

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

06-10

Energy ETF	0.157138
Utilities ETF	-0.038317
Consumer Staples ETF	-0.056250
Materials ETF	-0.080392
SP600	-0.094221
Health Care ETF	-0.096116
Industrials ETF	-0.121767
SP400	-0.126263
SP1500	-0.133501
SP500	-0.136923
Financials ETF	-0.144127
Real Estate ETF	-0.145335
Communication Services ETF	-0.186172
Information Technology ETF	-0.190021
Consumer Discretionary ETF	-0.213144

standard deviations

	03-31	06-30	09-30	12-31
SP1500	0.134644	0.072380	0.037999	0.110320
SP500	0.127411	0.070450	0.039033	0.106496
SP600	0.199479	0.088447	0.037096	0.179394
SP400	0.157662	0.100224	0.037075	0.138781
Communication Services ETF	0.138244	0.095192	0.045269	0.123434
Consumer Discretionary ETF	0.151791	0.146922	0.083611	0.127243
Consumer Staples ETF	0.096633	0.035421	0.049261	0.063730
Energy ETF	0.369457	0.166709	0.099129	0.202483
Financials ETF	0.192299	0.053666	0.014462	0.140299
Health Care ETF	0.079810	0.054107	0.065798	0.098650
Industrials ETF	0.178470	0.072339	0.066050	0.134044
Information Technology ETF	0.135329	0.113409	0.054569	0.136753
Materials ETF	0.163483	0.099766	0.065317	0.127072
Real Estate ETF	0.161483	0.056090	0.032025	0.078165
Utilities ETF	0.092016	0.021473	0.033841	0.054883

t scores

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

p values

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

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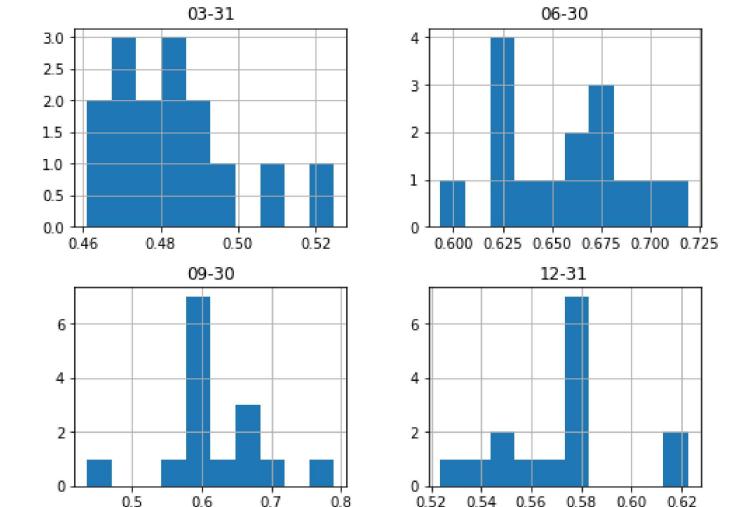


Figure 11: A Sector Roadmap for Business Cycles





Cycles

Strongest

Weakest

Expansion

Tech
Financials
Real Estate
Consumer D
Industrials
Materials
Energy
Healthcare
Cons. Staples
Utilities

Slowdown

Cons. Staples
Healthcare
Industrials
Utilities
Tech
Energy
Financials
Materials
Consumer D
Real Estate

Recession

Cons. Staples
Energy
Utilities
Healthcare
Consumer D
Materials
Industrials
Financials
Tech
Real Estate

Recovery

Real Estate
Consumer D
Materials
Tech
Industrials
Energy
Financials
Healthcare
Cons. Staples
Utilities

	Energy ETF	Utilities ETF	Consumer Staples ETF	Materials ETF	SP600	Health Care ETF	Industrials ETF	SP400	SP1500	SP500	Financials ETF	Real Estate ETF	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	0.022113	0.01040	0.026999	0.018327	0.072895	0.042167	0.031752	0.030375	0.030708	0.038955	0.017375	-0.024136	0.041388	0.028386
2017-09-30 00:00:00	0.069612	0.031518	-0.012346	0.066617	0.064962	0.040565	0.052781	0.035020	0.044807	0.045666	0.052789	0.008095	0.015498	0.083223	0.014521
2017-12-31 00:00:00	0.073946	0.000687	0.059268	0.071798	0.038747	0.018576	0.066175	0.074139	0.066880	0.069917	0.073683	0.012742	0.000763	0.093087	0.097848
2018-03-31 00:00:00	-0.078807	-0.033734	-0.073521	-0.072483	-0.011631	-0.020049	-0.033542	-0.003978	-0.021321	-0.024130	-0.015065	-0.086159	-0.085669	0.020711	-0.001942
2018-06-30 00:00:00	0.150528	0.053422	0.006353	0.036210	0.106722	0.055259	-0.008057	0.045520	0.052094	0.047568	-0.011331	0.094633	0.035862	0.080437	0.088528
2018-09-30 00:00:00	0.021911	0.019751	0.050064	0.007338	0.032842	0.137698	0.094874	0.032902	0.070536	0.078236	0.031675	0.000044	0.023115	0.117719	0.066008
2018-12-31 00:00:00	-0.267451	0.009925	-0.055862	-0.154310	-0.193040	-0.108129	-0.183620	-0.172165	-0.142834	-0.137319	-0.138848	-0.058855	-0.143117	-0.174415	-0.162070
2019-03-31 00:00:00	0.178564	0.103055	0.111156	0.126958	0.124660	0.081835	0.183161	0.157497	0.151853	0.144236	0.109942	0.173365	0.139541	0.217473	0.157197
2019-06-30 00:00:00	-0.048754	0.035855	0.036556	0.040951	0.010843	0.017469	0.034436	0.030815	0.039106	0.040369	0.067026	0.015389	0.035928	0.054745	0.040127
2019-09-30 00:00:00	-0.075658	0.090872	0.056319	-0.013089	-0.004200	-0.035439	0.004465	-0.009122	0.006291	0.011423	0.013235	0.075811	-0.002023	0.016115	0.002509
2019-12-31 00:00:00	0.054552	0.002011	0.036517	0.066971	0.082573	0.147851	0.058155	0.066590	0.090490	0.089876	0.096390	0.005745	0.086727	0.139034	0.056223
2020-03-31 00:00:00	-0.523877	-0.141270	-0.141472	-0.278876	-0.328050	-0.131539	-0.279339	-0.247693	-0.205302	-0.194477	-0.330709	-0.241350	-0.187109	-0.131215	-0.231167
2020-06-30 00:00:00	0.332245	0.024507	0.094561	0.260712	0.223617	0.164463	0.182339	0.259149	0.206715	0.201618	0.135641	0.135399	0.224230	0.318555	0.379795
2020-09-30 00:00:00	-0.188315	0.051209	0.098022	0.120651	0.032878	0.062281	0.118587	0.068091	0.086119	0.090383	0.028859	0.013268	0.097573	0.120087	0.192380
2020-12-31 00:00:00	0.300830	0.073335	0.074374	0.172363	0.312278	0.101111	0.178685	0.211458	0.132216	0.121185	0.253698	0.092916	0.182130	0.138205	0.172875
2021-03-31 00:00:00	0.324479	0.031042	0.030385	0.105419	0.184526	0.025327	0.116450	0.084662	0.070761	0.063518	0.165207	0.087920	0.083288	0.015110	0.073815
2021-06-30 00:00:00	0.126094	-0.005272	0.029888	0.049264	0.043034	0.083442	0.040613	0.033635	0.080495	0.083593	0.074954	0.115985	0.108092	0.114030	0.064435
2021-09-30 00:00:00	-0.026222	0.002739	-0.018026	-0.041816	-0.030694	0.000121	-0.043573	-0.024123	0.000378	0.002523	0.024323	-0.000098	-0.021207	0.006319	-0.012866
2021-12-31 00:00:00	0.050203	0.124048	0.115277	0.136524	0.049293	0.077925	0.080207	0.077726	0.103038	0.106772	0.042310	0.139811	-0.037011	0.141743	0.099010
2022-03-31 00:00:00	0.379204	0.034591	-0.019862	-0.014374	-0.058344	-0.045192	-0.041831	-0.089783	-0.049102	-0.049099	-0.032929	-0.065856	-0.114414	-0.090992	-0.103975
2022-06-10 00:00:00	0.157138	-0.038317	-0.056250	-0.080392	-0.094221	-0.096116	-0.121767	-0.126263	-0.133501	-0.136923	-0.144127	-0.145335	-0.186172	-0.190021	-0.213144

	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	2022-06-10 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	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	Utilities ETF	Utilities ETF	Utilities 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	Consumer Staples ETF	Consumer Staples ETF	Consumer Staples 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	Materials ETF	SP500	Materials 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	SP600		
	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	Health Care ETF		
	SP1500	SP500	SP500	SP1500	Utilities ETF	Consumer Staples ETF	SP1500	SP1500	Consumer Staples ETF	SP1500	SP600	SP1500	SP600	SP500	Consumer Discretionary ETF	SP400	SP1500	Real Estate ETF	SP1500	Health Care ETF	Industrials ETF	SP1500	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	SP400	SP400
	Materials ETF	Health Care ETF	Industrials ETF	Industrials ETF	SP500	SP600	Materials ETF	Communication Services ETF	Utilities ETF	Consumer Discretionary ETF	SP400	Real Estate ETF	SP500	SP400	Information Technology ETF	Consumer Discretionary ETF	Consumer Staples ETF	Industrials ETF	SP1500	SP1500	SP1500	SP1500	SP1500
	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	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	SP400	SP400	SP400	Real Estate ETF	Financials 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	SP400	Real Estate ETF	Real Estate ETF		
	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	Information Technology ETF	Communication Services ETF			
	Communication Services ETF	Real Estate ETF	Communication Services ETF	Communication Services ETF	Industrials 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	Energy 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 > current

-: current > 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

2022-06-10

Information Technology ETF	0.096313
Consumer Discretionary ETF	0.095053
Energy ETF	0.075929
Materials ETF	0.065233
SP1500	0.064383
SP500	0.063601
SP600	0.063392
SP400	0.063127
Health Care ETF	0.061962
Communication Services ETF	0.059812
Real Estate ETF	0.059622
Financials ETF	0.047976
Industrials ETF	0.045803
Consumer Staples ETF	0.027809
Utilities ETF	0.020457

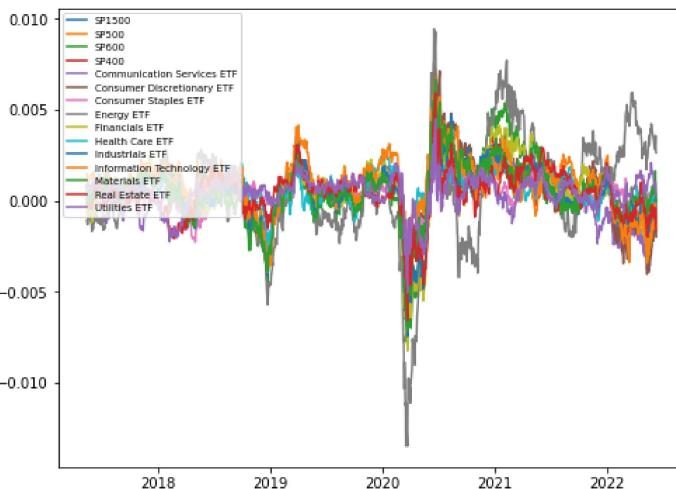
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0	Utilities ETF	Energy ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	Energy ETF	Health Care ETF	Utilities ETF	Information Technology ETF	Utilities ETF	Real Estate ETF	Health Care ETF	Health Care ETF	Consumer Discretionary ETF	Consumer Discretionary ETF	Energy ETF	Energy ETF	Real Estate ETF	Energy ETF	Real Estate ETF	Energy ETF	Energy ETF	Information Technology ETF
	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	Utilities ETF	Consumer Discretionary ETF
	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	Energy ETF
	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	Materials ETF
	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	
	SP400	SP400	SP500	Health Care ETF	Consumer Staples ETF	SP1500	SP500	Communication Services ETF	SP500	Communication Services ETF	SP500	Financials ETF	SP500	Communication Services ETF	Information Technology ETF	Industrials ETF	Communication Services ETF	SP500	SP1500	SP500	Health Care ETF	SP500
	SP500	Industrials ETF	SP1500	SP1500	SP1500	SP1500	Consumer Staples ETF	SP1500	SP1500	Materials ETF	SP400	SP600	SP1500	SP400	Consumer Discretionary ETF	Real Estate ETF	SP1500	SP500	SP1500	Industrials ETF	SP600	
	SP1500	SP1500	Consumer Staples ETF	SP500	Consumer Discretionary ETF	SP600	Financials ETF	SP500	SP1500	SP500	Industrials ETF	SP1500	SP500	SP500	Materials ETF	SP400	Consumer Staples ETF	Communication Services ETF	Consumer Discretionary ETF	SP500	SP400	
	Materials ETF	SP500	Materials ETF	Industrials ETF	SP500	Consumer Discretionary ETF	Materials ETF	Materials ETF	SP400	SP1500	SP400	SP400	Real Estate ETF	Industrials ETF	SP1500	SP1500	Consumer Discretionary ETF	Information Technology ETF	SP400	Industrials ETF	SP1500	Health Care ETF
	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	SP500	SP1500	Industrials ETF	SP600	Health Care ETF	Real Estate ETF	Communication Services ETF
	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	
	Information Technology ETF	Utilities ETF	SP600	Communication Services ETF	Information Technology ETF	Communication Services 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	Information Technology ETF	Energy ETF	SP400	Financials ETF		
	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	
	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	
	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	Consumer Staples ETF	Information Technology ETF	Industrial ETF	Communication Services ETF	Information Technology ETF	Utilities ETF		

Index Symbol risk_trend_factor

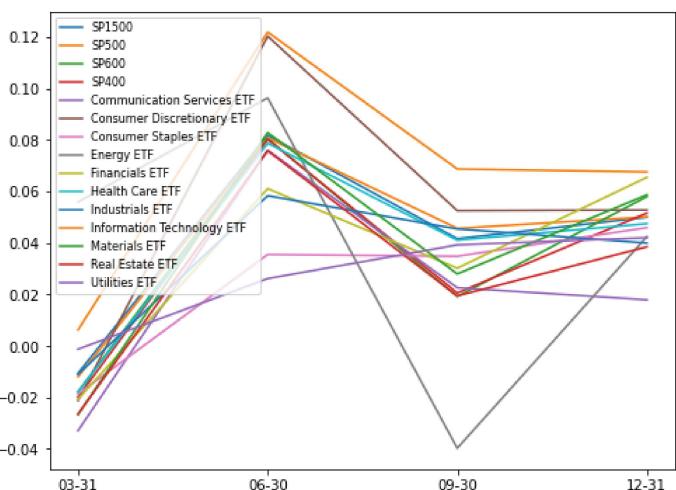
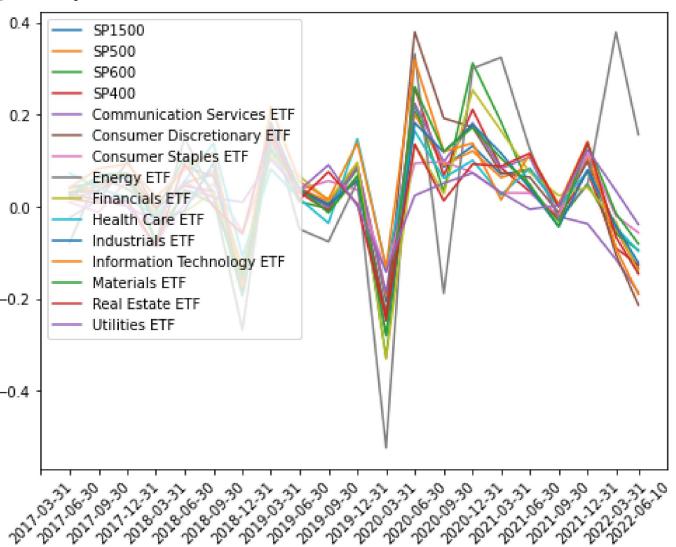
0	SP500	SPY	-4.314957
1	SP1500	SPTM	-4.323114
2	SP600	SLY	-5.831833
3	SP400	MDYG	-5.932476

Symbol risk_trend_factor Sector

3	VDE	3.378308	Energy ETF
10	VPU	-0.903846	Utilities ETF
2	VDC	-1.815370	Consumer Staples ETF
8	VAW	-2.983225	Materials ETF
9	VNQ	-3.885849	Real Estate ETF
5	VHT	-3.947143	Health Care ETF
6	VIS	-5.096830	Industrials ETF
1	VCR	-5.274843	Consumer Discretionary ETF
4	VFH	-5.669687	Financials ETF
7	VGT	-6.117689	Information Technology ETF
0	VOX	-9.183162	Communication Services ETF

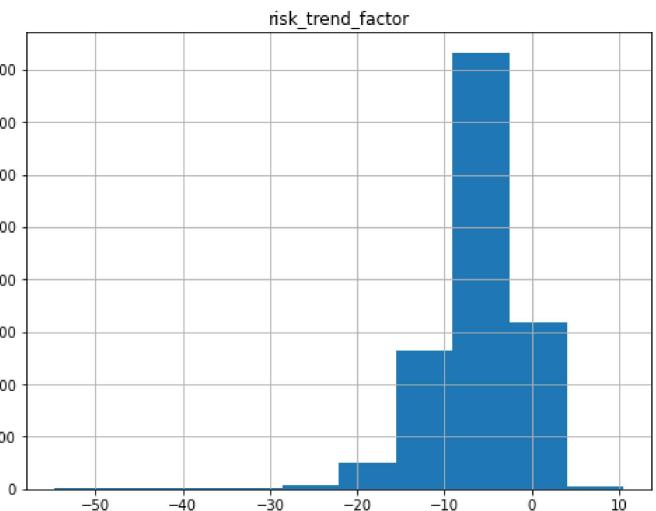


Quarterly Returns



2.2634783422537827

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array([[<AxesSubplot:title={'center':'risk_trend_factor'}>]], dtype=object)
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1530

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Index(['Symbol', 'max_2y', 'min_2y', 'std_2y', 'mean_2y', 'max_1y', 'min_1y',
       'std_1y', 'mean_1y', 'latest_p', '2yr_close_0pct', '2yr_close_2pct',
       '2yr_close_9pct', '2yr_close_25pct', '2yr_close_50pct',
       '2yr_close_75pct', '2yr_close_91pct', '2yr_close_98pct',
       '2yr_close_100pct', '1yr_close_0pct', '1yr_close_2pct',
       '1yr_close_9pct', '1yr_close_25pct', '1yr_close_50pct',
       '1yr_close_75pct', '1yr_close_91pct', '1yr_close_98pct',
       '1yr_close_100pct', 'risk_trend_factor', 'supply_trend_1yr',
       'supply_trend_180d', 'supply_trend_90d', 'supply_trend_60d',
       'supply_trend_30d', 'vol_30d_2yr', 'pct_1yr', 'pct_2yr',
       'MIN_Lookback_One_Year', 'MIN_Lookback_6_Months',
       'MIN_Lookback_2_Months', 'MIN_Lookback_1_Months', 'volume_factor',
       'adf', 'hurst', 'Market Index', 'Sector'],
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Symbol	latest_p	risk_trend_factor	adf	hurst	Sector	Market Index	vol_30d_2yr	
0	MTOR	36.119999	10.517268	0.308552	0.433895	error	SP600	20301256.12708
1	Y	834.109985	7.384772	0.389055	0.457411	Financial Services	SP400	1456858.698941
2	TVTY	32.279999	5.39315	0.524133	0.449983	error	SP600	14974563.993949
3	MCK	313.339996	4.004949	0.998714	0.463166	Healthcare	SP500	33946622.768533
4	ACC	64.769997	3.917188	0.981927	0.416828	error	SP400	20837020.877458
5	CVX	175.399994	3.856637	0.97985	0.498334	Energy	SP500	181490743.721634
6	EQT	47.959999	3.747308	0.932879	0.501911	Energy	SP400	137472571.699697
7	LNTH	63.849998	3.540933	0.990883	0.532857	Healthcare	SP600	10889615.279879
8	SWX	91.889999	3.530074	0.284442	0.398907	Utilities	SP400	7059509.304085
9	MPC	108.339996	3.513423	0.991702	0.523957	Energy	SP500	132481329.198185
10	MUSA	237.960007	3.50354	0.99617	0.410367	Consumer Cyclical	SP400	7365132.299546
11	SJI	34.060001	3.390476	0.165217	0.413386	Utilities	SP600	18167782.072617
12	VDE	123.860001	3.378308	0.947803	0.52196	error	NaN	15894021.482602
13	XOM	100.459999	3.314307	0.977852	0.536671	Energy	SP500	399482859.531014
14	DVN	74.059998	3.254185	0.994381	0.555599	Energy	SP500	181231964.523449
15	MRO	30.290001	3.229066	0.972772	0.54597	Energy	SP500	385905130.635401
16	PBF	40.330002	3.225693	0.730477	0.555776	Energy	SP600	65359710.136157
17	APA	48.810001	3.199621	0.443494	0.44772	Energy	SP500	154170566.944024
18	CTRA	34.310001	3.192947	0.507048	0.467954	Energy	SP500	150668871.709531
19	COP	116.830002	3.181252	0.992942	0.491541	Energy	SP500	164910706.505295
20	VLO	140.509995	3.155888	0.970961	0.536721	Energy	SP500	84050366.565809
21	EOG	144.0	3.013262	0.922673	0.487021	Energy	SP500	86714140.166415
22	WRB	68.260002	2.908126	0.965152	0.455795	Financial Services	SP500	23023001.53177
23	HES	127.720001	2.88093	0.97499	0.449233	Energy	SP500	66701550.453858
24	CEIX	52.91	2.853516	0.933936	0.522101	Energy	SP600	9591390.71618
25	FANG	155.490005	2.734463	0.837164	0.472651	Energy	SP500	49440914.674735
26	CIVI	80.660004	2.668131	0.020246	0.49614	Energy	SP600	7642718.420575
27	NFG	72.650002	2.655036	0.982328	0.468009	Energy	SP400	11033521.558245
28	PDCE	84.129997	2.633596	0.76826	0.495944	Energy	SP400	26294633.055976
29	OXY	63.869999	2.620612	0.777852	0.546207	Energy	SP500	312554843.645991
30	PXD	270.869995	2.603258	0.935146	0.498349	Energy	SP500	41581229.500756
31	CNX	23.24	2.576298	0.784231	0.406859	Energy	SP400	79583176.67171
32	MTDR	65.230003	2.551954	0.987482	0.46805	Energy	SP400	50876450.529501
33	DINO	56.369999	2.525424	0.412505	0.562704	Energy	SP400	51935930.332829
34	HRB	35.450001	2.371017	0.838883	0.43511	Consumer Cyclical	SP400	61640658.16944
35	MUR	44.150002	2.319887	0.869435	0.455651	Energy	SP400	60623530.181543
36	SM	50.560001	2.268271	0.976245	0.479096	Energy	SP600	82761362.102874
37	RRC	34.439999	2.265651	0.784588	0.495379	Energy	SP400	159173207.564297

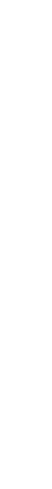
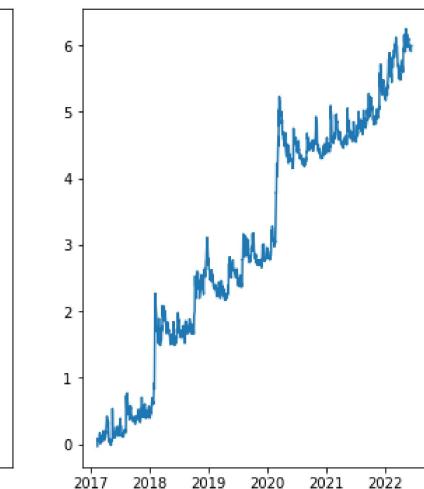
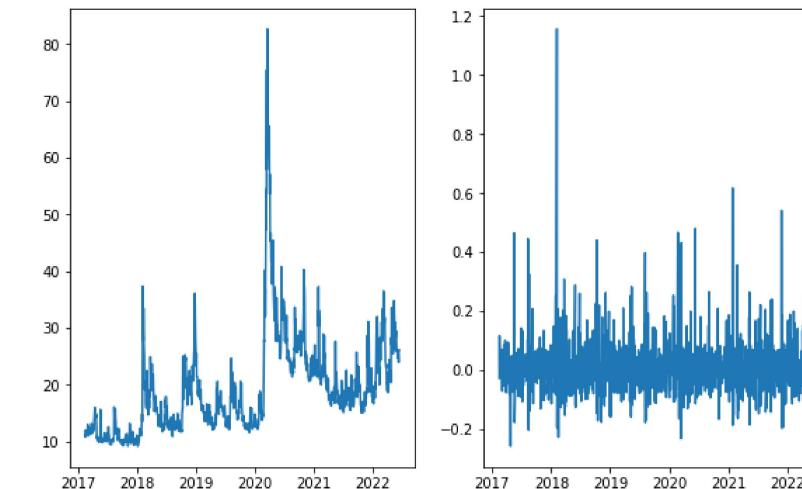
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'Market volatility'

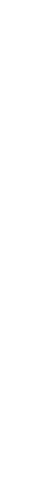
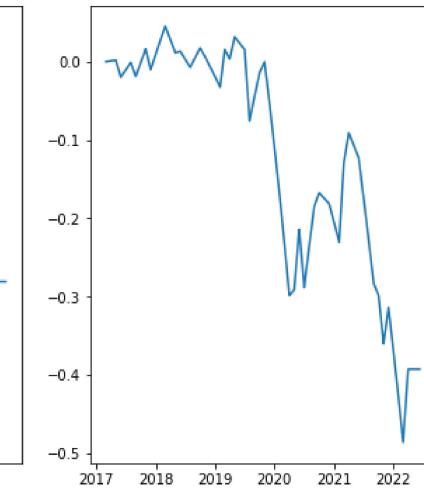
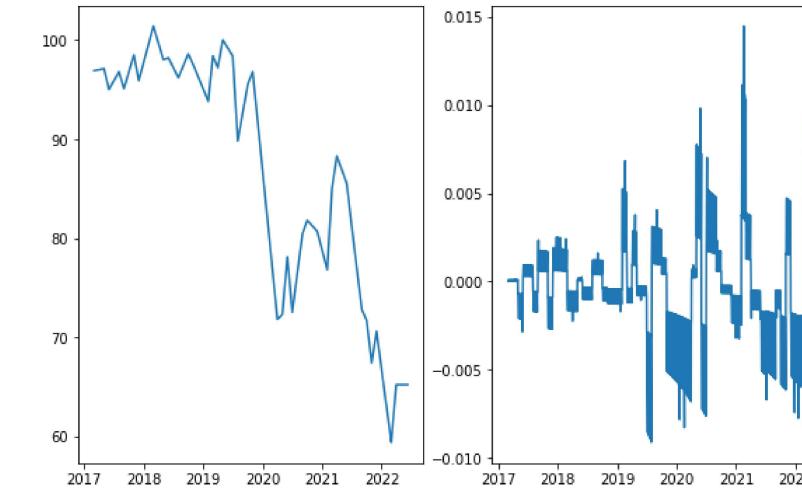
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nominal, pct_change, pct_change().cumsum
Market volatility

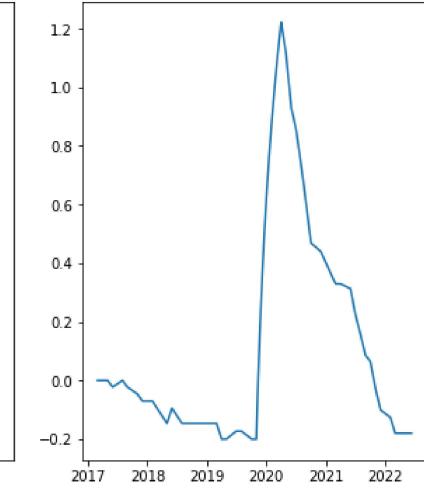
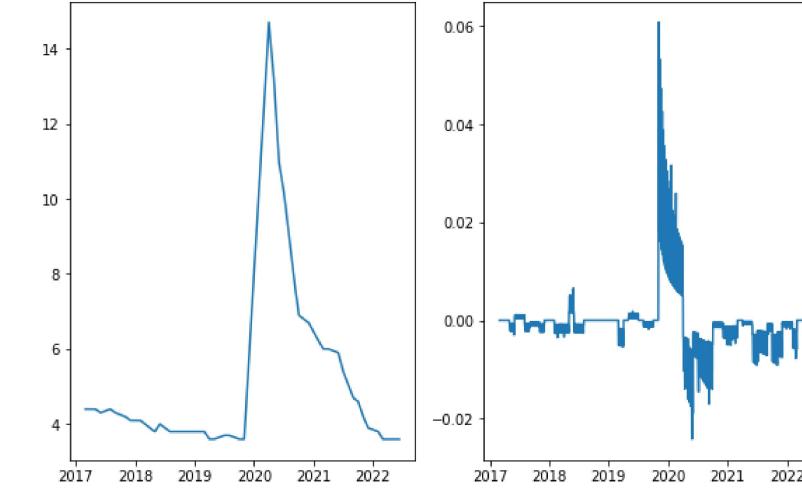
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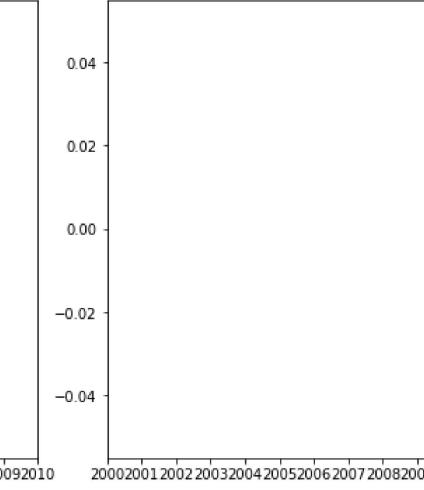
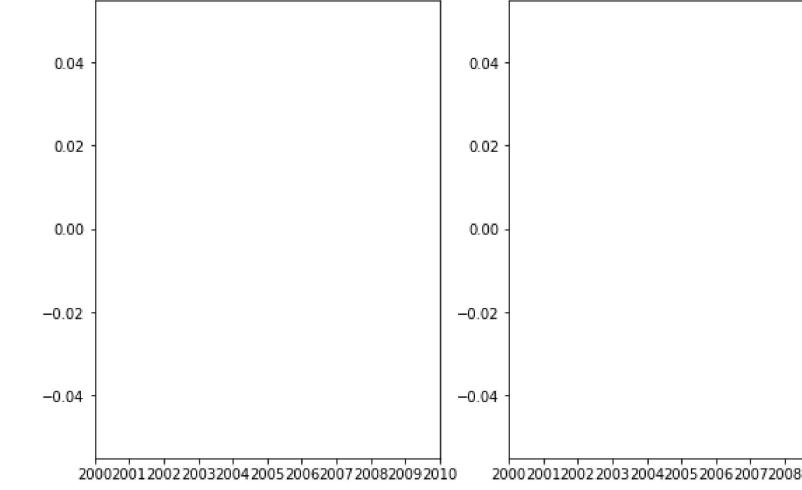
Consumer Confidence

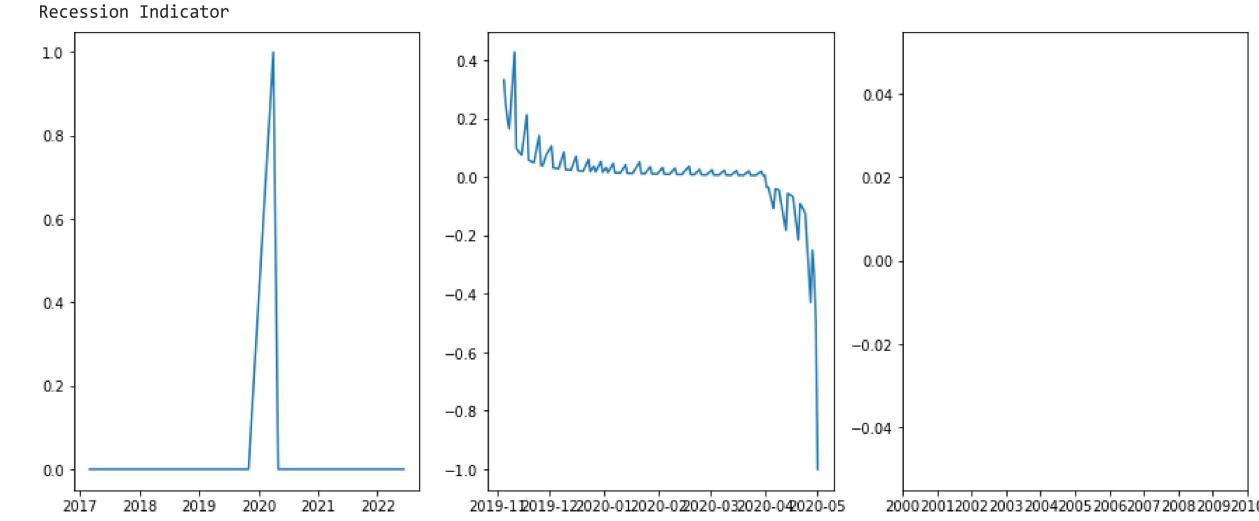
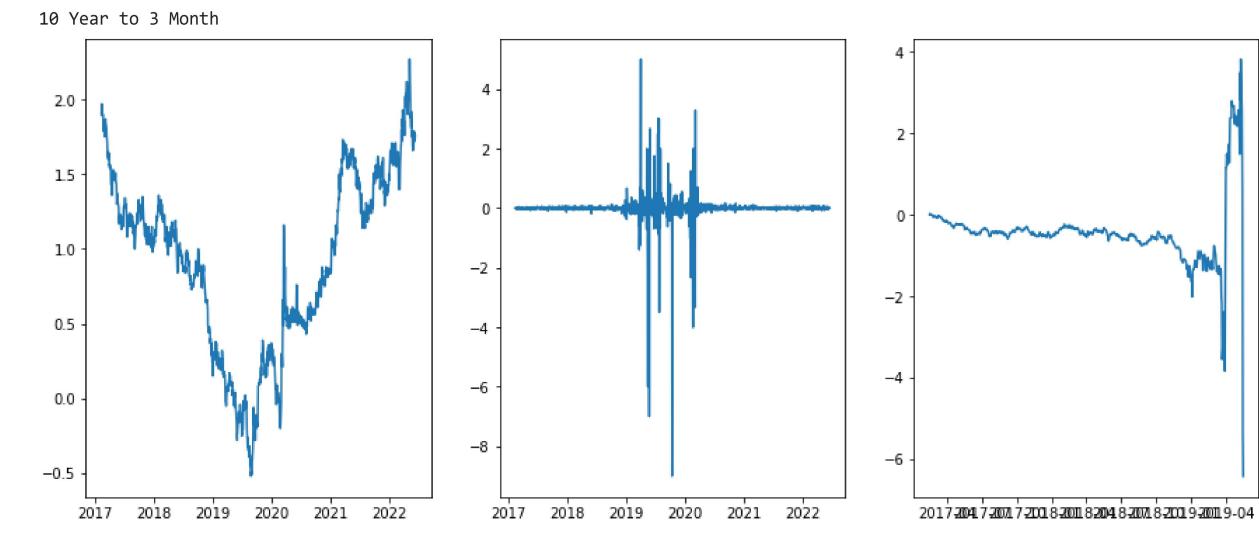
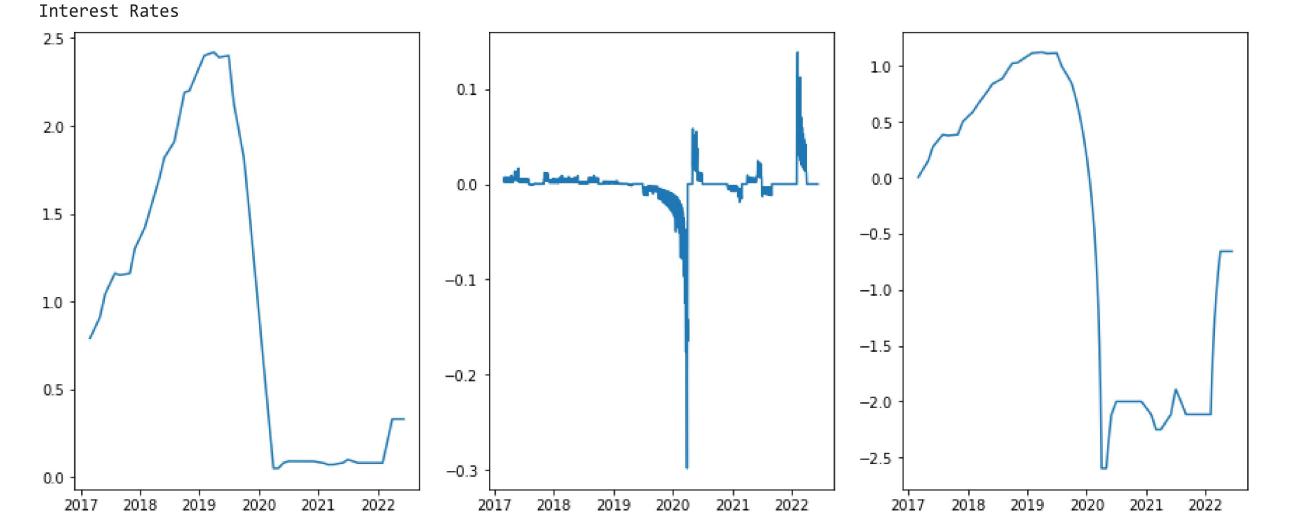


Unemployment



Inflation



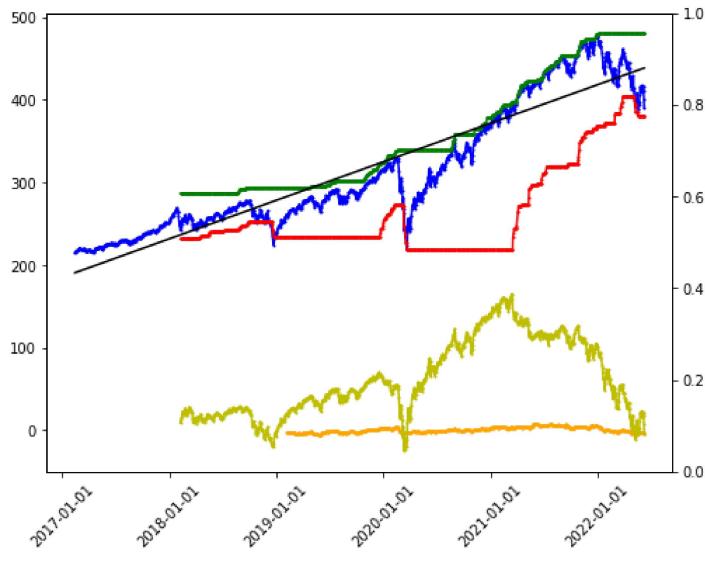


adf < .05 or .01, mean reverting
Hurst
> .5 - The time series is mean reverting.
= .5 - The time series is a Geometric Brownian Motion.
< .5 - The time series is trending.
symbol: SPY
sector: error
sector: error
Index: SP500
supply trend: 1781380150.6807866
risk trend factor: -4.314957039491863
totalAssets trailingPE
SPY 3.781762e+11 4.292843

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	389.799988	384.809441	402.729524	420.649606	424.242223	21.62419	380.993843	467.490604

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SPY	1.065993	389.799988	1781380150.680787	0.501905	0.730083	0.423507

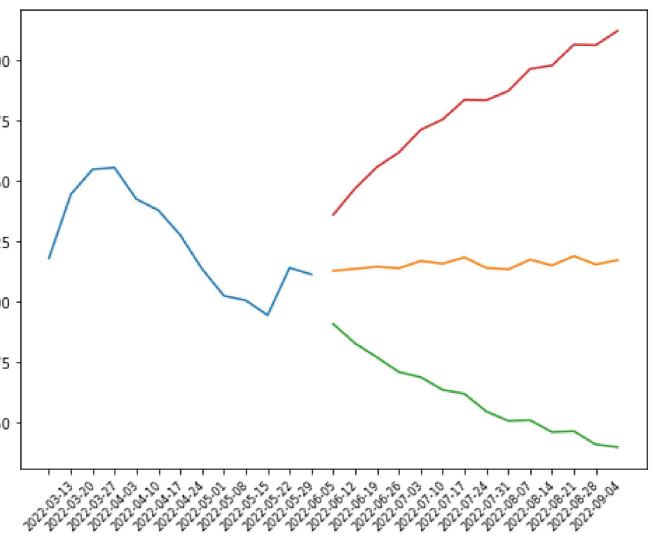
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [632.9994372245903, 632.9994296789454, 632.9994357513679, 632.9994371873406]
inner cv sdevs: [526.0401152261812, 526.0400916338582, 526.0401155650316, 526.0401151885344]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 632.9994296789454 526.0400916338582
test cv mean error, stdev (10 folds): [654.7536070469592, 546.9773763661158]
sell date: 2022-08-28
expected return: 0.07468322706745872
discounted return: 0.0009238360336081275
quarter return: 1.088666637943265

```



```

['options', ('2022-06-17', '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
supply trend: 10701430.030257186
risk trend factor: -4.323113872768143
Empty DataFrame
Columns: []
Index: [SPTM]

```

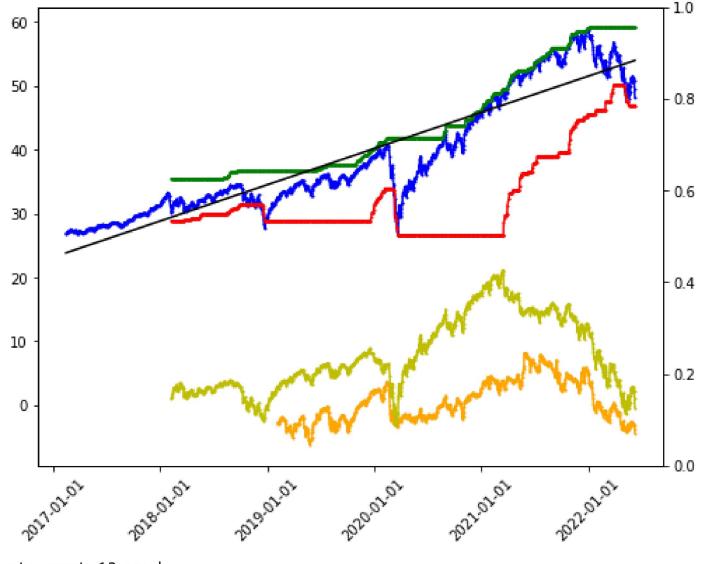
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
--	-----------	---------	----------	---------	--------	---------	-----------	-----------

2022-06-10	48.16	47.422277	49.676984	51.931691	52.277778	2.617361	47.043055	57.5125
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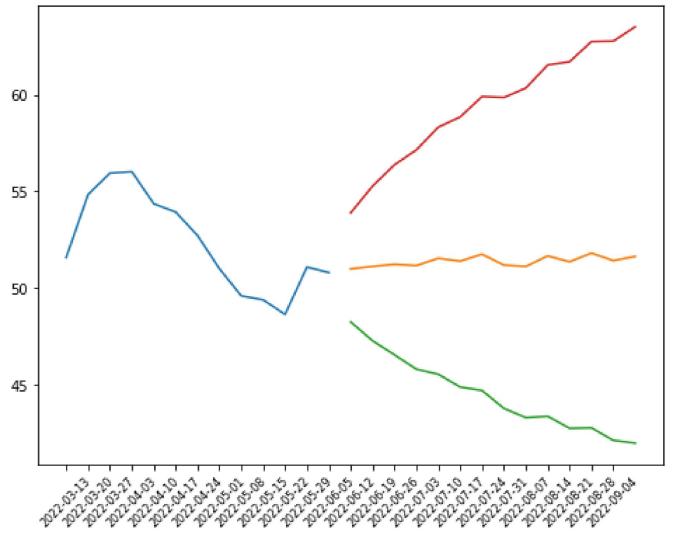
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
--	---------------	----------	-------------	---------	-----	-------

SPTM	1.445517	48.16	10701430.030257	0.514882	0.731043	0.430862
------	----------	-------	-----------------	----------	----------	----------

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



ets next 13 weeks
 inner cv scores: [9.766103069551415, 9.766103038674405, 9.766101756794988, 9.766103022932008]
 inner cv sdevs: [7.967177629103847, 7.967177583356376, 7.967178214958815, 7.967177589932454]
 best model: ['F', 'F']
 best inner cv score, sdev (11 folds): 9.766101756794988 7.967178214958815
 test cv mean error, stdev (10 folds): [10.110157203693971, 8.277765674145988]
 sell date: 2022-08-28
 expected return: 0.07559633122124303
 discounted return: 0.0009347344703374283
 quarter return: 1.088666637943265

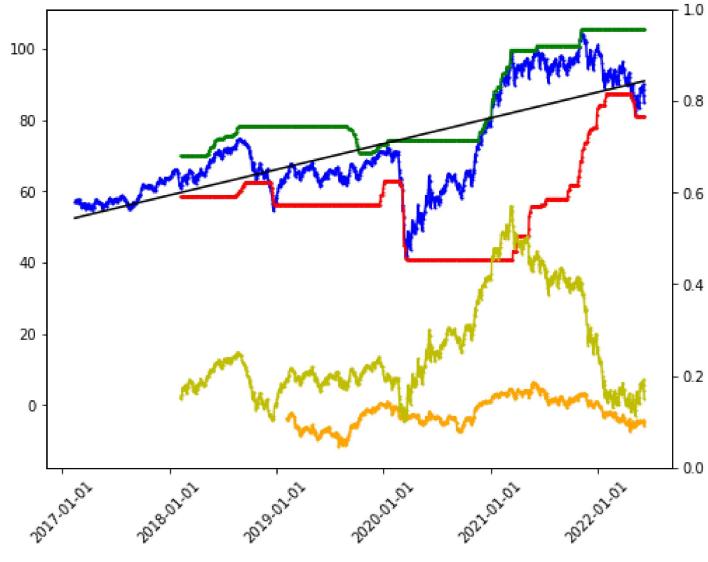


['options', ('2022-06-17',)]
 symbol: SLY
 sector: error
 sector: error
 Index: SP600
 supply trend: 1733621.860816944
 risk trend factor: -5.831832561133962
 Empty DataFrame
 Columns: []
 Index: [SLY]

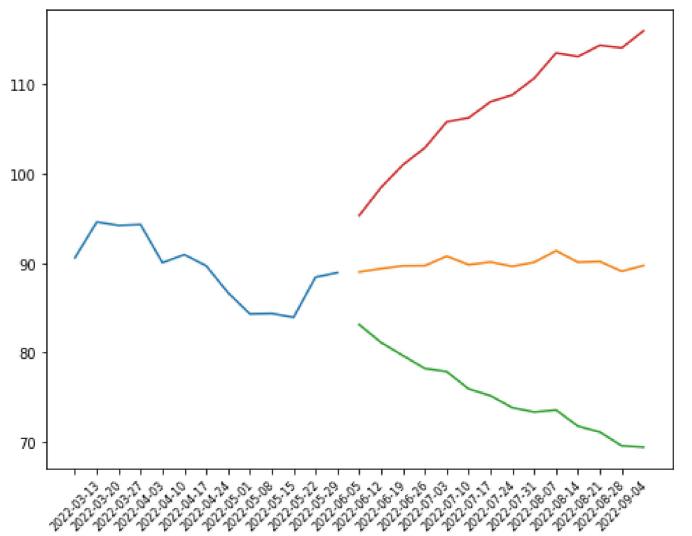
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	84.790001	81.56592	86.101746	90.637572	89.273651	3.873503	81.526645	97.020657

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SLY	1.265097	84.790001	1733621.860817	0.58507	0.631357	0.516612

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



ets next 13 weeks
 inner cv scores: [53.66732215733594, 53.66732249064057, 53.667322489323645, 53.66732257856416]
 inner cv sdevs: [42.37775861395745, 42.37775839813266, 42.37775842272278, 42.377758368458665]
 best model: ['T', 'T']
 best inner cv score, sdev (11 folds): 53.66732215733594 42.37775861395745
 test cv mean error, stdev (10 folds): [55.52001311248117, 44.01936672591312]
 sell date: 2022-08-14
 expected return: 0.07793979008442603
 discounted return: 0.0011733693844107052
 quarter return: 1.088666637943265

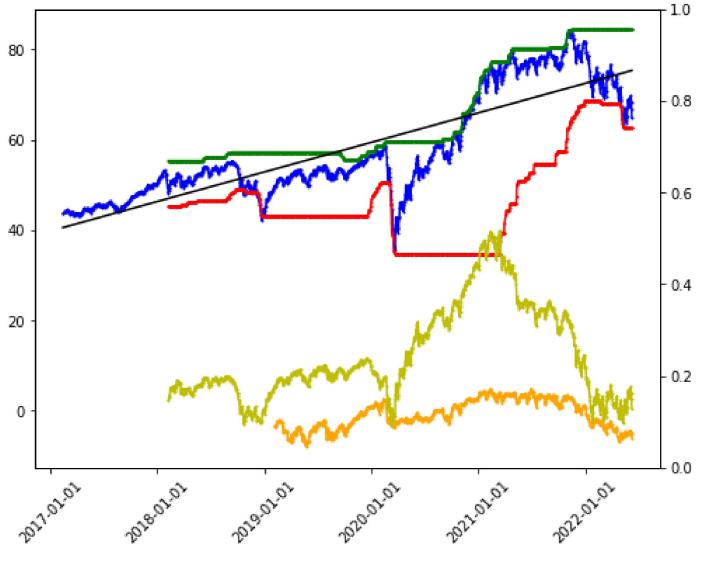


symbol: MDYG
 sector: error
 sector: error
 Index: SP400
 supply trend: 3870598.865355522
 risk trend factor: -5.932475578582748
 Empty DataFrame
 Columns: []
 Index: [MDYG]

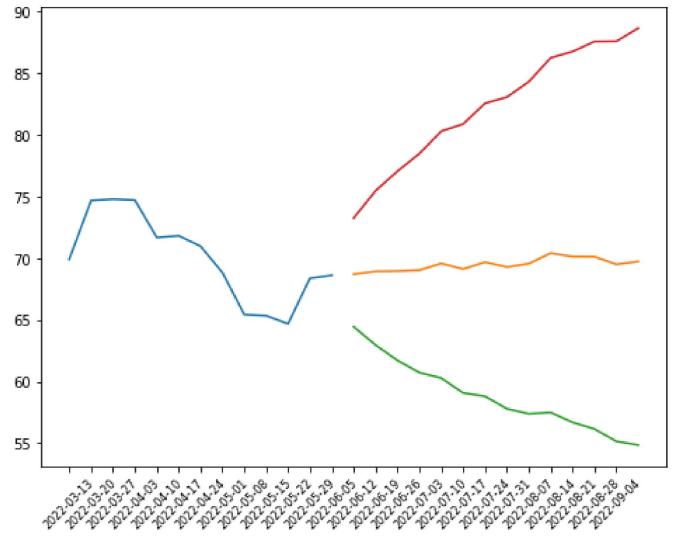
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	64.839996	62.654627	66.371428	70.088229	69.963968	3.726597	62.510773	77.417163

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MDYG	0.727588	64.839996	3870598.865356	0.405859	0.564973	0.453632

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



ets next 13 weeks
 inner cv scores: [29.52192874706465, 29.521928435745643, 29.521931282836643, 29.521928756045966]
 inner cv sdevs: [23.756908622983925, 23.756908903852402, 23.756907029222933, 23.75690862113693]
 best model: ['T', 'F']
 best inner cv score, sdev (11 folds): 29.521928435745643 23.756908903852402
 test cv mean error, stdev (10 folds): [31.618850344442098, 23.92617628537332]
 sell date: 2022-08-14
 expected return: 0.08605219542449717
 discounted return: 0.0012906647299015805
 quarter return: 1.088666637943265

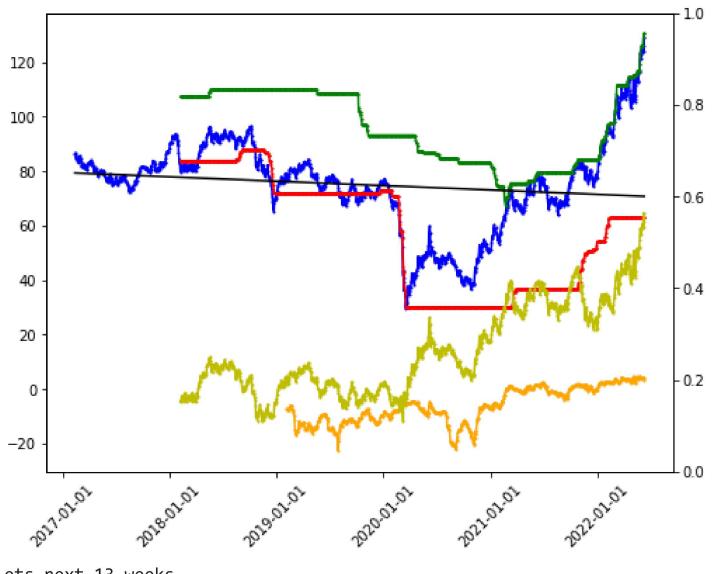


['options', ('2022-06-17',)]
 symbol: VDE
 sector: error
 sector: Energy
 Index: nan
 supply trend: 15894021.482602118
 risk trend factor: 3.3783083383264243
 totalAssets trailingPE
 VDE 1.106882e+10 10.692059

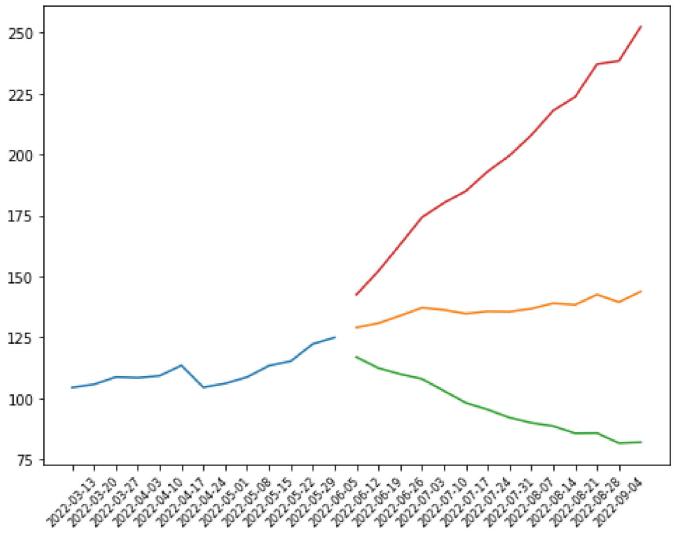
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90d5Dev	90d_lower	90d_upper
2022-06-10	123.860001	107.166137	119.294921	131.423705	111.724762	7.181377	97.362008	126.087517

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VDE	1.169962	123.860001	15894021.482602	0.930759	0.947803	0.52196
	1.169962	123.860001	15894021.482602	0.930759	0.947803	0.52196

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



ets next 13 weeks
 inner cv scores: [96.21341024466251, 96.21341028704802, 96.21341505319116, 96.21341596121202]
 inner cv sdevs: [72.95509135617804, 72.95509142034471, 72.95508885688861, 72.9550907751274]
 best model: ['T', 'T']
 best inner cv score, sdev (11 folds): 96.21341024466251 72.95509135617804
 test cv mean error, stdev (10 folds): [105.41528431803886, 70.1660250438581]
 sell date: 2022-09-11
 expected return: 0.16082303281146293
 discounted return: 0.0016222847496127901
 quarter return: 1.088666637943265

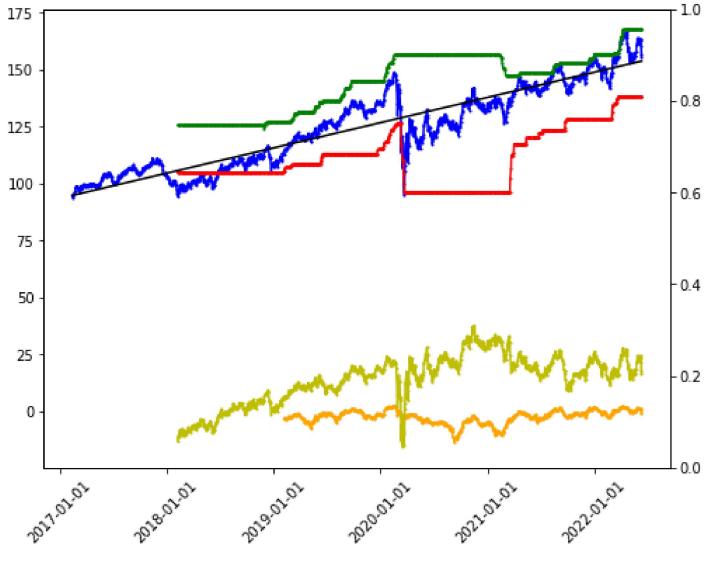


['options', ('2022-06-17',)]
 symbol: VPU
 sector: error
 sector: Utilities
 Index: nan
 supply trend: 4401008.169440242
 risk trend factor: -0.9038459354057021
 totalAssets
 VPU 7.799146e+09

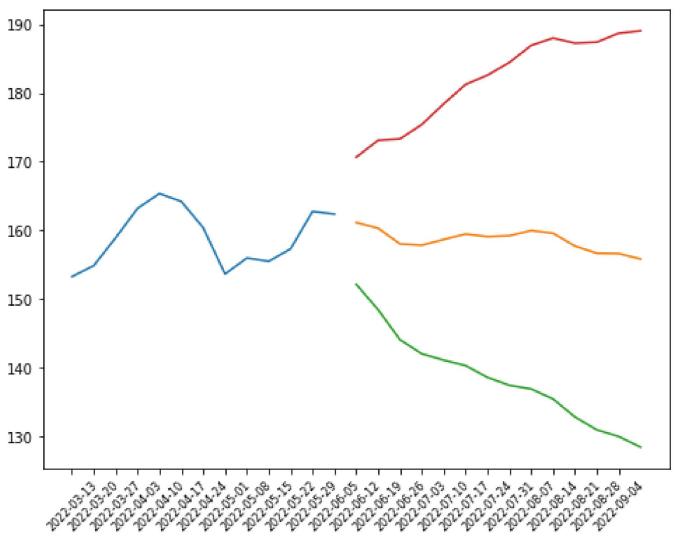
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	155.610001	152.644005	158.881905	165.119806	159.366349	4.141233	151.083883	167.648816

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VPU	1.073413	155.610001	4401008.16944	0.750053	0.731044	0.299247

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



ets next 13 weeks
 inner cv scores: [106.70335778460885, 106.71009103649061, 106.70335672937158, 106.70335672854131]
 inner cv sdevs: [154.9633233016428, 154.96546943527773, 154.9633232104315, 154.96332318610172]
 best model: ['F', 'T']
 best inner cv score, sdev (11 folds): 106.70335672854131 154.96332318610172
 test cv mean error, stdev (10 folds): [113.14885811479367, 161.12011498459947]
 sell date: 2022-06-12
 expected return: 0.03553481885364131
 discounted return: 0.03553481885364129
 quarter return: 1.088666637943265

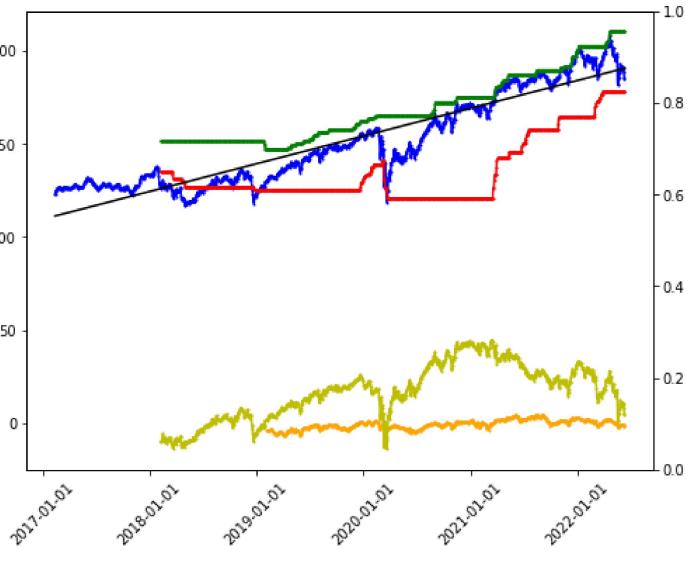


['options', ('2022-06-17',)]
 symbol: VDC
 sector: error
 sector: Consumer Defensive
 Index: nan
 supply trend: 3239531.5431164904
 risk trend factor: -1.81537011564274
 totalAssets
 VDC 8.239956e+09

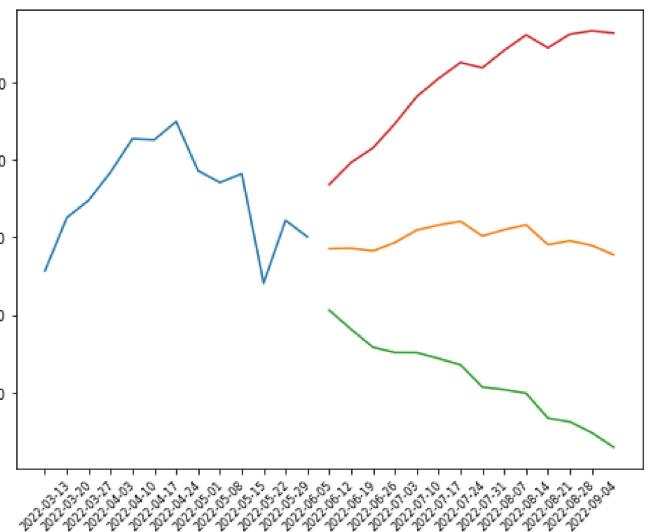
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	184.889999	180.713861	189.626984	198.540108	195.577937	6.579991	182.417955	208.73792

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VDC	1.521146	184.889999	3239531.543116	0.610012	0.828818	0.357333
154.9633233016428	154.96546943527773	154.9633232104315	154.96332318610172	113.14885811479367	161.12011498459947	0.03553481885364129

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



ets next 13 weeks
inner cv scores: [75.68390199438142, 75.68391278582885, 75.68387690578915, 75.68390037827186]
inner cv sdevs: [58.10065635393446, 58.10064705074018, 58.10067832033633, 58.10064914752406]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 75.68387690578915 58.10067832033633
test cv mean error, stdev (10 folds): [75.06600518922706, 60.90203860705512]
sell date: 2022-07-24
expected return: 0.038927988845769194
discounted return: 0.0008885201184363201
quarter return: 1.088666637943265

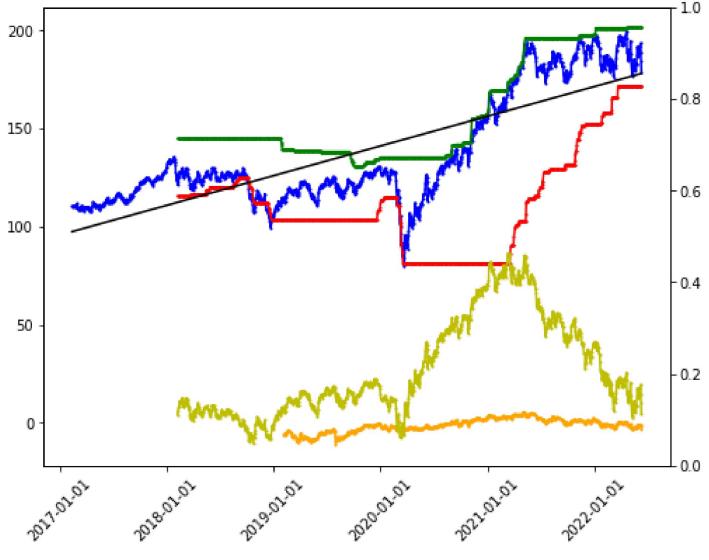


[options, ('2022-07-15',)]
symbol: VAW
sector: error
sector: Basic Materials
Index: nan
supply trend: 2531724.1301059
risk trend factor: -2.9832247911376593
totalAssets
VAW 5.085875e+09

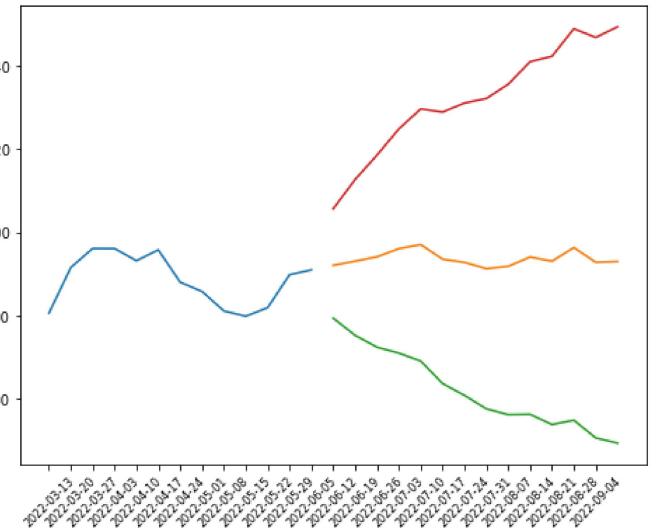
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	178.449997	175.041332	184.631904	194.222476	188.745238	6.207227	176.330784	201.159692

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VAW	1.136419	178.449997	2531724.130106	0.735836	0.8001	0.433204

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



ets next 13 weeks
inner cv scores: [183.06563069907895, 183.0574507855325, 183.06563102677646, 183.05745107294413]
inner cv sdevs: [129.98868374482254, 129.9952975934152, 129.9886839858961, 129.99529784641263]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 183.0574507855325 129.9952975934152
test cv mean error, stdev (10 folds): [193.57495421199536, 131.80234647064287]
sell date: 2022-07-10
expected return: 0.10417537486997551
discounted return: 0.0034230449135421726
quarter return: 1.088666637943265

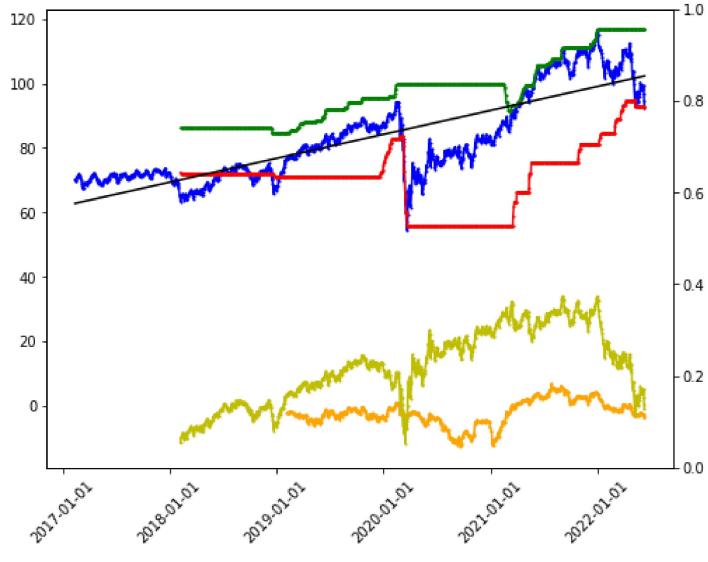


[options, ('2022-08-19',)]
symbol: VNY
sector: error
sector: Real Estate
Index: nan
supply trend: 111305975.03782149
risk trend factor: -3.885849288582038
totalAssets
VNY 7.839537e+10

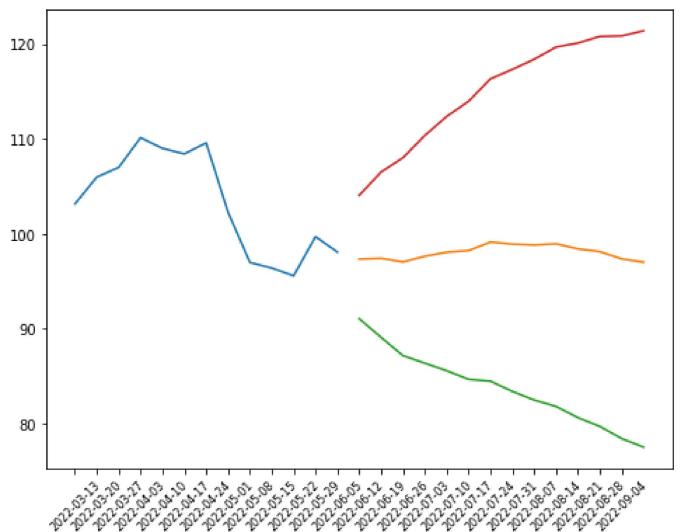
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	92.620003	93.076579	96.729683	100.382786	103.130635	5.926759	91.277118	114.984153

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VNY	1.031909	92.620003	111305975.037821	0.416	0.514654	0.397188
	1.031909	92.620003	111305975.037821	0.416	0.514654	0.397188

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



ets next 13 weeks
 inner cv scores: [53.96174374912048, 53.96174387747761, 53.9617507021809, 53.96174387747761]
 inner cv sdevs: [54.656024463203764, 54.65602563673287, 54.65602243122589, 54.65602563673287]
 best model: ['T', 'T']
 best inner cv score, sdev (11 folds): 53.96174374912048 54.656024463203764
 test cv mean error, stdev (10 folds): [57.59198284123204, 56.04502154771519]
 sell date: 2022-07-24
 expected return: 0.07015328759171113
 discounted return: 0.001578032101658966
 quarter return: 1.088666637943265



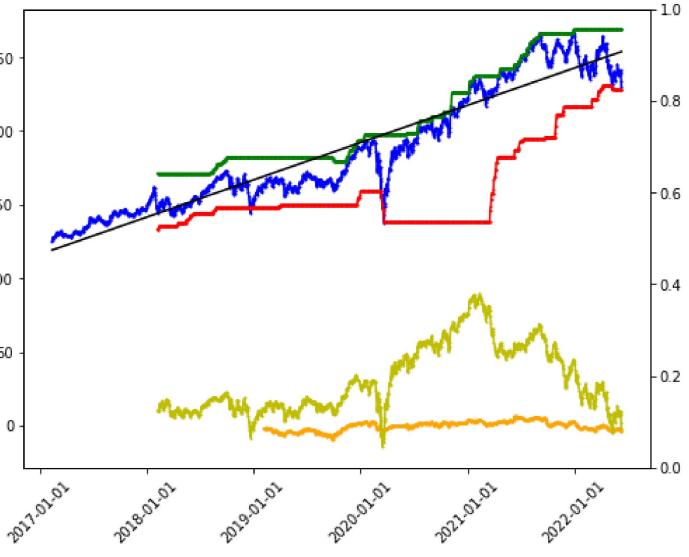
['options', ('2022-06-17', '2023-01-20', '2024-01-19')]
 symbol: VHT
 sector: error
 sector: Healthcare
 Index: nan
 supply trend: 5096065.052950076
 risk trend factor: -3.9471429756913072
 totalAssets trailingPE
 VHT 1.944618e+10 5.167231

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	229.929993	231.084711	237.690476	244.296241	245.914285	9.56314	226.788005	265.040565

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VHT	0.947476	229.929993	5096065.05295	0.525621	0.693779	0.333477

0.947476 229.929993 5096065.05295 0.525621 0.693779 0.333477

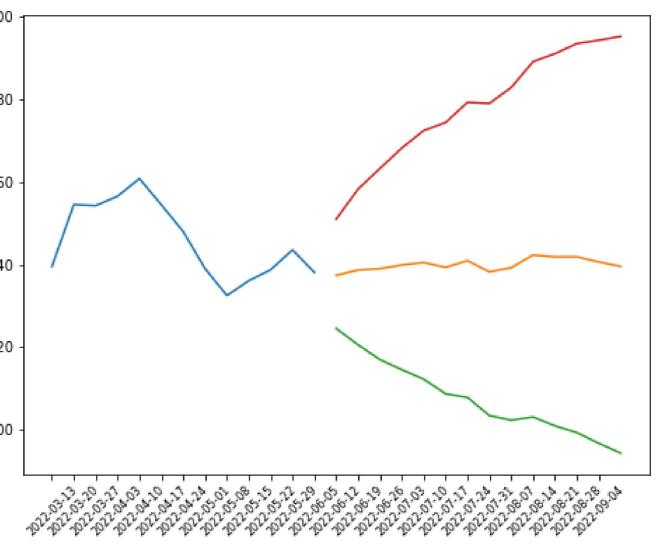
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [207.20560313573048, 207.20562986619652, 207.20560313573048, 207.2056531647476]
inner cv sdevs: [120.74631863070098, 120.74636938232955, 120.74631863070098, 120.7462811460532]
best model: ['T', 'T']
best inner cv score, sdev (11 folds): 207.20560313573048 120.74631863070098
test cv mean error, stdev (10 folds): [201.34321811677097, 125.13835201910808]
sell date: 2022-08-14
expected return: 0.05378595839721864
discounted return: 0.0008189187868525849
quarter return: 1.088666637943265

```



```

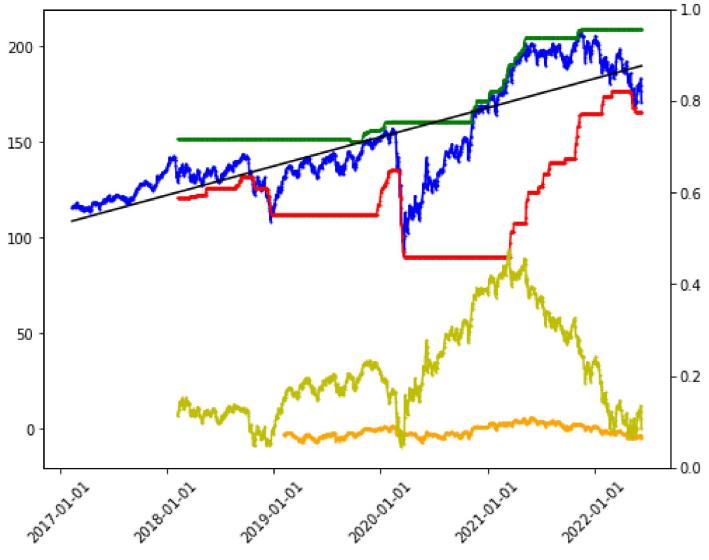
['options', ('2022-06-17',)]
symbol: VIS
sector: error
sector: Industrials
Index: nan
supply trend: 3021835.7791225417
risk trend factor: -5.096829776050351
Empty DataFrame
Columns: []
Index: [VIS]

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	170.789993	166.918433	175.029841	183.141249	183.59	8.591236	166.407528	200.772473

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VIS	0.897137	170.789993	3021835.779123	0.55486	0.557365	0.472662

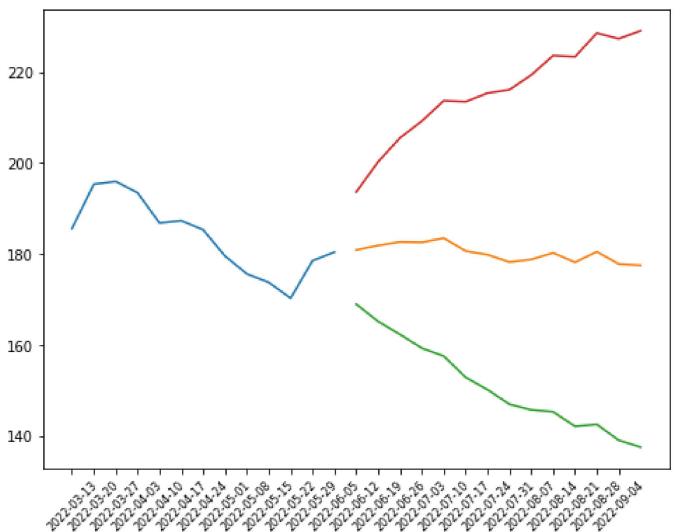
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [183.66474111773064, 183.66460703475008, 183.66474115700854, 183.66474108684227]
inner cv sdevs: [150.40929213315897, 150.40929130612926, 150.40929202898846, 150.4092921347221]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 183.66460703475008 150.40929130612926
test cv mean error, stdev (10 folds): [193.8056803549312, 154.12341035322913]
sell date: 2022-07-10
expected return: 0.07414085204350107
discounted return: 0.002469289708495026
quarter return: 1.088666637943265

```



```

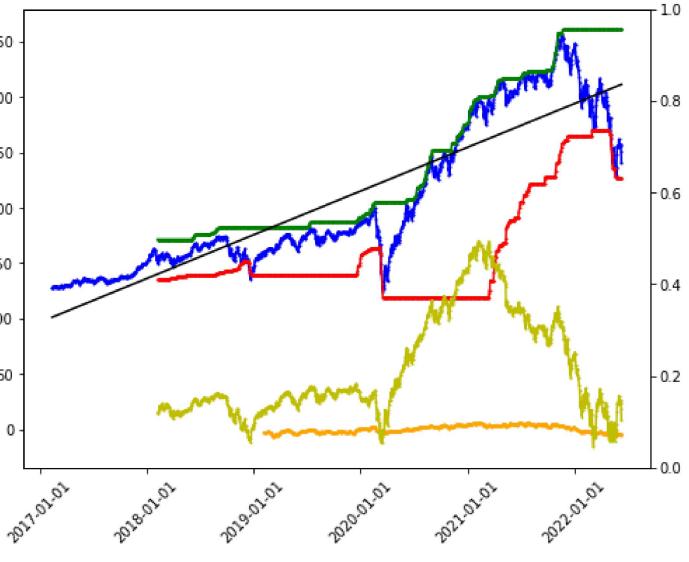
['options', ('2022-08-19',)]
symbol: VCR
sector: error
sector: Consumer Cyclical
Index: nan
supply trend: 2149496.8229954615
risk trend factor: -5.274842912889847
    totalAssets
VCR 6.015592e+09

```

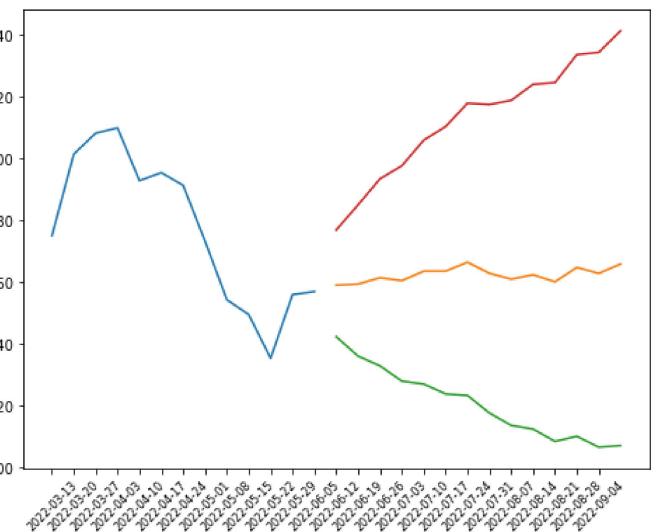
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	240.179993	228.960223	247.434761	265.9093	276.036349	25.54683	224.942689	327.130008

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VCR	1.24671	240.179993	2149496.822995	0.290163	0.672666	0.471633

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



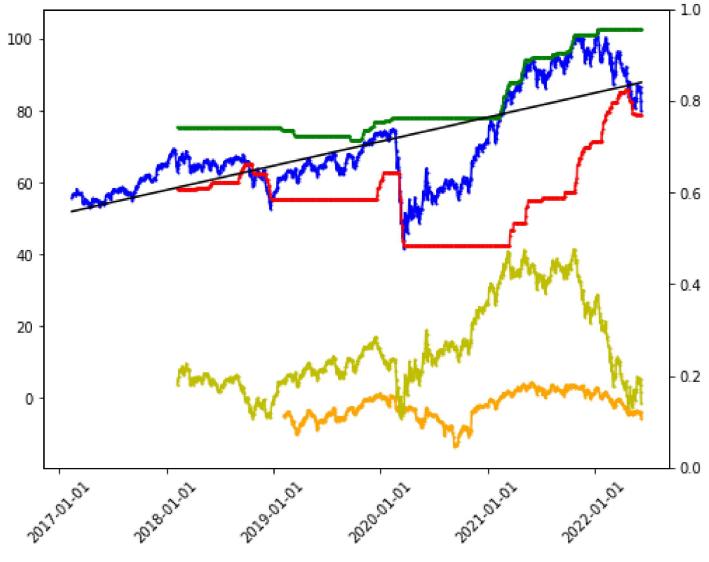
ets next 13 weeks
 inner cv scores: [671.3642548096869, 671.3642541527998, 671.3642760802122, 671.3643386615144]
 inner cv sdevs: [654.4622489351129, 654.4622491026787, 654.4622918062121, 654.4622502196388]
 best model: ['T', 'F']
 best inner cv score, sdev (11 folds): 671.3642541527998 654.4622491026787
 test cv mean error, stdev (10 folds): [733.3768907251421, 654.8678372511378]
 sell date: 2022-07-24
 expected return: 0.10903811991356427
 discounted return: 0.0024097145437365075
 quarter return: 1.088666637943265



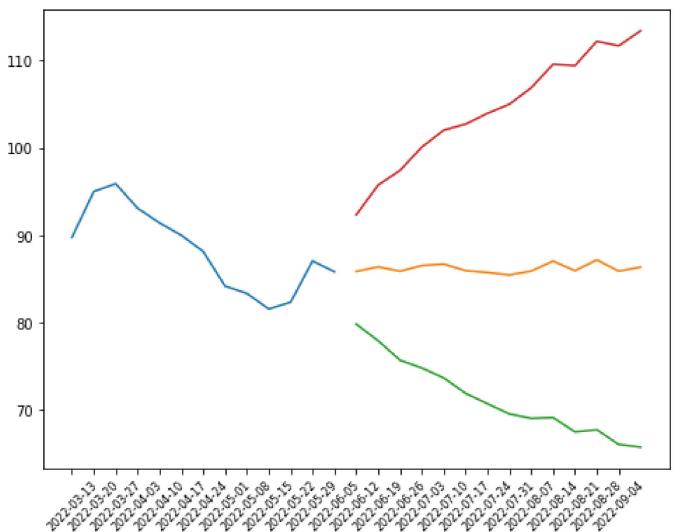
['options', ('2022-06-17',)]
 symbol: VFH
 sector: error
 sector: Financial Services
 Index: nan
 supply trend: 15854911.649016641
 risk trend factor: -5.669686524892829
 totalAssets
 VFH 1.055284e+10
 Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
 2022-06-10 79.93 79.139405 83.671588 88.203771 88.13127 4.903389 78.324492 97.938048

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VFH	1.068786	79.93	15854911.649017	0.524221	0.532803	0.492594

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



ets next 13 weeks
 inner cv scores: [42.70072726557552, 42.700870467500955, 42.700395731328086, 42.70039772700315]
 inner cv sdevs: [22.497146112724955, 22.497163194155622, 22.49682375054689, 22.496822646085114]
 best model: ['F', 'F']
 best inner cv score, sdev (11 folds): 42.700395731328086 22.49682375054689
 test cv mean error, stdev (10 folds): [43.67042803741906, 23.374500741125946]
 sell date: 2022-08-28
 expected return: 0.09057745227206852
 discounted return: 0.0011122505113998482
 quarter return: 1.088666637943265

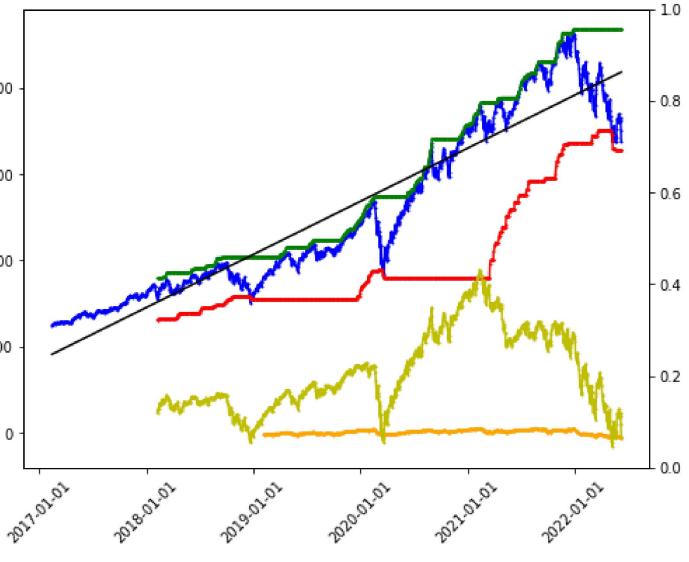


['options', ('2022-08-19',)]
 symbol: VGT
 sector: error
 sector: Technology
 Index: nan
 supply trend: 13900429.727685325
 risk trend factor: -6.117689136620628
 totalAssets
 VGT 5.044675e+10

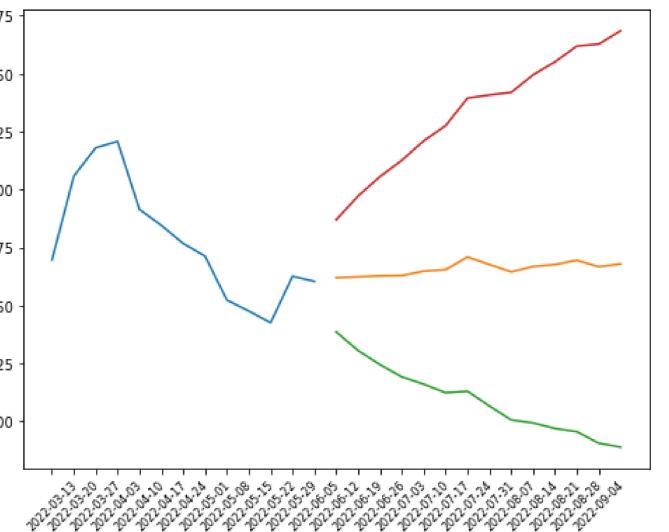
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	337.339996	330.411387	350.71381	371.016232	377.021272	26.470697	324.079878	429.962665

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
VGT	1.13554	337.339996	13900429.727685	0.3501	0.739205	0.427823

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



ets next 13 weeks
 inner cv scores: [772.6213477762274, 772.6764625393217, 772.6738691308002, 772.674035053523]
 inner cv sdevs: [540.8858114150879, 540.8841678746194, 540.8845079058593, 540.8846882060847]
 best model: ['T', 'T']
 best inner cv score, sdev (11 folds): 772.6213477762274 540.8858114150879
 test cv mean error, stdev (10 folds): [814.2371274072731, 550.2814410384026]
 sell date: 2022-07-24
 expected return: 0.09931793133060811
 discounted return: 0.0022045176641674047
 quarter return: 1.088666637943265



['options', ('2022-06-17', '2022-08-19')]
 symbol: VOX
 sector: error
 sector: Communication Services
 Index: nan
 supply trend: 4281925.491679274
 risk trend factor: -9.183162170232858
 Empty DataFrame
 Columns: []
 Index: [VOX]

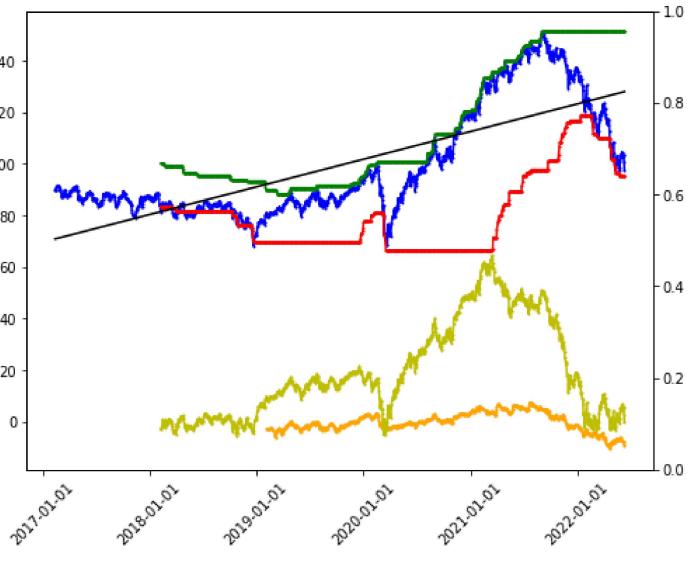
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
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2022-06-10	97.699997	97.197858	101.223333	105.248808	109.186032	8.472157	92.241718	126.130346
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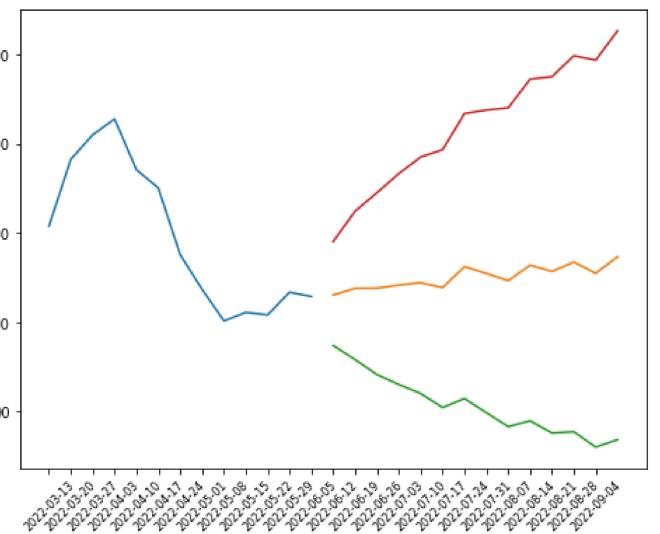
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
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VOX	1.950828	97.699997	4281925.491679	0.137637	0.718884	0.512033
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l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



ets next 13 weeks
 inner cv scores: [72.16755946546101, 72.16755336537071, 72.16755895245176, 72.16755400047715]
 inner cv sdevs: [56.50883622762009, 56.50883936074048, 56.508834496998716, 56.50883795461088]
 best model: ['T', 'F']
 best inner cv score, sdev (11 folds): 72.16755336537071 56.50883936074048
 test cv mean error, stdev (10 folds): [76.72465733429601, 57.3073708296177]
 sell date: 2022-09-11
 expected return: 0.09858056135188568
 discounted return: 0.0010224674480645568
 quarter return: 1.088666637943265



['options', ('2022-07-15',)]
 symbol: MTOR
 sector: error
 sector: error
 Index: SP600
 supply trend: 20301256.12708018
 risk trend factor: 10.517268141249515
 Empty DataFrame
 Columns: []
 Index: [MTOR]

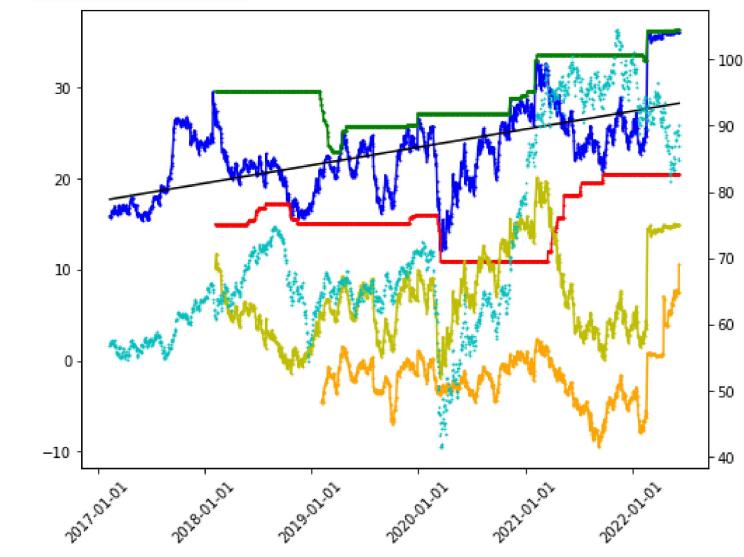
Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
-----------	---------	----------	---------	--------	---------	-----------	-----------

2022-06-10	36.119999	35.91395	36.090158	36.266367	35.849206	0.25859	35.332026	36.366386
------------	-----------	----------	-----------	-----------	-----------	---------	-----------	-----------

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

MTOR	1.167952	36.119999	20301256.12708	0.990077	0.308552	0.433895
------	----------	-----------	----------------	----------	----------	----------

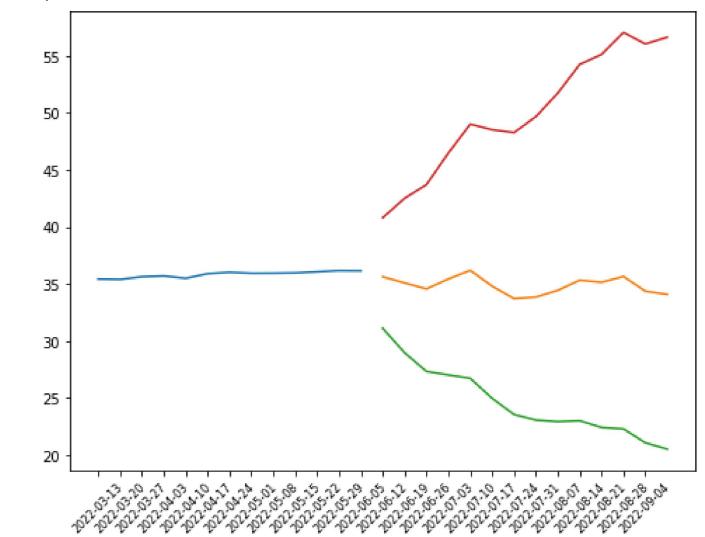
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [11.798481873237428, 11.798481867152653, 11.798481873950836, 11.798481866829496]
inner cv sdevs: [6.599762464246281, 6.59976246495462, 6.599762462470213, 6.599762465376386]
best model: ['F', 'I']
best inner cv score, sdev (11 folds): 11.798481866829496 6.599762465376386
test cv mean error, stdev (10 folds): [11.000150614565854, 6.395458574315166]
sell date: 2022-07-10
expected return: 0.0018817399253713135
discounted return: 6.482871062507556e-05
quarter return: 1.088666637943265

```



```
[ 'options', ('2022-08-19',) ]
symbol: Y
sector: Financial Services
Index: SP400
supply trend: 1456858.6989409984
risk trend factor: 7.384771627869685
    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  12.311554
```

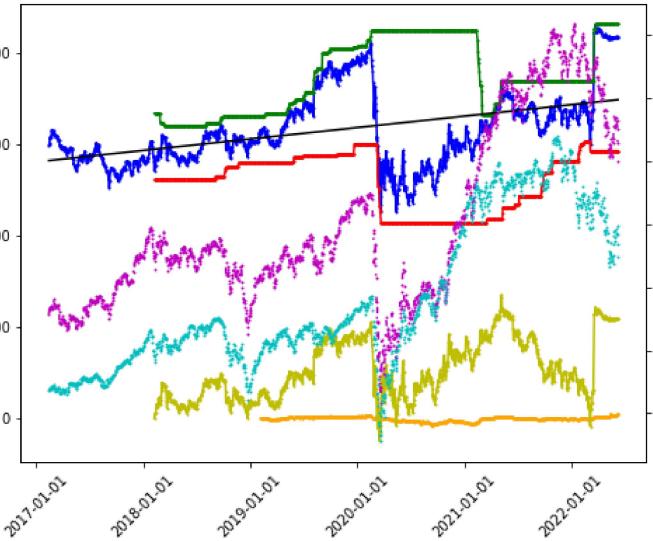
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	834.109985	831.51432	833.616982	835.719644	825.774444	46.881434	732.011576	919.537313

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
Y 1.713893	834.109985	1456858.698941	0.928509	0.389055	0.457411

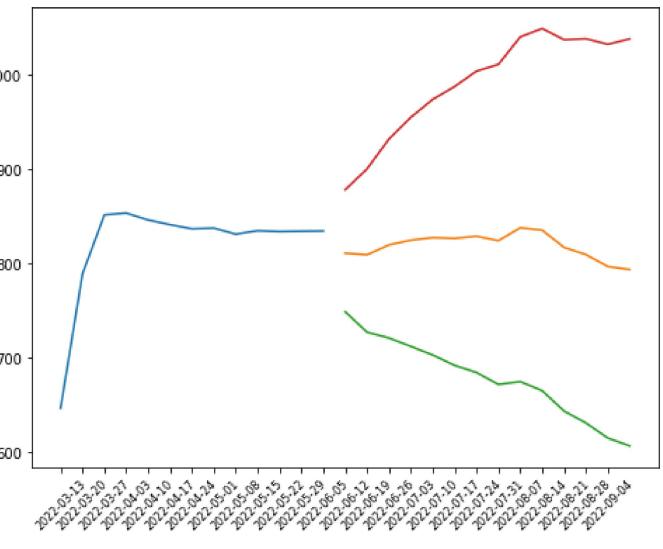
I axis r axis

legend **legend**

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



```
ets next 13 weeks
inner cv scores: [6721.824159129887, 6721.823851206655, 6721.824159129887, 6721.824147924589]
inner cv sdevs: [10568.593985183363, 10568.594073462278, 10568.593985183365, 10568.59398766688]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 6721.823851206655 10568.594073462278
test cv mean error, stdev (10 folds): [7230.63170224152, 10955.225264714203]
sell date: 2022-08-07
expected return: 0.00405218950026683
discounted return: 7.094991143130613e-05
quarter return: 1.088666637943265
```



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

```
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: TVTY
```

```
sector: error
```

```
sector: error
```

```
Index: SP600
```

```
supply trend: 14974563.993948562
```

```
risk trend factor: 5.3931495326188665
```

```
Empty DataFrame
```

```
Columns: []
```

```
Index: [TVTY]
```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	32.279999	31.743907	32.163968	32.58403	31.682698	1.007618	29.667462	33.697934

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

TVTY	0.975728	32.279999	14974563.993949	0.973128	0.524133	0.449983
-------------	----------	-----------	-----------------	----------	----------	----------

l axis r axis

legend	
--------	--

blue	symbol
------	--------

green	trailing_1yr_max
-------	------------------

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

orange	risk_trend_factor
--------	-------------------

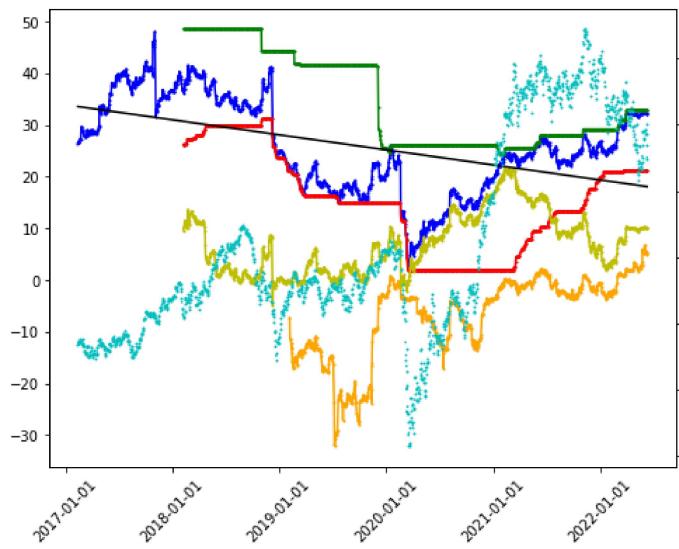
black	linear
-------	--------

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

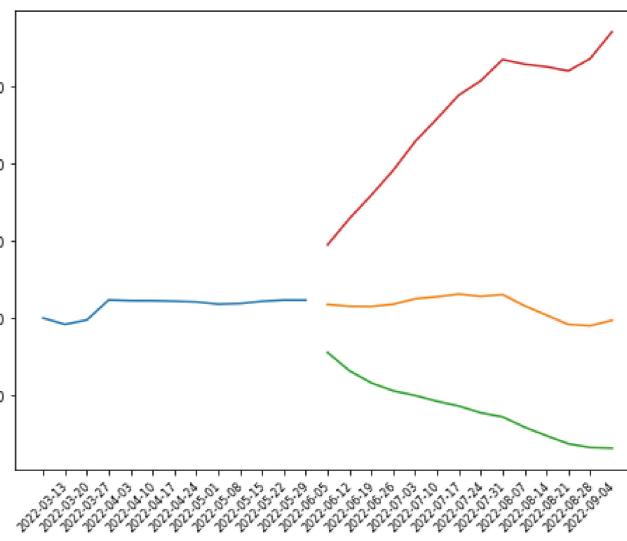
legend	legend
--------	--------

magenta	sector
---------	--------

cyan	index
------	-------



sets next 13 weeks
 inner cv scores: [15.049909070314625, 15.049909048123151, 15.049909062801435, 15.049909045269755]
 inner cv sdevs: [12.118041622879119, 12.118041607710255, 12.11804164813041, 12.11804160616538]
 best model: ['F', 'T']
 best inner cv score, sdev (11 folds): 15.049909045269755 12.11804160616538
 test cv mean error, stdev (10 folds): [16.007741231677706, 12.306086227409386]
 sell date: 2022-07-24
 expected return: 0.02615669790355043
 discounted return: 0.0006006561842453184
 quarter return: 1.088666637943265



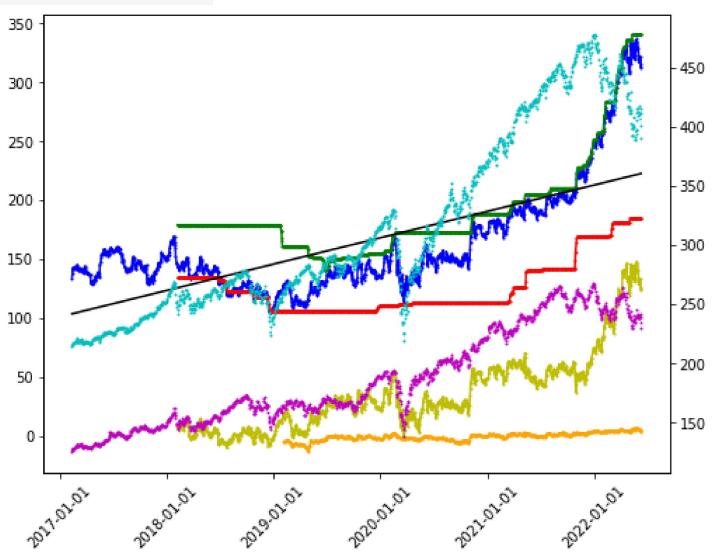
```

['options', ('2022-08-19',)]
symbol: MCK
sector: Healthcare
Index: SP500
supply trend: 33946622.76853253
risk trend factor: 4.004949352728542
  beta currentRatio dividendRate dividendYield earningsGrowth \
MCK  0.663839      0.954      1.88      0.0059     -0.406
      ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
MCK  3191000064      0.01209  12.411926   2685625088      0.04957
      grossProfits heldPercentInstitutions industry marketCap \
MCK  13084000000      0.9152  Medical Distribution  45990576128
      operatingCashflow operatingMargins payoutRatio pegRatio \
MCK      4433999872      0.00965     0.2521       1
      priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
MCK      0.174229      0.00422      0.456      0.02481
      revenueGrowth revenuePerShare sector sharesOutstanding shortRatio \
MCK      0.118      1733.198  Healthcare     145364992      2.18
      totalCash totalCashPerShare totalDebt totalRevenue trailingPE
MCK  3532000000      24.297  7616999936  263965999104      43.771442
  
```

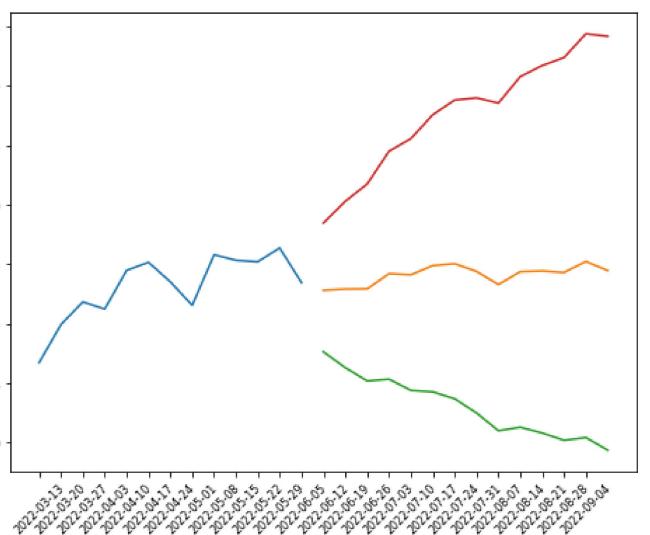
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	313.339996	310.325661	323.309364	336.293067	316.762698	11.943256	292.876186	340.649211

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MCK	0.653279	313.339996	33946622.768533	0.86712	0.998714

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



ets next 13 weeks
inner cv scores: [497.8005613278869, 497.80055581748616, 497.8004877140463, 497.8005613050382]
inner cv sdevs: [609.6271233413875, 609.6271252123489, 609.6271693423678, 609.6271242848476]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 497.8004877140463 609.6271693423678
test cv mean error, stdev (10 folds): [535.2436879530869, 627.2065002447416]
sell date: 2022-09-04
expected return: 0.04085115703667034
discounted return: 0.0004711556490613056
quarter return: 1.088666637943265



```

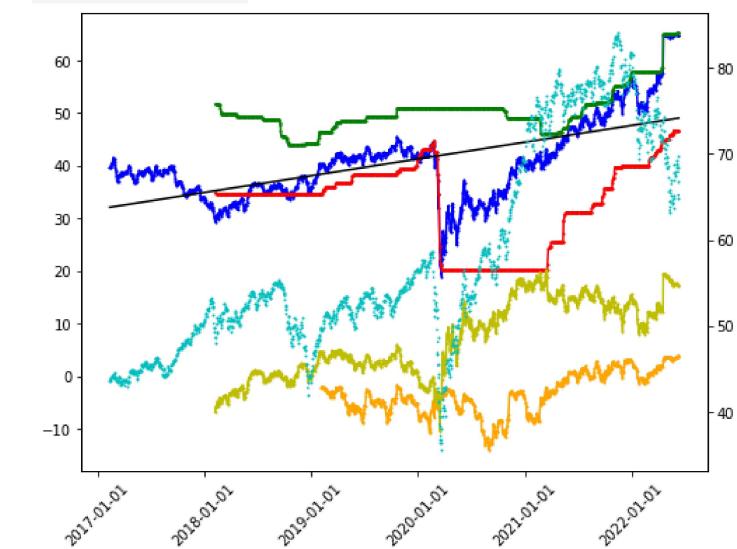
['options', ('2022-08-19', '2023-01-20', '2024-01-19')]
                           Value
2022-5
palmOil          False
controversialWeapons  False
gambling          False
socialScore        7.37
nuclear            False
furLeather         False
alcoholic           False
gmo                False
catholic           False
socialPercentile   None
peerCount          58
governanceScore    5.52
environmentPercentile  None
animalTesting      False
tobacco             False
totalEsg           15.17
highestControversy 3
esgPerformance     UNDER_PERF
coal               False
pesticides          False
adult               False
percentile          10.18
peerGroup           Healthcare
smallArms           False
environmentScore    2.29
governancePercentile  None
militaryContract   False]
symbol: ACC
sector: error
sector: error
Index: SP400
supply trend: 20837020.877458397
risk trend factor: 3.9171880564096475
Empty DataFrame
Columns: []
Index: [ACC]

```

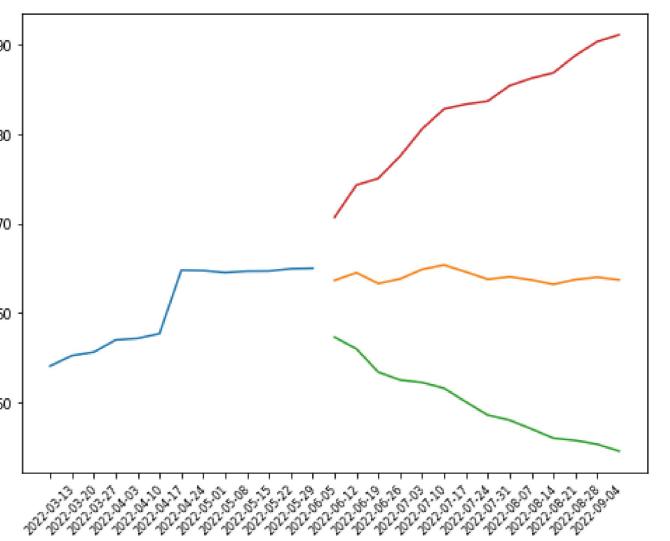
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	64.769997	64.467277	64.776825	65.086373	61.316984	4.33668	52.643624	69.990344

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
ACC	2.984429	64.769997	20837020.877458	0.986823	0.981927	0.416828

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



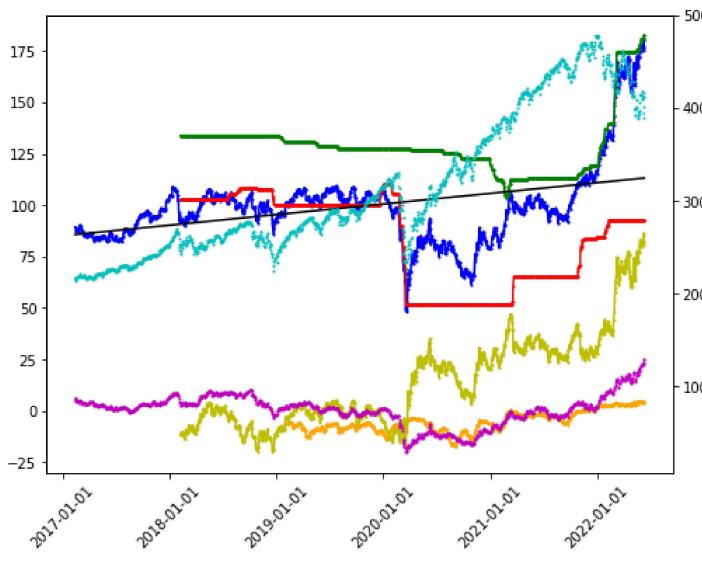
ets next 13 weeks
 inner cv scores: [29.57667355583728, 29.576676123282482, 29.576677183080424, 29.576677162087382]
 inner cv sdevs: [40.30145312871269, 40.3014555819967, 40.30145516296983, 40.301455243745366]
 best model: ['T', 'T']
 best inner cv score, sdev (11 folds): 29.57667355583728 40.30145312871269
 test cv mean error, stdev (10 folds): [32.00345563403872, 41.49513046924586]
 sell date: 2022-07-17
 expected return: 0.008892417182464725
 discounted return: 0.0002459500318106045
 quarter return: 1.088666637943265



['options', ('2022-06-17',)]
 symbol: CVX
 sector: Energy
 Index: SP500
 supply trend: 181490743.72163388
 risk trend factor: 3.856636911038389
 beta currentRatio debtToEquity dividendRate dividendYield \
 CVX 1.078947 1.433 19.941 5.68 0.0315
 earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
 CVX 3.473 38521999360 0.21783 12.431709 21073375232
 grossMargins grossProfits heldPercentInstitutions industry \
 CVX 0.40935 66234000000 0.71587 Oil & Gas Integrated
 marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
 CVX 355886039040 33045999616 0.12219 0.5113 0.6
 priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
 CVX 2.433922 2.012429 0.11596 1.119
 returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
 CVX 0.05505 0.1469 0.683 92.025 Energy
 sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
 CVX 1964809984 2.03 11704000512 5.957 29333000192
 totalRevenue trailingPE
 CVX 176843997184 17.0187
 Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
 2022-06-10 175.399994 164.142905 173.680233 183.21756 166.649167 6.846673 152.95582 180.342513

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
CVX	1.209596	175.399994	181490743.721634	0.940293	0.97985	0.498334

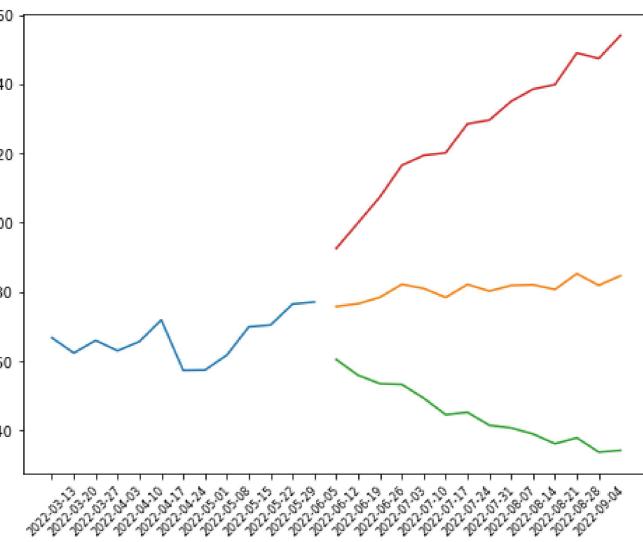
l_axis	r_axis	legend	legend
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [128.61405931947144, 128.6140594139103, 128.61405928960502, 128.61405920732676]
inner cv sdevs: [101.65677245357666, 101.65677242384314, 101.6567722318635, 101.65677211829488]
best model: ['F', 'T']
best inner cv score, sdev (11 folds): 128.61405920732676 101.65677211829488
test cv mean error, stdev (10 folds): [140.85506710188815, 98.58622802505364]
sell date: 2022-08-28
expected return: 0.05622154534596175
discounted return: 0.0007015018349525448
quarter return: 1.088666637943265

```



```

['options', ('2022-06-17', '2023-01-20', '2024-01-19')], value
['sustainability', 'value']

2022-5
palmOil False
controversialWeapons False
gambling False
socialScore 10.63
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile None
peerCount 66
governanceScore 9.95
environmentPercentile None
animalTesting True
tobacco False
totalEsg 43
highestControversy 3
esgPerformance LEAD_PERF
coal False
pesticides False
adult False
percentile 92.22
peerGroup Oil & Gas Producers
smallArms False
environmentScore 22.42
governancePercentile None
militaryContract False]
symbol: EQT
sector: Energy
Index: SP400
supply trend: 137472571.69969743
risk trend factor: 3.747308089815218
    beta currentRatio debtToEquity dividendRate dividendYield \
EQT 1.156862 0.398 61.543 0.5 0.0133

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
EQT -1089323008 -0.13465 21.603603 2408109568 0.734

    grossProfits heldPercentInstitutions industry marketCap \
EQT 4672261000 1.00436 Oil & Gas E&P 18126721024

    operatingCashflow operatingMargins pegRatio priceToBook \
EQT 2283751936 -0.3565 0.27 2.196373

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
EQT 2.240665 -0.32564 0.162 -0.09046

    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
EQT -0.3018 1.206 23.313 Energy 377955008

    shortRatio totalCash totalCashPerShare totalDebt totalRevenue
EQT 2 16913000 0.046 5050277888 8089885184
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSD 90d_lower 90d_upper

```

2022-06-10 47.959999 37.159954 45.132857 53.10576 39.467778 6.586657 26.294463 52.641093

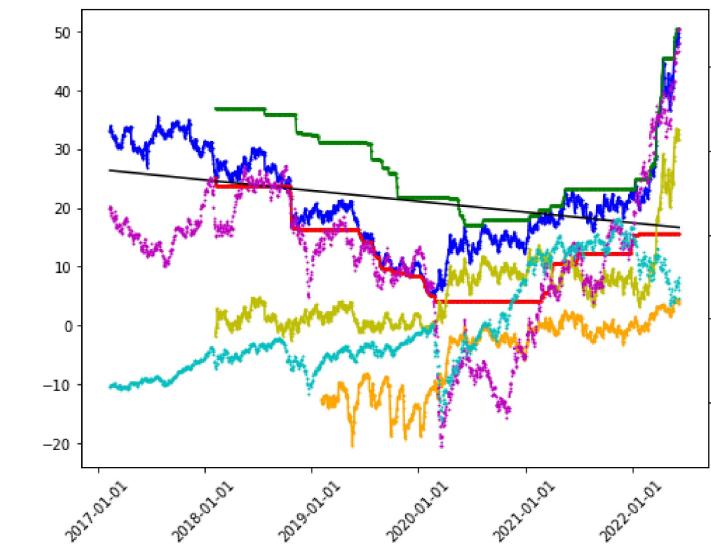
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
---------------	----------	-------------	---------	-----	-------

EQT 1.217357 47.959999 137472571.699697 0.938581 0.932879 0.501911

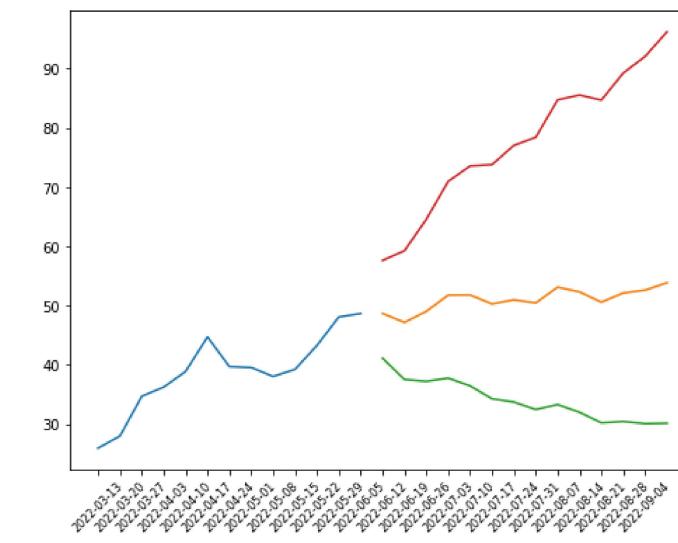
l axis r axis

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

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



```
ets next 13 weeks
inner cv scores: [30.97478336736596, 30.974783211447075, 30.974783336226345, 30.97478339092596]
inner cv sdevs: [53.63461723189105, 53.63461698288287, 53.63461703477288, 53.63461701413843]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 30.974783211447075 53.63461698288287
test cv mean error, stdev (10 folds): [33.98771102918531, 55.357784620262144]
sell date: 2022-09-11
expected return: 0.12306220461903956
discounted return: 0.0012623076240350084
quarter return: 1.088666637943265
```



	2022-03-31	2021-12-31	2021-09-30	\
['quarterly_balance_sheet',				
Total Liab	1.360858e+10	1.156162e+10	1.475200e+10	
Total Stockholder Equity	8.188673e+09	1.002953e+10	8.248460e+09	
Minority Interest	1.736000e+07	1.623600e+07	1.126500e+07	
Other Current Liab	5.695198e+09	2.471048e+09	6.032718e+09	
Total Assets	2.181461e+10	2.160739e+10	2.301172e+10	
Common Stock	9.921348e+09	1.016796e+10	1.018065e+10	
Other Current Assets	1.304109e+09	6.911100e+08	1.428073e+09	
Retained Earnings	-1.725279e+09	-1.157790e+08	-1.908833e+09	
Other Liab	1.446828e+09	1.926612e+09	1.346475e+09	
Treasury Stock	-7.396000e+06	-2.265700e+07	-2.335900e+07	
Other Assets	4.927920e+08	8.756020e+08	8.897110e+08	
Cash	1.691300e+07	1.139630e+08	2.279200e+07	
Total Current Liabilities	7.605287e+09	5.080171e+09	7.228353e+09	
Short Long Term Debt	4.938150e+08	9.549000e+08	1.244100e+07	
Other Stockholder Equity	-4.548000e+06	4.610000e+06	-5.157000e+06	
Property Plant Equipment	1.829589e+10	1.844502e+10	1.878111e+10	
Total Current Assets	3.025930e+09	2.286766e+09	3.340899e+09	
Net Tangible Assets	8.188673e+09	1.002953e+10	8.248460e+09	
Net Receivables	1.212596e+09	1.438031e+09	1.132364e+09	
Long Term Debt	4.556463e+09	4.530102e+09	6.177167e+09	
Accounts Payable	1.416274e+09	1.339251e+09	1.183194e+09	

	2021-06-30			
Total Liab	1.068284e+10			
Total Stockholder Equity	8.291758e+09			
Minority Interest	1.066400e+07			
Other Current Liab	2.459368e+09			
Total Assets	1.898526e+10			
Common Stock	8.245752e+09			
Other Current Assets	6.488550e+08			
Retained Earnings	7.128400e+07			
Other Liab	1.907015e+09			
Treasury Stock	-2.527800e+07			
Other Assets	9.975310e+08			
Cash	3.307700e+08			
Total Current Liabilities	3.679201e+09			
Short Long Term Debt	3.996990e+08			
Other Stockholder Equity	-5.194000e+06			
Property Plant Equipment	1.581907e+10			
Total Current Assets	2.168655e+09			
Net Tangible Assets	8.291758e+09			
Net Receivables	6.515680e+08			
Long Term Debt	5.096619e+09			
Accounts Payable	8.201340e+08]		

	2022-03-31	2021-12-31	\
['quarterly_cashflow',			
Change To Liabilities	5.286700e+07	1.804790e+08	
Total Cashflows From Investing Activities	-2.911720e+08	-3.578840e+08	
Net Borrowings	-5.441740e+08	-7.123310e+08	
Total Cash From Financing Activities	-8.270970e+08	-7.218910e+08	
Change To Operating Activities	-1.461280e+08	5.418350e+08	
Issuance Of Stock	1.214000e+06	1.214000e+06	
Net Income	-1.516048e+09	1.801333e+09	
Change In Cash	-9.705000e+07	9.117100e+07	
Repurchase Of Stock	-2.301390e+08	-1.296200e+07	
Total Cash From Operating Activities	1.021219e+09	1.170946e+09	
Depreciation	4.352770e+08	5.105630e+08	
Other Cashflows From Investing Activities	-1.490000e+05	-2.778600e+07	
Dividends Paid	-4.706300e+07	-4.706300e+07	
Change To Account Receivables	2.259680e+08	-2.955500e+08	
Other Cashflows From Financing Activities	-6.935000e+06	3.402000e+06	
Change To Netincome	1.969283e+09	-1.570860e+09	
Capital Expenditures	-2.922810e+08	-3.481900e+08	
Investments	NaN	2.436900e+07	

	2021-09-30	2021-06-30	
Change To Liabilities	1.653180e+08	-5541000.0	
Total Cashflows From Investing Activities	-1.039960e+09	-426988000.0	
Net Borrowings	6.856860e+08	698705000.0	
Total Cash From Financing Activities	6.838740e+08	673609000.0	
Change To Operating Activities	-2.052750e+08	-360908000.0	
Issuance Of Stock	1.214000e+06	1214000.0	
Net Income	-1.980117e+09	-936457000.0	
Change In Cash	-3.079780e+08	290100000.0	
Repurchase Of Stock	-1.122000e+06	-51000.0	
Total Cash From Operating Activities	4.810800e+07	43479000.0	
Depreciation	4.528740e+08	391417000.0	
Other Cashflows From Investing Activities	8.465000e+06	1758000.0	
Dividends Paid	-4.706300e+07	-47063000.0	
Change To Account Receivables	-3.048780e+08	13335000.0	
Other Cashflows From Financing Activities	-6.900000e+05	-25045000.0	
Change To Netincome	1.923332e+09	941633000.0	
Capital Expenditures	-2.366790e+08	-218982000.0	
Investments	2.436900e+07	24369000.0]
['quarterly_earnings',	Revenue	Earnings	
Quarter			
2Q2021	1063417000	-936457000	
3Q2021	1766717000	-1980117000	
4Q2021	2792407000	1801333000	
1Q2022	2467344000	-1516048000	

	2022-03-31	2021-12-31	\
['quarterly_financials',			
Research Development	None	None	

Effect Of Accounting Charges	None	None
Income Before Tax	-1980280000.0	2393634000.0
Minority Interest	17360000.0	16236000.0
Net Income	-1516048000.0	1801333000.0
Selling General Administrative	69096000.0	52343000.0
Gross Profit	1911411000.0	2213006000.0
Ebit	-1859484000.0	2753035000.0
Operating Income	-1859484000.0	2753035000.0
Other Operating Expenses	3278929000.0	-1069974000.0
Interest Expense	-67902000.0	-76469000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	-465697000.0	591080000.0
Total Revenue	2467344000.0	2792407000.0
Total Operating Expenses	4326828000.0	39372000.0
Cost Of Revenue	555933000.0	579401000.0
Total Other Income Expense Net	-120796000.0	-359401000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	-1514583000.0	1802554000.0
Net Income Applicable To Common Shares	-1516048000.0	1801333000.0

	2021-09-30	2021-06-30
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	-2642431000.0	-1284365000.0
Minority Interest	11265000.0	10664000.0
Net Income	-1980117000.0	-936457000.0
Selling General Administrative	49113000.0	49853000.0
Gross Profit	1239679000.0	573854000.0
Ebit	-2568808000.0	-1208823000.0
Operating Income	-2568808000.0	-1208823000.0
Other Operating Expenses	3296003000.0	1350757000.0
Interest Expense	-80349000.0	-76986000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	-662915000.0	-347846000.0
Total Revenue	1766717000.0	1063417000.0
Total Operating Expenses	4335525000.0	2272240000.0
Cost Of Revenue	527038000.0	489563000.0
Total Other Income Expense Net	-73623000.0	-75542000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	-1979516000.0	-936519000.0
Net Income Applicable To Common Shares	-1980117000.0	-936457000.0

	Holder	Shares	Date Reported	\
['mutualfund_holders',				
0 Vanguard Total Stock Market Index Fund	10743775	2021-12-30		
1 Vanguard Small-Cap Index Fund	9517470	2021-12-30		
2 iShares Core S&P Midcap ETF	8386370	2022-01-30		
3 Fidelity Low-Priced Stock Fund	7654281	2022-02-27		
4 Price (T.Rowe) Mid-Cap Value Fund	6376041	2021-12-30		
5 Vanguard Small Cap Value Index Fund	6033276	2021-12-30		
6 Blackrock Equity Dividend Fund	4987579	2022-01-30		
7 BlackRock Global Allocation Fund	4799848	2022-01-30		
8 Fidelity Mid-Cap Stock Fund	4651596	2022-02-27		
9 SPDR (R) Ser Tr-SPDR (R) S&P (R) Oil & Gas Exp...	4286671	2022-01-30		

% Out	Value
0 0.0291	234321732
1 0.0258	207576020
2 0.0227	178210362
3 0.0207	177120062
4 0.0173	139061454
5 0.0163	131585749
6 0.0135	105986053
7 0.0130	101996770
8 0.0126	107637931
9 0.0116	91091758

['options', ('2022-06-17', '2023-01-20', '2024-01-19')]
 ['sustainability',
 2022-5
 palmOil False
 controversialWeapons False
 gambling False
 socialScore 10.21
 nuclear False
 furLeather False
 alcoholic False
 gmo False
 catholic False
 socialPercentile 0
 peerCount 66
 governanceScore 7.64
 environmentPercentile 0
 animalTesting False
 tobacco False
 totalEsg 37.38
 highestControversy 1
 esgPerformance LEAD_PERF
 coal False
 pesticides False
 adult False

```

percentile                      83.58
peerGroup           Oil & Gas Producers
smallArms            False
environmentScore      19.53
governancePercentile     0
militaryContract        False]
symbol: LNTH
sector: Healthcare
Index: SP600
supply trend: 10889615.279878972
risk trend factor: 3.5409330254651064
                                beta currentRatio debtToEquity earningsGrowth      ebitda \
LNTH    0.750453          1.828       36.846         3.692   108329000

ebitdaMargins  forwardPE freeCashflow grossMargins grossProfits \
LNTH      0.20002   21.648647    77142872      0.50913   187695000

heldPercentInstitutions           industry      marketCap \
LNTH      1.01214  Diagnostics & Research  4947831808

operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
LNTH      54362000        0.11518         0   0.63   9.582613

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
LNTH      9.135937       -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            2  105355000        1.535  190072992

totalRevenue
LNTH      541579008

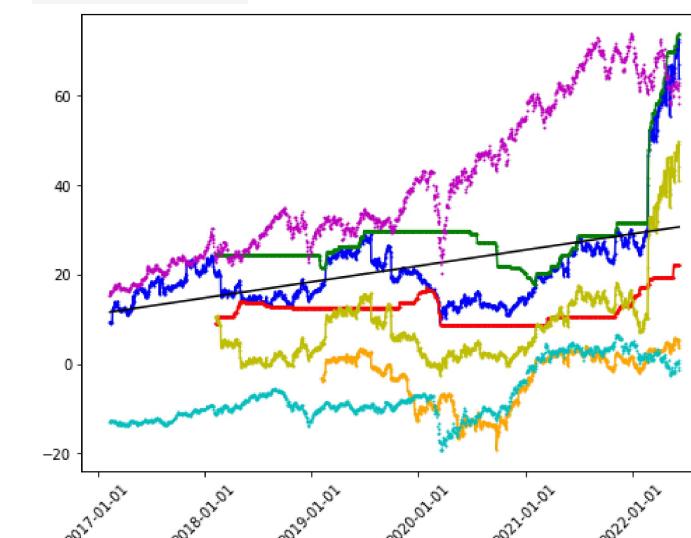
Adj Close  21dBOLD  21dMA-TP  21dBOLU  90dSMA  90dSDev  90d_lower  90d_upper

```

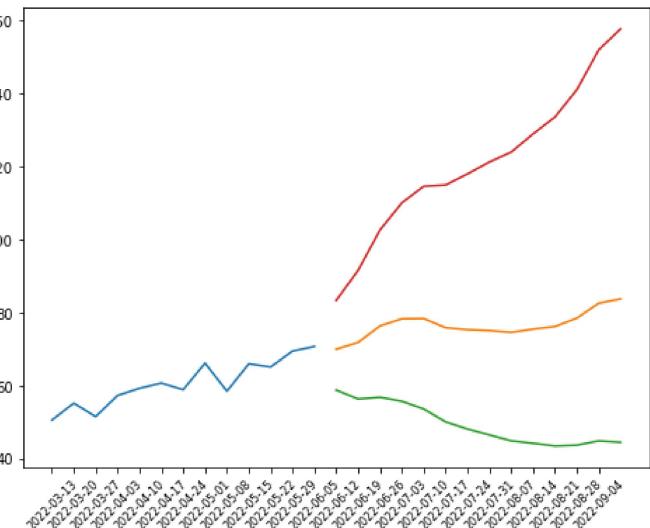
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	63.849998	59.745909	66.695412	73.644916	61.080317	5.710885	49.658547	72.50

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hu
LNTH	2.300963	63.849998	10889615.279879	0.843029	0.990883	0.5328

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



```
ets next 13 weeks
inner cv scores: [31.933175214722727, 31.93317520469874, 31.933175389280596, 31.93317519414222
inner cv sdevs: [51.052178099857336, 51.05217809057092, 51.05217809042164, 51.05217809426761]
best model: ['F', 'T']
best inner cv score, sdev (11 folds): 31.933175194142244 51.05217809426761
test cv mean error, stdev (10 folds): [33.7692820991457, 53.19655254585877]
sell date: 2022-09-11
expected return: 0.3110417649649527
discounted return: 0.002948050535534444
quarter return: 1.088666637943265
```



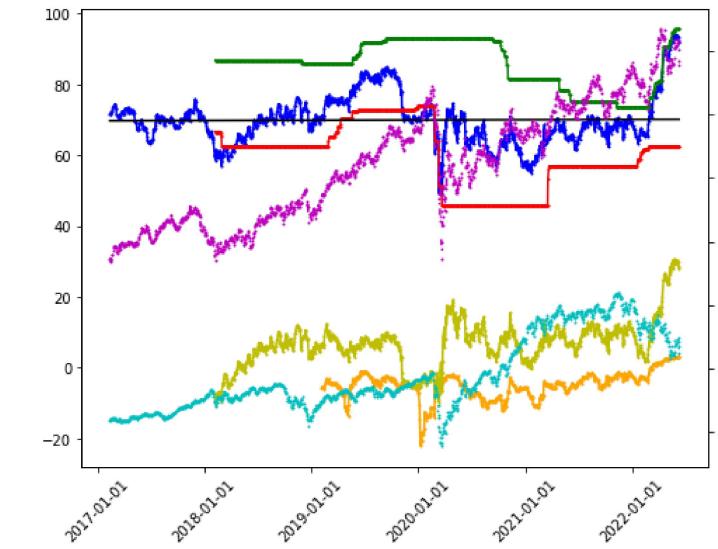
```
[ 'options', ('2022-07-15',) ]
symbol: SWX
sector: Utilities
Index: SP400
supply trend: 7059509.30408472
risk trend factor: 3.5300741485196108
    beta currentRatio debtToEquity dividendRate dividendYield \
SWX 0.108035      0.778     174.475      2.48      0.0263
    earningsGrowth   ebitda ebitdaMargins forwardPE freeCashflow \
SWX -0.222    786628992      0.19366  19.052631 -470833120
    grossMargins grossProfits heldPercentInstitutions \
SWX 0.21709    853431000      0.89023
    industry marketCap operatingCashflow operatingMargins \
SWX Utilities-Regulated Gas 6292110336      350460000      0.09512
    payoutRatio pegRatio priceToBook priceToSalesTrailing12Months \
SWX 0.8123      5.02     1.803307      1.549036
    profitMargins quickRatio returnOnAssets returnOnEquity revenueGrowth \
SWX 0.04423      0.551     0.02178      0.05621      0.431
    revenuePerShare sector sharesOutstanding shortRatio totalCash \
SWX 67.779 Utilities 66852000      1.78  624665984
    totalCashPerShare totalDebt totalRevenue trailingPE
SWX 9.344    6324827136  4061953024  31.40474
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-10 91.889999 91.063144 92.741905 94.420666 86.342857 6.301906 73.739044 98.94667
```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
SWX	1.47625	91.889999	7059509.304085	0.903418	0.284442	0.398907

l axis r axis

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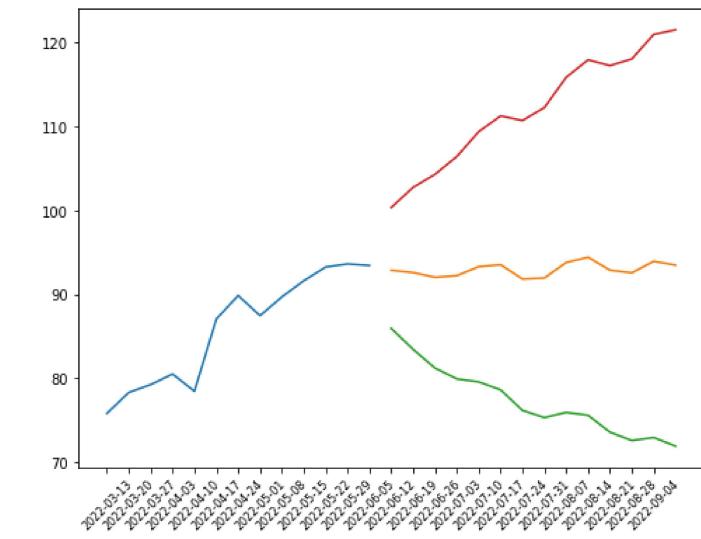
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

lets next 13 weeks
inner cv scores: [33.735611469194424, 33.73561159418416, 33.73561156662394, 33.73561159418415]
inner cv sdevs: [28.40040094174447, 28.40040120064368, 28.40040121769575, 28.40040120064368]
best model: ['T', 'T']
best inner cv score, sdev (11 folds): 33.735611469194424 28.40040094174447
test cv mean error, stdev (10 folds): [35.08856458842025, 29.446659702791415]
sell date: 2022-08-14
expected return: 0.027545572757377436
discounted return: 0.0004246685751354562
quarter return: 1.088666637943265

```



```

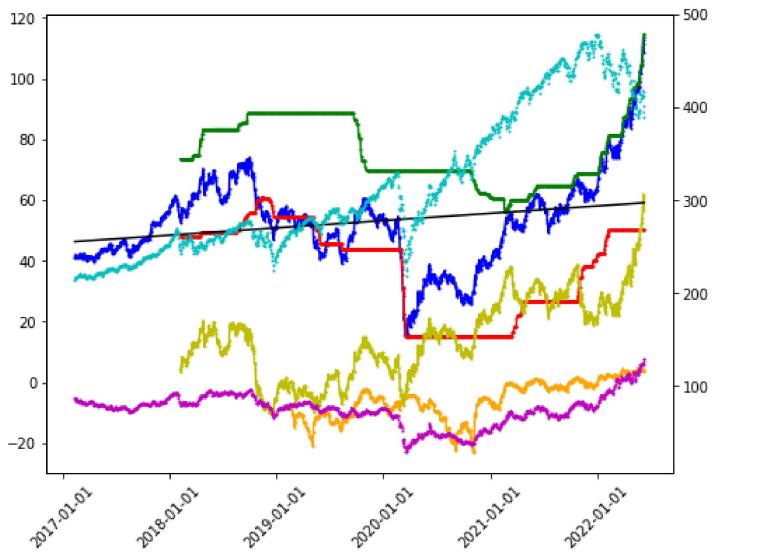
['options', ('2022-07-15',)]
symbol: MPC
sector: Energy
Index: SP500
supply trend: 132481329.19818456
risk trend factor: 3.5134226610249177
    beta currentRatio debtToEquity dividendRate dividendYield \
MPC 1.910294      1.704     80.117      2.32      0.0242
    earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
MPC      1.917   7120999936      0.05912   25.672987  16415250432
    grossMargins grossProfits heldPercentInstitutions \
MPC      0.0867  10443000000      0.82037
    industry      marketCap operatingCashflow \
MPC  Oil & Gas Refining & Marketing  66692796416      4360000000
    operatingMargins payoutRatio pegRatio priceToBook \
MPC      0.03119      0.5472      0.55      2.38288
    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
MPC      0.553692      0.08085      1.222      0.02754
    returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
MPC      0.08003      0.967      189.986  Energy      615587968
    shortRatio      totalCash totalCashPerShare      totalDebt totalRevenue \
MPC      2.92  1083900064      19.177  26904000512  120450998272
    trailingPE
MPC      7.604941

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	108.339996	89.236784	101.560094	113.883404	90.742918	9.631609	71.4797	110.006136

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
MPC	0.997729	108.339996	132481329.198185	0.931541	0.991702	0.523957

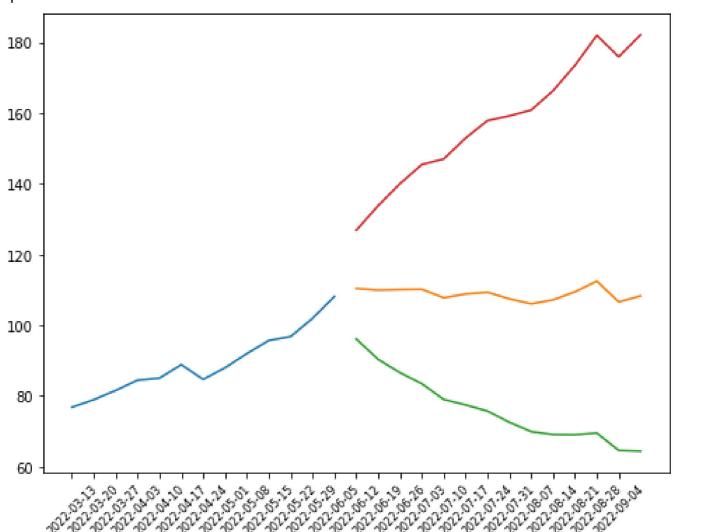
l axis	r axis
legend	legend
blue symbol	magenta sector
green trailing_1yr_max	cyan index
red trailing_1yr_min	
orange risk_trend_factor	
black linear	
yellow supply_trend_1yr	



```

ets next 13 weeks
inner cv scores: [83.48401503836514, 83.48401491889295, 83.4840136963219, 83.4840149654828]
inner cv sdevs: [116.67724779837268, 116.67724791072474, 116.67724802786846, 116.6772483466856]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 83.4840136963219 116.67724802786846
test cv mean error, stdev (10 folds): [80.78367484793935, 122.04395972630111]
sell date: 2022-08-28
expected return: 0.03807236129783712
discounted return: 0.00047915956216870725
quarter return: 1.088666637943265

```



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Capital Surplus	3.326200e+10	3.325600e+10	3.323800e+10	
Total Liab	5.179200e+10	5.333600e+10	5.760700e+10	
Total Stockholder Equity	2.620600e+10	2.828000e+10	2.892100e+10	
Minority Interest	7.375000e+09	7.684000e+09	7.772000e+09	
Other Current Liab	2.278000e+09	3.377000e+09	6.148000e+09	
Total Assets	8.537300e+10	8.930000e+10	9.430000e+10	
Common Stock	1.000000e+07	1.000000e+07	1.000000e+07	
Other Current Assets	5.680000e+08	5.850000e+08	5.850000e+08	
Retained Earnings	1.290500e+10	1.248400e+10	1.216000e+10	
Other Liab	7.999000e+09	8.193000e+09	8.825000e+09	
Good Will	8.256000e+09	8.256000e+09	8.256000e+09	
Treasury Stock	-1.997100e+10	-1.747000e+10	-1.648700e+10	
Other Assets	2.400000e+09	2.463000e+09	2.532000e+09	
Cash	5.291000e+09	5.874000e+09	1.183900e+10	
Total Current Liabilities	1.789800e+10	1.689800e+10	1.951200e+10	
Deferred Long Term Asset Charges	2.000000e+06	NaN	NaN	
Short Long Term Debt	4.980000e+08	7.300000e+07	7.000000e+07	
Other Stockholder Equity	-6.700000e+07	-3.440000e+08	-3.400000e+08	
Property Plant Equipment	3.881200e+10	3.905400e+10	3.949600e+10	
Total Current Assets	3.049600e+10	3.414300e+10	3.859200e+10	
Long Term Investments	5.409000e+09	5.384000e+09	5.424000e+09	
Net Tangible Assets	1.795000e+10	2.002400e+10	2.066500e+10	
Short Term Investments	5.548000e+09	7.352000e+09	5.418000e+09	
Net Receivables	1.103400e+10	1.112100e+10	1.187100e+10	
Long Term Debt	2.444300e+10	2.665500e+10	2.763900e+10	
Inventory	8.055000e+09	9.211000e+09	8.879000e+09	
Accounts Payable	1.370000e+10	1.219600e+10	1.217000e+10	

	2021-03-31
Capital Surplus	3.322200e+10
Total Liab	5.717200e+10
Total Stockholder Equity	2.159200e+10
Minority Interest	7.887000e+09
Other Current Liab	3.370000e+09
Total Assets	8.665100e+10
Common Stock	1.000000e+07
Other Current Assets	1.176200e+10
Retained Earnings	4.029000e+09
Other Liab	9.386000e+09
Good Will	8.256000e+09
Treasury Stock	-1.566900e+10
Other Assets	2.594000e+09
Cash	6.240000e+08
Total Current Liabilities	1.608500e+10
Deferred Long Term Asset Charges	NaN
Short Long Term Debt	6.900000e+07
Other Stockholder Equity	-5.110000e+08
Property Plant Equipment	4.000500e+10
Total Current Assets	3.036100e+10
Long Term Investments	5.435000e+09
Net Tangible Assets	1.333600e+10
Short Term Investments	NaN
Net Receivables	9.568000e+09
Long Term Debt	3.006100e+10
Inventory	8.407000e+09
Accounts Payable	9.953000e+09

]

	2021-12-31	2021-09-30	\
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['quarterly_cashflow',			
Investments	1.742000e+09	-1.934000e+09	
Change To Liabilities	1.590000e+09	1.930000e+08	
Total Cashflows From Investing Activities	1.448000e+09	-2.054000e+09	
Net Borrowings	-1.951000e+09	-1.018000e+09	
Total Cash From Financing Activities	-5.703000e+09	-2.762000e+09	
Change To Operating Activities	-2.000000e+06	1.000000e+06	
Issuance Of Stock	3.500000e+07	1.800000e+07	
Net Income	7.740000e+08	6.940000e+08	
Change In Cash	-5.810000e+08	-5.964000e+09	
Repurchase Of Stock	-2.742000e+09	-9.280000e+08	
Total Cash From Operating Activities	3.674000e+09	-1.148000e+09	
Depreciation	8.130000e+08	8.360000e+08	
Other Cashflows From Investing Activities	1.320000e+08	2.400000e+08	
Dividends Paid	-3.540000e+08	-3.700000e+08	
Change To Inventory	1.173000e+09	-3.260000e+08	
Change To Account Receivables	-1.534000e+09	1.820000e+08	
Other Cashflows From Financing Activities	-6.910000e+08	-4.640000e+08	
Change To Netincome	8.400000e+08	-2.746000e+09	
Capital Expenditures	-4.810000e+08	-3.770000e+08	

	2021-06-30	2021-03-31
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Investments	-5.477000e+09	-5.000000e+07
Change To Liabilities	2.656000e+09	1.821000e+09
Total Cashflows From Investing Activities	1.567000e+10	-2.670000e+08
Net Borrowings	-4.169000e+09	8.650000e+08
Total Cash From Financing Activities	-5.970000e+09	1.600000e+07
Change To Operating Activities	-1.000000e+06	5.000000e+06
Issuance Of Stock	3.000000e+07	2.300000e+07
Net Income	8.512000e+09	-2.420000e+08
Change In Cash	1.108000e+10	2.030000e+08
Repurchase Of Stock	-9.840000e+08	-9.840000e+08
Total Cash From Operating Activities	1.380000e+09	4.540000e+08
Depreciation	8.710000e+08	8.440000e+08
Other Cashflows From Investing Activities	2.144400e+10	1.100000e+07

Dividends Paid	-3.810000e+08	-3.790000e+08
Change To Inventory	-4.720000e+08	-4.080000e+08
Change To Account Receivables	-2.224000e+09	-1.723000e+09
Other Cashflows From Financing Activities	-4.660000e+08	-4.930000e+08
Change To Netincome	-7.981000e+09	1.350000e+08
Capital Expenditures	-3.020000e+08	-3.040000e+08
['quarterly_earnings',	Revenue	Earnings
Quarter		
1Q2021	22788000000	-242000000
2Q2021	29734000000	8512000000
3Q2021	32491000000	694000000
4Q2021	35438000000	774000000
['quarterly_financials',		
	2021-12-31	2021-09-30 \
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	1348000000.0	1012000000.0
Minority Interest	7375000000.0	7684000000.0
Net Income	774000000.0	694000000.0
Selling General Administrative	654000000.0	691000000.0
Gross Profit	3254000000.0	2928000000.0
Ebit	1610000000.0	1208000000.0
Operating Income	1618000000.0	1208000000.0
Other Operating Expenses	177000000.0	193000000.0
Interest Expense	-302000000.0	-313000000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	243000000.0	-18000000.0
Total Revenue	35438000000.0	32491000000.0
Total Operating Expenses	33828000000.0	31283000000.0
Cost Of Revenue	32184000000.0	29563000000.0
Total Other Income Expense Net	-262000000.0	-196000000.0
Discontinued Operations	Nan	Nan
Net Income From Continuing Ops	1105000000.0	1030000000.0
Net Income Applicable To Common Shares	772000000.0	694000000.0
	2021-06-30	2021-03-31
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	593000000.0	-136000000.0
Minority Interest	7772000000.0	7887000000.0
Net Income	8512000000.0	-242000000.0
Selling General Administrative	681000000.0	575000000.0
Gross Profit	2557000000.0	1704000000.0
Ebit	816000000.0	123000000.0
Operating Income	816000000.0	123000000.0
Other Operating Expenses	189000000.0	162000000.0
Interest Expense	-318000000.0	-334000000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	5000000.0	3400000.0
Total Revenue	29734000000.0	22788000000.0
Total Operating Expenses	28918000000.0	22665000000.0
Cost Of Revenue	27177000000.0	21084000000.0
Total Other Income Expense Net	-223000000.0	-259000000.0
Discontinued Operations	8214000000.0	234000000.0
Net Income From Continuing Ops	588000000.0	-170000000.0
Net Income Applicable To Common Shares	8512000000.0	-242000000.0
['mutualfund_holders',	Holder	Shares Date Reported \
0 Select Sector SPDR Fund-Energy Select	18103056	2022-01-30
1 Vanguard Total Stock Market Index Fund	17494854	2021-12-30
2 Vanguard 500 Index Fund	13037019	2021-12-30
3 Vanguard Mid-Cap Index Fund	6960433	2021-12-30
4 SPDR S&P 500 ETF Trust	6540311	2022-01-30
5 Fidelity 500 Index Fund	6304189	2022-02-27
6 iShares Core S&P 500 ETF	5120813	2022-01-30
7 Vanguard Index-Value Index Fund	4704115	2021-12-30
8 Vanguard Institutional Index Fund-Institutional...	4638261	2021-12-30
9 iShares Select Dividend ETF	4127022	2022-01-30

% Out	Value
0 0.0335	1298894268
1 0.0323	1119495707
2 0.0241	834238845
3 0.0129	445398107
4 0.0121	469267314
5 0.0117	490900967
6 0.0095	367418332
7 0.0087	301016318
8 0.0086	296802321
9 0.0076	296113828

[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 0
peerCount 39
governanceScore 5.87
environmentPercentile 0
animalTesting False
tobacco False
totalEsg 28.78
highestControversy 3
esgPerformance None
coal False
pesticides False
adult False
percentile 57.14
peerGroup Refiners & Pipelines
smallArms False
environmentScore 15.91
governancePercentile 0
militaryContract False]
symbol: MUSA
sector: Consumer Cyclical
Index: SP400
supply trend: 7365132.299546142
risk trend factor: 3.503539798547629
    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 90dSD 90d_lower 90d_upper

2022-06-10 237.960007 234.45771 245.340318 256.222926 227.287143 21.941358 183.404427 271.169859

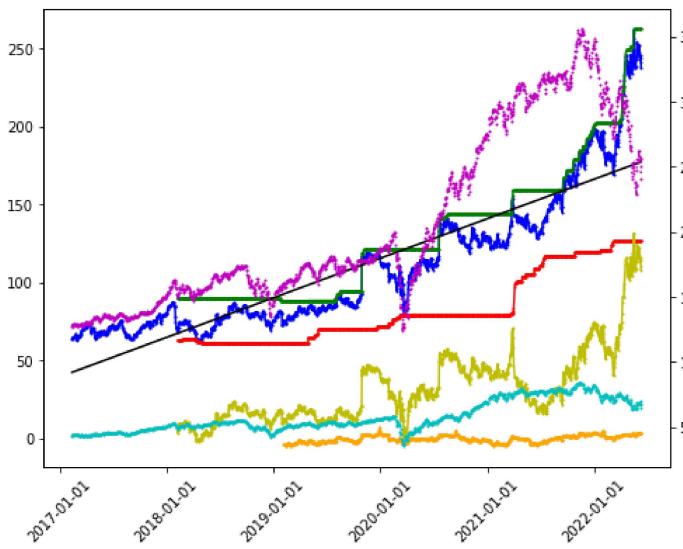
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
---------------	----------	-------------	---------	-----	-------

MUSA 1.023661 237.960007 7365132.299546 0.839578 0.99617 0.410367

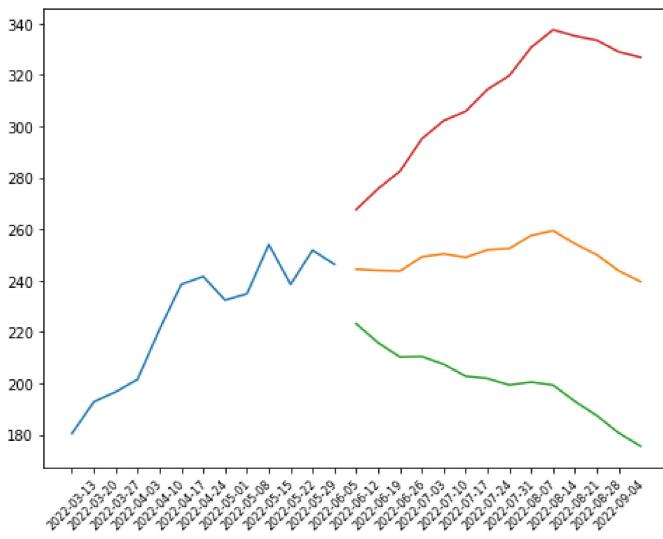
I axis r axis

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

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



sets next 13 weeks
inner cv scores: [686.9549082753548, 686.9548967640432, 686.9549028845631, 686.9549102028124]
inner cv sdevs: [881.8571583739914, 881.8571501744585, 881.8571426927148, 881.8571571956026]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 686.9548967640432 881.8571501744585
test cv mean error, stdev (10 folds): [665.0229268952188, 922.0347570322043]
sell date: 2022-08-14
expected return: 0.08993865023834105
discounted return: 0.001346552827847125
quarter return: 1.088666637943265



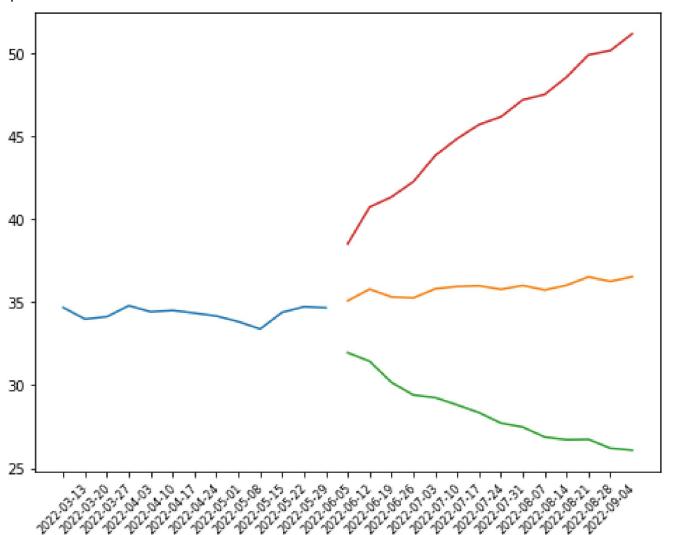
['options', ('2022-07-15', '2022-11-18')]
symbol: SJI
sector: Utilities
Index: SP600
supply trend: 18167782.072617248
risk trend factor: 3.390475619569739
beta currentRatio debtToEquity dividendRate dividendYield ebitda \
SJI 0.767156 0.669 180.745 1.24 0.0371 563539008
ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
SJI 0.2829 20.39521 -181286880 0.24213 482333000
heldPercentInstitutions industry marketCap \
SJI 0.85604 Utilities-Diversified 3829979136
operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
SJI 273112992 0.17665 1.9758 3.88 2.094454
priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
SJI 1.922684 0.04422 0.438 0.03142
returnOnEquity revenuePerShare sector sharesOutstanding shortRatio \
SJI 0.04828 18.23 Utilities 112448000 3.26
totalCash totalCashPerShare totalDebt totalRevenue trailingPE
SJI 28754000 0.245 3613896960 1991996032 48.587734
Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-10 34.060001 33.346404 34.247778 35.149152 34.300159 0.35026 33.599639 35.000679

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
SJI	1.10309	34.060001	18167782.072617	0.92623	0.165217	0.413386

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



ets next 13 weeks
inner cv scores: [10.27849877763667, 10.278498498830599, 10.278499126524398, 10.278498619665013]
inner cv sdevs: [11.103732442546214, 11.103732070350679, 11.103732279842928, 11.1037324153775]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 10.278498498830599 11.103732070350679
test cv mean error, stdev (10 folds): [11.107989516711722, 11.31607511556267]
sell date: 2022-09-11
expected return: 0.07276068921724005
discounted return: 0.0007637198459640171
quarter return: 1.088666637943265



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Intangible Assets	1.404300e+07	1.473100e+07	1.611800e+07	
Capital Surplus	1.559060e+09	1.463655e+09	1.462322e+09	
Total Liab	5.309231e+09	5.187967e+09	4.938285e+09	
Total Stockholder Equity	1.989152e+09	1.828587e+09	1.887399e+09	
Minority Interest	1.028900e+07	7.457000e+06	7.425000e+06	
Deferred Long Term Liab	6.724160e+08	6.694870e+08	6.701760e+08	
Other Current Liab	1.596050e+08	2.273930e+08	1.760970e+08	
Total Assets	7.308672e+09	7.024011e+09	6.833109e+09	
Common Stock	1.466750e+08	1.405610e+08	1.405570e+08	
Other Current Assets	9.504100e+07	1.416900e+08	8.351100e+07	
Retained Earnings	3.104330e+08	2.628420e+08	3.229880e+08	
Other Liab	1.141049e+09	1.165851e+09	1.163466e+09	
Good Will	7.069600e+08	7.069600e+08	7.069600e+08	
Treasury Stock	-2.701600e+07	-3.847100e+07	-3.846800e+07	
Other Assets	9.811060e+08	9.530460e+08	9.168080e+08	
Cash	2.875400e+07	2.541500e+07	8.789900e+07	
Total Current Liabilities	9.556820e+08	8.187800e+08	5.896010e+08	
Short Long Term Debt	6.663900e+07	6.663600e+07	9.155500e+07	
Other Stockholder Equity	-2.672900e+07	-3.819100e+07	-3.820000e+07	
Property Plant Equipment	4.929055e+09	4.741429e+09	4.633664e+09	
Total Current Assets	6.389620e+08	5.716560e+08	5.270180e+08	
Long Term Investments	3.854600e+07	3.618900e+07	3.254100e+07	
Net Tangible Assets	1.268149e+09	1.186896e+09	1.164321e+09	
Net Receivables	3.951240e+08	2.603440e+08	2.495690e+08	
Long Term Debt	3.190808e+09	3.197736e+09	3.182118e+09	
Inventory	6.079700e+07	6.639100e+07	4.158000e+07	
Accounts Payable	3.301640e+08	3.009550e+08	2.261080e+08	

	2021-03-31
Intangible Assets	1.570100e+07
Capital Surplus	1.193552e+09
Total Liab	4.971266e+09
Total Stockholder Equity	1.737118e+09
Minority Interest	6.124000e+06
Deferred Long Term Liab	6.507100e+08
Other Current Liab	1.368470e+08
Total Assets	6.714508e+08
Common Stock	1.282150e+08
Other Current Assets	3.854100e+07
Retained Earnings	4.538230e+08
Other Liab	1.148234e+09
Good Will	7.069600e+08
Treasury Stock	-3.847200e+07
Other Assets	8.649660e+08
Cash	3.038600e+07
Total Current Liabilities	7.526990e+08
Short Long Term Debt	1.433030e+08
Other Stockholder Equity	-3.820800e+07
Property Plant Equipment	4.524998e+09
Total Current Assets	4.889150e+08
Long Term Investments	1.129680e+08
Net Tangible Assets	1.014457e+09
Net Receivables	3.626680e+08
Long Term Debt	3.067233e+09
Inventory	2.054900e+07
Accounts Payable	2.180780e+08

	2021-12-31	2021-09-30	\
['quarterly_cashflow',			
Net Income	0.0	-2613000.0	
Change To Liabilities	0.0	0.0	
Investments	NaN	-22044000.0	
Total Cashflows From Investing Activities	NaN	-164851000.0	
Net Borrowings	NaN	10780000.0	
Total Cash From Financing Activities	NaN	70091000.0	
Change In Cash	NaN	-62484000.0	
Total Cash From Operating Activities	NaN	32276000.0	
Depreciation	NaN	48089000.0	
Other Cashflows From Investing Activities	NaN	-1418000.0	
Dividends Paid	NaN	-34007000.0	
Other Cashflows From Financing Activities	NaN	-3702000.0	
Change To Netincome	NaN	10317000.0	
Capital Expenditures	NaN	-141378000.0	
Issuance Of Stock	NaN	NaN	

	2021-06-30	2021-03-31
Net Income	-96828000.0	128598000.0
Change To Liabilities	0.0	0.0
Investments	-17530000.0	-196000.0
Total Cashflows From Investing Activities	-156992000.0	-112328000.0
Net Borrowings	-8410000.0	-12760000.0
Total Cash From Financing Activities	169869000.0	-96098000.0
Change In Cash	56065000.0	-9963000.0
Total Cash From Operating Activities	43188000.0	198463000.0
Depreciation	49180000.0	54440000.0
Other Cashflows From Investing Activities	1968000.0	-6752000.0
Dividends Paid	-30453000.0	-30453000.0
Other Cashflows From Financing Activities	-3078000.0	-10770000.0
Change To Netincome	90836000.0	15425000.0
Capital Expenditures	-126758000.0	-105380000.0
Issuance Of Stock	287500000.0	42272000.0
['quarterly_earnings',	Revenue	Earnings
Quarter		

Q2021 674300000 128598000

Q2021 311828000 -96828000

3Q2021 365631000 -26130000

4Q2021 0 0]

['quarterly_financials',
 Research Development None None None
 Effect Of Accounting Charges None None None
 Income Before Tax NaN -37557000.0 -101362000.0
 Minority Interest 10289000.0 7457000.0 7425000.0
 Net Income 0.0 -2613000.0 -96828000.0
 Selling General Administrative None None None
 Gross Profit 0.0 16068000.0 47452000.0
 Ebit 0.0 -8973000.0 11609000.0
 Operating Income NaN -8973000.0 11609000.0
 Other Operating Expenses NaN -8040000.0 2812000.0
 Interest Expense NaN -31468000.0 -31185000.0
 Extraordinary Items None None None
 Non Recurring None None None
 Other Items None None None
 Income Tax Expense 0.0 -11727000.0 -4702000.0
 Total Revenue 0.0 365631000.0 311828000.0
 Total Operating Expenses 0.0 374604000.0 300219000.0
 Cost Of Revenue 0.0 349563000.0 264376000.0
 Total Other Income Expense Net 0.0 -28584000.0 -112971000.0
 Discontinued Operations NaN -127000.0 -80000.0
 Net Income From Continuing Ops NaN -25830000.0 -96660000.0
 Net Income Applicable To Common Shares NaN -2613000.0 -96828000.0

2021-03-31

Research Development None
Effect Of Accounting Charges None
Income Before Tax 170567000.0
Minority Interest 6124000.0
Net Income 128598000.0
Selling General Administrative None
Gross Profit 232623000.0
Ebit 196828000.0
Operating Income 196828000.0
Other Operating Expenses 3983000.0
Interest Expense -31459000.0
Extraordinary Items None
Non Recurring None
Other Items None
Income Tax Expense 41769000.0
Total Revenue 674300000.0
Total Operating Expenses 477472000.0
Cost Of Revenue 441677000.0
Total Other Income Expense Net -26261000.0
Discontinued Operations -71000.0
Net Income From Continuing Ops 128798000.0
Net Income Applicable To Common Shares 128598000.0]

['mutualfund_holders',
 0 SPDR (R) Ser Tr- SPDR (R) S&P (R) Dividend ETF 11551756 2022-01-30
 1 iShares Core S&P Smallcap ETF 7909776 2022-01-30
 2 Vanguard Total Stock Market Index Fund 3185871 2021-12-30
 3 Vanguard Small-Cap Index Fund 2832115 2021-12-30
 4 iShares Russell 2000 ETF 2351525 2022-01-30
 5 SSgA SPDR ETFS Europe I-SPDR S&P US Dividend A... 2037036 2022-02-27
 6 SSgA SPDR ETFS Europe I-SPDR S&P U.S. Div Aris... 2037036 2022-02-27
 7 iShares S&P Smallcap 600 Value ETF 1870014 2022-01-30
 8 Vanguard Small Cap Value Index Fund 1795423 2021-12-30
 9 Delaware Group Equity Funds V-Small Cap Value ... 1632000 2022-02-27

% Out Value
0 0.0944 289024935
1 0.0646 197902595
2 0.0260 83214950
3 0.0231 73974843
4 0.0192 58835155
5 0.0166 69116631
6 0.0166 69116631
7 0.0153 46787750
8 0.0147 46896448
9 0.0133 55373760]

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

symbol: XOM

sector: Energy

Index: SP500

supply trend: 399482859.5310136

risk trend factor: 3.314307263718105

beta currentRatio debtToEquity dividendRate dividendYield \

XOM 1.040834 1.072 26.929 3.52 0.0341

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \
XOM 1.003 53895000064 0.17427 11.818078 31484874752

grossMargins grossProfits heldPercentInstitutions industry \
XOM 0.31806 90045000000 0.56852 Oil & Gas Integrated

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
XOM 440658558976 53653000192 0.10859 0.5804 0.36

```

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
XOM 2.603749 1.424839 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 1.13 11073999872 2.629 47537000448

totalRevenue trailingPE
XOM 309269004288 17.34494

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

```

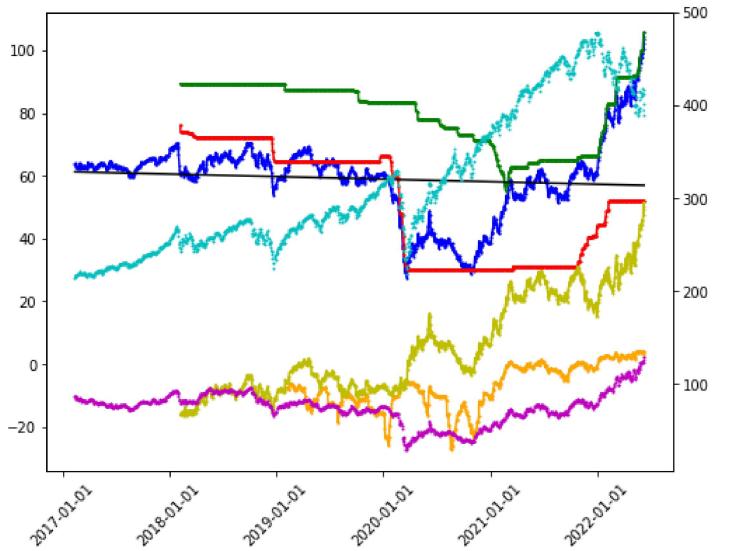
2022-06-10 100.459999 85.804488 95.616984 105.42948 88.303809 6.585828 75.132152 101.475466

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
XOM	1.434399	100.459999	399482859.531014	0.931373	0.977852	0.536671

I axis r axis

legend legend

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



ets next 13 weeks

inner cv scores: [61.01120464854492, 61.011204648135624, 61.01120084377214, 61.01120078565846]

inner cv sdevs: [50.63937718216418, 50.63937718259606, 50.639379848446104, 50.63937972272042]

best model: ['F', 'T']

best inner cv score, sdev (11 folds): 61.01120078565846 50.63937972272042

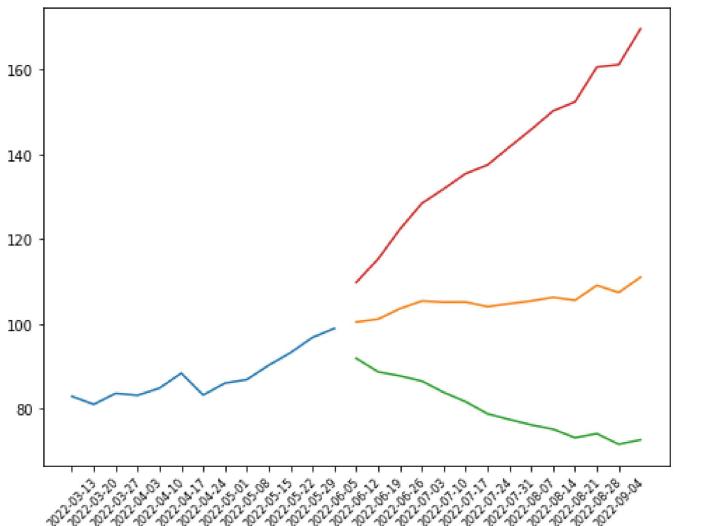
test cv mean error, stdev (10 folds): [66.79097363283856, 49.5309817074473]

sell date: 2022-09-11

expected return: 0.10493453394394933

discounted return: 0.0010852198157298432

quarter return: 1.088666637943265



```
['options', ('2022-06-17', '2022-07-15', '2023-01-20', '2024-01-19', '2026-02-21')]
```

```
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: DVN  
sector: Energy  
Index: SP500
```

```
supply trend: 181231964.52344933
```

```
risk trend factor: 3.2541850258631513
```

```
    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 14.160611 2805625088 0.56522
```

```
    grossProfits heldPercentInstitutions industry marketCap \
```

```
DVN 7414000000 0.86307 Oil & Gas E&P 50138619904
```

```
    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
```

```
DVN 4898999808 0.25288 0.4991 0.43 5.618267
```

```
    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
```

```
DVN 3.822415 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 2099000064 3.16 6760000000 13116999680
```

```
    trailingPE
```

```
DVN 36.77259
```

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

```
2022-06-10 74.059998 65.748411 73.181587 80.614763 64.876349 7.015184 50.845982 78.906716
```

```
volume_factor latest_p vol_30d_2yr pct_2yr adf hurst
```

```
DVN 1.304951 74.059998 181231964.523449 0.925492 0.994381 0.555599
```

```
I axis r axis
```

```
legend legend
```

```
blue symbol magenta sector
```

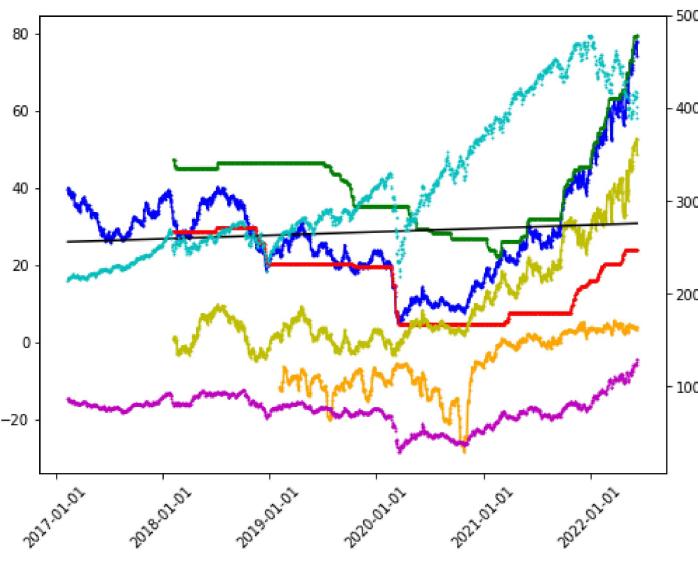
```
green trailing_1yr_max cyan index
```

```
red trailing_1yr_min
```

```
orange risk_trend_factor
```

```
black linear
```

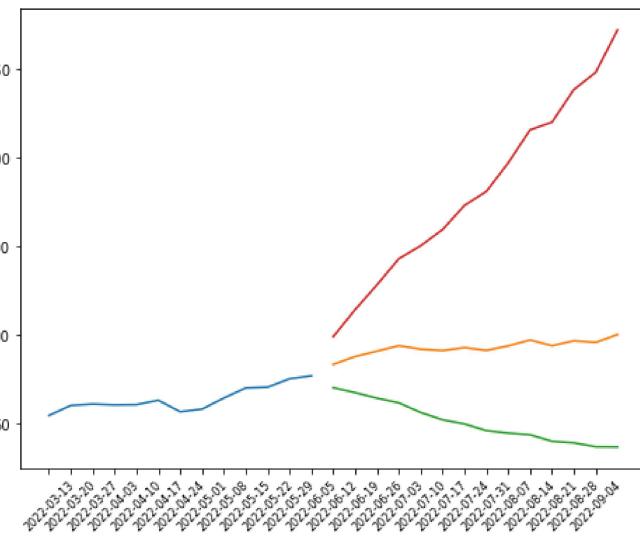
```
yellow supply_trend_1yr
```



```

ets next 13 weeks
inner cv scores: [53.96032657039057, 53.96032654131955, 53.960326753293344, 53.96032655241906]
inner cv sdevs: [70.83920440007553, 70.83920436884608, 70.83920429097527, 70.83920442297958]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 53.96032654131955 70.83920436884608
test cv mean error, stdev (10 folds): [58.83065347734695, 72.51959205743258]
sell date: 2022-09-11
expected return: 0.3539976654699068
discounted return: 0.003299577861266334
quarter return: 1.088666637943265

```



	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	8.509000e+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]		

	2021-12-31	2021-09-30	\
['quarterly_cashflow',			
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	1.500000e+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	
['quarterly_cashflow',			
Investments	8.000000e+06	1000000.0	
Change To Liabilities	7.200000e+07	1600000.0	
Total Cashflows From Investing Activities	-4.520000e+08	-13000000.0	
Total Cash From Financing Activities	-9.820000e+08	-82400000.0	
Change To Operating Activities	-7.600000e+07	-9500000.0	
Net Income	2.560000e+08	21300000.0	
Change In Cash	-3.390000e+08	-35900000.0	
Repurchase Of Stock	-9.000000e+06	-3300000.0	
Effect Of Exchange Rate	2.000000e+06	300000.0	
Total Cash From Operating Activities	1.093000e+09	59200000.0	
Depreciation	5.360000e+08	48100000.0	
Dividends Paid	-7.500000e+07	-12800000.0	
Change To Account Receivables	-1.000000e+08	-6300000.0	
Other Cashflows From Financing Activities	-2.000000e+06	-2800000.0	
Change To Netincome	2.840000e+08	2500000.0	
Capital Expenditures	-5.090000e+08	-49900000.0	
Net Borrowings	-7.420000e+08	-56000000.0]
['quarterly_earnings',	Revenue	Earnings	
Quarter			

```
1Q2021 2461000000 213000000  
2Q2021 2977000000 256000000  
3Q2021 3625000000 838000000  
4Q2021 4054000000 1506000000]
```

```
['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	165500000.0	129100000.0
Ebit	320000000.0	202000000.0
Operating Income	320000000.0	202000000.0
Other Operating Expenses	702000000.0	512000000.0
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

```
] 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
```

	False
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: MRO
sector: Energy
Index: SP500
supply trend: 385905130.6354009
risk trend factor: 3.229066300641798
    beta currentRatio debtToEquity dividendRate dividendYield \
MRO 2.766666 1.112 38.48 0.32 0.0119

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
MRO 3308999936 0.58921 15.454082 1785500032 0.77546

    grossProfits heldPercentInstitutions industry marketCap \
MRO 4355000000 0.802 Oil & Gas E&P 23581886464

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
MRO 3239000064 0.20495 0.0769 0.59 2.213696

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
MRO 4.199054 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

2022-06-10 30.290001 25.156063 29.418428 33.680793 26.579703 2.65432 21.271064 31.888343

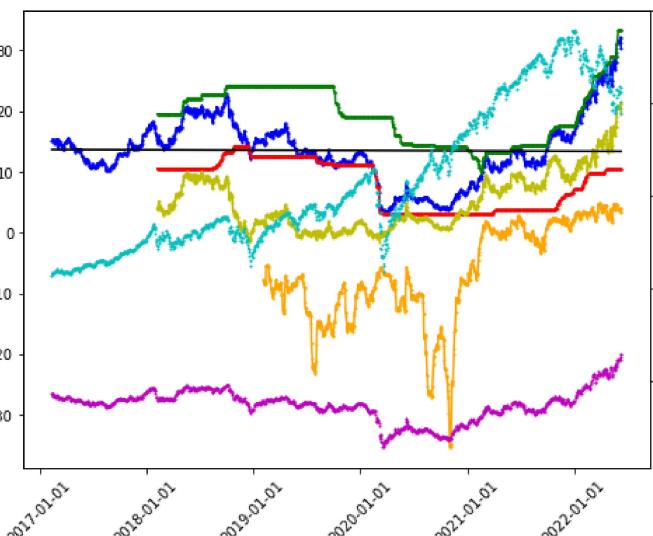
	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
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MRO 1.127529 30.290001 385905130.635401 0.900034 0.972772 0.54597

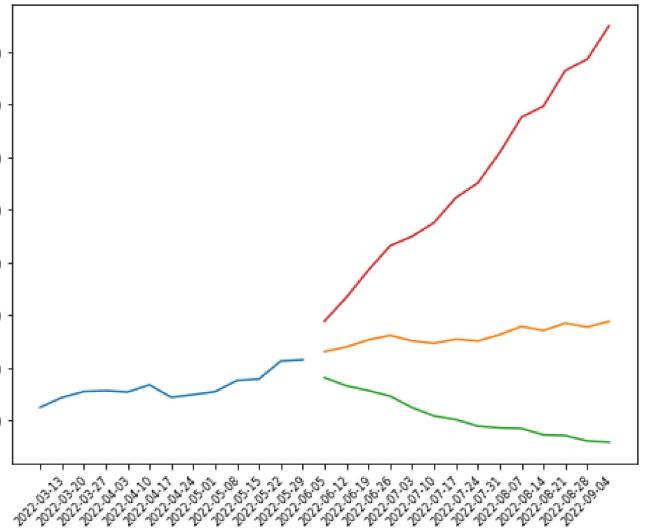
I axis r axis

legend **legend**

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



```
ets next 13 weeks
inner cv scores: [9.524310866993629, 9.524310869424811, 9.524310860932644, 9.524310868972792]
inner cv sdevs: [10.281326148145714, 10.281326147844673, 10.28132614754317, 10.281326148199943]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 9.524310860932644 10.28132614754317
test cv mean error, stdev (10 folds): [10.389225942977006, 10.394583934168928]
sell date: 2022-09-11
expected return: 0.28078658277509094
discounted return: 0.0026935603389821594
quarter return: 1.088666637943265
```



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
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	1.068600e+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	1.458600e+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	1.068600e+10	1.079600e+10	1.063400e+10	
Net Receivables	1.142000e+09	1.068000e+09	1.008000e+09	
Long Term Debt	3.980000e+09	3.983000e+09	4.882000e+09	
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

]

2021-12-31 2021-09-30 \

['quarterly_cashflow',			
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	20000000.0	101000000.0
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	600000000.0	512000000.0
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	-500000000.0	-500000000.0
Other Cashflows From Investing Activities	1000000.0	-1000000.0
Change To Inventory	1000000.0	-2000000.0

]

['quarterly_earnings',

Revenue Earnings

Quarter

1Q2021 1180000000 97000000

2Q2021 1259000000 16000000

	2021-12-31	2021-09-30	\
['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	6100000.0	7000000.0	
Gross Profit	1393000000.0	1089000000.0	
Ebit	75500000.0	25400000.0	
Operating Income	75500000.0	25400000.0	
Other Operating Expenses	94000000.0	167000000.0	
Interest Expense	-7400000.0	-5700000.0	
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	350000000.0	
Total Other Income Expense Net	-7200000.0	-6600000.0	
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	20000000.0	
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',			
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')]

	Value
['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: PBF
sector: Energy
Index: SP600
supply trend: 65359710.136157334
risk trend factor: 3.225693266030666
    beta currentRatio debtToEquity    ebitda ebitdaMargins forwardPE \
PBF  2.259981     1.254     197.914   690400000    0.02194  14.665455

    freeCashflow grossMargins grossProfits heldPercentInstitutions \
PBF  284750016    0.0362    671100000     0.80126

    industry marketCap operatingCashflow \
PBF  Oil & Gas Refining & Marketing 4872993280     803299968

    operatingMargins payoutRatio pegRatio priceToBook \
PBF  0.0135        0     -0.19   2.545604

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PBF  0.154844     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  19.549202

```

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

2022-06-10	40.330002	24.95881	34.143016	43.327222	28.732698	5.47571	17.781279	39.684118
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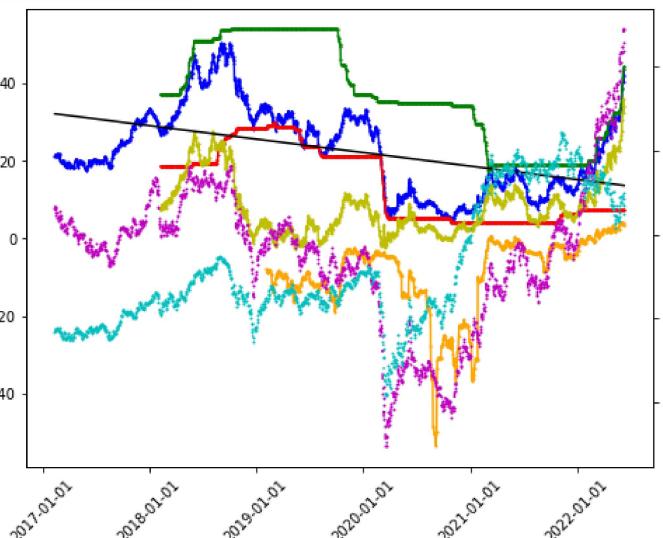
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
---------------	----------	-------------	---------	-----	-------

PBF	1.018074	40.330002	65359710.136157	0.905392	0.730477	0.555776
-----	----------	-----------	-----------------	----------	----------	----------

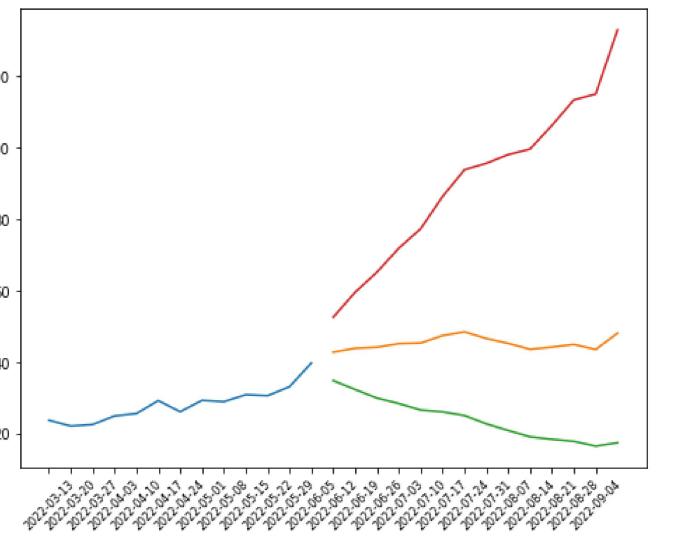
I axis r axis

legend legend

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



ets next 13 weeks
 inner cv scores: [32.70602953933655, 32.70602958490308, 32.7060295008448, 32.705380612451705]
 inner cv sdevs: [32.67837665026393, 32.678376628284234, 32.67837668275404, 32.67772468813271]
 best model: ['F', 'T']
 best inner cv score, sdev (11 folds): 32.705380612451705 32.67772468813271
 test cv mean error, stdev (10 folds): [30.815202112198314, 33.69475352512771]
 sell date: 2022-07-24
 expected return: 0.20057266407733418
 discounted return: 0.004260180576730832
 quarter return: 1.088666637943265



['options', ('2022-06-17', '2022-07-15', '2022-12-16', '2023-01-20', '2024-01-19')]

symbol: APA
 sector: Energy
 Index: SP500
 supply trend: 154170566.9440242
 risk trend factor: 3.199620940107091

beta currentRatio debtToEquity dividendRate dividendYield \

APA 4.125226 1.227 704.108 0.5 0.0098

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \

APA 4.324 4982000128 0.56569 5.04757 2424875008

grossMargins grossProfits heldPercentInstitutions industry \

APA 0.67015 5080000000 0.87511 Oil & Gas E&P

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \

APA 16509104128 3716000000 0.40218 0.0339 0.19

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \

APA 1.874543 0.28023 0.882 0.17293

returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \

APA 4.69732 0.405 24.063 Energy 338232000

shortRatio totalCash totalCashPerShare totalDebt totalRevenue \

APA 1 234000000 0.692 5999000064 8807000064

trailingPE

APA 7.255835

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

2022-06-10 48.810001 37.987556 45.39127 52.794983 42.493492 3.486022 35.521448 49.465537

volume_factor latest_p vol_30d_2yr pct_2yr adf hurst

APA 1.279846 48.810001 154170566.944024 0.929438 0.443494 0.44772

l axis r axis

legend

blue symbol magenta sector

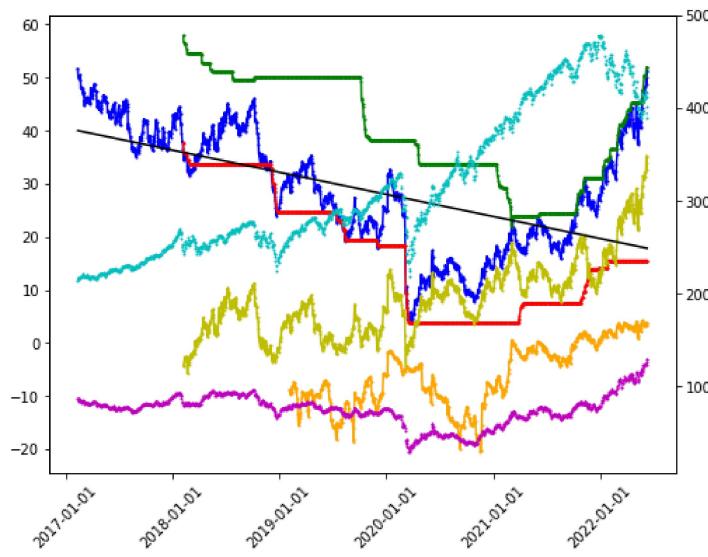
green trailing_1yr_max cyan index

red trailing_1yr_min

orange risk_trend_factor

black linear

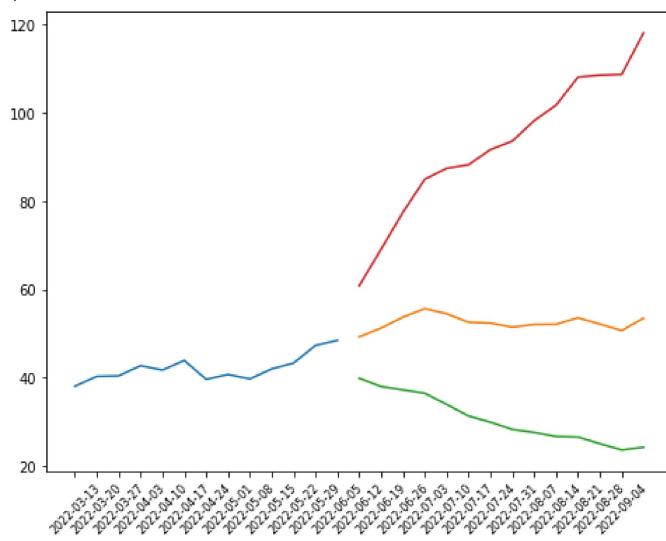
yellow supply_trend_1yr



```

ets next 13 weeks
inner cv scores: [36.24094190145664, 36.240941884880264, 36.2409419129411, 36.240941898340296]
inner cv sdevs: [40.42524144105027, 40.42524139028915, 40.42524140677962, 40.425241442458436]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 36.240941884880264 40.42524139028915
test cv mean error, stdev (10 folds): [39.20777824418202, 41.240718514148064]
sell date: 2022-07-03
expected return: 0.14034030332150196
discounted return: 0.005987249151534257
quarter return: 1.088666637943265

```



```

['options', ('2022-07-15', '2023-01-20', '2024-01-19')]           value
['sustainability',                                         value
2021-3
palmOil                      False
controversialWeapons          False
gambling                      False
socialScore                   8.88
nuclear                       False
furLeather                    False
alcoholic                     False
gmo                           False
catholic                      False
socialPercentile              None
peerCount                      71
governanceScore               7.96
environmentPercentile         None
animalTesting                 False
tobacco                        False
totalEsg                       38.81
highestControversy             2
esgPerformance                OUT_PERF
coal                           False
pesticides                     False
adult                          False
percentile                     82.83
peerGroup                      Oil & Gas Producers
smallArms                      False
environmentScore               21.98
governancePercentile           None
militaryContract               False]
symbol: CTRA
sector: Energy
Index: SP500
supply trend: 150668871.709531
risk trend factor: 3.1929469250530653
    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  9.610645  1148249984

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

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
CTRA  27913861120      1667000064      0.45559      0.182      0.09

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
CTRA      5.895189      7.605957      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

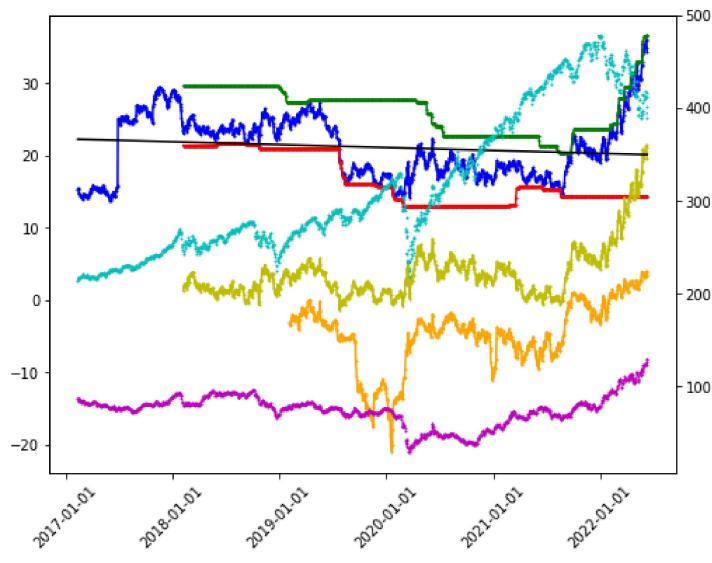
    totalRevenue trailingPE
CTRA   3670000128  39.032993

```

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

2022-06-10 34.310001 28.660914 33.218095 37.775277 29.828254 3.373921 23.080412 36.576096

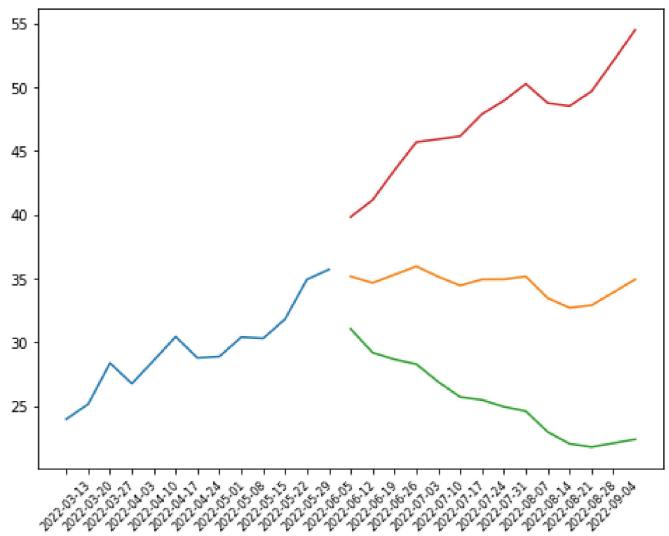
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
CTRA	1.337181	34.310001	150668871.709531	0.899416	0.507048
I axis					
legend					
blue symbol					
green trailing_1yr_max					
red trailing_1yr_min					
orange risk_trend_factor					
black linear					
yellow supply_trend_1yr					
magenta sector					
cyan index					



```

ets next 13 weeks
inner cv scores: [7.479921688280138, 7.479921704765565, 7.47992119024586, 7.479921353966082]
inner cv sdevs: [6.651463712525543, 6.6514636407351775, 6.65146259578288, 6.651462809786559]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 7.47992119024586 6.65146259578288
test cv mean error, stdev (10 folds): [8.109753793724039, 6.656017935333023]
sell date: 2022-07-03
expected return: 0.04762897523501855
discounted return: 0.002117215048102139
quarter return: 1.088666637943265

```



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
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	4.660100e+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',			
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

]

Revenue Earnings

Quarter

1Q2021	472918000	126354000
2Q2021	411788000	30464000
3Q2021	641678000	62714000
4Q2021	2143616000	938468000

['quarterly_financials',

Research Development None None

2021-12-31 2021-09-30 \

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: COP
sector: Energy
Index: SP500
supply trend: 164910706.505295
risk trend factor: 3.1812515705509306
      beta currentRatio debtToEquity dividendRate dividendYield \
COP  1.350272    1.513    38.088     1.92     0.0156

      earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
COP    4.853  25497999360     0.46444  10.605744  10752749568

      grossMargins grossProfits heldPercentInstitutions industry \
COP    0.52295  22936000000     0.8134  Oil & Gas E&P

      marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
COP  157619814400    19983998976     0.33401     0.2348     0.56

      priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
COP    3.20246        2.871035     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     1.83  7144000000     5.523  18745999360

      totalRevenue trailingPE
COP  54899998720  12.631906

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	116.830002	98.434997	111.473651	124.512305	103.658731	7.46267	88.73339	118.584071

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
COP	0.946298	116.830002	164910706.505295	0.924909	0.992942	0.491541

l axis r axis

legend legend

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

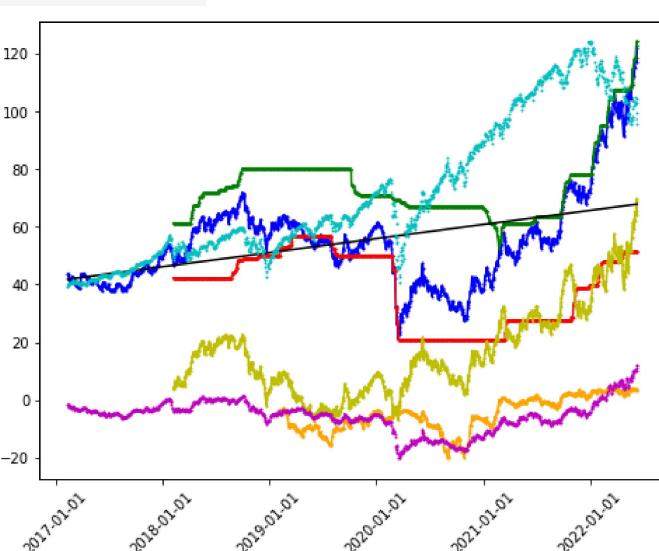
green	trailing_1yr_max	cyan	index
-------	------------------	------	-------

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

orange	risk_trend_factor
--------	-------------------

black	linear
-------	--------

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



ets next 13 weeks

inner cv scores: [81.22696571851799, 81.2269657608658, 81.22696584471532, 81.22696564176003]

inner cv sdevs: [78.60997014055918, 78.60997010056245, 78.60997015758267, 78.60996989669474]

best model: ['F', 'T']

best inner cv score, sdev (11 folds): 81.22696564176003 78.60996989669474

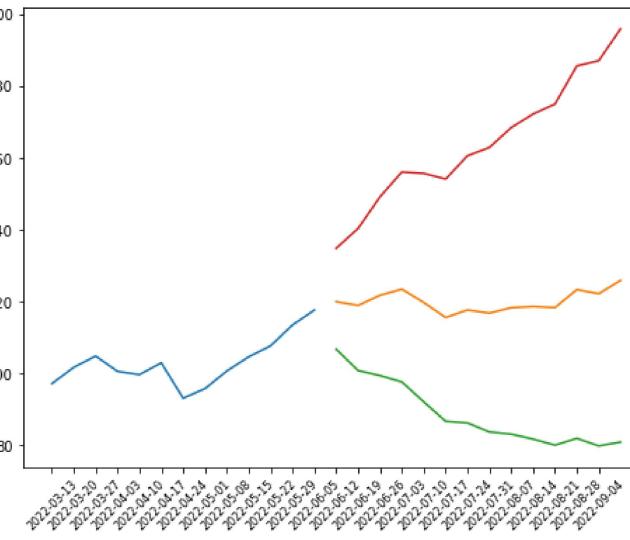
test cv mean error, stdev (10 folds): [87.22711649628413, 80.00912599077246]

sell date: 2022-09-11

expected return: 0.07744871945648961

discounted return: 0.0008111543482332007

quarter return: 1.088666637943265



```

['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: VLO
sector: Energy
Index: SP500
supply trend: 84050366.56580938
risk trend factor: 3.1558878750034074
    beta currentRatio debtToEquity dividendRate dividendYield \
VLO 1.762704 1.178 64.483 3.92 0.027

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
VLO 6672999936 0.05306 12.882617 4647625216 0.05998

    grossProfits heldPercentInstitutions industry \
VLO 5487000000 0.80461 Oil & Gas Refining & Marketing

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
VLO 58671964160 6498999808 0.0341 0.6312 0.42

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
VLO 3.117438 0.466521 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 1.87 2638000128 6.464 13160999936

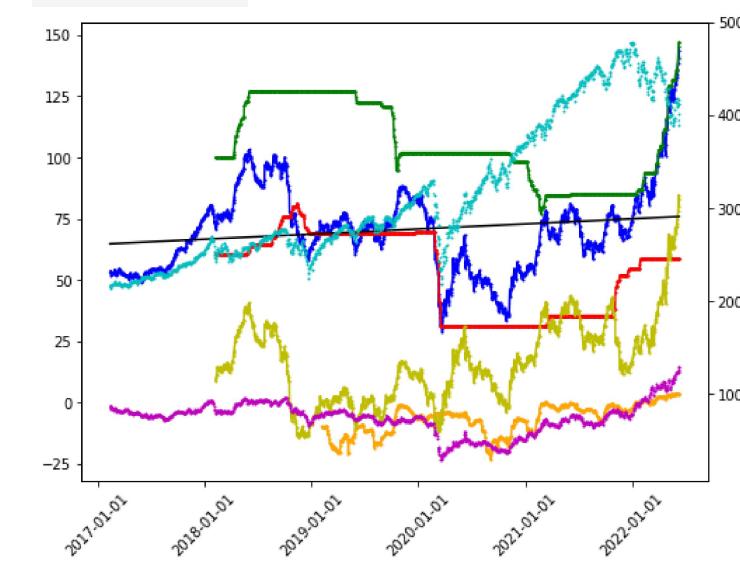
    totalRevenue trailingPE
VLO 125765001216 23.143915

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-10 140.509995 116.071949 130.762381 145.452813 113.398095 16.061488 81.27512 145.521071

volume_factor latest_p vol_30d_2yr pct_2yr adf hurst
VLO 1.213534 140.509995 84050366.565809 0.943432 0.970961 0.536721

```

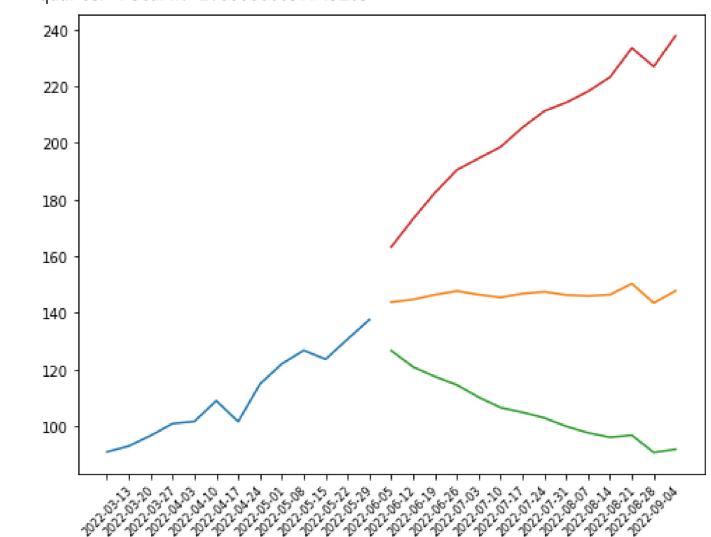
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [252.05479246948747, 252.054792410294, 252.05477029820176, 252.05477033017885]
inner cv sdevs: [349.14546330920876, 349.1454632354095, 349.14547198326835, 349.1454718462291]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 252.05477029820176 349.14547198326835
test cv mean error, stdev (10 folds): [260.8718313703039, 365.01735312323507]
sell date: 2022-08-28
expected return: 0.06984341191640467
discounted return: 0.0008659169174762837
quarter return: 1.088666637943265

```



```

['options', ('2022-06-17', '2023-01-20', '2024-01-19')]      Value
['sustainability',                                         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: EOG
sector: Energy
Index: SP500
supply trend: 86714140.16641453
risk trend factor: 3.0132617966707937
    beta currentRatio debtToEquity dividendRate dividendYield \
EOG  1.778921      2.124     26.632       3      0.0241

    earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
EOG  4.838   10099000320      0.51064  14.574899  4534499840

    grossMargins grossProfits heldPercentInstitutions industry \
EOG  0.65905  13034000000      0.90667  Oil & Gas E&P

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
EOG  84252958720      8791000064      0.30935      0.265      0.77

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
EOG  3.870343      4.260148      0.23583      1.866

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
EOG  0.10329      0.21957      1.047      34.04  Energy

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
EOG  585089984      2.09  5208999936      8.898  5906999808

    totalRevenue trailingPE
EOG  19776999424  27.761713

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	144.0	116.478407	133.361588	150.24477	124.478413	8.803147	106.872118	142.084708

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

EOG	0.92473	144.0	86714140.166415	0.96583	0.922673	0.487021
------------	---------	-------	-----------------	---------	----------	----------

l axis r axis

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

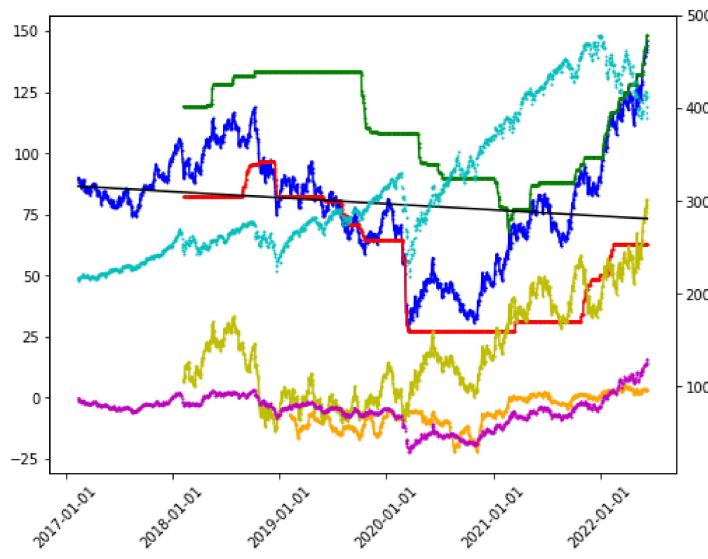
green trailing_1yr_max	cyan index
------------------------	------------

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

orange risk_trend_factor	
--------------------------	--

black linear	
--------------	--

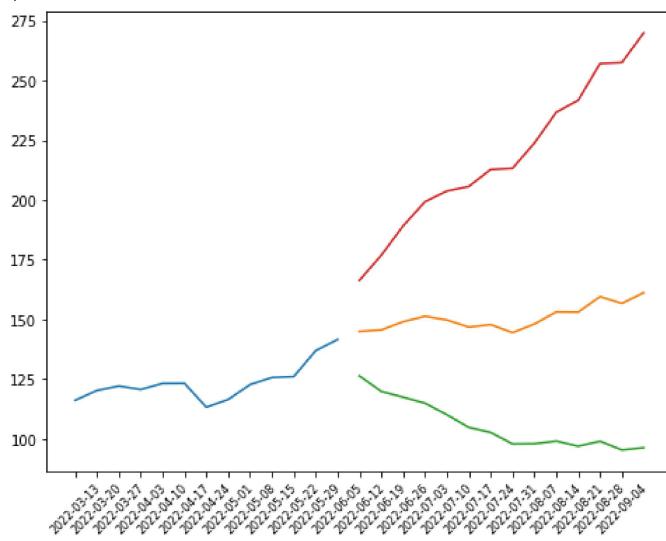
yellow supply_trend_1yr	
-------------------------	--



```

ets next 13 weeks
inner cv scores: [200.12341732314133, 200.1234170364253, 200.12341657163233, 200.12341740717213]
inner cv sdevs: [155.55792723518454, 155.55792574175433, 155.5579259537085, 155.55792712805984]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 200.12341657163233 155.5579259537085
test cv mean error, stdev (10 folds): [219.44641779843852, 150.0364393409733]
sell date: 2022-09-11
expected return: 0.11931406139724092
discounted return: 0.0012259253166082562
quarter return: 1.088666637943265

```



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Capital Surplus	6.087000e+09	6.058000e+09	6.017000e+09	
Total Liab	1.605600e+10	1.540700e+10	1.600400e+10	
Total Stockholder Equity	2.218000e+10	2.176500e+10	2.088100e+10	
Other Current Liab	1.523000e+09	1.224000e+09	1.698000e+09	
Total Assets	3.823600e+10	3.717200e+10	3.688500e+10	
Common Stock	2.060000e+08	2.060000e+08	2.060000e+08	
Other Current Assets	4.560000e+08	3.810000e+08	5.130000e+08	
Retained Earnings	1.591900e+10	1.554200e+10	1.468900e+10	
Other Liab	6.384000e+09	6.844000e+09	6.916000e+09	
Treasury Stock	-3.200000e+07	-4.100000e+07	-3.100000e+07	
Other Assets	4.830000e+08	1.278000e+09	1.291000e+09	
Cash	5.209000e+09	4.293000e+09	3.880000e+09	
Total Current Liabilities	4.042000e+09	3.484000e+09	4.002000e+09	
Deferred Long Term Asset Charges	1.100000e+07	1.400000e+07	3.000000e+06	
Other Stockholder Equity	-1.200000e+07	-1.300000e+07	-1.500000e+07	
Property Plant Equipment	2.916900e+10	2.854500e+10	2.865900e+10	
Total Current Assets	8.584000e+09	7.349000e+09	6.935000e+09	
Net Tangible Assets	2.218000e+10	2.176500e+10	2.088100e+10	
Net Receivables	2.335000e+09	2.154000e+09	2.026000e+09	
Long Term Debt	4.859000e+09	5.079000e+09	5.086000e+09	
Inventory	5.840000e+08	5.210000e+08	5.160000e+08	
Accounts Payable	2.242000e+09	1.972000e+09	2.012000e+09	
Short Long Term Debt	NaN	3.800000e+07	3.900000e+07	

	2021-03-31			
Capital Surplus	5.979000e+09			
Total Liab	1.540900e+10			
Total Stockholder Equity	2.076200e+10			
Other Current Liab	1.059000e+09			
Total Assets	3.617100e+10			
Common Stock	2.060000e+08			
Other Current Assets	4.130000e+08			
Retained Earnings	1.460600e+10			
Other Liab	7.003000e+09			
Treasury Stock	-2.900000e+07			
Other Assets	1.314000e+09			
Cash	3.388000e+09			
Total Current Liabilities	3.312000e+09			
Deferred Long Term Asset Charges	4.000000e+06			
Other Stockholder Equity	-1.400000e+07			
Property Plant Equipment	2.866600e+10			
Total Current Assets	6.191000e+09			
Net Tangible Assets	2.076200e+10			
Net Receivables	1.828000e+09			
Long Term Debt	5.094000e+09			
Inventory	5.620000e+08			
Accounts Payable	1.945000e+09			
Short Long Term Debt	3.900000e+07]

	2021-12-31	2021-09-30	\
['quarterly_cashflow',			
Change To Liabilities	3.410000e+08	-6.800000e+07	
Total Cashflows From Investing Activities	-8.370000e+08	-9.330000e+08	
Net Borrowings	-1.000000e+07	-9.000000e+06	
Total Cash From Financing Activities	-1.414000e+09	-8.500000e+08	
Change To Operating Activities	2.000000e+07	-4.800000e+07	
Issuance Of Stock	1.000000e+07	1.000000e+07	
Net Income	1.985000e+09	1.095000e+09	
Change In Cash	9.160000e+08	4.130000e+08	
Repurchase Of Stock	-8.000000e+06	-2.100000e+07	
Effect Of Exchange Rate	1.000000e+06	1.000000e+06	
Total Cash From Operating Activities	3.166000e+09	2.196000e+09	
Depreciation	1.072000e+09	1.009000e+09	
Other Cashflows From Investing Activities	1.000000e+08	-4.500000e+07	
Dividends Paid	-2.241732e+08	-2.488268e+08	
Change To Inventory	-1.080000e+08	-6.000000e+06	
Change To Account Receivables	-1.820000e+08	-1.450000e+08	
Change To Netincome	1.200000e+07	1.530000e+08	
Capital Expenditures	-1.014000e+09	-8.960000e+08	

	2021-06-30	2021-03-31	
Change To Liabilities	1.100000e+07	1.720000e+08	
Total Cashflows From Investing Activities	-8.280000e+08	-8.210000e+08	
Net Borrowings	-9.000000e+06	-7.590000e+08	
Total Cash From Financing Activities	-2.410000e+08	-9.880000e+08	
Change To Operating Activities	-1.410000e+08	-2.830000e+08	
Issuance Of Stock	9.000000e+06	9.000000e+06	
Net Income	9.070000e+08	6.770000e+08	
Change In Cash	4.920000e+08	5.900000e+07	
Repurchase Of Stock	-2.000000e+06	-1.000000e+07	
Effect Of Exchange Rate	2.000000e+06	-2.000000e+06	
Total Cash From Operating Activities	1.559000e+09	1.870000e+09	
Depreciation	9.570000e+08	9.430000e+08	
Other Cashflows From Investing Activities	5.400000e+07	9.100000e+07	
Dividends Paid	-2.390000e+08	-2.190000e+08	
Change To Inventory	3.700000e+07	6.400000e+07	
Change To Account Receivables	-1.860000e+08	-3.080000e+08	
Change To Netincome	1.370000e+08	3.620000e+08	
Capital Expenditures	-1.023000e+09	-9.170000e+08]
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Quarter			
1Q2021	4067000000	677000000	
2Q2021	4515000000	907000000	

3Q2021 5258000000 1095000000
4Q2021 5937000000 1985000000]

2021-12-31 2021-09-30 \

['quarterly_financials',
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 2499000000.0 1429000000.0
Minority Interest None None
Net Income 1985000000.0 1095000000.0
Selling General Administrative 139000000.0 142000000.0
Gross Profit 4064000000.0 3440000000.0
Ebit 2588000000.0 1470000000.0
Operating Income 2588000000.0 1470000000.0
Other Operating Expenses 180000000.0 771000000.0
Interest Expense -38000000.0 -48000000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 514000000.0 334000000.0
Total Revenue 5937000000.0 5258000000.0
Total Operating Expenses 3349000000.0 3788000000.0
Cost Of Revenue 1873000000.0 1818000000.0
Total Other Income Expense Net -89000000.0 -41000000.0
Discontinued Operations None None
Net Income From Continuing Ops 1985000000.0 1095000000.0
Net Income Applicable To Common Shares 1985000000.0 1095000000.0

2021-06-30 2021-03-31

Research Development None None
Effect Of Accounting Charges None None
Income Before Tax 1124000000.0 881000000.0
Minority Interest None None
Net Income 907000000.0 677000000.0
Selling General Administrative 120000000.0 110000000.0
Gross Profit 2912000000.0 2618000000.0
Ebit 1121000000.0 939000000.0
Operating Income 1121000000.0 939000000.0
Other Operating Expenses 666000000.0 582000000.0
Interest Expense -45000000.0 -47000000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense 217000000.0 204000000.0
Total Revenue 4515000000.0 4067000000.0
Total Operating Expenses 3394000000.0 3128000000.0
Cost Of Revenue 1603000000.0 1449000000.0
Total Other Income Expense Net 3000000.0 -58000000.0
Discontinued Operations None None
Net Income From Continuing Ops 907000000.0 677000000.0
Net Income Applicable To Common Shares 907000000.0 677000000.0

] Holder Shares Date Reported % Out \

['mutualfund_holders',
0 Vanguard Total Stock Market Index Fund 16628038 2021-12-30 0.0284
1 Select Sector SPDR Fund-Energy Select 15554415 2022-01-30 0.0266
2 Vanguard 500 Index Fund 12390700 2021-12-30 0.0212
3 Growth Fund Of America Inc 11079049 2022-02-27 0.0189
4 Washington Mutual Investors Fund 18123086 2022-01-30 0.0173
5 American Mutual Fund Inc 9597595 2022-01-30 0.0164
6 Investment Company Of America 8922398 2021-12-30 0.0152
7 JP Morgan Equity Income Fund 7968006 2021-12-30 0.0136
8 Capital World Growth and Income Fund 6235135 2022-02-27 0.0106
9 SPDR S&P 500 ETF Trust 6192774 2022-01-30 0.0106

Value

0 1477068615
1 1734006184
2 1100665881
3 1273204311
4 1128521627
5 1069939890
6 792576614
7 707797972
8 716541714
9 690370445]
['options', ('2022-07-15', '2023-01-20', '2024-01-19', '2026-03-20')]
['sustainability',
2022-5

palmOil False
controversialWeapons False
gambling False
socialScore 8.13
nuclear False
furLeather False
alcoholic False
gmo False
catholic False
socialPercentile 0
peerCount 66
governanceScore 7.73
environmentPercentile 0
animalTesting False
tobacco False
totalEsg 36.25
highestControversy 1

```

esgPerformance          LEAD_PERF
coal                   False
pesticides             False
adult                  False
percentile             81.37
peerGroup              Oil & Gas Producers
smallArms              False
environmentScore       20.39
governancePercentile   0
militaryContract       False]
symbol: WRB
sector: Financial Services
Index: SP500
supply trend: 23023001.531770047
risk trend factor: 2.9081260434938816
    beta debtToEquity dividendRate dividendYield earningsGrowth \
WRB  0.788235      52.129     0.35      0.0051     1.585

    ebitda ebitdaMargins forwardPE grossMargins grossProfits \
WRB  1976933504      0.19355   13.101728     0.44661   4029355000

    heldPercentInstitutions industry marketCap \
WRB      0.69304 Insurance-Property & Casualty 12057446400

    operatingMargins payoutRatio pegRatio priceToBook \
WRB      0.18096      0.07      1.83     1.813544

    priceToSalesTrailing12Months profitMargins revenueGrowth revenuePerShare \
WRB      1.180482      0.13546      0.352      36.85

    sector sharesOutstanding shortRatio totalCash \
WRB  Financial Services      176640000      1.06   2748449024

    totalCashPerShare totalDebt totalRevenue trailingPE
WRB      10.364   3475796992  10214005760  12.265948

```

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

2022-06-10 68.260002 65.61324 69.11873 72.624221 67.673228 2.145514 63.382199 71.964256

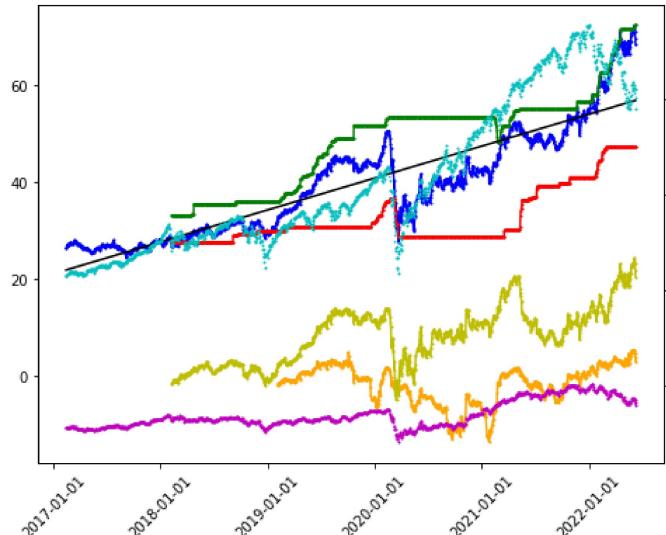
volume_factor latest_p vol_30d_2yr pct_2yr adf hurst

WRB 1.310112 68.260002 23023001.53177 0.886168 0.965152 0.455795

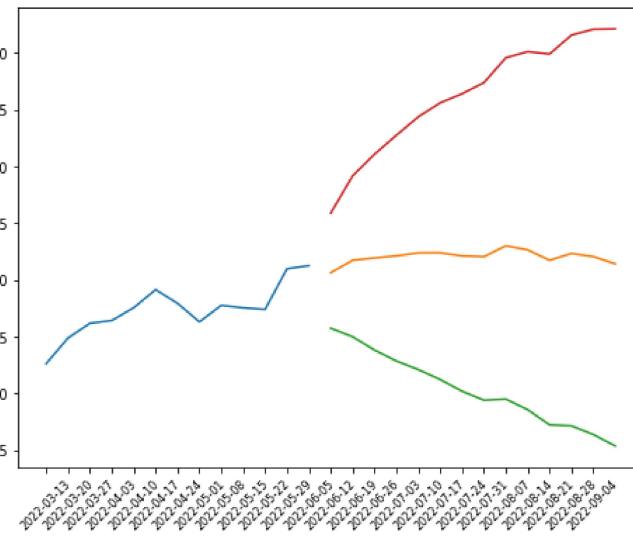
l axis r axis

legend **legend**

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



ets next 13 weeks
inner cv scores: [19.531713762277544, 19.531713760773275, 19.531713762256103, 19.53171376190301]
inner cv sdevs: [17.14821836147235, 17.148218362600876, 17.1482183655582, 17.148218365612703]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 19.531713760773275 17.148218362600876
test cv mean error, stdev (10 folds): [20.439063919493833, 17.731649807526473]
sell date: 2022-08-07
expected return: 0.0692655736181108
discounted return: 0.0011756384693204502
quarter return: 1.088666637943265



	2022-03-31	2021-12-31	2021-09-30	\
['quarterly_balance_sheet',				
Total Stockholder Equity	6.653011e+09	6.653011e+09	6.648441e+09	
Net Tangible Assets	6.398359e+09	6.398359e+09	6.478789e+09	
Intangible Assets	NaN	7.611450e+08	6.626360e+08	
Capital Surplus	NaN	1.016372e+09	1.018300e+09	
Total Liab	NaN	2.541868e+10	2.488058e+10	
Minority Interest	NaN	1.471900e+07	1.527000e+07	
Other Current Liab	NaN	4.923033e+09	4.770052e+09	
Total Assets	NaN	3.208641e+10	3.154429e+10	
Common Stock	NaN	7.053500e+07	7.053500e+07	
Other Current Assets	NaN	3.045964e+09	2.919056e+09	
Retained Earnings	NaN	9.015135e+09	8.920334e+09	
Other Liab	NaN	1.113986e+09	1.159717e+09	
Good Will	NaN	1.696520e+08	1.696520e+08	
Treasury Stock	NaN	-3.449031e+09	-3.360728e+09	
Other Assets	NaN	2.521156e+09	2.500260e+09	
Cash	NaN	1.568843e+09	2.069029e+09	
Total Current Liabilities	NaN	2.130029e+10	2.026349e+10	
Deferred Long Term Asset Charges	NaN	5.742500e+07	Nan	
Short Long Term Debt	NaN	4.264260e+08	5.000000e+06	
Other Stockholder Equity	NaN	-2.819550e+08	-1.908620e+08	
Property Plant Equipment	NaN	5.920630e+08	5.906700e+08	
Total Current Assets	NaN	9.017870e+09	9.328265e+09	
Long Term Investments	NaN	1.902453e+10	1.829280e+10	
Net Receivables	NaN	2.546542e+09	2.808928e+09	
Long Term Debt	NaN	2.840642e+09	3.261118e+09	
Accounts Payable	NaN	1.590587e+10	1.547705e+10	

	2021-06-30			
Total Stockholder Equity	6.578276e+09			
Net Tangible Assets	6.408624e+09			
Intangible Assets	6.276470e+08			
Capital Surplus	1.035166e+09			
Total Liab	2.370996e+10			
Minority Interest	9.678000e+06			
Other Current Liab	4.544714e+09			
Total Assets	3.029792e+10			
Common Stock	7.053500e+07			
Other Current Assets	2.803790e+09			
Retained Earnings	8.682088e+09			
Other Liab	1.044232e+09			
Good Will	1.696520e+08			
Treasury Stock	-3.209513e+09			
Other Assets	2.454554e+09			
Cash	1.790199e+09			
Total Current Liabilities	1.958691e+10			
Deferred Long Term Asset Charges	Nan			
Short Long Term Debt	3.000000e+06			
Other Stockholder Equity	-1.224440e+08			
Property Plant Equipment	5.771780e+08			
Total Current Assets	8.802932e+09			
Long Term Investments	1.766595e+10			
Net Receivables	2.893894e+09			
Long Term Debt	2.916046e+09			
Accounts Payable	1.501623e+10]		

	2022-03-31	2021-12-31	\
['quarterly_cashflow',			
Net Income	590638000.0	294430000.0	
Change To Liabilities	0.0	86599000.0	
Investments	NaN	-666087000.0	
Total Cashflows From Investing Activities	NaN	-948573000.0	
Net Borrowings	NaN	665000.0	
Total Cash From Financing Activities	NaN	-216185000.0	
Change To Operating Activities	NaN	308505000.0	
Change In Cash	NaN	-500186000.0	
Effect Of Exchange Rate	NaN	4979000.0	
Total Cash From Operating Activities	NaN	659593000.0	
Depreciation	NaN	28352000.0	
Other Cashflows From Investing Activities	NaN	-253641000.0	
Dividends Paid	NaN	-22851532.0	
Change To Account Receivables	NaN	697000.0	
Other Cashflows From Financing Activities	NaN	-17221000.0	
Change To Netincome	NaN	-52638000.0	
Capital Expenditures	NaN	-13076000.0	
Repurchase Of Stock	NaN	NaN	

	2021-09-30	2021-06-30		
Net Income	261297000.0	237238000.0		
Change To Liabilities	234263000.0	253475000.0		
Investments	-696817000.0	-289676000.0		
Total Cashflows From Investing Activities	-638931000.0	-206411000.0		
Net Borrowings	346827000.0	-399550000.0		
Total Cash From Financing Activities	98046000.0	-404247000.0		
Change To Operating Activities	510536000.0	398099000.0		
Change In Cash	278830000.0	-224712000.0		
Effect Of Exchange Rate	-8870000.0	1127000.0		
Total Cash From Operating Activities	828585000.0	384819000.0		
Depreciation	30733000.0	37054000.0		
Other Cashflows From Investing Activities	81542000.0	-33896000.0		
Dividends Paid	-46124841.0	-46124841.0		
Change To Account Receivables	-43374000.0	-225428000.0		
Other Cashflows From Financing Activities	-21216000.0	-4697000.0		
Change To Netincome	-69408000.0	-73630000.0		

Capital Expenditures	-5285000.0	-37401000.0
Repurchase Of Stock	-92743000.0	-92743000.0]
['quarterly_earnings',	Revenue	Earnings
Quarter		
2Q2021	2296086000	237238000
3Q2021	2424283000	261297000
4Q2021	2578228000	294430000
1Q2022	2915409000	590638000]
['quarterly_financials',		
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	732433000.0	354616000.0
Minority Interest	NaN	14719000.0
Net Income	590638000.0	294430000.0
Selling General Administrative	NaN	9617000.0
Gross Profit	1481302000.0	1084200000.0
Ebit	763235000.0	385441000.0
Operating Income	763235000.0	385441000.0
Other Operating Expenses	718067000.0	689142000.0
Interest Expense	-34970000.0	-37334000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	139403000.0	60313000.0
Total Revenue	2915409000.0	2578228000.0
Total Operating Expenses	2152174000.0	2192787000.0
Cost Of Revenue	1434107000.0	1494028000.0
Total Other Income Expense Net	-30802000.0	-30825000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	593030000.0	294303000.0
Net Income Applicable To Common Shares	590638000.0	294430000.0
	2021-09-30	2021-06-30
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	332281000.0	299940000.0
Minority Interest	15270000.0	9678000.0
Net Income	261297000.0	237238000.0
Selling General Administrative	11741000.0	11429000.0
Gross Profit	1010426000.0	985741000.0
Ebit	354884000.0	344814000.0
Operating Income	354884000.0	344814000.0
Other Operating Expenses	643801000.0	629498000.0
Interest Expense	-35100000.0	-38096000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	64963000.0	62262000.0
Total Revenue	2424283000.0	2296086000.0
Total Operating Expenses	2069399000.0	1951272000.0
Cost Of Revenue	1413857000.0	1310345000.0
Total Other Income Expense Net	-22603000.0	-44874000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	267318000.0	237678000.0
Net Income Applicable To Common Shares	261297000.0	237238000.0]
['mutualfund_holders',	Holder	Shares Date Reported \
0 Eaton Vance Atlanta Capital SMID-Cap Fd	6914517	2021-12-30
1 Janus Henderson Enterprise Fund	5220135	2021-12-30
2 Vanguard Total Stock Market Index Fund	3764733	2021-12-30
3 Victory Portfolios-Sycamore Established Value ...	3670000	2022-01-30
4 First Eagle Global Fund	3504173	2022-01-30
5 Vanguard Mid-Cap Index Fund	2995637	2021-12-30
6 Vanguard 500 Index Fund	2955527	2021-12-30
7 JP Morgan Mid Cap Value Fund	1596210	2021-12-30
8 Select Sector SPDR Fund-Financial	1547113	2022-01-30
9 SPDR S&P 500 ETF Trust	1487247	2022-01-30

% Out	Value
0 0.0261	379791365
1 0.0197	286724611
2 0.0142	206784232
3 0.0138	206743332
4 0.0132	197401744
5 0.0113	164540352
6 0.0111	162337244
7 0.0060	87674493
8 0.0058	87154031
9 0.0056	83781580]

['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	0
peerCount	96

```

governanceScore      12.16
environmentPercentile 0
animalTesting        False
tobacco              False
totalEsg             21.95
highestControversy   1
esgPerformance      None
coal                 False
pesticides           False
adult                False
percentile          31.22
peerGroup            Insurance
smallArms            False
environmentScore     1.95
governancePercentile 0
militaryContract    False]
symbol: HES
sector: Energy
Index: SP500
supply trend: 66701550.453857794
risk trend factor: 2.8809300900511263
    beta currentRatio debtToEquity dividendRate dividendYield \
HES 1.684375      1.418     122.347     1.5      0.0118

    earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
HES 0.634 3804000000 0.49454 11.819778 1165250048

    grossMargins grossProfits heldPercentInstitutions industry \
HES 0.71425 5267000000 0.85669 Oil & Gas E&P

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
HES 39807426560 2143000064 0.3007 0.4828 0.19

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
HES 6.277734      5.175172     0.09412     1.257

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
HES 0.07461      0.1547       0.21       24.96 Energy

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
HES 311263008      3.58 1370000000 4.424 8622999552

    totalRevenue trailingPE
HES 7692000256 54.794342

```

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

2022-06-10 127.720001 108.176953 120.776666 133.37638 111.593174 8.990912 93.61135 129.574999

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
HES	0.637367	127.720001	66701550.453858	0.961499	0.97499	0.449233

l axis r axis

legend legend

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

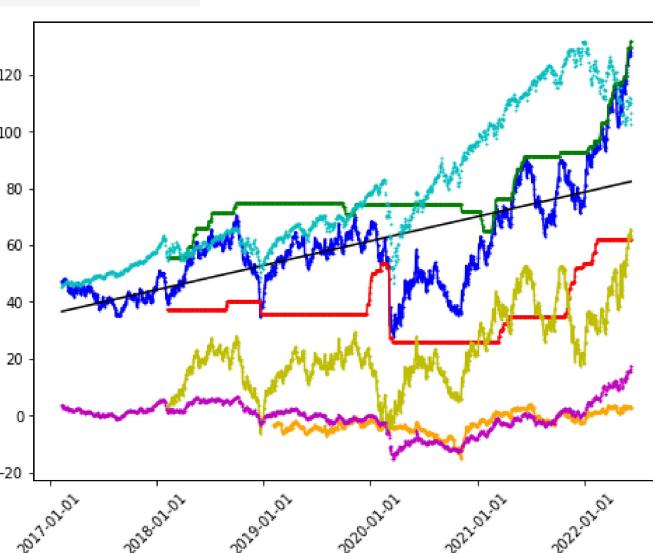
green	trailing_1yr_max	cyan	index
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red	trailing_1yr_min
-----	------------------

orange	risk_trend_factor
--------	-------------------

black	linear
-------	--------

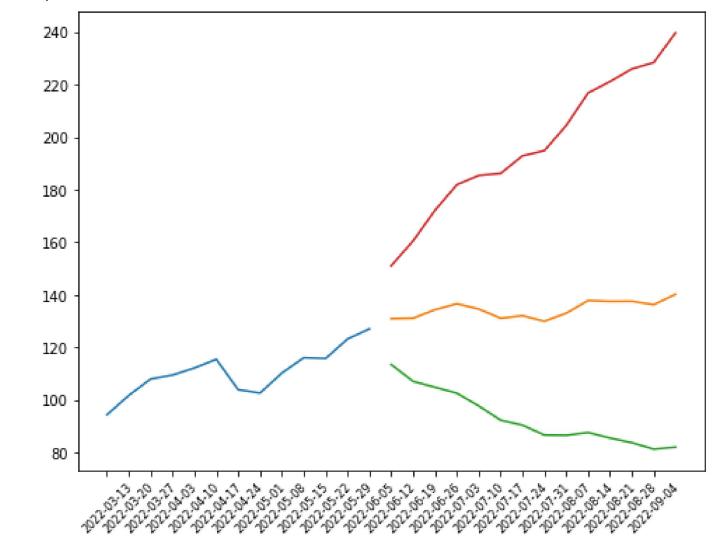
yellow	supply_trend_1yr
--------	------------------



```

ets next 13 weeks
inner cv scores: [160.45056696878748, 160.45056402961356, 160.45056402818898, 160.45056409872763]
inner cv sdevs: [134.8544464787314, 134.85444841499378, 134.85444841193134, 134.85444841540357]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 160.45056402818898 134.85444841193134
test cv mean error, stdev (10 folds): [173.84731977859065, 134.2761735576648]
sell date: 2022-09-11
expected return: 0.09780543407800112
discounted return: 0.0010147876694992508
quarter return: 1.088666637943265

```



```

['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 None
peerCount 66
governanceScore 6.97
environmentPercentile None
animalTesting False
tobacco False
totalEsg 31.78
highestControversy 2
esgPerformance OUT_PERF
coal False
pesticides False
adult False
percentile 68.13
peerGroup Oil & Gas Producers
smallArms False
environmentScore 18.44
governancePercentile None
militaryContract False]
symbol: CEIX
sector: Energy
Index: SP600
supply trend: 9591390.716180371
risk trend factor: 2.853515807990338
    beta currentRatio debtToEquity earningsGrowth ebitda \
CEIX 2.379059 0.868 100.167 5.642 282313984

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
CEIX 0.22235 10.293775 196007120 0.33279 422536000

    heldPercentInstitutions industry marketCap operatingCashflow \
CEIX 0.86884 Thermal Coal 1824347392 305568992

    operatingMargins payoutRatio priceToBook priceToSalesTrailing12Months \
CEIX 0.04547 0 3.764765 1.436839

    profitMargins quickRatio returnOnAssets returnOnEquity revenueGrowth \
CEIX 0.02686 0.586 0.01416 0.05563 0.249

    revenuePerShare sector sharesOutstanding shortRatio totalCash \
CEIX 36.905 Energy 34480200 1.85 149912992

    totalCashPerShare totalDebt totalRevenue
CEIX 4.348 673937984 1269694976

```

	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	52.91	47.5295	52.432841	57.336183	45.364921	7.530586	30.303748	60.426093

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
CEIX	1.511199	52.91	9591390.71618	0.883884	0.933936	0.522101

l axis r axis

legend legend

blue symbol magenta sector

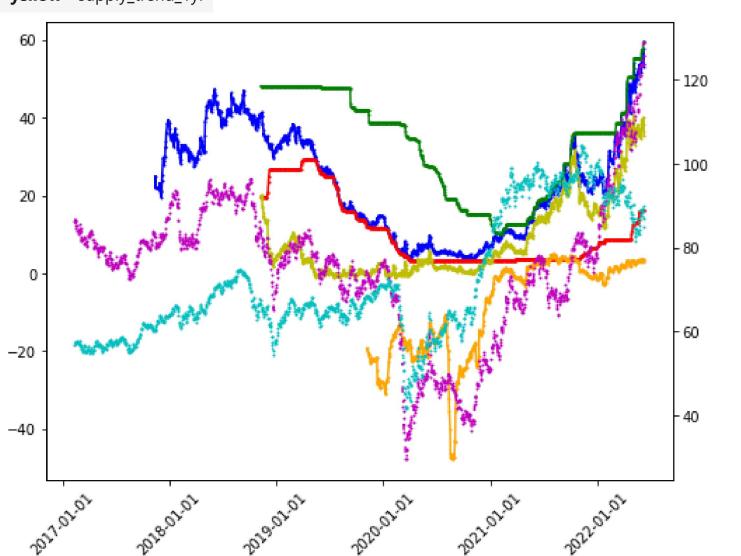
green trailing_1yr_max cyan index

red trailing_1yr_min

orange risk_trend_factor

black linear

yellow supply_trend_1yr



ets next 13 weeks

inner cv scores: [35.37497990801837, 35.37468500060739, 35.37495890583606, 35.37495396777845]

inner cv sdevs: [54.55329477952102, 54.55256724708181, 54.55330846757367, 54.553308184121654]

best model: ['T', 'F']

best inner cv score, sdev (11 folds): 35.37468500060739 54.55256724708181

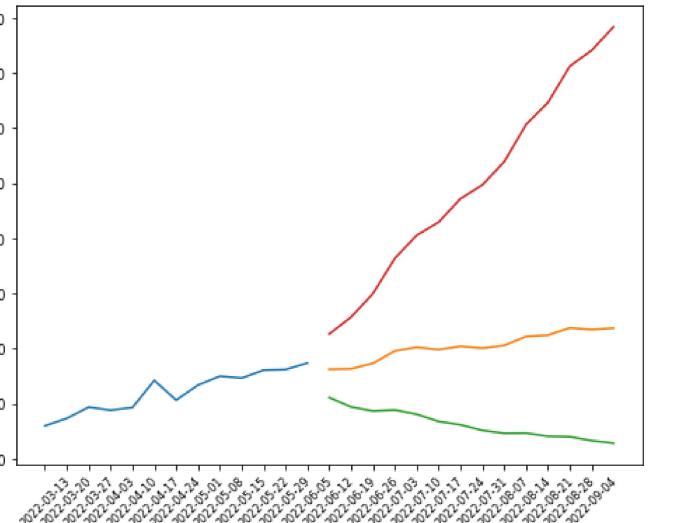
test cv mean error, stdev (10 folds): [35.3749587417936, 54.553308588702706]

sell date: 2022-08-28

expected return: 0.27550006301727425

discounted return: 0.00312459329435133

quarter return: 1.088666637943265



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Capital Surplus	6.469450e+08	6.449200e+08	6.430330e+08	
Total Liab	1.900704e+09	2.105167e+09	1.965198e+09	
Total Stockholder Equity	6.728130e+08	4.845800e+08	5.927330e+08	
Other Current Liab	1.790310e+08	2.688430e+08	1.451780e+08	
Total Assets	2.573517e+09	2.589747e+09	2.557931e+09	
Common Stock	3.450000e+05	3.450000e+05	3.450000e+05	
Other Current Assets	3.747200e+07	4.242800e+07	3.166900e+07	
Retained Earnings	2.809600e+08	1.636370e+08	2.774260e+08	
Other Liab	8.455480e+08	9.379920e+08	9.285180e+08	
Treasury Stock	-2.554370e+08	-3.243220e+08	-3.288710e+08	
Other Assets	5.153480e+08	5.008660e+08	4.742010e+08	
Cash	1.499130e+08	1.619810e+08	1.466670e+08	
Total Current Liabilities	4.452320e+08	5.156760e+08	3.702570e+08	
Deferred Long Term Asset Charges	5.701100e+07	1.113720e+08	6.965600e+07	
Short Long Term Debt	3.658900e+07	2.765100e+07	3.139500e+07	
Other Stockholder Equity	-2.554370e+08	-3.243220e+08	-3.288710e+08	
Property Plant Equipment	1.671829e+09	1.704640e+09	1.711778e+09	
Total Current Assets	3.863400e+08	3.842410e+08	3.719520e+08	
Net Tangible Assets	6.728130e+08	4.845800e+08	5.927330e+08	
Net Receivables	1.108630e+08	9.881800e+07	1.153080e+08	
Long Term Debt	5.680520e+08	5.976970e+08	6.093260e+08	
Inventory	6.287600e+07	5.601500e+07	5.929900e+07	
Accounts Payable	8.034300e+07	7.839200e+07	6.807300e+07	

	2021-03-31			
Capital Surplus	6.420540e+08			
Total Liab	1.937495e+09			
Total Stockholder Equity	5.830650e+08			
Other Current Liab	1.268430e+08			
Total Assets	2.520560e+09			
Common Stock	3.440000e+05			
Other Current Assets	3.030000e+05			
Retained Earnings	2.732540e+08			
Other Liab	9.485460e+08			
Treasury Stock	-3.325870e+08			
Other Assets	4.475660e+08			
Cash	9.117400e+07			
Total Current Liabilities	3.711940e+08			
Deferred Long Term Asset Charges	6.226100e+07			
Short Long Term Debt	2.888900e+07			
Other Stockholder Equity	-3.325870e+08			
Property Plant Equipment	1.736252e+09			
Total Current Assets	3.367420e+08			
Net Tangible Assets	5.830650e+08			
Net Receivables	1.662310e+08			
Long Term Debt	5.504440e+08			
Inventory	5.520900e+07			
Accounts Payable	7.538200e+07]		

	2021-12-31	2021-09-30	\
['quarterly_cashflow',			
Change To Liabilities	5226000.0	13242000.0	
Total Cashflows From Investing Activities	-35758000.0	-45884000.0	
Net Borrowings	-30768000.0	-22550000.0	
Total Cash From Financing Activities	-30768000.0	-22551000.0	
Change To Operating Activities	-27258000.0	1564000.0	
Net Income	117323000.0	-113789000.0	
Change In Cash	-14100000.0	12103000.0	
Total Cash From Operating Activities	52426000.0	80538000.0	
Depreciation	56510000.0	55977000.0	
Other Cashflows From Investing Activities	-7843000.0	-156000.0	
Change To Inventory	-6861000.0	3284000.0	
Change To Account Receivables	-9263000.0	8877000.0	
Change To Netincome	-85331000.0	109242000.0	
Capital Expenditures	-29434000.0	-45863000.0	
Repurchase Of Stock	NaN	-1000.0	
Other Cashflows From Financing Activities	NaN	NaN	

	2021-06-30	2021-03-31	
Change To Liabilities	-6922000.0	-73000.0	
Total Cashflows From Investing Activities	-40225000.0	-5494000.0	
Net Borrowings	56940000.0	-29803000.0	
Total Cash From Financing Activities	54342000.0	-31875000.0	
Change To Operating Activities	-14728000.0	-3098000.0	
Net Income	4172000.0	26404000.0	
Change In Cash	188726000.0	40627000.0	
Total Cash From Operating Activities	94609000.0	77996000.0	
Depreciation	52199000.0	59897000.0	
Other Cashflows From Investing Activities	-156000.0	-182000.0	
Change To Inventory	-3574000.0	475000.0	
Change To Account Receivables	50857000.0	-5764000.0	
Change To Netincome	10414000.0	-1985000.0	
Capital Expenditures	-43655000.0	-13800000.0	
Repurchase Of Stock	-230000.0	-2072000.0	
Other Cashflows From Financing Activities	-2368000.0	-2368000.0]

['quarterly_earnings',	Revenue	Earnings	
Quarter			

1Q2021	332361000	26404000	
2Q2021	303895000	4172000	
3Q2021	294837000	-113789000	
4Q2021	338602000	117323000	

['quarterly_financials',			
Research Development	None	None	\

Effect Of Accounting Charges	None	None	None
Income Before Tax	162586000.0	-154047000.0	-4721000.0
Minority Interest	None	None	None
Net Income	117323000.0	-113789000.0	4172000.0
Selling General Administrative	20131000.0	22476000.0	22542000.0
Gross Profit	111053000.0	8648000.0	102837000.0
Ebit	150330000.0	-139095000.0	7904000.0
Operating Income	150330000.0	-139095000.0	7904000.0
Other Operating Expenses	-115918000.0	147050000.0	20192000.0
Interest Expense	-15849000.0	-16045000.0	-16187000.0
Extraordinary Items	None	None	None
Non Recurring	None	None	None
Other Items	None	None	None
Income Tax Expense	45263000.0	-40258000.0	-8893000.0
Total Revenue	338602000.0	294837000.0	303895000.0
Total Operating Expenses	188272000.0	433932000.0	295991000.0
Cost Of Revenue	227549000.0	208429000.0	201058000.0
Total Other Income Expense Net	12256000.0	-14952000.0	-12625000.0
Discontinued Operations	None	None	None
Net Income From Continuing Ops	117323000.0	-113789000.0	4172000.0
Net Income Applicable To Common Shares	117323000.0	-113789000.0	4172000.0

2021-03-31

Research Development	None
Effect Of Accounting Charges	None
Income Before Tax	31589000.0
Minority Interest	None
Net Income	26404000.0
Selling General Administrative	23964000.0
Gross Profit	120238000.0
Ebit	36592000.0
Operating Income	36592000.0
Other Operating Expenses	-215000.0
Interest Expense	-15261000.0
Extraordinary Items	None
Non Recurring	None
Other Items	None
Income Tax Expense	5185000.0
Total Revenue	332361000.0
Total Operating Expenses	295769000.0
Cost Of Revenue	212123000.0
Total Other Income Expense Net	-5003000.0
Discontinued Operations	None
Net Income From Continuing Ops	26404000.0
Net Income Applicable To Common Shares	26404000.0

['mutualfund_holders',

Holder Shares Date Reported \

0	iShares Core S&P Smallcap ETF	2228007	2022-01-30
1	SPDR (R) Ser Tr-SPDR (R) S&P (R) Metals & Mini...	1914035	2022-01-30
2	iShares Russell 2000 ETF	792575	2022-01-30
3	Vanguard Total Stock Market Index Fund	735685	2021-12-30
4	Victory Portfolios-Victory Integrity Small Cap...	704300	2021-12-30
5	DFA U.S. Small Cap Value Series	629572	2022-01-30
6	iShares S&P Smallcap 600 Value ETF	526608	2022-01-30
7	Vanguard Extended Market Index Fund	430229	2021-12-30
8	iShares Russell 2000 Value ETF	366723	2022-01-30
9	Pacer Small Cap U.S. Cash Cows 100 ETF	323552	2022-01-30

% Out Value

0	0.0640	48436872
1	0.0550	41611120
2	0.0228	17230580
3	0.0211	16707406
4	0.0202	15994653
5	0.0181	13686895
6	0.0151	11448457
7	0.0124	9770500
8	0.0105	7972558
9	0.0093	7034020

] ['options', ('2022-06-17', '2022-08-19')]

symbol: FANG

sector: Energy

Index: SP500

supply trend: 49440914.67473525

risk trend factor: 2.7344633265558405

beta currentRatio debtToEquity dividendRate dividendYield \

FANG	2.181941	0.72	42.218	2.8	0.0181
------	----------	------	--------	-----	--------

earningsGrowth ebitda ebitdaMargins forwardPE freeCashflow \

FANG	2.278	5041999872	0.65762	7.115401	953625024
------	-------	------------	---------	----------	-----------

grossMargins grossProfits heldPercentInstitutions industry \

FANG	0.86683	5577000000	0.91778	Oil & Gas E&P
------	---------	------------	---------	---------------

marketCap operatingCashflow operatingMargins payoutRatio pegRatio \

FANG	28453900288	4572000256	0.48611	0.1272	0.39
------	-------------	------------	---------	--------	------

priceToBook priceToSalesTrailing12Months profitMargins quickRatio \

FANG	2.233632	3.711217	0.35751	0.656
------	----------	----------	---------	-------

returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \

FANG	0.10278	0.22396	1.034	42.596	Energy
------	---------	---------	-------	--------	--------

sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \

FANG 177492992 2.75 149000000 0.839 5848000000

totalRevenue trailingPE

FANG 7666999808 10.57384

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

2022-06-10 155.490005 120.025332 143.822381 167.61943 138.226666 9.525387 119.175893 157.27744

volume_factor latest_p vol_30d_2yr pct_2yr adf hurst

FANG 1.227123 155.490005 49440914.674735 0.951302 0.837164 0.472651

l axis r axis

legend legend

blue symbol magenta sector

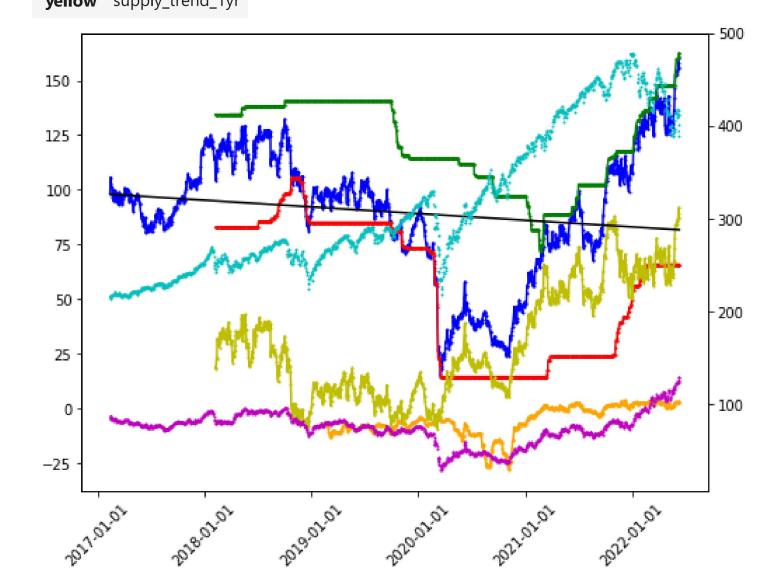
green trailing_1yr_max cyan index

red trailing_1yr_min

orange risk_trend_factor

black linear

yellow supply_trend_1yr



ets next 13 weeks

inner cv scores: [287.58047977201403, 287.58047977598375, 287.58047986264535, 287.58047963364004]

inner cv sdevs: [293.2760538470737, 293.27605385181045, 293.2760537924448, 293.2760538858502]

best model: ['F', 'T']

best inner cv score, sdev (11 folds): 287.58047963364004 293.2760538858502

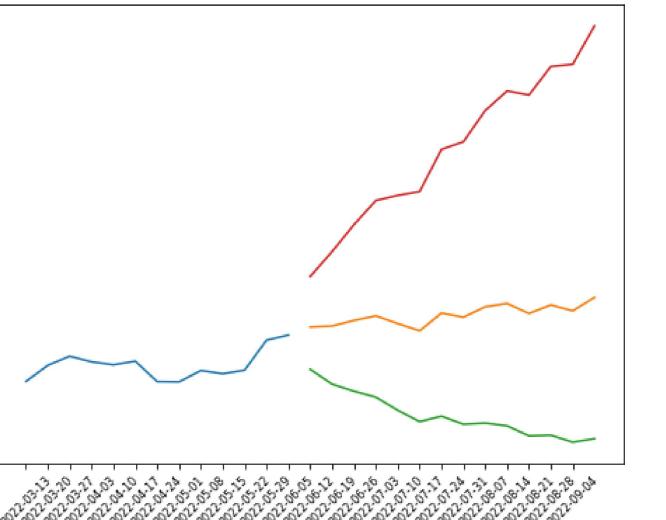
test cv mean error, stdev (10 folds): [307.16585027074893, 300.6534118010132]

sell date: 2022-09-11

expected return: 0.14609396535641572

discounted return: 0.0014832686208368084

quarter return: 1.088666637943265



```

['options', ('2022-06-17', '2023-01-20', '2024-01-19')]
symbol: CIVI
sector: Energy
Index: SP600
supply trend: 7642718.420574887
risk trend factor: 2.668131309107495
    beta currentRatio debtToEquity dividendRate dividendYield      ebitda \
CIVI  1.69646     0.505     11.399      1.85     0.0222  910931008

    ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
CIVI      0.54408   5.807773   855249152     0.79951   731177000

    heldPercentInstitutions      industry      marketCap operatingCashflow \
CIVI      1.04378  Oil & Gas E&P  7110930432     764176000

    operatingMargins payoutRatio pegRatio priceToBook \
CIVI      0.26443     0.2792      0.4     1.532868

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
CIVI      4.247195     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      6.57   154348992     1.817   528631008   1674264960

    trailingPE
CIVI  16.671316

```

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

2022-06-10	80.660004	56.1793	72.431587	88.683875	64.55873	7.871397	48.815937	80.301523
------------	-----------	---------	-----------	-----------	----------	----------	-----------	-----------

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

CIVI	2.177131	80.660004	7642718.420575	0.942041	0.020246	0.49614
------	----------	-----------	----------------	----------	----------	---------

ADFuller H0 rejected @ .05, Mean Reverting TS

Month Mean Reverting buy signal

l axis r axis

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

blue symbol	magenta sector
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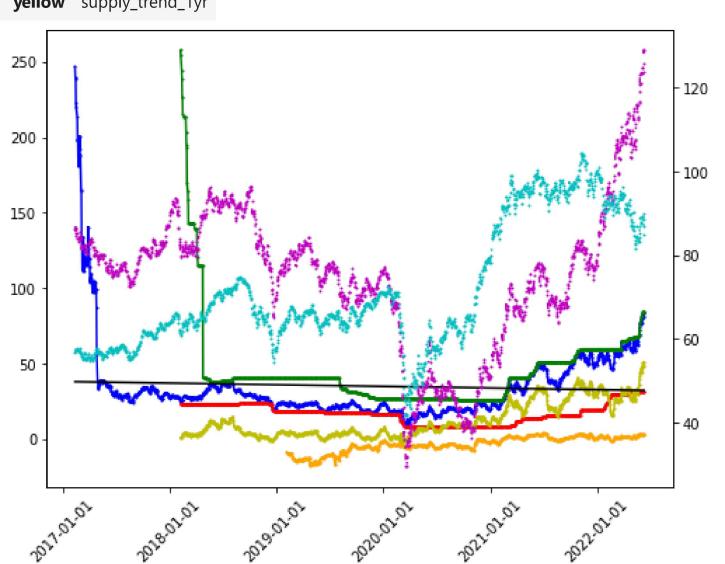
green trailing_1yr_max	cyan index
------------------------	------------

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

orange risk_trend_factor	
--------------------------	--

black linear	
--------------	--

yellow supply_trend_1y	
------------------------	--



ets next 13 weeks

inner cv scores: [42.80456018172789, 42.80456054890269, 42.80456055740018, 42.804560431571964]

inner cv sdevs: [46.11522199981243, 46.115221868926845, 46.11522170497645, 46.11522195020673]

best model: ['T', 'T']

best inner cv score, sdev (11 folds): 42.80456018172789 46.11522199981243

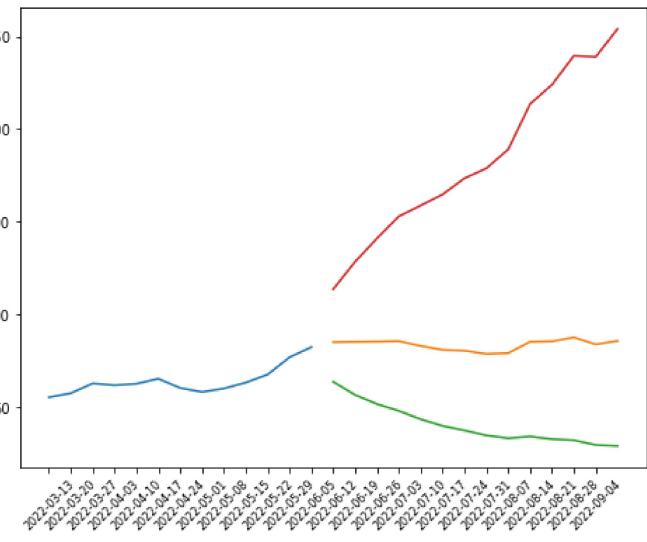
test cv mean error, stdev (10 folds): [46.4696254252245, 46.81362338546472]

sell date: 2022-08-28

expected return: 0.0837863699973827

discounted return: 0.0010320810493125165

quarter return: 1.088666637943265



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

symbol: NFG

sector: Energy

Index: SP400

supply trend: 11033521.558245083

risk trend factor: 2.6550357052664886

```
    beta currentRatio debtToEquity dividendRate dividendYield \
NFG  0.723039      0.633     132.864      1.82      0.0271
```

```
earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
NFG      0.694   1026038976      0.5552   13.185118   113741128
```

```
grossMargins grossProfits heldPercentInstitutions industry \
NFG      0.61861   1095026000      0.75657  Oil & Gas Integrated
```

```
marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
NFG  6624960512    758292992      0.37081      0.3534      1.2
```

```
priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
NFG      3.708525      3.584827      0.22633      0.45
```

```
returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
NFG      0.05856      0.20134      0.239      20.265 Energy
```

```
sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
NFG      91190096      3.78   79065000      0.865  2803702016
```

```
totalRevenue trailingPE
NFG  1848056064  18.299747
```

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

2022-06-10	72.650002	66.029887	71.394603	76.75932	70.114762	2.669158	64.776446	75.453077
-------------------	-----------	-----------	-----------	----------	-----------	----------	-----------	-----------

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

NFG	0.912129	72.650002	11033521.558245	0.912861	0.982328	0.468009
------------	----------	-----------	-----------------	----------	----------	----------

l axis

r axis

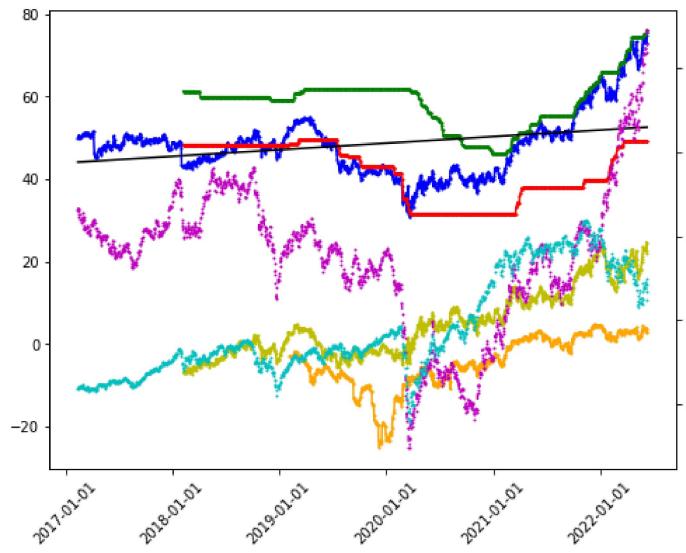
legend	
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blue	symbol
green	trailing_1yr_max
red	trailing_1yr_min
orange	risk_trend_factor
black	linear
yellow	supply_trend_1yr

legend	
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magenta	sector
---------	--------

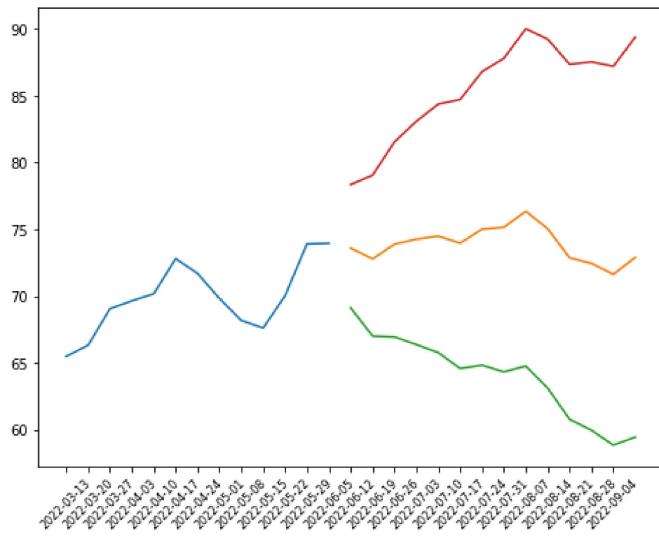
cyan	index
------	-------



```

ets next 13 weeks
inner cv scores: [12.93053078908269, 12.930533091315231, 12.930540887824469, 12.930533440703952]
inner cv sdevs: [8.089157992345472, 8.08915656088264, 8.089156117457684, 8.089157085673774]
best model: ['T', 'T']
best inner cv score, sdev (11 folds): 12.93053078908269 8.089157992345472
test cv mean error, stdev (10 folds): [14.136340691847895, 7.48255933062687]
sell date: 2022-08-07
expected return: 0.0508534039366216
discounted return: 0.0008705997997062731
quarter return: 1.088666637943265

```



	2021-12-31	2021-09-30	2021-06-30	\
['quarterly_balance_sheet',				
Capital Surplus	1.013821e+09	1.017446e+09	1.012703e+09	
Total Liab	5.479478e+09	5.678619e+09	5.197561e+09	
Total Stockholder Equity	2.110195e+09	1.786206e+09	2.011114e+09	
Deferred Long Term Liab	2.536600e+08	2.290640e+08	3.343380e+08	
Other Current Liab	4.894420e+08	8.377480e+08	4.037490e+08	
Total Assets	7.589673e+09	7.464825e+09	7.208675e+09	
Common Stock	9.143700e+07	9.118200e+07	9.117300e+07	
Other Current Assets	6.503700e+07	1.509440e+08	2.513100e+07	
Retained Earnings	1.281963e+09	1.191175e+09	1.145700e+09	
Other Liab	1.952837e+09	1.794161e+09	1.969099e+09	
Good Will	5.476000e+06	5.476000e+06	5.476000e+06	
Treasury Stock	-2.770260e+08	-5.135970e+08	-2.384620e+08	
Other Assets	4.572680e+08	4.239440e+08	4.727480e+08	
Cash	7.906500e+07	3.152800e+07	1.180120e+08	
Total Current Liabilities	8.961390e+08	1.236133e+09	6.006020e+08	
Other Stockholder Equity	-2.770260e+08	-5.135970e+08	-2.384620e+08	
Property Plant Equipment	6.498855e+09	6.407884e+09	6.185657e+09	
Total Current Assets	5.671900e+08	5.224490e+08	4.395570e+08	
Long Term Investments	6.088400e+07	1.050720e+08	1.052370e+08	
Net Tangible Assets	2.104719e+09	1.780730e+09	2.005638e+09	
Net Receivables	3.246070e+08	2.237960e+08	2.016750e+08	
Long Term Debt	2.629602e+09	2.628687e+09	2.627860e+09	
Inventory	7.011800e+07	8.722900e+07	6.619100e+07	
Accounts Payable	1.299340e+08	1.716550e+08	1.134700e+08	

	2021-03-31			
Capital Surplus	1.009075e+09			
Total Liab	5.016683e+09			
Total Stockholder Equity	2.098969e+09			
Deferred Long Term Liab	3.362960e+08			
Other Current Liab	2.410690e+08			
Total Assets	7.115652e+09			
Common Stock	9.116400e+07			
Other Current Assets	2.553100e+07			
Retained Earnings	1.100718e+09			
Other Liab	1.986678e+09			
Good Will	5.476000e+06			
Treasury Stock	-1.019880e+08			
Other Assets	4.728080e+08			
Cash	8.046700e+07			
Total Current Liabilities	4.029720e+08			
Other Stockholder Equity	-1.019880e+08			
Property Plant Equipment	6.076070e+09			
Total Current Assets	4.571840e+08			
Long Term Investments	1.041140e+08			
Net Tangible Assets	2.093493e+09			
Net Receivables	2.621640e+08			
Long Term Debt	2.627033e+09			
Inventory	5.795700e+07			
Accounts Payable	1.073050e+08]		

	2021-12-31	2021-09-30	\
['quarterly_cashflow',			
Investments	30000000.0	30000000.0	
Change To Liabilities	-13491000.0	41101000.0	
Total Cashflows From Investing Activities	-169710000.0	-236247000.0	
Net Borrowings	7500000.0	158500000.0	
Total Cash From Financing Activities	-42846000.0	116920000.0	
Change To Operating Activities	-8703000.0	-74859000.0	
Net Income	132392000.0	86962000.0	
Change In Cash	-41073000.0	416000.0	
Repurchase Of Stock	-8859000.0	-97000.0	
Total Cash From Operating Activities	171483000.0	119743000.0	
Depreciation	88578000.0	83671000.0	
Other Cashflows From Investing Activities	13781000.0	2712000.0	
Dividends Paid	-41487000.0	-41483000.0	
Change To Inventory	17111000.0	-21038000.0	
Change To Account Receivables	-98688000.0	-20680000.0	
Change To Netincome	54284000.0	24586000.0	
Capital Expenditures	-213491000.0	-238959000.0	

	2021-06-30	2021-03-31		
Investments	30000000.0	30000000.0		
Change To Liabilities	-1139000.0	-6878000.0		
Total Cashflows From Investing Activities	-174780000.0	-155320000.0		
Net Borrowings	158500000.0	-45448000.0		
Total Cash From Financing Activities	-40642000.0	-86016000.0		
Change To Operating Activities	418000.0	-12453000.0		
Net Income	86475000.0	112436000.0		
Change In Cash	39255000.0	-28946000.0		
Repurchase Of Stock	-71000.0	-8000.0		
Total Cash From Operating Activities	254677000.0	212390000.0		
Depreciation	84170000.0	84342000.0		
Other Cashflows From Investing Activities	-872000.0	246000.0		
Dividends Paid	-40571000.0	-40560000.0		
Change To Inventory	-8234000.0	13385000.0		
Change To Account Receivables	60426000.0	-37553000.0		
Change To Netincome	32561000.0	59111000.0		
Capital Expenditures	-173908000.0	-155566000.0]	
['quarterly_earnings',	Revenue	Earnings		
Quarter				
1Q2021	551115000	112436000		
2Q2021	394397000	86475000		

3Q2021 355988000 86962000
 4Q2021 546557000 132392000]
 ['quarterly_financials',
 Research Development None None None
 Effect Of Accounting Charges None None None
 Income Before Tax 177289000.0 101682000.0 116810000.0
 Minority Interest None None None
 Net Income 132392000.0 86962000.0 86475000.0
 Selling General Administrative 2951000.0 373000.0 4847000.0
 Gross Profit 322738000.0 239398000.0 258732000.0
 Ebit 20678000.0 131900000.0 145223000.0
 Operating Income 206708000.0 131900000.0 145223000.0
 Other Operating Expenses 24581000.0 23454000.0 24492000.0
 Interest Expense -31291000.0 -30431000.0 -31232000.0
 Extraordinary Items None None None
 Non Recurring None None None
 Other Items None None None
 Income Tax Expense 44897000.0 14720000.0 30335000.0
 Total Revenue 546557000.0 355988000.0 394397000.0
 Total Operating Expenses 339849000.0 224088000.0 249174000.0
 Cost Of Revenue 223819000.0 116590000.0 135665000.0
 Total Other Income Expense Net -29419000.0 -30218000.0 -28413000.0
 Discontinued Operations None None None
 Net Income From Continuing Ops 132392000.0 86962000.0 86475000.0
 Net Income Applicable To Common Shares 132392000.0 86962000.0 86475000.0

2021-03-31

Research Development None
 Effect Of Accounting Charges None
 Income Before Tax 152646000.0
 Minority Interest None
 Net Income 112436000.0
 Selling General Administrative 12597000.0
 Gross Profit 322368000.0
 Ebit 201442000.0
 Operating Income 201442000.0
 Other Operating Expenses 23987000.0
 Interest Expense -50518000.0
 Extraordinary Items None
 Non Recurring None
 Other Items None
 Income Tax Expense 40210000.0
 Total Revenue 551115000.0
 Total Operating Expenses 349673000.0
 Cost Of Revenue 228747000.0
 Total Other Income Expense Net -48796000.0
 Discontinued Operations None
 Net Income From Continuing Ops 112436000.0
 Net Income Applicable To Common Shares 112436000.0]

Holder Shares Date Reported \

0	SPDR (R) Ser Tr- SPDR (R) S&P (R) Dividend ETF	3976535	2022-01-30
1	JP Morgan Mid Cap Value Fund	3731484	2021-12-30
2	Vanguard Total Stock Market Index Fund	2589317	2021-12-30
3	iShares Core S&P Midcap ETF	2527575	2022-01-30
4	Price (T.Rowe) Mid-Cap Value Fund	2403328	2021-12-30
5	Vanguard Small-Cap Index Fund	2299210	2021-12-30
6	Gabelli Utilities Fund	1705500	2021-12-30
7	Vanguard Small Cap Value Index Fund	1455965	2021-12-30
8	Vanguard Extended Market Index Fund	1204306	2021-12-30
9	Price (T.Rowe) Mid-Cap Value Equity Trust	1011543	2021-12-30

% Out	Value
0 0.0435	241494970
1 0.0408	238591086
2 0.0283	165560928
3 0.0276	153499629
4 0.0263	153668792
5 0.0251	147011487
6 0.0186	109049670
7 0.0159	93094402
8 0.0132	77003325
9 0.0111	64678059]

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

symbol: PDCE
 sector: Energy
 Index: SP400

supply trend: 26294633.055975795
 risk trend factor: 2.6335961140263304

beta currentRatio debtToEquity dividendRate dividendYield \

PDCE 2.747277 0.575 34.654 1.4 0.0164

ebitda ebitdaMargins forwardPE freeCashflow grossMargins \

PDCE 1255468032 0.45227 4.092647 598676224 0.89205

grossProfits heldPercentInstitutions industry marketCap \

PDCE 2111095000 0.97868 Oil & Gas E&P 8288278016

operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \

PDCE 1683784960 0.21746 0.1225 0.17 2.888328

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \

PDCE 2.985751 0.1799 0.555 0.06877

```

returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
PDCE      0.18662      0.877      28.416 Energy      99272704

shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
PDCE      6.72 171156992      1.794 958110016 2775943936

trailingPE
PDCE 16.581926

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSD 90d_lower 90d_upper
2022-06-10 84.129997 58.883591 74.841111 90.798632 73.113968 5.744648 61.624671 84.603265

```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
PDCE	1.125975	84.129997	26294633.055976	0.935258	0.76826	0.495944

l axis r axis

legend legend

blue	symbol	magenta	sector
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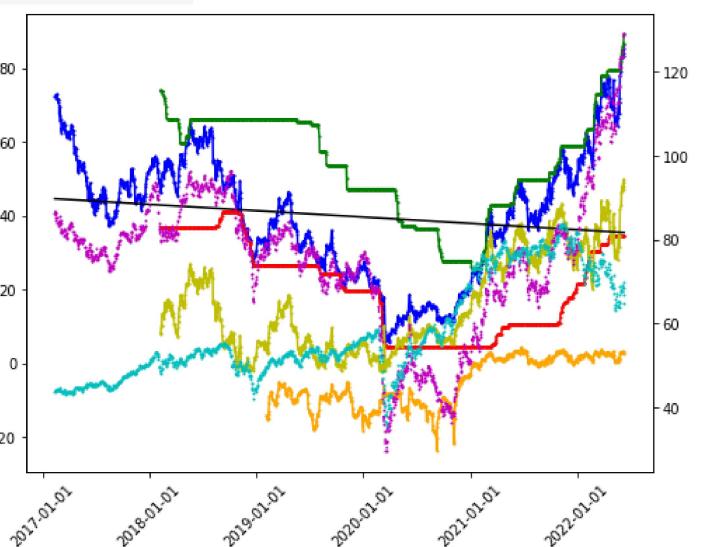
green	trailing_1yr_max	cyan	index
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red	trailing_1yr_min
-----	------------------

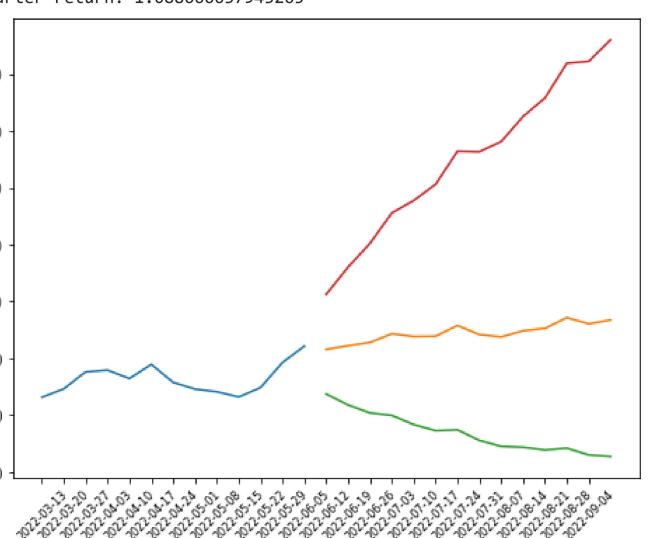
orange	risk_trend_factor
--------	-------------------

black	linear
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yellow	supply_trend_1yr
--------	------------------



ets next 13 weeks
inner cv scores: [47.43541902075859, 47.43541883936485, 47.435429606733585, 47.43539139416241]
inner cv sdevs: [41.27847644534226, 41.27847647797136, 41.278479738657, 41.27845862165851]
best model: ['F', 'T']
best inner cv score, sdev (11 folds): 47.43539139416241 41.27845862165851
test cv mean error, stdev (10 folds): [49.506011630617095, 42.745093084442274]
sell date: 2022-08-28
expected return: 0.12130617549801379
discounted return: 0.0014689526493014693
quarter return: 1.088666637943265



```

['options', ('2022-07-15', '2022-12-16')]
symbol: OXY
sector: Energy
Index: SP500
supply trend: 312554843.6459909
risk trend factor: 2.6206123783270985
    beta currentRatio debtToEquity dividendRate dividendYield \
OXY 1.955081      1.156     111.198      0.52      0.0075

    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
OXY 15392000000      0.53054   8.023869   9129875456      0.64697

    grossProfits heldPercentInstitutions industry marketCap \
OXY 16297000000      0.82201 Oil & Gas E&P 59858386944

    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
OXY 12762999808      0.25255   0.0242     0.27    3.952352

    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
OXY 2.063229      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 1.91 1908999936      2.037 27696001024 29012000768

    trailingPE
OXY 9.548512

```

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

2022-06-10 63.869999 60.711375 66.862064 73.012753 61.107143 4.905649 51.295845 70.918441

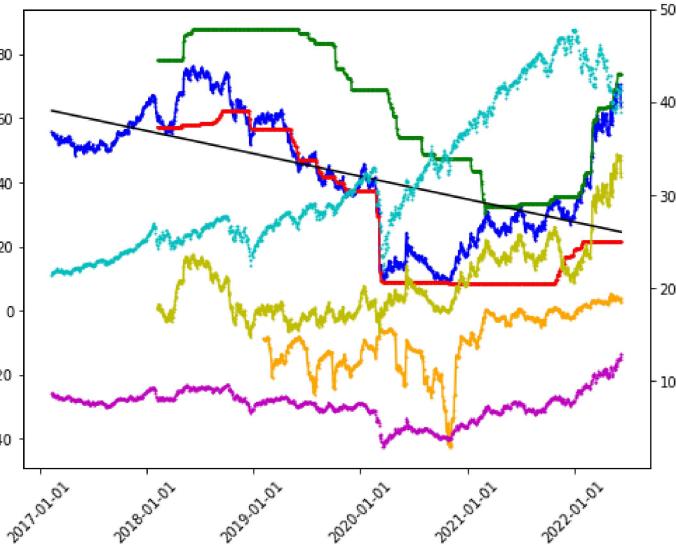
volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
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OXY 1.797943 63.869999 312554843.645991 0.84478 0.777852 0.546207

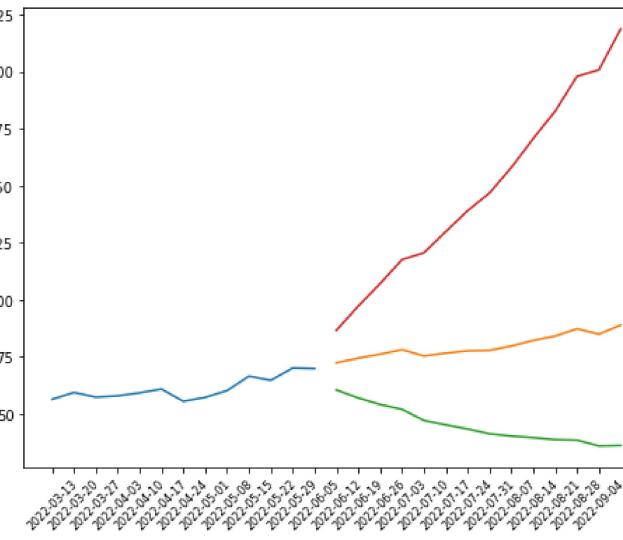
I axis r axis

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



ets next 13 weeks
inner cv scores: [64.31320147425035, 64.31320110993455, 64.3132016521237, 64.31320112428526]
inner cv sdevs: [79.1718021387919, 79.17180238989472, 79.17180262986804, 79.17180238083812]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 64.31320110993455 79.17180238989472
test cv mean error, stdev (10 folds): [69.6553260485308, 81.12379763202075]
sell date: 2022-09-11
expected return: 0.39204988489822373
discounted return: 0.003601877728523828
quarter return: 1.088666637943265



```
[options, ('2022-06-17', '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: PXD
sector: Energy
Index: SP500
supply trend: 41581229.50075643
risk trend factor: 2.603257694027524
    beta currentRatio debtToEquity dividendRate dividendYield \
PXD 1.535843 1.541 25.456 12.34 0.0433
```

```
    ebitda ebitdaMargins forwardPE freeCashflow grossMargins \
PXD 9187000320 0.43846 10.46792 2404124928 0.53944
```

```
    grossProfits heldPercentInstitutions industry marketCap \
PXD 9392000000 0.92193 Oil & Gas E&P 68689747968
```

```
    operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
PXD 8265999872 0.31175 0.3288 0.53 2.90227
```

```
    priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
PXD 3.278277 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 2.65 3256000000 13.457 6024999936 20952999936
```

```
    trailingPE
PXD 17.432608
```

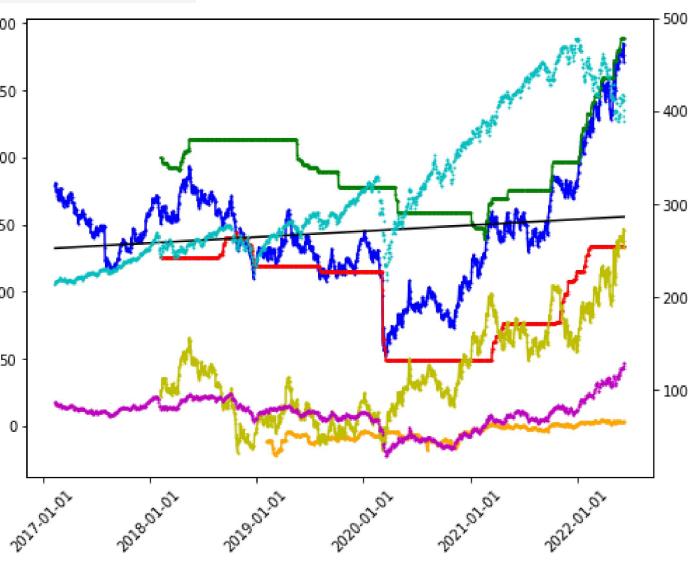
	Adj Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
--	-----------	---------	----------	---------	--------	---------	-----------	-----------

2022-06-10	270.869995	256.919894	273.316666	289.713438	255.561587	15.927793	223.706001	287.417173
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	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
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PXD	1.167952	270.869995	41581229.500756	0.916981	0.935146	0.498349
------------	----------	------------	-----------------	----------	----------	----------

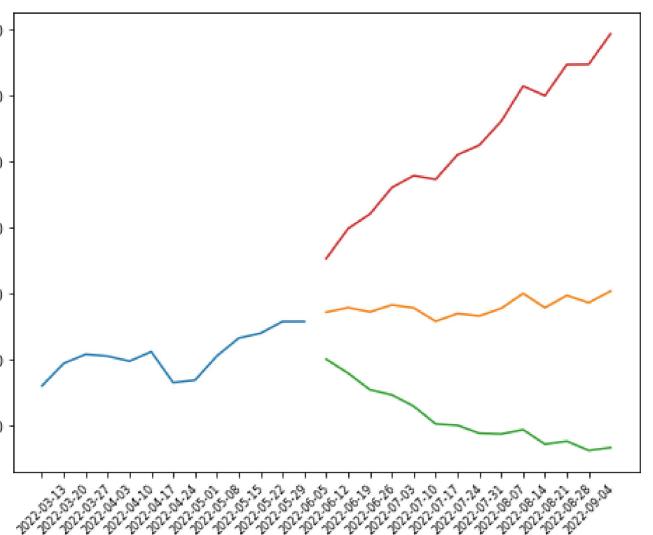
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [709.2038533411051, 709.2038526523268, 709.2038532471967, 709.2038907385577]
inner cv sdevs: [678.656712984199, 678.6567136345194, 678.6567130375644, 678.6567072486863]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 709.2038526523268 678.6567136345194
test cv mean error, stdev (10 folds): [777.3073964916504, 674.9914139743596]
sell date: 2022-09-11
expected return: 0.11476548045941427
discounted return: 0.001181611154793094
quarter return: 1.088666637943265

```



```

['options', ('2022-06-17', '2023-01-20', '2024-01-19')], 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]
symbol: CNX
sector: Energy
Index: SP400
supply trend: 79583176.67170954
risk trend factor: 2.5762984369029858
    beta currentRatio debtToEquity      ebitda ebitdaMargins forwardPE \
CNX 1.261343      0.196     88.804 -1381751040      -0.50108 7.664496

    freeCashflow grossMargins grossProfits heldPercentInstitutions \
CNX 56837376      0.8006   1866027000          0.97671

    industry marketCap operatingCashflow operatingMargins payoutRatio \
CNX Oil & Gas E&P 4589103104      1043104000      -0.68414      0

    pegRatio priceToBook priceToSalesTrailing12Months profitMargins \
CNX 0.19      1.786908      1.664207      -0.55108

    quickRatio returnOnAssets returnOnEquity revenueGrowth revenuePerShare \
CNX 0.132      -0.14474      -0.42927      0.852      13.072

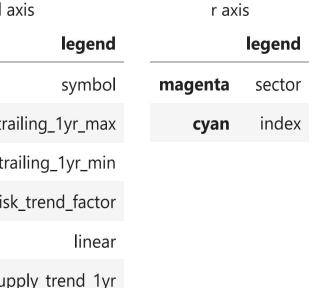
    sector sharesOutstanding shortRatio totalCash totalCashPerShare \
CNX Energy 195032000      9.57  13338000      0.068

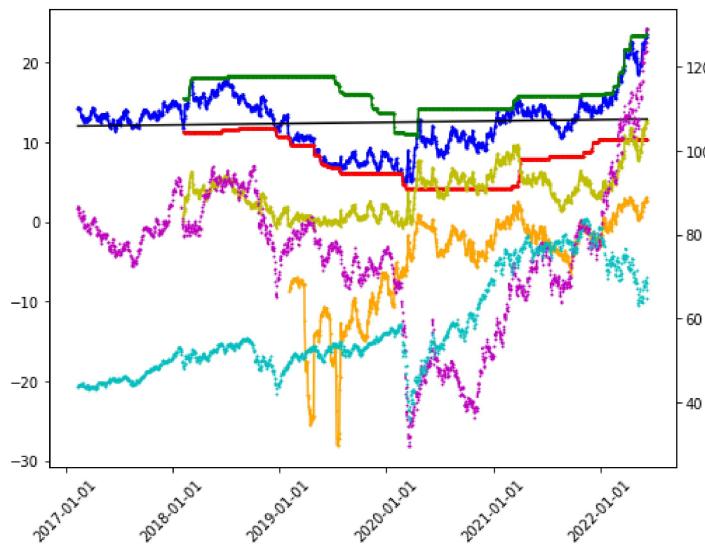
    totalDebt totalRevenue
CNX 2281821952 2757531904

```

	Adj	Close	21dBOLD	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	23.24	18.125204	21.358571	24.591938	20.760794	1.50283	17.755134	23.766453	

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
CNX	0.90438	23.24	79583176.67171	0.940271	0.784231	0.406859

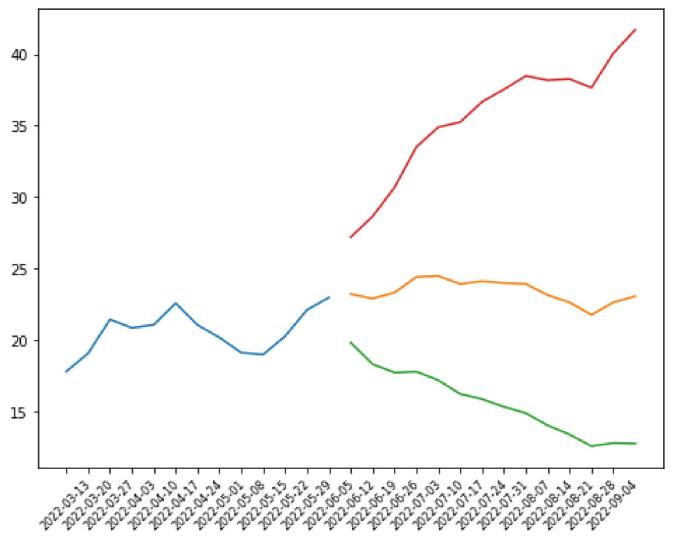




```

sets next 13 weeks
inner cv scores: [7.454428731478768, 7.454428731697994, 7.454428729389988, 7.45442873122781]
inner cv sdevs: [7.64848358205737, 7.648483582487399, 7.648483578859242, 7.648483581155891]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 7.454428729389988 7.648483578859242
test cv mean error, stdev (10 folds): [8.097169842726244, 7.7333662612098975]
sell date: 2022-07-10
expected return: 0.053540419809179125
discounted return: 0.00180011207696551
quarter return: 1.088666637943265

```



```

['options', ('2022-07-15', '2023-01-20')]
symbol: MTDR
sector: Energy
Index: SP400
supply trend: 50876450.52950076
risk trend factor: 2.5519542477276707
    beta currentRatio debtToEquity dividendRate dividendYield \
MTDR 4.053921      0.997     64.085       0.2      0.0044

    earningsGrowth      ebitda ebitdaMargins forwardPE freeCashflow \
MTDR 2.392   1377725952      0.66904   10.304898   33695376

    grossMargins grossProfits heldPercentInstitutions industry \
MTDR 0.84283   1462239000      0.93761  Oil & Gas E&P

    marketCap operatingCashflow operatingMargins payoutRatio pegRatio \
MTDR 7653827584      1212914048      0.49033      0.0245      0.42

    priceToBook priceToSalesTrailing12Months profitMargins quickRatio \
MTDR 4.525147      3.716796      0.3552      0.801

    returnOnAssets returnOnEquity revenueGrowth revenuePerShare sector \
MTDR 0.15195      0.40598      0.973      17.558  Energy

    sharesOutstanding shortRatio totalCash totalCashPerShare totalDebt \
MTDR 117336000      2.66   63001000      0.534  1497975040

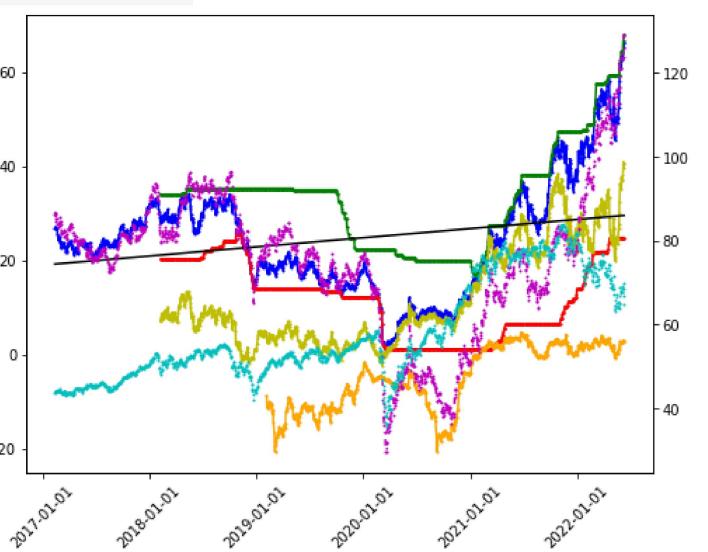
    totalRevenue trailingPE
MTDR 2059254016      27.407562

Adj Close 21dBOLD 21dMA-TP 21dBOLU 90dSMA 90dSDev 90d_lower 90d_upper
2022-06-10 65.230003 43.121122 57.022299 70.923475 54.485794 5.169552 44.14669 64.824898

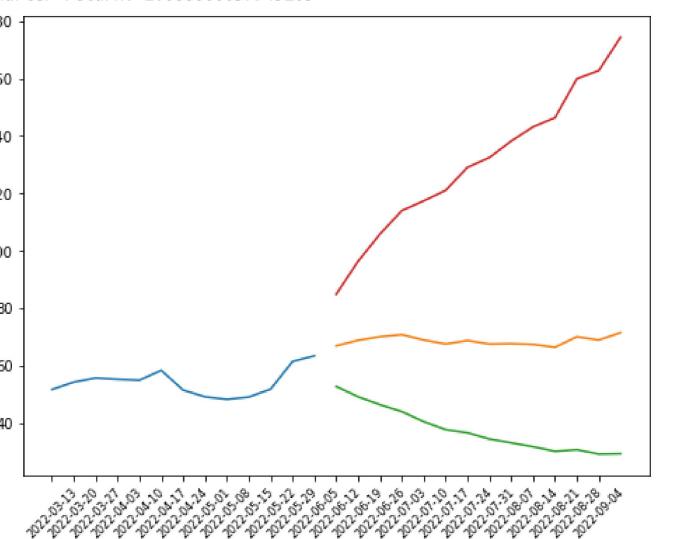
```

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
MTDR	0.613531	65.230003	50876450.529501	0.95853	0.987482	0.46805

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



ets next 13 weeks
inner cv scores: [46.570928214132216, 46.57092823617545, 46.57092821471463, 46.57092821413169]
inner cv sdevs: [59.96530217001442, 59.96530217952774, 59.96530217017681, 59.96530217001481]
best model: ['F', 'T']
best inner cv score, sdev (11 folds): 46.57092821413169 59.96530217001481
test cv mean error, stdev (10 folds): [51.04371274791843, 61.117570287576996]
sell date: 2022-09-11
expected return: 0.09526787677054763
discounted return: 0.0009896085752998385
quarter return: 1.088666637943265



['quarterly_balance_sheet',		2022-03-31	2021-12-31	2021-09-30	\
Capital Surplus	2.087788e+09	2.077592e+09	2.069484e+09		
Total Liab	2.229864e+09	2.134765e+09	2.077593e+09		
Total Stockholder Equity	2.118600e+09	1.907210e+09	1.688007e+09		
Minority Interest	2.188640e+08	2.201780e+08	2.198930e+08		
Other Current Liab	3.095620e+08	2.075790e+08	2.648190e+08		
Total Assets	4.567328e+09	4.262153e+09	3.985493e+09		
Common Stock	1.181000e+06	1.179000e+06	1.172000e+06		
Other Current Assets	5.734600e+07	4.075600e+07	3.782000e+07		
Retained Earnings	2.994000e+07	-1.713180e+08	-3.802680e+08		
Other Liab	1.939550e+08	1.269630e+08	6.975800e+07		
Treasury Stock	-3.090000e+05	-2.430000e+05	-2.381000e+06		
Other Assets	3.542400e+07	4.644000e+06	5.268400e+07		
Cash	6.300100e+07	4.813500e+07	7.312800e+07		
Total Current Liabilities	5.379340e+08	4.648370e+08	4.727520e+08		
Property Plant Equipment	3.995641e+09	3.886204e+09	3.536181e+09		
Total Current Assets	5.362630e+08	3.713050e+08	3.966280e+08		
Net Tangible Assets	2.118600e+09	1.907210e+09	1.688007e+09		
Net Receivables	3.676440e+08	2.414160e+08	2.483540e+08		
Long Term Debt	1.497975e+09	1.527580e+09	1.519684e+09		
Inventory	1.245600e+07	1.218800e+07	1.213700e+07		
Accounts Payable	3.397300e+07	2.625600e+07	3.340200e+07		
Deferred Long Term Asset Charges	NaN	NaN	1.387800e+07		
	2021-06-30				
Capital Surplus	2.061815e+09				
Total Liab	2.132423e+09				
Total Stockholder Equity	1.479762e+09				
Minority Interest	2.223640e+08				
Other Current Liab	2.386310e+08				
Total Assets	3.834549e+09				
Common Stock	1.171000e+06				
Other Current Assets	4.074700e+07				
Retained Earnings	-5.809810e+08				
Other Liab	5.910300e+07				
Treasury Stock	-2.243000e+06				
Other Assets	3.889100e+07				
Cash	4.463200e+07				
Total Current Liabilities	4.225800e+08				
Property Plant Equipment	3.462030e+09				
Total Current Assets	3.336280e+08				
Net Tangible Assets	1.479762e+09				
Net Receivables	2.160330e+08				
Long Term Debt	1.634289e+09				
Inventory	1.165700e+07				
Accounts Payable	1.357300e+07				
Deferred Long Term Asset Charges	NaN]			
['quarterly_cashflow',		2022-03-31	2021-12-31	\	
Change To Liabilities	-5668000.0	16272000.0			
Total Cashflows From Investing Activities	-251896000.0	-345587000.0			
Net Borrowings	-30000000.0	7500000.0			
Total Cash From Financing Activities	-43821000.0	-9813000.0			
Change To Operating Activities	-8248000.0	4778000.0			
Net Income	207124000.0	214790000.0			
Change In Cash	33237000.0	-20871000.0			
Repurchase Of Stock	-12184000.0	-4050000.0			
Total Cash From Operating Activities	328954000.0	334529000.0			
Depreciation	96396000.0	90076000.0			
Dividends Paid	-5866000.0	-5840000.0			
Change To Inventory	-78000.0	-358000.0			
Change To Account Receivables	-125345000.0	12765000.0			
Other Cashflows From Financing Activities	4229000.0	-8545000.0			
Change To Netincome	148421000.0	-5010000.0			
Capital Expenditures	-263807000.0	-345587000.0			
Issuance Of Stock	NaN	1122000.0			
	2021-09-30	2021-06-30			
Change To Liabilities	26274000.0	25785000.0			
Total Cashflows From Investing Activities	-132556000.0	-142227000.0			
Net Borrowings	-115000000.0	-81500000.0			
Total Cash From Financing Activities	-130092000.0	-85022000.0			
Change To Operating Activities	2123000.0	7519000.0			
Net Income	203628000.0	105905000.0			
Change In Cash	28583000.0	30951000.0			
Repurchase Of Stock	-1277000.0	-1163000.0			
Total Cash From Operating Activities	291231000.0	258200000.0			
Depreciation	89579000.0	91955000.0			
Dividends Paid	-2915000.0	-2913000.0			
Change To Inventory	-742000.0	-549000.0			
Change To Account Receivables	-32321000.0	-39220000.0			
Other Cashflows From Financing Activities	-11113000.0	554000.0			
Change To Netincome	1902000.0	65874000.0			
Capital Expenditures	-136475000.0	-142243000.0			
Issuance Of Stock	213000.0	213000.0]		
['quarterly_earnings',	Revenue	Earnings			
Quarter					
Q22021	388042000	105905000			
3Q2021	485921000	203628000			
4Q2021	522131000	214790000			
1Q2022	614460000	207124000			
['quarterly_financials',			2022-03-31	2021-12-31	2021-09-30 \
Research Development	None	None	None		

Effect Of Accounting Charges	None	None	None
Income Before Tax	292713000.0	304467000.0	211361000.0
Minority Interest	218864000.0	220178000.0	219893000.0
Net Income	207124000.0	214790000.0	203628000.0
Selling General Administrative	29733000.0	51878000.0	24633000.0
Gross Profit	532984000.0	463048000.0	392768000.0
Ebit	309307000.0	325121000.0	230186000.0
Operating Income	309307000.0	325121000.0	230186000.0
Other Operating Expenses	98011000.0	-3488000.0	48888000.0
Interest Expense	-16252000.0	-19108000.0	-17989000.0
Extraordinary Items	None	None	None
Non Recurring	None	None	None
Other Items	None	None	None
Income Tax Expense	68528000.0	73222000.0	-6701000.0
Total Revenue	614460000.0	522131000.0	485921000.0
Total Operating Expenses	305153000.0	197010000.0	255735000.0
Cost Of Revenue	81556000.0	59083000.0	93153000.0
Total Other Income Expense Net	-16594000.0	-20654000.0	-18825000.0
Discontinued Operations	None	None	None
Net Income From Continuing Ops	224185000.0	231245000.0	218062000.0
Net Income Applicable To Common Shares	207124000.0	214790000.0	203628000.0

2021-06-30

Research Development	None
Effect Of Accounting Charges	None
Income Before Tax	127180000.0
Minority Interest	222364000.0
Net Income	105905000.0
Selling General Administrative	24397000.0
Gross Profit	346873000.0
Ebit	145106000.0
Operating Income	145106000.0
Other Operating Expenses	85926000.0
Interest Expense	-17940000.0
Extraordinary Items	None
Non Recurring	None
Other Items	None
Income Tax Expense	5349000.0
Total Revenue	388042000.0
Total Operating Expenses	242936000.0
Cost Of Revenue	41169000.0
Total Other Income Expense Net	-17926000.0
Discontinued Operations	None
Net Income From Continuing Ops	121831000.0
Net Income Applicable To Common Shares	105905000.0

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

0	iShares Core S&P Smallcap ETF	7759051	2022-01-30
1	Vanguard Total Stock Market Index Fund	3003516	2021-12-30
2	Vanguard Small-Cap Index Fund	2658743	2021-12-30
3	iShares Russell 2000 ETF	2526278	2022-01-30
4	SPDR (R) Ser Tr-SPDR (R) S&P (R) Oil & Gas Exp...	2255808	2022-01-30
5	Price (T.Rowe) Small-Cap Value Fund	2233160	2021-12-30
6	DFA U.S. Small Cap Value Series	2183508	2022-01-30
7	Vanguard Small-Cap Growth Index Fund	1654888	2021-12-30
8	AB Cap Fd.-AB Small Cap Growth Port	1624213	2022-01-30
9	Vanguard Extended Market Index Fund	1457386	2021-12-30

% Out	Value
0 0.0057	347372713
1 0.0254	110889810
2 0.0225	98160791
3 0.0214	113101466
4 0.0191	100992524
5 0.0189	82448267
6 0.0185	97755653
7 0.0140	61098464
8 0.0137	72716016
9 0.0123	53806691

[`'options'`, ('2022-06-17', '2022-07-15', '2023-01-20')]

symbol: DINO

sector: Energy

Index: SP400

supply trend: 51935930.33282904

risk trend factor: 2.525423827441188

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
2022-06-10 56.369999 41.96407 50.064286 58.164501 42.669841 6.172185 30.325472 55.01421

```

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
DINO	0.964968	56.369999	51935930.332829	0.948909	0.412505	0.562704

I axis r axis

legend **legend**

blue	symbol	magenta	sector
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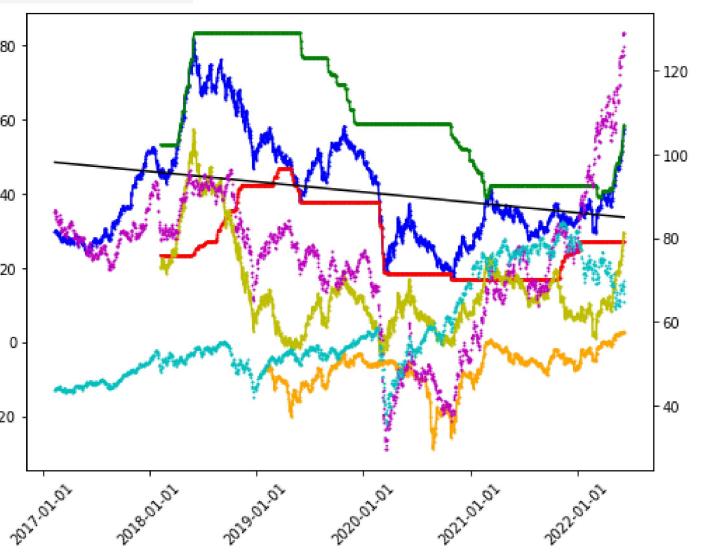
green	trailing_1yr_max	cyan	index
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red	trailing_1yr_min
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orange	risk_trend_factor
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black	linear
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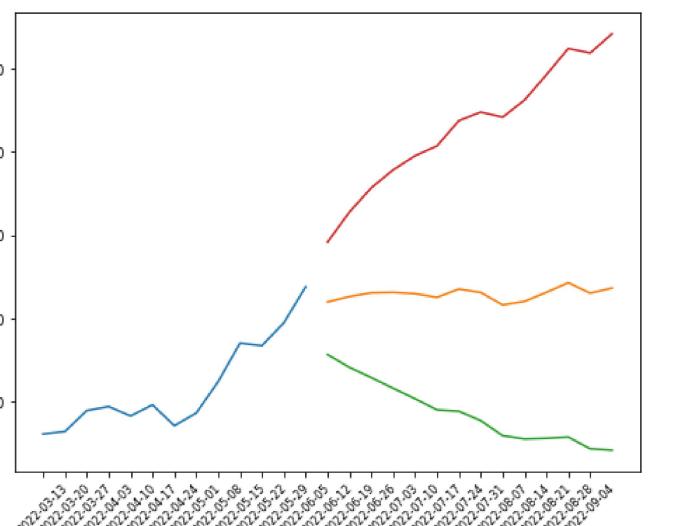
yellow	supply_trend_1yr
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```

ets next 13 weeks
inner cv scores: [65.79931850210625, 65.79726889581785, 65.79931876709946, 65.79754963282835]
inner cv sdevs: [67.65862576065733, 67.6559792521332, 67.65862564211612, 67.65599060725505]
best model: ['T', 'F']
best inner cv score, sdev (11 folds): 65.79726889581785 67.6559792521332
test cv mean error, stdev (10 folds): [69.9688457823582, 69.60046030966548]
sell date: 2022-08-28
expected return: -0.03676758982800798
discounted return: -0.0004801482375555999
quarter return: 1.088666637943265

```



symbol: HRB
 sector: Consumer Cyclical
 Index: SP400
 supply trend: 61640658.16944024
 risk trend factor: 2.3710165833660994
 beta currentRatio debtToEquity dividendRate dividendYield \
 HRB 0.695099 1.103 5314.905 1.08 0.0298
 earningsGrowth ebitda ebitdaMargins forwardPE grossMargins \
 HRB -0.008 806428032 0.30238 9.67663 0.472
 grossProfits heldPercentInstitutions industry marketCap \
 HRB 1400058000 0.93154 Personal Services 5683142656
 operatingCashflow operatingMargins payoutRatio pegRatio priceToBook \
 HRB 80728000 0.25066 0.3344 1.05 126.72598
 priceToSalesTrailing12Months profitMargins quickRatio revenueGrowth \
 HRB 2.130946 0.16063 0.971 0.039
 revenuePerShare sector sharesOutstanding shortRatio \
 HRB 15.645 Consumer Cyclical 159594000 4.71
 totalCash totalCashPerShare totalDebt totalRevenue trailingPE
 HRB 1041740032 6.527 2384054016 2666958080 14.570376

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

2022-06-10 35.450001 30.968201 34.265079 37.561958 29.09 3.96819 21.153621 37.026379

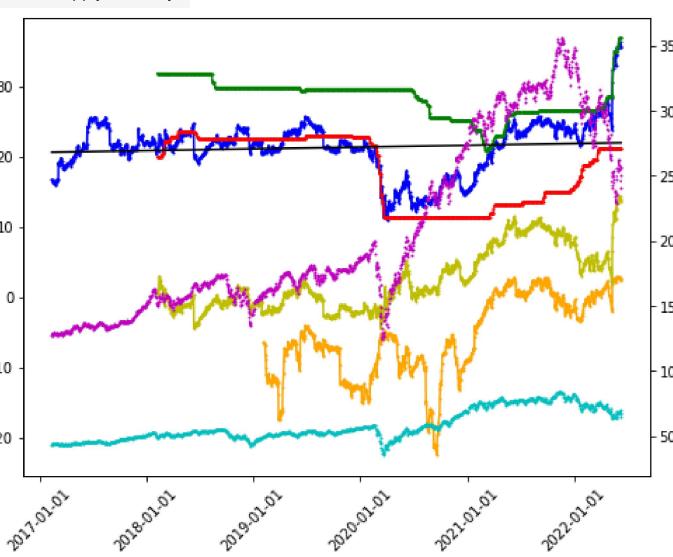
volume_factor latest_p vol_30d_2yr pct_2yr adf hurst

HRB 1.155552 35.450001 61640658.16944 0.941968 0.838883 0.43511

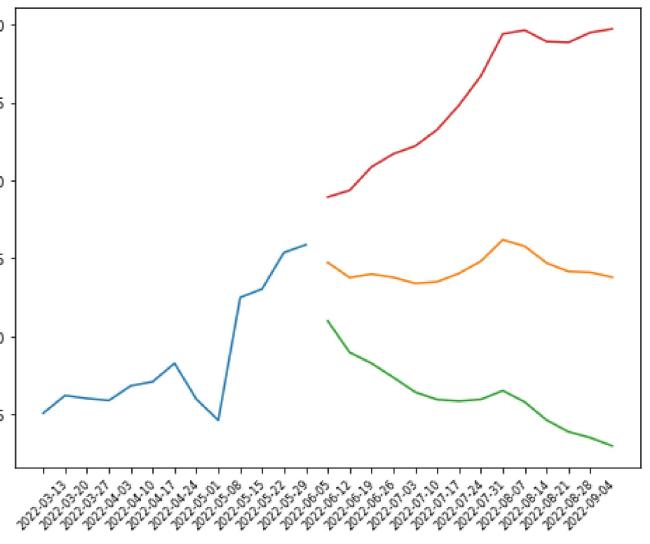
l axis r axis

legend legend

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



ets next 13 weeks
 inner cv scores: [9.393194329778538, 9.393194950405553, 9.393189738161503, 9.393194945532237]
 inner cv sdevs: [8.78893480984658, 8.788936215217403, 8.788929086273662, 8.788936219004773]
 best model: ['F', 'F']
 best inner cv score, sdev (11 folds): 9.393189738161503 8.788929086273662
 test cv mean error, stdev (10 folds): [9.936502255246904, 9.04006998049166]
 sell date: 2022-08-07
 expected return: 0.020890813630000938
 discounted return: 0.0003627954934413147
 quarter return: 1.088666637943265



```
['options', ('2022-07-15', '2023-01-20', '2024-01-19')]
symbol: MUR
sector: Energy
Index: SP400
supply trend: 60623530.18154312
risk trend factor: 2.3198869089480696
    beta currentRatio debtToEquity dividendRate dividendYield      ebitda \
MUR  2.55625        0.6       80.704        0.7       0.0161  1488126976
          ebitdaMargins forwardPE freeCashflow grossMargins grossProfits \
MUR  0.48315  5.593307  1159256320  0.81723  2271014000
          heldPercentInstitutions industry marketCap operatingCashflow \
MUR  0.83585  Oil & Gas E&P  6752466944  1522727040
          operatingMargins payoutRatio pegRatio priceToBook \
MUR  0.21109     0.7836     0.18   1.674372
          priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
MUR  2.192315     0.03261     0.533   0.03902
          returnOnEquity revenueGrowth revenuePerShare sector sharesOutstanding \
MUR  0.06042      0.471      19.932 Energy      155372000
          shortRatio totalCash totalCashPerShare totalDebt totalRevenue \
MUR  4.37  480587008      3.093  3393031936  3080061952
          trailingPE
MUR  66.96456
```

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

2022-06-10	44.150002	31.102213	39.549445	47.996677	39.439424	3.288115	32.863194	46.015654
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volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
---------------	----------	-------------	---------	-----	-------

MUR	0.567049	44.150002	60623530.181543	0.957721	0.869435	0.455651
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l axis r axis

legend	
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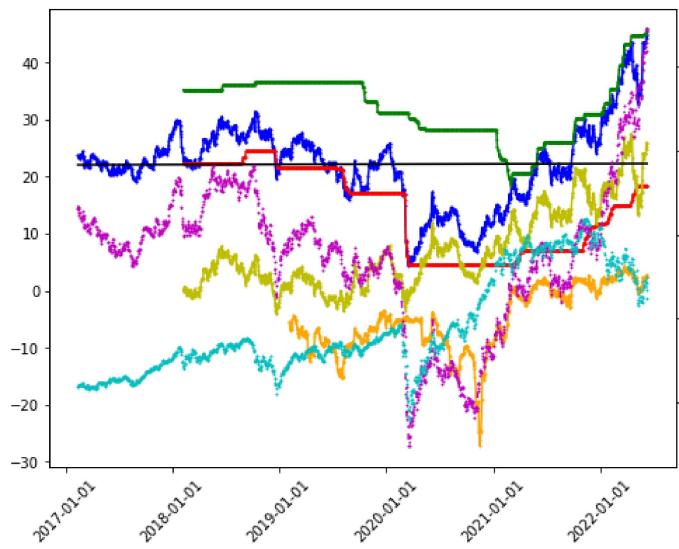
blue	symbol
green	trailing_1yr_max
red	trailing_1yr_min
orange	risk_trend_factor
black	linear
yellow	supply_trend_1yr

l axis

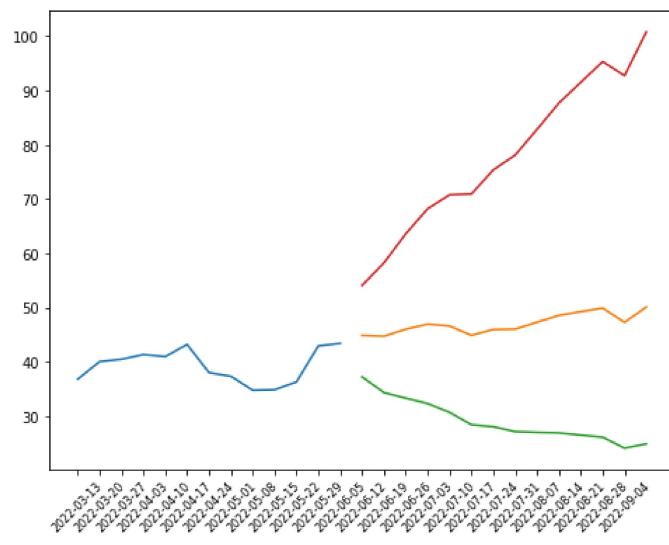
legend	
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magenta	sector
---------	--------

cyan	index
------	-------



ets next 13 weeks
inner cv scores: [20.681214441204563, 20.68121443864665, 20.681214425518316, 20.68121444013862]
inner cv sdevs: [17.966602103826403, 17.96660210537269, 17.9666020983882, 17.96660210446097]
best model: ['F', 'F']
best inner cv score, sdev (11 folds): 20.681214425518316 17.9666020983882
test cv mean error, stdev (10 folds): [21.581490728315337, 18.605461535785512]
sell date: 2022-09-11
expected return: 0.13527780460600586
discounted return: 0.0013800533848820074
quarter return: 1.088666637943265



['options', ('2022-06-17', '2022-07-15', '2022-12-16', '2023-01-20', '2024-01-19')]

symbol: SM
sector: Energy
Index: SP600
supply trend: 82761362.10287443
risk trend factor: 2.2682714381373863
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 10.711865 570353344 0.8671 2136878000

heldPercentInstitutions industry marketCap operatingCashflow \
SM 0.88028 Oil & Gas E&P 6141725696 1396240000

operatingMargins payoutRatio pegRatio priceToBook \
SM 0.18012 0.007 0.12 3.752134

priceToSalesTrailing12Months profitMargins quickRatio returnOnAssets \
SM 2.120158 0.11608 0.7 0.06264

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

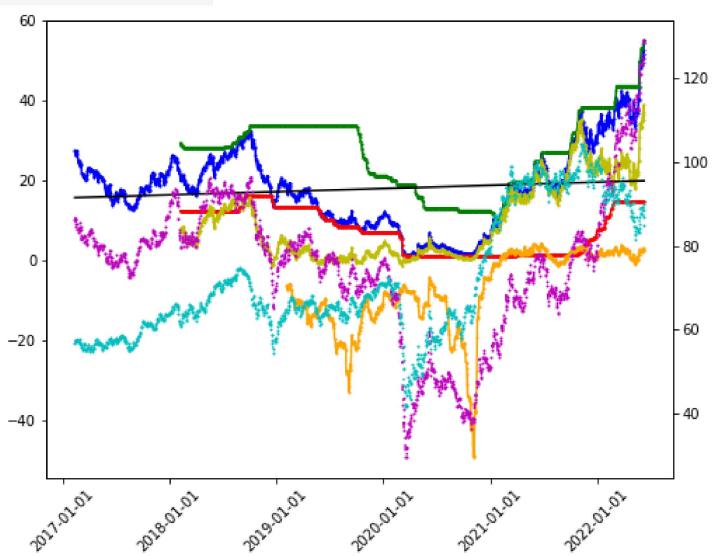
shortRatio totalCash totalCashPerShare totalDebt totalRevenue
SM 2.26 419887008 3.446 1986428032 2896824064

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

2022-06-10 50.560001 30.683761 44.192381 57.701002 40.420635 5.240911 29.938813 50.902457

volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst	
SM	0.612742	50.560001	82761362.102874	0.91777	0.976245	0.479096

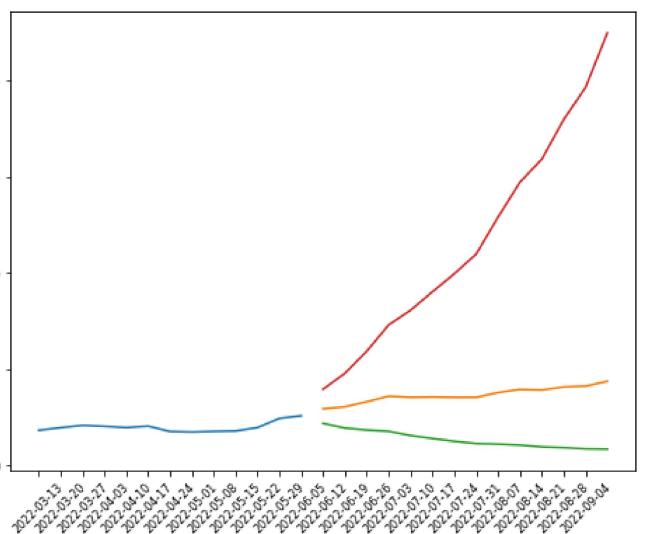
l axis		r axis	
legend		legend	
blue	symbol	magenta	sector
green	trailing_1yr_max	cyan	index
red	trailing_1yr_min		
orange	risk_trend_factor		
black	linear		
yellow	supply_trend_1yr		



```

ets next 13 weeks
inner cv scores: [42.95422910013308, 42.95422910931904, 42.95422913485419, 42.95422911125981]
inner cv sdevs: [53.33125731353675, 53.331257308148125, 53.33125729434242, 53.33125732241067]
best model: ['T', 'T']
best inner cv score, sdev (11 folds): 42.95422910013308 53.33125731353675
test cv mean error, stdev (10 folds): [47.18807229874592, 54.14301060130179]
sell date: 2022-09-11
expected return: 0.7323244376637932
discounted return: 0.005990306557991154
quarter return: 1.088666637943265

```



	2022-03-31	2021-12-31	2021-09-30	\
['quarterly_balance_sheet',				
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	1.889150e+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	1.051668e+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	-104770000.0	
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

]

Quarter

2Q2021	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

2022-03-31 2021-12-31 2021-09-30 \

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	-39000.0
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	24639000.0
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',]

		Holder	Shares	Date Reported \
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: RRC

sector: Energy

Index: SP400

supply trend: 159173207.5642965

risk trend factor: 2.2656514363289952

RRC	beta currentRatio debtToEquity	ebitda ebitdaMargins forwardPE \
RRC	2.124019 0.246	162.685 458860992 0.11425 9.435616

RRC	freeCashflow grossMargins grossProfits heldPercentInstitutions \	
RRC	838692352 0.57877	1937478000 0.86655

RRC	industry marketCap operatingCashflow operatingMargins payoutRatio \	
RRC	Oil & Gas E&P 8947339264	1090109952 0.02264 0

RRC	pegRatio priceToBook priceToSalesTrailing12Months profitMargins \	
RRC	0.28 7.001422	2.227745 -0.01797

RRC	quickRatio returnOnAssets returnOnEquity revenueGrowth revenuePerShare \	
RRC	0.238 0.00892	-0.04423 0.637 16.483

RRC	sector sharesOutstanding shortRatio totalCash totalCashPerShare \	
RRC	Energy 259795008	3.02 112931000 0.453

RRC	totalDebt totalRevenue
RRC	2603130112 4016321024

	Adj Close	21d bold	21dMA-TP	21dBOLU	90dSMA	90dSDev	90d_lower	90d_upper
2022-06-10	34.439999	24.99917	32.004603	39.010036	30.735397	2.964719	24.805959	36.664834

	volume_factor	latest_p	vol_30d_2yr	pct_2yr	adf	hurst
RRRC	0.617091	34.439999	159173207.564297	0.907293	0.784588	0.495379

I axis r axis

legend legend

blue symbol magenta sector

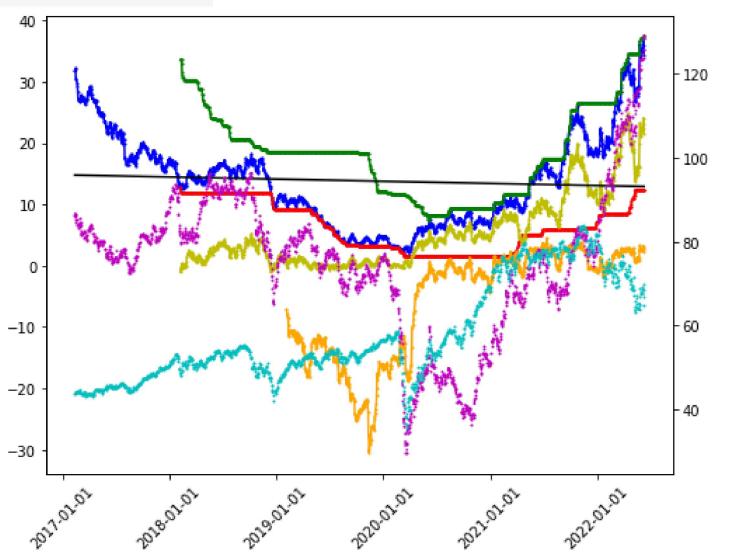
green trailing_1yr_max cyan index

red trailing_1yr_min

orange risk_trend_factor

black linear

yellow supply_trend_1yr



ets next 13 weeks

inner cv scores: [8.331010502518508, 8.331010351619595, 8.330952204638836, 8.331010502475317]

inner cv sdevs: [8.805776428518675, 8.805776131960089, 8.80569858367035, 8.80577642855403]

best model: ['F', 'F']

best inner cv score, sdev (11 folds): 8.330952204638836 8.80569858367035

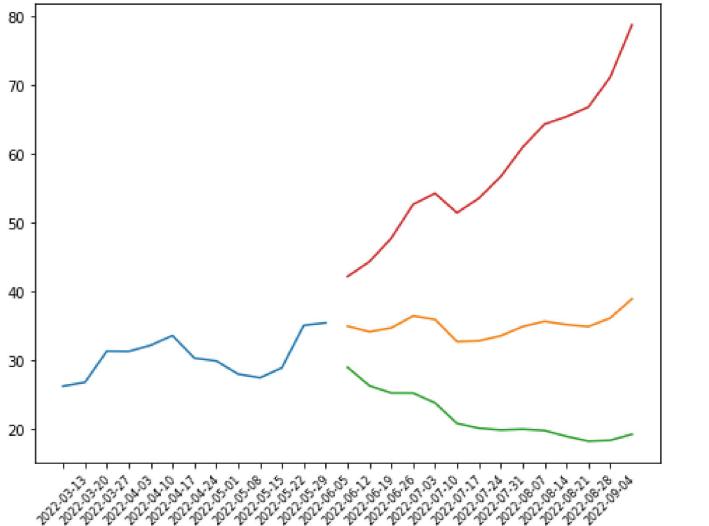
test cv mean error, stdev (10 folds): [9.141644261655092, 8.835579382617507]

sell date: 2022-09-11

expected return: 0.12970899850276926

discounted return: 0.0013265320675437398

quarter return: 1.088666637943265



	2022-03-31	2021-12-31	2021-09-30	\
['quarterly_balance_sheet',				
Capital Surplus	5.707652e+09	5.720277e+09	5.707382e+09	
Total Liab	4.960181e+09	4.574844e+09	5.122905e+09	
Total Stockholder Equity	1.600104e+09	2.085663e+09	1.181284e+09	
Other Current Liab	9.381210e+08	2.591970e+08	7.840350e+08	
Total Assets	6.560285e+09	6.660507e+09	6.304189e+09	
Common Stock	2.627000e+06	2.598000e+06	2.598000e+06	
Other Current Assets	2.033800e+07	5.738000e+06	4.518200e+07	
Retained Earnings	-4.063941e+09	-3.607055e+09	-4.498421e+09	
Other Liab	7.692500e+08	6.897480e+08	7.182680e+08	
Treasury Stock	-4.623400e+07	-3.015700e+07	-3.027500e+07	
Other Assets	1.585190e+08	1.133600e+08	1.039020e+08	
Cash	1.129310e+08	2.144220e+08	4.780000e+05	
Total Current Liabilities	2.337284e+09	1.152465e+09	1.646327e+09	
Deferred Long Term Asset Charges	3.543600e+07	NaN	NaN	
Short Long Term Debt	7.494830e+08	2.180170e+08	2.179090e+08	
Other Stockholder Equity	-7.500000e+04	-1.500000e+05	-2.680000e+05	
Property Plant Equipment	5.825971e+09	5.798982e+09	5.787932e+09	
Total Current Assets	5.757950e+08	7.366650e+08	4.123550e+08	
Net Tangible Assets	1.600104e+09	2.085663e+09	1.181284e+09	
Net Receivables	4.425260e+08	5.012750e+08	3.669500e+08	
Long Term Debt	1.829734e+09	2.707770e+09	2.730471e+09	
Accounts Payable	2.342530e+08	1.784130e+08	1.519190e+08	
Long Term Investments	NaN	1.150000e+07	NaN	

2021-06-30

Capital Surplus	5.699240e+09
Total Liab	4.706172e+09
Total Stockholder Equity	1.523261e+09
Other Current Liab	3.459160e+08
Total Assets	6.229433e+09
Common Stock	2.598000e+06
Other Current Assets	3.965800e+07
Retained Earnings	-4.148154e+09
Other Liab	7.108260e+08
Treasury Stock	-3.042300e+07
Other Assets	1.002050e+08
Cash	4.640000e+05
Total Current Liabilities	9.259190e+08
Deferred Long Term Asset Charges	NaN
Short Long Term Debt	NaN
Other Stockholder Equity	-3.380000e+05
Property Plant Equipment	5.789516e+09
Total Current Assets	3.397120e+08
Net Tangible Assets	1.523261e+09
Net Receivables	2.995900e+08
Long Term Debt	3.036657e+09
Accounts Payable	1.444540e+08
Long Term Investments	NaN]

2022-03-31 2021-12-31 \

	2022-03-31	2021-12-31	\
['quarterly_cashflow',			
Change To Liabilities	51996000.0	4918000.0	
Total Cashflows From Investing Activities	-105012000.0	-88963000.0	
Net Borrowings	-358540000.0	-15022000.0	
Total Cash From Financing Activities	-402893000.0	-14752000.0	
Change To Operating Activities	-188049000.0	32486000.0	
Issuance Of Stock	3658000.0	357000.0	
Net Income	-456808000.0	891366000.0	
Change In Cash	-101491000.0	213944000.0	
Repurchase Of Stock	-41194000.0	-32000.0	
Total Cash From Operating Activities	406414000.0	317659000.0	
Depreciation	87600000.0	92427000.0	
Other Cashflows From Investing Activities	-2621000.0	-3089000.0	
Change To Account Receivables	58674000.0	-134334000.0	
Other Cashflows From Financing Activities	-6817000.0	-55000.0	
Change To Netincome	851036000.0	-570158000.0	
Capital Expenditures	-102740000.0	-85940000.0	
Change To Inventory	NaN	-1140000.0	

2021-09-30 2021-06-30

Change To Liabilities	13073000.0	-13178000.0
Total Cashflows From Investing Activities	-110391000.0	-106125000.0
Net Borrowings	-81813000.0	-72350000.0
Total Cash From Financing Activities	-81449000.0	-68043000.0
Change To Operating Activities	-15949000.0	32816000.0
Issuance Of Stock	590000.0	4491000.0
Net Income	-350267000.0	-156472000.0
Change In Cash	14000.0	15000.0
Repurchase Of Stock	-18000.0	-152000.0
Total Cash From Operating Activities	191854000.0	174183000.0
Depreciation	95116000.0	92860000.0
Other Cashflows From Investing Activities	-194000.0	4611000.0
Change To Account Receivables	-67066000.0	-15992000.0
Other Cashflows From Financing Activities	-208000.0	-32000.0
Change To Netincome	514953000.0	232025000.0
Capital Expenditures	-110239000.0	-110923000.0
Change To Inventory	-1140000.0	-1140000.0
['quarterly_earnings',	Revenue	Earnings
Quarter		
2Q2021	684405000	-156472000
3Q2021	954859000	-350267000
4Q2021	1257264000	891366000
1Q2022	1119793000	-456808000]

```
[ 'quarterly_financials',
Research Development None None
Effect Of Accounting Charges None None
Income Before Tax -572889000.0 909879000.0
Minority Interest None None
Net Income -456808000.0 891366000.0
Selling General Administrative 43026000.0 42459000.0
Gross Profit 702005000.0 792996000.0
Ebit -453840000.0 1005348000.0
Operating Income -453840000.0 1005348000.0
Other Operating Expenses 947177000.0 -333146000.0
Interest Expense -47175000.0 -56362000.0
Extraordinary Items None None
Non Recurring None None
Other Items None None
Income Tax Expense -116081000.0 18513000.0
Total Revenue 1119793000.0 1257264000.0
Total Operating Expenses 1573633000.0 251916000.0
Cost Of Revenue 417788000.0 464268000.0
Total Other Income Expense Net -119049000.0 -95469000.0
Discontinued Operations None None
Net Income From Continuing Ops -456808000.0 891366000.0
Net Income Applicable To Common Shares -456808000.0 880571000.0
```

	2021-09-30	2021-06-30
Research Development	None	None
Effect Of Accounting Charges	None	None
Income Before Tax	-379950000.0	-157734000.0
Minority Interest	None	None
Net Income	-350267000.0	-156472000.0
Selling General Administrative	49061000.0	40242000.0
Gross Profit	525126000.0	304385000.0
Ebit	-324300000.0	-136296000.0
Operating Income	-324300000.0	-136296000.0
Other Operating Expenses	665090000.0	267143000.0
Interest Expense	-56809000.0	-57287000.0
Extraordinary Items	None	None
Non Recurring	None	None
Other Items	None	None
Income Tax Expense	-29683000.0	-1262000.0
Total Revenue	954859000.0	684405000.0
Total Operating Expenses	1279159000.0	820701000.0
Cost Of Revenue	429733000.0	380020000.0
Total Other Income Expense Net	-55650000.0	-21438000.0
Discontinued Operations	None	None
Net Income From Continuing Ops	-350267000.0	-156472000.0
Net Income Applicable To Common Shares	-350267000.0	-156472000.0

```
] Holder Shares Date Reported \
0 iShares Core S&P Smallcap ETF 17572227 2022-01-30
1 Vanguard Total Stock Market Index Fund 7017434 2021-12-30
2 Vanguard Small-Cap Index Fund 6213678 2021-12-30
3 iShares Russell 2000 ETF 5443911 2022-01-30
4 SPDR (R) Ser Tr-SPDR (R) S&P (R) Oil & Gas Exp... 4635596 2022-01-30
5 Fidelity Puritan Fund Inc 3997998 2022-02-27
6 Vanguard Small Cap Value Index Fund 3940642 2021-12-30
7 Vanguard Extended Market Index Fund 3323577 2021-12-30
8 Undiscovered Managers Behavioral Value Fund 3240158 2021-12-30
9 American Beacon Small Cap Value Fd 2764733 2022-01-30
```

% Out	Value
0 0.0651	338265369
1 0.0260	125120848
2 0.0230	110789878
3 0.0202	104795286
4 0.0172	89235223
5 0.0148	91754054
6 0.0146	70261646
7 0.0123	59259377
8 0.0120	57772017
9 0.0102	53221110

```
[ 'options', ('2022-06-17', '2023-01-20', '2024-01-19')]
```

```
[ 'sustainability', value
```

```
2022-5
```

palmOil	False
controversialWeapons	False
gambling	False
socialScore	0
nuclear	False
furLeather	False
alcoholic	False
gmo	False
catholic	False
socialPercentile	0
peerCount	66
governanceScore	0
environmentPercentile	0
animalTesting	False
tobacco	False
totalEsg	33.07
highestControversy	2
esgPerformance	LEAD_PERF
coal	False

```
pesticides      False
adult          False
percentile    72.13
peerGroup     Oil & Gas Producers
smallArms      False
environmentScore 0
governancePercentile 0
militaryContract False]
```

```
"\ndecision_metrics_df = pd.DataFrame(decision_metrics,columns=['SYMBOL','exp_return','sell_date','days_delta','disc rtn','outer_cv_avg_rmse_n11','outer_cv_std_n11','mean_revert_flag'])\ndecision_metrics_df = decision_metrics_df.set_index('SYMBOL').sort_values(by='disc rtn',ascending=False)\n\ndecision_metrics_df['price'] = screener['latest_p'].loc[decision_metrics_df.index]\n\ndecision_metrics_df['Sector'] = temp_sm['Sector'].loc[decision_metrics_df.index]\n\ndecision_metrics_df['Index'] = temp_sm['index'].loc[decision_metrics_df.index]\n\ndecision_metrics_df['error_price_ratio'] = decision_metrics_df['outer_cv_avg_rmse_n11']/screener['latest_p'].loc[decision_metrics_df.index]\n\ndecision_metrics_df['std_price_ratio'] = decision_metrics_df['outer_cv_std_n11']/screener['latest_p'].loc[decision_metrics_df.index]\n\n"
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	exp_return	sell_date	days_delta	disc_rtn	qtr_rtn	outer_cv_avg_rmse_n11	outer_cv_std_n11	mean_revert_flag	price	Sector	Index	error_price_ratio	std_price_ratio
SYMBOL													
VPU	0.035535	2022-06-12	1	0.035535	24.840079	113.148858	161.120115	False	155.610001	error	nan	0.727131	1.035410
SM	0.732324	2022-09-11	92	0.005990	1.732324	47.188072	54.143011	False	50.560001	Energy	SP600	0.933308	1.070866
APA	0.140340	2022-07-03	22	0.005987	1.731840	39.207778	41.240719	False	48.810001	Energy	SP500	0.803273	0.844924
PBF	0.200573	2022-07-24	43	0.004260	1.478612	30.815202	33.694754	False	40.330002	Energy	SP600	0.764076	0.835476
OXY	0.392050	2022-09-11	92	0.003602	1.392050	69.655326	81.123798	False	63.869999	Energy	SP500	1.090580	1.270139
VAW	0.104175	2022-07-10	29	0.003423	1.369413	193.574954	131.802346	False	178.449997	error	nan	1.084757	0.738595
DVN	0.353998	2022-09-11	92	0.003300	1.353998	58.830653	72.519592	False	74.059998	Energy	SP500	0.794365	0.979201
CEIX	0.275500	2022-08-28	78	0.003125	1.332443	35.374959	54.553309	False	52.910000	Energy	SP600	0.668587	1.031059
LNTH	0.311042	2022-09-11	92	0.002948	1.311042	33.769282	53.196553	False	63.849998	Healthcare	SP600	0.528885	0.833149
MRO	0.280787	2022-09-11	92	0.002694	1.280787	10.389226	10.394584	False	30.290001	Energy	SP500	0.342992	0.343169
VIS	0.074141	2022-07-10	29	0.002469	1.254698	193.805680	154.123410	False	170.789993	error	nan	1.134760	0.902415
VCR	0.109038	2022-07-24	43	0.002410	1.247856	733.376891	654.867837	False	240.179993	error	nan	3.053447	2.726571
VGT	0.099318	2022-07-24	43	0.002205	1.224573	814.237127	550.281441	False	337.339996	error	nan	2.413699	1.631237
CTRA	0.047629	2022-07-03	22	0.002117	1.214798	8.109754	6.656018	False	34.310001	Energy	SP500	0.236367	0.193996
CNX	0.053540	2022-07-10	29	0.001800	1.179937	8.097170	7.733366	False	23.240000	Energy	SP400	0.348415	0.332761
VDE	0.160823	2022-09-11	92	0.001622	1.160823	105.415284	70.166025	False	123.860001	error	nan	0.851084	0.566495
VNQ	0.070153	2022-07-24	43	0.001578	1.156114	57.591983	56.045022	False	92.620003	error	nan	0.621809	0.605107
FANG	0.146094	2022-09-11	92	0.001483	1.146094	307.165850	300.653412	False	155.490005	Energy	SP500	1.975470	1.933587
PDCE	0.121306	2022-08-28	78	0.001469	1.144588	49.506012	42.745093	False	84.129997	Energy	SP400	0.588447	0.508084
MUR	0.135278	2022-09-11	92	0.001380	1.135278	21.581491	18.605462	False	44.150002	Energy	SP400	0.488822	0.421415
MUSA	0.089939	2022-08-14	64	0.001347	1.131789	665.022927	922.034757	False	237.960007	Consumer Cyclical	SP400	2.794684	3.874747
RRC	0.129709	2022-09-11	92	0.001327	1.129709	9.141644	8.835579	False	34.439999	Energy	SP400	0.265437	0.256550
MDY	0.086052	2022-08-14	64	0.001291	1.125992	31.618850	23.926176	False	64.839996	error	nan	0.487644	0.369003
EQT	0.123062	2022-09-11	92	0.001262	1.123062	33.987711	55.357785	False	47.959999	Energy	SP400	0.708668	1.154249
EOG	0.119314	2022-09-11	92	0.001226	1.119314	219.446418	150.036439	False	144.000000	Energy	SP500	1.523933	1.041920
PXD	0.114765	2022-09-11	92	0.001182	1.114765	777.307396	674.991414	False	270.869995	Energy	SP500	2.869670	2.491939
WRB	0.069266	2022-08-07	57	0.001176	1.114154	20.439064	17.731650	False	68.260002	Financial Services	SP500	0.299430	0.259766
SLY	0.077940	2022-08-14	64	0.001173	1.113922	55.520013	44.019367	False	84.790001	error	nan	0.654794	0.519158
VFH	0.090577	2022-08-28	78	0.001112	1.107683	43.670428	23.374501	False	79.930000	error	nan	0.546358	0.292437
XOM	0.104935	2022-09-11	92	0.001085	1.104935	66.790974	49.530982	False	100.459999	Energy	SP500	0.664851	0.493042
CIVI	0.083786	2022-08-28	78	0.001032	1.099552	46.469625	46.813623	True	80.660004	Energy	SP600	0.576117	0.580382
VOX	0.098581	2022-09-11	92	0.001022	1.098581	76.724657	57.307371	False	97.699997	error	nan	0.785309	0.586565
HES	0.097805	2022-09-11	92	0.001015	1.097805	173.847320	134.276174	False	127.720001	Energy	SP500	1.361160	1.051332
MTDR	0.095268	2022-09-11	92	0.000990	1.095268	51.043713	61.117570	False	65.230003	Energy	SP400	0.782519	0.936955
SPTM	0.075596	2022-08-28	78	0.000935	1.089758	10.110157	8.277766	False	48.160000	error	nan	0.209929	0.171881
SPY	0.074683	2022-08-28	78	0.000924	1.088667	654.753607	546.977376	False	389.799988	error	nan	1.679717	1.403226
VDC	0.038928	2022-07-24	43	0.000889	1.085138	75.066005	60.902039	False	184.889999	error	nan	0.406004	0.329396
NFG	0.050853	2022-08-07	57	0.000871	1.083352	14.136341	7.482256	False	72.650002	Energy	SP400	0.194581	0.102990
VLO	0.069843	2022-08-28	78	0.000866	1.082886	260.871831	365.017353	False	140.509995	Energy	SP500	1.856607	2.597803
VHT	0.053786	2022-08-14	64	0.000819	1.078218	201.343218	125.138352	False	229.929993	error	nan	0.875672	0.544245
COP	0.077449	2022-09-11	92	0.000811	1.077449	87.227116	80.009126	False	116.830002	Energy	SP500	0.746616	0.684834
SJI	0.072761	2022-09-11	92	0.000764	1.072761	11.107990	11.316075	False	34.060001	Utilities	SP600	0.326130	0.332239
CVX	0.056222	2022-08-28	78	0.000702	1.066642	140.855067	98.586228	False	175.399994	Energy	SP500	0.803051	0.562065
TVTY	0.026157	2022-07-24	43	0.000601	1.056798	16.007741	12.306086	False					

exp_return	sell_date	days_delta	disc_rtn	qtr_rtn	outer_cv_avg_rmse_n11	outer_cv_std_n11	mean_revert_flag	price	Sector	Index	error_price_ratio	std_price_ratio	
SYMBOL													
DINO	-0.036768	2022-08-28	78	-0.000480	0.956778	69.968846	69.600460	False	56.369999	Energy	SP400	1.241243	1.234707