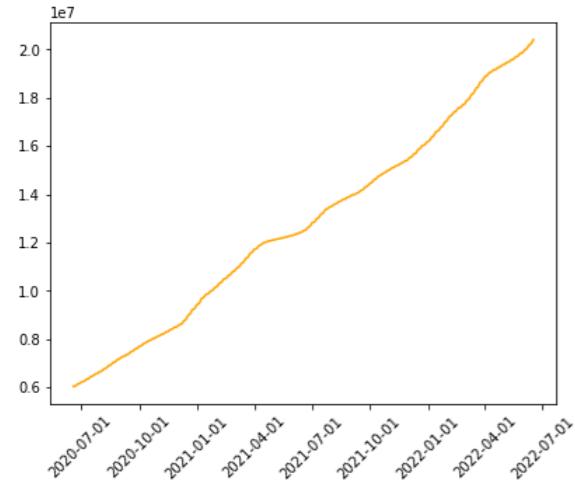
TALO	1.661246	18.610001	20408781.445312	0.657711	0.240515	0.536905
------	----------	-----------	-----------------	----------	----------	----------

l axis r axis

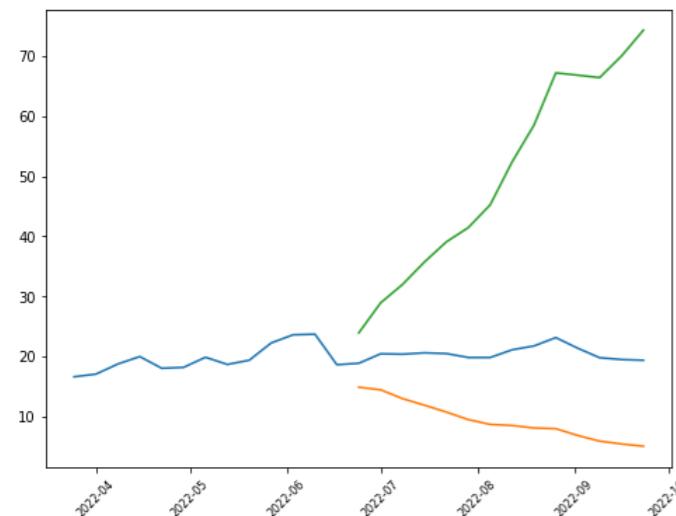
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', True]  
best inner cv score, sdev (11 folds): 41.43457859222569 71.02454191322182  
test cv mean error, stdev (10 folds): 41.43457859222569 71.02454191322182  
sell date: 2022-08-26  
expected return: 0.2425323205723936  
discounted return: 0.0031520804515512424  
quarter return: 1.3358066232715167



```

['options', ('2022-07-15',)]
symbol: FANG
sector: Energy
Index: SP500
vol_30d_2yr: 60333589.6484375
Sector 1YMF: -21.420005798339844
1YMF: -21.420005798339844
risk trend factor: -0.5018744567990084
          beta currentRatio debtToEquity dividendRate dividendYield \
FANG  2.181941        0.72        42.218        2.8        0.0229

          earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
FANG      2.278 5171999744        0.67999 5.241749 958625024

          grossMargins grossProfits heldPercentInstitutions      industry \
FANG      0.87707 5577000000        0.91762 Oil & Gas E&P

          marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
FANG  21473144832        4572000256        0.5071        0.1272        0.35

          priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
FANG      1.703891        2.823185        0.36037        0.656

          returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
FANG      0.10636        0.22396        1.036        42.257 Energy

          sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
FANG  175592000        2.63 149000000        0.839 5848000000

          totalRevenue trailingPE
FANG    7606000128     8.066091

          Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper

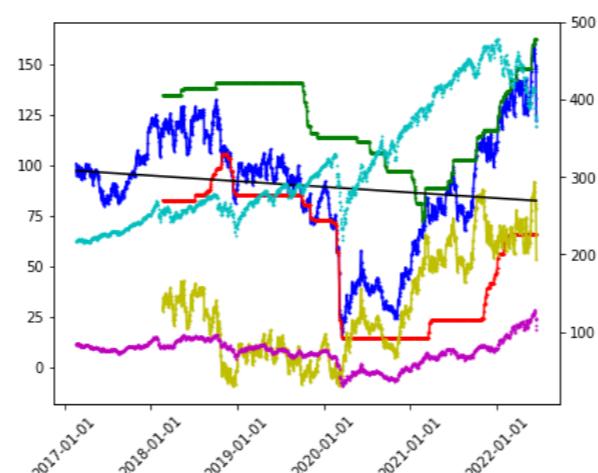
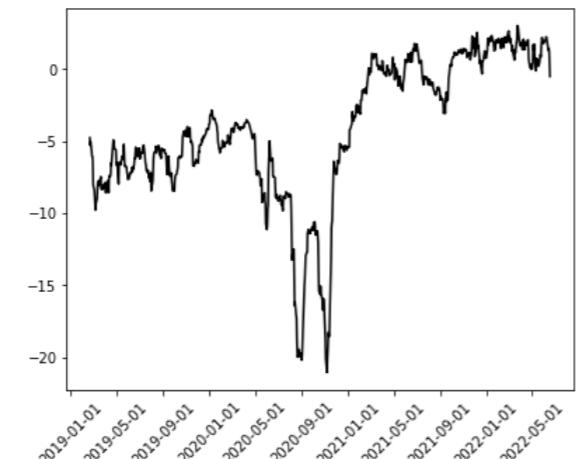
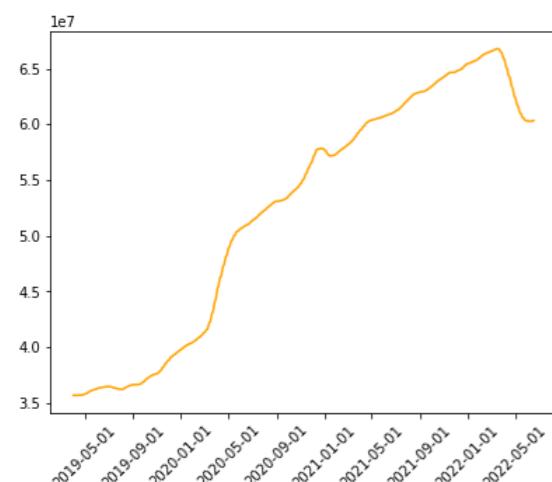
```

2022-08-17 122.290001 123.200028 148.419324 167.57842 139.154444 9.491287 120.17191 138.15897

	volume_factor	latest_p	vol_3ud_2yr	pct_2yr	adr	num
<b>FANG</b>	1.13222	122.290001	60333589.648438	0.711781	0.579467	0.4671

l axis		r axis
legend		legend
<b>blue</b>	symbol	<b>magenta</b> sector
<b>green</b>	trailing_1yr_max	<b>cyan</b> index
<b>red</b>	trailing_1yr_min	
<b>orange</b>	30d_vol_2yr	
<b>black</b>	risk_trend_factor/linear	

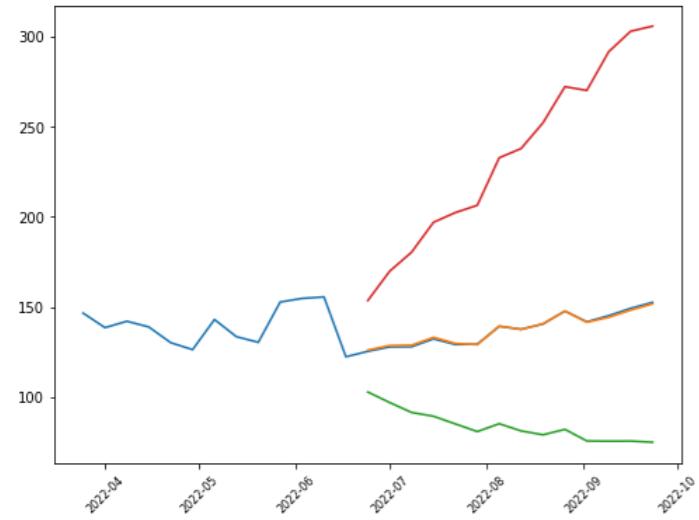
```
yellow      supply_trend_1yr
Sector 1YMF: -3.82000732421875
Sector Volume Factor: 0.8966412344901694
Sector Risk Trend Factor: -0.12330558135216596
Index 1YMF: -287.8400573730469
Index Volume Factor: 1.1835166983613057
Index Risk Trend Factor: -3.791860877423899
```



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'mul', False]
best inner cv score, sdev (11 folds): 459.00504522356 368.234706520547
test cv mean error, stdev (10 folds): 499.21600299893424 362.45054556208976
sell date: 2022-09-23
expected return: 0.24679453664600268
discounted return: 0.0022765656658614297
quarter return: 1.2326989033199744

```



```

['options', ('2023-01-20', '2024-01-19')]
symbol: CVX
sector: Energy
Index: SP500
vol_30d_2yr: 237499572.65625
Sector 1YMF: -18.379974365234375
1YMF: -18.379974365234375
risk trend factor: -0.5020479120133474
    beta debtToEquity dividendRate dividendYield earningsGrowth \
CVX 1.135294      24.919      5.68      0.0338      3.473

    ebitda ebitdaMargins forwardPE grossMargins grossProfits \
CVX 38513999872     0.21779   15.602524     0.40935 66234000000

    heldPercentInstitutions industry marketCap \
CVX 0.65877 Oil & Gas Integrated 286030659584

```

```

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
CVX 33087000576     0.12197     0.5113     0.6     2.105308

    priceToSalesTrailing12Months profitMargins revenueGrowth revenuePerShare \
CVX 1.617418     0.11596     0.683     92.025

```

```

    sector sharesOutstanding shortRatio totalCash totalCashPerShare \
CVX Energy 1927689984     2.19 5674999808     2.914

    totalDebt totalRevenue trailingPE
CVX 34872000512 176843997184 28.683552

```

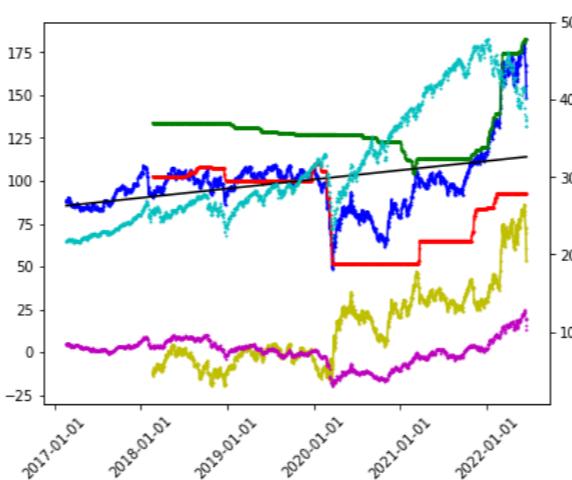
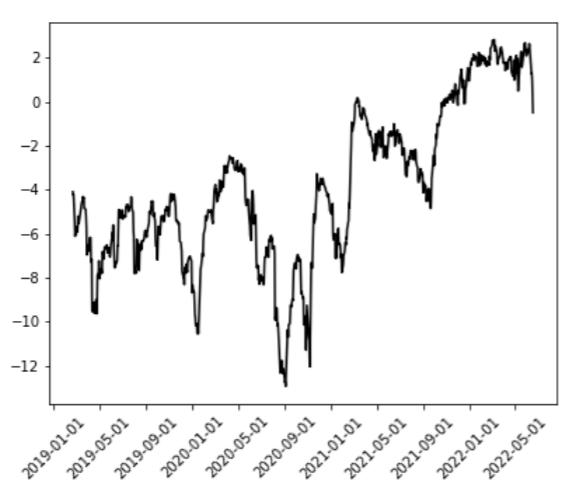
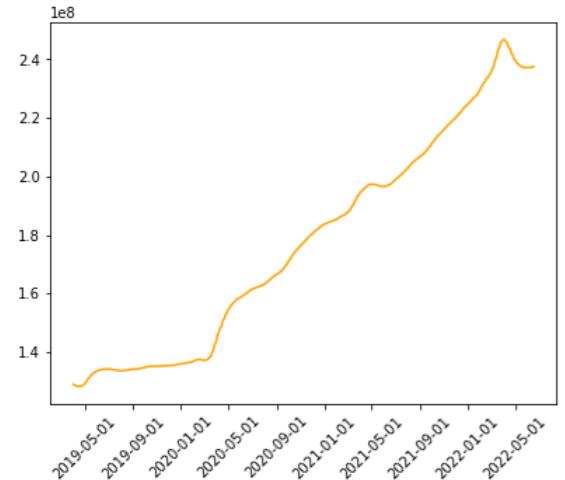
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	148.380005	156.731372	171.950159	187.168946	166.72357	7.044224	152.635122	180.812018

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
<b>CVX</b>	1.062215	148.380005	237499572.65625	0.709826	0.669116	0.489773

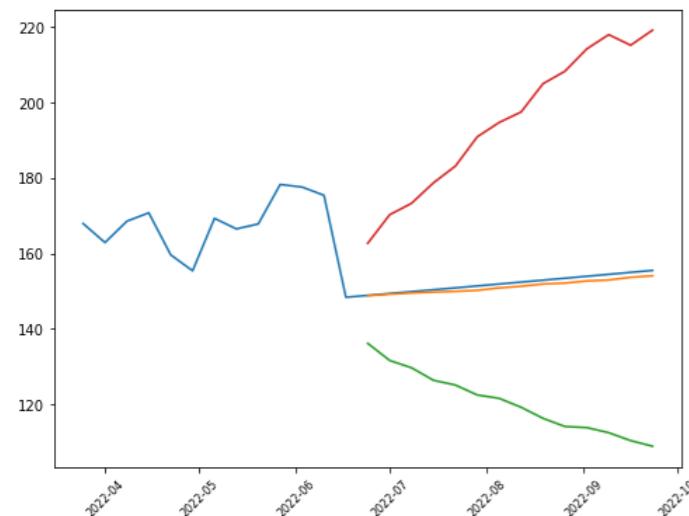
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

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Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: [None, 'mul', False]  
best inner cv score, sdev (11 folds): 352.4866951142436 497.09405047335423  
test cv mean error, stdev (10 folds): 384.720340150738 510.27802944767166  
sell date: 2022-09-23  
expected return: 0.04798558163709821  
discounted return: 0.00048331085835640053  
quarter return: 1.045456735419723



	2022-03-31	2021-12-31	2021-09-30	\
['quarterly_balance_sheet',				
Total Stockholder Equity	1.390670e+11	1.390670e+11	1.358620e+11	
Net Tangible Assets	1.346820e+11	1.346820e+11	1.314600e+11	
Capital Surplus	NaN	1.728200e+10	1.706200e+10	
Total Liab	NaN	9.959500e+10	1.032260e+11	
Minority Interest	NaN	8.730000e+08	8.600000e+08	
Deferred Long Term Liab	NaN	2.235000e+09	1.096200e+10	
Other Current Liab	NaN	1.700000e+09	1.467000e+09	
Total Assets	NaN	2.395350e+11	2.399480e+11	
Common Stock	NaN	1.832000e+09	1.832000e+09	
Other Current Assets	NaN	5.840000e+08	6.500000e+08	
Retained Earnings	NaN	1.655460e+11	1.630440e+11	
Other Liab	NaN	3.918300e+10	4.098200e+10	
Good Will	NaN	4.385000e+09	4.402000e+09	
Treasury Stock	NaN	-4.559300e+10	-4.607600e+10	
Other Assets	NaN	1.008700e+10	1.436700e+10	
Cash	NaN	5.640000e+09	5.998000e+09	
Total Current Liabilities	NaN	2.679100e+10	2.518800e+10	
Deferred Long Term Asset Charges	NaN	5.659000e+09	NaN	
Short Long Term Debt	NaN	1.460000e+08	NaN	
Other Stockholder Equity	NaN	-4.129000e+09	-4.658000e+09	
Property Plant Equipment	NaN	1.506290e+11	1.479450e+11	
Total Current Assets	NaN	3.373800e+10	3.213700e+10	
Long Term Investments	NaN	4.069600e+10	4.109700e+10	
Short Term Investments	NaN	3.500000e+07	3.400000e+07	
Net Receivables	NaN	1.816800e+10	1.616300e+10	
Long Term Debt	NaN	3.066400e+10	3.705600e+10	
Inventory	NaN	6.305000e+09	6.129000e+09	
Accounts Payable	NaN	1.645400e+10	1.530800e+10	

	2021-06-30			
Total Stockholder Equity	1.331820e+11			
Net Tangible Assets	1.287800e+11			
Capital Surplus	1.704400e+10			
Total Liab	1.088950e+11			
Minority Interest	7.290000e+08			
Deferred Long Term Liab	1.096100e+10			
Other Current Liab	1.212000e+09			
Total Assets	2.428060e+11			
Common Stock	1.832000e+09			
Other Current Assets	4.810000e+08			
Retained Earnings	1.596400e+11			
Other Liab	4.122700e+10			
Good Will	4.402000e+09			
Treasury Stock	-4.533400e+10			
Other Assets	1.367200e+10			
Cash	7.527000e+09			
Total Current Liabilities	2.814700e+10			
Deferred Long Term Asset Charges	NaN			
Short Long Term Debt	NaN			
Other Stockholder Equity	-4.535000e+09			
Property Plant Equipment	1.512080e+11			
Total Current Assets	3.297300e+10			
Long Term Investments	4.055100e+10			
Short Term Investments	3.400000e+07			
Net Receivables	1.560200e+10			
Long Term Debt	3.952100e+10			
Inventory	6.239000e+09			
Accounts Payable	1.471900e+10	]		

	2022-03-31	2021-12-31	\
['quarterly_cashflow',			
Change To Liabilities	0.000000e+00	1.633000e+09	
Total Cashflows From Investing Activities	-7.000000e+08	-1.389000e+09	
Net Borrowings	-2.000000e+09	-6.004000e+09	
Total Cash From Financing Activities	-1.400000e+09	-8.290000e+09	
Change To Operating Activities	-9.000000e+08	1.400000e+07	
Issuance Of Stock	4.600000e+09	2.830000e+08	
Net Income	6.259000e+09	5.055000e+09	
Change In Cash	6.000000e+09	-2.300000e+08	
Repurchase Of Stock	-1.300000e+09	-1.300000e+09	
Total Cash From Operating Activities	8.100000e+09	9.458000e+09	
Depreciation	3.700000e+09	4.433000e+09	
Dividends Paid	-2.700000e+09	-2.567000e+09	
Change To Netincome	-9.590000e+08	-2.900000e+07	
Capital Expenditures	-2.000000e+09	-2.606000e+09	
Investments	NaN	4.160000e+08	
Effect Of Exchange Rate	NaN	-9.000000e+06	
Other Cashflows From Investing Activities	NaN	1.200000e+07	
Change To Inventory	NaN	-1.770000e+08	
Change To Account Receivables	NaN	-1.856000e+09	
Other Cashflows From Financing Activities	NaN	-2.000000e+06	

	2021-09-30	2021-06-30	
Change To Liabilities	9.100000e+07	2.152000e+09	
Total Cashflows From Investing Activities	-1.341000e+09	-1.572000e+09	
Net Borrowings	-5.628000e+09	-2.463000e+09	
Total Cash From Financing Activities	-8.825000e+09	-4.945000e+09	

```

Change To Operating Activities      -1.990000e+08  2.300000e+07
Issuance Of Stock                 2.830000e+08  1.060000e+08
Net Income                         6.111000e+09  3.082000e+09
Change In Cash                      -1.663000e+09  4.240000e+08
Repurchase Of Stock                -6.180000e+08  -6.180000e+08
Total Cash From Operating Activities 8.579000e+09  6.954000e+09
Depreciation                        4.304000e+09  4.522000e+09
Dividends Paid                      -2.571000e+09  -2.573000e+09
Change To Netincome                  -1.303000e+09  -4.420000e+08
Capital Expenditures                -1.907000e+09  -1.797000e+09
Investments                          5.000000e+06  6.000000e+06
Effect Of Exchange Rate             -7.600000e+07  -1.300000e+07
Other Cashflows From Investing Activities 3.500000e+08  1.400000e+07
Change To Inventory                  1.180000e+08  -5.220000e+08
Change To Account Receivables       -9.670000e+08  -1.898000e+09
Other Cashflows From Financing Activities -8.000000e+06  -1.500000e+07 ]]
['quarterly_earnings',           Revenue   Earnings
Quarter
2Q2021    36117000000  3082000000
3Q2021    42552000000  6111000000
4Q2021    45861000000  5055000000
1Q2022    52314000000  6259000000]
```

```
[ 'quarterly_financials',          2022-03-31  2021-12-31 \
```

	2022-03-31	2021-12-31
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	9054000000.0	6985000000.0
Minority Interest	Nan	873000000.0
Net Income	6259000000.0	5055000000.0
Selling General Administrative	6669000000.0	6864000000.0
Gross Profit	19665000000.0	18520000000.0
Ebit	7131000000.0	5283000000.0
Operating Income	7131000000.0	5283000000.0
Other Operating Expenses	2002000000.0	1782000000.0
Interest Expense	-136000000.0	-155000000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	2777000000.0	1903000000.0
Total Revenue	52314000000.0	45861000000.0
Total Operating Expenses	45183000000.0	40578000000.0
Cost Of Revenue	32649000000.0	27341000000.0
Total Other Income Expense Net	1923000000.0	1702000000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	6277000000.0	5082000000.0
Net Income Applicable To Common Shares	6259000000.0	5055000000.0

```
2021-09-30  2021-06-30
```

	2021-09-30	2021-06-30
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	8055000000.0	4422000000.0
Minority Interest	860000000.0	729000000.0
Net Income	6111000000.0	3082000000.0
Selling General Administrative	6110000000.0	6160000000.0
Gross Profit	18718000000.0	15488000000.0
Ebit	6063000000.0	3131000000.0
Operating Income	6063000000.0	3131000000.0
Other Operating Expenses	2083000000.0	1562000000.0
Interest Expense	-174000000.0	-185000000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	1940000000.0	1328000000.0
Total Revenue	42552000000.0	36117000000.0
Total Operating Expenses	36489000000.0	32986000000.0
Cost Of Revenue	23834000000.0	20629000000.0
Total Other Income Expense Net	1992000000.0	1291000000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	6115000000.0	3094000000.0
Net Income Applicable To Common Shares	6111000000.0	3082000000.0 ]

```
[ 'mutualfund_holders',           Holder   Shares Date Reported \
```

	Vanguard Total Stock Market Index Fund	54780688	2021-12-30
0	Select Sector SPDR Fund-Energy Select	51246464	2022-01-30
1	Vanguard 500 Index Fund	40823519	2021-12-30
2	SPDR S&P 500 ETF Trust	20503512	2022-01-30
3	Fidelity 500 Index Fund	19741038	2022-02-27
4	iShares Core S&P 500 ETF	16032863	2022-01-30
5	Vanguard Index-Value Index Fund	14729977	2021-12-30
6	Vanguard Institutional Index Fund-Institutional...	14524646	2021-12-30
7	Washington Mutual Investors Fund	12690652	2022-01-30
8	Franklin Custodian Funds-Income Fund	12000000	2021-12-30

% Out	Value
0.0279	6428513736
0.0261	6730198117
0.0208	4790639954
0.0104	2692726230

```

4 0.0100 2842709472
5 0.0082 2105595897
6 0.0075 1728562800
7 0.0074 1704467208
8 0.0065 1666663327
9 0.0061 1408200000 ]]
['options', ('2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 10.63
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile 0
peerCount 66
governanceScore 9.95
environmentPercentile 0
animalTesting True
tobacco False
totalEsg 43
highestControversy 3
esgPerformance None
coal False
pesticides False
adult False
percentile 92.22
peerGroup Oil & Gas Producers
smallArms False
environmentScore 22.42
governancePercentile 0
militaryContract False]
symbol: CTRA
sector: Energy
Index: SP500
vol_30d_2yr: 166901859.9609375
Sector 1YMF: -5.129997253417969
1YMF: -5.129997253417969
risk trend factor: -0.5064163552240363
    beta currentRatio debtToEquity dividendRate dividendYield \
CTRA -0.189215 1.751 29.377 0.6 0.0201

    earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
CTRA 2.487 2364999936 0.64441 7.434174 1148249984

    grossMargins grossProfits heldPercentInstitutions industry \
CTRA 0.77684 2851000000 0.94558 Oil & Gas E&P

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
CTRA 21592360960 1667000064 0.45559 0.182 0.09

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
CTRA 4.560137 5.883477 0.31553 1.699

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
CTRA 0.08557 0.16538 4.191 7.296 Energy

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
CTRA 813577984 3.2 1036000000 1.273 3463000064

    totalRevenue trailingPE
CTRA 3670000128 30.193403

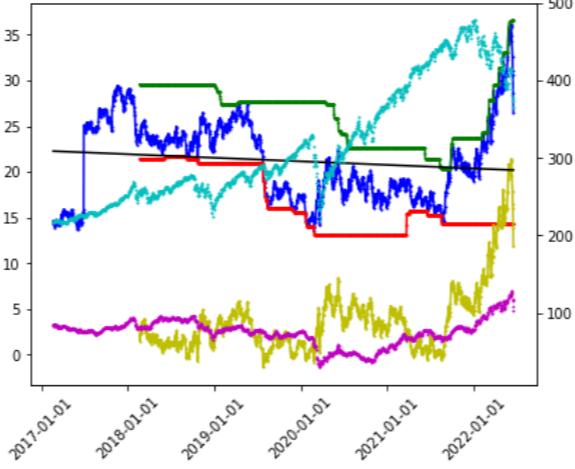
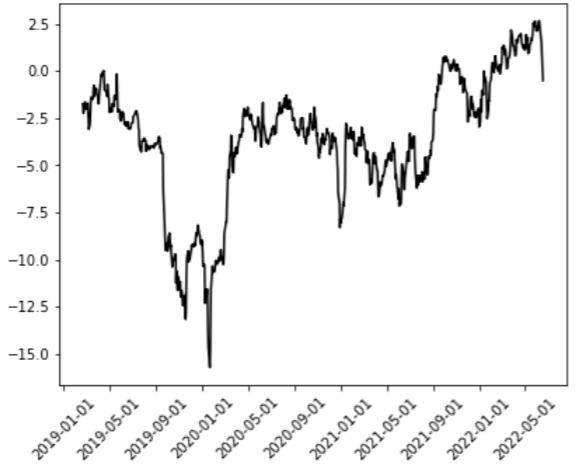
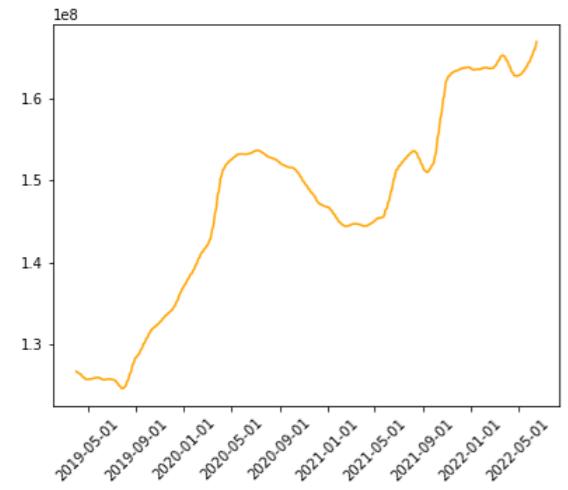
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 26.540001 28.387845 33.230635 38.073425 30.302698 2.942304 24.418091 36.187306

volume_factor latest_p vol_30d_2yr pct_2yr adf hurst
CTRA 1.576163 26.540001 166901859.960938 0.550516 0.135656 0.459926

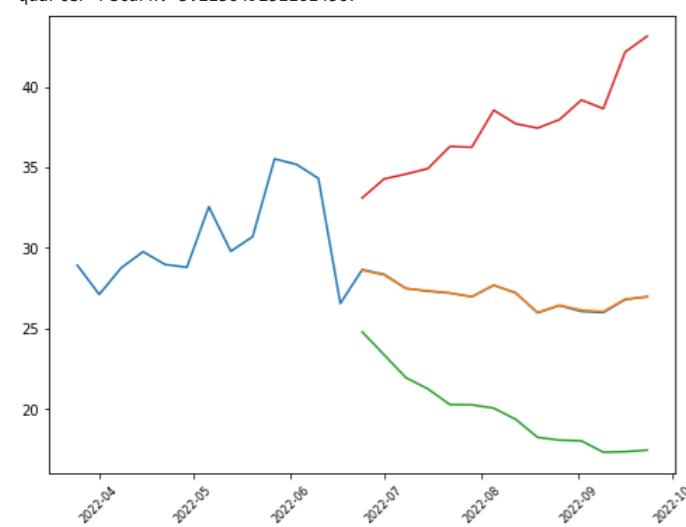
```

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['mul', 'mul', True]  
best inner cv score, sdev (11 folds): 10.275293829952599 11.188755969533434  
test cv mean error, stdev (10 folds): 11.197177027146749 11.329542410812056  
sell date: 2022-06-24  
expected return: 0.07910851111841205  
discounted return: 0.012770057541949376  
quarter return: 3.2136492511014567



```
[ 'quarterly_balance_sheet', 2021-12-31 2021-09-30 2021-06-30 \
Capital Surplus 1.091100e+10 1.823373e+09 1.815770e+09
Total Liab 8.112000e+09 2.404585e+09 2.310672e+09
Total Stockholder Equity 1.173800e+10 2.326112e+09 2.299895e+09
Deferred Long Term Liab 5.000000e+06 5.329000e+06 5.844000e+06
Other Current Liab 1.880000e+08 2.128940e+08 7.719900e+07
Total Assets 1.990000e+10 4.730697e+09 4.610567e+09
Common Stock 8.900000e+07 4.786200e+07 4.786200e+07
Other Current Assets 2.400000e+07 1.323500e+07 1.540000e+07
Retained Earnings 2.563000e+09 2.276071e+09 2.257320e+09
Other Liab 3.512000e+09 9.650310e+08 9.577370e+08
Treasury Stock -1.825000e+09 -1.821194e+09 -1.821057e+09
Other Assets 7.200000e+07 3.109900e+07 3.170800e+07
Cash 1.036000e+09 7.627000e+07 1.581470e+08
Total Current Liabilities 1.220000e+09 4.668100e+08 3.786840e+08
Other Stockholder Equity 1.000000e+06 2.007000e+06 2.144000e+06
Property Plant Equipment 1.769200e+10 4.256875e+09 4.182793e+09
Total Current Assets 2.136000e+09 4.427230e+08 3.960660e+08
Net Tangible Assets 1.173800e+10 2.326112e+09 2.299895e+09
Net Receivables 1.037000e+09 3.404370e+08 2.051240e+08
Long Term Debt 3.125000e+09 9.465090e+08 9.463160e+08
Inventory 3.900000e+07 1.278100e+07 1.739500e+07
Accounts Payable 7.470000e+08 2.271920e+08 1.662560e+08
Short Long Term Debt NaN NaN 1.000000e+08
```

2021-03-31

```
Capital Surplus 1.808232e+09
Total Liab 2.244882e+09
Total Stockholder Equity 2.305970e+09
Deferred Long Term Liab 6.360000e+06
Other Current Liab 1.989500e+07
Total Assets 4.550852e+09
Common Stock 4.783800e+07
Other Current Assets 2.198400e+07
Retained Earnings 2.270819e+09
Other Liab 9.549700e+08
Treasury Stock -1.820919e+09
Other Assets 3.078400e+07
Cash 1.736590e+08
Total Current Liabilities 3.150920e+08
Other Stockholder Equity 2.282000e+06
Property Plant Equipment 4.108153e+09
Total Current Assets 4.119150e+08
Net Tangible Assets 2.305970e+09
Net Receivables 2.004020e+08
Long Term Debt 9.461230e+08
Inventory 1.587000e+07
Accounts Payable 1.691010e+08
Short Long Term Debt 1.000000e+08 ]
```

2021-12-31 2021-09-30 \

```
[ 'quarterly_cashflow', 2021-12-31 2021-09-30 \
Change To Liabilities -17390000.0 76262000.0
Total Cashflows From Investing Activities 771721000.0 -183894000.0
Net Borrowings -2000000.0 -100000000.0
Total Cash From Financing Activities -764618000.0 -143963000.0
Change To Operating Activities 17176000.0 -9218000.0
Net Income 938468000.0 62714000.0
Change In Cash 959440000.0 -82663000.0
Repurchase Of Stock -108431000.0 -108431000.0
Total Cash From Operating Activities 952337000.0 245194000.0
Depreciation 410014000.0 97289000.0
Dividends Paid -652187000.0 -43963000.0
Change To Inventory 2511000.0 4614000.0
Change To Account Receivables -159015000.0 -102009000.0
Other Cashflows From Financing Activities -2000000.0 -2000000.0
Change To Netincome -320852000.0 148138000.0
Capital Expenditures -268960000.0 -184101000.0
```

2021-06-30 2021-03-31

```
Change To Liabilities -15297000.0 3425000.0
Total Cashflows From Investing Activities -151302000.0 -123525000.0
Net Borrowings -100000000.0 -88000000.0
Total Cash From Financing Activities -43963000.0 -133456000.0
Change To Operating Activities 4956000.0 -13914000.0
Net Income 30464000.0 126354000.0
Change In Cash -16323000.0 33546000.0
Repurchase Of Stock -108431000.0 -5569000.0
Total Cash From Operating Activities 178942000.0 290527000.0
Depreciation 91549000.0 94148000.0
Dividends Paid -43963000.0 -39887000.0
Change To Inventory -1525000.0 -600000.0
Change To Account Receivables 15143000.0 16881000.0
Other Cashflows From Financing Activities -2000000.0 -2000000.0
Change To Netincome 92703000.0 40011000.0
Capital Expenditures -151322000.0 -123617000.0 ]
[ 'quarterly_earnings', Revenue Earnings
Quarter
```

```

1Q2021 472918000 126354000
2Q2021 411788000 30464000
3Q2021 641678000 62714000
4Q2021 2143616000 938468000]
['quarterly_financials',
 2021-12-31 2021-09-30 \
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 1214465000.0 83216000.0
Minority Interest None None
Net Income 938468000.0 62714000.0
Selling General Administrative 95410000.0 24998000.0
Gross Profit 1797984000.0 471530000.0
Ebit 1298389000.0 135756000.0
Operating Income 1298389000.0 135756000.0
Other Operating Expenses -14836000.0 209489000.0
Interest Expense -24488000.0 -12577000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 275997000.0 20502000.0
Total Revenue 2143616000.0 641678000.0
Total Operating Expenses 845227000.0 505922000.0
Cost Of Revenue 345632000.0 170148000.0
Total Other Income Expense Net -83924000.0 -52540000.0
Discontinued Operations None None
Net Income From Continuing Ops 938468000.0 62714000.0
Net Income Applicable To Common Shares 935468000.0 62714000.0

```

```

2021-06-30 2021-03-31
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 41304000.0 163015000.0
Minority Interest None None
Net Income 30464000.0 126354000.0
Selling General Administrative 16837000.0 26755000.0
Gross Profit 262146000.0 319340000.0
Ebit 60088000.0 177767000.0
Operating Income 60088000.0 177767000.0
Other Operating Expenses 91304000.0 18043000.0
Interest Expense -12558000.0 -12377000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 10840000.0 36661000.0
Total Revenue 411788000.0 472918000.0
Total Operating Expenses 351700000.0 295151000.0
Cost Of Revenue 149642000.0 153578000.0
Total Other Income Expense Net -18784000.0 -14752000.0
Discontinued Operations None None
Net Income From Continuing Ops 30464000.0 126354000.0
Net Income Applicable To Common Shares 30464000.0 126354000.0 ]

```

```

['mutualfund_holders',
  Holder Shares Date Reported \
0 Select Sector SPDR Fund-Energy Select 23925372 2022-01-30
1 Vanguard Total Stock Market Index Fund 23123140 2021-12-30
2 Vanguard Small-Cap Index Fund 20493160 2021-12-30
3 Vanguard 500 Index Fund 17229139 2021-12-30
4 Washington Mutual Investors Fund 16985001 2022-01-30
5 Vanguard Fenway Funds-Equity Income Fund 16267453 2021-12-30
6 Income Fund of America Inc 13333912 2022-01-30
7 Vanguard Small-Cap Growth Index Fund 12758989 2021-12-30
8 Victory Portfolios-Sycamore Established Value ... 12049383 2022-01-30
9 Fundamental Investors Inc 11357657 2021-12-30

```

```

% Out Value
0 0.0297 523965646
1 0.0287 439339660
2 0.0254 389370040
3 0.0214 327353641
4 0.0211 371971521
5 0.0202 309081607
6 0.0165 292012672
7 0.0158 242420791
8 0.0150 263881487
9 0.0141 215795483 ]

```

```

['options', ('2022-07-15', '2022-09-16', '2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 14.01
nuclear False
furLeather False
alcoholic False
gmo False
catholic False

```

```

socialPercentile          0
peerCount                 66
governanceScore           9.28
environmentPercentile     0
animalTesting              False
tobacco                   False
totalEsg                  46.68
highestControversy         2
esgPerformance            None
coal                       False
pesticides                False
adult                      False
percentile                95.93
peerGroup                 Oil & Gas Producers
smallArms                 False
environmentScore           23.39
governancePercentile      0
militaryContract           False]
symbol: DLTR
sector: Consumer Defensive
Index: SP500
vol_30d_2yr: 54464099.8046875
Sector 1YMF: -24.44001007080078
1YMF: -24.44001007080078
risk trend factor: -0.5098041868097398
    beta currentRatio debtToEquity earningsGrowth      ebitda \
DLTR  0.702813       1.464      120.278       0.481  2793100032

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
DLTR  0.10444   16.756176   83287504      0.3037  7746100000

    heldPercentInstitutions      industry      marketCap operatingCashflow \
DLTR  1.01078  Discount Stores  35030736896      1413799936

    operatingMargins payoutRatio pegRatio priceToBook \
DLTR  0.07706        0      1.19      4.268359

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
DLTR  1.309849      0.05571      0.284      0.05933

    returnOnEquity revenueGrowth revenuePerShare      sector \
DLTR  0.19035      0.065      118.376  Consumer Defensive

    sharesOutstanding shortRatio      totalCash totalCashPerShare      totalDebt \
DLTR  224556000      1.34  1218499968      5.426  9912699904

    totalRevenue trailingPE
DLTR  26744100864  23.769617

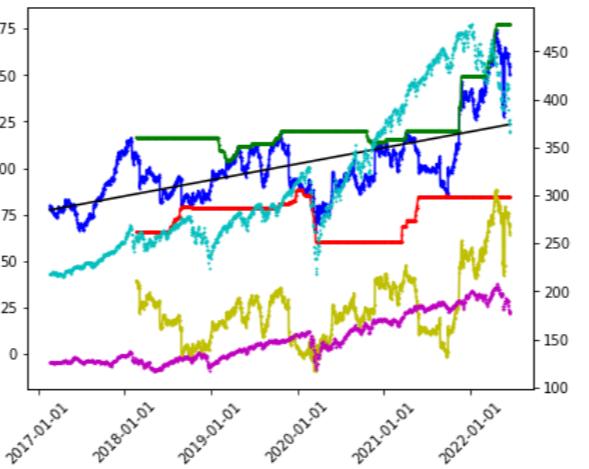
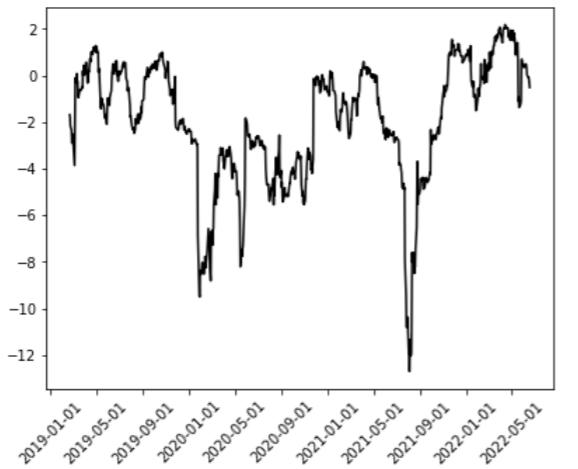
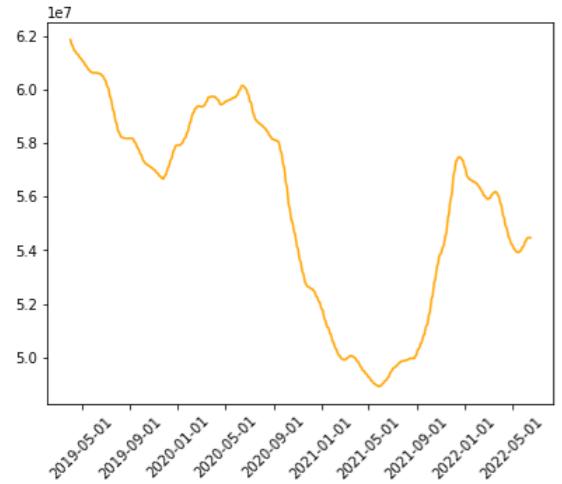
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	150.089996	127.330989	151.813809	176.296629	158.647302	10.32126	138.004781	179.289823

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
<b>DLTR</b>	1.139688	150.089996	54464099.804688	0.708383	0.508611	0.437414

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

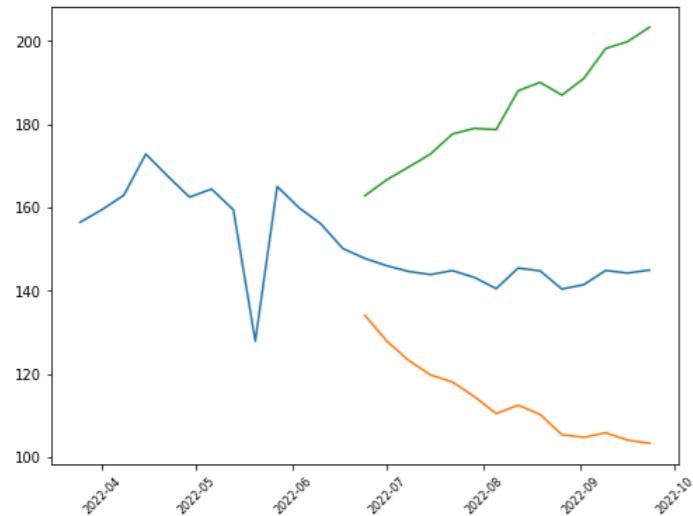
Sector 1YMF: -74.80001831054688  
Sector Volume Factor: 1.4135920452708397  
Sector Risk Trend Factor: -2.283970024749523  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', None]
best inner cv score, sdev (11 folds): 229.27743607804805 335.55903595508755
test cv mean error, stdev (10 folds): 230.18290981156468 351.9244728101693
sell date: 2022-06-24
expected return: -0.015703056620404568
discounted return: -0.002634466307904315
quarter return: 0.7845141098835329

```



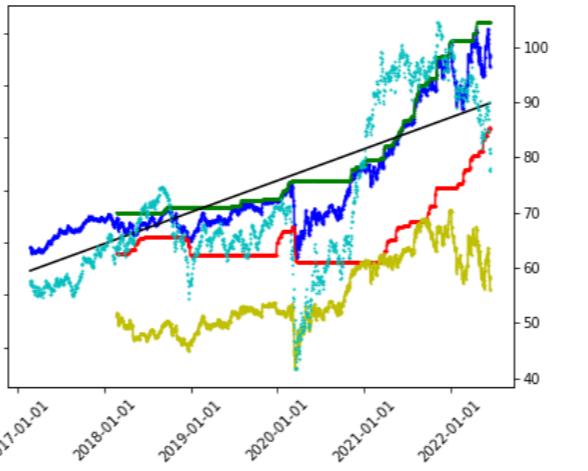
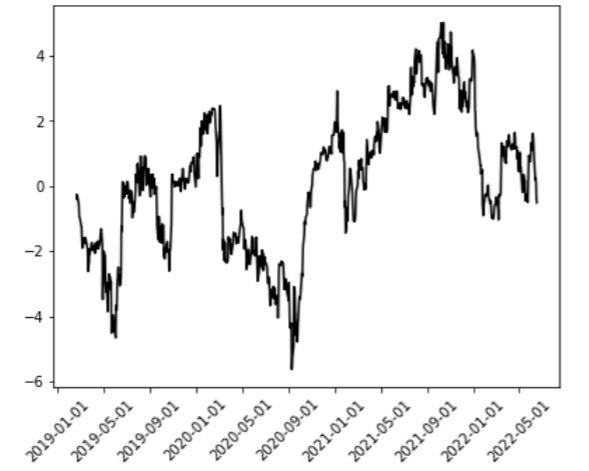
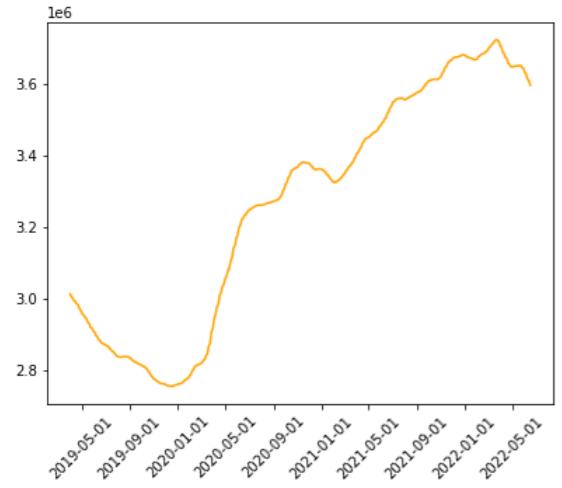
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['sustainability', Value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 7.41
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 57
governanceScore 4.27
environmentPercentile None
animalTesting False
tobacco False
totalEsg 15.08
highestControversy 2
esgPerformance UNDER_PERF
coal False
pesticides False
adult False
percentile 9.94
peerGroup Retailing
smallArms False
environmentScore 3.4
governancePercentile None
militaryContract False]
symbol: EXLS
sector: error
sector: error
Index: SP600
vol_30d_2yr: 3597554.296875
Sector 1YMF: -13.410011291503906
1YMF: -13.410011291503906
risk trend factor: -0.516763501677879
Empty DataFrame
Columns: []
Index: [EXLS]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	134.259995	126.522812	140.06127	153.599727	140.494604	6.235211	128.024183	152.965025

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
EXLS	1.162846	134.259995	3597554.296875	0.786612	0.946996

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

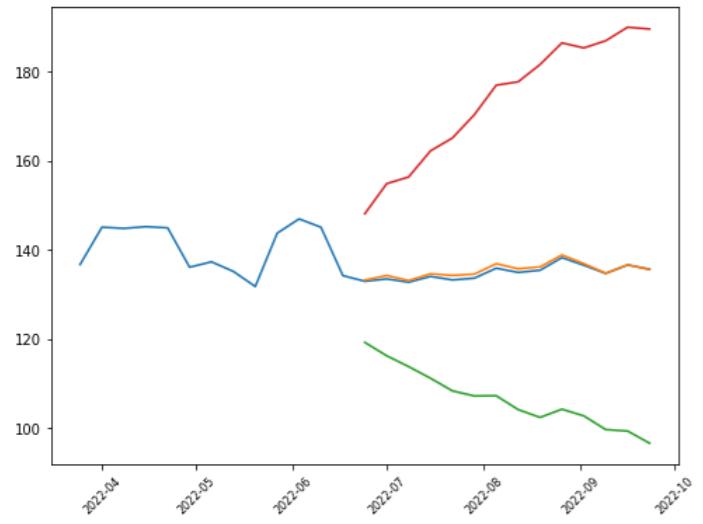
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```

inner cv scores:
best model: ['mul', 'add', False]
best inner cv score, sdev (11 folds): 195.43581797354952 180.93710581168216
test cv mean error, stdev (10 folds): 207.6343054057983 185.40557120722215
sell date: 2022-08-26
expected return: 0.03011038499345682
discounted return: 0.00043003398008045757
quarter return: 1.0403473230400018

```



```

['options', ('2022-07-15',)]
symbol: PDCE
sector: Energy
Index: SP400
vol_30d_2yr: 24813862.890625
Sector 1YMF: -14.360000610351562
1YMF: -14.360000610351562
risk trend factor: -0.5396467599014401
    beta currentRatio debtToEquity dividendRate dividendYield \
PDCE 2.922058      0.498     32.834        1      0.0155

```

```

ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
PDCE 1278352000      0.53439   6.465069   661902144      0.88251

```

```

grossProfits heldPercentInstitutions industry marketCap \
PDCE 2111095000      0.96343   Oil & Gas E&P 6308347904

```

```

operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
PDCE 1547795968      0.26364   0.1225      0.14    2.480472

```

```

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PDCE 2.637096      0.21834     0.47      0.07455

```

```

returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
PDCE 0.18904       1.41      24.275   Energy      97381104

```

```

shortRatio totalCash totalCashPerShare totalDebt totalRevenue trailingPE
PDCE 7.65 33829000      0.351   955555008  2392156928  152.06572

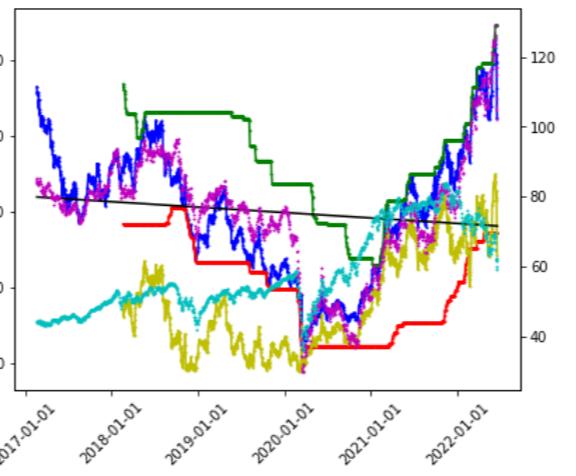
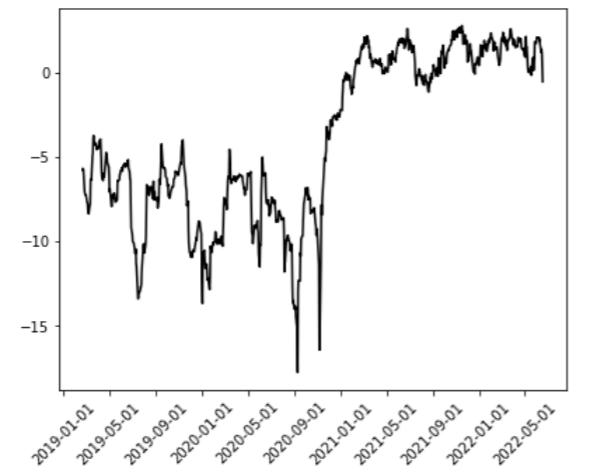
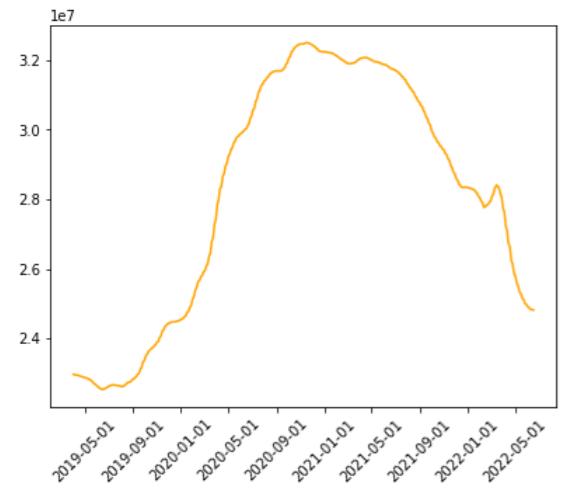
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	64.779999	63.693839	77.329841	90.965843	73.805873	5.730229	62.345416	85.26633

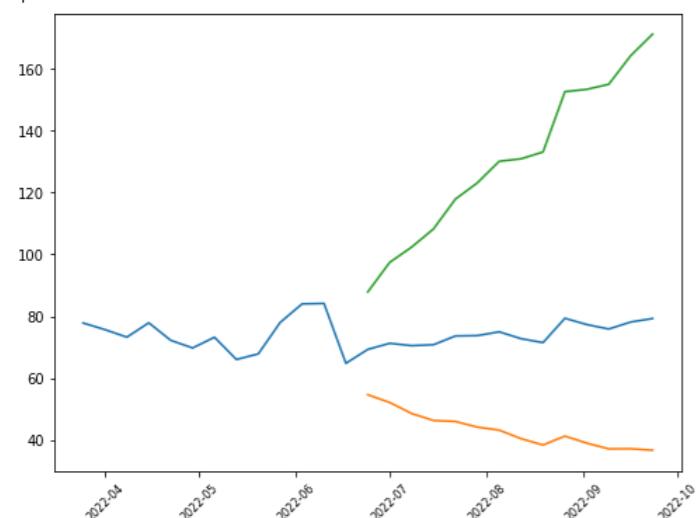
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
PDCE	1.314132	64.779999	24813862.890625	0.689138	0.390825	0.487351

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', True]  
best inner cv score, sdev (11 folds): 66.2456111050472 64.8590761857845  
test cv mean error, stdev (10 folds): 70.97253672099464 66.1937233826639  
sell date: 2022-08-26  
expected return: 0.22468519510228271  
discounted return: 0.0029417652978513953  
quarter return: 1.310285566530066



```
[{'quarterly_balance_sheet', 2021-12-31 2021-09-30 2021-06-30 \
Capital Surplus 3.161941e+09 3.267261e+09 3.333168e+09
Total Liab 2.426419e+09 2.823041e+09 2.869083e+09
Total Stockholder Equity 2.910247e+09 2.544224e+09 2.464906e+09
Deferred Long Term Liab 1.690000e+07 5.600000e+06 6.400000e+06
Other Current Liab 6.228770e+08 7.500000e+08 6.521960e+08
Total Assets 5.336666e+09 5.367265e+09 5.333989e+09
Common Stock 9.650000e+05 9.740000e+05 9.890000e+05
Other Current Assets 1.790000e+07 7.559000e+06 5.146000e+06
Retained Earnings -2.499540e+08 -7.230170e+08 -8.683380e+08
Other Liab 5.579650e+08 5.186080e+08 4.555700e+08
Treasury Stock -2.705000e+06 -9.940000e+05 -9.130000e+05
Other Assets 5.559800e+07 4.755700e+07 4.764500e+07
Cash 3.382900e+07 9.992200e+07 1.097490e+08
Total Current Liabilities 9.200960e+08 1.053438e+09 1.161964e+09
Property Plant Equipment 4.822495e+09 4.835014e+09 4.856531e+09
Total Current Assets 4.585730e+08 4.846940e+08 4.298130e+08
Net Tangible Assets 2.910247e+09 2.544224e+09 2.464906e+09
Net Receivables 3.986050e+08 3.686110e+08 3.072010e+08
Long Term Debt 9.420840e+08 1.243235e+09 1.242676e+09
Accounts Payable 1.278910e+08 1.439310e+08 1.770990e+08
Short Long Term Debt NaN NaN 1.979190e+08

2021-03-31
Capital Surplus 3.369272e+09
Total Liab 2.653589e+09
Total Stockholder Equity 2.587068e+09
Deferred Long Term Liab 7.300000e+06
Other Current Liab 4.411260e+08
Total Assets 5.240657e+09
Common Stock 9.940000e+05
Other Current Assets 8.032000e+06
Retained Earnings -7.813910e+08
Other Liab 4.580310e+08
Treasury Stock -1.897000e+06
Other Assets 6.254900e+07
Cash 5.906700e+07
Total Current Liabilities 9.435670e+08
Property Plant Equipment 4.842849e+09
Total Current Assets 3.352590e+08
Net Tangible Assets 2.587068e+09
Net Receivables 2.568370e+08
Long Term Debt 1.242108e+09
Accounts Payable 1.206470e+08
Short Long Term Debt 1.954510e+08 ]
['quarterly_cashflow', 2021-12-31 2021-09-30 \
Change To Liabilities 40183000.0 0.0
Total Cashflows From Investing Activities -154330000.0 -188348000.0
Net Borrowings -308979000.0 -200414000.0
Total Cash From Financing Activities -431738999.0 -271933000.0
Change To Operating Activities 160409000.0 33962000.0
Net Income 473063000.0 145321000.0
Change In Cash -66093000.0 -9827000.0
Repurchase Of Stock -49679000.0 -59804000.0
Total Cash From Operating Activities 519976000.0 450454000.0
Depreciation 159870000.0 172469000.0
Dividends Paid -11401627.0 -11715000.0
Change To Account Receivables -153717000.0 -153717000.0
Other Cashflows From Financing Activities -13066000.0 -13066000.0
Change To Netincome -162105000.0 95221000.0
Capital Expenditures -154808000.0 -188654000.0

2021-06-30 2021-03-31
Change To Liabilities 0.0 0.0
Total Cashflows From Investing Activities -131379000.0 -104747000.0
Net Borrowings -434000.0 -168445000.0
Total Cash From Financing Activities -42246000.0 -191868000.0
Change To Operating Activities -11870000.0 53068000.0
Net Income -87037000.0 -9036000.0
Change In Cash 50682000.0 56444000.0
Repurchase Of Stock -29927000.0 -23423000.0
Total Cash From Operating Activities 224307000.0 353059000.0
Depreciation 165442000.0 149891000.0
Dividends Paid -11885000.0 -11885000.0
Change To Account Receivables -153717000.0 -153717000.0
Other Cashflows From Financing Activities -13066000.0 -13066000.0
Change To Netincome 260725000.0 155299000.0
Capital Expenditures -131423000.0 -109117000.0 ]
['quarterly_earnings', Revenue Earnings
Quarter
1Q2021 437800000 -9036000
202021 510154000 -87037000
3Q2021 659386000 145321000
4Q2021 784817000 473063000]
['quarterly_financials', 2021-12-31 2021-09-30 2021-06-30 \
Research Development None None None]
```

	None	None	None
Effect Of Accounting Charges	499536000.0	145531000.0	-87192000.0
Income Before Tax			
Minority Interest	None	None	None
Net Income	473063000.0	145321000.0	-87037000.0
Selling General Administrative	31366000.0	30847000.0	32843000.0
Gross Profit	708056000.0	587005000.0	441770000.0
Ebit	522355000.0	165486000.0	-67199000.0
Operating Income	522355000.0	165486000.0	-67199000.0
Other Operating Expenses	-2836000.0	220806000.0	313630000.0
Interest Expense	-16572000.0	-20098000.0	-20060000.0
Extraordinary Items	None	None	None
Non Recurring	None	None	None
Other Items	None	None	None
Income Tax Expense	26473000.0	210000.0	-155000.0
Total Revenue	784817000.0	659386000.0	510154000.0
Total Operating Expenses	262462000.0	493900000.0	577353000.0
Cost Of Revenue	76761000.0	72381000.0	68384000.0
Total Other Income Expense Net	-22819000.0	-19955000.0	-19993000.0
Discontinued Operations	None	None	None
Net Income From Continuing Ops	473063000.0	145321000.0	-87037000.0
Net Income Applicable To Common Shares	473063000.0	145321000.0	-87037000.0

2021-03-31

Research Development	None
Effect Of Accounting Charges	None
Income Before Tax	-8981000.0
Minority Interest	None
Net Income	-9036000.0
Selling General Administrative	32677000.0
Gross Profit	374264000.0
Ebit	10038000.0
Operating Income	10038000.0
Other Operating Expenses	184432000.0
Interest Expense	-19041000.0
Extraordinary Items	None
Non Recurring	None
Other Items	None
Income Tax Expense	55000.0
Total Revenue	437800000.0
Total Operating Expenses	427762000.0
Cost Of Revenue	63536000.0
Total Other Income Expense Net	-19019000.0
Discontinued Operations	None
Net Income From Continuing Ops	-9036000.0
Net Income Applicable To Common Shares	-9036000.0

['mutualfund_holders',		Holder	Shares	Date Reported	\
0	iShares Core S&P Smallcap ETF	6850630	2022-01-30		
1	Vanguard Total Stock Market Index Fund	2768637	2021-12-30		
2	Vanguard Small-Cap Index Fund	2452337	2021-12-30		
3	Oakmark Equity and Income Fund	2387591	2021-12-30		
4	Delaware Group Equity Fds V-Small Cap Core Fund	2303183	2022-02-27		
5	iShares Russell 2000 ETF	2232757	2022-01-30		
6	DFA U.S. Small Cap Value Series	2118368	2022-01-30		
7	Victory Portfolios-Sycamore Small Company Oppo...	1970000	2022-01-30		
8	Vanguard Small-Cap Growth Index Fund	1526296	2021-12-30		
9	SPDR (R) Ser Tr-SPDR (R) S&P (R) Oil & Gas Exp...	1385684	2022-01-30		

% Out	Value
0 0.0718	406036840
1 0.0290	135054112
2 0.0257	119624998
3 0.0250	116466688
4 0.0241	148601367
5 0.0234	132335507
6 0.0222	125555671
7 0.0206	116761900
8 0.0160	74452718
9 0.0145	82129490

[ 'options', ('2022-07-15', '2022-12-16')]

symbol: SAFT  
sector: error  
sector: error  
Index: SP600  
vol\_30d\_2yr: 1389322.8515625  
Sector 1YMF: -6.500007629394531  
1YMF: -6.500007629394531  
risk trend factor: -0.5453023882169435  
Empty DataFrame  
Columns: []  
Index: [SAFT]

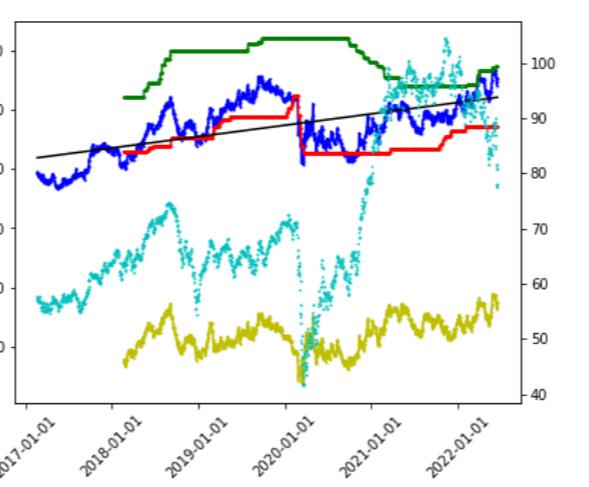
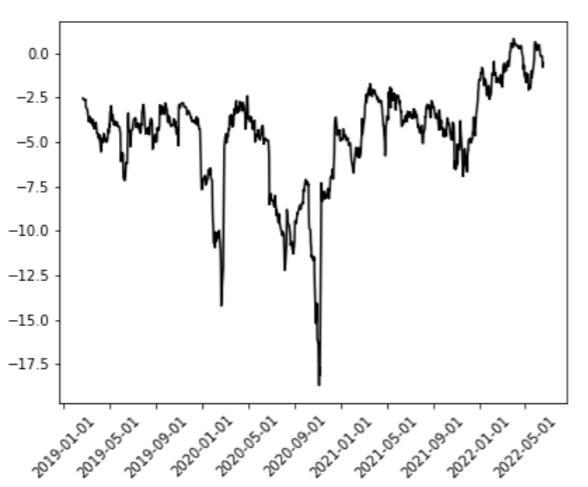
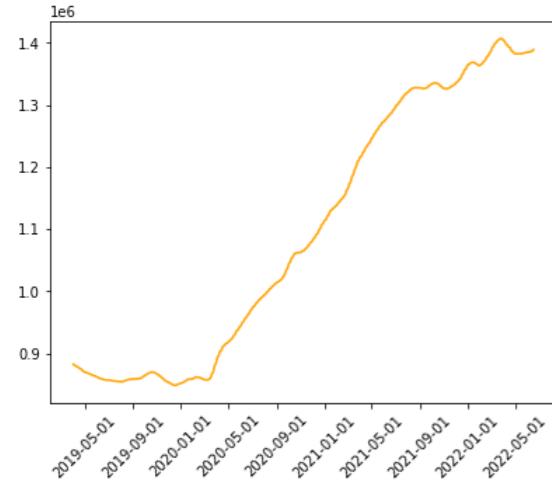
Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
-----------	---------	----------	---------	--------	---------	-----------	-----------

2022-06-17 89.279999 86.281435 90.769753 95.25807 88.833085 2.791169 83.250748 94.415422

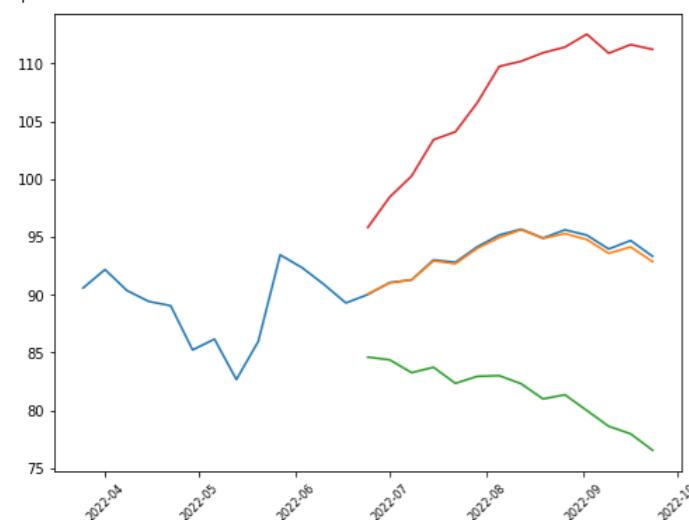
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
SAFT	1.224409	89.279999	1389322.851562	0.813017	0.355619	0.426824

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Index 1YMF: -77.27001953125  
 Index Volume Factor: 1.232760496116622  
 Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
 2022-06-17  
 2022-06-24  
 inner cv scores:  
 best model: ['mul', 'mul', False]  
 best inner cv score, sdev (11 folds): 44.584910960896444 46.35750841305056  
 test cv mean error, stdev (10 folds): 48.48701673436766 46.86612367659447  
 sell date: 2022-08-12  
 expected return: 0.07156331651840256  
 discounted return: 0.0012574922659944754  
 quarter return: 1.1225654094938735



```
[ 'options', ('2022-08-19',) ]
symbol: RRC
sector: Energy
Index: SP400
vol_30d_2yr: 120549255.6640625
Sector 1YMF: -6.6699981689453125
1YMF: -6.6699981689453125
risk trend factor: -0.5642977510548108
    beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
RRC  1.988656      0.246     162.685  458860992      0.11425  5.124756

freeCashflow grossMargins grossProfits heldPercentInstitutions \
RRC  838692352      0.57877   1937478000      0.8719

industry marketCap operatingCashflow operatingMargins payoutRatio \
RRC Oil & Gas E&P 7092963328      1090109952      0.02264      0

pegRatio priceToBook priceToSalesTrailing12Months profitMargins \
RRC  0.29      3.976706      1.766035      -0.01797

quickRatio returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
RRC  0.238      0.00892      -0.04423      0.637      16.483

sector sharesOutstanding shortRatio totalCash totalCashPerShare \
RRC Energy 269796992      3.45   112931000      0.453

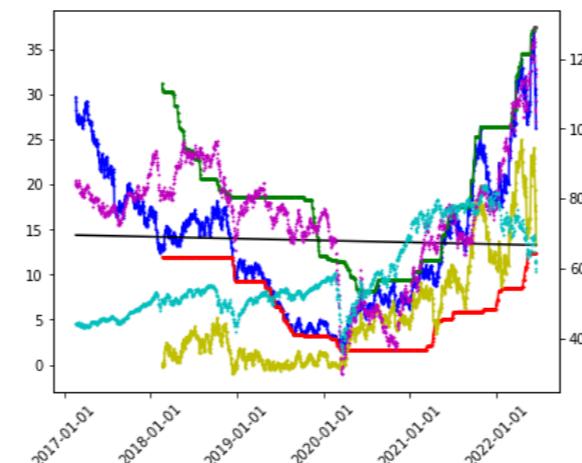
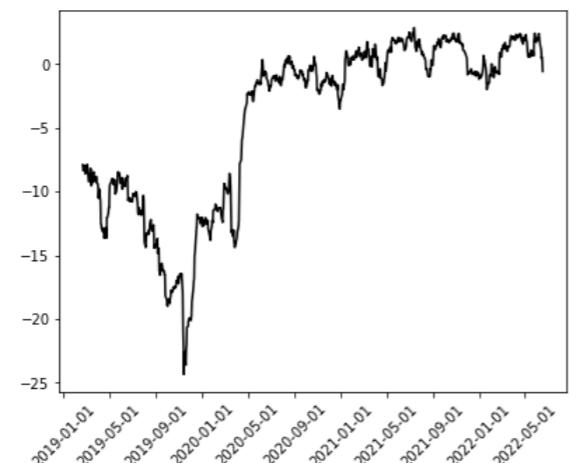
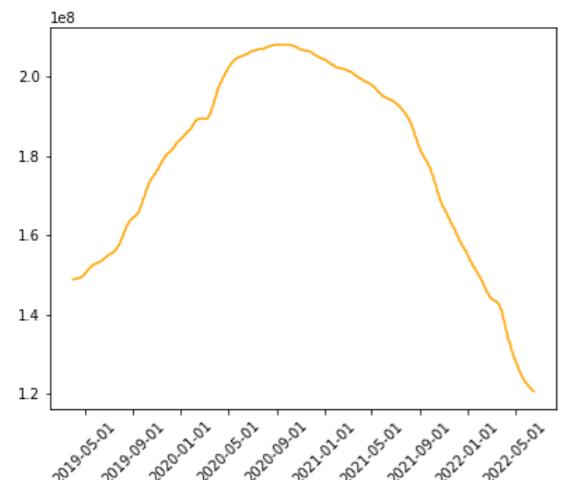
totalDebt totalRevenue
RRC 2603130112 4016321024

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 26.29001 26.463464 32.556032 38.6486 31.029206 2.69788 25.633446 36.424967
```

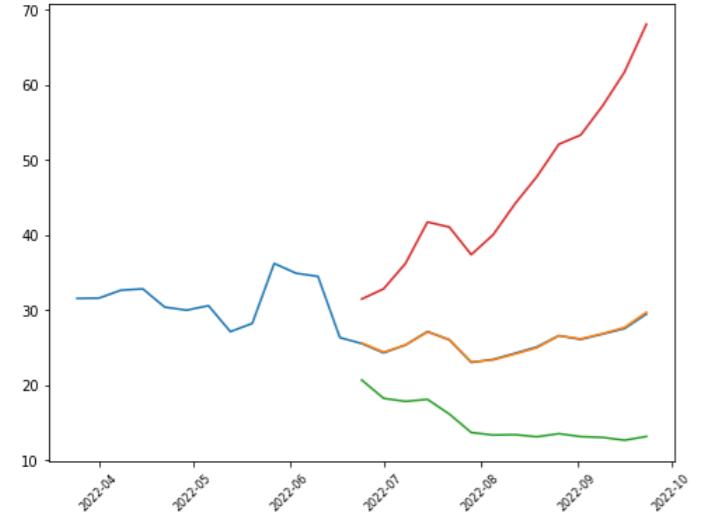
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
RRC	0.930726	26.290001	120549255.664062	0.655439	0.472816	0.488191

	l axis	r axis
<b>blue</b>	symbol	<b>magenta</b> sector
<b>green</b>	trailing_1yr_max	<b>cyan</b> index
<b>red</b>	trailing_1yr_min	
<b>orange</b>	30d_vol_2yr	
<b>black</b>	risk_trend_factor/linear	
<b>yellow</b>	supply_trend_1yr	

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'add', True]
best inner cv score, sdev (11 folds): 11.350390168992813 13.920119243670639
test cv mean error, stdev (10 folds): 12.432074723522295 14.151899495550747
sell date: 2022-09-23
expected return: 0.11935487431357858
discounted return: 0.0011630728996809836
quarter return: 1.1128680691380008
```



```
[options, ('2023-01-20', '2024-01-19')]
[sustainability] Value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore None
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 66
governanceScore None
environmentPercentile None
animalTesting False
tobacco False
totalEsg 33.07
highestControversy 2
esgPerformance OUT_PERF
coal False
pesticides False
adult False
percentile 72.13
peerGroup Oil & Gas Producers
smallArms False
environmentScore None
governancePercentile None
militaryContract False]
symbol: HES
sector: Energy
Index: SP500
vol_30d_2yr: 48039294.53125
Sector 1YMF: -18.849990844726562
1YMF: -18.849990844726562
risk trend factor: -0.5769815579795349
    beta currentRatio debtToEquity dividendRate dividendYield \
HES 1.769607 1.418 122.347 1.5 0.0131

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
HES 0.634 3804999936 0.49467 21.98077 1165874944

grossMargins grossProfits heldPercentInstitutions industry \
HES 0.71425 526700000 0.83247 Oil & Gas E&P

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
HES 31861618688 2143000064 0.30083 0.4828 0.19

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
HES 5.645374 4.142176 0.09412 0.595

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
HES 0.07465 0.1547 0.21 24.97 Energy

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
HES 309727008 2.85 137000000 4.414 8622999552

totalRevenue trailingPE
HES 7692000256 162.51186

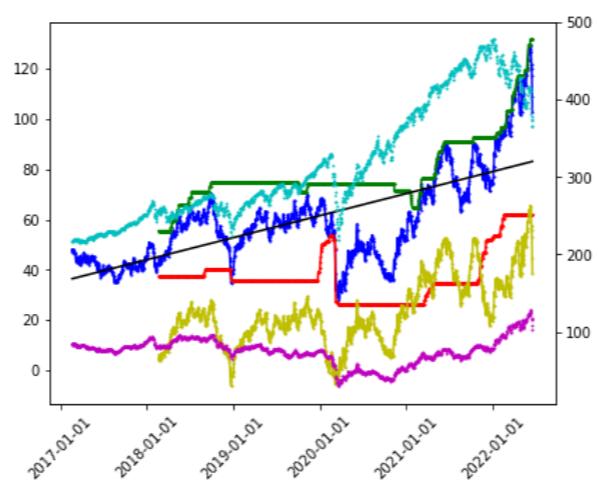
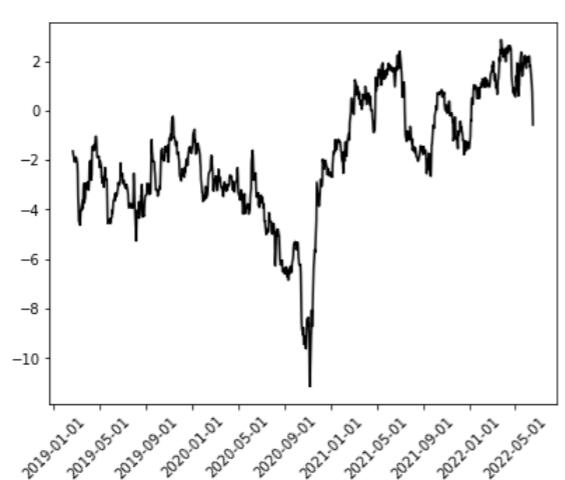
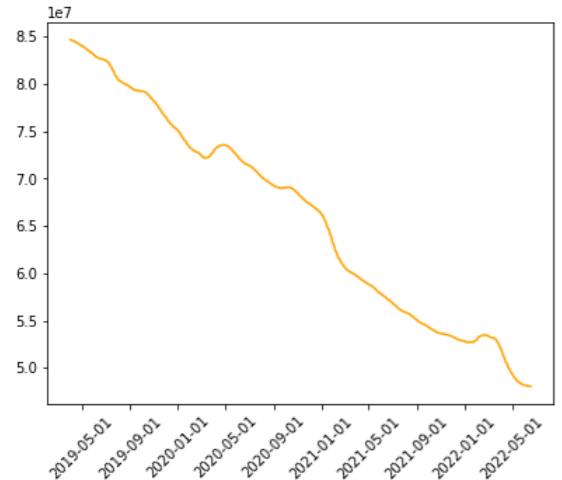
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 102.870003 107.522864 120.951428 134.379992 113.081428 7.84924 97.382949 128.779908
```

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
HES	1.067832	102.870003	48039294.53125	0.704306	0.762574	0.442601

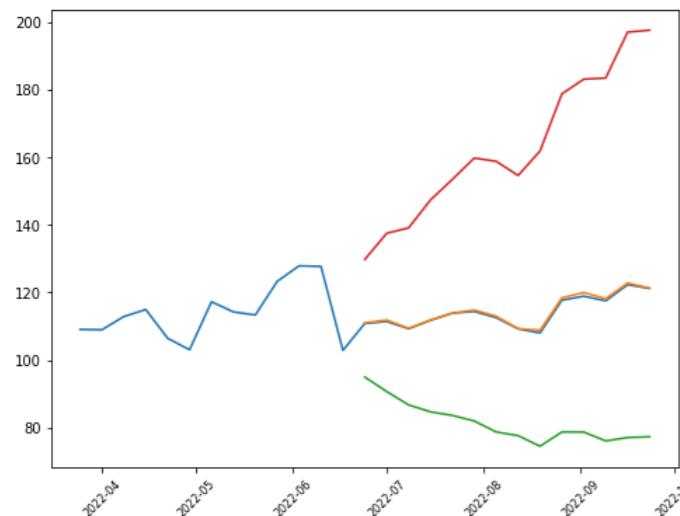
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['mul', 'mul', True]  
best inner cv score, sdev (11 folds): 184.05304053720195 131.95906986819597  
test cv mean error, stdev (10 folds): 199.07107564373396 129.1262572686663  
sell date: 2022-09-16  
expected return: 0.18915992113788566  
discounted return: 0.0019268218200787501  
quarter return: 1.1937469346305718



```
[ 'quarterly_balance_sheet', 2022-03-31 2021-12-31 2021-09-30 \
Total Liab 1.275000e+10 1.348900e+10 1.323400e+10
Total Stockholder Equity 6.308000e+09 6.300000e+09 5.609000e+09
Minority Interest 7.400000e+08 7.260000e+08 6.470000e+08
Other Current Liab 2.190000e+09 1.193000e+09 9.330000e+08
Total Assets 1.979800e+10 2.051500e+10 1.949000e+10
Common Stock 7.074000e+09 3.100000e+08 3.100000e+08
Other Current Assets 1.896000e+09 1.990000e+08 1.180000e+08
Other Liab 1.937000e+09 1.890000e+09 1.877000e+09
Treasury Stock -7.660000e+08 -4.060000e+08 -7.960000e+08
Other Assets 1.560000e+09 1.129000e+09 7.660000e+08
Cash 1.370000e+09 2.713000e+09 2.419000e+09
Total Current Liabilities 2.303000e+09 3.064000e+09 2.749000e+09
Short Long Term Debt 2.200000e+07 5.170000e+08 5.140000e+08
Other Stockholder Equity -7.660000e+08 -4.060000e+08 -7.960000e+08
Property Plant Equipment 1.497200e+10 1.467800e+10 1.446800e+10
Total Current Assets 3.266000e+09 4.346000e+09 3.892000e+09
Net Tangible Assets 6.308000e+09 5.940000e+09 5.249000e+09
Long Term Debt 7.934000e+09 7.941000e+09 7.993000e+09
Capital Surplus NaN 6.017000e+09 5.903000e+09
Retained Earnings NaN 3.790000e+08 1.920000e+08
Good Will NaN 3.600000e+08 3.600000e+08
Deferred Long Term Asset Charges NaN 7.100000e+07 2.600000e+07
Long Term Investments NaN 2.000000e+06 4.000000e+06
Net Receivables NaN 1.211000e+09 1.093000e+09
Inventory NaN 2.230000e+08 2.620000e+08
Accounts Payable NaN 2.200000e+08 2.100000e+08
```

2021-06-30

```
Total Liab 1.263400e+10
Total Stockholder Equity 5.488000e+09
Minority Interest 1.044000e+09
Other Current Liab 9.670000e+08
Total Assets 1.916600e+10
Common Stock 3.100000e+08
Other Current Assets 2.960000e+08
Other Liab 1.764000e+09
Treasury Stock -8.360000e+08
Other Assets 6.480000e+08
Cash 2.430000e+09
Total Current Liabilities 2.527000e+09
Short Long Term Debt 5.110000e+08
Other Stockholder Equity -8.360000e+08
Property Plant Equipment 1.418500e+10
Total Current Assets 3.969000e+09
Net Tangible Assets 5.128000e+09
Long Term Debt 7.712000e+09
Capital Surplus 5.859000e+09
Retained Earnings 1.550000e+08
Good Will 3.600000e+08
Deferred Long Term Asset Charges 2.100000e+07
Long Term Investments 4.000000e+06
Net Receivables 1.002000e+09
Inventory 2.410000e+08
Accounts Payable 1.780000e+08 ]
```

2022-03-31 2021-12-31 \

```
[ 'quarterly_cashflow', 2022-03-31 2021-12-31 \
Change To Liabilities 0.000000e+00 72000000.0
Total Cashflows From Investing Activities -5.220000e+08 -51000000.0
Net Borrowings -5.060000e+08 -53000000.0
Total Cash From Financing Activities -6.650000e+08 -95000000.0
Change To Operating Activities -1.108000e+09 -51000000.0
Issuance Of Stock 3.300000e+07 110000000.0
Net Income 4.170000e+08 265000000.0
Change In Cash -1.343000e+09 294000000.0
Total Cash From Operating Activities -1.560000e+08 899000000.0
Depreciation 3.430000e+08 403000000.0
Dividends Paid -1.190000e+08 -77000000.0
Other Cashflows From Financing Activities -7.300000e+07 -75000000.0
Change To Netincome 1.920000e+08 218000000.0
Capital Expenditures -5.460000e+08 -509000000.0
Other Cashflows From Investing Activities NaN -1000000.0
Change To Inventory NaN 38000000.0
Change To Account Receivables NaN -215000000.0
```

2021-09-30 2021-06-30

```
Change To Liabilities 225000000.0 71000000.0
Total Cashflows From Investing Activities -3700000000.0 -60000000.0
Net Borrowings 287000000.0 -69000000.0
Total Cash From Financing Activities -256000000.0 -161000000.0
Change To Operating Activities -74000000.0 -37000000.0
Issuance Of Stock 110000000.0 75000000.0
Net Income 115000000.0 -73000000.0
Change In Cash -11000000.0 564000000.0
Total Cash From Operating Activities 615000000.0 785000000.0
Depreciation 207000000.0 538000000.0
Dividends Paid -77000000.0 -77000000.0
```

```
Other Cashflows From Financing Activities -466000000.0 -90000000.0
Change To Netincome 309000000.0 194000000.0
Capital Expenditures -498000000.0 -355000000.0
Other Cashflows From Investing Activities -2000000.0 -2000000.0
Change To Inventory -4000000.0 -2200000.0
Change To Account Receivables -218000000.0 14000000.0 ]
```

```
[ 'quarterly_earnings', Revenue Earnings
```

```
Quarter
```

```
2Q2021 1535000000 -73000000
```

```
3Q2021 1717000000 115000000
```

```
4Q2021 2188000000 265000000
```

```
1Q2022 2252000000 417000000 ]
```

```
[ 'quarterly_financials',
```

```
Research Development None None
```

```
Effect Of Accounting Charges None None
```

```
Income Before Tax 702000000.0 568000000.0
```

```
Minority Interest 740000000.0 726000000.0
```

```
Net Income 417000000.0 265000000.0
```

```
Selling General Administrative 423000000.0 402000000.0
```

```
Gross Profit 1570000000.0 1516000000.0
```

```
Ebit 803000000.0 685000000.0
```

```
Operating Income 803000000.0 685000000.0
```

```
Other Operating Expenses -36000000.0 -14000000.0
```

```
Interest Expense -123000000.0 -121000000.0
```

```
Extraordinary Items None None
```

```
Non Recurring None None
```

```
Other Items None None
```

```
Income Tax Expense 197000000.0 212000000.0
```

```
Total Revenue 2252000000.0 2188000000.0
```

```
Total Operating Expenses 1449000000.0 1503000000.0
```

```
Cost Of Revenue 682000000.0 672000000.0
```

```
Total Other Income Expense Net -101000000.0 -117000000.0
```

```
Discontinued Operations None None
```

```
Net Income From Continuing Ops 505000000.0 356000000.0
```

```
Net Income Applicable To Common Shares 417000000.0 265000000.0 ]
```

```
2021-09-30 2021-06-30
```

```
Research Development None None
```

```
Effect Of Accounting Charges None None
```

```
Income Before Tax 328000000.0 135000000.0
```

```
Minority Interest 647000000.0 1044000000.0
```

```
Net Income 115000000.0 -73000000.0
```

```
Selling General Administrative 409000000.0 399000000.0
```

```
Gross Profit 1195000000.0 1213000000.0
```

```
Ebit 424000000.0 254000000.0
```

```
Operating Income 424000000.0 254000000.0
```

```
Other Operating Expenses -23000000.0 -20000000.0
```

```
Interest Expense -125000000.0 -118000000.0
```

```
Extraordinary Items None None
```

```
Non Recurring None None
```

```
Other Items None None
```

```
Income Tax Expense 143000000.0 122000000.0
```

```
Total Revenue 1717000000.0 1535000000.0
```

```
Total Operating Expenses 1293000000.0 1281000000.0
```

```
Cost Of Revenue 522000000.0 322000000.0
```

```
Total Other Income Expense Net -96000000.0 -119000000.0
```

```
Discontinued Operations None None
```

```
Net Income From Continuing Ops 185000000.0 13000000.0
```

```
Net Income Applicable To Common Shares 115000000.0 -73000000.0 ]
```

```
[ 'mutualfund_holders', Holder Shares Date Reported % Out ]
```

```
0 Select Sector SPDR Fund-Energy Select 8106371 2022-01-30 0.0260
```

```
1 Vanguard Total Stock Market Index Fund 7922572 2021-12-30 0.0255
```

```
2 Dodge & Cox Stock Fund 6588763 2021-12-30 0.0212
```

```
3 Vanguard Mid-Cap Index Fund 6303240 2021-12-30 0.0203
```

```
4 Vanguard/Primecap Fund 6049200 2021-12-30 0.0194
```

```
5 Vanguard 500 Index Fund 5837872 2021-12-30 0.0188
```

```
6 Fidelity Growth Company Fund 3600791 2022-02-27 0.0116
```

```
7 SPDR S&P 500 ETF Trust 2920036 2022-01-30 0.0094
```

```
8 Fidelity 500 Index Fund 2822946 2022-02-27 0.0091
```

```
9 Fidelity Series Large Cap Stock Fund 2618572 2022-02-27 0.0084
```

```
Value
```

```
0 748136979
```

```
1 586508005
```

```
2 487766124
```

```
3 466628857
```

```
4 447822276
```

```
5 432177664
```

```
6 363895938
```

```
7 269490122
```

```
8 285286922
```

```
9 264632886 ]
```

```
[ 'options', ('2022-08-19', '2023-01-20', '2024-01-19')]
```

```
[ 'sustainability', Value
```

```
2022-5
```

```
palmOil
```

```
False
```

```

controversialWeapons      False
gambling                  False
socialScore                6.36
nuclear                   False
furLeather                False
alcoholic                 False
gmo                        False
catholic                  False
socialPercentile          0
peerCount                  66
governanceScore            6.97
environmentPercentile      0
animalTesting               False
tobacco                    False
totalEsg                  31.78
highestControversy         2
esgPerformance             LEAD_PERF
coal                       False
pesticides                 False
adult                      False
percentile                 68.13
peerGroup                  Oil & Gas Producers
smallArms                  False
environmentScore            18.44
governancePercentile       0
militaryContract           False]
symbol: VRTX
sector: Healthcare
Index: SP500
vol_30d_2yr: 38800428.125
Sector 1YMF: -30.810012817382812
1YMF: -30.810012817382812
risk trend factor: -0.6309648097901237
    beta currentRatio debtToEquity earningsGrowth     ebitda \
VRTX  0.549001      4.752      7.999      0.189  3061199872

ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
VRTX  0.38517  17.05055  1882163968      0.4956  3619100000

heldPercentInstitutions      industry      marketCap operatingCashflow \
VRTX  0.94055  Biotechnology  67286843392      2678700032

operatingMargins payoutRatio pegRatio priceToBook \
VRTX  0.36848      0      1.59      6.164823

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
VRTX  8.46631      0.30841      4.372      0.13881

returnOnEquity revenueGrowth revenuePerShare      sector \
VRTX  0.2465      0.216      30.97  Healthcare

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
VRTX  255756000      2.03  8238099968      32.211  872499968

totalRevenue trailingPE
VRTX  7947599872  27.766752

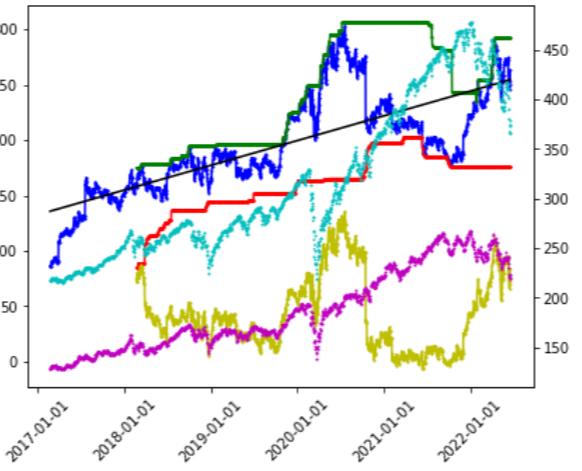
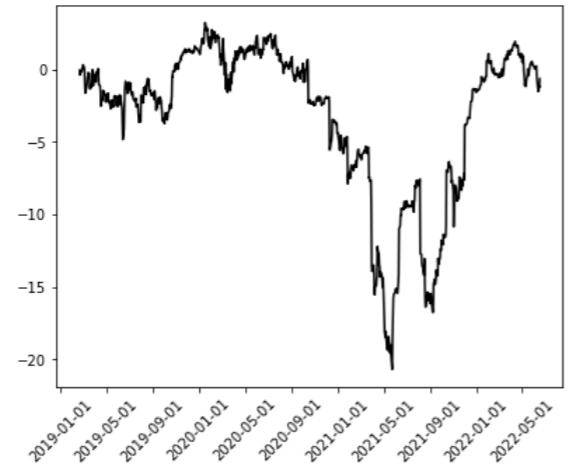
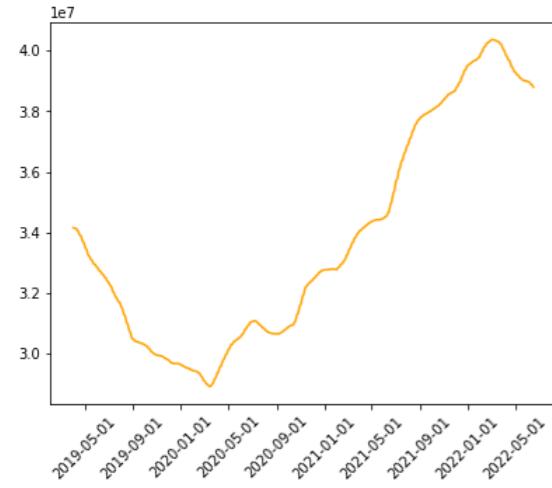
Adj Close  21dBOLD  21dMA-TP  21dBOLU  90dSMA  90dSDev  90d_lower  90d_upper
2022-06-17  263.089996  245.480961  263.090794  280.700626  264.090635  12.86454  238.361554  289.819715

```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VRTX	0.879467	263.089996	38800428.125	0.668594	0.264015	0.438798

	l axis	r axis
<b>blue</b>	symbol	<b>magenta</b>
<b>green</b>	trailing_1yr_max	<b>cyan</b>
<b>red</b>	trailing_1yr_min	
<b>orange</b>	30d_vol_2yr	
<b>black</b>	risk_trend_factor/linear	
<b>yellow</b>	supply_trend_1yr	

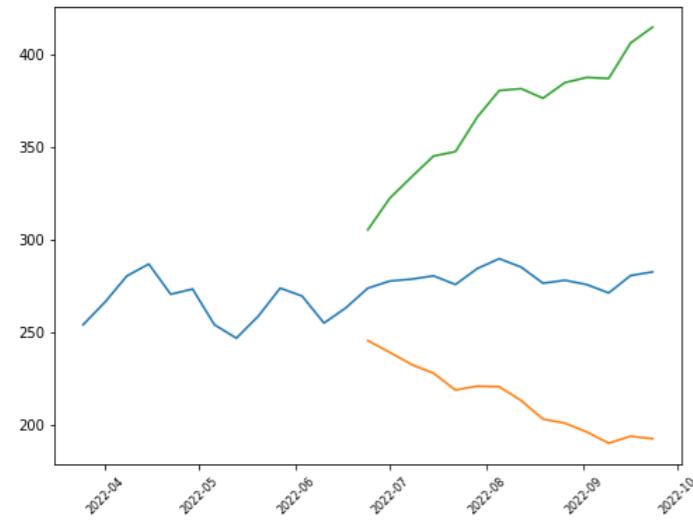
Sector 1YMF: -122.20997619628906  
Sector Volume Factor: 1.2238851152317325  
Sector Risk Trend Factor: -3.3236323632363236  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'add', True]
best inner cv score, sdev (11 folds): 1124.9774062203103 1540.4240204902003
test cv mean error, stdev (10 folds): 1046.6926575477005 1594.6105683465257
sell date: 2022-08-05
expected return: 0.10078056003004886
discounted return: 0.002002408985750437
quarter return: 1.2020608142130922

```



```

['options', ('2022-07-15', '2022-09-16', '2023-01-20', '2024-01-19', '2026-03-20')]
['sustainability', Value
2022-5
palmoil False
controversialWeapons False
gambling False
socialScore 15.22
nuclear False
furLeather False
alcoholic False
gmo False
catholic True
socialPercentile None
peerCount 83
governanceScore 7.4
environmentPercentile None
animalTesting True
tobacco False
totalEsg 23.33
highestControversy 2
esgPerformance AVG_PERF
coal False
pesticides False
adult False
percentile 36.46
peerGroup Pharmaceuticals
smallArms False
environmentScore 0.71
governancePercentile None
militaryContract False]
symbol: HALO
sector: Healthcare
Index: SP400
vol_30d_2yr: 23895179.6875
Sector 1YMF: -7.439998626708984
1YMF: -7.439998626708984
risk trend factor: -0.6397246726921165
    beta currentRatio debtToEquity earningsGrowth ebitda \
HALO 1.317156 7.907 446.55 -0.093 277299008

ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
HALO 0.62552 16.470148 197384992 0.73588 326225000

heldPercentInstitutions industry marketCap operatingCashflow \
HALO 0.9669 Biotechnology 6214338560 299440000

operatingMargins payoutRatio pegRatio priceToBook \
HALO 0.62237 0 0.92 22.081041

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
HALO 14.018043 0.90842 7.101 0.20475

returnOnEquity revenueGrowth revenuePerShare sector \
HALO 2.31442 -0.162 3.152 Healthcare

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
HALO 140787008 8.67 740921984 5.381 879494016

totalRevenue trailingPE
HALO 443310016 15.871989

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDDev 90d_lower 90d_upper
2022-06-17 44.139999 42.492536 44.943651 47.394766 42.266984 2.620388 37.026208 47.50776

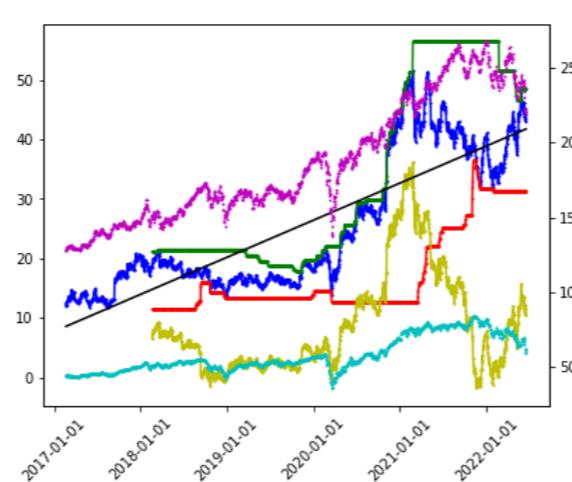
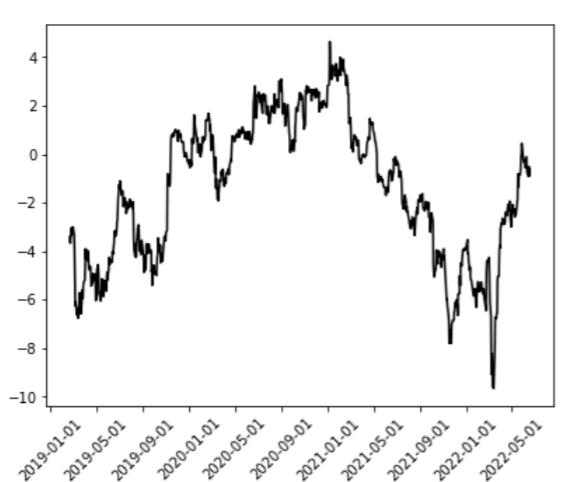
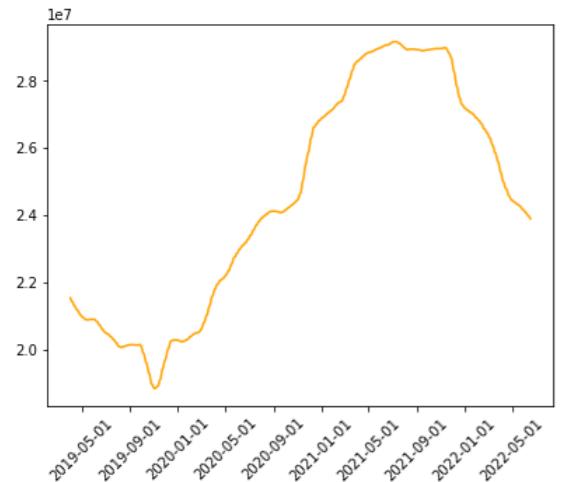
```

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
HALO	0.928279	44.139999	23895179.6875	0.628597	0.811654	0.443799

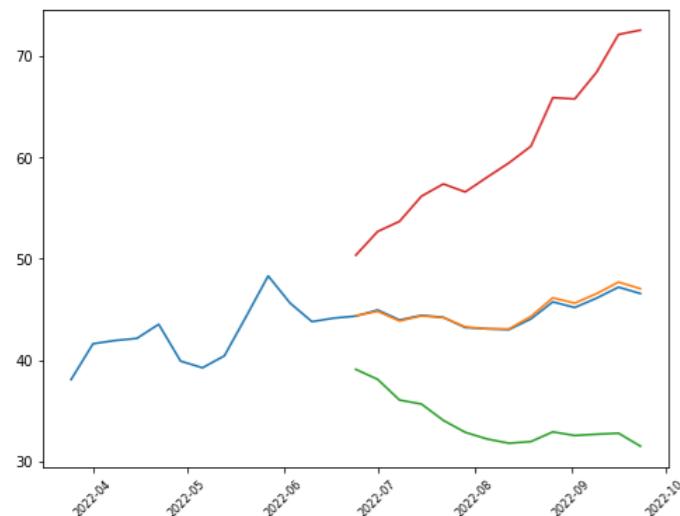
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -122.20997619628906  
Sector Volume Factor: 1.2238851152317325  
Sector Risk Trend Factor: -3.3236323632363236  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'mul', True]  
best inner cv score, sdev (11 folds): 24.150450995704862 24.173104041641793  
test cv mean error, stdev (10 folds): 26.226303504889792 24.400247036284366  
sell date: 2022-09-16  
expected return: 0.06919154943054201  
discounted return: 0.000743640826211367  
quarter return: 1.0707823296696473



```
[{'quarterly_balance_sheet', 2021-12-31 2021-09-30 2021-06-30 \
Capital Surplus 2.563470e+08 4.072290e+08 4.618970e+08
Total Liab 9.074760e+08 9.037460e+08 9.061150e+08
Total Stockholder Equity 1.969530e+08 2.816740e+08 1.197480e+08
Other Current Liab 1.746000e+06 2.245000e+06 1.247000e+06
Total Assets 1.104429e+09 1.185420e+09 1.025863e+09
Common Stock 1.380000e+05 1.410000e+05 1.420000e+05
Retained Earnings -5.891200e+07 -1.256820e+08 -3.422670e+08
Other Liab 2.965000e+06 2.530000e+06 4.026000e+06
Treasury Stock -6.200000e+05 -1.400000e+04 -2.400000e+04
Other Assets 1.693480e+08 1.585330e+08 1.598100e+07
Cash 1.187190e+08 4.916830e+08 4.469660e+08
Total Current Liabilities 1.171470e+08 1.131530e+08 1.142510e+08
Deferred Long Term Asset Charges 1.554340e+08 1.424810e+08 NaN
Short Long Term Debt 8.941900e+07 8.925100e+07 8.916700e+07
Other Stockholder Equity -6.200000e+05 -1.400000e+04 -2.400000e+04
Property Plant Equipment 8.794000e+06 9.588000e+06 1.013200e+07
Total Current Assets 9.262870e+08 1.017299e+09 9.997500e+08
Net Tangible Assets 1.969530e+08 2.816740e+08 1.197480e+08
Short Term Investments 6.222030e+08 3.242370e+08 3.083430e+08
Net Receivables 9.097500e+07 1.120990e+08 1.531960e+08
Long Term Debt 7.872550e+08 7.864540e+08 7.855710e+08
Inventory 5.390800e+07 5.597800e+07 5.855400e+07
Accounts Payable 1.541000e+06 3.322000e+06 4.563000e+06

2021-03-31
Capital Surplus 501186000.0
Total Liab 898987000.0
Total Stockholder Equity 67595000.0
Other Current Liab 1746000.0
Total Assets 966582000.0
Common Stock 143000.0
Retained Earnings -433725000.0
Other Liab 4337000.0
Treasury Stock -9000.0
Other Assets 14497000.0
Cash 499450000.0
Total Current Liabilities 107421000.0
Deferred Long Term Asset Charges NaN
Short Long Term Debt 89042000.0
Other Stockholder Equity -9000.0
Property Plant Equipment 10366000.0
Total Current Assets 941719000.0
Net Tangible Assets 67595000.0
Short Term Investments 264856000.0
Net Receivables 88391000.0
Long Term Debt 784731000.0
Inventory 58343000.0
Accounts Payable 535000.0 ]
['quarterly_cashflow', 2021-12-31 2021-09-30 \
Investments -299311000.0 -16458000.0
Change To Liabilities 3473000.0 -2513000.0
Total Cashflows From Investing Activities -299469000.0 -16954000.0
Total Cash From Financing Activities -156011000.0 -60068000.0
Change To Operating Activities -5042000.0 -682000.0
Issuance Of Stock 4310000.0 4648000.0
Net Income 66770000.0 216587000.0
Change In Cash -372964000.0 44717000.0
Repurchase Of Stock -160321000.0 -64716000.0
Total Cash From Operating Activities 82516000.0 121739000.0
Depreciation 773000.0 751000.0
Change To Inventory 2219000.0 2725000.0
Change To Account Receivables 21124000.0 41097000.0
Change To Netincome -7769000.0 -137194000.0
Capital Expenditures -158000.0 -496000.0
Other Cashflows From Financing Activities NaN NaN
Net Borrowings NaN NaN

2021-06-30 2021-03-31
Investments -44083000.0 -44980000.0
Change To Liabilities 6833000.0 -6626000.0
Total Cashflows From Investing Activities -44616000.0 -45250000.0
Total Cash From Financing Activities -44757000.0 338701000.0
Change To Operating Activities -3496000.0 -2335000.0
Issuance Of Stock 3578000.0 3578000.0
Net Income 91458000.0 27895000.0
Change In Cash -52484000.0 351747000.0
Repurchase Of Stock -48240000.0 -76781000.0
Total Cash From Operating Activities 36889000.0 58296000.0
Depreciation 735000.0 738000.0
Change To Inventory -86000.0 2513000.0
Change To Account Receivables -64805000.0 9339000.0
Change To Netincome 5285000.0 26031000.0
Capital Expenditures -533000.0 -270000.0
Other Cashflows From Financing Activities -95000.0 -329000.0
Net Borrowings NaN 415811000.0 ]
```

```
[ 'quarterly_earnings',          Revenue   Earnings
Quarter
1Q2021    89022000  27895000
2Q2021    136455000 91458000
3Q2021    115830000 216587000
4Q2021    102003000 66770000]
[ 'quarterly_financials',
Research Development           None     None     None
Effect Of Accounting Charges  None     None     None
Income Before Tax              54810000.0 74106000.0 91516000.0
Minority Interest               None     None     None
Net Income                      66770000.0 216587000.0 91458000.0
Selling General Administrative 13774000.0 13169000.0 12321000.0
Gross Profit                     70308000.0 88755000.0 105368000.0
Ebit                            56534000.0 75586000.0 93047000.0
Operating Income                 56534000.0 75586000.0 93047000.0
Other Operating Expenses        None     None     None
Interest Expense                -2055000.0 -1754000.0 -1752000.0
Extraordinary Items             None     None     None
Non Recurring                   None     None     None
Other Items                      None     None     None
Income Tax Expense              -11960000.0 -142481000.0 58000.0
Total Revenue                    102003000.0 115830000.0 136455000.0
Total Operating Expenses        45469000.0 40244000.0 43488000.0
Cost Of Revenue                  31695000.0 27075000.0 31087000.0
Total Other Income Expense Net -1724000.0 -1480000.0 -1531000.0
Discontinued Operations         None     None     None
Net Income From Continuing Ops 66770000.0 216587000.0 91458000.0
Net Income Applicable To Common Shares 66770000.0 216587000.0 91458000.0
```

2021-03-31

```
Research Development           None
Effect Of Accounting Charges  None
Income Before Tax              28086000.0
Minority Interest               None
Net Income                      27895000.0
Selling General Administrative 11059000.0
Gross Profit                     61794000.0
Ebit                            50735000.0
Operating Income                 50735000.0
Other Operating Expenses        None
Interest Expense                -1965000.0
Extraordinary Items             None
Non Recurring                   None
Other Items                      None
Income Tax Expense              191000.0
Total Revenue                    89022000.0
Total Operating Expenses        38287000.0
Cost Of Revenue                  27228000.0
Total Other Income Expense Net -22649000.0
Discontinued Operations         None
Net Income From Continuing Ops 27895000.0
Net Income Applicable To Common Shares 27895000.0 ]
```

Holder Shares Date Reported \

```
0      Artisan Small Cap Fund 4559968 2021-12-30
1      Vanguard Total Stock Market Index Fund 4001847 2021-12-30
2      iShares Core S&P Midcap ETF 3916016 2022-01-30
3      Vanguard Small-Cap Index Fund 3542071 2021-12-30
4      iShares Russell 2000 ETF 3147979 2022-01-30
5      Vanguard Small-Cap Growth Index Fund 2205668 2021-12-30
6      JP Morgan Small Cap Growth Fund 2045628 2021-12-30
7      Vanguard Extended Market Index Fund 1844833 2021-12-30
8      SPDR (R) Ser Tr-SPDR (R) S&P (R) Biotech ETF 1788558 2022-01-30
9      Delaware Group Equity Fds V-Small Cap Core Fund 1749009 2022-02-27
```

```
% Out      Value
0  0.0331  183356313
1  0.0290  160914267
2  0.0284  135533313
3  0.0257  142426674
4  0.0228  108951553
5  0.0160  88689910
6  0.0148  82254701
7  0.0134  74180734
8  0.0130  61901992
9  0.0127  62037349 ]
```

['options', ('2023-01-20',)]

symbol: CSL

sector: Industrials

Index: SP400

vol\_30d\_2yr: 6905512.5

Sector 1YMF: -29.350021362304688

1YMF: -29.350021362304688

risk trend factor: -0.659254684314124

beta currentRatio debtToEquity dividendRate dividendYield \
CSL 0.990471 1.875 109.341 2.16 0.0092

```

earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
CSL        2.778 1004600000     0.18723 12.469963 163500000

grossMargins grossProfits heldPercentInstitutions \
CSL        0.29288 1324400000     0.92743

industry marketCap operatingCashflow \
CSL Building Products & Equipment 12126400512     402400000

operatingMargins payoutRatio pegRatio priceToBook \
CSL        0.14606 0.2141 0.94 4.504965

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
CSL        2.259985 0.10494 1.151 0.07492

returnOnEquity revenueGrowth revenuePerShare sector \
CSL        0.2091 0.59 102.644 Industrials

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
CSL        51698500 1.91 291700000 5.659 2928800000

totalRevenue trailingPE
CSL 5365700096 22.111614

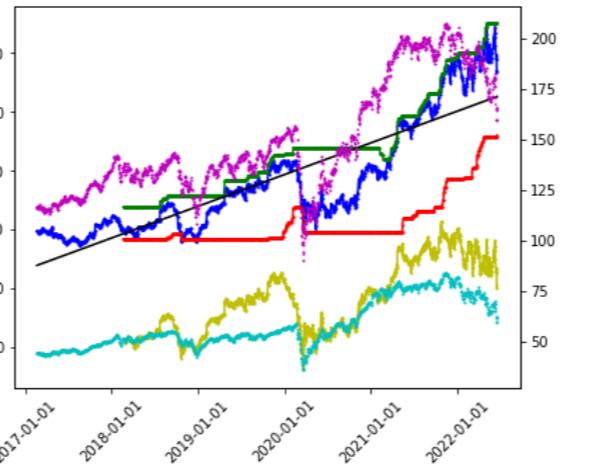
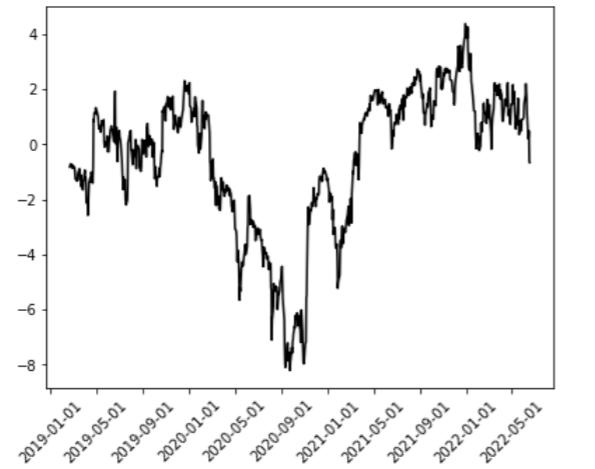
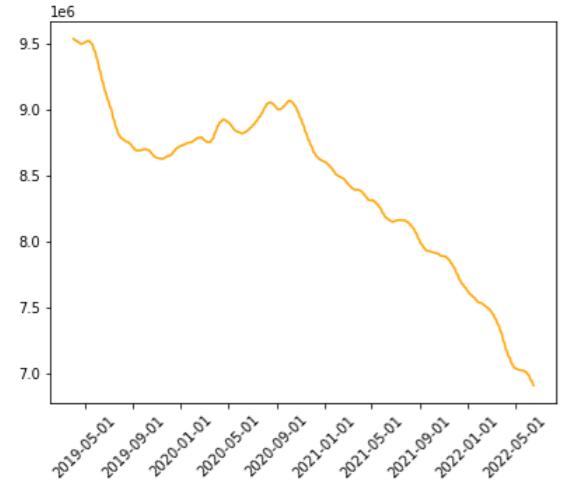
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	234.559998	232.555741	252.299205	272.042669	250.260634	9.078125	232.104383	268.416885

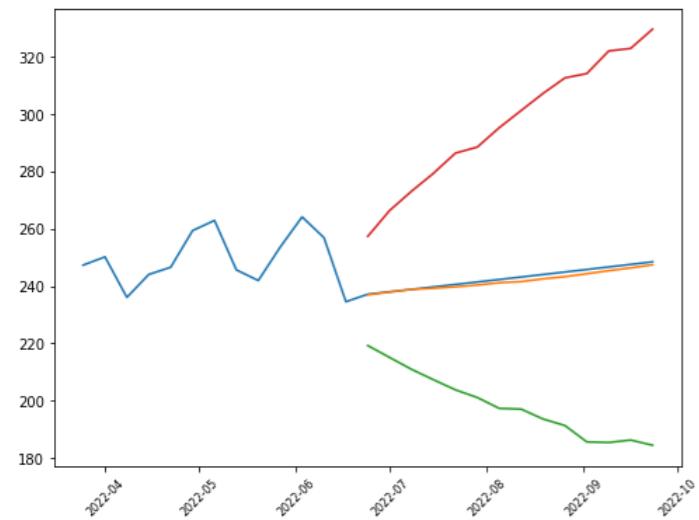
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>CSL</b>	0.893561	234.559998	6905512.5	0.754731	0.961206	0.453537

l axis		r axis	
legend		legend	
<b>blue</b>	symbol	<b>magenta</b>	sector
<b>green</b>	trailing_1yr_max	<b>cyan</b>	index
<b>red</b>	trailing_1yr_min		
<b>orange</b>	30d_vol_2yr		
<b>black</b>	risk_trend_factor/linear		
<b>yellow</b>	supply_trend_1yr		

Sector 1YMF: -141.5800018310547  
Sector Volume Factor: 0.8696853533786545  
Sector Risk Trend Factor: -4.514668337867341  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



inner cv scores:  
best model: [None, 'mul', False]  
best inner cv score, sdev (11 folds): 497.44209929377934 367.5632189484563  
test cv mean error, stdev (10 folds): 491.75210128490096 385.0414039130602  
sell date: 2022-09-23  
expected return: 0.05922921392781611  
discounted return: 0.0005933871901875332  
quarter return: 1.056092135407889



	2022-03-31	2021-12-31	2021-09-30	\
['quarterly_balance_sheet',				
Intangible Assets	1.980900e+09	2.008700e+09	1.599400e+09	
Capital Surplus	4.835000e+08	4.815000e+08	4.738000e+08	
Total Liab	4.644400e+09	4.617300e+09	4.529800e+09	
Total Stockholder Equity	2.678600e+09	2.629500e+09	2.544800e+09	
Other Current Liab	8.220000e+07	8.010000e+07	7.060000e+07	
Total Assets	7.323000e+09	7.246800e+09	7.074600e+09	
Common Stock	7.870000e+07	7.870000e+07	7.870000e+07	
Other Current Assets	9.020000e+07	2.848000e+08	2.512000e+08	
Retained Earnings	4.402600e+09	4.237700e+09	4.137900e+09	
Other Liab	8.791000e+08	8.080000e+08	7.545000e+08	
Good Will	2.215000e+09	2.199000e+09	2.539500e+09	
Treasury Stock	-2.286200e+09	-2.168400e+09	-2.145600e+09	
Other Assets	1.292000e+08	4.690000e+07	1.198000e+08	
Cash	2.917000e+08	3.244000e+08	2.956000e+08	
Total Current Liabilities	1.188600e+09	1.169500e+09	8.513000e+08	
Short Long Term Debt	3.521000e+08	3.520000e+08	2.400000e+06	
Other Stockholder Equity	-1.014000e+08	-1.052000e+08	-1.012000e+08	
Property Plant Equipment	7.691000e+08	8.413000e+08	7.341000e+08	
Total Current Assets	2.228800e+09	2.150900e+09	2.081800e+09	
Net Tangible Assets	-1.517300e+09	-1.578200e+09	-1.594100e+09	
Net Receivables	1.076200e+09	8.867000e+08	9.510000e+08	
Long Term Debt	2.576700e+09	2.575400e+09	2.924000e+09	
Inventory	7.289000e+08	6.051000e+08	5.489000e+08	
Accounts Payable	5.209000e+08	4.324000e+08	4.810000e+08	
Deferred Long Term Asset Charges	Nan	4.000000e+05	Nan	

2021-06-30

Intangible Assets	9.039000e+08
Capital Surplus	4.601000e+08
Total Liab	3.421400e+09
Total Stockholder Equity	2.417900e+09
Other Current Liab	1.617000e+08
Total Assets	5.839300e+09
Common Stock	7.870000e+07
Other Current Assets	5.193000e+08
Retained Earnings	4.024200e+09
Other Liab	5.793000e+08
Good Will	1.640200e+09
Treasury Stock	-2.145100e+09
Other Assets	1.085000e+08
Cash	7.133000e+08
Total Current Liabilities	7.617000e+08
Short Long Term Debt	1.200000e+06
Other Stockholder Equity	-1.028000e+08
Property Plant Equipment	6.742000e+08
Total Current Assets	2.512500e+09
Net Tangible Assets	-1.262000e+08
Net Receivables	7.939000e+08
Long Term Debt	2.080400e+09
Inventory	4.626000e+08
Accounts Payable	3.871000e+08
Deferred Long Term Asset Charges	Nan

[ 'quarterly\_cashflow' , ]

2022-03-31 2021-12-31 \

Investments	10300000.0	-20000000.0
Change To Liabilities	93700000.0	-47700000.0
Total Cashflows From Investing Activities	81200000.0	-63200000.0
Total Cash From Financing Activities	-15880000.0	-45800000.0
Change To Operating Activities	-16200000.0	-17500000.0
Issuance Of Stock	7700000.0	8500000.0
Net Income	193600000.0	128100000.0
Change In Cash	-32700000.0	28800000.0
Repurchase Of Stock	-137000000.0	-25100000.0
Effect Of Exchange Rate	600000.0	600000.0
Total Cash From Operating Activities	44300000.0	137800000.0
Depreciation	64100000.0	49300000.0
Other Cashflows From Investing Activities	126700000.0	100000.0
Dividends Paid	-28700000.0	-28300000.0
Change To Inventory	-122000000.0	-64400000.0
Change To Account Receivables	-190700000.0	63200000.0
Other Cashflows From Financing Activities	-800000.0	-900000.0
Change To Netincome	21800000.0	26800000.0
Capital Expenditures	-31100000.0	-45900000.0
Net Borrowings	Nan	Nan

2021-09-30 2021-06-30

Investments	-2.000000e+07	-2.000000e+07
Change To Liabilities	2.110000e+07	0.000000e+00
Total Cashflows From Investing Activities	-1.359700e+09	-1.359700e+09
Total Cash From Financing Activities	8.184000e+08	8.184000e+08
Change To Operating Activities	-1.340000e+07	-1.340000e+07
Issuance Of Stock	3.180000e+07	3.180000e+07
Net Income	1.421000e+08	9.930000e+07
Change In Cash	-4.177000e+08	-4.177000e+08
Repurchase Of Stock	-2.570000e+07	-2.570000e+07
Effect Of Exchange Rate	-9.000000e+05	-9.000000e+05

	Revenue	Earnings
Quarter		
2Q2021	1177800000	99300000
3Q2021	1315600000	142100000
4Q2021	1376000000	128100000
1Q2022	1496300000	193600000

[{'quarterly\_earnings', ]

Quarter

2Q2021	1177800000	99300000
3Q2021	1315600000	142100000
4Q2021	1376000000	128100000

1Q2022 1496300000 193600000]

[{'quarterly\_financials', ]

	2022-03-31	2021-12-31
Research Development	12300000.0	12900000.0
Effect Of Accounting Charges	None	None
Income Before Tax	254800000.0	160200000.0
Minority Interest	None	None
Net Income	193600000.0	128100000.0
Selling General Administrative	202800000.0	192400000.0
Gross Profit	492800000.0	393100000.0
Ebit	279400000.0	194400000.0
Operating Income	279400000.0	194400000.0
Other Operating Expenses	-1700000.0	-6600000.0
Interest Expense	-22600000.0	-22100000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	60500000.0	29400000.0
Total Revenue	1496300000.0	1376000000.0
Total Operating Expenses	1216900000.0	1181600000.0
Cost Of Revenue	1003500000.0	982900000.0
Total Other Income Expense Net	-24600000.0	-34200000.0
Discontinued Operations	-700000.0	-2700000.0
Net Income From Continuing Ops	194300000.0	130800000.0
Net Income Applicable To Common Shares	193100000.0	127800000.0

2021-09-30 2021-06-30

Research Development	12800000.0	13600000.0
Effect Of Accounting Charges	None	None
Income Before Tax	146000000.0	113900000.0
Minority Interest	None	None
Net Income	142100000.0	99300000.0
Selling General Administrative	192000000.0	158800000.0
Gross Profit	374300000.0	311300000.0
Ebit	169800000.0	140600000.0
Operating Income	169800000.0	140600000.0
Other Operating Expenses	-300000.0	-1700000.0
Interest Expense	-19800000.0	-19200000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	33000000.0	19800000.0

Total Revenue 1315600000.0 1177800000.0

Total Operating Expenses 1145800000.0 1037200000.0

Cost Of Revenue 941300000.0 866500000.0

Total Other Income Expense Net -23800000.0 -26700000.0

Discontinued Operations 29100000.0 5200000.0

Net Income From Continuing Ops 113000000.0 94100000.0

Net Income Applicable To Common Shares 141600000.0 99100000.0 ]

[{'mutualfund\_holders', ]

	Holder	Shares	Date Reported
0	Eaton Vance Atlanta Capital SMID-Cap Fd	2086432	2022-03-30
1	Allspring Special Mid Cap Value Fund	1937600	2022-04-29
2	Vanguard Total Stock Market Index Fund	1503083	2022-03-30
3	iShares Core S&P Midcap ETF	1491400	2022-04-29
4	Vanguard Small-Cap Index Fund	1306067	2022-03-30
5	JP Morgan Mid Cap Value Fund	980782	2022-03-30
6	Franklin Managed Trust - Rising Dividends Fund	958729	2022-03-30
7	Vanguard Small Cap Value Index Fund	854878	2022-03-30
8	Vanguard Extended Market Index Fund	689676	2022-03-30
9	Oakmark Equity and Income Fund	614375	2022-03-30

% Out Value

0	0.0404	513095357
1	0.0375	502535936
2	0.0291	369638171
3	0.0288	386809504
4	0.0253	321187996
5	0.0190	241193909
6	0.0185	235770635
7	0.0165	210231597
8	0.0133	169605121
9	0.0119	151087100

```

['sustainability',
2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 3.67
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 15
governanceScore 6.31
environmentPercentile None
animalTesting False
tobacco False
totalEsg 20.97
highestControversy 0
esgPerformance AVG_PERF
coal False
pesticides False
adult False
percentile 27.74
peerGroup Building Products
smallArms False
environmentScore 10.99
governancePercentile None
militaryContract False]
symbol: NFG
sector: Energy
Index: SP400
vol_30d_2yr: 10051408.984375
Sector 1YMF: -7.5399932861328125
1YMF: -7.5399932861328125
risk trend factor: -0.6904756914314619
    beta currentRatio debtToEquity dividendRate dividendYield \
NFG 0.65625 0.335 153.726 1.82 0.0245

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
NFG 0.48 1072884992 0.5368 10.970457 493999136

grossMargins grossProfits heldPercentInstitutions industry \
NFG 0.59349 1095026000 0.77105 Oil & Gas Integrated

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
NFG 6792414208 800038976 0.36285 0.3534 1.31

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
NFG 3.644438 3.398482 0.23674 0.222

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
NFG 0.06076 0.23881 0.273 21.899 Energy

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
NFG 91455696 4.03 52569000 0.575 2864929024

totalRevenue trailingPE
NFG 1998660992 14.41576

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSD 90d_lower 90d_upper
2022-06-17 65.440002 66.196732 71.468095 76.739458 70.233492 2.539221 65.155049 75.311934

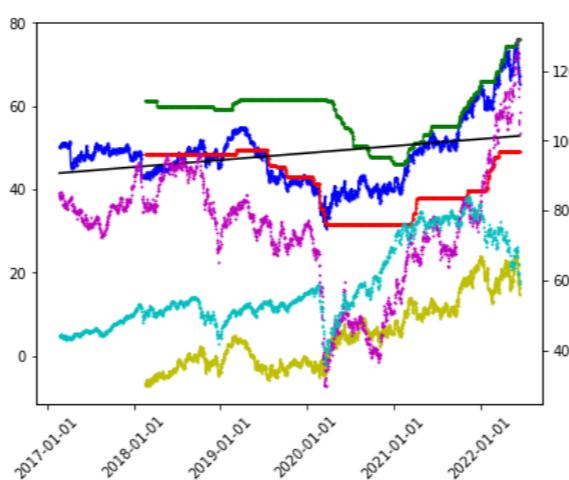
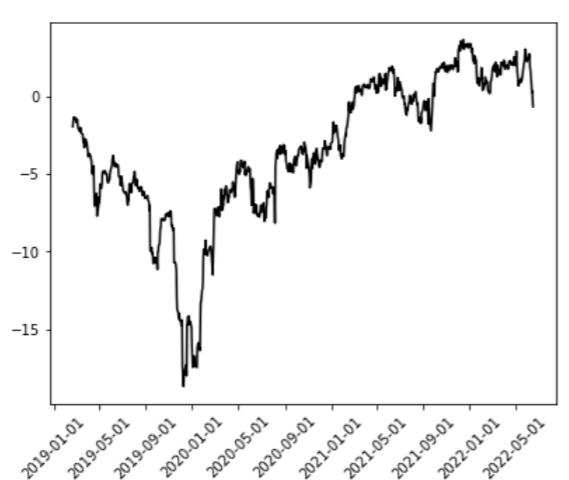
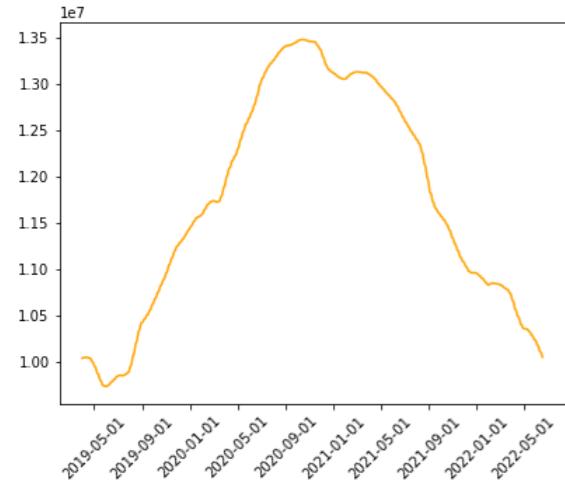
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	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
<b>NFG</b>	1.09896	65.440002	10051408.984375	0.723622	0.865522	0.460844

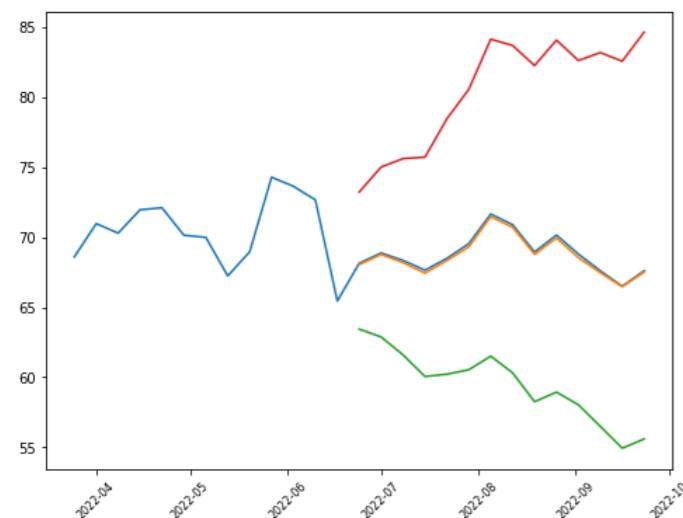
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legend		legend	
<b>blue</b>	symbol	<b>magenta</b>	sector
<b>green</b>	trailing_1yr_max	<b>cyan</b>	index
<b>red</b>	trailing_1yr_min		
<b>orange</b>	30d_vol_2yr		
<b>black</b>	risk_trend_factor/linear		
<b>yellow</b>	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['mul', 'mul', True]  
best inner cv score, sdev (11 folds): 18.32475491962216 15.305691880232668  
test cv mean error, stdev (10 folds): 19.915628892149904 15.16655093435223  
sell date: 2022-08-05  
expected return: 0.09478769729193245  
discounted return: 0.0018884571584556475  
quarter return: 1.1895489675093711



```
[ 'options', ('2022-07-15',) ]
symbol: CAL
sector: Consumer Cyclical
Index: SP600
vol_30d_2yr: 13624561.71875
Sector 1YMF: -7.140003204345703
1YMF: -7.140003204345703
risk trend factor: -0.6945527944974851
    beta currentRatio debtToEquity dividendRate dividendYield \
CAL 2.076225      0.873      244.795      0.28      0.0105

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
CAL      7.25 301993984      0.10507 5.692308      52809000

grossMargins grossProfits heldPercentInstitutions industry \
CAL 0.44516 1227317000      0.94973 Footwear & Accessories

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
CAL 978686976      117749000      0.0892      0.0593      0.45

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
CAL 2.832235      0.340521      0.06311      0.212

returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
CAL 0.08588      0.64377      0.151      78.491

sector sharesOutstanding shortRatio totalCash \
CAL Consumer Cyclical      36737500      3.21 33717000

totalCashPerShare totalDebt totalRevenue trailingPE
CAL 0.918 876433984 2874084096 5.65365
```

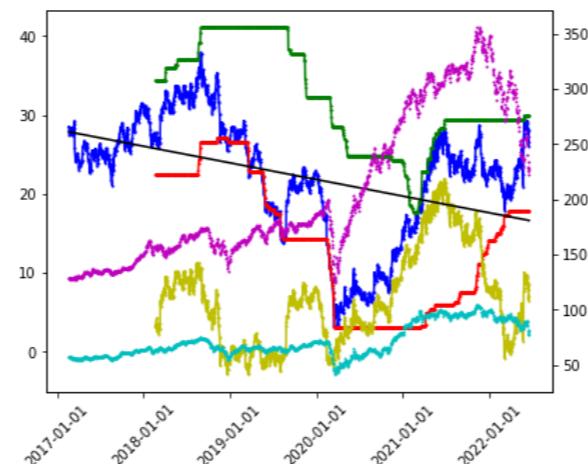
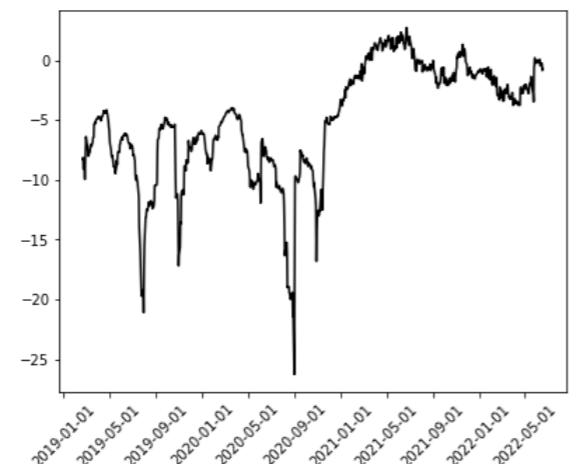
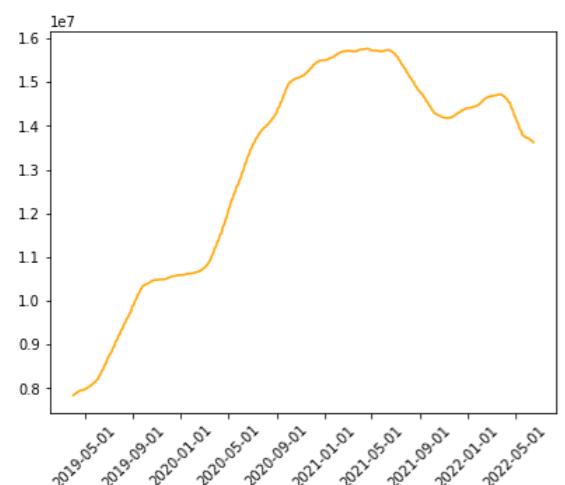
**Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSD 90d\_lower 90d\_upper**

**2022-06-17** 26.639999 22.454831 27.003651 31.55247 23.73746 3.136263 17.464934 30.009987

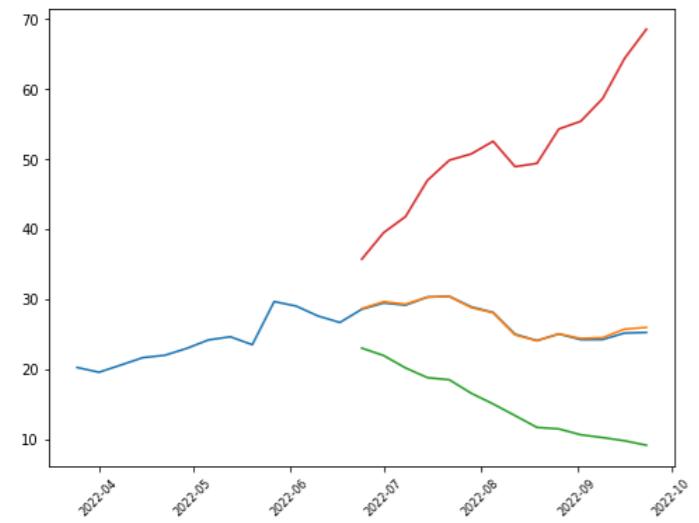
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
CAL	1.602114	26.639999	13624561.71875	0.862213	0.418598 0.505598

l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

Sector 1YMF: -359.96002197265625  
Sector Volume Factor: 1.2928194874233667  
Sector Risk Trend Factor: -4.72140697901556  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



```
ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['mul', 'mul', True]
best inner cv score, sdev (11 folds): 17.57251282551596 17.244721751582233
test cv mean error, stdev (10 folds): 19.098450198852767 17.3639033916298
sell date: 2022-07-22
expected return: 0.14002055143421874
discounted return: 0.0038617400183567074
quarter return: 1.4256043699011531
```



```
[ 'quarterly_balance_sheet', 2022-01-29 2021-10-30 2021-07-31 \
Intangible Assets 2.443470e+08 2.256690e+08 2.288210e+08
Capital Surplus 1.688300e+08 1.654750e+08 1.621220e+08
Total Liab 1.520539e+09 1.568813e+09 1.587607e+09
Total Stockholder Equity 3.185700e+08 3.010980e+08 2.406970e+08
Minority Interest 4.817000e+06 4.647000e+06 4.594000e+06
Other Current Liab 2.802200e+07 8.162900e+07 7.465000e+07
Total Assets 1.843926e+09 1.874558e+09 1.832898e+09
Common Stock 3.760000e+05 3.830000e+05 3.830000e+05
Other Current Assets 1.735500e+07 7.789000e+06 8.361000e+06
Retained Earnings 1.579700e+08 1.437110e+08 8.676400e+07
Other Liab 4.201700e+07 4.596700e+07 4.565200e+07
Good Will 4.956000e+06 4.956000e+06 4.956000e+06
Treasury Stock -8.606000e+06 -8.471000e+06 -8.572000e+06
Other Assets 1.044790e+08 1.254110e+08 1.220950e+08
Cash 3.011500e+07 7.477200e+07 5.468400e+07
Total Current Liabilities 1.025613e+09 1.070060e+09 9.786690e+08
Other Stockholder Equity -8.606000e+06 -8.471000e+06 -8.572000e+06
Property Plant Equipment 6.536680e+08 6.558240e+08 6.696630e+08
Total Current Assets 8.364760e+08 8.626980e+08 8.073630e+08
Net Tangible Assets 6.926700e+07 7.047300e+07 6.920000e+06
Net Receivables 1.553090e+08 1.969180e+08 1.455480e+08
Inventory 5.968070e+08 5.432180e+08 5.655120e+08
Accounts Payable 3.314700e+08 3.520840e+08 3.487950e+08
Short Long Term Debt NaN 9.959800e+07 9.954000e+07
Long Term Debt NaN NaN 9.954000e+07
```

2021-05-01

```
Intangible Assets 2.319680e+08
Capital Surplus 1.593810e+08
Total Liab 1.596167e+09
Total Stockholder Equity 2.028690e+08
Minority Interest 3.787000e+06
Other Current Liab 6.158200e+07
Total Assets 1.802823e+09
Common Stock 3.830000e+05
Other Current Assets 8.169000e+06
Retained Earnings 5.204100e+07
Other Liab 4.090900e+07
Good Will 4.956000e+06
Treasury Stock -8.936000e+06
Other Assets 1.176520e+08
Cash 9.824400e+07
Total Current Liabilities 8.659370e+08
Other Stockholder Equity -8.936000e+06
Property Plant Equipment 6.911290e+08
Total Current Assets 7.571180e+08
Net Tangible Assets -3.405500e+07
Net Receivables 1.685480e+08
Inventory 4.452990e+08
Accounts Payable 2.933090e+08
Short Long Term Debt NaN
Long Term Debt 1.989660e+08 ]
```

2022-01-29 2021-10-30 \

```
[ 'quarterly_cashflow', 2022-01-29 2021-10-30 \
Change To Liabilities -20532000.0 3271000.0
Total Cashflows From Investing Activities -9586000.0 -5162000.0
Net Borrowings 15000000.0 -25000000.0
Total Cash From Financing Activities -13729000.0 -28891000.0
Change To Operating Activities 4322000.0 -4915000.0
Net Income 33854000.0 59622000.0
Change In Cash -44657000.0 20088000.0
Repurchase Of Stock -16965000.0 -16965000.0
Effect Of Exchange Rate -55000.0 -40000.0
Total Cash From Operating Activities -21287000.0 54181000.0
Depreciation 11574000.0 11428000.0
Dividends Paid -2637000.0 -2675000.0
Change To Inventory -53855000.0 22361000.0
Change To Account Receivables 39190000.0 -51202000.0
Other Cashflows From Financing Activities -9127000.0 -1216000.0
Change To Netincome -39462000.0 7073000.0
Capital Expenditures -7956000.0 -3621000.0
```

2021-07-31 2021-05-01

```
Change To Liabilities 55532000.0 12665000.0
Total Cashflows From Investing Activities -5520000.0 -3877000.0
Net Borrowings -100000000.0 -50000000.0
Total Cash From Financing Activities -103151000.0 -56614000.0
Change To Operating Activities 35388000.0 -14740000.0
Net Income 37396000.0 6147000.0
Change In Cash -43560000.0 9949000.0
Repurchase Of Stock -16965000.0 -16965000.0
Effect Of Exchange Rate -58000.0 62000.0
Total Cash From Operating Activities 65169000.0 70378000.0
Depreciation 11543000.0 12092000.0
Dividends Paid -2673000.0 -2663000.0
Change To Inventory -120340000.0 43062000.0
```

```

Change To Account Receivables      24567000.0   -5553000.0
Other Cashflows From Financing Activities -478000.0   -3951000.0
Change To Netincome                10711000.0   14844000.0
Capital Expenditures              -4157000.0   -2659000.0  ]
['quarterly_earnings',           Revenue    Earnings
Quarter
2Q2021   638636000   6147000
3Q2021   675531000   37396000
4Q2021   784156000   59622000
1Q2022   679281000   33854000]

```

```
['quarterly_financials',          2022-01-29  2021-10-30  2021-07-31  \

```

	2022-01-29	2021-10-30	2021-07-31	\
Research Development	None	None	None	
Effect Of Accounting Charges	None	None	None	
Income Before Tax	45184000.0	79444000.0	54711000.0	
Minority Interest	4817000.0	4647000.0	4594000.0	
Net Income	33854000.0	59622000.0	37396000.0	
Selling General Administrative	243378000.0	250289000.0	255941000.0	
Gross Profit	294786000.0	335351000.0	322293000.0	
Ebit	37926000.0	85062000.0	66352000.0	
Operating Income	37926000.0	85062000.0	66352000.0	
Other Operating Expenses	13482000.0	13482000.0	13482000.0	
Interest Expense	-2127000.0	-5069000.0	-11941000.0	
Extraordinary Items	None	None	None	
Non Recurring	None	None	None	
Other Items	None	None	None	
Income Tax Expense	11243000.0	19759000.0	16559000.0	
Total Revenue	679281000.0	784156000.0	675531000.0	
Total Operating Expenses	641355000.0	699094000.0	609179000.0	
Cost Of Revenue	384495000.0	448805000.0	353238000.0	
Total Other Income Expense Net	7258000.0	-5618000.0	-11641000.0	
Discontinued Operations	None	None	None	
Net Income From Continuing Ops	33941000.0	59685000.0	38152000.0	
Net Income Applicable To Common Shares	32609000.0	57482000.0	36036000.0	

```
2021-05-01
```

	2021-05-01
Research Development	None
Effect Of Accounting Charges	None
Income Before Tax	9906000.0
Minority Interest	3787000.0
Net Income	6147000.0
Selling General Administrative	241007000.0
Gross Profit	274887000.0
Ebit	33880000.0
Operating Income	33880000.0
Other Operating Expenses	13482000.0
Interest Expense	-11792000.0
Extraordinary Items	None
Non Recurring	None
Other Items	None
Income Tax Expense	3521000.0
Total Revenue	638636000.0
Total Operating Expenses	604756000.0
Cost Of Revenue	363749000.0
Total Other Income Expense Net	-23974000.0
Discontinued Operations	None
Net Income From Continuing Ops	6385000.0
Net Income Applicable To Common Shares	5937000.0

```
[ 'mutualfund_holders',           Holder    Shares Date Reported \

```

	Holder	Shares	Date Reported	\
0	iShares Core S&P Smallcap ETF	2729688	2022-04-29	
1	Vanguard Total Stock Market Index Fund	1036100	2022-03-30	
2	iShares Russell 2000 ETF	822360	2022-04-29	
3	Principal Small Cap Fund	634100	2022-01-30	
4	iShares S&P Smallcap 600 Value ETF	560015	2022-04-29	
5	Vanguard Extended Market Index Fund	513668	2022-03-30	
6	Vanguard Small-Cap Index Fund	466896	2022-03-30	
7	Neuberger & Berman Intrinsic Value Fd	333511	2022-04-29	
8	SPDR (R) Ser Tr-SPDR S&P 600 Small Cap Value ETF	315466	2022-04-29	
9	iShares Russell 2000 Growth ETF	299571	2022-04-29	

% Out	Value
0 0.0743	62591745
1 0.0282	20027813
2 0.0224	18856714
3 0.0173	15205718
4 0.0152	12841143
5 0.0140	9929202
6 0.0127	9025099
7 0.0091	7647407
8 0.0086	7233635
9 0.0082	6869163

[ 'options', ('2022-08-19', '2022-12-16') ]  
symbol: UNM  
sector: Financial Services  
Index: SP400  
vol\_30d\_2yr: 53508487.6953125  
Sector 1YMF: -5.059993743896484

```

1YMF: -5.059993743896484
risk trend factor: -0.6950538380399589
    beta currentRatio debtToEquity dividendRate dividendYield \
UNM 1.514215      24.407     30.875      1.2      0.0348

earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
UNM      0.179 1461100032     0.12162 6.460318 799987520

grossMargins grossProfits heldPercentInstitutions      industry \
UNM      0.27461 3299100000     0.88459 Insurance-Life

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
UNM 6656989696      1387500032     0.11165 0.2622      0.65

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
UNM      0.598606      0.554112     0.0686      5.019

returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
UNM      0.01191      0.07396     -0.303      58.824

sector sharesOutstanding shortRatio      totalCash \
UNM Financial Services      204452992      2.79 1463000064

totalCashPerShare      totalDebt totalRevenue trailingPE
UNM      7.222 3524800000 12013800448      8.34444

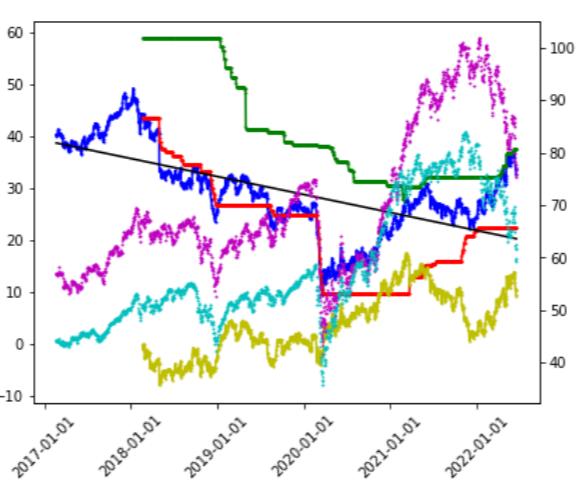
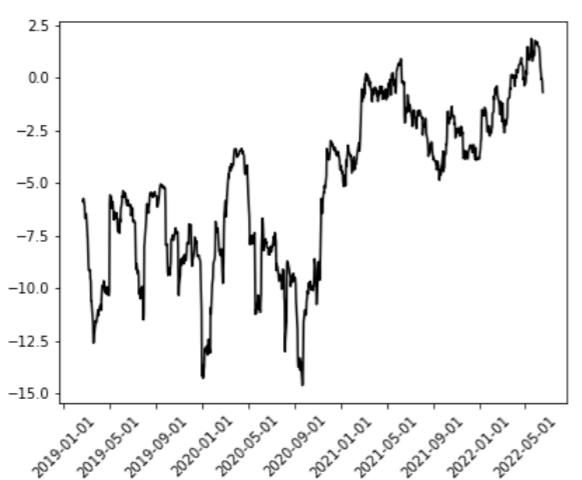
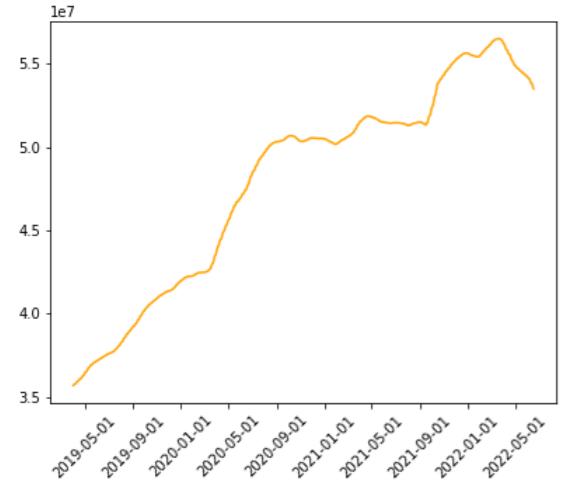
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 32.560001 32.487871 35.250159 38.012447 33.449206 2.08965 29.269907 37.628506

```

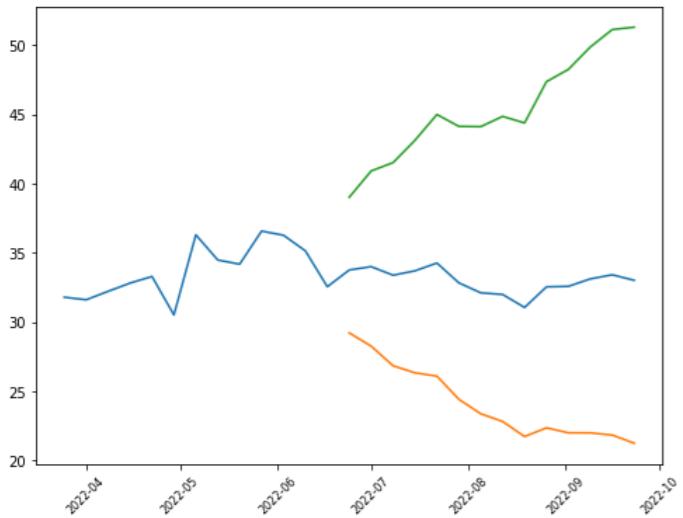
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
UNM	0.872299	32.560001	53508487.695312	0.778725	0.43303	0.490172

	I axis	r axis
<b>blue</b>	symbol	<b>magenta</b> sector
<b>green</b>	trailing_1yr_max	<b>cyan</b> index
<b>red</b>	trailing_1yr_min	
<b>orange</b>	30d_vol_2yr	
<b>black</b>	risk_trend_factor/linear	
<b>yellow</b>	supply_trend_1yr	

Sector 1YMF: -72.2699966430664  
Sector Volume Factor: 1.2707168073107045  
Sector Risk Trend Factor: -4.617890709055871  
Index 1YMF: -69.05999755859375  
Index Volume Factor: 0.5765983741853883  
Index Risk Trend Factor: -5.134573474205833



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', False]  
best inner cv score, sdev (11 folds): 20.10065423888112 26.485586786406316  
test cv mean error, stdev (10 folds): 21.693367627808307 27.271433151349527  
sell date: 2022-07-22  
expected return: 0.052593715434335934  
discounted return: 0.001508705287804446  
quarter return: 1.1487751489032836



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Intangible Assets	2.281000e+09	2.231500e+09	2.235700e+09	
Capital Surplus	2.408100e+09	2.398500e+09	2.386800e+09	
Total Liab	5.869920e+10	5.947970e+10	5.986400e+10	
Total Stockholder Equity	1.141640e+10	1.111820e+10	1.094750e+10	
Other Current Liab	5.717000e+08	5.090000e+08	5.957000e+08	
Total Assets	7.011560e+10	7.059790e+10	7.080790e+10	
Common Stock	3.070000e+07	3.070000e+07	3.070000e+07	
Other Current Assets	1.152200e+10	1.170400e+10	1.202560e+10	
Retained Earnings	1.185320e+10	1.175480e+10	1.148760e+10	
Other Liab	5.460270e+10	5.552930e+10	5.582330e+10	
Good Will	3.522000e+08	3.521000e+08	3.533000e+08	
Treasury Stock	-2.875600e+09	-3.065800e+09	-2.957600e+09	
Other Assets	7.966200e+09	7.985200e+09	7.792900e+09	
Cash	7.500000e+07	1.217000e+08	1.231000e+08	
Total Current Liabilities	5.943000e+08	5.090000e+08	5.957000e+08	
Other Stockholder Equity	3.541000e+08	1.139000e+08	2.221000e+08	
Property Plant Equipment	5.118000e+08	4.625000e+08	4.998000e+08	
Total Current Assets	1.450490e+10	1.484430e+10	1.537290e+10	
Long Term Investments	4.449950e+10	4.472230e+10	4.455330e+10	
Net Tangible Assets	1.106420e+10	1.076610e+10	1.059420e+10	
Short Term Investments	1.388000e+08	1.472700e+09	1.596600e+09	
Net Receivables	1.519900e+09	1.545900e+09	1.627600e+09	
Long Term Debt	3.442200e+09	3.441400e+09	3.441400e+09	
	2021-03-31			
Intangible Assets	2.254800e+09			
Capital Surplus	2.380800e+09			
Total Liab	5.868650e+10			
Total Stockholder Equity	1.057010e+10			
Other Current Liab	5.028000e+08			
Total Assets	6.925660e+10			
Common Stock	3.070000e+07			
Other Current Assets	1.221890e+10			
Retained Earnings	1.136320e+10			
Other Liab	5.483690e+10			
Good Will	3.530000e+08			
Treasury Stock	-3.204600e+09			
Other Assets	7.858300e+09			
Cash	5.618000e+08			
Total Current Liabilities	5.028000e+08			
Other Stockholder Equity	-2.490000e+07			
Property Plant Equipment	5.006000e+08			
Total Current Assets	1.523620e+10			
Long Term Investments	4.305370e+10			
Net Tangible Assets	1.021710e+10			
Short Term Investments	7.561000e+08			
Net Receivables	1.699400e+09			
Long Term Debt	3.346800e+09			
['quarterly_cashflow',				
	2021-12-31	2021-09-30	\	
Investments	-306600000.0	-351100000.0		
Change To Liabilities	0.0	0.0		
Total Cashflows From Investing Activities	-434800000.0	-399100000.0		
Total Cash From Financing Activities	-100000.0	-57400000.0		
Change To Operating Activities	-47900000.0	-144100000.0		
Issuance Of Stock	1500000.0	900000.0		
Net Income	159700000.0	328600000.0		
Change In Cash	-4670000.0	-1400000.0		
Repurchase Of Stock	-50000000.0	-50000000.0		
Total Cash From Operating Activities	388200000.0	455100000.0		
Depreciation	29800000.0	30400000.0		
Other Cashflows From Investing Activities	-100300000.0	-23200000.0		
Dividends Paid	-61400000.0	-61300000.0		
Change To Account Receivables	250800000.0	145700000.0		
Other Cashflows From Financing Activities	109800000.0	3000000.0		
Change To Netincome	-94500000.0	74700000.0		
Capital Expenditures	-27900000.0	-24800000.0		
Net Borrowings	Nan	Nan		
	2021-06-30	2021-03-31		
Investments	-1.125300e+09	603400000.0		
Change To Liabilities	0.000000e+00	0.0		
Total Cashflows From Investing Activities	-1.095300e+09	588600000.0		
Total Cash From Financing Activities	-4.960000e+07	-61800000.0		
Change To Operating Activities	1.010000e+08	254500000.0		
Issuance Of Stock	6.000000e+05	800000.0		
Net Income	1.829000e+08	153000000.0		
Change In Cash	-4.387000e+08	364800000.0		
Repurchase Of Stock	-5.000000e+07	-50000000.0		
Total Cash From Operating Activities	7.062000e+08	-162000000.0		
Depreciation	3.030000e+07	29300000.0		
Other Cashflows From Investing Activities	5.670000e+07	16100000.0		
Dividends Paid	-5.830000e+07	-58400000.0		
Change To Account Receivables	2.770000e+08	4500000.0		
Other Cashflows From Financing Activities	-8.000000e+07	-4200000.0		
Change To Netincome	-2.530000e+07	-64820000.0		

```

Capital Expenditures      -2.670000e+07  -30900000.0
Net Borrowings            8.810000e+07   88100000.0  ]
['quarterly_earnings',     Revenue    Earnings
Quarter
1Q2021      3072000000  153000000
2Q2021      2993000000  182900000
3Q2021      2969700000  328600000
4Q2021      2979100000  159700000]
['quarterly_financials',
Research Development      None        None
Effect Of Accounting Charges  None        None
Income Before Tax          191700000.0  409900000.0
Minority Interest           None        None
Net Income                 159700000.0  328600000.0
Selling General Administrative 249300000.0  241600000.0
Gross Profit                753400000.0  947700000.0
Ebit                        242300000.0  466700000.0
Operating Income             242300000.0  466700000.0
Other Operating Expenses    261800000.0  239400000.0
Interest Expense             -50600000.0  -44700000.0
Extraordinary Items          None        None
Non Recurring               None        None
Other Items                  None        None
Income Tax Expense           32000000.0   81300000.0
Total Revenue                2979100000.0  2969700000.0
Total Operating Expenses     2736800000.0  2503000000.0
Cost Of Revenue              2225700000.0  2022000000.0
Total Other Income Expense Net  -50600000.0  -56800000.0
Discontinued Operations      None        None
Net Income From Continuing Ops 159700000.0  328600000.0
Net Income Applicable To Common Shares 159700000.0  328600000.0

2021-06-30      2021-03-31
Research Development      None        None
Effect Of Accounting Charges  None        None
Income Before Tax          262600000.0  198800000.0
Minority Interest           None        None
Net Income                 182900000.0  153000000.0
Selling General Administrative 247400000.0  236900000.0
Gross Profit                872900000.0  725100000.0
Ebit                        389100000.0  243200000.0
Operating Income             389100000.0  243200000.0
Other Operating Expenses    236400000.0  245000000.0
Interest Expense             -45300000.0  -44400000.0
Extraordinary Items          None        None
Non Recurring               None        None
Other Items                  None        None
Income Tax Expense           79700000.0   45800000.0
Total Revenue                2993000000.0  3072000000.0
Total Operating Expenses     2603900000.0  2828800000.0
Cost Of Revenue              2120100000.0  2346900000.0
Total Other Income Expense Net  -126500000.0  -44400000.0
Discontinued Operations      None        None
Net Income From Continuing Ops 182900000.0  153000000.0
Net Income Applicable To Common Shares 182900000.0  153000000.0]

['mutualfund_holders',
Holder      Shares Date Reported % Out \
0  Fidelity Low-Priced Stock Fund 13985534 2022-02-27 0.0695
1  iShares Core S&P Midcap ETF 5665789 2022-01-30 0.0282
2  Vanguard Total Stock Market Index Fund 5233494 2021-12-30 0.0260
3  Vanguard Small-Cap Index Fund 4628560 2021-12-30 0.0230
4  iShares Select Dividend ETF 4099983 2022-01-30 0.0204
5  Vanguard Selected Value Fund 3668000 2022-01-30 0.0182
6  Vanguard Fenway Funds-Equity Income Fund 3043945 2021-12-30 0.0151
7  Vanguard Small Cap Value Index Fund 2937934 2021-12-30 0.0146
8  Vanguard Extended Market Index Fund 2710121 2021-12-30 0.0135
9  DFA U.S. Small Cap Value Series 2540837 2022-01-30 0.0126

Value
0 390476109
1 143797724
2 128586947
3 113723719
4 104057568
5 93093840
6 74789728
7 72185038
8 66587672
9 64486443  ]

['options', ('2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmoil      False
controversialWeapons  False
gambling      False
socialScore    7.43
nuclear       False

```

```

furLeather      False
alcoholic       False
gmo             False
catholic        False
socialPercentile 0
peerCount       96
governanceScore 10.52
environmentPercentile 0
animalTesting   False
tobacco         False
totalEsg        20.03
highestControversy 1
esgPerformance None
coal            False
pesticides      False
adult           False
percentile     24.5
peerGroup       Insurance
smallArms       False
environmentScore 2.08
governancePercentile 0
militaryContract False]
symbol: HSY
sector: Consumer Defensive
Index: SP500
vol_30d_2yr: 19940425.0
Sector 1YMF: -20.060012817382812
1YMF: -20.060012817382812
risk trend factor: -0.7068361298814138
    beta currentRatio debtToEquity dividendRate dividendYield \
HSY 0.40098      0.958      182.251      3.6      0.016

earningsGrowth    ebitda ebitdaMargins forwardPE freeCashflow \
HSY 0.353 2543244032 0.27225 27.397606 1117503360

grossMargins grossProfits heldPercentInstitutions industry \
HSY 0.45457 4053818000 0.76488 Confectioners

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
HSY 42443001856 2129710976 0.23712 0.4508 2.91

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
HSY 16.785889 4.543436 0.1729 0.47

returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
HSY 0.14067 0.62521 0.161 45.269

sector sharesOutstanding shortRatio totalCash \
HSY Consumer Defensive 145390000 2.17 338055008

totalCashPerShare totalDebt totalRevenue trailingPE
HSY 1.644 5313624064 9341609984 29.91144

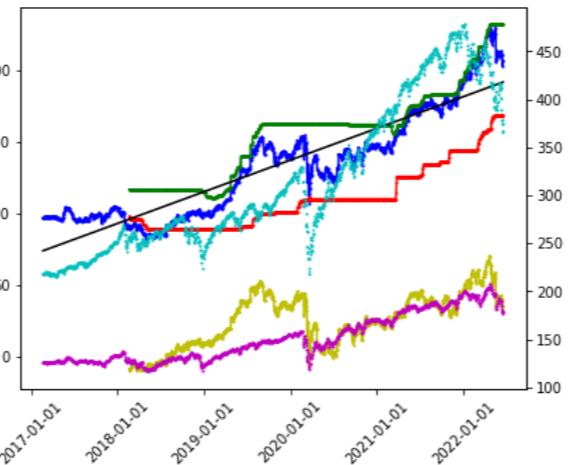
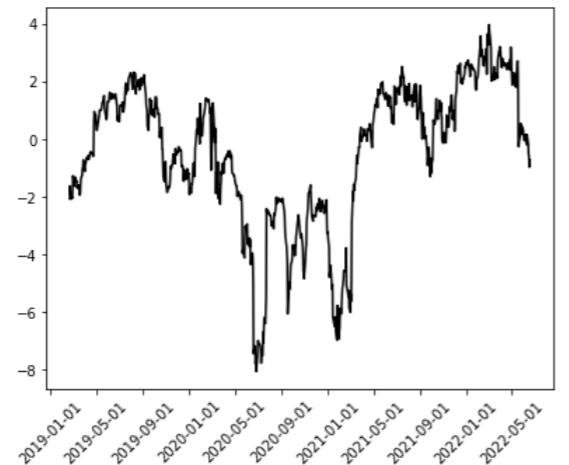
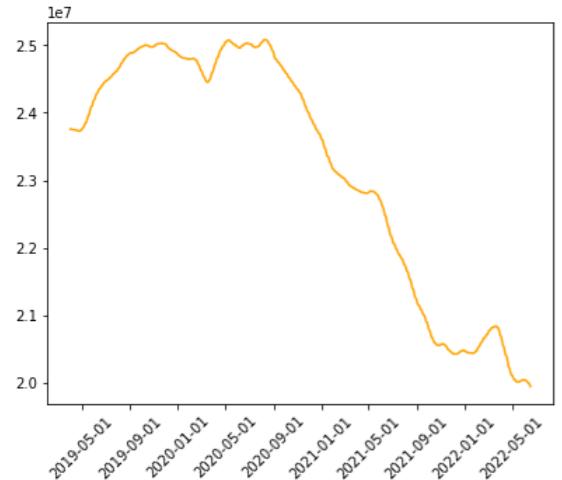
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-17	206.029999	204.010093	209.173967	214.337841	217.173016	7.66194	201.849137	232.496895

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
HSY	1.169855	206.029999	19940425.0	0.759001	0.971853 0.450651

l axis	r axis
<b>blue</b> symbol	<b>magenta</b> sector
<b>green</b> trailing_1yr_max	<b>cyan</b> index
<b>red</b> trailing_1yr_min	
<b>orange</b> 30d_vol_2yr	
<b>black</b> risk_trend_factor/linear	
<b>yellow</b> supply_trend_1yr	

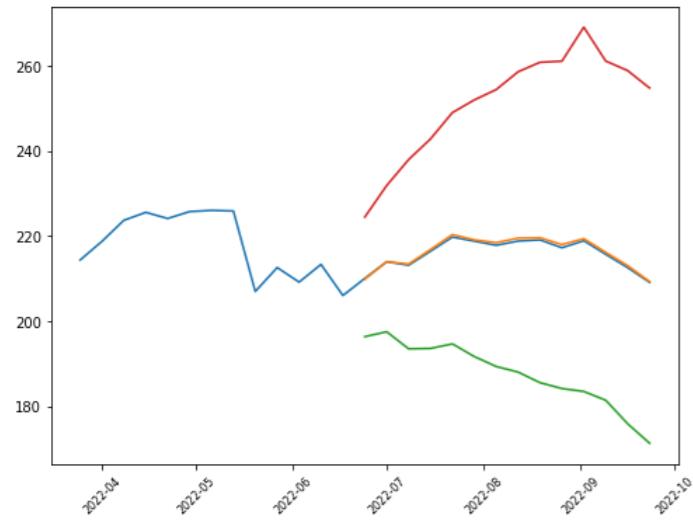
Sector 1YMF: -74.80001831054688  
Sector Volume Factor: 1.4135920452708397  
Sector Risk Trend Factor: -2.283970024749523  
Index 1YMF: -287.8400573730469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.791860877423899



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', True]
best inner cv score, sdev (11 folds): 126.32128598822646 95.57167363837233
test cv mean error, stdev (10 folds): 136.94865844395548 93.83526155947202
sell date: 2022-07-22
expected return: 0.06675063231683906
discounted return: 0.001902314044301745
quarter return: 1.1910635388921387

```



	2022-04-03	2021-12-31	2021-10-03	\
['quarterly_balance_sheet',				
Intangible Assets	2.309871e+09	2.298244e+09	1.726473e+09	
Capital Surplus	1.243240e+09	1.260331e+09	1.240012e+09	
Total Liab	7.729495e+09	7.655002e+09	6.902050e+09	
Total Stockholder Equity	2.915549e+09	2.757229e+09	2.528294e+09	
Other Current Liab	7.963500e+07	3.070000e+06	6.948200e+07	
Total Assets	1.064504e+10	1.041223e+10	9.439183e+09	
Common Stock	2.215530e+08	2.215530e+08	2.215530e+08	
Other Current Assets	1.325250e+08	1.276780e+08	1.304180e+08	
Retained Earnings	3.071416e+09	2.719936e+09	2.565538e+09	
Other Liab	7.628260e+08	7.641630e+08	7.335690e+08	
Good Will	2.620594e+09	2.633174e+09	2.164580e+09	
Treasury Stock	-1.620660e+09	-1.444591e+09	-1.498809e+09	
Other Assets	2.027480e+08	2.036190e+08	1.613820e+08	
Cash	3.380550e+08	3.292660e+08	6.755160e+08	
Total Current Liabilities	2.565637e+09	2.493313e+09	1.906495e+09	
Deferred Long Term Asset Charges	4.281700e+07	4.087300e+07	3.967400e+07	
Other Stockholder Equity	-2.420090e+08	-2.492150e+08	-2.984000e+08	
Property Plant Equipment	2.945013e+09	2.937899e+09	2.566939e+09	
Total Current Assets	2.457438e+09	2.246206e+09	2.741944e+09	
Long Term Investments	1.093800e+08	9.308900e+07	7.786500e+07	
Net Tangible Assets	-2.014916e+09	-2.174189e+09	-1.362759e+09	
Net Receivables	8.684260e+08	6.714640e+08	8.412270e+08	
Long Term Debt	4.022164e+09	4.020325e+09	4.016913e+09	
Inventory	1.031503e+09	9.885110e+08	1.026541e+09	
Accounts Payable	8.252310e+08	6.923380e+08	6.718550e+08	
Minority Interest	Nan	Nan	8.839000e+06	
Short Long Term Debt	Nan	Nan	2.812000e+06	

2021-07-04

Intangible Assets	1.724699e+09
Capital Surplus	1.218708e+09
Total Liab	6.609970e+09
Total Stockholder Equity	2.265049e+09
Other Current Liab	5.203500e+07
Total Assets	8.883863e+09
Common Stock	2.215530e+08
Other Current Assets	1.360040e+08
Retained Earnings	2.301805e+09
Other Liab	7.554160e+08
Good Will	2.166446e+09
Treasury Stock	-1.477017e+09
Other Assets	1.440380e+08
Cash	4.262010e+08
Total Current Liabilities	1.587002e+09
Deferred Long Term Asset Charges	3.436200e+07
Other Stockholder Equity	-2.961360e+08
Property Plant Equipment	2.547893e+09
Total Current Assets	2.219181e+09
Long Term Investments	8.160600e+07
Net Tangible Assets	-1.626096e+09
Net Receivables	5.324010e+08
Long Term Debt	4.019067e+09
Inventory	1.060422e+09
Accounts Payable	6.156410e+08
Minority Interest	8.844000e+06
Short Long Term Debt	Nan ]

2022-04-03 2021-12-31 \

['quarterly_cashflow',			
Investments	-22503000.0	-5.250000e+07	
Change To Liabilities	98027000.0	-3.671400e+07	
Total Cashflows From Investing Activities	-163966000.0	-1.383089e+09	
Net Borrowings	-66690000.0	5.276340e+08	
Total Cash From Financing Activities	-463454000.0	3.566900e+08	
Change To Operating Activities	-23427000.0	1.461200e+07	
Issuance Of Stock	16711000.0	9.849000e+06	
Net Income	533478000.0	3.355560e+08	
Change In Cash	8789000.0	-3.462500e+08	
Repurchase Of Stock	-232391000.0	-2.323910e+08	
Effect Of Exchange Rate	-20258000.0	9.820000e+05	
Total Cash From Operating Activities	656467000.0	6.791670e+08	
Depreciation	91036000.0	8.304900e+07	
Other Cashflows From Investing Activities	-400000.0	-5.900000e+05	
Dividends Paid	-181084000.0	-1.807930e+08	
Change To Inventory	-37320000.0	6.032100e+07	
Change To Account Receivables	-189621000.0	2.082220e+08	
Change To Netincome	57036000.0	1.360390e+08	
Capital Expenditures	-141063000.0	-1.484270e+08	

2021-10-03 2021-07-04

Investments	-18472000.0	-32381000.0
Change To Liabilities	109684000.0	23662000.0
Total Cashflows From Investing Activities	-139619000.0	-563115000.0
Net Borrowings	201882000.0	-207988000.0
Total Cash From Financing Activities	3865000.0	-549829000.0
Change To Operating Activities	-49440000.0	-2841000.0
Issuance Of Stock	6473000.0	13711000.0

	Revenue	Earnings
Quarter		
3Q2021	1989422000	301230000
4Q2021	2359839000	444927000
4Q2021	2326128000	335556000
2Q2022	2666221000	533478000]

	2022-04-03	2021-12-31	\
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'quarterly_financials',			
Research Development	NaN	40107000.0	
Effect Of Accounting Charges	None	None	
Income Before Tax	677404000.0	342941000.0	
Minority Interest	NaN	NaN	
Net Income	533478000.0	335556000.0	
Selling General Administrative	520234000.0	518708000.0	
Gross Profit	1245507000.0	1012837000.0	
Ebit	725273000.0	454022000.0	
Operating Income	725273000.0	454022000.0	
Other Operating Expenses	None	None	
Interest Expense	-33536000.0	-30430000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	143926000.0	3150000.0	
Total Revenue	2666221000.0	2326128000.0	
Total Operating Expenses	1940948000.0	1872106000.0	
Cost Of Revenue	1420714000.0	1313291000.0	
Total Other Income Expense Net	-47869000.0	-111081000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	533478000.0	339791000.0	
Net Income Applicable To Common Shares	533478000.0	335556000.0	

	2021-10-03	2021-07-04	
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'quarterly_financials',			
Research Development	40107000.0	40107000.0	
Effect Of Accounting Charges	None	None	
Income Before Tax	521673000.0	418416000.0	
Minority Interest	8839000.0	8844000.0	
Net Income	444927000.0	301230000.0	
Selling General Administrative	485272000.0	471038000.0	
Gross Profit	1061548000.0	926487000.0	
Ebit	576276000.0	455449000.0	
Operating Income	576276000.0	455449000.0	
Other Operating Expenses	None	None	
Interest Expense	-30686000.0	-31684000.0	
Extraordinary Items	None	None	
Non Recurring	None	None	
Other Items	None	None	
Income Tax Expense	76746000.0	117186000.0	
Total Revenue	2359839000.0	1989422000.0	
Total Operating Expenses	1783563000.0	1533973000.0	
Cost Of Revenue	1298291000.0	1062935000.0	
Total Other Income Expense Net	-54603000.0	-37033000.0	
Discontinued Operations	None	None	
Net Income From Continuing Ops	444927000.0	301230000.0	
Net Income Applicable To Common Shares	444927000.0	301230000.0	]

	Holder	Shares	Date Reported	\
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0	Vanguard Total Stock Market Index Fund	4131363	2021-12-30	
1	Vanguard 500 Index Fund	3080040	2021-12-30	
2	SPDR S&P 500 ETF Trust	1541995	2022-01-30	
3	Fidelity 500 Index Fund	1488911	2022-02-27	
4	iShares MSCI USA Min Vol Factor ETF	1428034	2022-01-30	
5	Victory Portfolios-Sycamore Established Value ...	1360000	2022-01-30	
6	iShares Core S&P 500 ETF	1194398	2022-01-30	
7	Vanguard Growth Index Fund	1153191	2021-12-30	
8	Select Sector SPDR Fund-Consumer Staples	1107866	2022-01-30	
9	Vanguard Institutional Index Fund-Institutiona...	1095659	2021-12-30	

% Out	Value
0.0283	799294799
0.0211	595895338
0.0106	303880954
0.0102	301147138
0.0098	281422660
0.0093	268015200
0.0082	235380013
0.0079	223107862

```

8 0.0076 218327152
9 0.0075 211977146 ]
['options', ('2022-08-19', '2023-01-20', '2024-01-19')]
['sustainability', Value
2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 10.67
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile 0
peerCount 92
governanceScore 4.91
environmentPercentile 0
animalTesting False
tobacco False
totalEsg 26.89
highestControversy 3
esgPerformance None
coal False
pesticides False
adult False
percentile 50.27
peerGroup Food Products
smallArms False
environmentScore 11.3
governancePercentile 0
militaryContract False]
symbol: GFF
sector: Industrials
Index: SP600
vol_30d_2yr: 6627450.78125
Sector 1YMF: -11.290000915527344
1YMF: -11.290000915527344
risk trend factor: -0.7136535886302743
    beta currentRatio debtToEquity dividendRate dividendYield \
GFF 1.750892 2.829 240.206 0.36 0.0119

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
GFF 2.841 294200000 0.11648 7.736292 -255609376

grossMargins grossProfits heldPercentInstitutions industry \
GFF 0.29764 649036000 0.76782 Conglomerates

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
GFF 1689861120 -23665000 0.09435 0.1771 0.4

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
GFF 1.733357 0.669043 0.04655 1.09

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
GFF 0.0472 0.12523 0.357 49.348 Industrials

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
GFF 57032100 1.73 123288000 2.386 2121533056

totalRevenue trailingPE
GFF 2525786880 13.523505

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-17 26.34 27.29344 30.785079 34.276719 24.336443 5.440805 13.454833 35.218053

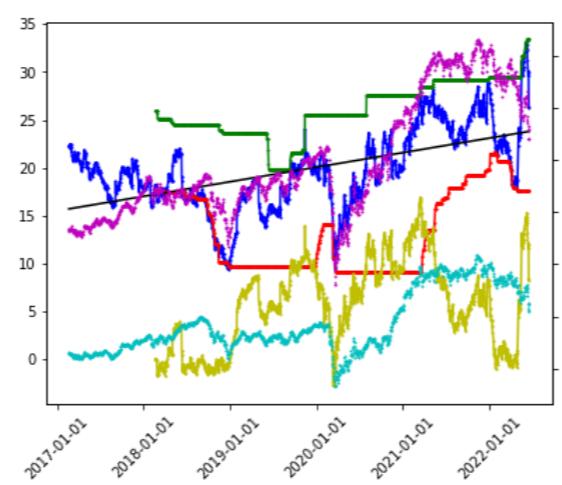
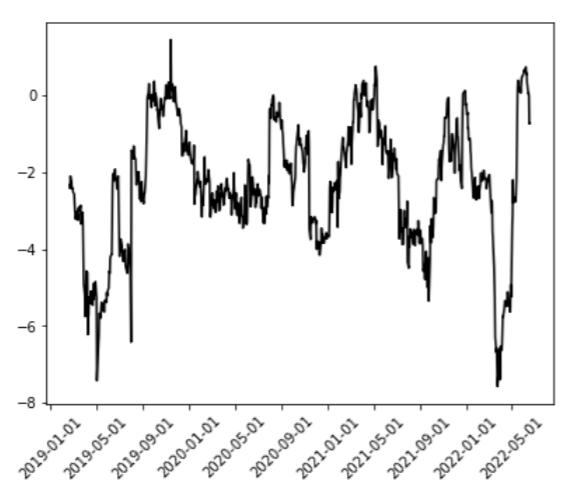
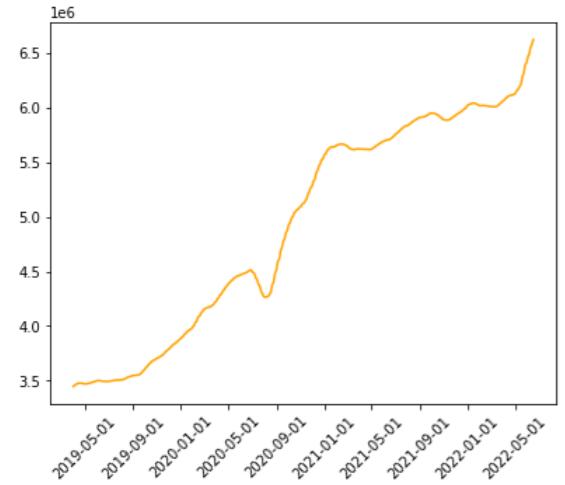
```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
GFF	1.243283	26.34	6627450.78125	0.577684	0.073253	0.408627

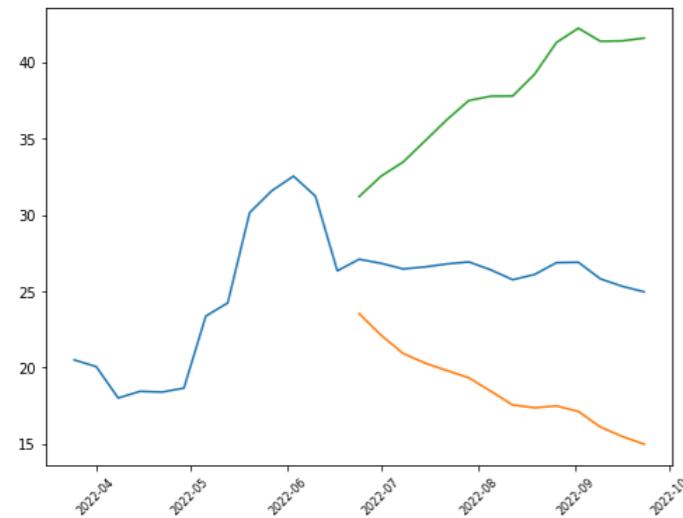
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

6/20/22, 7:14 PM

Sector 1YMF: -141.5800018310547  
Sector Volume Factor: 0.8696853533786545  
Sector Risk Trend Factor: -4.514668337867341  
Index 1YMF: -77.27001953125  
Index Volume Factor: 1.232760496116622  
Index Risk Trend Factor: -5.242200185196592



ets next 13 weeks  
2022-06-17  
2022-06-24  
inner cv scores:  
best model: ['add', 'add', True]  
best inner cv score, sdev (11 folds): 19.47079359884851 25.376167833733334  
test cv mean error, stdev (10 folds): 21.26353787148501 25.942082207774813  
sell date: 2022-06-24  
expected return: 0.02871376697074862  
discounted return: 0.0047293569307549355  
quarter return: 1.5435349322169172



```
[ 'options', ('2022-07-15',) ]
symbol: PXD
sector: Energy
Index: SP500
vol_30d_2yr: 47391610.9375
Sector 1YMF: -50.03999328613281
1YMF: -50.03999328613281
risk trend factor: -0.727748651596503
    beta currentRatio debtToEquity dividendRate dividendYield \
PXD 1.535843      1.541      25.456      12.34      0.0556

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
PXD 9187000320      0.43846     7.828098   2404124928      0.53944

    grossProfits heldPercentInstitutions industry marketCap \
PXD 9392000000      0.92214 Oil & Gas E&P 53659250688

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
PXD 8265999872      0.31175      0.3288      0.46      2.26717

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PXD 2.560934      0.2003      1.404      0.12148

    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
PXD 0.20075      1.006      86.852 Energy      241959008

    shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
PXD 2.87 3256000000      13.457 6024999936 20952999936

    trailingPE
PXD 13.618053
```

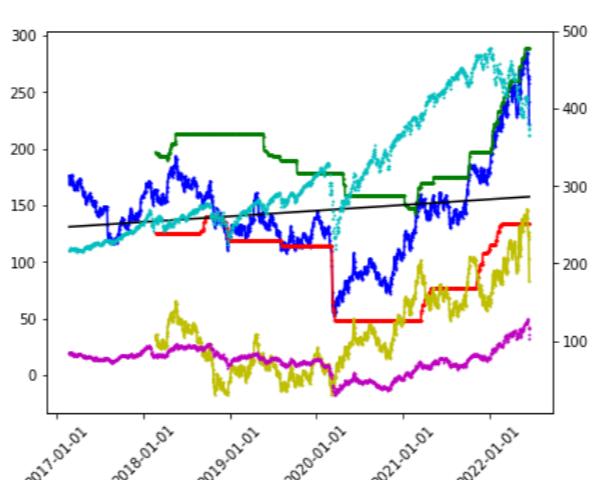
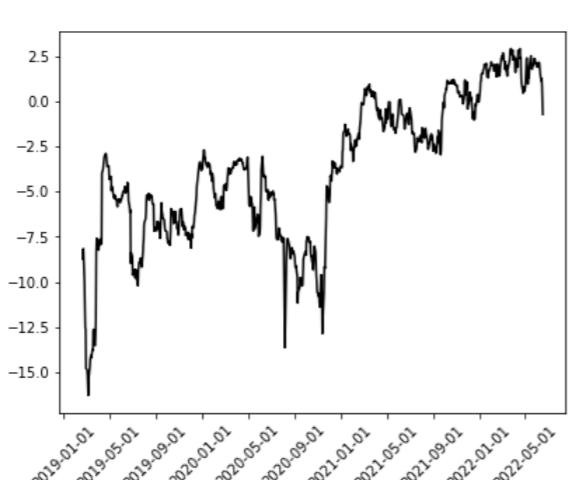
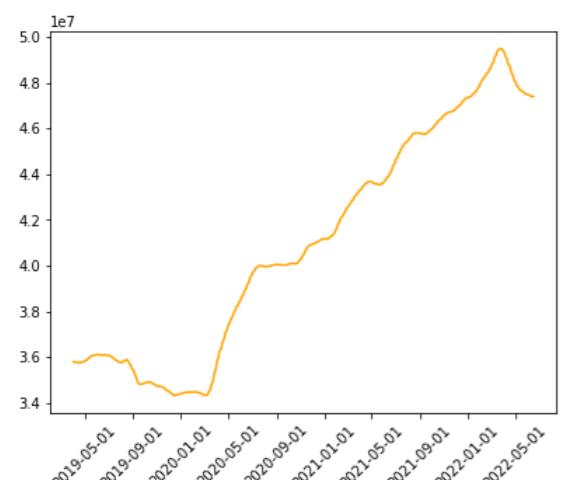
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
<b>2022-06-17</b>	221.770004	243.334843	270.065238	296.795633	256.810952	15.318142	226.174668	287.447237

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
PXD	1.317982	221.770004	47391610.9375	0.685246	0.678534	0.490016

I axis      r axis

legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	30d_vol_2yr		
black	risk_trend_factor/linear		
yellow	supply_trend_1yr		

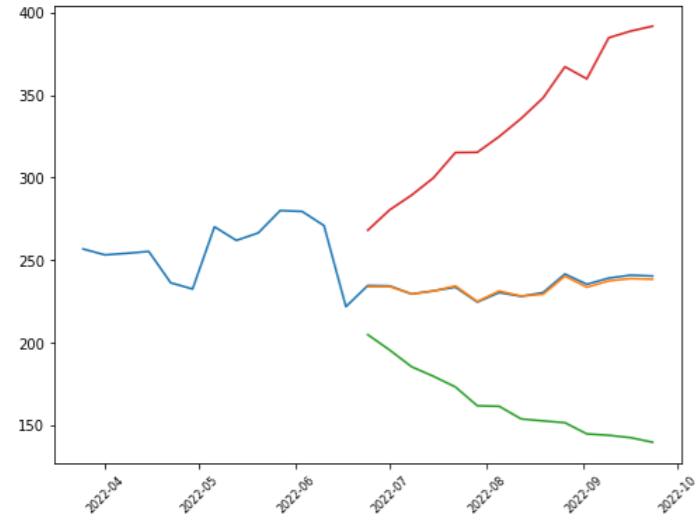
Sector 1YMF: -3.82000732421875  
Sector Volume Factor: 0.8966412344901694  
Sector Risk Trend Factor: -0.12330558135216596  
Index 1YMF: -287.8400573738469  
Index Volume Factor: 1.1835166983613057  
Index Risk Trend Factor: -3.79180877423899



```

ets next 13 weeks
2022-06-17
2022-06-24
inner cv scores:
best model: ['add', 'mul', True]
best inner cv score, sdev (11 folds): 945.2115858493136 912.1408616277421
test cv mean error, stdev (10 folds): 1035.233622083089 908.8770046115551
sell date: 2022-08-26
expected return: 0.08911694869070397
discounted return: 0.0012379718739679024
quarter return: 1.1205537380651147

```



```

['options', ('2023-01-20', '2024-01-19')]
['sustainability', Value]
2022-5

```

```

palmoil False
controversialWeapons False
gambling False
socialScore 8.97
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 66
governanceScore 9.1
environmentPercentile None
animalTesting False
tobacco False
totalEsg 36.53
highestControversy 1
esgPerformance OUT_PERF
coal False
pesticides False
adult False
percentile 81.93
peerGroup Oil & Gas Producers
smallArms False
environmentScore 18.46
governancePercentile None
militaryContract False]
```

	exp_return	sell_date	stop_loss_price	days_delta	disc_rtn	qtr_rtn	outer_cv_avg_rmse_n11	outer_cv_std_n11	mean_revert_flag	pi_lower	pi_upper	price	Sector	Index	error_price_ratio	std_price_ratio
SYMBOL																
<b>CTRA</b>	0.079109	2022-06-24	26.724968	6	0.012770	3.213649	11.197177	11.329542	False	24.772829	33.098632	26.540001	Energy	SP500	0.421898	0.426886
<b>SM</b>	1.833752	2022-09-16	40.935598	90	0.011641	2.900109	41.847933	46.453124	False	17.175428	858.677611	39.709999	Energy	SP600	1.053839	1.169809
<b>CEIX</b>	0.703694	2022-09-16	38.952538	90	0.005938	1.723985	36.226317	60.302806	False	33.159725	172.367879	46.150002	Energy	SP600	0.784969	1.306670
<b>GFF</b>	0.028714	2022-06-24	25.311935	6	0.004729	1.543535	21.263538	25.942082	False	23.527549	31.206421	26.340000	Industrials	SP600	0.807272	0.984893
<b>CAL</b>	0.140021	2022-07-22	25.585411	34	0.003862	1.425604	19.098450	17.363903	False	18.451506	49.834335	26.639999	Consumer Cyclical	SP600	0.716909	0.651798
<b>GO</b>	0.127441	2022-07-22	38.483297	34	0.003534	1.383438	23.788533	17.286792	False	34.844785	58.805903	40.150002	Consumer Defensive	SP400	0.592491	0.430555
<b>TWI</b>	0.404537	2022-09-23	16.363515	97	0.003508	1.380157	4.868335	6.397286	False	11.568359	50.644384	17.520000	Industrials	SP600	0.277873	0.365142
<b>ROCC</b>	0.046128	2022-07-01	33.965317	13	0.003475	1.375946	78.012045	108.682301	False	25.772425	61.597917	37.820000	Energy	SP600	2.062719	2.873673
<b>PTEN</b>	0.373995	2022-09-23	14.196362	97	0.003281	1.351675	5.602470	4.676791	False	8.927516	46.856304	15.240000	Energy	SP600	0.367616	0.306876
<b>TALO</b>	0.242532	2022-08-26	16.851986	69	0.003152	1.335807	41.434579	71.024542	False	7.958516	67.185581	18.610001	Energy	SP600	2.226468	3.816472
<b>EQT</b>	0.335720	2022-09-23	36.729095	97	0.002989	1.315937	32.888753	51.452810	False	26.951371	87.550992	35.939999	Energy	SP400	0.915102	1.431631
<b>PDCE</b>	0.224685	2022-08-26	61.952208	69	0.002942	1.310286	70.972537	66.193723	False	41.257728	152.554666	64.779999	Energy	SP400	1.095593	1.021823
<b>APA</b>	0.078037	2022-07-15	34.900311	27	0.002787	1.291804	51.470317	47.097832	False	23.522862	76.031049	39.220001	Energy	SP500	1.312349	1.200863
<b>OXY</b>	0.267565	2022-09-16	52.935518	90	0.002638	1.274261	72.475170	60.181503	False	34.241460	133.961421	55.680000	Energy	SP500	1.301637	1.080846
<b>BMY</b>	0.034736	2022-07-01	71.911314	13	0.002630	1.273354	81.657019	130.738169	False	69.580786	83.911534	73.769997	Healthcare	SP500	1.106914	1.772240
<b>LNTH</b>	0.263882	2022-09-23	56.158554	97	0.002417	1.248717	42.361418	59.407850	False	41.211695	142.907880	60.720001	Healthcare	SP600	0.697652	0.978390
<b>FANG</b>	0.246795	2022-09-23	114.195308	97	0.002277	1.232699	499.216003	362.450546	False	74.864932	305.714449	122.290001	Energy	SP500	4.082231	2.963861
<b>EOG</b>	0.222561	2022-09-16	109.649840	90	0.002235	1.228033	286.672428	188.787778	False	85.952205	229.076908	111.669998	Energy	SP500	2.567139	1.690586
<b>MPC</b>	0.012946	2022-06-24	82.530705	6	0.002146	1.218032	150.673043	163.872637	False	76.585435	101.903159	87.290001	Energy	SP500	1.726120	1.877336
<b>VPU</b>	0.026860	2022-07-01	139.697685	13	0.002041	1.206325	285.003320	656.825285	False	134.205027	156.704125	141.440002	error	nan	2.015012	4.643844
<b>VRTX</b>	0.100781	2022-08-05	259.564914	48	0.002002	1.202061	1046.692658	1594.610568	False	220.538387	380.299695	263.089996	Healthcare	SP500	3.978459	6.061084
<b>HES</b>	0.189160	2022-09-16	102.801291	90	0.001927	1.193747	199.071076	129.126257	False	77.116805	197.025981	102.870003	Energy	SP500	1.935171	1.255237
<b>HSY</b>	0.066751	2022-07-22	203.527848	34	0.001902	1.191064	136.948658	93.835262	False	194.664264	249.045456	206.029999	Consumer Defensive	SP500	0.664703	0.455445
<b>NFG</b>	0.094788	2022-08-05	66.019622	48	0.001888	1.189549	19.915629	15.166551	False	61.507768	84.115119	65.440002	Energy	SP400	0.304334	0.231763
<b>WRB</b>	0.049543	2022-07-15	64.512976	27	0.001793	1.179114	37.077873	65.039031	False	61.589246	80.784625	66.820000	Financial Services	SP500	0.554892	0.973347
<b>VAW</b>	0.062302	2022-07-22	162.450976	34	0.001779	1.177671	311.019478	418.064744	False	151.703710	199.974910	162.800003	error	nan	1.910439	2.567965
<b>VLO</b>	0.183040	2022-09-23	111.983107	97	0.001734	1.172834	348.466484	368.011224	False	82.916685	213.402188	112.440002	Energy	SP500	3.099133	3.272956
<b>MGPI</b>	0.182334	2022-09-23	88.391676	97	0.001728	1.172170	117.698502	109.761065	False	68.541192	176.929760	93.139999	error	SP600	1.263673	1.178453
<b>DVN</b>	0.180822	2022-09-23	54.533719	97	0.001715	1.170748	74.836474	61.972956	False	36.392750	134.539116	58.020000	Energy	SP500	1.289839	1.068131
<b>FCN</b>	0.136413	2022-09-02	158.331918	76	0.001684	1.167423	109.639129	46.897908	False	137.270172	248.408979	164.020004	error	SP400	0.668450	0.285928
<b>LLY</b>	0.132795	2022-09-02	286.741623	76	0.001642	1.162925	433.702332	286.093400	False	256.630723	423.137678	290.899994	Healthcare	SP500	1.490898	0.983477
<b>CYTK</b>	0.164129	2022-09-23	37.270104	97	0.001568	1.155045	25.432199	22.221737	False	22.070556	105.413432	40.580002	Healthcare	SP600	0.626718	0.547603
<b>UNM</b>	0.052594	2022-07-22	31.496205	34	0.001509	1.148775	21.693368	27.271433	False	26.101125	45.001931	32.560001	Financial Services	SP400	0.666258	0.837575
<b>NTCT</b>	0.149942	2022-09-23	31.484950	97	0.001441	1.141690	10.486504	6.078588	True	26.865459						

	exp_return	sell_date	stop_loss_price	days_delta	disc_rtn	qtr_rtn	outer_cv_avg_rmse_n11	outer_cv_std_n11	mean_revert_flag	pi_lower	pi_upper	price	Sector	Index	error_price_ratio	std_price_ratio
SYMBOL																
<b>CIVI</b>	0.082881	2022-09-09	54.477523	83	0.000960	1.092271	61.659991	42.567136	True	22.667744	186.729660	60.080002	Energy	SP600	1.026298	0.708508
<b>HRB</b>	0.065149	2022-08-26	31.495698	69	0.000915	1.087795	7.292311	6.519292	False	25.831163	48.437875	33.000000	Consumer Cyclical	SP400	0.220979	0.197554
<b>UFCS</b>	0.085181	2022-09-16	30.821478	90	0.000909	1.087155	14.540631	8.793458	False	25.315870	49.012178	32.570000	error	SP600	0.446442	0.269986
<b>MUSA</b>	0.061499	2022-08-26	206.381239	69	0.000865	1.082828	648.006468	656.416182	False	178.450809	312.061296	219.949997	Consumer Cyclical	SP400	2.946154	2.984388
<b>MCK</b>	0.079852	2022-09-16	289.359251	90	0.000854	1.081697	436.745568	368.056950	False	241.583350	424.776445	300.570007	Healthcare	SP500	1.453058	1.224530
<b>Y</b>	0.041485	2022-08-05	803.100093	48	0.000847	1.081024	8115.113080	8822.793722	False	719.348022	1026.450524	830.500000	Financial Services	SP400	9.771358	10.623472
<b>BANF</b>	0.022974	2022-07-15	89.740358	27	0.000842	1.080469	118.635675	88.263626	False	79.973001	117.537675	94.860001	error	SP600	1.250640	0.930462
<b>DINO</b>	0.084116	2022-09-23	42.984275	97	0.000833	1.079612	75.884243	79.445519	False	28.672795	83.005460	45.000000	Energy	SP400	1.686317	1.765456
<b>SJI</b>	0.062094	2022-09-02	33.462316	76	0.000793	1.075650	8.673775	8.038840	False	26.818103	47.822725	34.200001	error	SP600	0.253619	0.235054
<b>AZO</b>	0.071338	2022-09-16	1912.701298	90	0.000766	1.072979	68455.145493	91507.589348	False	1592.827437	2860.898513	1992.550049	Consumer Cyclical	SP500	34.355546	45.924864
<b>HALO</b>	0.069192	2022-09-16	41.688691	90	0.000744	1.070782	26.226304	24.400247	False	32.789967	72.112384	44.139999	Healthcare	SP400	0.594162	0.552792
<b>VOX</b>	0.052467	2022-08-26	90.361901	69	0.000741	1.070560	142.340035	124.210720	False	82.119782	116.312442	92.860001	error	nan	1.532846	1.337613
<b>NOC</b>	0.004203	2022-06-24	431.628085	6	0.000699	1.066429	1104.541841	903.070007	False	417.460202	476.055070	443.929993	Industrials	SP500	2.488099	2.034262
<b>AZPN</b>	0.064686	2022-09-23	181.335870	97	0.000646	1.061252	536.281327	511.570593	False	143.170519	283.204436	189.199997	Technology	SP400	2.834468	2.703862
<b>VHT</b>	0.058785	2022-09-16	215.379795	90	0.000635	1.060130	393.713723	549.759725	False	194.443516	287.059702	220.210007	error	nan	1.787901	2.496525
<b>VFH</b>	0.003698	2022-06-24	73.691634	6	0.000615	1.058232	110.844809	128.669539	False	71.360992	81.731795	75.849998	error	nan	1.461369	1.696368
<b>CSL</b>	0.059229	2022-09-23	228.164325	97	0.000593	1.056092	491.752101	385.041404	False	184.515351	329.600366	234.559998	Industrials	SP400	2.096487	1.641548
<b>VDC</b>	0.031737	2022-08-12	174.395859	55	0.000568	1.053651	195.945343	249.963928	False	163.454003	204.165815	177.059998	error	nan	1.106661	1.411747
<b>CVX</b>	0.047986	2022-09-23	142.359213	97	0.000483	1.045457	384.720340	510.278029	False	108.891275	219.188283	148.380005	Energy	SP500	2.592804	3.438995
<b>VGT</b>	0.032711	2022-08-26	310.577799	69	0.000467	1.043851	1427.680409	1267.772455	False	268.470071	408.635401	319.809998	error	nan	4.464152	3.964143
<b>VCR</b>	0.022549	2022-08-05	219.590764	48	0.000465	1.043666	1337.174783	1906.398636	False	190.304939	280.308059	225.869995	error	nan	5.920108	8.440247
<b>ACC</b>	0.035051	2022-09-02	60.262937	76	0.000453	1.042585	66.265128	144.037066	False	47.871156	89.421380	64.230003	Real Estate	SP400	1.031685	2.242520
<b>VNQ</b>	0.034855	2022-09-02	85.312049	76	0.000451	1.042346	167.133477	335.246220	False	74.669145	111.598933	87.699997	error	nan	1.905741	3.822648
<b>EXLS</b>	0.030110	2022-08-26	126.604217	69	0.000430	1.040347	207.634305	185.405571	False	104.257696	186.527865	134.259995	error	SP600	1.546509	1.380944
<b>CVBF</b>	0.028650	2022-08-26	23.158519	69	0.000409	1.038381	3.320618	2.001984	False	20.179322	30.485194	24.129999	Financial Services	SP600	0.137614	0.082967
<b>GCP</b>	0.032882	2022-09-09	29.308772	83	0.000390	1.036511	8.753591	9.621973	False	22.350741	46.007726	30.930000	error	SP600	0.283013	0.311089
<b>SLY</b>	0.001772	2022-06-24	75.619926	6	0.000295	1.027520	137.652924	194.205074	False	73.011473	83.818050	78.089996	error	nan	1.762747	2.486939
<b>PLAB</b>	0.020161	2022-08-26	18.043879	69	0.000289	1.026971	4.293160	5.320768	False	13.421844	28.435600	19.150000	Technology	SP600	0.224186	0.277847
<b>MTOR</b>	0.009446	2022-07-22	33.313596	34	0.000277	1.025767	25.484578	23.006717	False	26.299078	50.125648	35.939999	error	SP600	0.709087	0.640142
<b>SPY</b>	0.012610	2022-09-23	358.093564	97	0.000129	1.011956	1700.987251	2487.216199	False	307.273563	446.672243	365.859985	error	nan	4.649285	6.798273
<b>SPTM</b>	0.010820	2022-09-23	44.329493	97	0.000111	1.010259	28.190454	43.995234	False	37.964011	55.253977	45.310001	error	nan	0.622168	0.970983
<b>PSB</b>	0.000256	2022-06-24	179.569511	6	0.000043	1.003932	405.853165	504.888406	False	173.171440	199.709270	185.919998	error	SP400	2.182945	2.715622
<b>MTDR</b>	0.000024	2022-06-24	46.270389	6	0.000004	1.000371	55.706212	39.882042	False	41.339538	63.415490	51.200001	Energy	SP400	1.088012	0.778946
<b>VDE</b>	0.000019	2022-06-24	97.742067	6	0.000003	1.000293	212.288991	224.133								