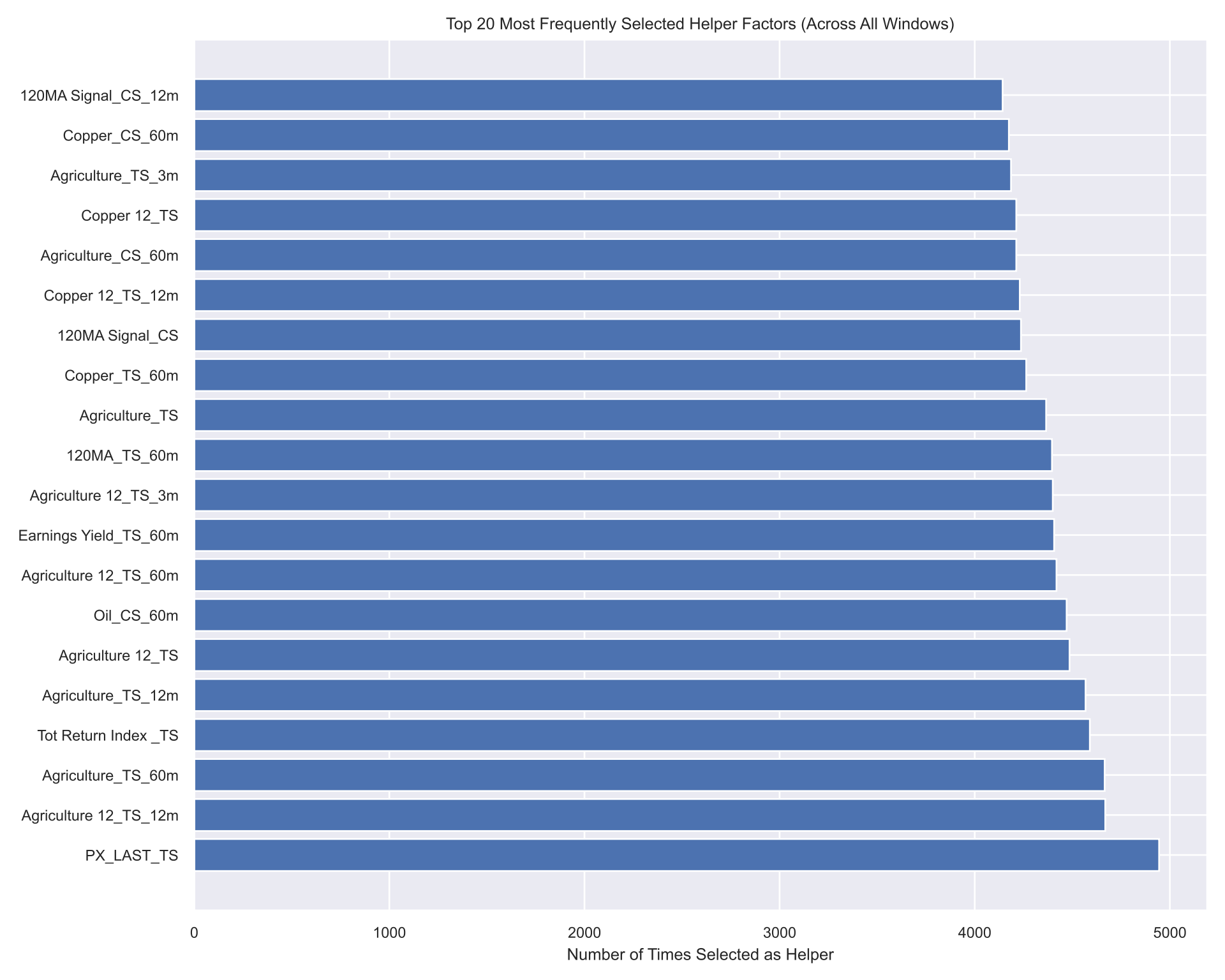
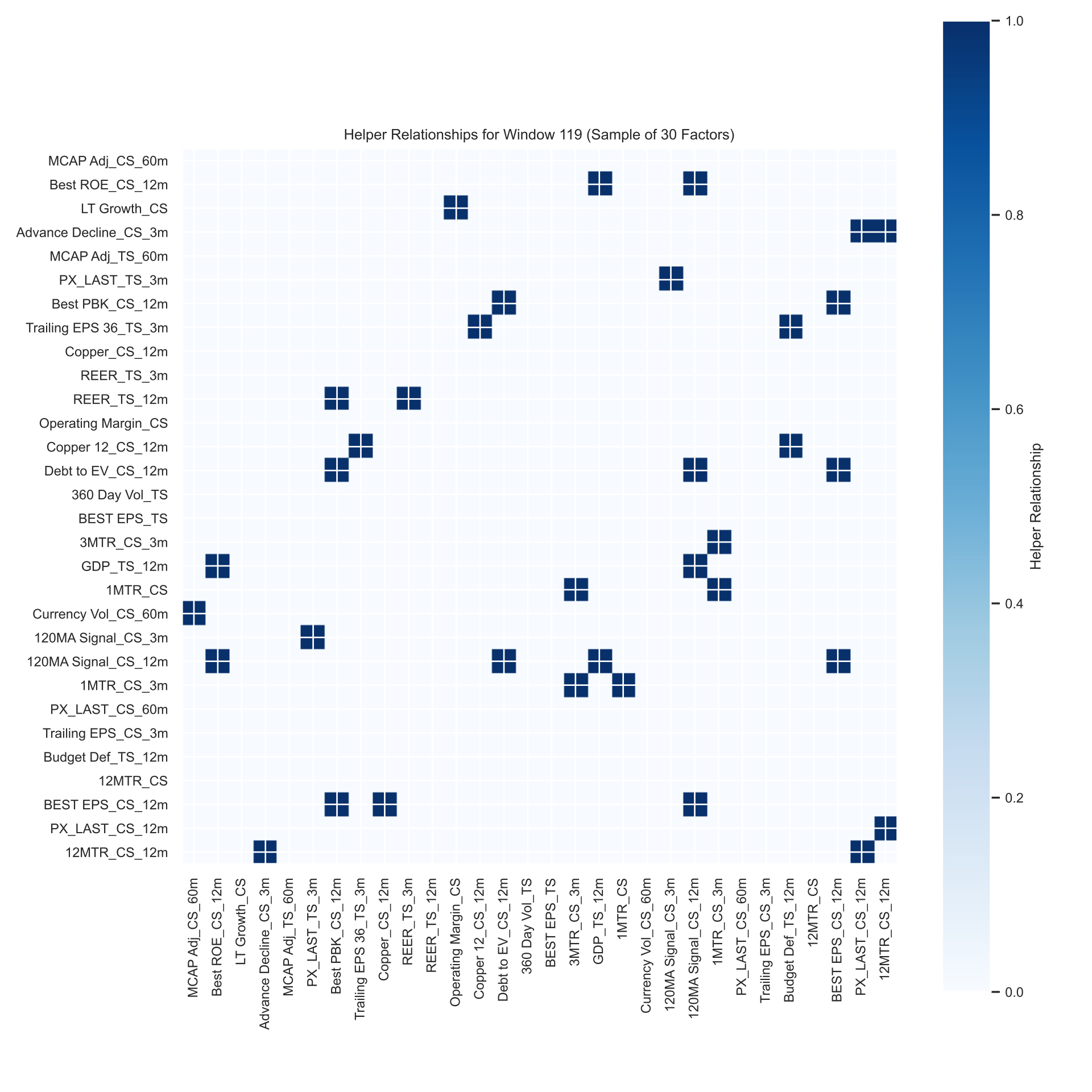
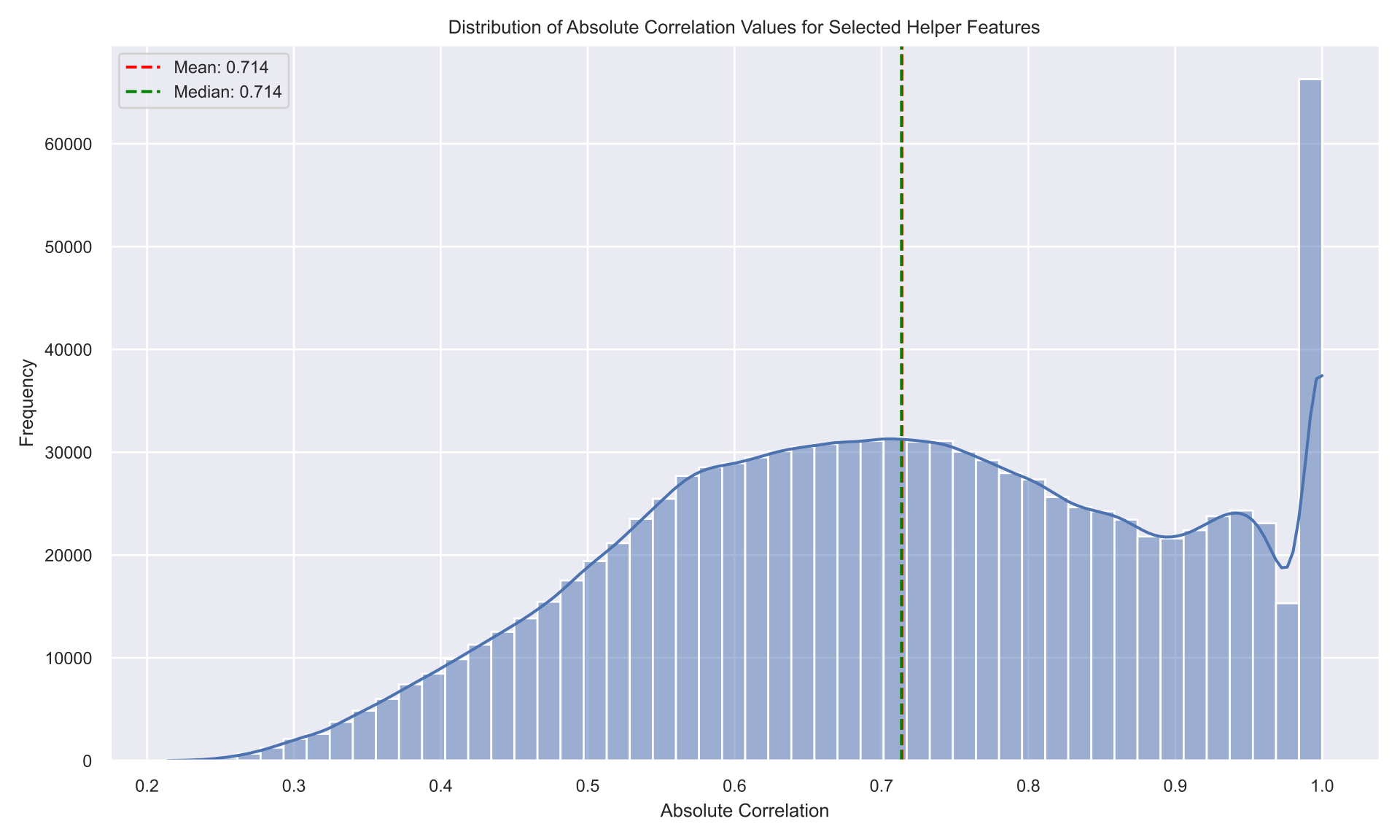
# Helper Feature Selection Visualizations
# Factor Return Forecasting Project

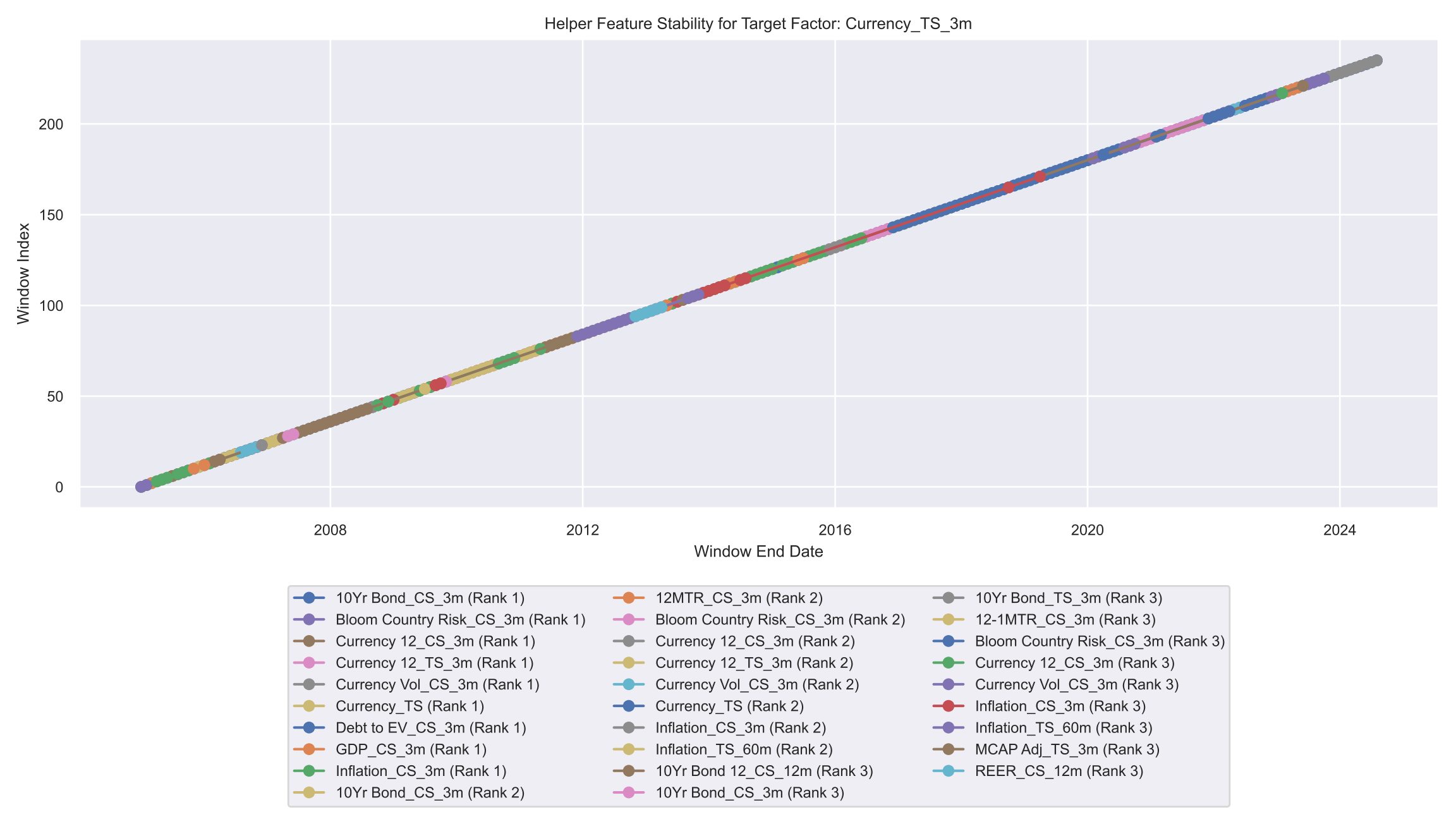
Generated: 2025-05-14 16:43:54

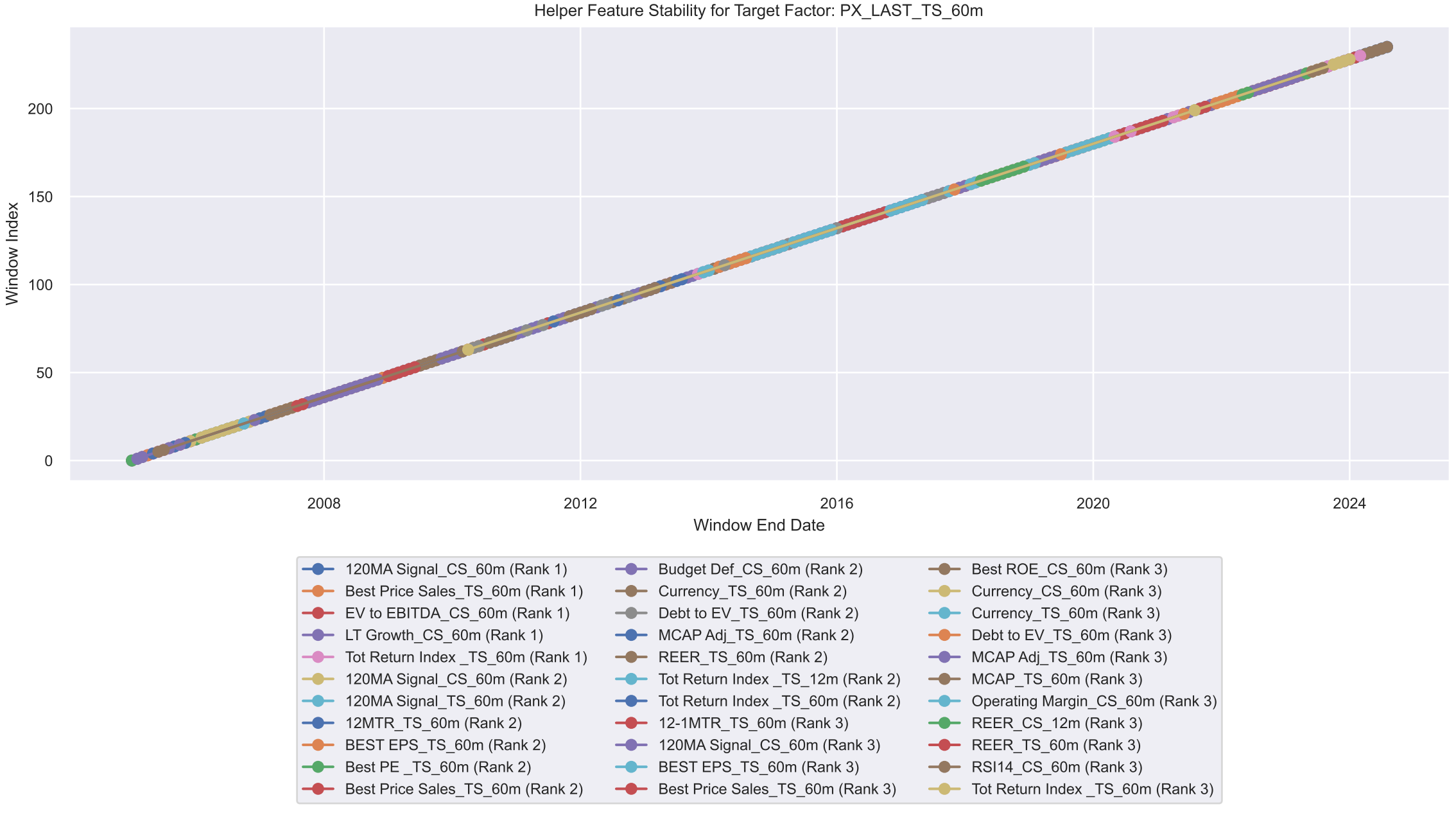
Total Windows: 236
Total Factors: 424

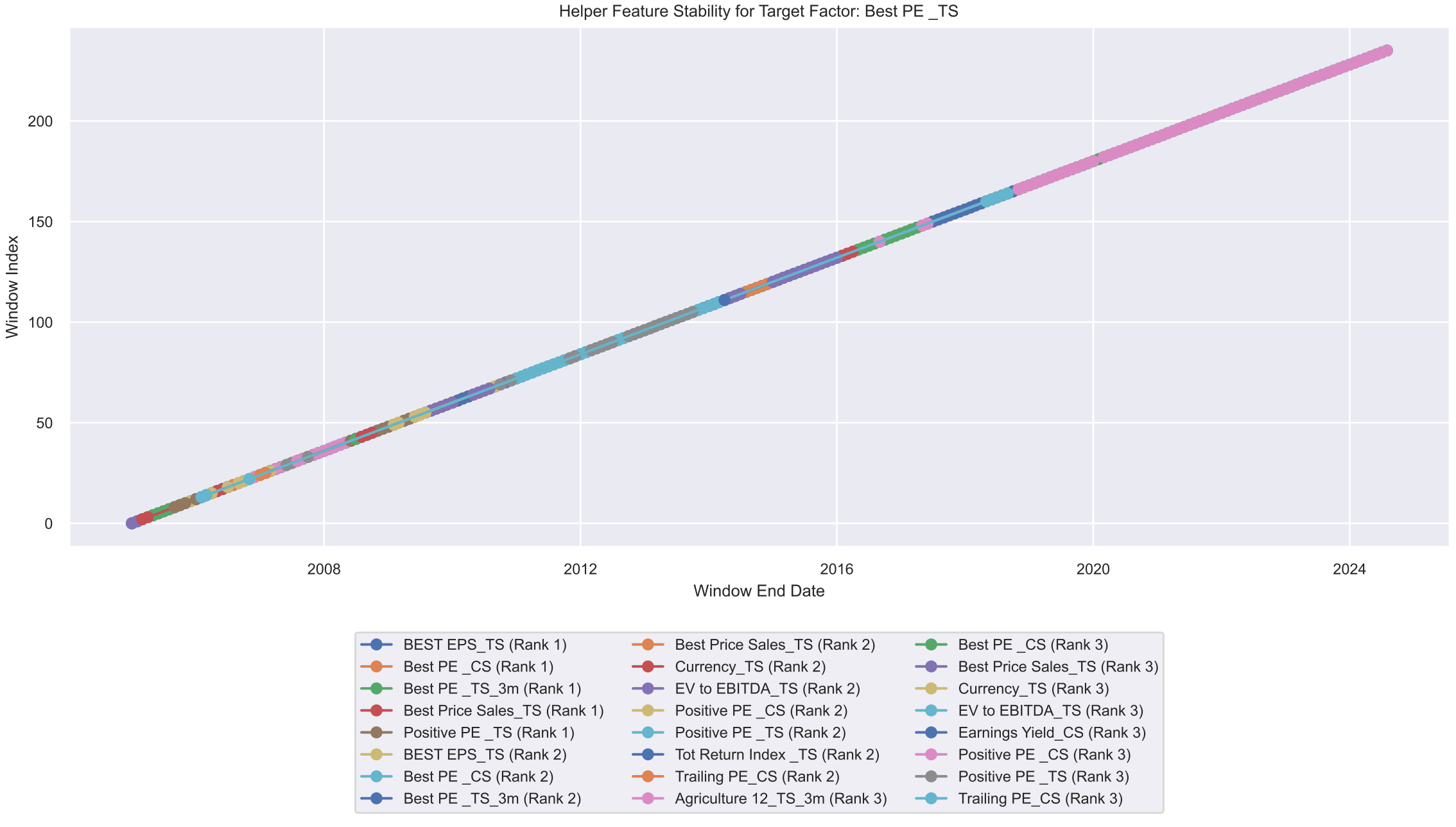

Top 20 Most Frequently Selected Helper Factors (Across All Windows)
120MA Signal_CS_12m
Copper_CS_60m
Agriculture_TS_3m
Copper 12_TS
Agriculture_CS_60m
Copper 12_TS_12m
120MA Signal_CS
Copper_TS_60m
Agriculture_TS
120MA_TS_60m
Agriculture 12_TS_3m
Earnings Yield_TS_60m
Agriculture 12_TS_60m
Oil_CS_60m
Agriculture 12_TS
Agriculture_TS_12m
Tot Return Index _TS
Agriculture_TS_60m
Agriculture 12_TS_12m
PX_LAST_TS
0
1000
2000
3000
4000
5000
Number of Times Selected as Helper

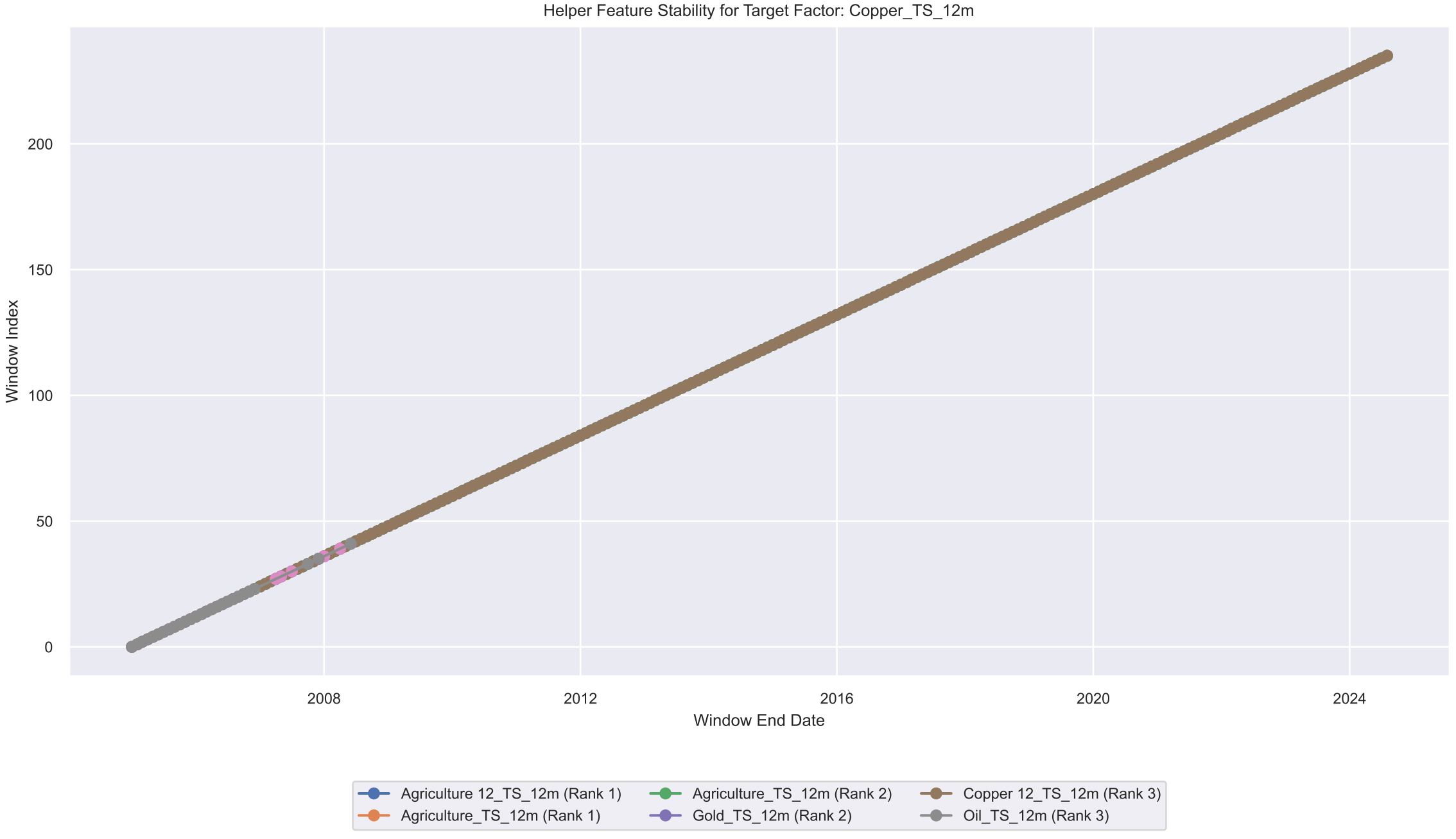

Helper Relationships for Window 119 (Sample of 30 Factors)
MCAP Adj_CS_60m
Best ROE_CS_12m
LT Growth_CS
Advance Decline_CS_3m
MCAP Adj_TS_60m
PX_LAST_TS_3m
Best PBK_CS_12m
Trailing EPS 36_TS_3m
Copper_CS_12m
REER_TS_3m
REER_TS_12m
Operating Margin_CS
Copper 12_CS_12m
Debt to EV_CS_12m
360 Day Vol_TS
BEST EPS_TS
3MTR_CS_3m
GDP_TS_12m
1MTR_CS
Currency Vol_CS_60m
120MA Signal_CS_3m
120MA Signal_CS_12m
1MTR_CS_3m
PX_LAST_CS_60m
Trailing EPS_CS_3m
Budget Def_TS_12m
12MTR_CS
BEST EPS_CS_12m
PX_LAST_CS_12m
12MTR_CS_12m
Helper Relationship
1.0
0.8
0.6
0.4
0.2
0.0

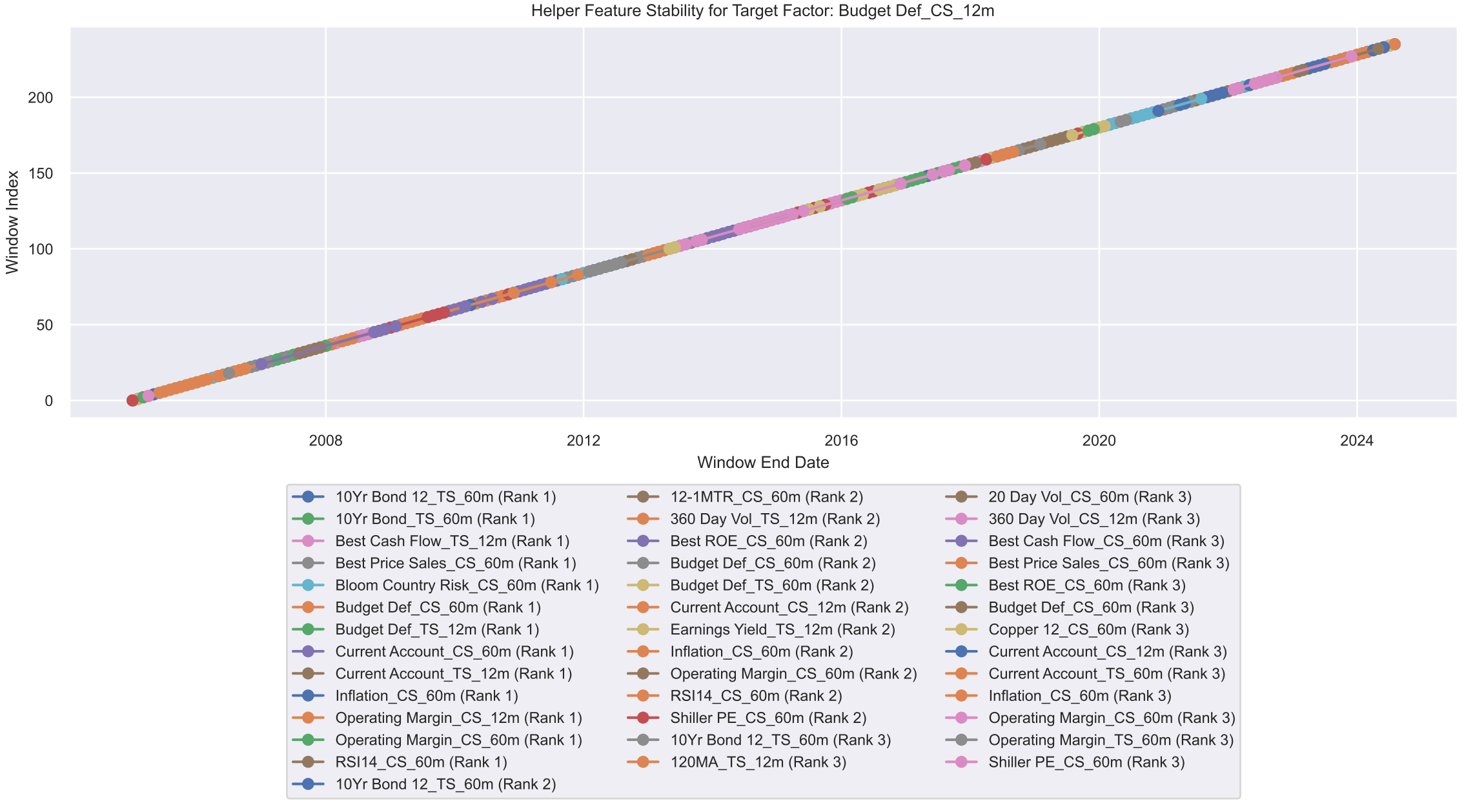

Distribution of Absolute Correlation Values for Selected Helper Features
Mean: 0.714
Median: 0.714
Frequency
60000
50000
40000
30000
20000
10000
0
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Absolute Correlation

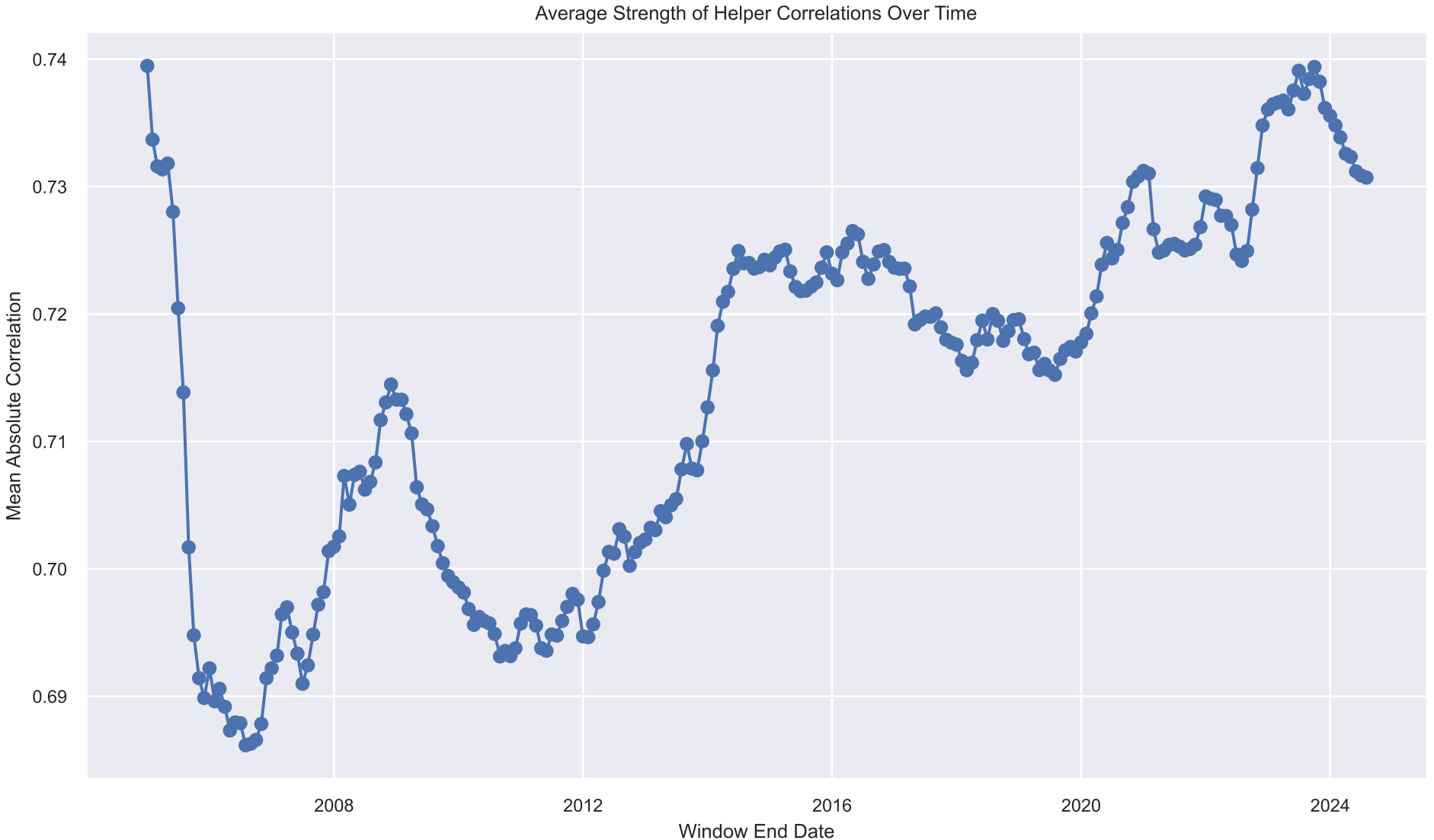

Helper Feature Stability for Target Factor: Currency_TS_3m
Window Index
0
50
100
150
200
2008
2012
2016
2020
2024
Window End Date
10Yr Bond_CS_3m (Rank 1)
Bloom Country Risk_CS_3m (Rank 1)
Currency 12_CS_3m (Rank 1)
Currency 12_TS_3m (Rank 1)
Currency Vol_CS_3m (Rank 1)
Currency_TS (Rank 1)
Debt to EV_CS_3m (Rank 1)
GDP_CS_3m (Rank 1)
Inflation_CS_3m (Rank 1)
10Yr Bond_CS_3m (Rank 2)
12MTR_CS_3m (Rank 2)
Bloom Country Risk_CS_3m (Rank 2)
Currency 12_CS_3m (Rank 2)
Currency 12_TS_3m (Rank 2)
Currency Vol_CS_3m (Rank 2)
Currency_TS (Rank 2)
Inflation_CS_3m (Rank 2)
Inflation_TS_60m (Rank 2)
10Yr Bond 12_CS_12m (Rank 3)
10Yr Bond_CS_3m (Rank 3)
10Yr Bond_TS_3m (Rank 3)
12-1MTR_CS_3m (Rank 3)
Bloom Country Risk_CS_3m (Rank 3)
Currency 12_CS_3m (Rank 3)
Currency Vol_CS_3m (Rank 3)
Inflation_CS_3m (Rank 3)
Inflation_TS_60m (Rank 3)
MCAP Adj_TS_3m (Rank 3)
REER_CS_12m (Rank 3)


Helper Feature Stability for Target Factor: PX_LAST_TS_60m
Window Index
0
50
100
150
200
2008
2012
2016
2020
2024
Window End Date
120MA Signal_CS_60m (Rank 1)
Best Price Sales_TS_60m (Rank 1)
EV to EBITDA_CS_60m (Rank 1)
LT Growth_CS_60m (Rank 1)
Tot Return Index _TS_60m (Rank 1)
120MA Signal_CS_60m (Rank 2)
120MA Signal_TS_60m (Rank 2)
12MTR_TS_60m (Rank 2)
BEST EPS_TS_60m (Rank 2)
Best PE _TS_60m (Rank 2)
Best Price Sales_TS_60m (Rank 2)
Budget Def_CS_60m (Rank 2)
Currency_TS_60m (Rank 2)
Debt to EV_TS_60m (Rank 2)
MCAP Adj_TS_60m (Rank 2)
REER_TS_60m (Rank 2)
Tot Return Index _TS_12m (Rank 2)
Tot Return Index _TS_60m (Rank 2)
12-1MTR_TS_60m (Rank 3)
120MA Signal_CS_60m (Rank 3)
BEST EPS_TS_60m (Rank 3)
Best Price Sales_TS_60m (Rank 3)
Best ROE_CS_60m (Rank 3)
Currency_CS_60m (Rank 3)
Currency_TS_60m (Rank 3)
Debt to EV_TS_60m (Rank 3)
MCAP Adj_TS_60m (Rank 3)
MCAP_TS_60m (Rank 3)
Operating Margin_CS_60m (Rank 3)
REER_CS_12m (Rank 3)
REER_TS_60m (Rank 3)
RSI14_CS_60m (Rank 3)
Tot Return Index _TS_60m (Rank 3)


Helper Feature Stability for Target Factor: Best PE _TS
Window Index
0
50
100
150
200
2008
2012
2016
2020
2024
Window End Date
BEST EPS_TS (Rank 1)
Best PE _CS (Rank 1)
Best PE _TS_3m (Rank 1)
Best Price Sales_TS (Rank 1)
Positive PE _TS (Rank 1)
BEST EPS_TS (Rank 2)
Best PE _CS (Rank 2)
Best PE _TS_3m (Rank 2)
Best Price Sales_TS (Rank 2)
Currency_TS (Rank 2)
EV to EBITDA_TS (Rank 2)
Positive PE _CS (Rank 2)
Positive PE _TS (Rank 2)
Tot Return Index _TS (Rank 2)
Trailing PE_CS (Rank 2)
Agriculture 12_TS_3m (Rank 3)
Best PE _CS (Rank 3)
Best Price Sales_TS (Rank 3)
Currency_TS (Rank 3)
EV to EBITDA_TS (Rank 3)
Earnings Yield_CS (Rank 3)
Positive PE _CS (Rank 3)
Positive PE _TS (Rank 3)
Trailing PE_CS (Rank 3)


Helper Feature Stability for Target Factor: Copper_TS_12m
Window Index
0
50
100
150
200
2008
2012
2016
2020
2024
Window End Date
Agriculture 12_TS_12m (Rank 1)
Agriculture_TS_12m (Rank 1)
Agriculture_TS_12m (Rank 2)
Gold_TS_12m (Rank 2)
Copper 12_TS_12m (Rank 3)
Oil_TS_12m (Rank 3)


Helper Feature Stability for Target Factor: Budget Def_CS_12m
Window Index
0
50
100
150
200
2008
2012
2016
2020
2024
Window End Date
10Yr Bond 12_TS_60m (Rank 1)
10Yr Bond_TS_60m (Rank 1)
Best Cash Flow_TS_12m (Rank 1)
Best Price Sales_CS_60m (Rank 1)
Bloom Country Risk_CS_60m (Rank 1)
Budget Def_CS_60m (Rank 1)
Budget Def_TS_12m (Rank 1)
Current Account_CS_60m (Rank 1)
Current Account_TS_12m (Rank 1)
Inflation_CS_60m (Rank 1)
Operating Margin_CS_12m (Rank 1)
Operating Margin_CS_60m (Rank 1)
RSI14_CS_60m (Rank 1)
10Yr Bond 12_TS_60m (Rank 2)
12-1MTR_CS_60m (Rank 2)
360 Day Vol_TS_12m (Rank 2)
Best ROE_CS_60m (Rank 2)
Budget Def_CS_60m (Rank 2)
Budget Def_TS_60m (Rank 2)
Current Account_CS_12m (Rank 2)
Earnings Yield_TS_12m (Rank 2)
Inflation_CS_60m (Rank 2)
Operating Margin_CS_60m (Rank 2)
RSI14_CS_60m (Rank 2)
Shiller PE_CS_60m (Rank 2)
10Yr Bond 12_TS_60m (Rank 3)
120MA_TS_12m (Rank 3)
20 Day Vol_CS_60m (Rank 3)
360 Day Vol_CS_12m (Rank 3)
Best Cash Flow_CS_60m (Rank 3)
Best Price Sales_CS_60m (Rank 3)
Best ROE_CS_60m (Rank 3)
Budget Def_CS_60m (Rank 3)
Copper 12_CS_60m (Rank 3)
Current Account_CS_12m (Rank 3)
Current Account_TS_60m (Rank 3)
Inflation_CS_60m (Rank 3)
Operating Margin_CS_60m (Rank 3)
Operating Margin_TS_60m (Rank 3)
Shiller PE_CS_60m (Rank 3)


Average Strength of Helper Correlations Over Time
Mean Absolute Correlation
0.74
0.73
0.72
0.71
0.70
0.69
2008
2012
2016
2020
2024
Window End Date

Summary of Helper Feature Analysis:

Total Windows: 236
Total Factors: 424
Helper Features per Factor: 10

Overall Correlation Statistics:
Mean Absolute Correlation: 0.714
Median Absolute Correlation: 0.714
Min Absolute Correlation: 0.214
Max Absolute Correlation: 1.000

Top 5 Most Frequently Selected Helper Factors:
1. PX_LAST_TS (4945 times)
2. Agriculture 12_TS_12m (4669 times)
3. Agriculture_TS_60m (4666 times)
4. Tot Return Index _TS (4590 times)
5. Agriculture_TS_12m (4568 times)