Model based on Transformations, and Cutoffs based on the macromodel

The purpose of this analysis is to evaluate the performance of portfolios constructed using stocks ranked according to transformed BARRA factor exposures. The performance will be analyzed in xBSL space.

Related document: US Long Model [Dec 25, 2022]

SUMMARY

Inputs: Barra fundamental factors

Barra fundamental factor exposures are typically normalized, but if they are not, they must be normalized before analysis.

Process:

Transformations: Transform factor data key transformers are:

- Moving averages. 3M, 6M, 12M , 24M , 36M , 60M
- Moving Difference: 3M, 6M, 12M , 24M , 36M , 60M

Transformation of the raw exposure data involves either calculating moving averages or moving differences.

Normalization window (excluded for this report)

- 3 years and 5 years (More details to be added)

Cutoffs:On cross sectional data for a certain date 6 buckets based on the scores for each factor

- Cutoff intervals are:
  - > 1.2 standard deviation (sd)
  - > 0.7 <= 1.2 sd
  - > 0 <= .7 sd (similarly for the negative side)

The quantile approach to creating portfolios involves the following steps

1. Calculate the moving average scores for each stock each month.
2. Rank the stocks based on their scores.
3. Divide the ranked stocks into equal-sized portfolios called quantiles.
4. The composition of the quantiles will change each month based on the rankings of the stocks.

Each month, the moving average scores are calculated and the stocks are ranked. They are then divided into portfolios called quantiles, resulting in a different composition of the quantiles each month.

In the quantile approach, 10 portfolios of stocks, called quantiles, are created based on the rank assigned to each stock based on its moving average score. The stock with the highest moving average value will be part of the top quantile. The moving average is calculated on a continuous period, taking into account any gaps in data that are filled with NA values.

METHODOLOGY: Dynamic Portfolios

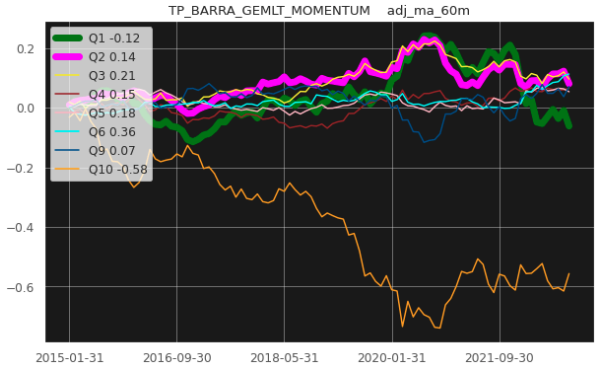
This approach is called dynamic because the portfolio composition changes each month based on the moving average scores. This allows the portfolio to be responsive to changes in the market.

Updated: 2022-Dec-14
Start date 2014-12-31. End Date - 2022-10-31

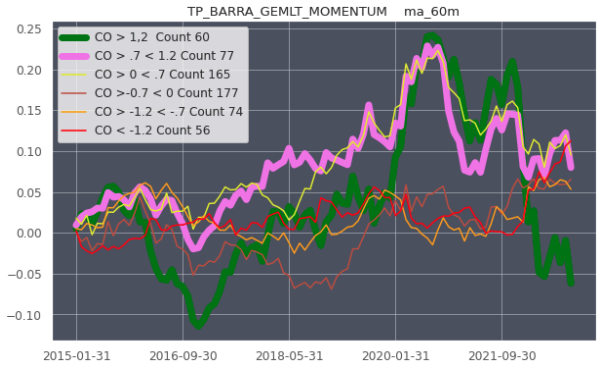
1. Calculate ex-BSL returns for the next month to determine the returns of each quantile.
2. In non-strict mode, do not completely drop the moving average if the rolling window contains NA values.
3. If the exposure is NA, remove it from the cutoffs, resulting in around 60+ stocks in each quantile.
4. Use exposure cutoffs based on z-scores, resulting in a higher number of stocks in each cutoff.
5. Group stocks by their exposures and divide them into equal portions to create the quantiles.
6. View the top and bottom exposure scores in the first quantile on the spread chart.

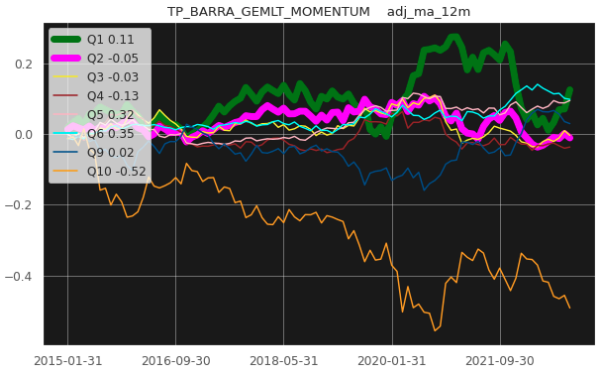
MOMENTUM

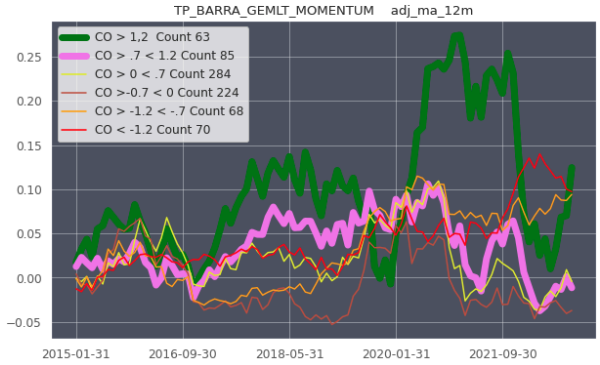
To view a larger image, hold the edge of the image and drag it to resize.

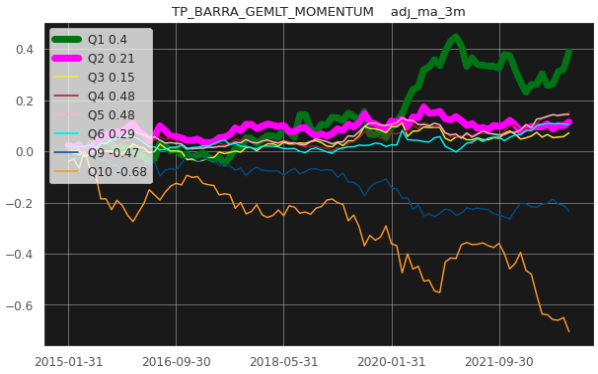


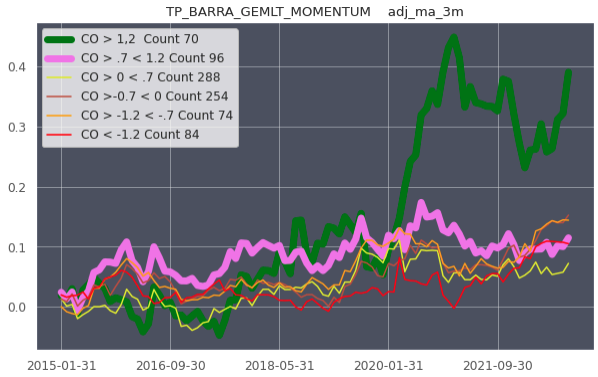
Show IR metrics under the chart. Just for 1st quantile



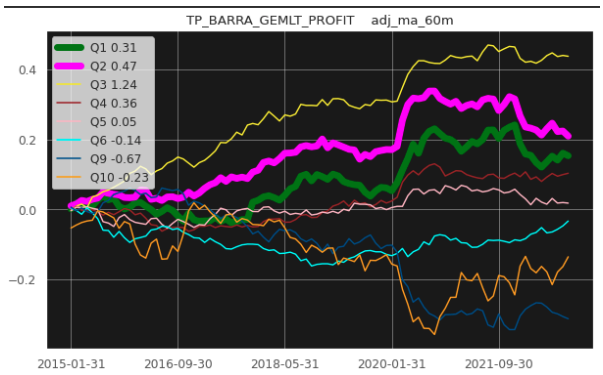


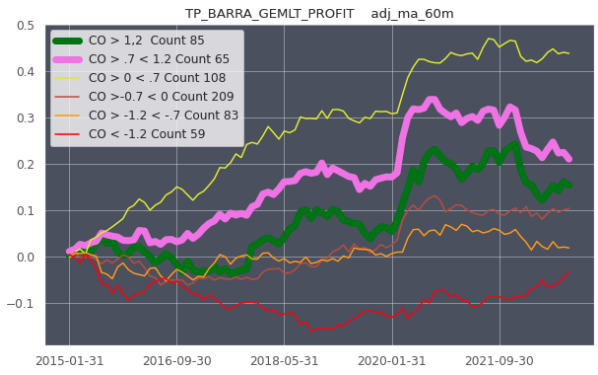




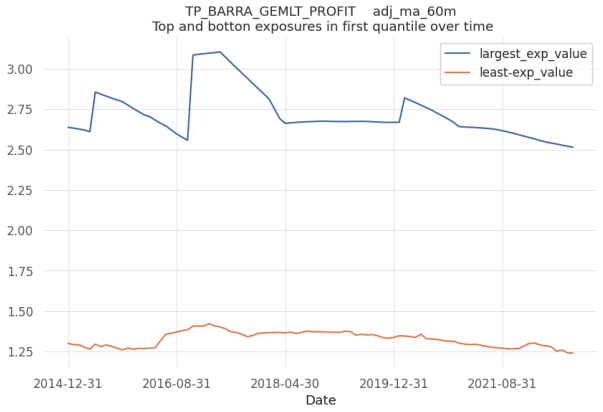


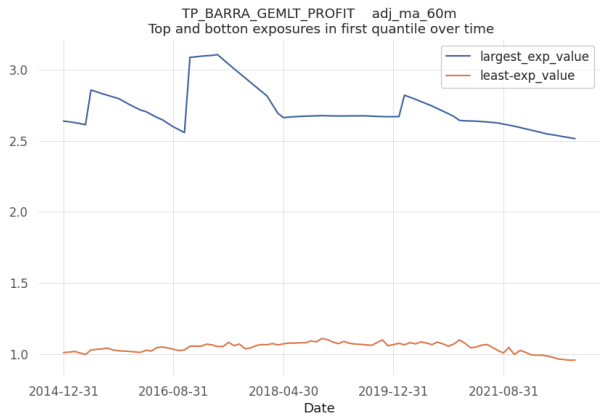
PROFIT

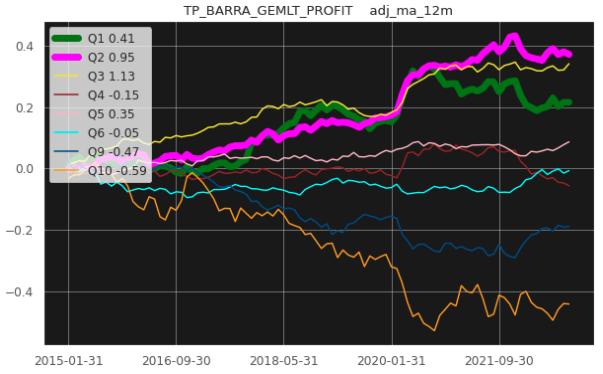


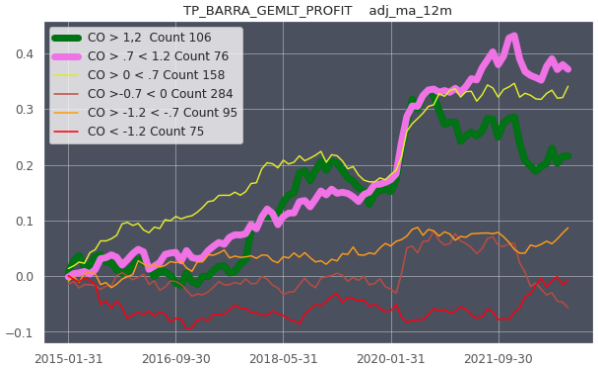


This chart displays the value of the highest and lowest exposure values for a factor at each time period for the first quantile portfolio.

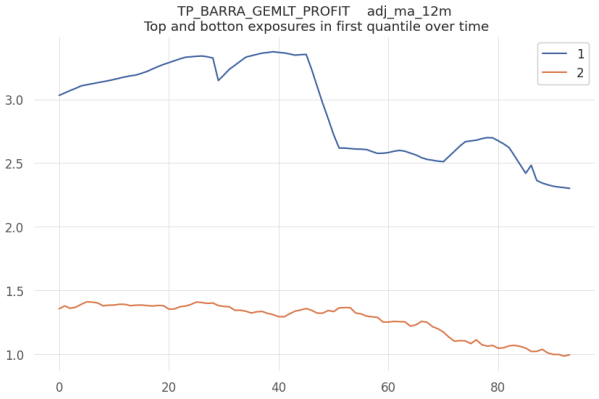


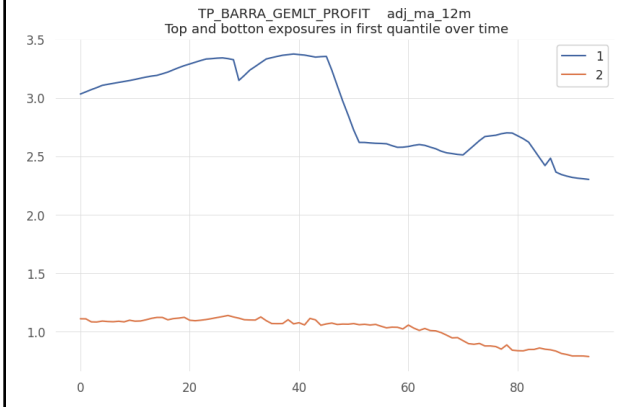


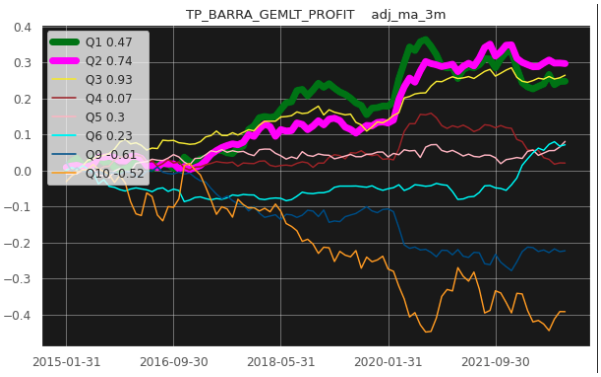


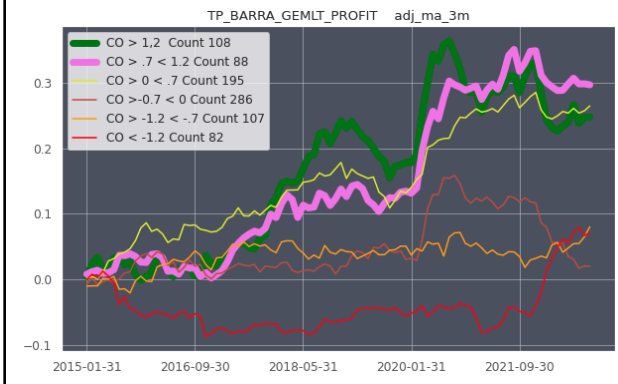


Any diagnostic checks??



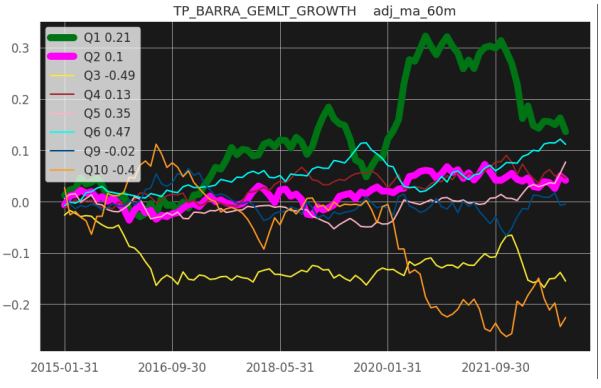


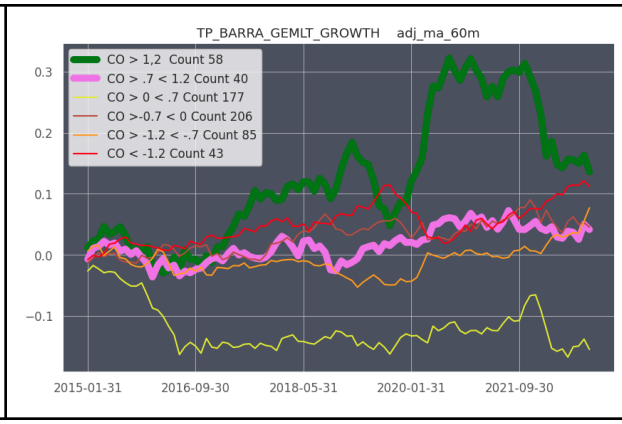


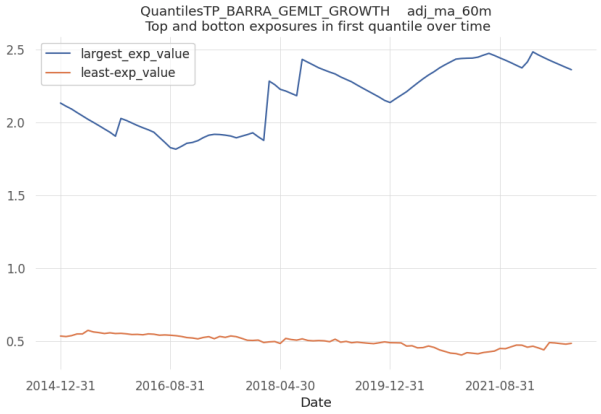


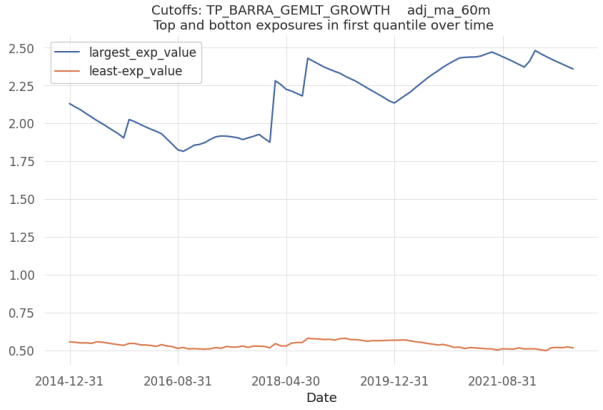
Negative cutoffs trending up. diagnostics?
Debug dates.

GROWTH






QuantilesTP_BARRA_GEMLT_GROWTH adj_ma_60m
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
2.5
2.0
1.5
1.0
0.5
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date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Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
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2.25
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1.50
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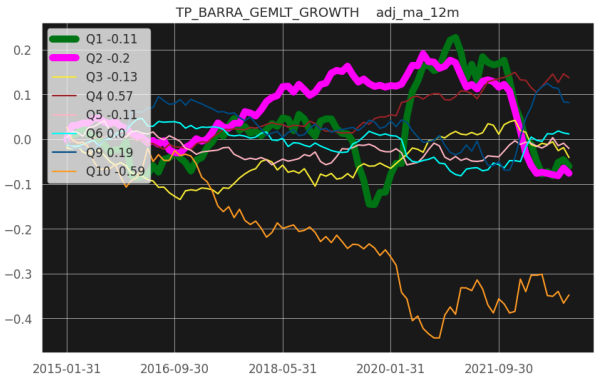
2021-08-31
Date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Q2 -0.2
Q3 -0.13
Q4 0.57
Q5 -0.11
Q6 0.0
Q9 0.19
Q10 -0.59
0.2
0.1
0.0
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−0.2
−0.3
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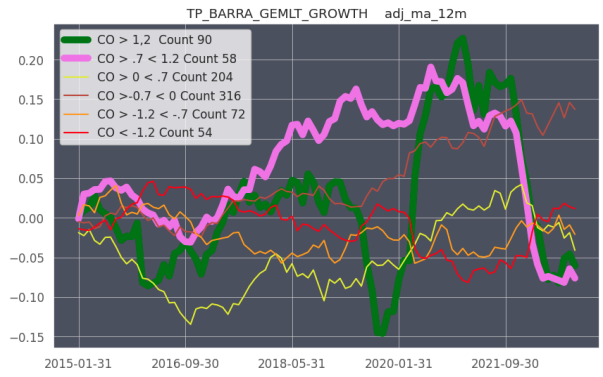
2021-09-30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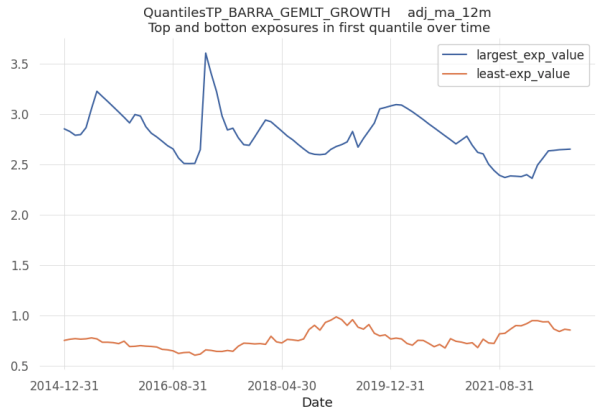
CO > .7 < 1.2 Count 58
CO > 0 < .7 Count 204
CO >-0.7 < 0 Count 316
CO > -1.2 < -.7 Count 72
CO < -1.2 Count 54
0.20
0.15
0.10
0.05
0.00
−0.05
−0.10
−0.15
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30


QuantilesTP_BARRA_GEMLT_GROWTH adj_ma_12m
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
3.5
3.0
2.5
2.0
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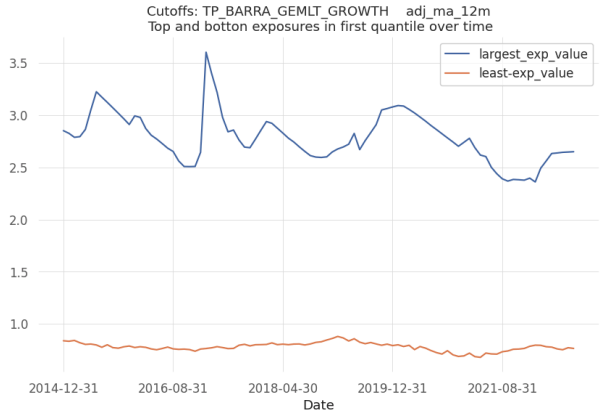
1.0
0.5
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date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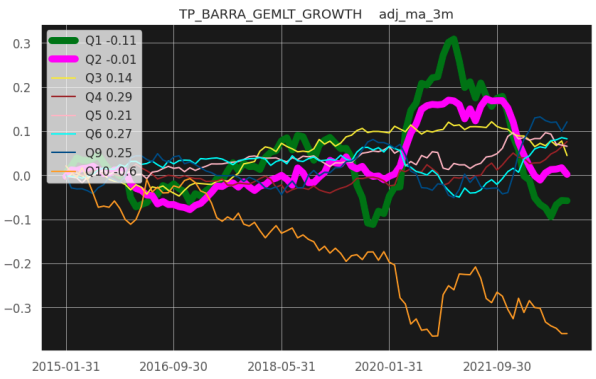
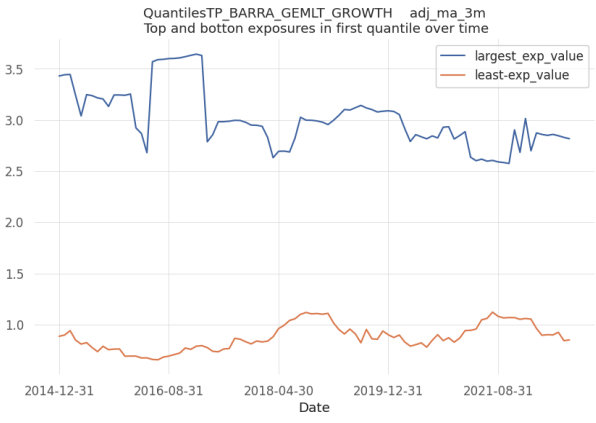
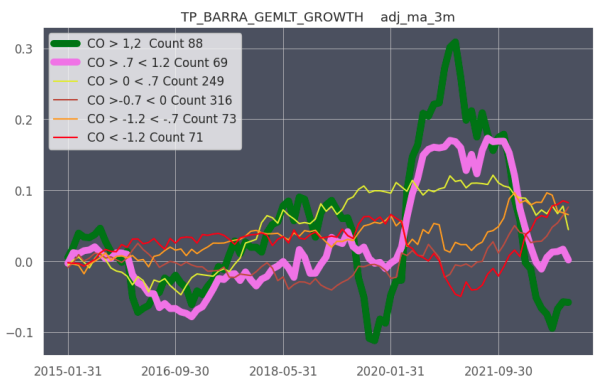
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
3.5
3.0
2.5
2.0
1.5
1.0
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date


TP_BARRA_GEMLT_GROWTH adj_ma_3m
Q1 -0.11
Q2 -0.01
Q3 0.14
Q4 0.29
Q5 0.21
Q6 0.27
Q9 0.25
Q10 -0.6
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30


QuantilesTP_BARRA_GEMLT_GROWTH adj_ma_3m
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date


TP_BARRA_GEMLT_GROWTH adj_ma_3m
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CO > .7 < 1.2 Count 69
CO > 0 < .7 Count 249
CO >-0.7 < 0 Count 316
CO > -1.2 < -.7 Count 73
CO < -1.2 Count 71
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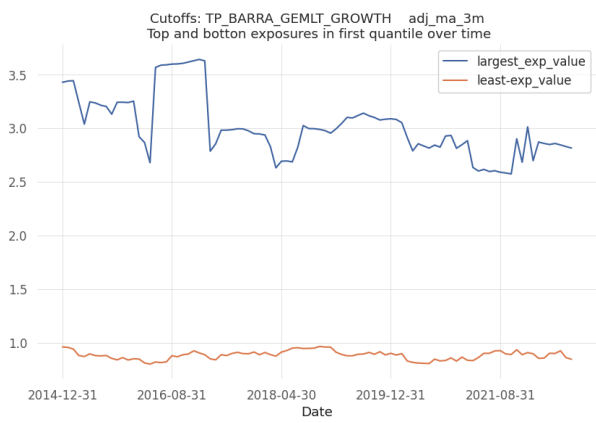
2016-09-30
2018-05-31
2020-01-31
2021-09-30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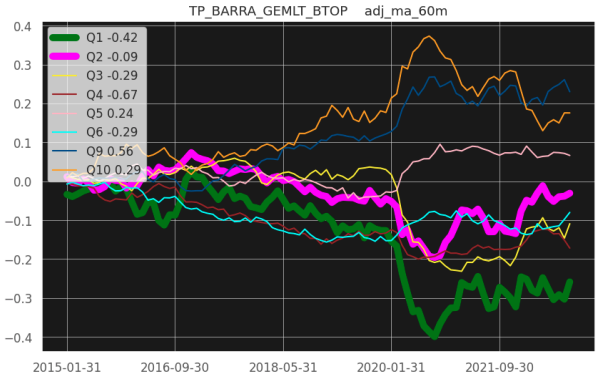
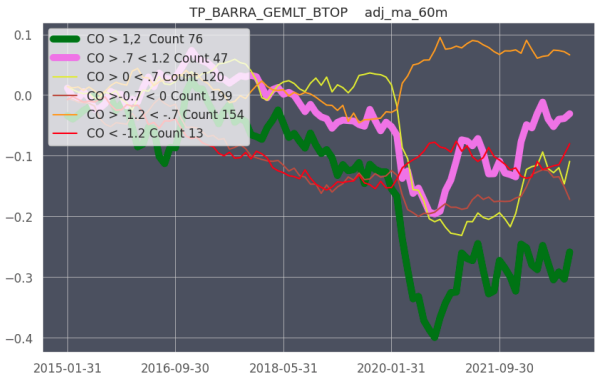
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date

BTOP


TP_BARRA_GEMLT_BTOP adj_ma_60m
Q1 -0.42
Q2 -0.09
Q3 -0.29
Q4 -0.67
Q5 0.24
Q6 -0.29
Q9 0.56
Q10 0.29
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30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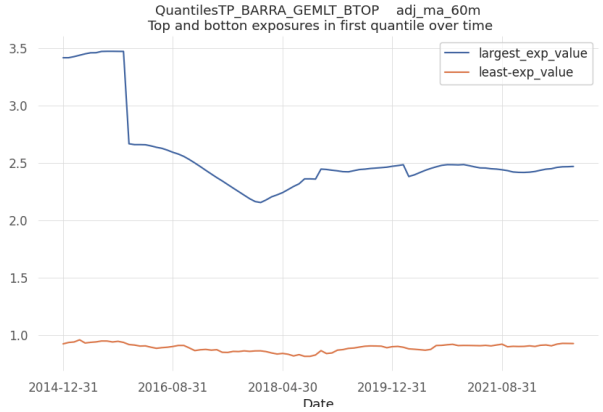
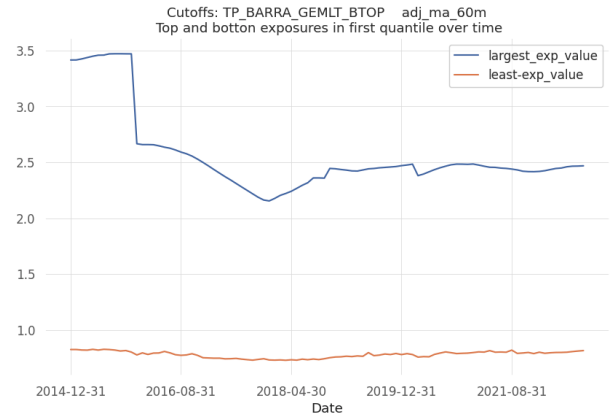
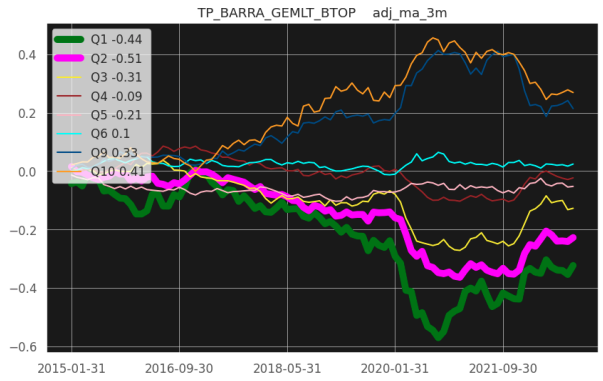
CO > 1,2 Count 76
CO > .7 < 1.2 Count 47
CO > 0 < .7 Count 120
CO > 0.7 < 0 Count 199
CO > -1.2 < -.7 Count 154
CO < -1.2 Count 13
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30


QuantilesTP_BARRA_GEMLT_BTOP adj_ma_60m
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
3.5
3.0
2.5
2.0
1.5
1.0
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date


Cutoffs: TP_BARRA_GEMLT_BTOP adj_ma_60m
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
3.5
3.0
2.5
2.0
1.5
1.0
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date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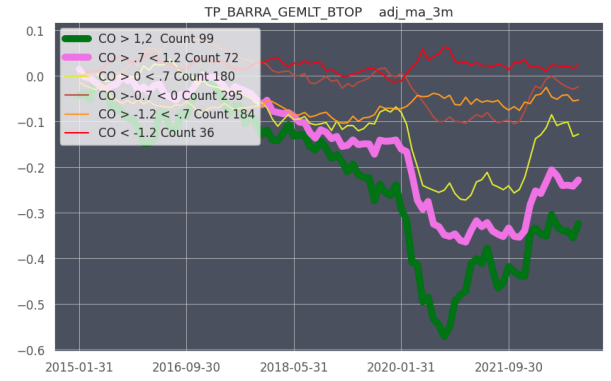
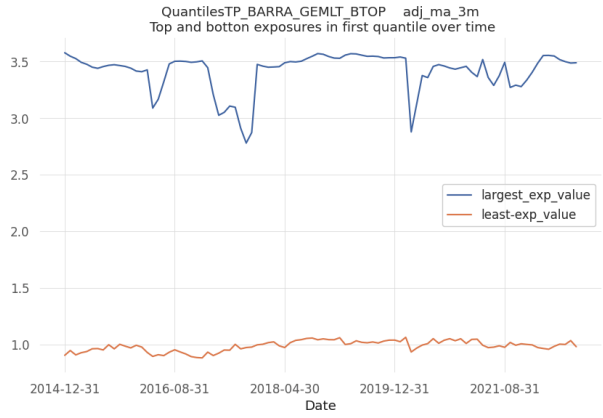
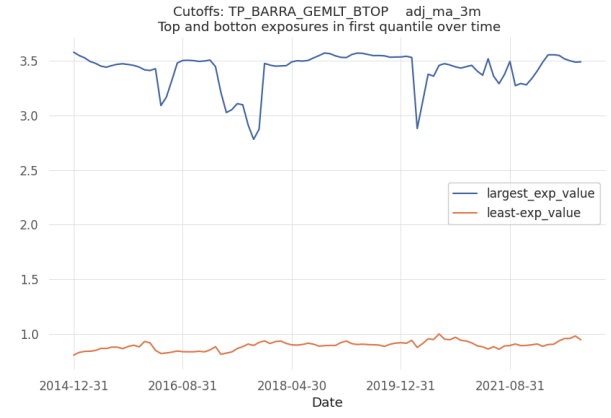
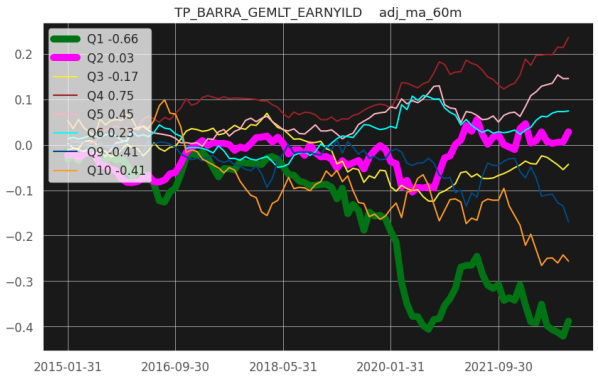
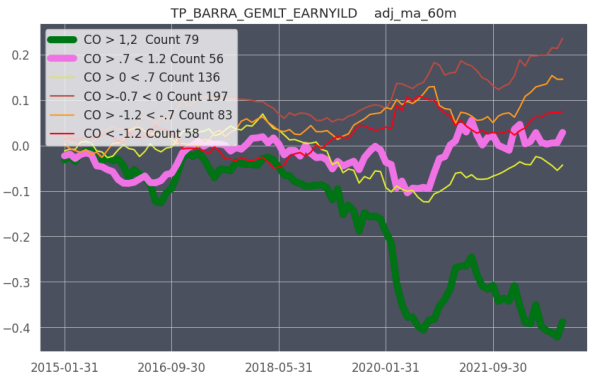
Q1 -0.44
Q2 -0.51
Q3 -0.31
Q4 -0.09
Q5 -0.21
Q6 0.1
Q9 0.33
Q10 0.41
0.4
0.2
0.0
−0.2
−0.4
−0.6
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30


TP_BARRA_GEMLT_BTOP adj_ma_3m
CO > 1,2 Count 99
CO > .7 < 1.2 Count 72
CO > 0 < .7 Count 180
CO >-0.7 < 0 Count 295
CO > -1.2 < -.7 Count 184
CO < -1.2 Count 36
0.1
0.0
−0.1
−0.2
−0.3
−0.4
−0.5
−0.6
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30


QuantilesTP_BARRA_GEMLT_BTOP adj_ma_3m
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
3.5
3.0
2.5
2.0
1.5
1.0
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date


Cutoffs: TP_BARRA_GEMLT_BTOP adj_ma_3m
Top and botton exposures in first quantile over time
largest_exp_value
least-exp_value
3.5
3.0
2.5
2.0
1.5
1.0
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31
Date

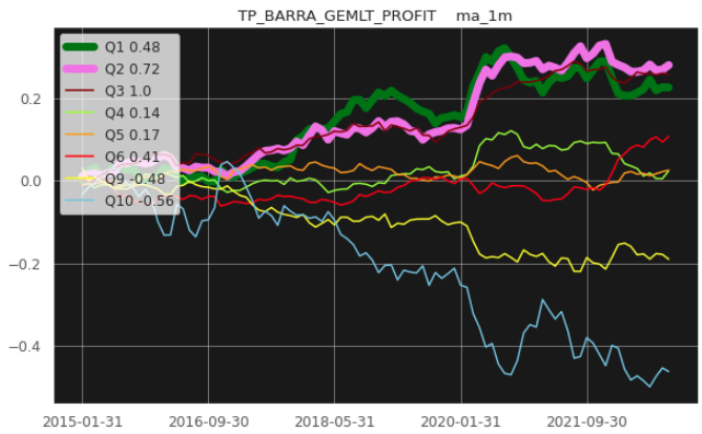
EARN YIELD

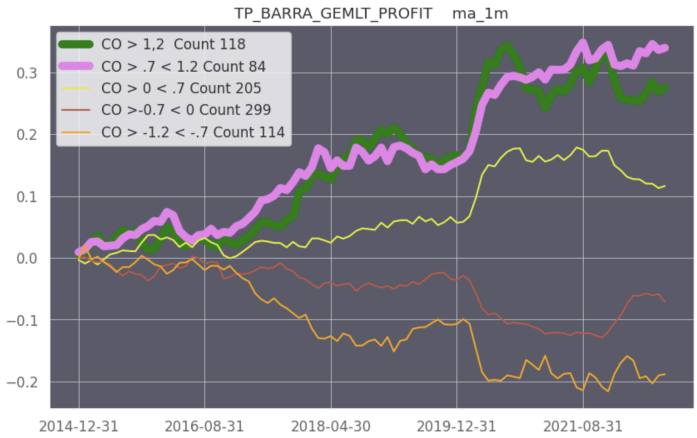
	
Rerun with z-score instead of raw score for spread chart	
Average of the top quantile z-scores vs Average of bottom z-scores of bottom quanilte. Remember to take z-score instead of raw score.	

By year end:
> 1. Why are negative cutoffs trending up?
> 2.Tile vs cutoffs
Two universes:[Dec 14, 2021]
US (Start Date: 2014-12-31?)
NA (North America) (1,3,6,9,12,2y,3y,5y Moving Averages)
Summary chart with information ratio. Pick the best 2 and show them in this table format
18 factors + 2 combo factors (important and distances of the combo).
Compare the performance metrics for both approaches

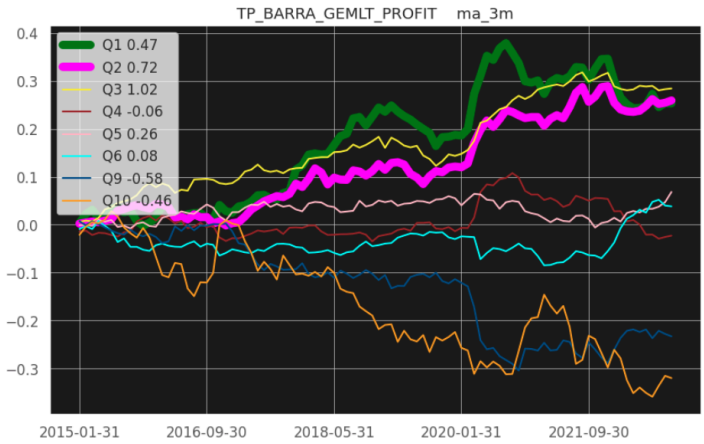
Archive

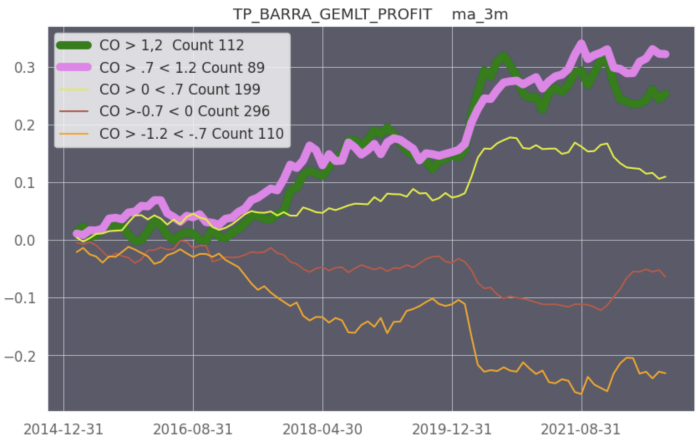
The MA approach was strict in this version.
QUANTILES vS CUTOFFS
Draft Code
PROFIT



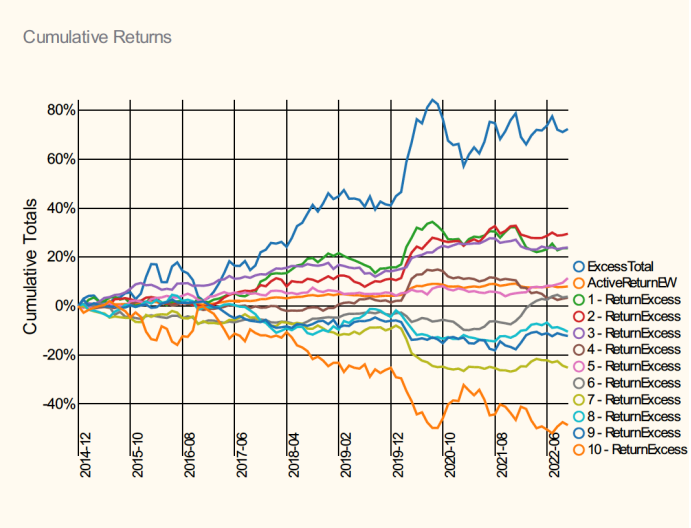


Link to spreadsheet with returns for all quantiles for 1m MA for PROFIT factor
Information ratio:

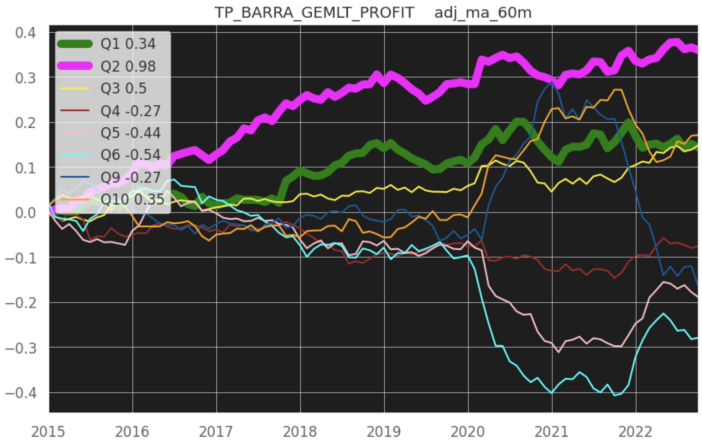


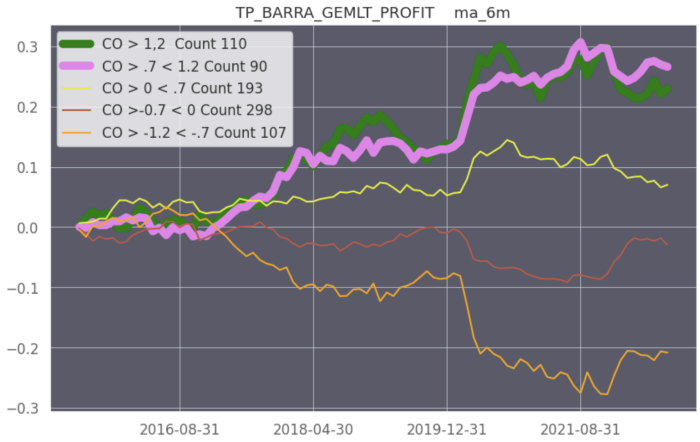


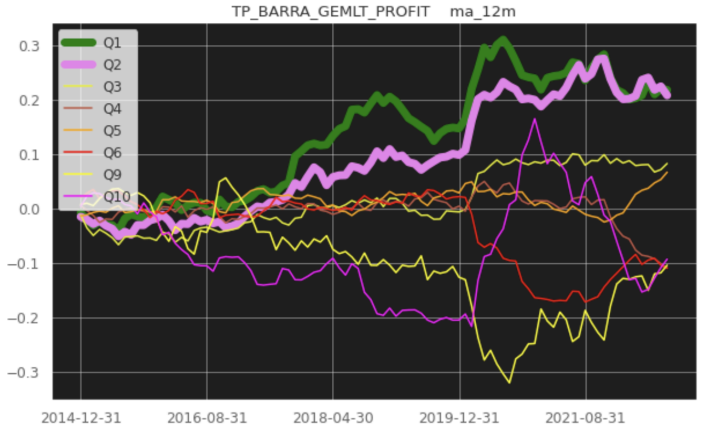
<Matches RK>

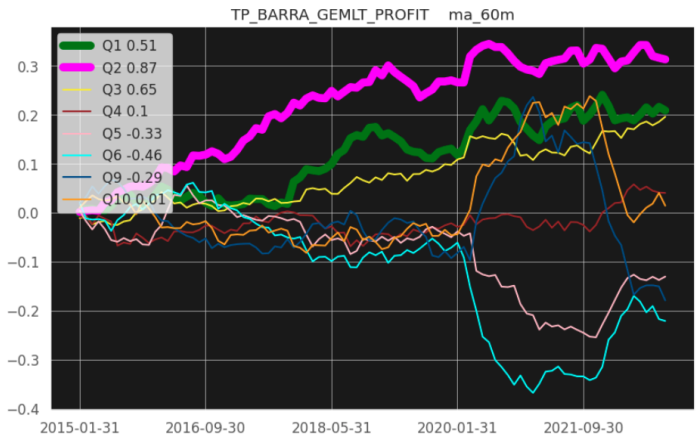


Verifying this will 100% cutoff for Moving average with NA



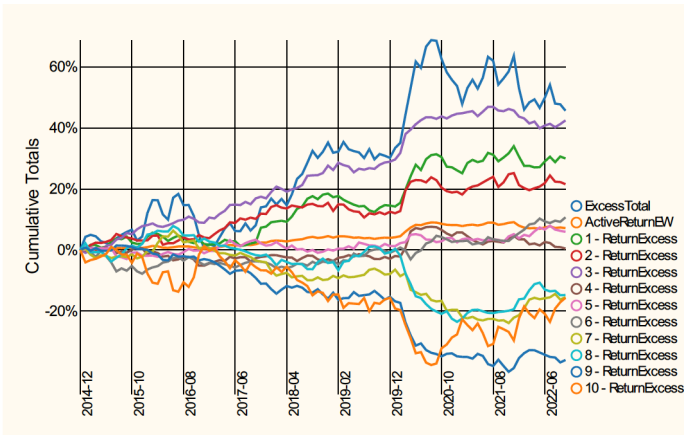


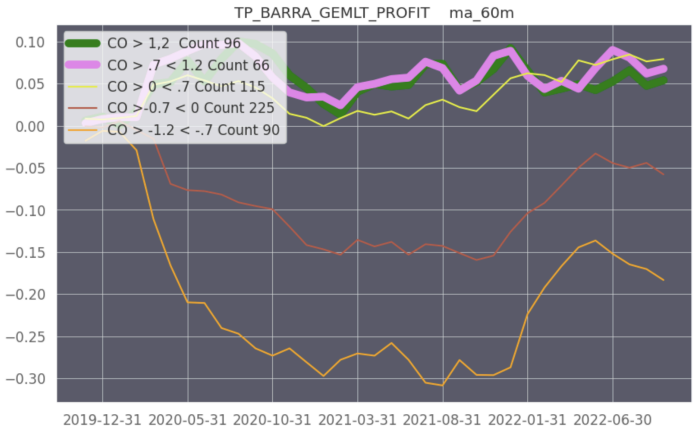




[100% strict. If the window contains even one NA, the mean is NA].

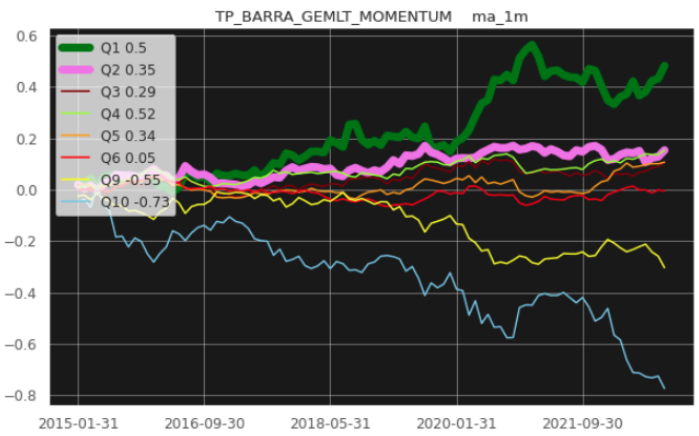
<Matches>

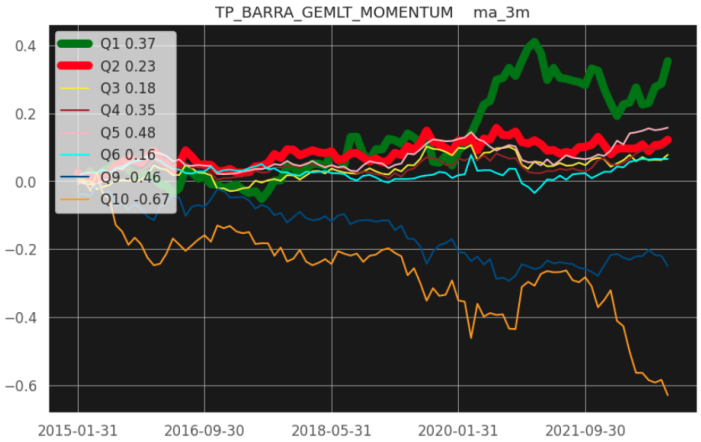




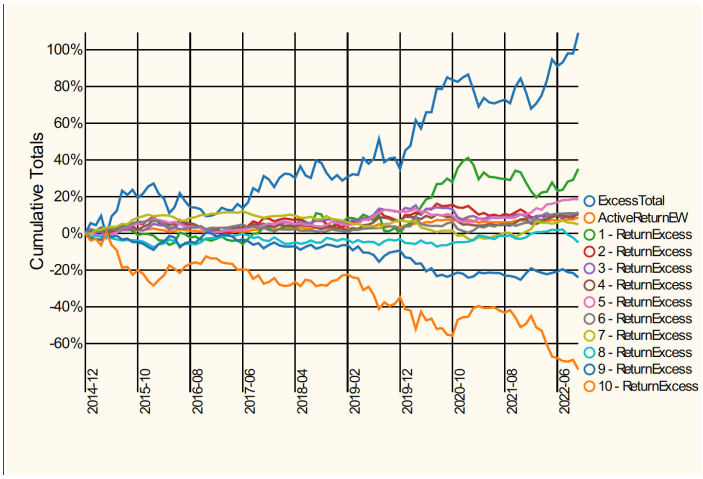
MOMENTUM

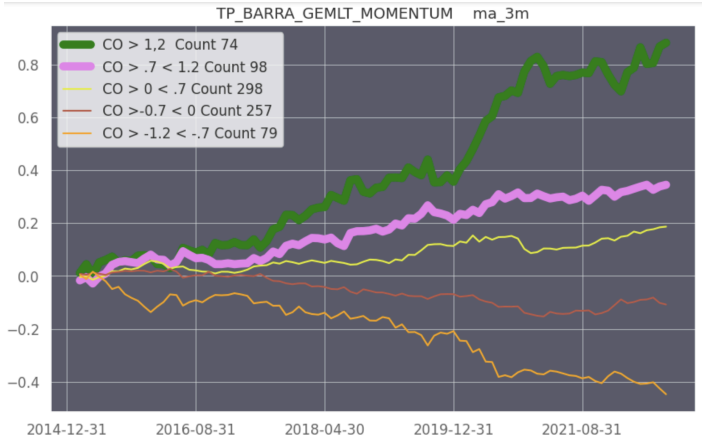
QUANTILES[With 1 month fwd excess returns]	CUTOFFS[use 1 M Fwd returns]

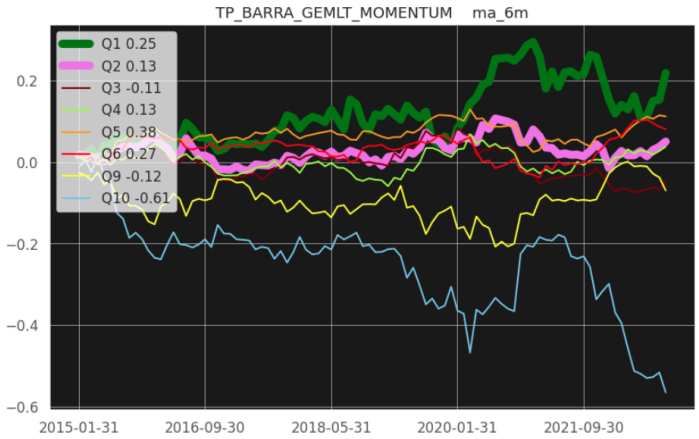




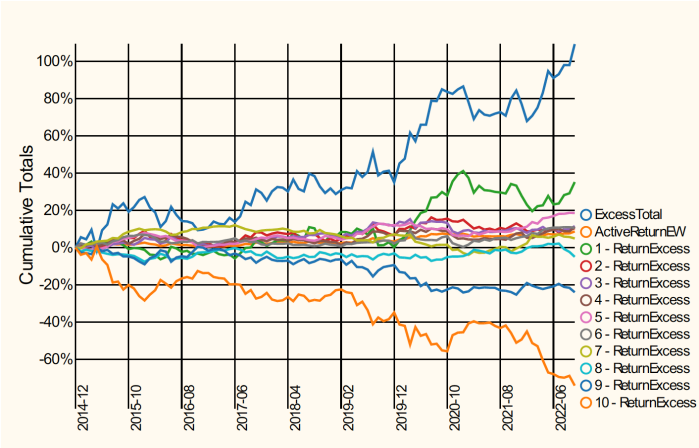
<Matches with RK>

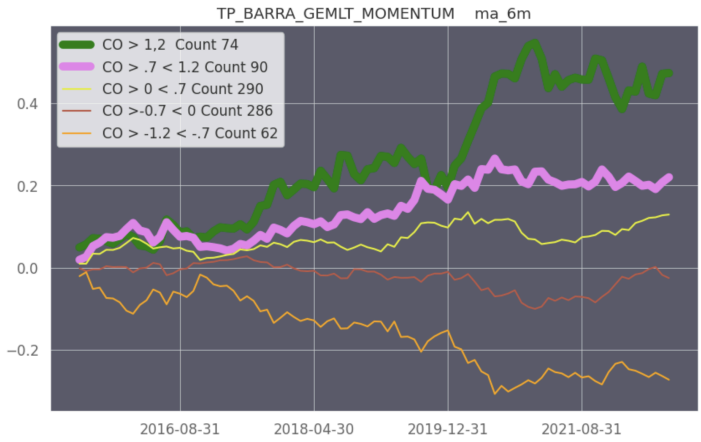


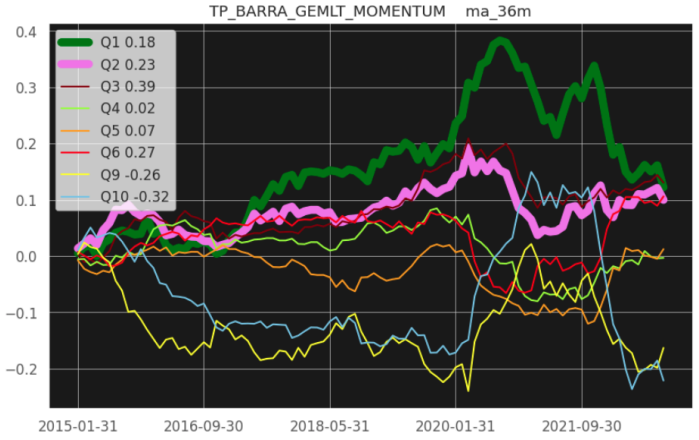




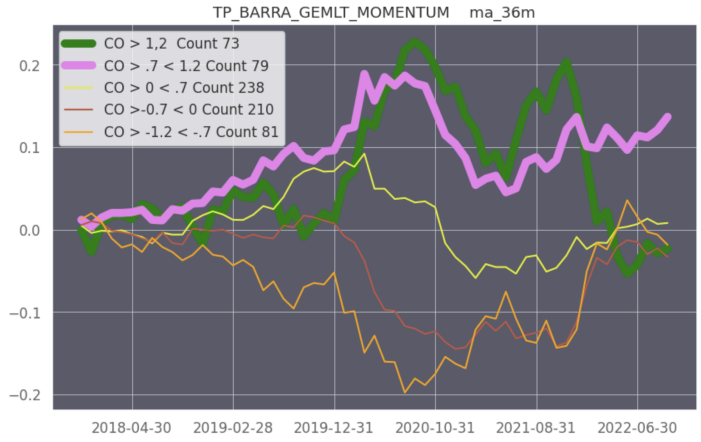
<Matches with RK>



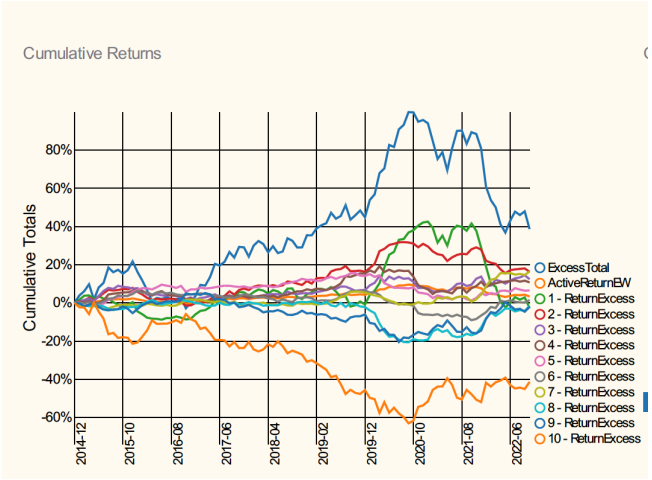


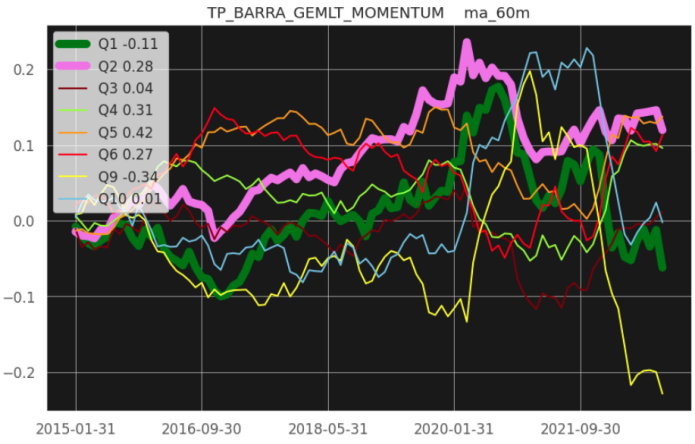


<Matches with RK>

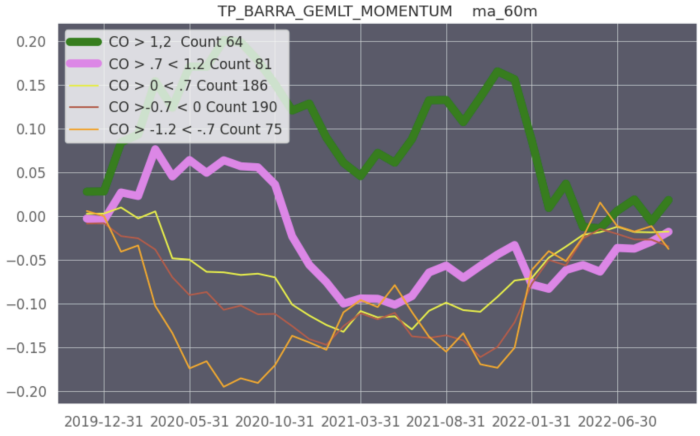


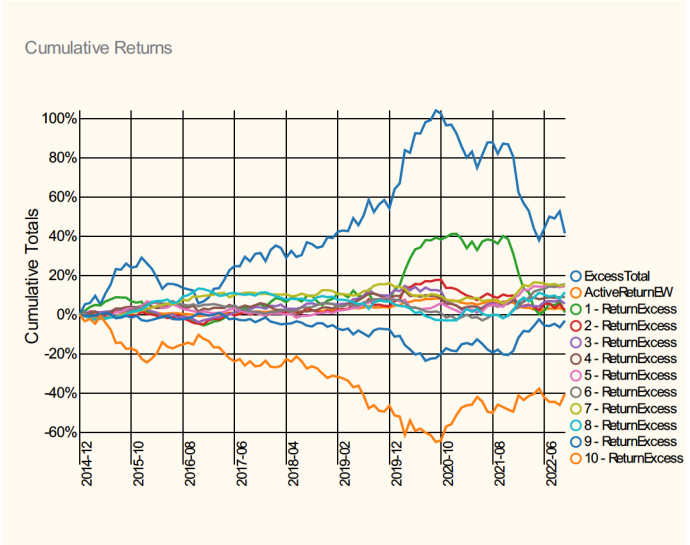
Are the constituents in quantile vs cutoffs similar?
Ask question



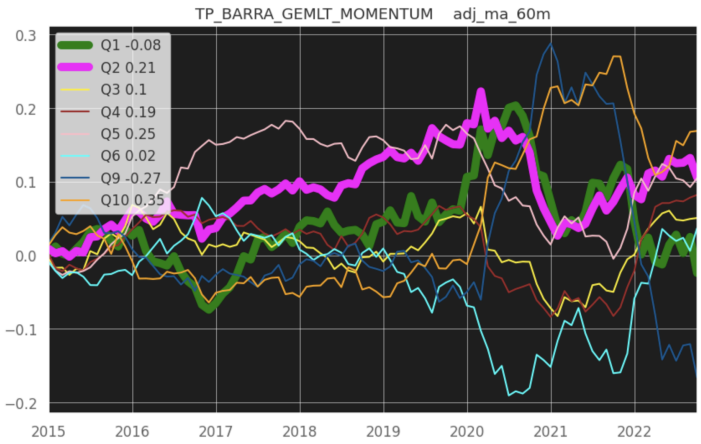


<Does not with RK>
Reason: Missing data for 3 months

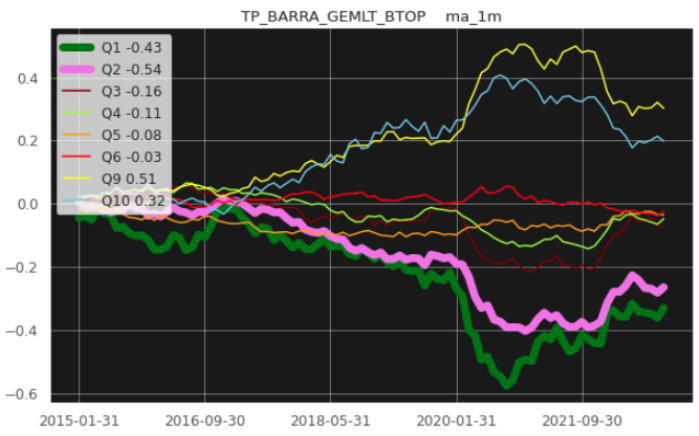


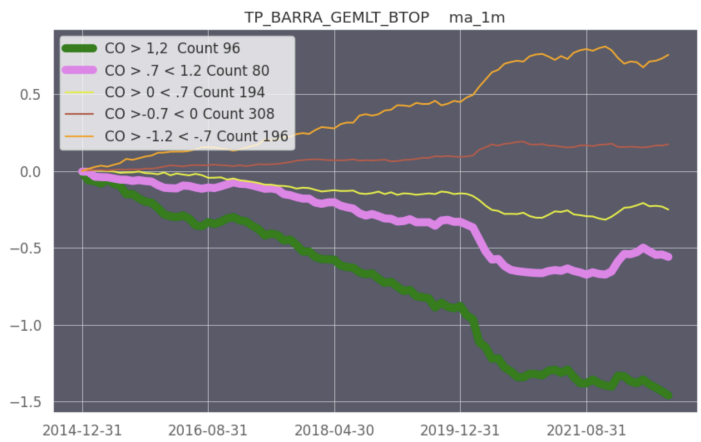


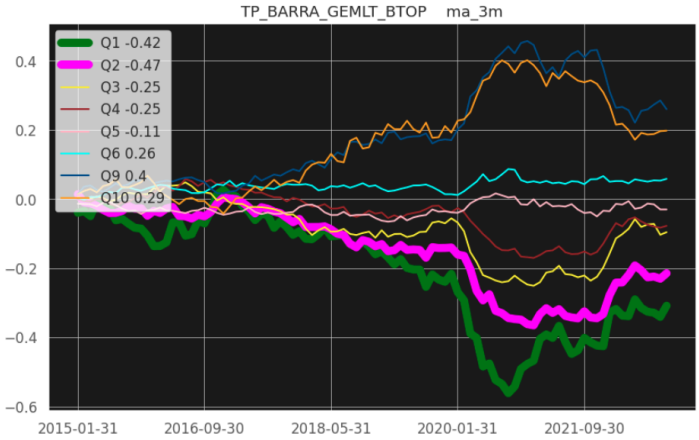
With adjustments for 100% strict. NA [.e if a rolling window contains NA, return NA, otherwise rolling mean. Dec 7th 2022]



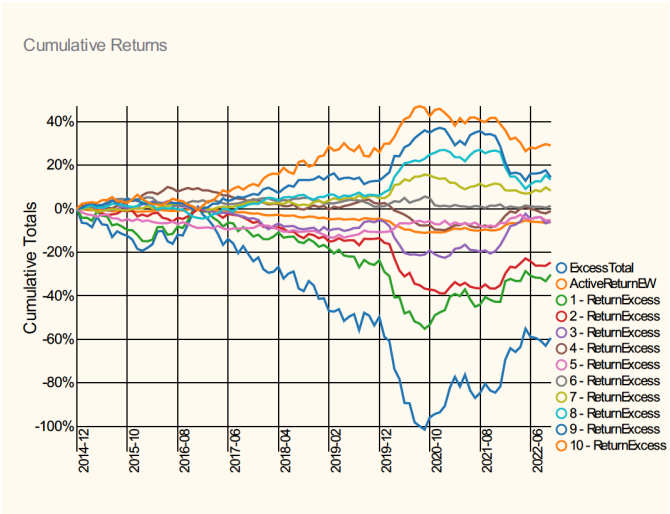
BTOP

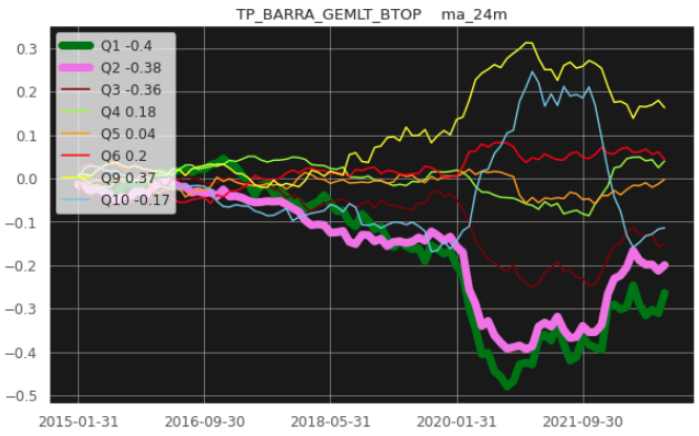

TP_BARRA_GEMLT_BTOP ma_1m
Q1 -0.43
Q2 -0.54
Q3 -0.16
Q4 -0.11
Q5 -0.08
Q6 -0.03
Q9 0.51
Q10 0.32
0.4
0.2
0.0
−0.2
−0.4
−0.6
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30

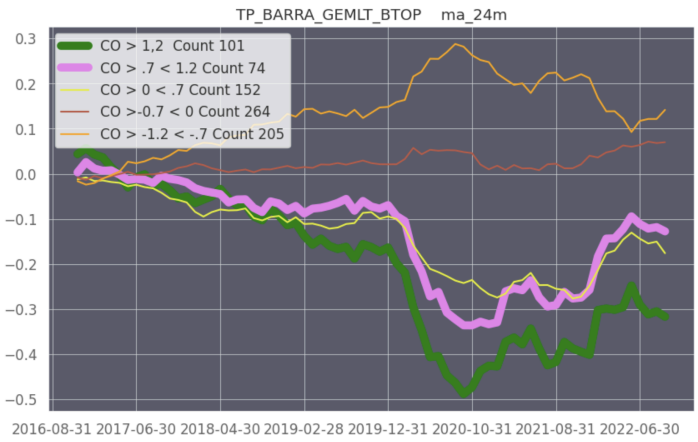

TP_BARRA_GEMLT_BTOP ma_1m
CO > 1,2 Count 96
CO > .7 < 1.2 Count 80
CO > 0 < .7 Count 194
CO >-0.7 < 0 Count 308
CO > -1.2 < -.7 Count 196
0.5
0.0
−0.5
−1.0
−1.5
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31

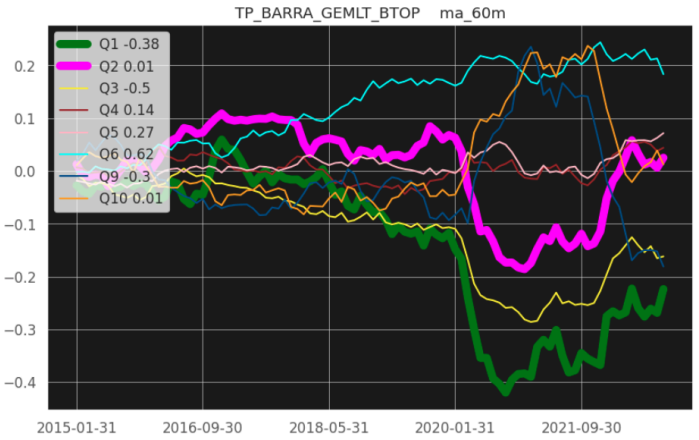

TP_BARRA_GEMLT_BTOP ma_3m
Q1 -0.42
Q2 -0.47
Q3 -0.25
Q4 -0.25
Q5 -0.11
Q6 0.26
Q9 0.4
Q10 0.29
0.4
0.2
0.0
−0.2
−0.4
−0.6
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30

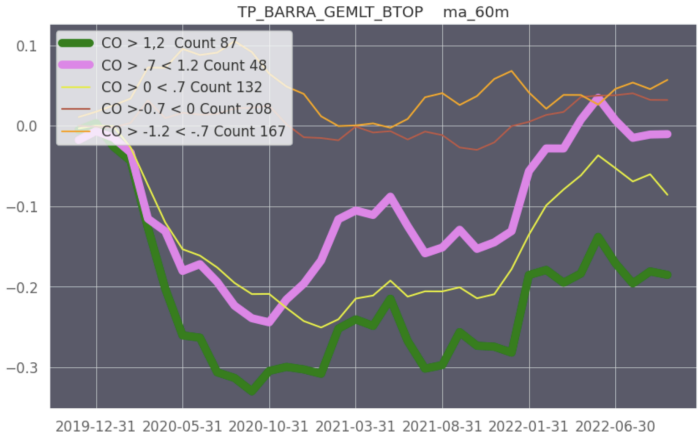
<<Matches RK>>


Cumulative Returns
Cumulative Totals
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
2014-12
2015-10
2016-08
2017-06
2018-04
2019-02
2019-12
2020-10
2021-08
2022-06
Excess Total
Active Return EW
1 - Return Excess
2 - Return Excess
3 - Return Excess
4 - Return Excess
5 - Return Excess
6 - Return Excess
7 - Return Excess
8 - Return Excess
9 - Return Excess
10 - Return Excess

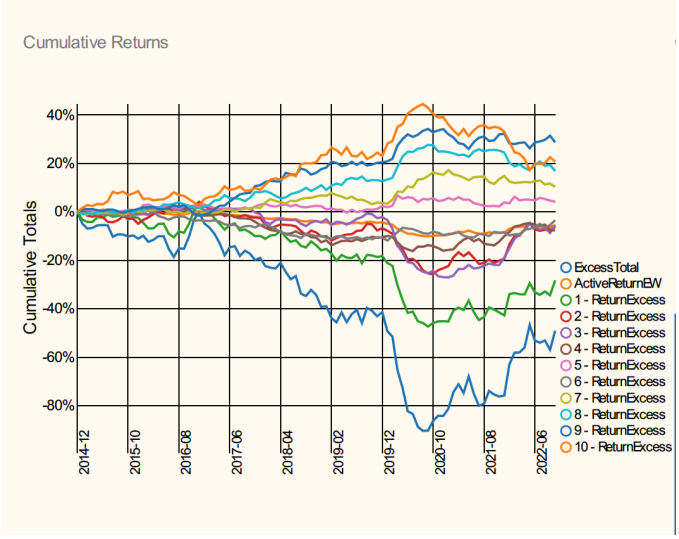




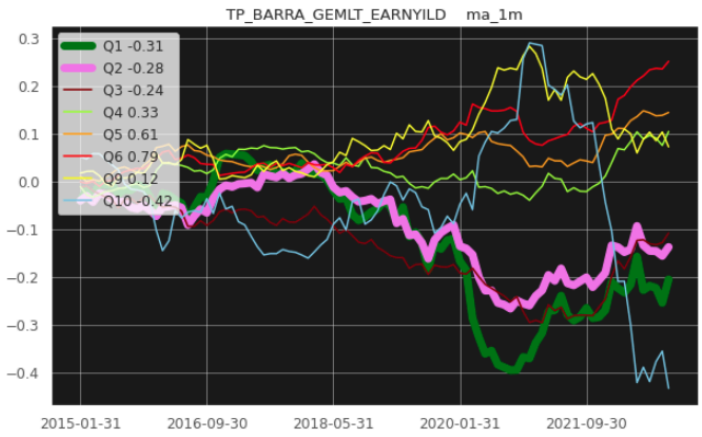




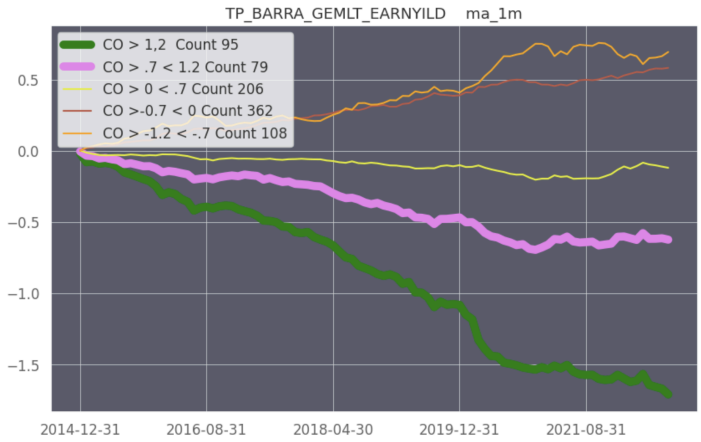
<Top quantile match>
<Check after adding missing data for 3 months>>



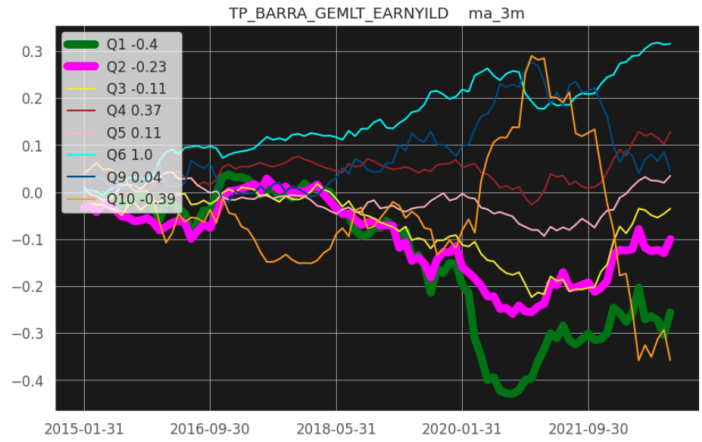
EARN YIELD



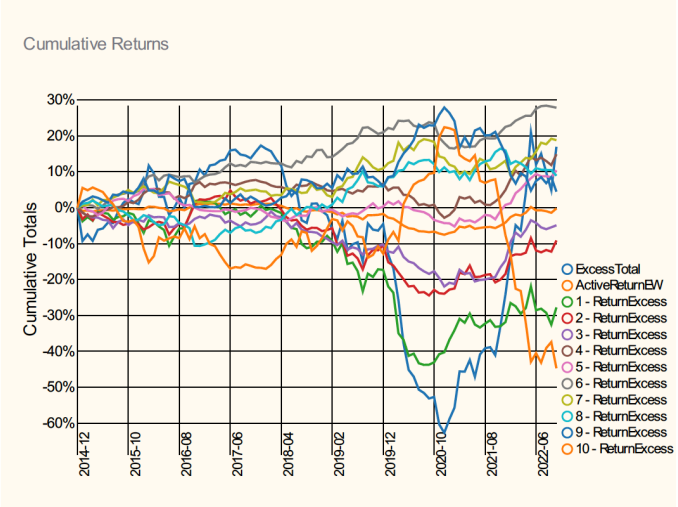
Within the green decile. Bad/good performers.

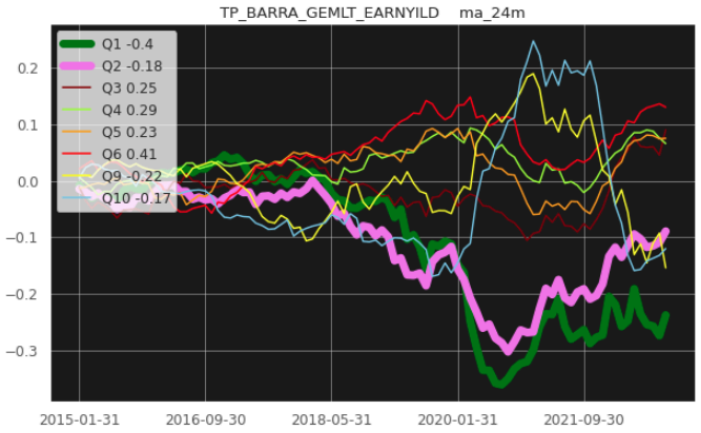


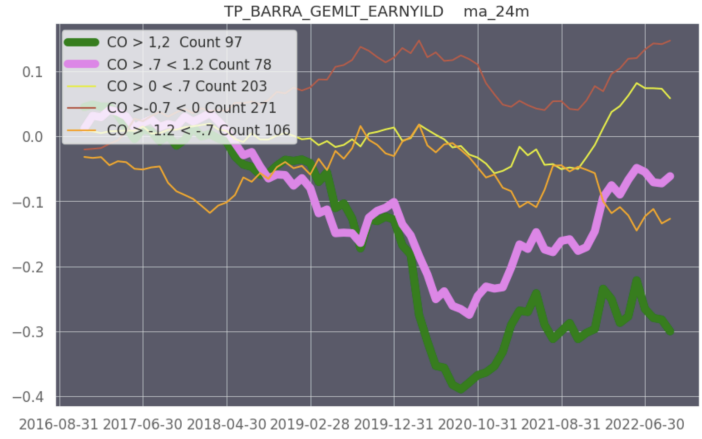
Verify.

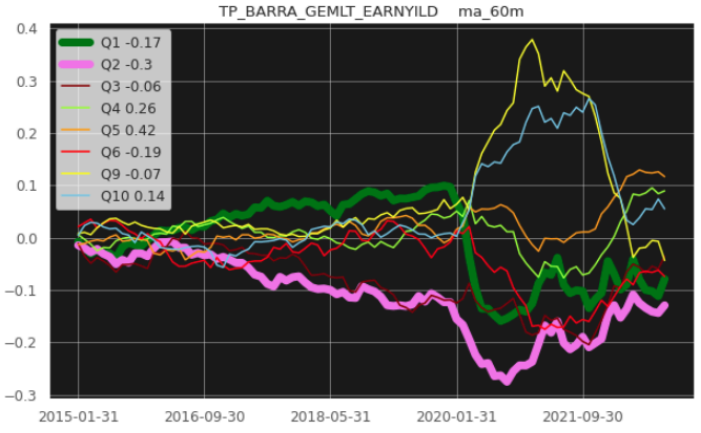


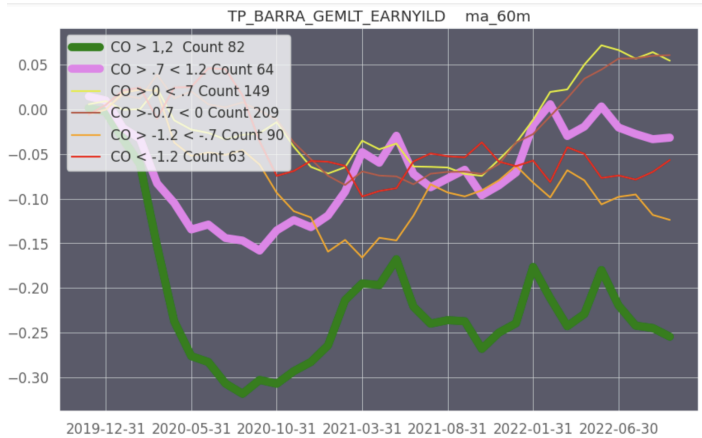
<<Matches with RK>>


Cumulative Returns
Cumulative Totals
30%
20%
10%
0%
-10%
-20%
-30%
-40%
-50%
-60%
2014-12
2015-10
2016-08
2017-06
2018-04
2019-02
2019-12
2020-10
2021-08
2022-06
ExcessTotal
ActiveReturnEW
1 - ReturnExcess
2 - ReturnExcess
3 - ReturnExcess
4 - ReturnExcess
5 - ReturnExcess
6 - ReturnExcess
7 - ReturnExcess
8 - ReturnExcess
9 - ReturnExcess
10 - ReturnExcess

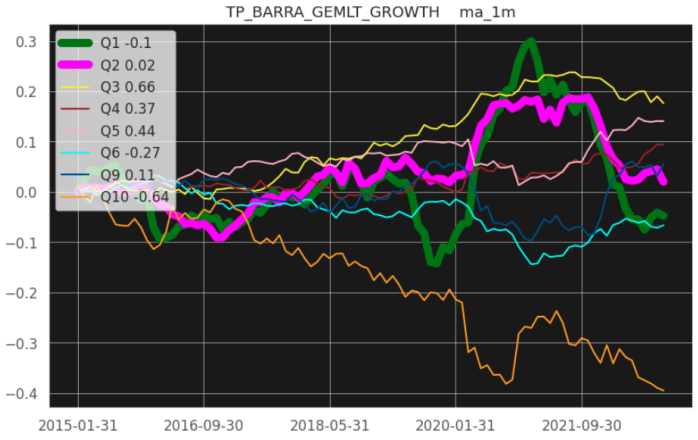

TP_BARRA_GEMLT_EARNYILD ma_24m
Q1 -0.4
Q2 -0.18
Q3 0.25
Q4 0.29
Q5 0.23
Q6 0.41
Q9 -0.22
Q10 -0.17
0.2
0.1
0.0
−0.1
−0.2
−0.3
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30

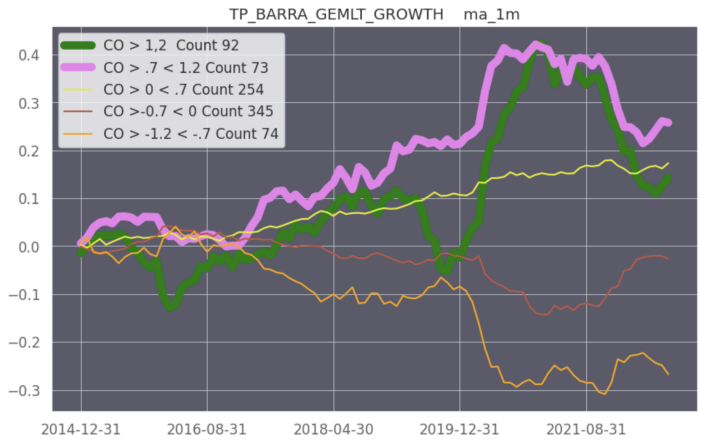

TP_BARRA_GEMLT_EARNYILD ma_24m
CO > 1,2 Count 97
CO > .7 < 1.2 Count 78
CO > 0 < .7 Count 203
CO >-0.7 < 0 Count 271
CO > -1.2 < -.7 Count 106
0.1
0.0
−0.1
−0.2
−0.3
−0.4
2016-08-31
2017-06-30
2018-04-30
2019-02-28
2019-12-31
2020-10-31
2021-08-31
2022-06-30


TP_BARRA_GEMLT_EARNYILD ma_60m
Q1 -0.17
Q2 -0.3
Q3 -0.06
Q4 0.26
Q5 0.42
Q6 -0.19
Q9 -0.07
Q10 0.14
0.4
0.3
0.2
0.1
0.0
−0.1
−0.2
−0.3
2015-01-31
2016-09-30
2018-05-31
2020-01-31
2021-09-30


TP_BARRA_GEMLT_EARNYILD ma_60m
CO > 1,2 Count 82
CO > .7 < 1.2 Count 64
CO > 0 < .7 Count 149
CO >-0.7 < 0 Count 209
CO > -1.2 < -.7 Count 90
CO < -1.2 Count 63
0.05
0.00
−0.05
−0.10
−0.15
−0.20
−0.25
−0.30
2019-12-31
2020-05-31
2020-10-31
2021-03-31
2021-08-31
2022-01-31
2022-06-30

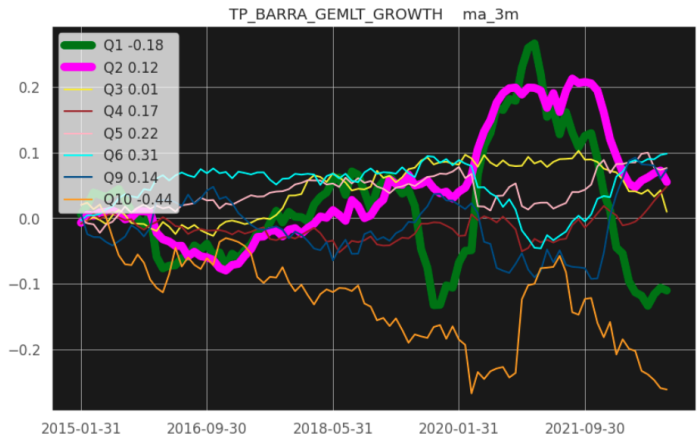
GROWTH

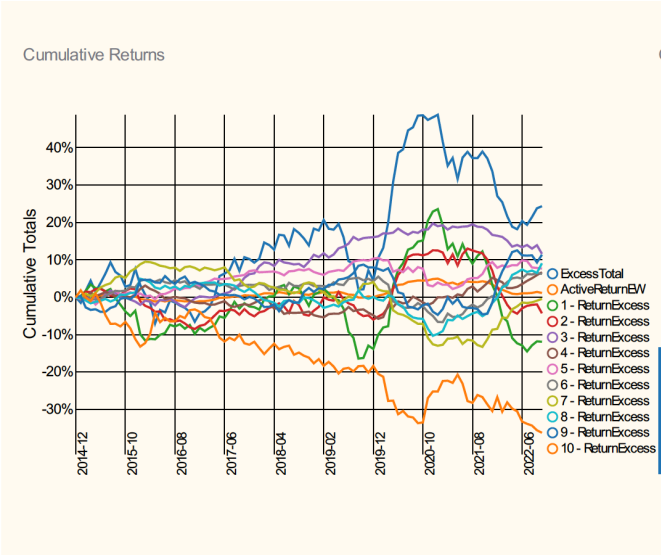


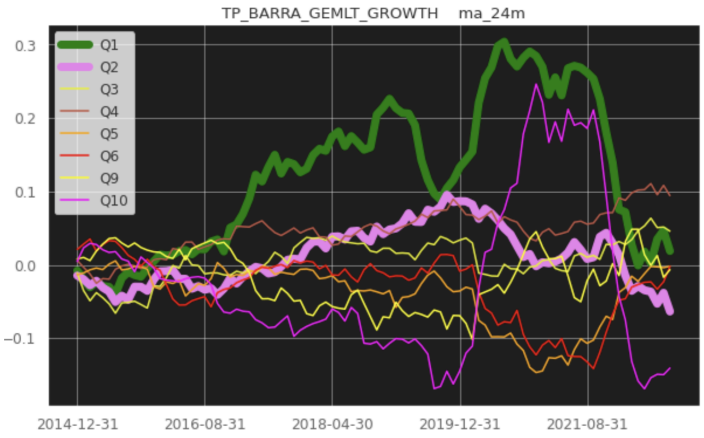


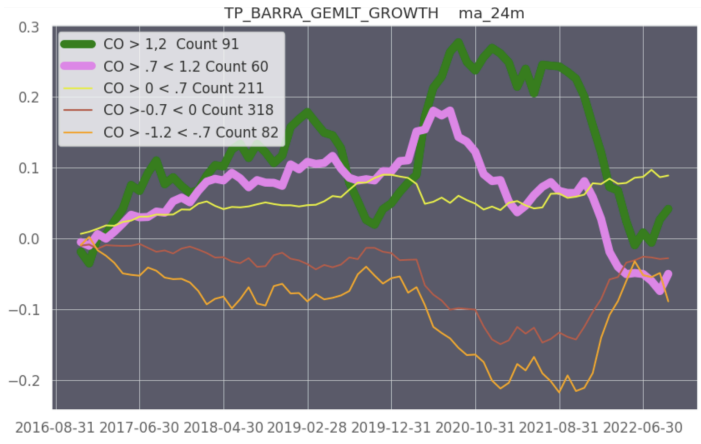
Try: Split top tile. ?Sample size. Deviation of bottom stock in top tile? Width of deviation top stock vs bottom stock over time.

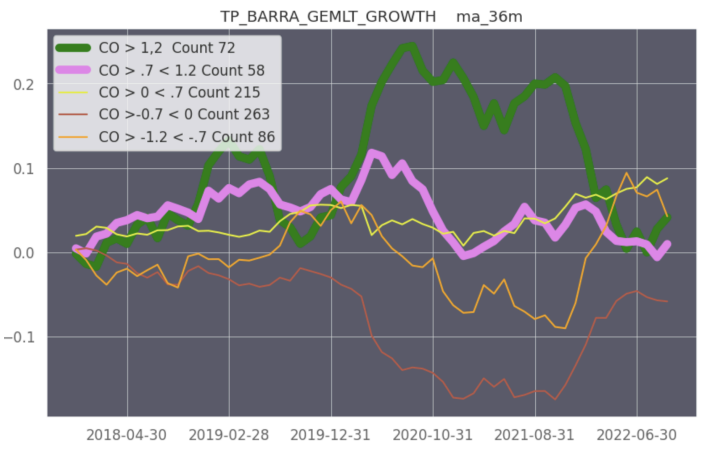
<<Matches RK>>

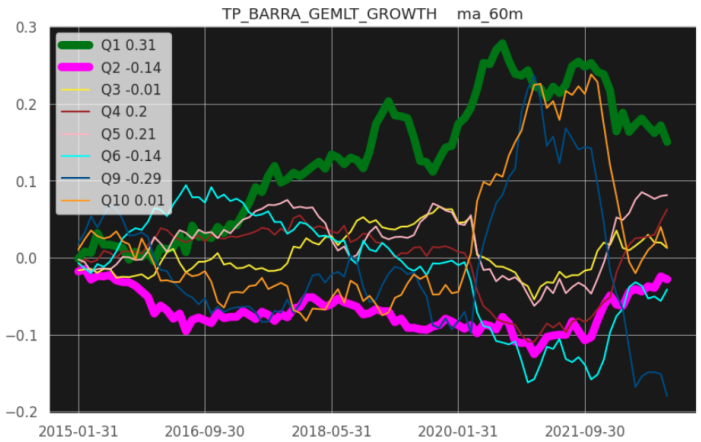



Cumulative Returns
Cumulative Totals
40%
30%
20%
10%
0%
-10%
-20%
-30%
2014-12
2015-10
2016-08
2017-06
2018-04
2019-02
2019-12
2020-10
2021-08
2022-06
ExcessTotal
ActiveReturnEW
1 - ReturnExcess
2 - ReturnExcess
3 - ReturnExcess
4 - ReturnExcess
5 - ReturnExcess
6 - ReturnExcess
7 - ReturnExcess
8 - ReturnExcess
9 - ReturnExcess
10 - ReturnExcess

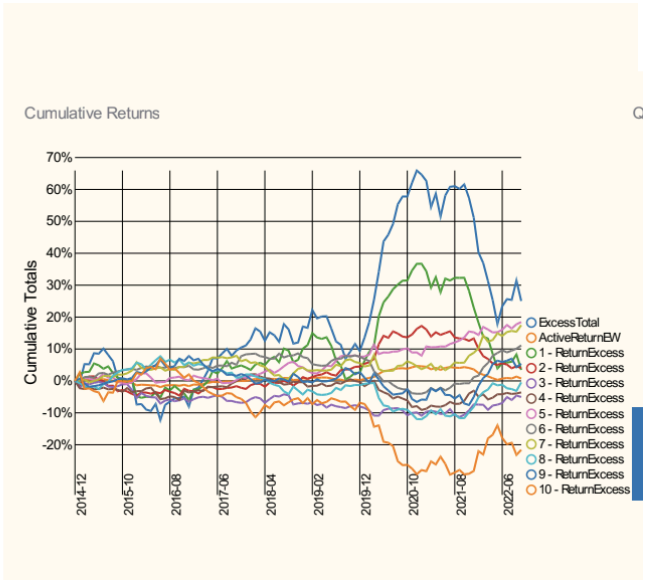

TP_BARRA_GEMLT_GROWTH ma_24m
Q1
Q2
Q3
Q4
Q5
Q6
Q9
Q10
0.3
0.2
0.1
0.0
−0.1
2014-12-31
2016-08-31
2018-04-30
2019-12-31
2021-08-31

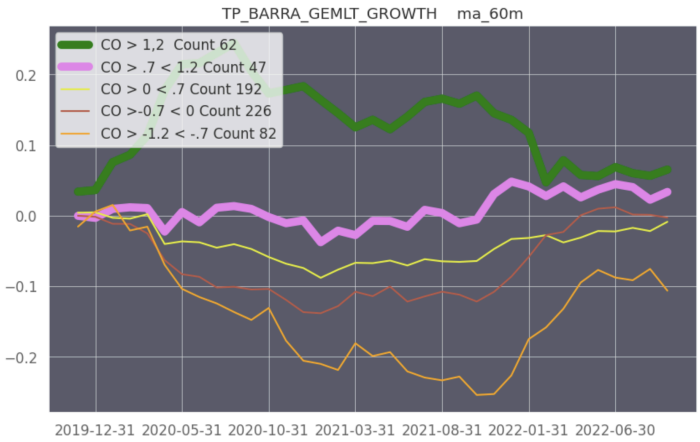

TP_BARRA_GEMLT_GROWTH ma_24m
CO > 1,2 Count 91
CO > .7 < 1.2 Count 60
CO > 0 < .7 Count 211
CO >-0.7 < 0 Count 318
CO > -1.2 < -.7 Count 82
0.3
0.2
0.1
0.0
−0.1
−0.2
2016-08-31 2017-06-30 2018-04-30 2019-02-28 2019-12-31 2020-10-31 2021-08-31 2022-06-30


TP_BARRA_GEMLT_GROWTH ma_36m
CO > 1,2 Count 72
CO > .7 < 1.2 Count 58
CO > 0 < .7 Count 215
CO >-0.7 < 0 Count 263
CO > -1.2 < -.7 Count 86
0.2
0.1
0.0
−0.1
2018-04-30
2019-02-28
2019-12-31
2020-10-31
2021-08-31
2022-06-30



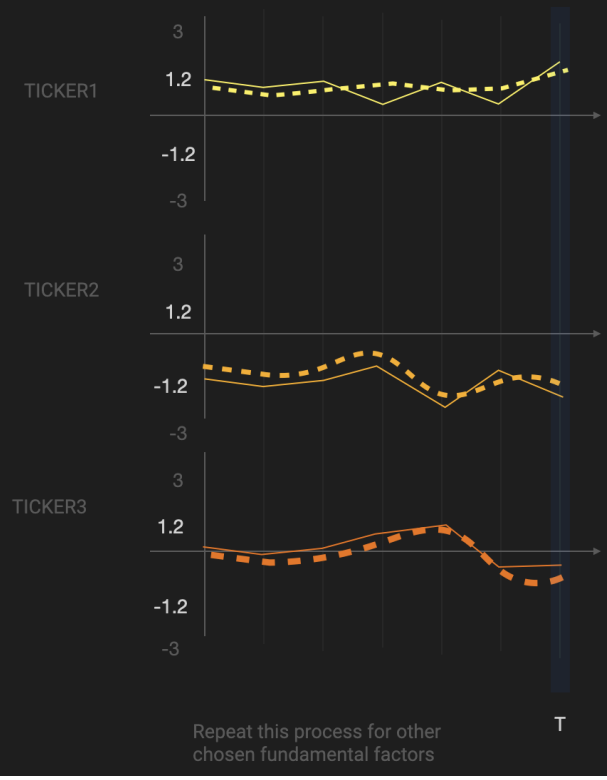
< Does not match RK>
CCheck after adding missing data>





METHODOLOGY: Static Portfolios

EXAMPLE: Book to price factor



Repeat this process for other chosen fundamental factors

Try different transformations (Moving averages) on the Barra exposure series

Renormalize factor scores at time T.

Cutoffs are 1.2, 0.7, 0 up and down

Group stocks in to portfolios defined the cut-offs

For each portfolio, measure the price return series over time

Measure the price return series for all stocks in the universe over time

Compare portfolio and the Equally weighted benchmark series to calculate information ratio

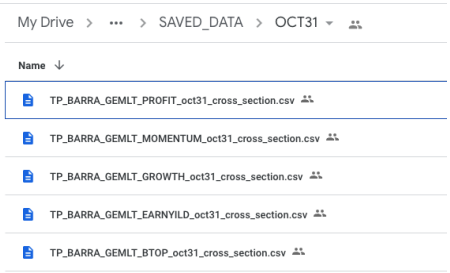
Example of transformation: 3M moving average

List stocks in each portfolio that have highest Information ratio. Calculate information ratio based on xBSL [Excess returns]

Transformations

Notebook:
[Link]

Files Location

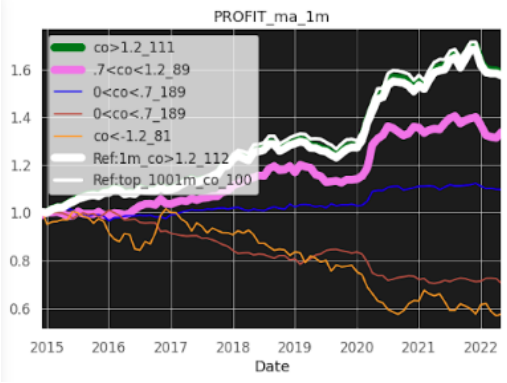
 **Transformations score for all stocks** Cross sectional transformation scores	Performance charts and Constituents list of each portfolio Quantiles Searchable spreadsheet Cutoffs Searchable spreadsheet	Spreadsheet with Performance Metrics Best performing portfolios

for all 900+ stocks. Report run on June 30th data. Run on Oct 31st, 2022 Link		

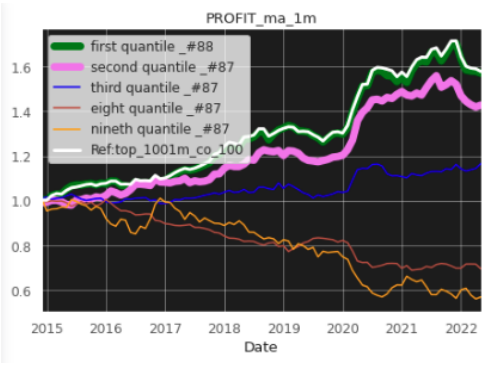
Top 2 transformations for each feature

Feature: Profit
Transformation: PROFIT_ma_1m
These charts show the performance of the quantiles/cutoffs relative to the equal weighted benchmark (all stocks portfolio)

The tag PROFIT_ma_1m_co>1.2 means, the feature analyzed is PROFIT, transformation is: rolling moving average 1 month period, c0>1.2 means, the portfolios are created based on cutoffs and in this case the portfolio includes stocks whose cutoff for moving average of the feature on the backtest data (june 2022) is over 1.2.
The highlighted value is the information ratio for this portfolio
Best performing transformation and cutoff

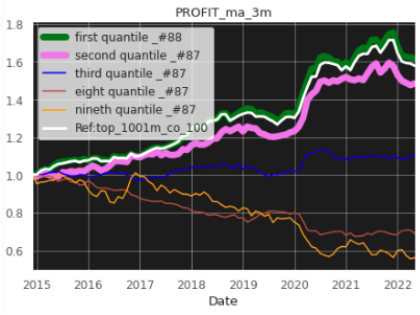
1.24 **PROFIT_ma_1m_co>1.2** 	White line is overlaid to compare with performance without transformation for a feature.

1.14 PROFIT_ma_1m_Quatile_1	Second best performing transformation and cutoff

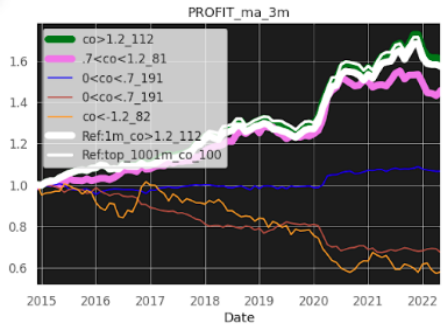


Transformation: PROFIT_ma_3m

1.25 PROFIT_ma_3m_co>1.2



1.18 PROFIT_ma_3m_Quatile_1

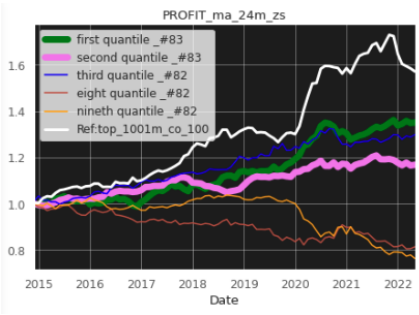
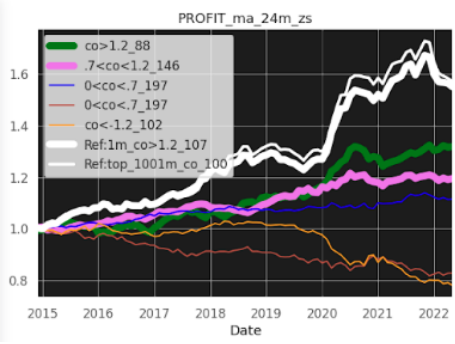


Transformation:PROFIT_ma_60m

1.06 PROFIT_ma_60m_.7<co<1.2

0.92 PROFIT_ma_60m_Quatile_2

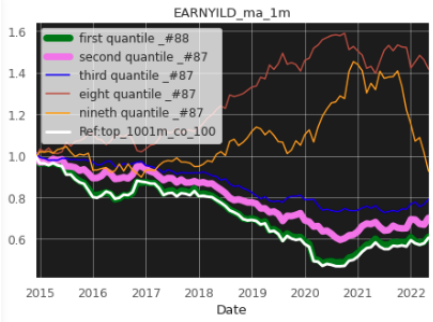
Transformation: PROFIT_ma_24m_zs

0.99 PROFIT_ma_24m_zs_Quatile_1|PROFIT_ma_24m_zs 	.92 PROFIT_ma_24m_zs_co>1.2 

|

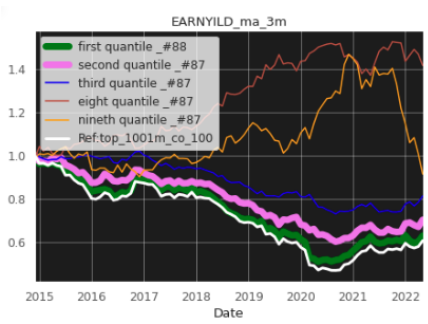
Feature: Earning Yield

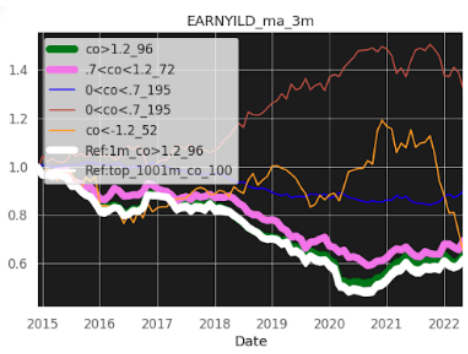
EARNYILD_ma_1m

0.6 EARNYILD_ma_1m_Quatile_8 	

EARNYILD_ma_3m

0.63 EARNYILD_ma_3m_Quatile_8	0.47 EARNYILD_ma_3m_-.1.2<co<-.7





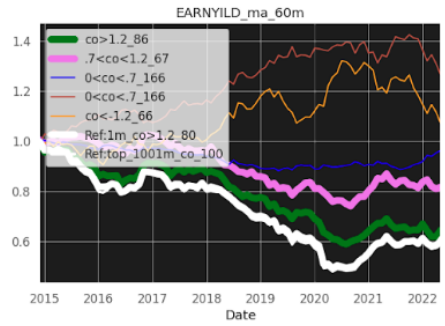
EARNYILD_ma_24m_zs

0.64 EARNYILD_ma_24m_zs_-.1.2<co<-.7|EARNYILD_ma_24m_zs

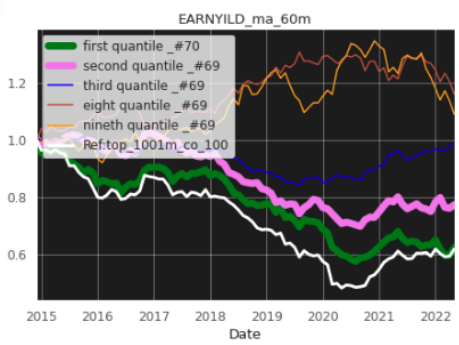
0.37 EARNYILD_ma_24m_zs_Quatile_8|EARNYILD_ma_24m_zs

EARNYILD_ma_60m

0.53 EARNYILD_ma_60m_-.1.2<co<-.7



0.31 EARNYILD_ma_60m_Quatile_8



Growth

GROWTH_ma_1m

1.12 GROWTH_ma_1m_0<co<.7	0.69 GROWTH_ma_1m_Quatile_2

GROWTH_ma_3m

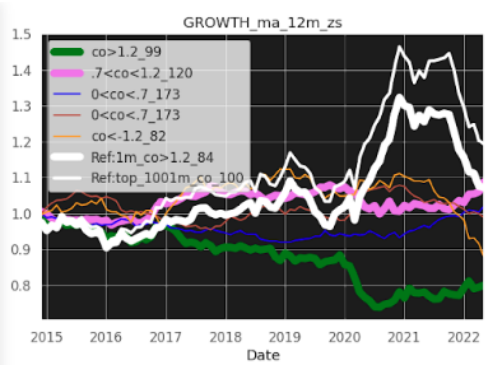
1.04 GROWTH_ma_3m_0<co<.7

0.87 GROWTH_ma_3m_Quatile_3

GROWTH_ma_12m_zs

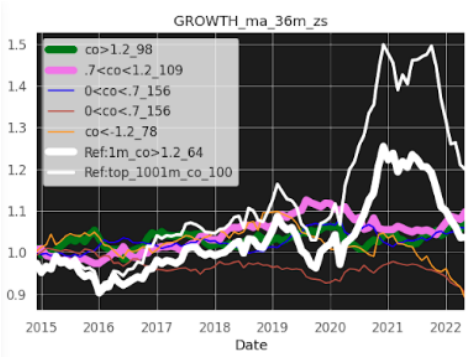
0.69 GROWTH_ma_12m_zs_Quatile_2

0.31 GROWTH_ma_12m_zs_.7<co<1.2|



GROWTH_ma_36m_zs

0.4 GROWTH_ma_36m_zs_.7<co<1.2	0.37 GROWTH_ma_36m_zs_Quatile_2



GROWTH_ma_60m

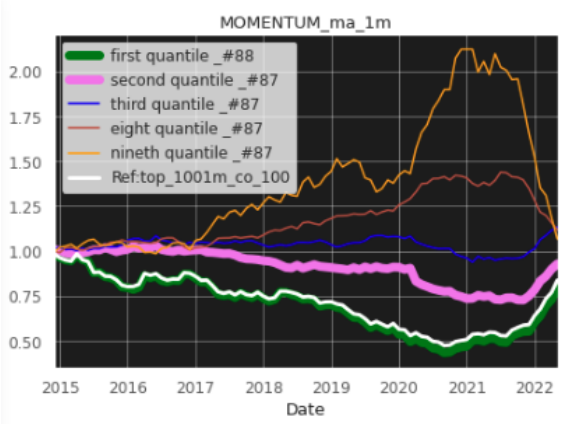
1.22 GROWTH_ma_60m_.7<co<1.2

1.08 GROWTH_ma_60m_Quatile_2

Momentum

MOMENTUM_ma_1m

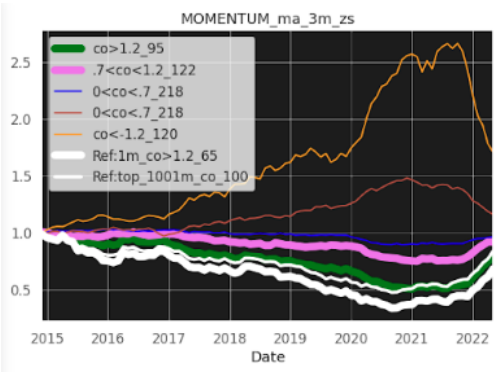
0.35 MOMENTUM_ma_1m_Quatile_3



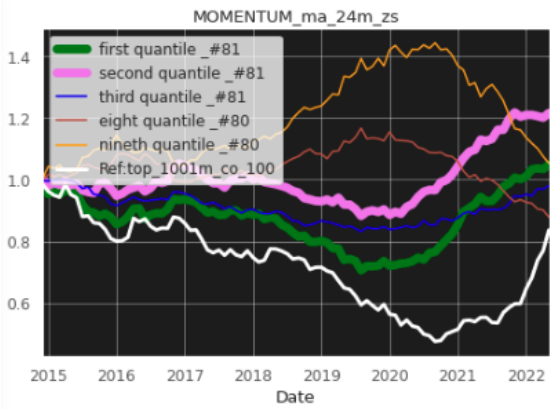
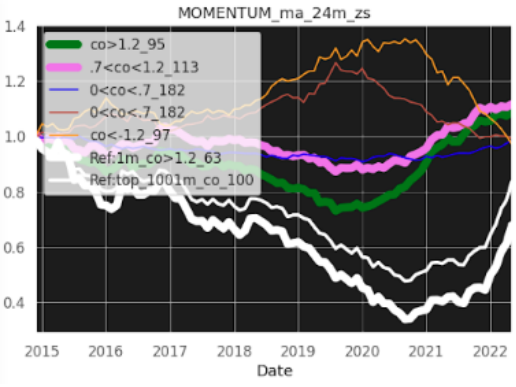
Investigating this result

- Most of the Constituents are energy stocks - Cumulative performance of each constituent is shown here -	

MOMENTUM_ma_3m

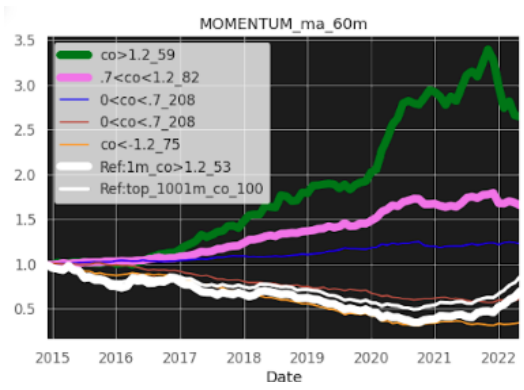
0.32 MOMENTUM_ma_3m_0<co<.7  Investigating this result - Most of the Constituents are energy stocks -	 - Cumulative performance of each constituent is shown here

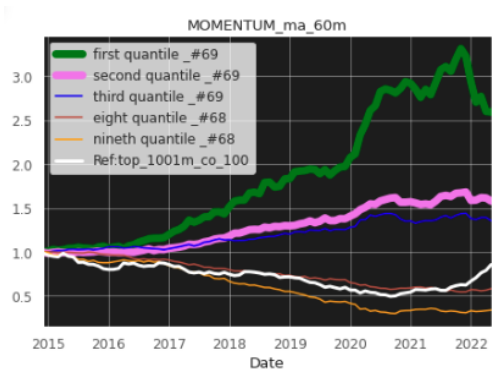
MOMENTUM_ma_24m_zs

0.5 MOMENTUM_ma_24m_zs_Quatile_2  	0.29 MOMENTUM_ma_24m_zs_.7<co<1.2 

MOMENTUM_ma_60m

1.35 MOMENTUM_ma_60m_.7<co<1.2	1.26 MOMENTUM_ma_60m_Quatile_2

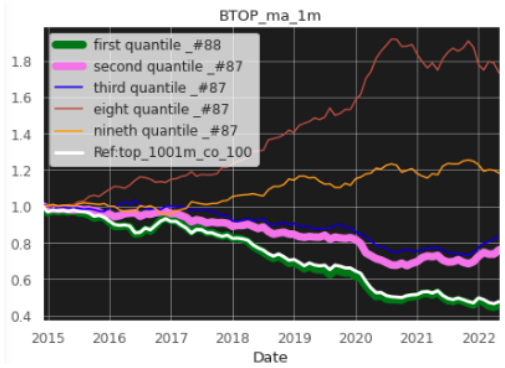




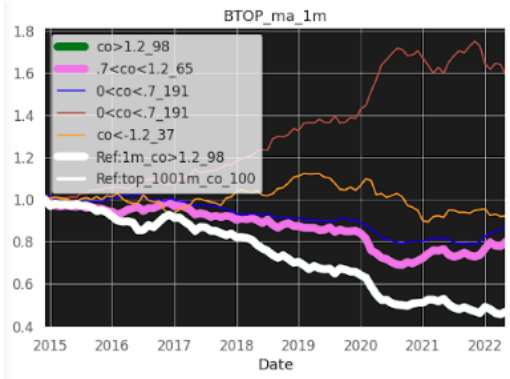
Book To Price

BTOP_ma_1m

1.23 BTOP_ma_1m_Quatile_8

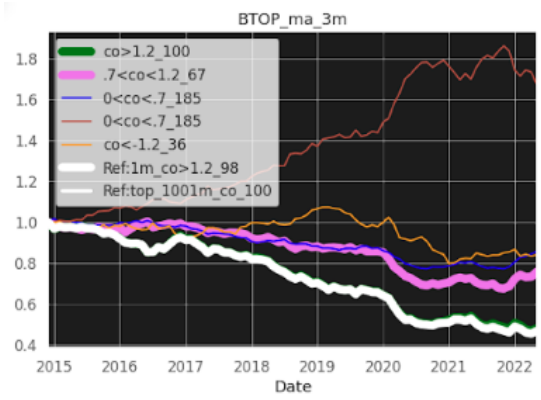


1.13 BTOP_ma_1m_-.1.2<co<-.7

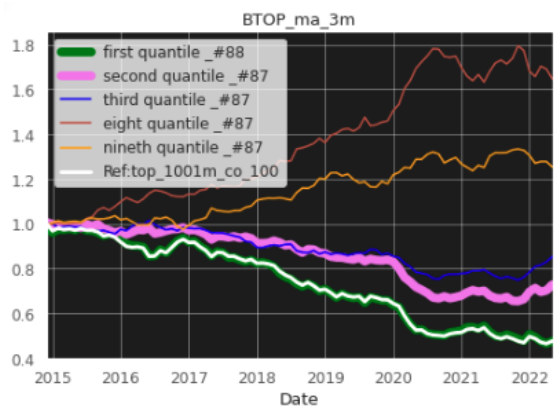


BTOP_ma_3m

1.24 BTOP_ma_3m_-.1.2<co<-.7



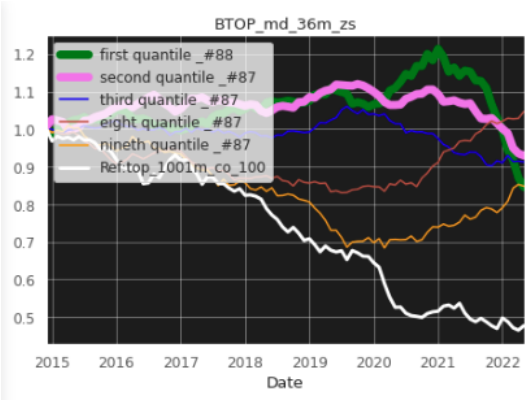
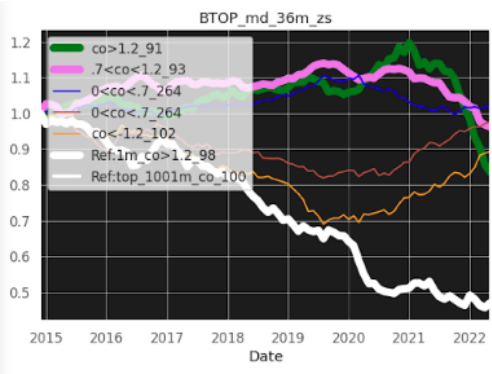
1.17 BTOP_ma_3m_Quatile_8



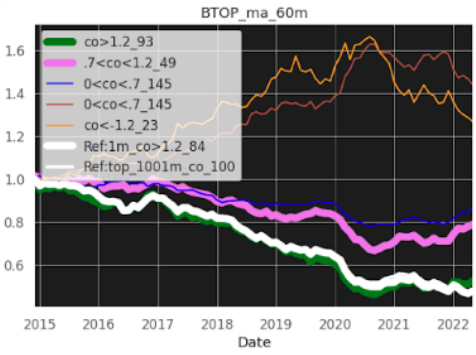
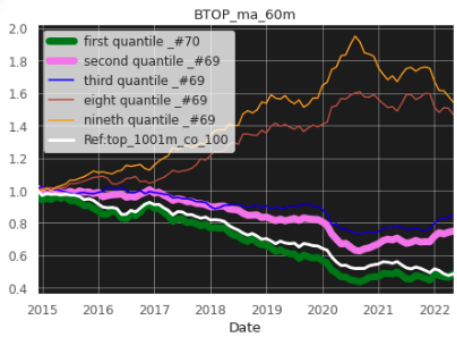
BTOP_md_24m_zs

0.42 BTOP_md_24m_zs_0<co<.7	-0.86 BTOP_md_24m_zs_.7<co<1.2

BTOP_md_36m_zs

0.17 BTOP_md_36m_zs_Quatile_8 	0.09 BTOP_md_36m_zs_0<co<.7 

BTOP_ma_60m

0.93 BTOP_ma_60m_-.1.2<co<-.7 	0.83 BTOP_ma_60m_Quatile_8 

Tag columns includes

feature, transformation, cutoff for cross sectional score of transformed exposure

Chart column in the table below provides a link to the trend chart of transformed factors and their cutoffs.Transformation could be moving averages or moving differences.
Table column gives a link to holdings ni the portfolio created with cutoffs

Folder for charts
Folder with Constituents
Code: Link Q3:QUANTILES_CUTOFFS_OCT12__BASED_ON_MACRO_MODEL

Task:
Other transformations
Log transform
12MA/5YR MA[z-scores level for cross section]

Exposures trend for all combinations of transformations and cutoffs
Portfolios for all combinations of transformations and cutoffs
Information ratios of all combinations- Tab Oct 12th

Tag description:
Factor name_ transformation _ date of report
Transformations:

- Ma = Moving average of exposures time series
- Md -Moving difference of exposure time series
- Mazs = Z-score of the Ma series
- Mdzs = Z-score of the Md series

Green fill = Portfolio vith score > cutoff compared with equal weighted benchmark

NEXT WEEK

- Plot 1M exposures without transformation in all charts as reference
- Number of stocks next to each transformation

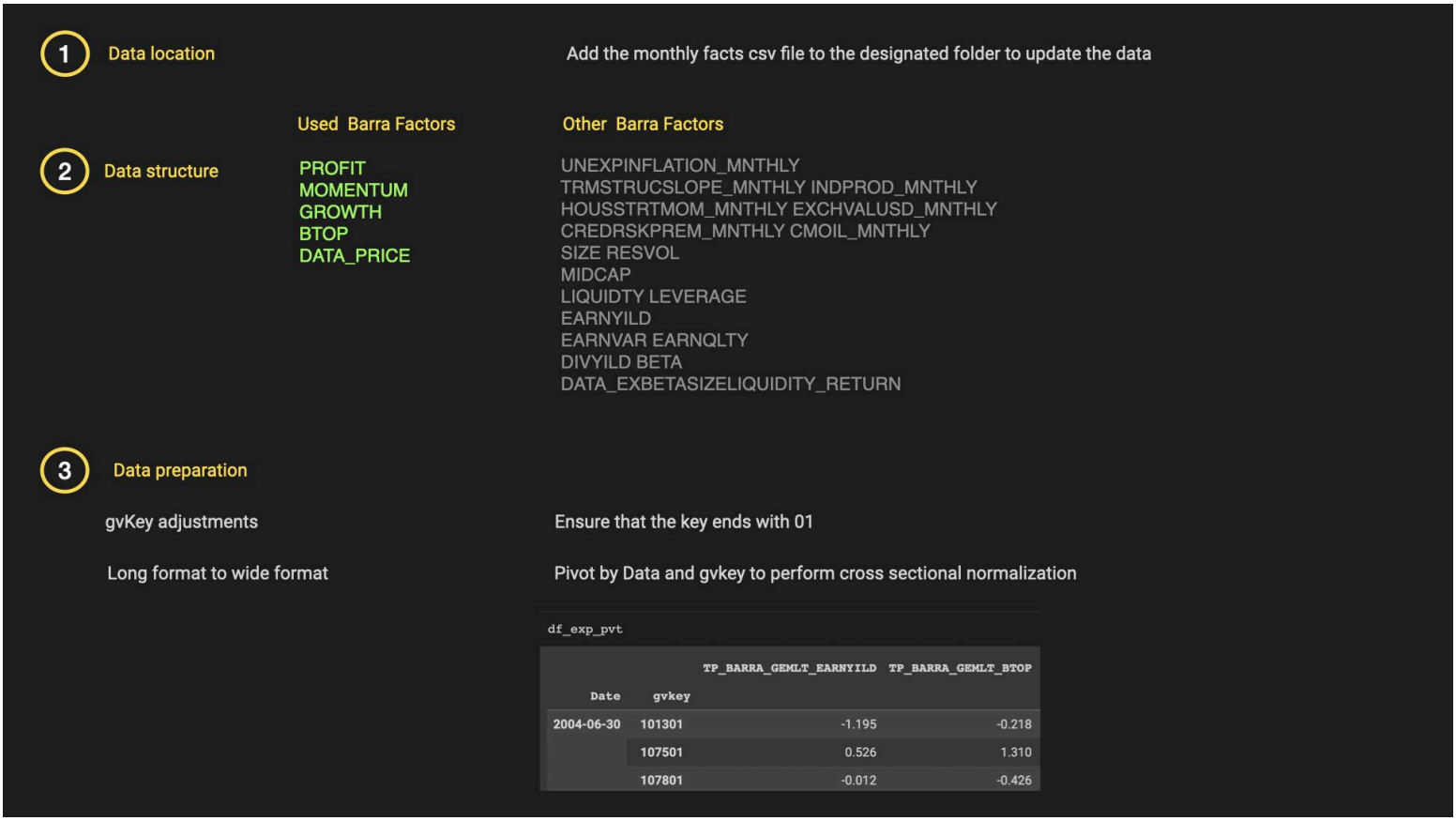
- Z-score for each stocks in the portfolio report

NEXT

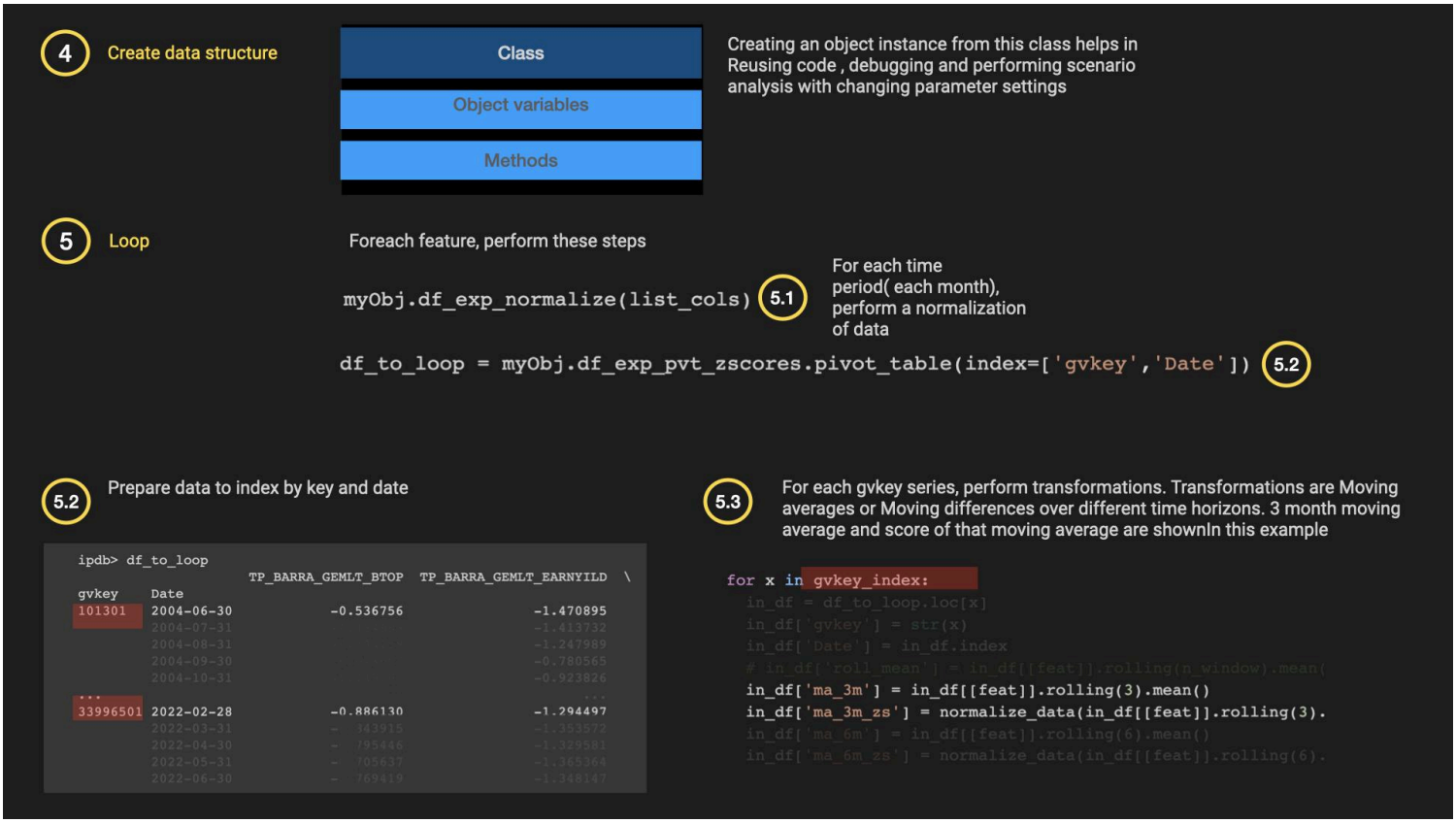
- Best 5 transformations for each feature.
- Combine them equal weights

CODE

Google Colab Notebook: [Q3:QUANTILES_CUTOFFS_OCT12__BASED_ON_MACRO_MODEL]



Code Location:[Genus github]
Raw data Location: [Pavan Google Drive location]



Saved cross sectional data: [Google drive location]

Spreadsheet Reports location:

Methods