ETFSP500 - MA / TC

1 TYPE RANK

Table 1: MA strategy results – ETFSP500

| | Performance | | | | | Parameters | | | | | | | Descriptive | |
| | | | | | | Long-term lag | | | | Band | | | | |
MA Type	IR	SR	aRC	aSD	Sigs.	Min	Max	Mean	Med.	Min	Max	Mean	N	Share (%)
Panel A. Filter: IR greater than 0														
MA														
SMA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WMA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EMA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Panel B. Filter: IR greater than Q_3														
MA														
SMA	-0.60	0.70	0.122	0.15	14	5	250	89	60	0.005	0.075	0.043	80	6.8
WMA	-0.60	0.69	0.119	0.15	14	5	250	83	70	0.010	0.075	0.041	92	7.9
EMA	-0.61	0.69	0.121	0.15	14	5	250	137	130	0.005	0.075	0.037	121	10.3
Panel C. Filter: IR smaller than Q_1														
MA														
SMA	-1.15	0.20	0.048	0.15	67	5	250	118	135	0.000	0.075	0.032	108	9.2
WMA	-1.21	0.12	0.036	0.14	82	5	250	120	110	0.000	0.075	0.031	111	9.5
EMA	-1.22	0.11	0.034	0.14	88	5	250	85	70	0.000	0.075	0.026	74	6.3

In this table, we aggregate the standard MA strategy performance and parameter data for ETFSP500 across the three MA types. We break down the results into three subgroups: the first representing the data for strategies with positive IR (i.e. beating the BH strategy); the second and third subgroup characterising the top 25% and the bottom 25% of strategies, respectively.

[1] All performance measures use standard formulation defined in Appendix A;

[2] The performance and parameter statistics are calculated with respect to the subgroup size reported in column «N»;

[3] Column «Share (%)» provides a subgroup's share in the whole sample (1170).
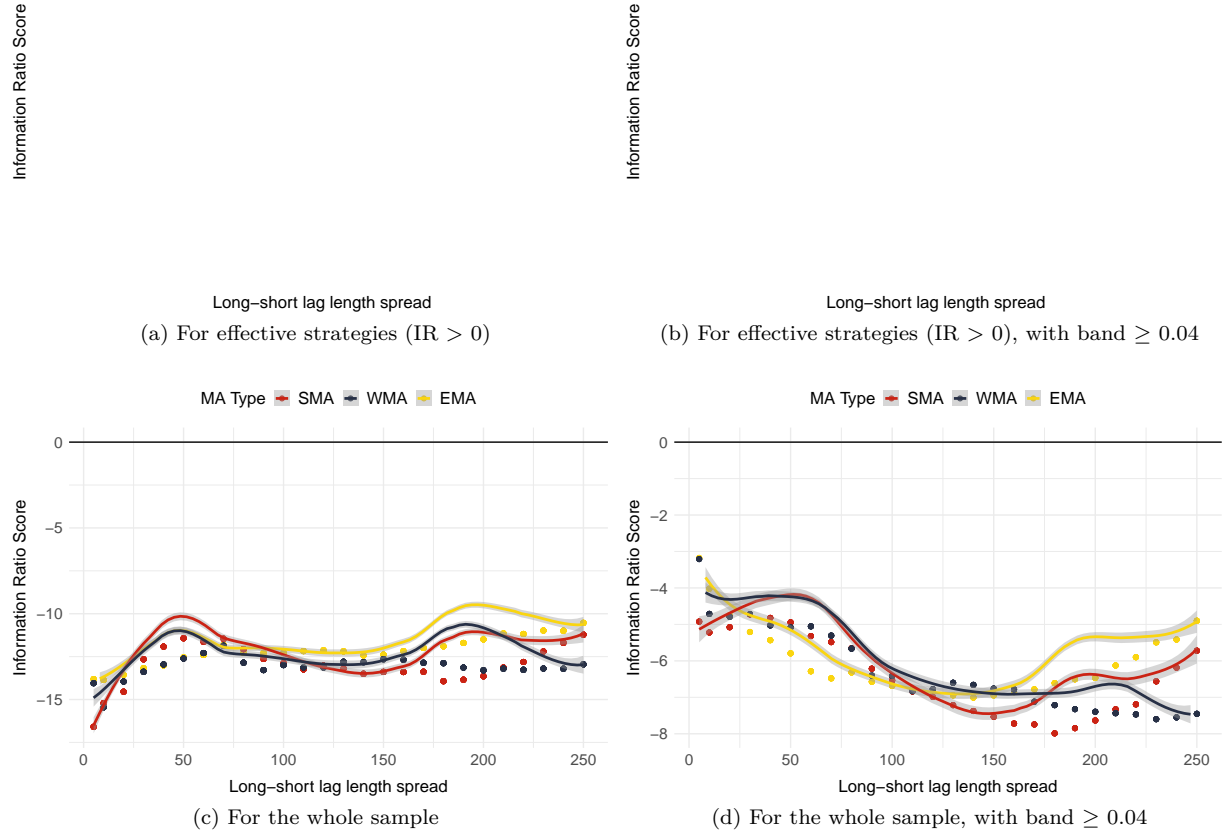
2 IR SCORE

Information Ratio Score

Long–short lag length spread

(a) For effective strategies (IR > 0)

Information Ratio Score

Long–short lag length spread

(b) For effective strategies (IR > 0), with band ≥ 0.04

MA Type ● SMA ● WMA ● EMA

(c) For the whole sample

MA Type ● SMA ● WMA ● EMA

(d) For the whole sample, with band ≥ 0.04

Figure 1: [MA] ETFSP500 – IR score by value of the long-term lag.

3 HEATMAPS

Product: ETFSP500 | Strategy: (MA_F, SMA_T, 1_S, x_L, y_B)

(a) Information Ratio

Product: ETFSP500 | Strategy: (MA_F, SMA_T, 1_S, x_L, y_B)
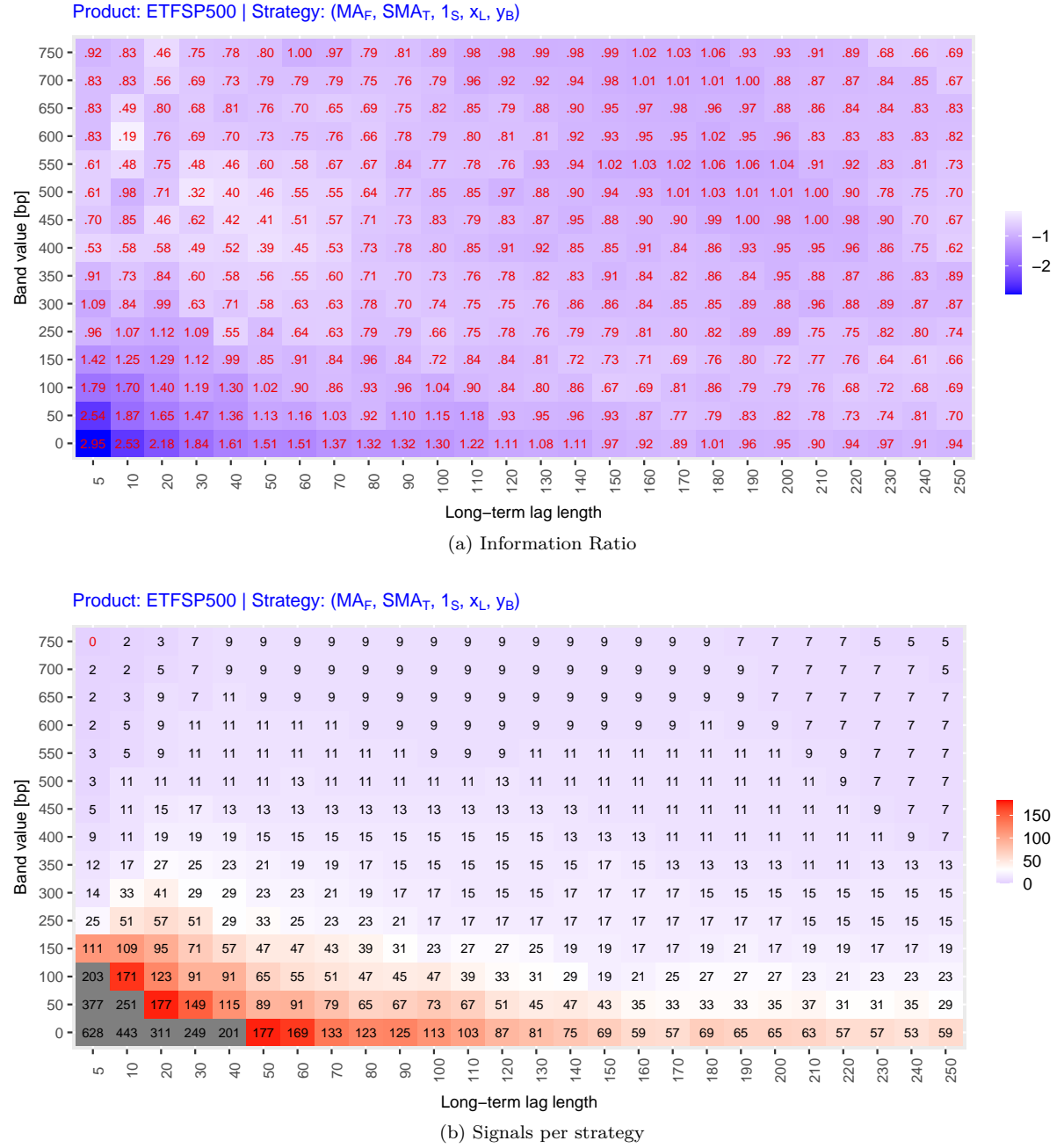

(b) Signals per strategy

Figure 2: [MA] ETFSP500 – IR by lag length and band value.

4 DRAWDOWNS

Table 2: Select strategy results – ETFSP500

ID	Strategy	Performance						Sigs.
		aRC	aSD	IR	SR	MD	MDD	
1	(MA, SMA, 1, 10, 0.06)	0.171	0.16	-0.19	0.97	0.16	2.73	5
2	(MA, WMA, 1, 10, 0.045)	0.171	0.16	-0.19	0.97	0.16	2.73	5
3	(MA, EMA, 1, 140, 0.045)	0.098	0.15	-0.82	0.53	0.24	4.03	11
4	(MA, WMA, 1, 5, 0)	-0.269	0.15	-2.98	-1.93	0.95	8.77	718
5	(MA, EMA, 1, 5, 0)	-0.267	0.15	-3.00	-1.93	0.95	8.77	638
6	(Buy-and-hold)	0.190	0.19	NA	0.92	0.28	0.86	NA

This table provides a selection of performance measures for the two best, two worst and the middle standard MA strategy on ETFSP500, in comparison with the BH benchmark.

[1] IR values, as per Appendix A, refer to a strategy's result with respect to the BH benchmark;

[2] SR shows the performance against a risk-free return for each strategy and the BH benchmark;

[3] Colours in column «ID» respond to line colours in the following drawdown plot.

Figure 3: [MA] ETFSP500 – Drawdowns for two top (blue and orange), two bottom (gray) and the middle (green) strategy, vs drawdowns for the BH benchmark (red).

ETFSP500 - MA / **NO** TC

1 TYPE RANK

Table 1: MA strategy results – ETFSP500

| MA Type | Performance | | | | | Parameters | | | | | | | Descriptive | |
| | IR | SR | aRC | aSD | Sigs. | Long-term lag | | | | Band | | | N | Share (%) |
						Min	Max	Mean	Med.	Min	Max	Mean		
Panel A. Filter: IR greater than 0														
MA														
SMA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WMA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EMA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Panel B. Filter: IR greater than Q_3														
MA														
SMA	-0.52	0.77	0.131	0.15	17	5	250	96	65	0	0.075	0.037	76	6.5
WMA	-0.53	0.76	0.128	0.14	18	5	250	98	80	0	0.075	0.036	92	7.9
EMA	-0.54	0.75	0.129	0.15	22	5	250	130	120	0	0.075	0.027	125	10.7
Panel C. Filter: IR smaller than Q_1														
MA														
SMA	-0.93	0.44	0.083	0.15	52	5	230	129	150	0	0.075	0.044	107	9.1
EMA	-0.94	0.41	0.078	0.14	70	5	240	95	80	0	0.075	0.041	68	5.8
WMA	-0.95	0.41	0.078	0.14	68	5	250	132	130	0	0.075	0.044	105	9.0

In this table, we aggregate the standard MA strategy performance and parameter data for ETFSP500 across the three MA types. We break down the results into three subgroups: the first representing the data for strategies with positive IR (i.e. beating the BH strategy); the second and third subgroup characterising the top 25% and the bottom 25% of strategies, respectively.

[1] All performance measures use standard formulation defined in Appendix A;

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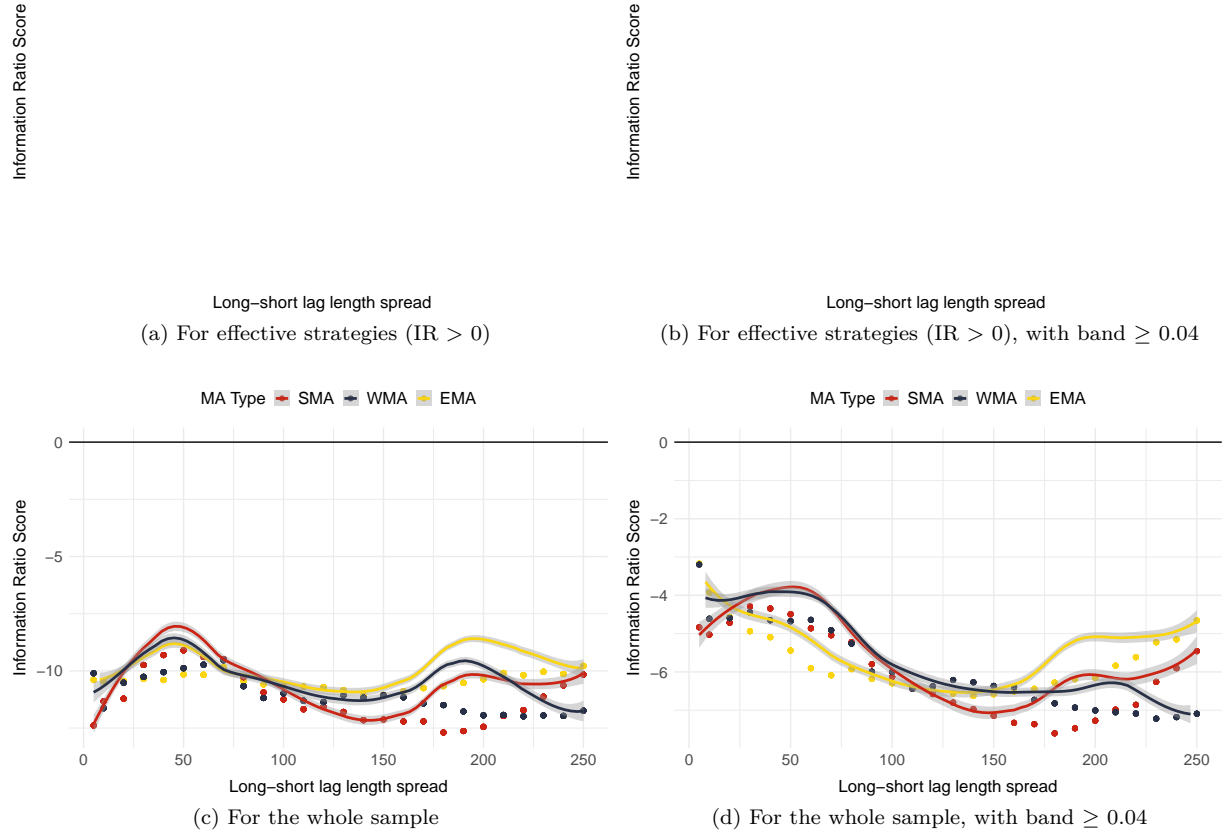
[4] Transaction costs are not included.

2   IR SCORE

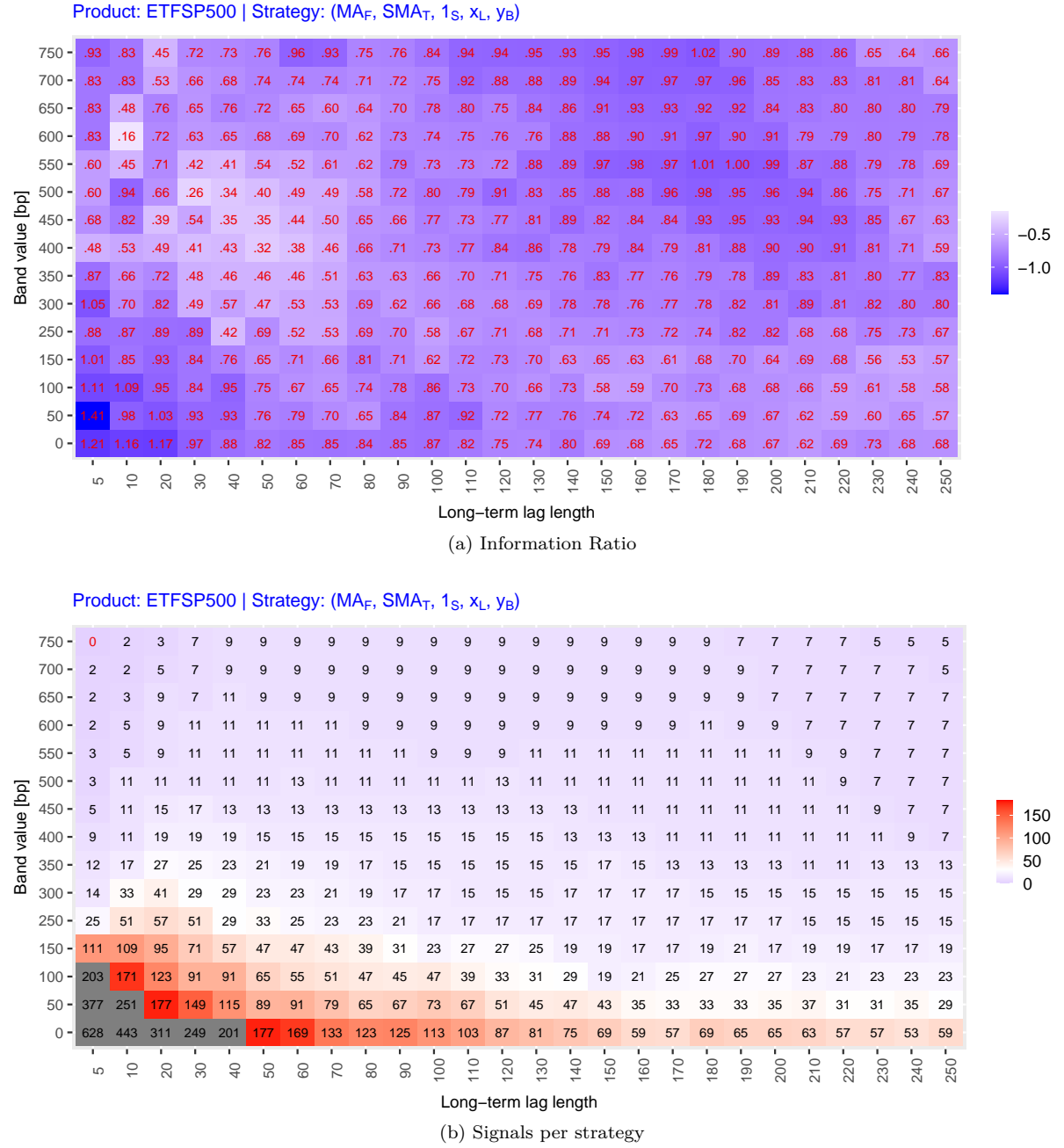Figure 1: [MA, -tc] ETFSP500 – IR score by value of the long-term lag.

3 HEATMAPS

Product: ETFSP500 | Strategy: (MA_F, SMA_T, 1_S, x_L, y_B)

(a) Information Ratio

Product: ETFSP500 | Strategy: (MA_F, SMA_T, 1_S, x_L, y_B)

(b) Signals per strategy

Figure 2: [MA, -tc] ETFSP500 – IR by lag length and band value.

4 DRAWDOWNS

Table 2: Select strategy results – ETFSP500

ID	Strategy	Performance						Sigs.
		aRC	aSD	IR	SR	MD	MDD	
1	(MA, SMA, 1, 10, 0.06)	0.1749	0.16	-0.16	0.996	0.16	2.73	5
2	(MA, WMA, 1, 10, 0.045)	0.1749	0.16	-0.16	0.996	0.16	2.73	5
3	(MA, EMA, 1, 50, 0.065)	0.1083	0.15	-0.74	0.602	0.22	3.11	7
4	(MA, EMA, 1, 10, 0)	0.0036	0.13	-1.43	-0.110	0.29	7.04	503
5	(MA, WMA, 1, 5, 0.005)	0.0080	0.14	-1.45	-0.074	0.35	5.90	357
6	(Buy-and-hold)	0.1910	0.19	NA	0.925	0.28	0.86	NA

This table provides a selection of performance measures for the two best, two worst and the middle standard MA strategy on ETFSP500, in comparison with the BH benchmark.

[1] IR values, as per Appendix A, refer to a strategy's result with respect to the BH benchmark;

[2] SR shows the performance against a risk-free return for each strategy and the BH benchmark;

[3] Colours in column «ID» respond to line colours in the following drawdown plot;

[4] Transaction costs are not included.

Figure 3: [MA, -tc] ETFSP500 – Drawdowns for two top (blue and orange), two bottom (gray) and the middle (green) strategy, vs drawdowns for the BH benchmark (red).

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