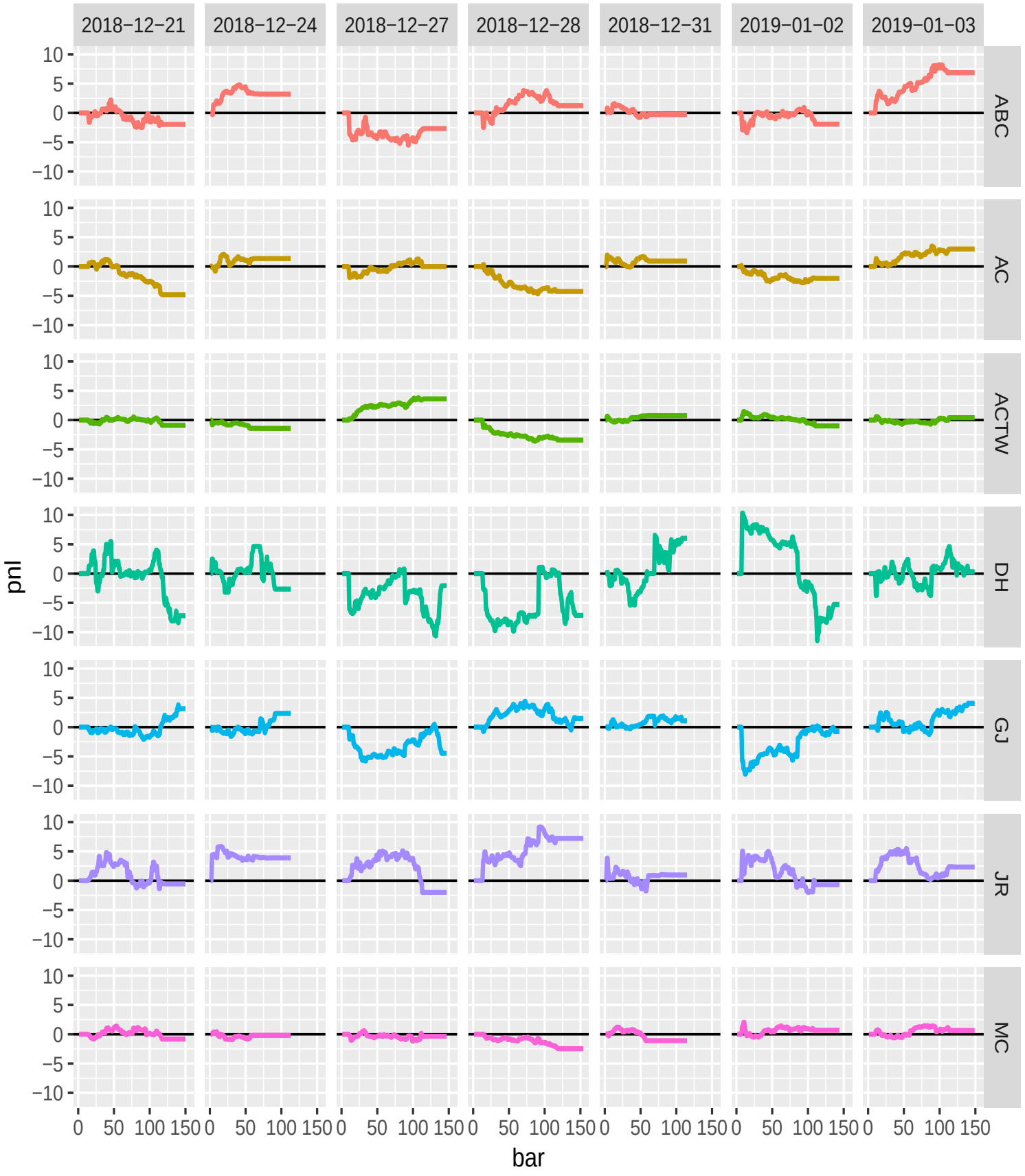
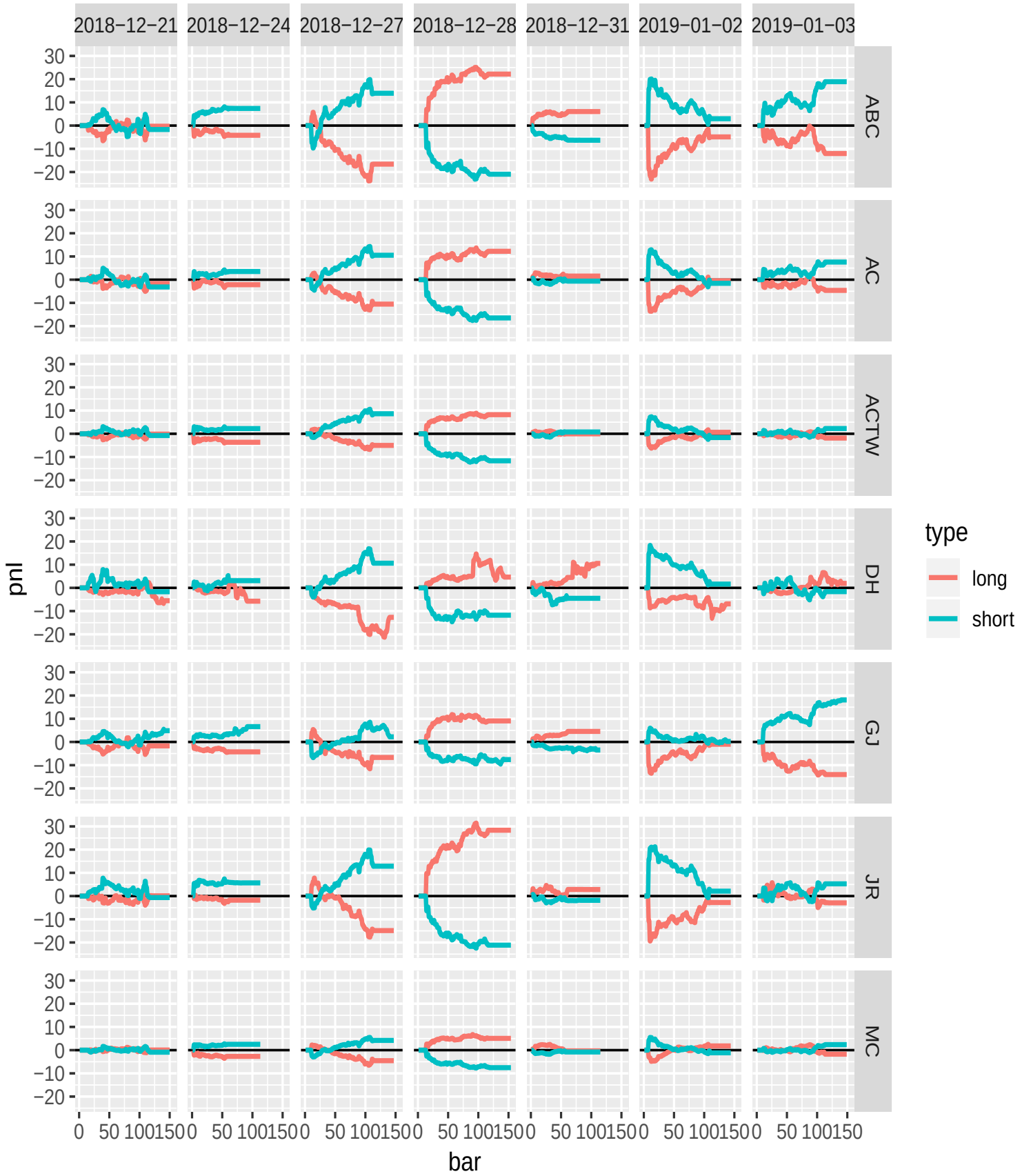
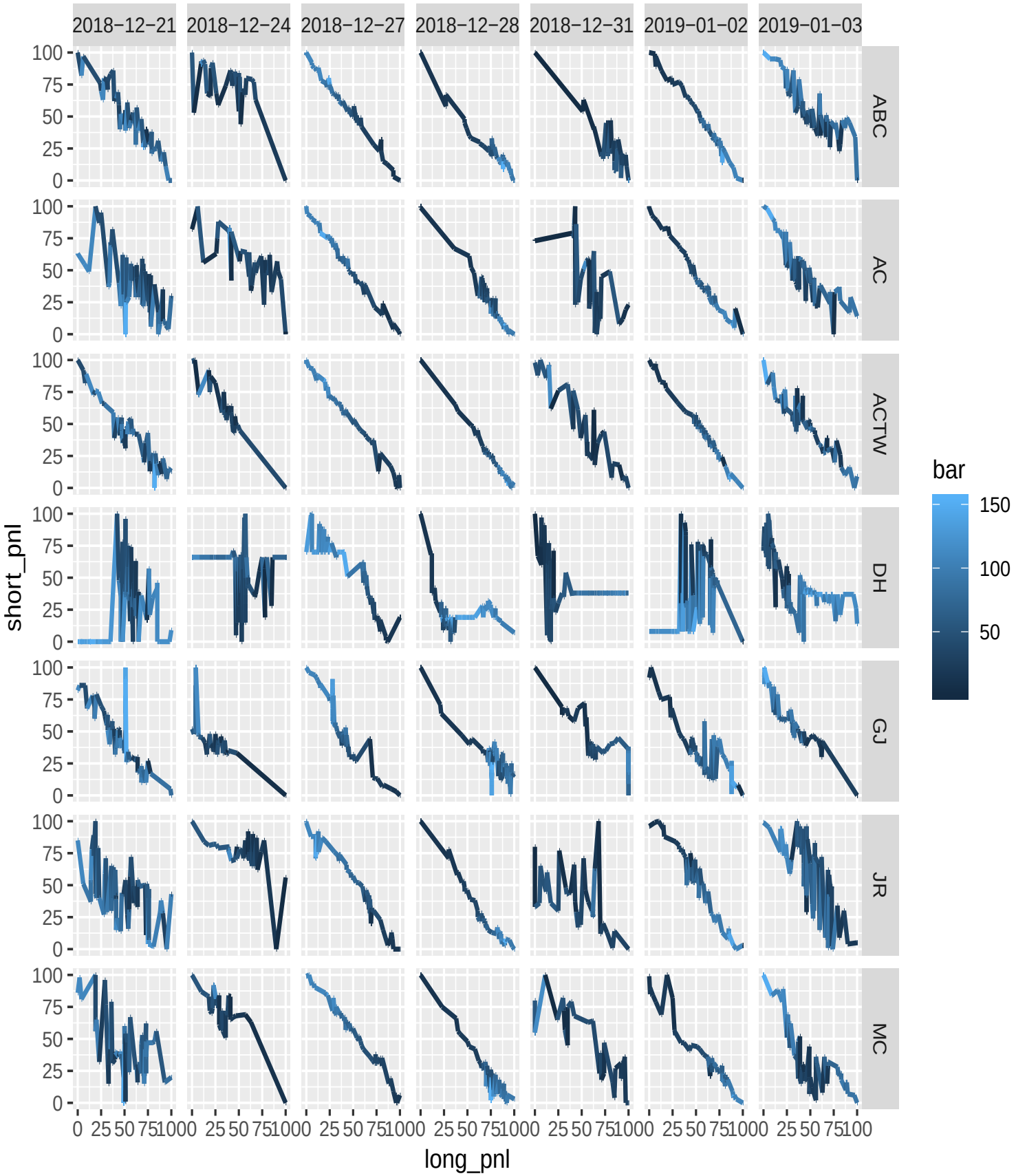
1 Manager intraday



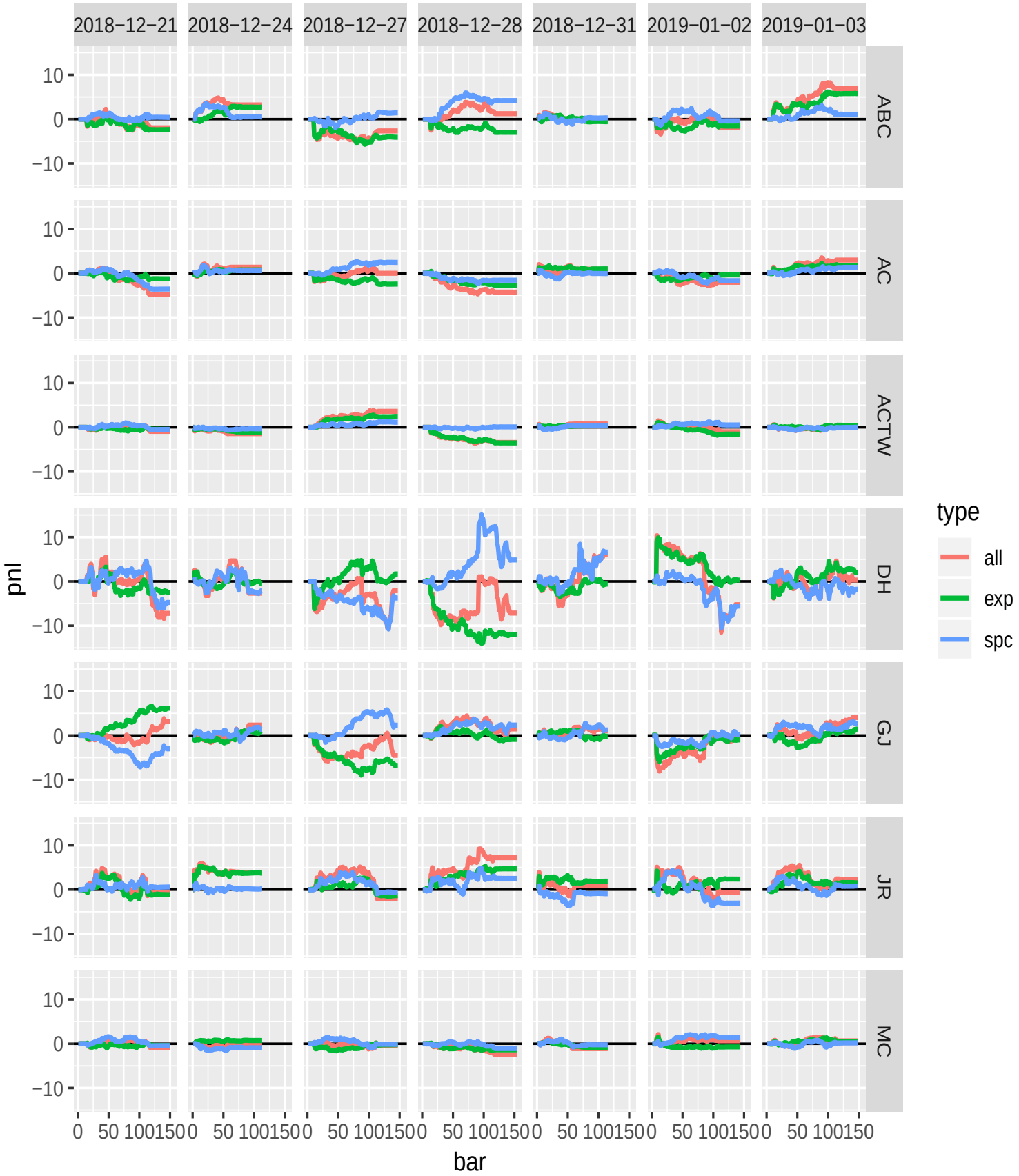
2 Manager long vs short intraday



3 Manager squiggle

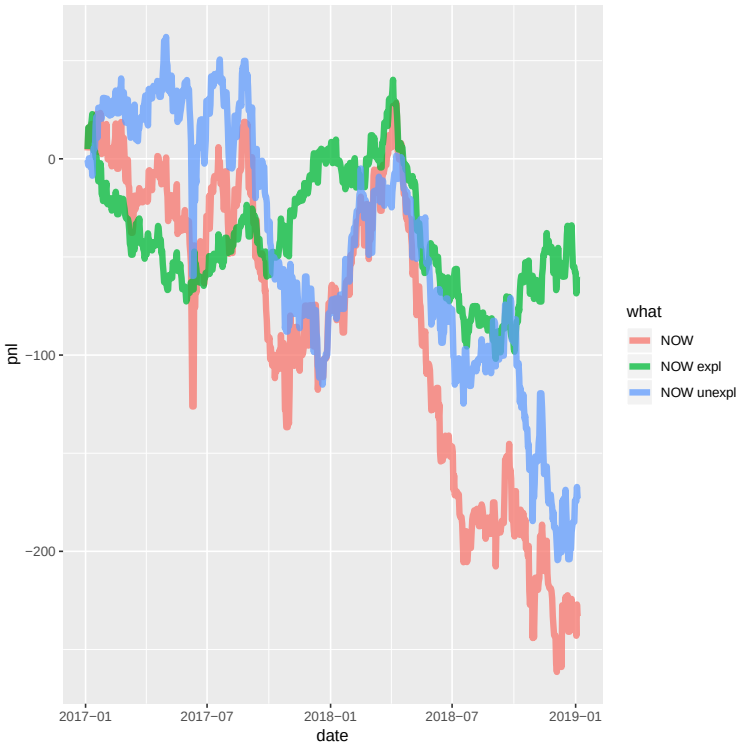


4 Manager explain



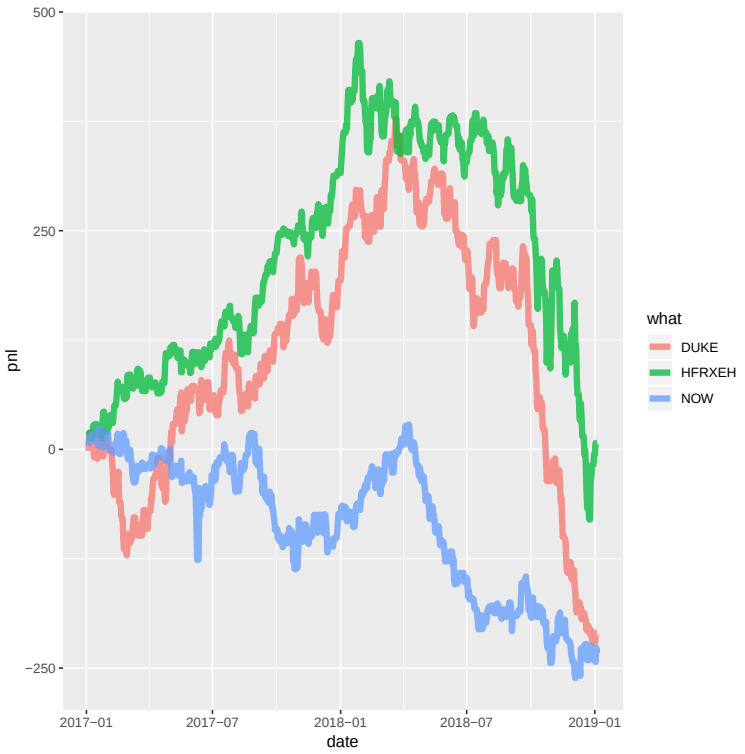
5 P&L explain

2 year, daily

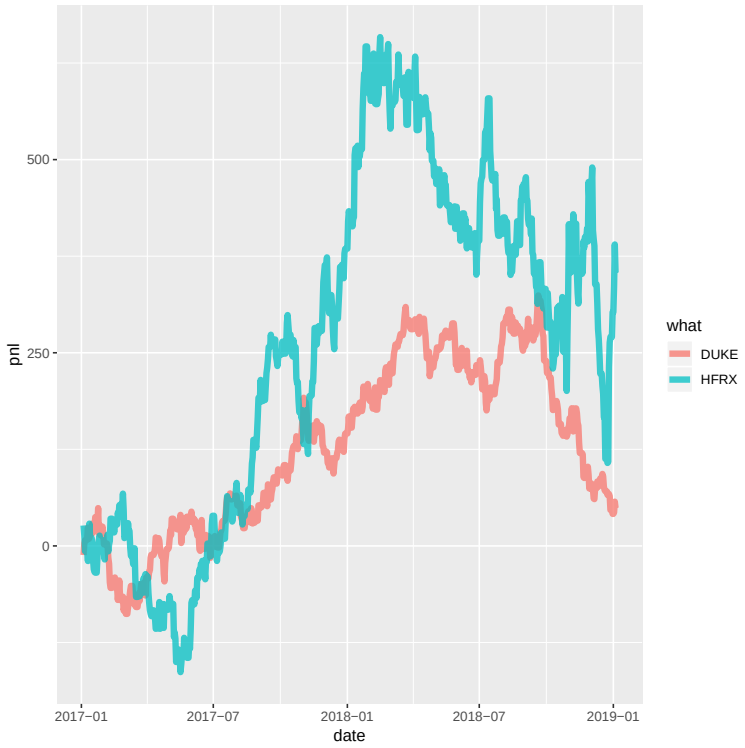


14 days, 10min bars

DUKE, HFRXEH(vol scaled), NOW



DUKE, HFRX specific



6 Position summary

	subset	net	gross	cor whole period 2y SXXP	cor 90pct quantile 2y SXXP	cor 10pct quantile 2y SXXP	cor 2 week SXXP	cor 90pct quantile 2 week SXXP	cor 10pct quantile 2 week SXXP
1	ABC	38	2,330	-14.4	-9.5	-18.8	-11.8	1.7	-32.4
2	AC	8	1,435	-9	-4.9	-13.3	-4.1	3	-11.6
3	ACTW	-75	939	-41.7	-37.6	-45.1	-52	-45.4	-59.3
4	DH	-91	1,558	-25.4	-20.7	-28.5	-41.7	-29.1	-50
5	GJ	78	1,241	45.5	49.3	41.1	39.8	48.6	20.7
6	JR	-18	2,012	-9.4	-5.7	-12.4	-31	-13.5	-41.5
7	MC	78	760	-13.1	-8.3	-16.1	-25.5	-12.6	-31.7
8	*	19	10,274	-18.8	-14.1	-22.2	-41.8	-36.3	-45.7

7 Pair risk contribution

	2Y MRC risk cntr pct	1Y MRC risk cntr pct	pair	stock	GRS pct tot	ACT gross bps	RP gross bps	Vol daily bps	Cum 2Y marg risk pct	Cum 1Y marg risk pct	Vol traj marg risk seq	3 219	4 -3	6 -32	7 -141	8 63	86 185	A 22	D 146	E -140	F 65	I 186	K 65	M 27	N -372	O -5	P 141	Q -99	R -108	T -199	COR 2 yr daily	COR 2 wk 10min	Perf 3m	Perf 1m	Perf 1w	HR 1m
1	41.4	19	JR15	LBK	2.5	235	9	2.9	41.4	19	46.2	0	0	0	-11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	30	8	15	−0	100
2	8.3	3.7	DH67	LBK	1.1	102	19	1.3	49.8	22.7	47.1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-21	7	8	0	100
3	4.6	10.1	JR42	RSA	2.5	236	26	1	54.4	32.8	38.91	-5	-1	-4	-15	-1	-1	0	-14	-20	-3	**111**	-4	-4	-8	-2	-9	-13	-3	-5	42	43	−5	−2	−0	67
4	3.2	3.7	ABC39	RI	2.3	222	32	0.8	57.6	36.5	35.03	**129**	-25	-42	0	0	0	0	0	0	0	0	0	0	0	0	0	-25	0	0	39	35	3	2	−2	75
5	2.7	5	DH65	BN	2.5	242	36	0.7	60.3	41.5	31.08	**66**	-3	-2	-4	-3	0	-2	-4	-3	0	-2	-2	0	-4	-1	0	-34	-1	0	26	17	−5	−1	0	60
6	2.4	4.5	JR36	JUP	2	192	31	0.8	62.8	45.9	27.96	0	0	0	0	0	0	0	0	0	-8	0	0	0	0	0	0	0	0	0	7	18	−8	−5	−0	50
7	2.1	3.8	JR37	HSBA	1.6	149	26	1	64.9	49.7	24.96	0	0	0	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	25	−7	−3	2	43
8	2	3.2	ABC23	RWE	2.2	216	25	1	66.9	52.9	24.32	-4	-7	**109**	-10	-8	-1	-4	-9	-6	0	-6	-5	-1	-9	-2	0	-9	-19	0	**63**	**77**	11	5	3	50
9	1.9	4.1	ABC8	RSA	1.7	164	39	0.7	68.8	57	23.55	-3	-1	-1	-2	-2	-7	0	-4	-2	-23	**75**	-1	-2	-19	-1	-1	-3	-4	-6	41	32	1	−1	−1	44
10	1.8	4.2	ABC32	REC	2	190	27	0.9	70.6	61.2	21.79	0	-7	-2	-2	-4	-7	-1	**78**	0	-1	-2	-2	-2	-13	-1	-1	-2	-2	0	11	-15	2	9	3	50
11	1.8	2.6	JR18	BG	1.8	168	33	0.8	72.5	63.8	21	-4	-7	-4	**75**	-8	-1	-3	-8	-6	0	-6	-4	-1	-9	-2	0	-8	-3	0	2	-6	−1	2	2	55
12	1.8	0.9	AC57	LAND	2.2	211	34	0.8	74.3	64.8	19.47	0	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	-38	29	17	6	3	−1	58
13	1.6	4.5	ABC41	DB1	1.7	166	29	0.9	75.9	69.3	18.96	0	0	0	0	0	0	0	0	0	**65**	-28	0	0	-29	0	0	0	0	0	34	6	11	−2	2	54
14	1.6	2.7	GJ27	ITRK	1.6	154	33	0.8	77.5	71.9	18.14	0	9	3	1	9	2	10	10	0	2	10	4	0	**-63**	1	0	5	0	1	26	44	−10	−5	2	50
15	1.5	2.1	AC53	RDSA	2.1	200	52	0.5	79	74	17.74	-1	0	-1	-4	0	0	0	-4	13	-1	-2	-1	-1	-2	0	-2	-3	-1	-1	19	20	4	2	0	53
16	1.5	2.3	DH38	MRL	2	186	34	0.8	80.5	76.3	16.38	0	0	**-75**	-12	-2	**78**	0	-1	-3	0	0	-4	0	-1	-2	-1	0	-4	-1	**52**	28	−5	−1	−2	50
17	1.5	0.3	JR10	BIRG	1.6	150	24	1.1	82	76.6	16.29	-1	0	-1	21	0	0	0	-2	-3	0	-1	-1	-1	-1	0	-2	-2	-1	-1	21	-16	−15	−2	−1	47
18	1.3	2.2	AC125	SX86E	1.8	174	47	0.5	83.4	78.8	15.79	-3	-5	-3	-6	-6	**84**	-2	-6	-4	0	-4	-3	-1	-6	-2	0	-6	-33	0	**93**	**95**	2	1	1	50
19	1.3	1.4	JR46	SREN	2.1	201	46	0.6	84.7	80.2	15.24	0	0	0	-31	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	38	**67**	7	4	−0	53
20	1.2	1.4	ABC29	EXO	2.1	202	32	0.8	85.9	81.5	14.66	-1	0	-9	-14	-2	0	-35	-1	-9	**98**	-5	-1	0	-21	0	-1	-3	0	0	27	33	−5	−2	−1	50
21	1.1	0.3	ABC46	VOW3	1.6	157	35	0.7	87	81.8	14.41	0	-7	-2	-1	-7	-1	**51**	-7	0	-1	-7	-3	0	-9	-1	0	-4	0	-1	**58**	**73**	5	−1	−1	48
22	1	1.2	ACTW25	BP/	1.6	155	67	0.4	88	83	13.97	-1	0	-1	-4	0	0	0	-3	-9	-1	-1	-1	-1	-2	0	19	-3	-1	-1	**59**	42	4	2	−0	50
23	1	1.4	ABC47	CA	1.1	106	37	0.7	89	84.4	13.63	-3	-2	-2	-4	-2	-1	-2	-5	-6	0	-2	-1	-1	-7	-3	-1	-6	**52**	-1	30	31	5	4	1	52
24	0.8	0	AC122	RIO	1.8	175	28	0.9	89.8	84.4	13.24	-3	0	-2	-8	0	-1	0	-7	-10	-44	-3	-2	-2	-4	-1	**66**	-7	-2	-3	**84**	**71**	10	3	−0	54
25	0.7	1	ABC9	BBY	1.4	134	33	0.8	90.5	85.4	12.91	-1	0	0	-1	-1	-3	0	-1	-1	-9	-2	0	-1	-7	43	0	-1	-1	-2	19	28	−2	3	−1	56
26	0.7	0.7	GJ13	VIV	1.6	155	33	0.8	91.2	86.1	12.6	-1	-2	-1	-3	-3	0	-1	-3	-2	0	-2	-1	39	-3	-1	0	-3	-1	0	20	27	4	1	1	58
27	0.7	1.7	GJ7	ERF	1.4	129	28	0.9	91.9	87.8	12.22	0	0	0	0	0	0	0	**72**	0	0	0	0	0	**-57**	0	0	0	0	0	4	-19	−18	−4	−1	56
28	0.6	1	ABC42	AALB	1.3	126	46	0.5	92.5	88.8	14.15	0	0	0	0	0	0	0	0	0	0	0	0	0	-7	0	0	0	0	0	6	6	−4	−1	−0	54
29	0.6	-0.4	AC96	FERG	1.4	132	36	0.7	93.1	88.4	13.45	0	0	0	0	0	0	0	0	0	0	0	0	0	**76**	-46	0	0	0	-10	37	30	−5	−0	−1	52
30	0.5	1	GJ16	TITR	1	93	42	0.6	93.6	89.4	13.13	-1	0	-7	-10	-1	0	-5	0	-7	-1	-4	49	0	-4	0	-1	-2	0	0	43	37	5	−4	2	50
31	0.5	1	GJ22	CAP	1.4	130	34	0.7	94.1	90.4	12.83	-1	0	0	0	28	0	0	-3	0	0	0	0	-1	-1	0	0	-1	-2	-1	19	24	−9	−12	−1	48
32	0.5	0.6	GJ29	SW	1.3	121	39	0.7	94.5	90.9	12.31	4	3	2	5	3	1	2	6	7	0	2	2	2	8	3	1	7	2	**-59**	32	20	−8	−2	−0	47
33	0.4	0.6	ABC45	SHL	1.1	104	46	0.6	95	91.5	11.98	0	0	0	0	0	0	0	**51**	0	0	0	0	0	-32	0	0	-21	0	0	28	28	11	3	−1	48
34	0.4	0.5	MC166	ABF	0.9	86	59	0.4	95.3	92	11.75	42	0	0	0	0	-1	0	0	0	-2	0	0	0	-1	0	0	0	-37	0	30	32	4	−1	−0	47
35	0.4	0.4	ABC44	BT/A	1	93	37	0.7	95.7	92.4	11.42	-1	-1	-1	-1	-1	-4	0	-2	-1	-11	-2	**50**	-1	-9	-1	-1	-1	-2	-3	**64**	**75**	9	−2	0	46
36	0.4	1.2	JR44	HSTG	0.8	78	42	0.6	96	93.6	11.35	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	13	14	−11	3	1	47
37	0.3	0.4	GJ28	DSY	1	92	58	0.4	96.4	94	11.01	0	6	2	1	-35	1	6	6	0	1	6	3	0	8	0	0	4	0	1	47	**54**	2	0	2	49
38	0.3	-0.4	JR16	MAP	1.5	146	45	0.6	96.7	93.6	10.8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	1	1	−1	50
39	0.3	0.6	MC145	SSPG	0.9	82	51	0.5	96.9	94.3	10.43	0	0	0	0	0	0	0	0	0	-1	0	0	0	-11	0	0	0	0	13	-7	-13	−2	1	1	51
40	0.3	0.2	AC124	BNZL	0.7	67	87	0.3	97.2	94.5	10.24	21	0	0	0	0	0	0	0	0	0	0	0	0	-25	0	0	0	0	-20	41	**67**	−1	0	0	52
41	0.3	0.3	ABC40	IAG	0.8	75	45	0.6	97.5	94.8	10.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-13	14	26	−5	−2	1	51
42	0.2	0.3	MC122	SIGC	0.7	67	86	0.3	97.7	95.1	9.77	0	0	0	-27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**61**	**89**	0	0	−0	52
43	0.2	0	ABC33	JMAT	0.7	64	55	0.5	97.9	95.1	9.46	0	34	0	0	0	0	0	0	0	0	0	0	0	-30	0	0	0	0	0	20	16	0	−1	−1	51
44	0.2	-0.2	MC172	RIO	0.9	86	50	0.5	98.1	94.9	9.19	-2	0	-1	-5	0	0	0	-5	-7	-1	-2	-2	-2	-3	-1	41	-5	-1	-2	**89**	**84**	3	2	−1	52
45	0.2	0.3	ACTW37	BKG	0.7	66	93	0.3	98.2	95.2	8.96	-1	0	0	-1	-1	-3	0	-1	-1	-9	-2	0	-1	1	0	0	25	-1	-2	1	1	2	2	1	53
46	0.2	0.3	ABC38	RR/	0.9	90	49	0.5	98.4	95.5	8.65	0	0	0	0	0	0	0	0	0	0	0	0	0	-7	0	0	0	0	0	7	-17	1	1	−1	54
47	0.2	0.3	AC121	TW/	0.8	80	88	0.3	98.6	95.8	8.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	12	-2	−4	1	0	55
48	0.2	1.9	GJ26	SAP	1.7	159	30	0.9	98.7	97.7	8.56	-3	0	-1	0	48	0	-1	-14	0	0	0	-2	-6	-8	0	0	-3	-9	-6	20	31	−2	2	−1	56
49	0.1	0.2	ABC35	PRU	0.9	86	93	0.3	98.8	97.9	8.42	0	0	0	-25	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	18	20	−1	−1	−0	55
50	0.1	0.5	DH63	ANIM	0.8	72	59	0.4	99	98.4	8.17	-1	0	-7	-10	-1	0	-5	0	-7	28	-4	-1	0	-4	0	-1	-2	0	0	23	37	−2	−1	1	54
51	0.1	0.2	ACTW26	ABF	0.5	49	103	0.2	99.1	98.5	7.9	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-25	0	33	38	2	0	0	55
52	0.1	0	DH58	TEN	0.9	85	51	0.5	99.2	98.6	8.98	0	0	0	0	0	0	0	0	-44	0	0	0	0	0	0	41	0	0	0	20	28	−10	−3	0	54
53	0.1	0.1	ACTW6	LAND	1	91	188	0.1	99.4	98.7	8.78	0	0	0	0	0	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	22	15	2	1	−0	55
54	0.1	0.3	AC115	WEIR	0.6	61	64	0.4	99.5	98.9	8.55	0	0	0	0	0	0	0	0	0	0	0	0	0	-4	0	0	0	0	0	-4	-22	0	−1	1	54
55	0.1	0.2	ACTW2	BBY	0.7	68	86	0.3	99.6	99.1	8.35	-1	0	0	0	0	-1	0	-1	0	-5	-1	0	0	-4	24	0	-10	-1	-1	14	18	2	2	−1	55
56	0.1	0.1	ACTW40	BATS	0.7	62	84	0.3	99.7	99.2	8.26	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	-15	7	2	1	55
57	0.1	0.3	MC158	CNA	0.6	60	73	0.3	99.8	99.6	8.03	0	0	15	0	0	-1	0	-1	0	-4	-1	0	0	-3	0	0	0	-1	-1	30	30	1	1	1	56
58	0.1	-0.2	AC126	JMAT	0.7	65	49	0.5	99.9	99.4	7.88	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12	2	1	−1	57
59	0.1	0.1	ACTW5	CPG	0.5	50	118	0.2	100	99.5	7.73	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	-25	**60**	**66**	−0	−0	−0	56
60	0.1	0	ACTW35	SMIN	0.8	75	95	0.3	100.1	99.5	7.53	-1	0	-1	-3	0	-1	0	-3	-3	-3	-1	-1	-1	11	0	-2	-2	-1	-2	28	**54**	4	1	−0	57
61	0.1	0	MC167	MRW	0.5	43	128	0.2	100.2	99.5	7.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-5	0	26	46	−0	−1	−1	56
62	0.1	0.2	ACTW46	MCX	0.6	56	164	0.2	100.2	99.8	7.27	-1	0	0	-1	-1	-3	0	-1	-1	-8	25	0	-1	-7	0	0	-1	-1	-2	**53**	46	2	0	−1	56
63	0.1	0.2	AC123	SSE	1.1	109	52	0.5	100.3	100	7.28	0	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	3	−1	0	56
64	0.1	0.1	DH66	NESTE	0.5	44	75	0.3	100.4	100.1	7.38	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	-7	-37	3	1	1	56
65	0.1	0.1	ABC7	MC	0.2	24	94	0.3	100.4	100.2	7.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-24	0	0	**72**	**83**	3	1	1	57
66	0.1	0.1	MC160	AVV	0.4	40	82	0.3	100.5	100.3	7.13	0	0	0	0	19	0	0	0	0	0	0	0	0	-20	0	0	0	0	0	12	26	1	−0	−0	56
67	0	0.2	MC89	TMO	0.4	39	72	0.4	100.5	100.5	7.29	0	0	0	0	0	-1	0	0	0	-2	0	0	32	-1	0	0	0	0	0	-1	-27	−4	−2	−1	55
68	0	0	GJ25	ECM	0.9	86	46	0.5	100.6	100.5	7.44	0	5	1	1	5	1	5	5	0	1	5	2	0	-39	0	0	3	0	0	18	45	12	−1	2	54
69	0	0.1	ACTW20	MRW	0.4	37	114	0.2	100.6	100.6	7.48	-11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	6	−2	−2	−1	54
70	0	-0.5	JR32	ABN	1.7	165	37	0.7	100.6	100	7.31	0	0	0	-21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	-1	0	1	0	54
71	0	0.5	JR43	ALV	1.4	136	70	0.4	100.7	100.6	7.24	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	46	26	−1	−1	−0	54
72	0	0	AC99	IBST	0.3	30	157	0.2	100.7	100.6	7.42	0	-1	-1	0	-1	-2	0	-1	0	-1	-1	0	-1	-4	12	-1	-1	-1	-1	5	-16	1	0	0	54
73	0	0	DH62	DAI	0.3	27	228	0.1	100.7	100.6	7.74	0	0	0	0	0	0	16	0	0	0	0	0	0	-11	0	0	0	0	0	**89**	**95**	−1	−1	−0	53
74	0	0.1	MC173	TW/	0.3	24	209	0.1	100.8	100.6	7.8	0	0	0	0	0	-1	0	-1	0	-3	-1	0	0	-3	0	0	12	-1	-1	4	-4	−0	1	0	54
75	0	0	ACTW30	PHNX	0.3	28	460	0.1	100.8	100.7	8.06	0	0	0	1	0	0	0	1	1	-16	6	0	0	0	0	1	1	0	0	**58**	45	−0	−0	−0	53
76	0	0	MC143	PLUS	0.2	23	91	0.3	100.8	100.7	7.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-14	14	2	0	0	54
77	0	0	MC149	SGRO	0.3	31	164	0.2	100.8	100.7	8	0	0	0	0	0	20	0	0	0	-3	-1	0	0	-2	0	0	0	0	-1	**63**	**57**	1	0	0	55
78	0	0	DH52	SAB	0.2	16	326	0.1	100.8	100.7	8.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-18	−0	0	−0	55
79	0	0	AC127	METSO	0.4	38	90	0.3	100.8	100.7	8.13	0	0	0	0	0	0	0	0	0	0	0	0	0	20	-19	0	0	0	0	7	9	−1	0	−0	56
80	0	0	ACTW21	BNZL	0.3	30	150	0.2	100.8	100.7	7.83	0	0	0	0	0	0	0	0	0	0	0	0	0	-17	0	0	13	0	0	48	**61**	0	−0	0	55
81	0	0	DH48	CARLB	0.2	24	145	0.2	100.8	100.8	7.49	-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**51**	**54**	2	1	−0	56
82	0	0	DH32	TPZ	0	4	451	0.1	100.8	100.7	7.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	8	-12	1	1	−0	56
83	0	0	ACTW28	NG/	0.8	71	137	0.2	100.8	100.7	7.7	0	0	-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	28	1	−1	−0	55
84	0	0	MC132	GLO	0.2	18	163	0.2	100.8	100.7	7.73	0	0	9	0	0	-1	0	0	0	-2	0	0	0	-2	0	0	0	0	-1	-11	6	0	0	−0	56
85	0	0	ACTW17	REL	0.3	32	268	0.1	100.8	100.6	7.95	0	0	0	0	0	0	0	0	0	0	0	0	-6	0	0	0	0	0	0	**51**	46	1	0	−0	56
86	0	0	ABC28	GLO	0.2	19	159	0.2	100.8	100.6	7.93	0	0	9	0	0	-1	0	0	0	-3	0	0	0	-2	0	0	0	0	-1	-10	7	0	0	−0	57
87	0	0.2	GJ4	ASML	0.6	61	70	0.4	100.8	100.8	8.06	-1	0	0	0	18	0	0	-6	0	0	0	-1	-2	-3	0	0	-1	-3	-2	38	41	0	−0	−0	56
88	0	0	ACTW22	SXS	0.2	22	241	0.1	100.7	100.8	7.97	0	0	0	0	0	0	-6	0	0	0	0	0	0	-1	0	0	0	0	0	49	**53**	2	−0	−0	56
89	0	0	MC53	ELTA	0.6	56	63	0.4	100.7	100.8	8.05	0	10	0	0	0	-1	0	-1	0	26	-1	0	0	-3	0	0	0	-1	-1	0	-6	−8	−4	−1	55
90	0	0	AC128	MGGT	0.2	21	103	0.2	100.7	100.7	7.92	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	**53**	**68**	−3	−2	−0	54
91	0	0	MC130	PRSM	0.1	14	108	0.2	100.7	100.7	8	0	0	0	0	7	0	0	0	0	-6	0	0	0	0	0	0	0	0	0	0	-1	−2	1	1	55
92	0	0.1	MC129	LSE	0.6	55	101	0.3	100.6	100.8	8.02	0	0	0	0	0	0	0	0	0	20	-21	0	0	0	0	0	0	0	0	29	26	1	1	−0	55
93	0	-0.1	ACTW34	SGE	0.5	46	131	0.2	100.6	100.7	8.18	-1	0	-1	-3	17	-1	0	-3	-4	-2	-1	-1	-1	-3	0	-2	-3	-1	-1	40	**57**	3	1	−1	56
94	0	0.2	GJ18	EL	0.6	61	64	0.4	100.6	100.9	8.15	0	0	-3	-5	-1	0	-2	41	-3	-1	-2	0	0	-2	0	0	-1	0	0	28	41	−3	−0	−0	55
95	0	0	MC162	ULVR	0.4	35	117	0.2	100.5	101	8.11	0	0	0	0	0	-1	0	0	0	-2	0	0	0	-7	0	0	21	0	-1	**62**	**56**	2	−0	−0	55
96	-0.2	-0.2	JR45	CS	1.6	157	35	0.7	100.4	100.7	8.5	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	20	46	−18	−7	1	54
97	-0.2	-0.2	AC111	BA/	0.8	73	48	0.5	100.2	100.5	8.64	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	30	41	−9	2	1	55
98	-0.2	-0.5	ABC43	AIR	1	91	52	0.5	100	100	11.99	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	24	18	−6	−3	−0	54

8 Pair hedge stability table: topmost pairs have “looser” hedges

Pair vol-of-vols, correlations with SXXP, correlation confidence intervals: ordered by 2 week hedge and directional stability

	pair	net	gross	cor whole period 2 year SXXP	cor 90pct quantile 2 year SXXP	cor 10pct quantile 2 year SXXP	cor confidence interval 2 year SXXP	cor whole period 2 week SXXP	cor 90pct quantile 2 week SXXP	cor 10pct quantile 2 week SXXP	cor confidence interval 2 week SXXP	vol of vol 2 weeks	vol of vol 2 years	has index position	2 week P&L
1	ACTW40	0.2	62	-10.2	-6.4	-13.2	6.8	-28.9	-4.1	-41.6	37.5	8	19.6		1.9
2	ABC9	11.4	134	19.3	22.5	15.8	6.7	32.1	45.3	10.1	35.2	6.3	21.1	•	-1.5
3	GJ22	18.8	130	19.6	24	15.2	8.8	35.7	50.6	10.9	39.7	5.8	18.5	•	-4.7
4	ACTW2	-35.1	432	9	12.9	5.2	7.7	16	28.7	-7.4	36.1	5.5	17.1	•	-0.7
5	JR10	3.2	150	14.2	17.8	10.7	7.1	-19.1	4.5	-33.3	37.8	4.9	15.3	•	-2.2
6	AC99	-4.7	30	-8.8	-5.8	-13.9	8.2	12.5	34.1	-0.2	34.2	5.3	23.7	•	0.1
7	MC143	0.1	23	-10	-6.2	-14.6	8.4	5.7	12	-11.1	23.1	8.6	30.5	•	1.1
8	JR46	-24.2	201	-28.8	-26.1	-33.2	7.1	-61.6	-44.6	-70	25.4	7	17.2	•	2
9	ACTW34	-11.3	46	-21.6	-18	-25.9	7.9	-33.8	-20.8	-46.2	25.4	6.7	29	•	-0.6
10	JR44	17.8	78	14.5	18.2	10.5	7.7	21.4	28.9	5.8	23.1	7.9	33.8		0.3
11	ACTW5	0.8	50	8.8	13.3	2.9	10.3	-15.2	3.8	-29.1	32.9	4.3	25.3		-0.4
12	GJ7	15.1	129	15.6	19.6	11	8.6	36.5	45.6	17.7	27.8	4.9	19.1		-0.3
13	MC53	24.5	56	-3.6	1.3	-6.8	8.1	-5	6.8	-14.8	21.7	10	21.3	•	-2
14	ACTW30	-3.7	28	-29.3	-25.5	-33.9	8.4	-1.1	11	-11.2	22.3	7.3	16.3	•	-0.1
15	AC124	-23.9	67	-23.8	-20.3	-28.3	8.1	-52.6	-38.4	-65.6	27.2	4.4	17.3		0.3
16	JR37	-4.0	149	0	3.6	-4.5	8.1	-22.8	-4.3	-32.9	28.6	4.1	20.7		3
17	ABC44	8.5	93	-1.7	1.7	-5	6.8	-1	13.2	-9.1	22.3	6.1	39	•	-1.6
18	ABC8	-6.1	164	-9.9	-5.6	-16	10.4	25.8	37	5.8	31.2	3.6	23.8	•	1
19	DH62	5.7	27	31.2	35.1	27.2	7.8	25.7	38.8	18.2	20.6	6.9	18.9	•	-0.4
20	GJ4	-2.9	61	35	39.6	30.6	9.1	42.7	49.7	30.1	19.6	7.5	15.6	•	0.2
21	GJ27	4.1	154	16.3	20.1	12.2	7.9	-15.5	-2.4	-24.3	21.9	6	27.9	•	1.8
22	ACTW35	-14.8	75	-21.8	-17.2	-24.9	7.7	-49.4	-31	-57.7	26.7	3.7	28.5	•	-1.1
23	DH20	-38.8	756	-24.4	-20.1	-28.8	8.7	-39.7	-26	-48.2	22.1	5.1	15.5		-5.2
24	JR18	0.4	168	-30.2	-25.3	-33.7	8.4	-27.3	-17.8	-35.7	17.9	7.5	13.7	•	3.5
25	JR36	-8.3	192	-8	-4.4	-12.4	8	-11.3	0	-22.5	22.5	4.5	18.3		-0.9
26	DH66	2.3	44	-3.3	1.1	-9.7	10.8	-34.1	-15.1	-43.2	28	3.2	27.9		0.6
27	DH65	0.9	242	2.4	6.2	-0.9	7	14.1	24.5	-1.2	25.7	3.8	14.1	•	-1.4
28	DH38	-28.3	186	-28.2	-23.5	-32.1	8.6	-12.7	-3.5	-19.8	16.3	16.7	13.9	•	0.8
29	ACTW25	-13.2	155	-19.3	-15.8	-23.8	8	-7.9	2	-24.2	26.2	3.4	16.1	•	-0.7
30	MC130	1.2	14	11	15.1	8	7.1	-0.8	10	-8.7	18.7	6.3	15.6		1
31	ACTW37	2.4	66	-3.2	0.2	-7	7.2	27.6	37	13.2	23.7	3.6	20.1	•	0.9
32	JR15	-11.5	235	-6.8	-2.8	-10.5	7.7	-21.1	-6.5	-33.2	26.6	3.1	43.5		4.4
33	MC172	2.2	86	16.5	19.6	12.9	6.7	36.9	46.3	20	26.3	3.2	14.4	•	-1.4
34	ACTW21	-3.4	30	-11.4	-8.9	-15.4	6.5	-33.3	-19.5	-41.8	22.2	3.9	25		0.2
35	ABC23	10.2	216	6.5	9.7	3.7	6	-29.7	-17.3	-37.1	19.7	4.6	20.1	•	1.8
36	GJ28	10.0	92	22.1	26.4	16.8	9.7	-16.7	-3.8	-25	21.2	4.1	25.2	•	1.5
37	ABC38	-6.8	90	-12.5	-8.2	-16.7	8.4	12.6	23.5	-10.7	34.1	2.7	26.1	•	-0.4
38	MC129	-0.7	55	-17.7	-14.2	-21.8	7.7	-16.4	-0.1	-25.8	25.7	3.1	19.8	•	0
39	MC162	7.2	35	-0.5	2.1	-4	6.1	-2.4	13	-10.5	23.5	3.2	37	•	-0.3
40	AC125	-3.7	174	-38.3	-34.6	-41.8	7.1	-47.3	-37.2	-54.1	16.8	6	12.6	•	-0.7
41	ABC42	-7.2	126	-7.3	-3.2	-11.8	8.6	-10.1	-0.6	-19.8	19.1	4.1	18.4		-0.8
42	ACTW6	-3.5	91	-16.5	-13.3	-20.1	6.8	-17.7	-8.7	-28.1	19.4	3.8	14.4	•	-0.2
43	AC122	-34.4	175	-9.4	-5.1	-13.9	8.8	-3.2	7.4	-18.8	26.2	2.8	14.7	•	-2.2
44	GJ29	0.5	121	17	20.7	14	6.7	31.6	41.8	11.4	30.4	2.4	42.6	•	-0.1
45	MC122	12.3	67	-44.4	-40.4	-49.6	9.2	-74.8	-64.4	-80	15.6	6	17.6	•	0.1
46	MC132	0.7	18	-1.8	2.3	-6.6	8.9	-13.1	-5.6	-20.7	15.1	6.5	21.9	•	-0.3
47	ABC43	5.7	91	18.4	22.1	14.7	7.4	11.2	27.9	-1.9	29.9	2.4	21		-0.2
48	ABC28	-0.1	19	-4	0.2	-8.8	9	-14.4	-6.9	-21.8	15	6.6	21.6	•	-0.3
49	GJ16	8.0	93	3.1	6.7	-1.5	8.1	-6.6	4.4	-14.9	19.4	3.5	18	•	-0.2
50	JR42	-1.4	236	-10.3	-6.4	-15.8	9.4	0.7	11.4	-14.5	25.9	2.5	23.5	•	2.1
51	ABC40	-13.2	75	-14.7	-10.6	-18.9	8.3	-17	-9.9	-25.8	15.9	4.3	12.1		2.1
52	ABC46	0.6	157	11.8	15.9	8.9	7	8.6	16.9	-2.1	19	3.3	17.8	•	-3.3
53	ABC29	-2.5	202	25.8	29.7	22.3	7.4	15.9	22.5	6.3	16.2	4.1	15	•	0.3
54	ABC7	-23.6	24	-68.8	-67	-70.7	3.8	-78.4	-73.4	-81.2	7.9	7.9	16.5		0.5
55	AC123	-2.2	109	-3.3	0.8	-8.4	9.1	-18.4	-4.4	-28.1	23.7	2.6	24.3		-0.5
56	GJ26	-4.2	159	29.8	34.4	25.1	9.3	24.1	30.4	15.8	14.6	5.9	16.6	•	-1.5
57	ACTW20	-1.8	37	-4.4	-0.7	-8.1	7.4	-4.7	4.3	-12.5	16.9	3.8	23.3		-1.1
58	DH67	3.8	102	0.6	7.2	-3.6	10.8	-15.1	-2.4	-25.5	23.1	2.7	44.9	•	3.1
59	AC128	21.1	21	45.8	50.6	41.3	9.3	64.8	69.7	52.5	17.2	3.6	26.9		-0.7
60	AC57	8.3	211	-1.9	2	-5.5	7.5	6.3	20.4	-1.5	21.9	2.8	21.2		-1.1
61	GJ13	11.9	155	17	21.7	11.8	10	5.8	15.9	-10.8	26.7	1.9	17.7	•	0.6
62	ACTW46	-4.2	56	-30.8	-27.2	-35.3	8.1	-9.3	-0.8	-16.7	15.9	3.8	13.7	•	0.1
63	DH63	-13.4	72	-8.5	-4.4	-12.6	8.3	-19.3	-6.1	-28.8	22.7	2.4	16.8	•	1.2
64	ACTW28	-6.6	71	-13.3	-8.6	-18.4	9.8	-30.8	-19.2	-39.9	20.7	2.8	21.9	•	-0.2
65	JR16	1.3	146	2.8	6.6	-0.5	7.1	0.7	10.7	-7.3	18.1	3.1	18.4	•	-1.4
66	MC167	-4.8	43	-6.8	-3.4	-10.2	6.8	-28.6	-22.6	-34.3	11.7	5.2	19.6	•	-1.1
67	GJ25	-4.7	86	-1.3	2.2	-7.1	9.3	-12.7	-3.6	-19.5	15.9	3.5	34.1	•	1.7
68	MC166	-0.8	86	-6.5	-1.8	-10.9	9.1	-15	-4.5	-22.3	17.8	2.9	16.4	•	-0.8
69	ACTW26	-0.6	49	-7.6	-2.7	-12	9.3	-18.7	-8.6	-25.6	17	2.9	17	•	-0.4
70	AC121	10.9	80	8.4	12	4.6	7.3	3.4	11.1	-3.4	14.6	3.8	14		-0.3
71	MC149	10.2	31	17.6	21.2	13.1	8.1	17.2	26	9.6	16.4	3	24.7	•	-0.2
72	AC96	19.7	132	11.2	14.5	6.6	7.9	4.1	13.3	-3.1	16.5	2.9	19.6		-3.3
73	JR45	11.0	157	13.7	18.6	9	9.6	43	51	30.2	20.8	2.2	28.4		-0.2
74	AC115	-3.6	61	3.8	8.8	0.8	8	22.3	28.5	11.4	17.1	2.7	15.2		0.8
75	MC160	-1.3	40	-7.4	-3.9	-11.3	7.3	-5.4	2.9	-12.2	15.1	3.2	37.4	•	-0.3
76	ABC32	31.5	190	0.4	6.9	-5.2	12.1	-16.2	-9.2	-29	19.8	2.1	18.3	•	7.3
77	ACTW22	-7.2	22	-44.3	-40.7	-47.6	6.9	-43.5	-36.5	-52.3	15.8	3	26.9	•	0.2
78	JR32	-20.9	165	-20.1	-15.6	-24.6	9	0.9	10.1	-6.9	17	2.5	14.4	•	1.2
79	AC126	2.6	65	4.4	8.8	1	7.8	16.2	24.1	5.2	18.9	2.2	23.1		-0.3
80	MC145	0.6	82	4.8	9.1	0.8	8.4	-5.3	3.2	-15.6	18.8	2.1	24.4	•	0.5
81	ABC41	7.4	166	-23.1	-19.3	-27	7.7	-29	-19.5	-36.5	17	2.3	15.7	•	0.9
82	AC53	-13.1	200	-26.6	-23.3	-31	7.8	-17.9	-12	-25	13	3.1	16.2	•	0.9
83	DH52	-0.2	16	-2.7	1.3	-7.1	8.3	10.2	17.3	4.4	12.9	3.1	15.1	•	-0.1
84	DH32	3.3	4	8.3	12.3	5.2	7.1	-11.7	-4.6	-16.5	11.9	2.8	38	•	0
85	JR43	18.5	136	46.1	49.4	42.5	6.8	20.1	28.2	14.3	13.9	2.7	14.7	•	-0.4
86	ABC47	1.2	106	-22	-18.9	-25.7	6.8	-19.8	-11.3	-26.7	15.4	2.3	37.1	•	1.1
87	MC173	0.5	24	-1.2	2.4	-4.8	7.2	16.2	21.1	10.7	10.4	2.8	17	•	0.2
88	ABC39	36.6	222	1.3	6.4	-4.4	10.8	23.3	30.1	15.6	14.5	2.4	16.1	•	0.3
89	MC89	25.6	39	-9	-5.8	-12.1	6.3	-30.9	-23.9	-39.5	15.5	1.8	52.1	•	-0.7
90	ABC33	3.5	64	-0.4	3.6	-3.8	7.4	22.3	30.3	15.1	15.3	1.8	24.7		-1
91	ABC35	-16.4	86	-0.3	2.9	-4.7	7.6	-7.3	-3	-13	10	2.6	17.1		-1
92	AC111	30.3	73	23.7	26.9	19.8	7.1	38.2	44.2	28.7	15.4	1.6	17.3		1.7
93	DH48	-23.6	24	-38	-34	-41.9	8	-36.7	-32	-43.1	11.1	2.4	11.8		0.6
94	GJ18	21.9	61	12.2	18.7	7.3	11.4	33.2	39.8	24.7	15.1	1.8	30.1	•	0.3
95	ABC45	-2.4	104	-37.1	-32.8	-41.5	8.6	-23.6	-17.9	-29.3	11.4	2.2	13.1		-0.6
96	AC127	1.0	38	-5.1	-0.6	-10.1	9.5	-8.8	-0.1	-14.6	14.5	1.7	20.3		-0.5
97	MC158	0.3	60	-3.5	0.7	-6.3	7	-6.2	1.7	-11.9	13.6	1.5	35.8	•	0.5
98	ACTW17	-6.0	32	-26.1	-22.7	-29.8	7.1	-47	-42.6	-51.4	8.9	1.8	18.7	•	0.1
99	DH58	-2.5	85	14.7	18.4	11	7.5	26	31.2	20.4	10.8	1.7	23		0.8

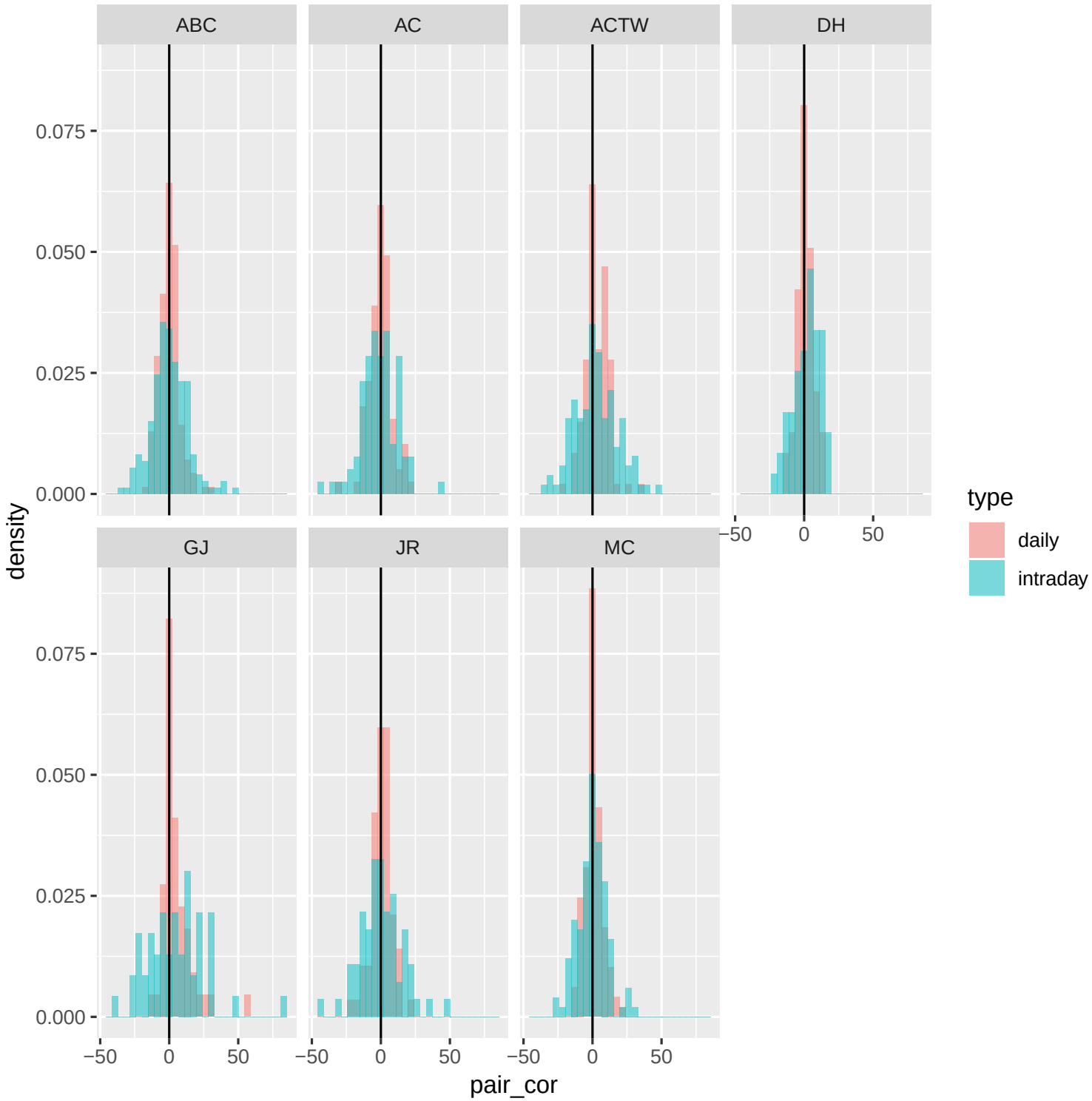
9 Manager pair correlations

Manager pair correlation statistics, 2 weeks, 10-min bars

	manager	mean_cor	median_cor	max_cor	min_cor
1	ABC	0.28	-1	48	-34
2	AC	-1.18	-1.5	43	-43
3	ACTW	2.62	2	47	-33
4	DH	2.04	3.5	17	-21
5	GJ	4.77	3	84	-40
6	JR	0.17	-1	49	-42
7	MC	-0.06	1	31	-28

Manager pair correlation statistics, 2 year, daily

	manager	mean_cor	median_cor	max_cor	min_cor
1	ABC	0.06	1	32	-17
2	AC	-0.35	-1	21	-31
3	ACTW	2.74	2	36	-20
4	DH	0.63	1	12	-12
5	GJ	5.26	2	59	-11
6	JR	0.28	1	20	-22
7	MC	0.74	1	22	-15



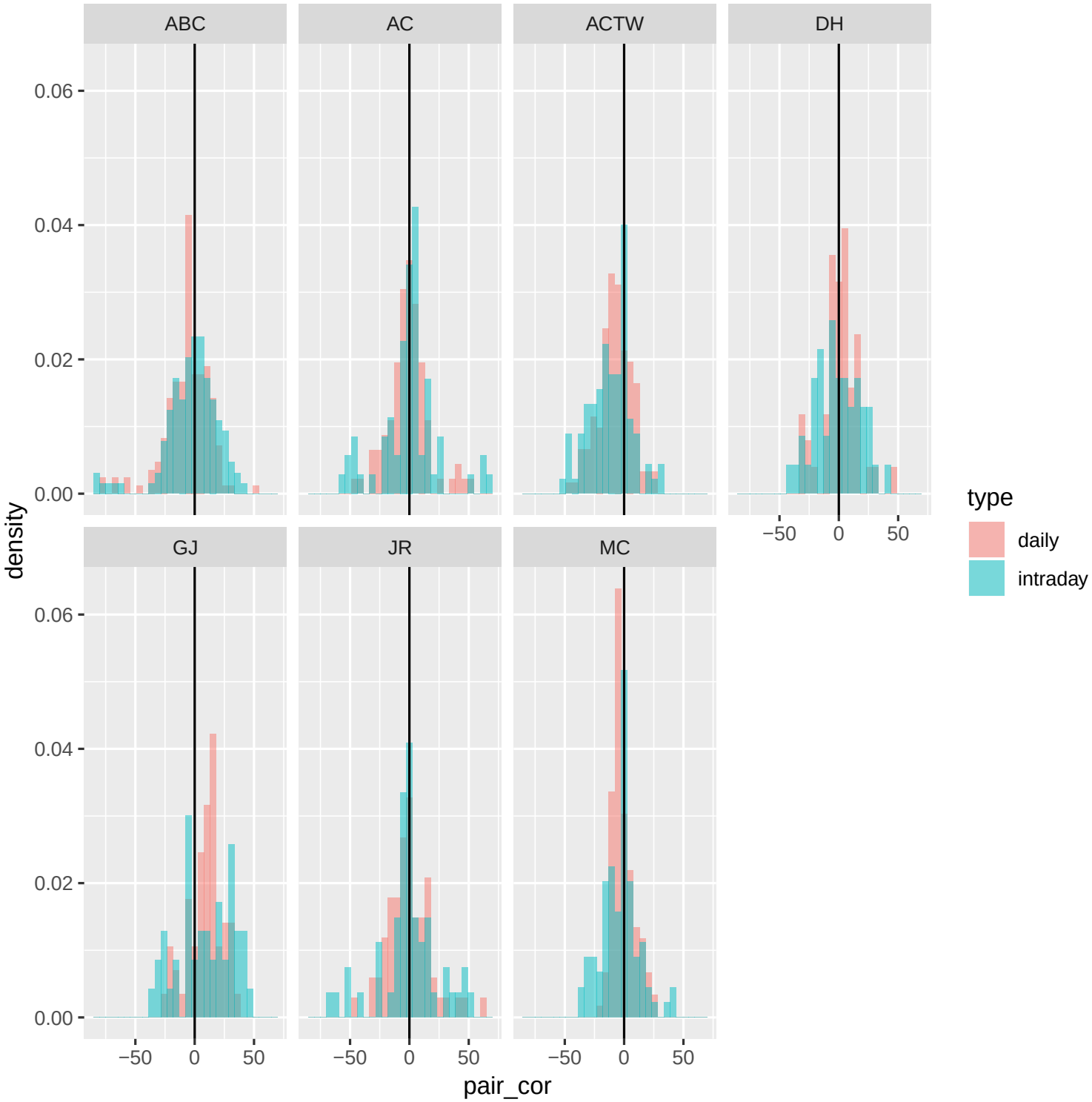
10 Factor correlations

Manager pair correlation to factors, 2 weeks, 10-min bars

	manager	mean_cor	median_cor	max_cor	min_cor
1	ABC	-2.57	1	39	-85
2	AC	-0.35	1.5	65	-57
3	ACTW	-11.53	-11	30	-52
4	DH	-0.76	-1	39	-39
5	GJ	9.22	8	44	-35
6	JR	-1.08	-0.5	51	-69
7	MC	-3.16	-1	41	-36

Manager pair correlation to factors, 2 year, daily

	manager	mean_cor	median_cor	max_cor	min_cor
1	ABC	-5.96	-5	53	-79
2	AC	-1.38	-2	53	-44
3	ACTW	-7.68	-7	26	-45
4	DH	0.96	2	46	-30
5	GJ	9	12	36	-28
6	JR	-0.38	-2	60	-49
7	MC	-0.72	-3	26	-21



11 High correlation pairs

intraday

	pair_cor	manager	pair1	pair2
1	84	GJ	GJ26	GJ4
2	49	JR	JR37	JR46
3	48	ABC	ABC23	ABC7
4	47	ACTW	ACTW21	ACTW5
5	47	GJ	GJ27	GJ28
6	43	AC	AC111	AC128
7	-43	AC	AC125	AC128
8	-42	JR	JR45	JR46
9	41	ABC	ABC23	ABC41
10	41	ABC	ABC23	ABC44
11	41	ACTW	ACTW40	ACTW5
12	-40	GJ	GJ18	GJ27
13	-37	AC	AC124	AC128
14	35	ACTW	ACTW34	ACTW35
15	-34	ABC	ABC23	ABC38
16	34	ABC	ABC41	ABC7
17	34	JR	JR10	JR46
18	-33	ACTW	ACTW30	ACTW34
19	32	ACTW	ACTW17	ACTW35
20	32	GJ	GJ25	GJ27
21	32	GJ	GJ25	GJ28
22	32	GJ	GJ22	GJ4
23	-31	ABC	ABC38	ABC7
24	31	ABC	ABC47	ABC7
25	-31	AC	AC111	AC124
26	-31	ACTW	ACTW2	ACTW35
27	31	GJ	GJ22	GJ26
28	31	MC	MC122	MC167
29	30	ACTW	ACTW21	ACTW22
30	-30	JR	JR37	JR45
31	29	ACTW	ACTW17	ACTW28
32	29	ACTW	ACTW28	ACTW35
33	-29	ACTW	ACTW35	ACTW37
34	29	GJ	GJ22	GJ7
35	-28	ACTW	ACTW17	ACTW37
36	28	ACTW	ACTW22	ACTW5
37	28	MC	MC122	MC129
38	28	MC	MC158	MC162
39	-28	MC	MC122	MC172
40	-27	ABC	ABC29	ABC7
41	-27	ABC	ABC7	ABC9
42	27	ACTW	ACTW22	ACTW40
43	-27	GJ	GJ18	GJ28
44	-27	GJ	GJ28	GJ4
45	27	JR	JR10	JR37
46	26	ABC	ABC38	ABC9
47	-25	ABC	ABC29	ABC44
48	-25	ABC	ABC33	ABC7
49	25	ABC	ABC45	ABC7
50	-25	AC	AC111	AC122

daily

	pair_cor	manager	pair1	pair2
1	59	GJ	GJ26	GJ4
2	36	ACTW	ACTW21	ACTW5
3	32	ABC	ABC45	ABC7
4	32	GJ	GJ27	GJ28
5	-31	AC	AC124	AC128
6	26	ACTW	ACTW30	ACTW46
7	25	ABC	ABC47	ABC7
8	25	GJ	GJ25	GJ28
9	24	GJ	GJ25	GJ27
10	-22	JR	JR43	JR46
11	22	MC	MC149	MC162
12	21	AC	AC115	AC122
13	-20	ACTW	ACTW2	ACTW37
14	20	JR	JR37	JR46
15	18	ABC	ABC41	ABC7
16	18	AC	AC111	AC128
17	18	AC	AC125	AC57
18	18	GJ	GJ22	GJ26
19	-18	JR	JR18	JR43
20	18	MC	MC162	MC166
21	17	ABC	ABC44	ABC47
22	17	ABC	ABC45	ABC47
23	-17	ABC	ABC43	ABC7
24	-17	AC	AC125	AC128
25	17	GJ	GJ22	GJ4
26	17	MC	MC122	MC129
27	16	AC	AC124	AC53
28	16	AC	AC128	AC96
29	16	ACTW	ACTW17	ACTW35
30	-15	ABC	ABC43	ABC45
31	-15	ABC	ABC29	ABC47
32	15	ABC	ABC41	ABC47
33	-15	AC	AC122	AC125
34	-15	MC	MC162	MC172
35	14	ABC	ABC40	ABC41
36	-14	ABC	ABC29	ABC7
37	14	ABC	ABC7	ABC8
38	-14	AC	AC111	AC124
39	-14	AC	AC111	AC125
40	-14	AC	AC128	AC53
41	14	ACTW	ACTW17	ACTW22
42	14	ACTW	ACTW17	ACTW46
43	14	ACTW	ACTW26	ACTW5
44	-14	ACTW	ACTW37	ACTW6
45	14	GJ	GJ13	GJ7
46	-14	JR	JR45	JR46
47	-13	ABC	ABC29	ABC45
48	-13	ABC	ABC46	ABC7
49	-13	AC	AC127	AC57
50	13	ACTW	ACTW30	ACTW35

12 High factor exposure pairs

	intraday			
	pair_cor	manager	factor	pair
1	-85	ABC	CAC	ABC7
2	-83	ABC	JPEUBATL	ABC7
3	-76	ABC	MCX	ABC7
4	-73	ABC	JPEUBATW	ABC7
5	-69	ABC	UKX	ABC7
6	-69	JR	UKX	JR46
7	65	AC	UKX	AC128
8	64	AC	CAC	AC128
9	63	AC	MCX	AC128
10	-63	JR	CAC	JR46
11	-60	ABC	DAX	ABC7
12	-57	AC	CAC	AC125
13	-53	JR	MCX	JR46
14	-52	ACTW	UKX	ACTW35
15	51	AC	DAX	AC128
16	51	JR	DAX	JR43
17	-51	JR	DAX	JR46
18	-50	AC	UKX	AC124
19	-50	AC	DAX	AC124
20	-49	AC	CAC	AC124
21	-49	AC	MCX	AC125
22	-49	ACTW	CAC	ACTW35
23	-48	ACTW	UKX	ACTW34
24	-46	ACTW	MCX	ACTW35
25	46	JR	CAC	JR45
26	-45	AC	MCX	AC124
27	45	JR	UKX	JR45
28	-44	ACTW	DAX	ACTW22
29	44	GJ	CAC	GJ4
30	43	GJ	MCX	GJ4
31	43	GJ	CAC	GJ7
32	-41	AC	UKX	AC125
33	41	MC	CAC	MC172
34	-40	JR	UKX	JR37
35	39	ABC	CAC	ABC9
36	-39	ACTW	DAX	ACTW35
37	39	DH	DAX	DH62
38	-39	DH	CAC	DH66
39	39	GJ	MCX	GJ7
40	39	JR	MCX	JR45
41	39	MC	UKX	MC172
42	-38	ACTW	UKX	ACTW22
43	-37	ACTW	MCX	ACTW21
44	37	GJ	UKX	GJ4
45	37	GJ	UKX	GJ7
46	37	MC	MCX	MC172
47	-36	MC	MCX	MC167
48	35	ABC	UKX	ABC9
49	-35	ACTW	MCX	ACTW46
50	-35	DH	UKX	DH66

	daily			
	pair_cor	manager	factor	pair
1	-79	ABC	JPEUBATL	ABC7
2	-75	ABC	CAC	ABC7
3	-66	ABC	DAX	ABC7
4	-65	ABC	JPEUBATW	ABC7
5	60	JR	DAX	JR43
6	-57	ABC	MCX	ABC7
7	-56	ABC	UKX	ABC7
8	53	ABC	V2X	ABC7
9	53	AC	MCX	AC128
10	-49	JR	V2X	JR43
11	47	JR	CAC	JR43
12	-46	ABC	SMX	ABC7
13	46	DH	DAX	DH62
14	45	AC	CAC	AC128
15	-45	ACTW	DAX	ACTW22
16	-44	AC	CAC	AC125
17	42	AC	UKX	AC128
18	-42	ACTW	MCX	ACTW46
19	40	AC	DAX	AC128
20	40	JR	UKX	JR43
21	-39	AC	DAX	AC125
22	-38	ACTW	MCX	ACTW30
23	-37	ABC	CAC	ABC45
24	-37	ACTW	SMX	ACTW30
25	-36	ABC	DAX	ABC45
26	36	AC	SMX	AC128
27	-36	ACTW	UKX	ACTW22
28	36	GJ	DAX	GJ4
29	-35	ABC	SGBVPMEU	ABC44
30	-34	ACTW	MCX	ACTW22
31	-33	AC	V2X	AC128
32	-33	ACTW	SMX	ACTW46
33	33	GJ	DAX	GJ26
34	-33	JR	UKX	JR46
35	-32	ABC	SGBVPMEU	ABC7
36	32	DH	CAC	DH62
37	-31	ABC	MSEEMOMO	ABC7
38	-31	AC	UKX	AC125
39	31	GJ	DAX	GJ28
40	31	GJ	CAC	GJ4
41	-30	ABC	MCX	ABC45
42	30	ABC	V2X	ABC45
43	-30	DH	MCX	DH48
44	30	JR	MCX	JR43
45	-30	JR	CAC	JR46
46	-29	ABC	SGIXTFEQ	ABC7
47	-29	AC	MCX	AC124
48	-29	ACTW	DAX	ACTW30
49	-29	ACTW	UKX	ACTW34
50	-29	ACTW	MCX	ACTW35

13 High sector exposure pairs

	intraday			
	pair_cor	manager	sector	pair
1	-80	ABC	SXXE	ABC7
2	-78	ABC	SXXP	ABC7
3	-78	ABC	SX8P	ABC7
4	-78	ABC	SXDE	ABC7
5	-77	ABC	SX8E	ABC7
6	-70	ABC	SX4P	ABC7
7	-68	ABC	SX4E	ABC7
8	-68	JR	SX7P	JR46
9	-65	ABC	SX7P	ABC7
10	65	AC	SXXP	AC128
11	-64	ABC	SXDP	ABC7
12	64	AC	SXXE	AC128
13	-63	JR	SXXE	JR46
14	-62	JR	SXXP	JR46
15	61	AC	SX4P	AC128
16	60	AC	SX4E	AC128
17	-59	JR	SX7E	JR46
18	-58	ABC	SX3E	ABC7
19	-57	ABC	SX7E	ABC7
20	56	ABC	SXAE	ABC46
21	56	ABC	SXAP	ABC46
22	-54	ABC	SXAE	ABC7
23	-54	ABC	SXAP	ABC7
24	-54	ACTW	SX7P	ACTW35
25	-53	AC	SXXP	AC124
26	-51	AC	SXXE	AC124
27	-51	AC	SX4E	AC124
28	-51	AC	SXXE	AC125
29	51	AC	SX3E	AC128
30	50	DH	SX3E	DH65
31	-50	JR	SX4E	JR46
32	-50	JR	SX4P	JR46
33	49	AC	SX3P	AC128
34	49	AC	SX7E	AC128
35	-49	ACTW	SX6P	ACTW34
36	-49	ACTW	SXXE	ACTW35
37	-49	ACTW	SXXP	ACTW35
38	-49	ACTW	SX7E	ACTW35
39	-49	JR	SX8E	JR46
40	-48	JR	SX3E	JR46
41	-47	AC	SXXP	AC125
42	-46	ABC	SX3P	ABC7
43	-45	ACTW	SX6E	ACTW34
44	-44	ACTW	SXXP	ACTW22
45	44	GJ	SXXE	GJ4
46	-43	ACTW	SXXE	ACTW22
47	-43	ACTW	SX4E	ACTW35
48	-43	ACTW	SX4P	ACTW35
49	-43	ACTW	SX6P	ACTW35
50	43	GJ	SXXP	GJ4

	daily			
	pair_cor	manager	sector	pair
1	-71	ABC	SXXE	ABC7
2	-69	ABC	SXXP	ABC7
3	-67	ABC	SX4P	ABC7
4	-66	ABC	SX4E	ABC7
5	-64	ABC	SX8P	ABC7
6	-63	ABC	SX8E	ABC7
7	-56	ABC	SXAE	ABC7
8	-56	ABC	SXAP	ABC7
9	-56	ABC	SXDE	ABC7
10	-54	DH	SX3E	DH48
11	52	JR	SXXE	JR43
12	51	JR	SX4E	JR43
13	50	JR	SX4P	JR43
14	-48	ABC	SXDP	ABC7
15	46	ABC	SXAE	ABC46
16	46	ABC	SXAP	ABC46
17	-46	ABC	SX3E	ABC7
18	46	AC	SXXP	AC128
19	46	JR	SXXP	JR43
20	-45	ABC	SX3P	ABC7
21	45	AC	SXXE	AC128
22	44	AC	SX4P	AC128
23	-44	ACTW	SXXE	ACTW22
24	-44	ACTW	SXXP	ACTW22
25	-43	ABC	SX7P	ABC7
26	-42	AC	SXXE	AC125
27	-42	AC	SX4E	AC125
28	42	AC	SX4E	AC128
29	-40	AC	SX4P	AC125
30	-38	ABC	SXXE	ABC45
31	-38	ABC	SX6E	ABC7
32	-38	ABC	SX7E	ABC7
33	-38	AC	SXXP	AC125
34	-38	DH	SXXP	DH48
35	-38	JR	SX7P	JR46
36	-37	ABC	SXXP	ABC45
37	-37	ABC	SX4P	ABC45
38	37	GJ	SX4P	GJ4
39	37	JR	SX6E	JR43
40	-36	ABC	SX4E	ABC45
41	-36	DH	SXXE	DH48
42	36	DH	SXXE	DH62
43	36	GJ	SX4E	GJ4
44	35	DH	SX3E	DH65
45	35	GJ	SXXE	GJ4
46	35	GJ	SXXP	GJ4
47	-35	JR	SXXE	JR18
48	34	DH	SX4E	DH62
49	-33	ABC	SX6P	ABC7
50	33	DH	SX4P	DH62

14 Pair long-short correlation

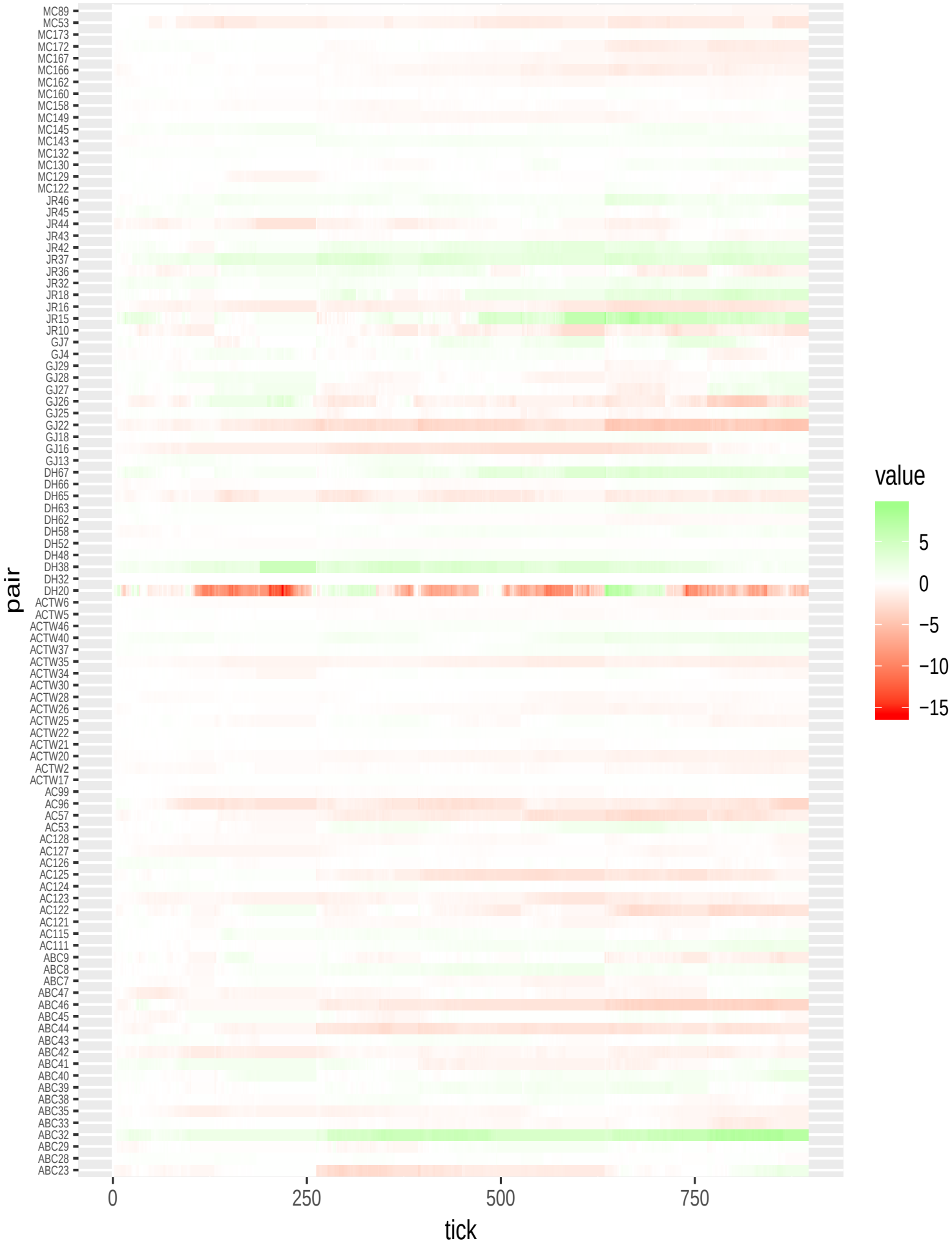
ordered by intraday pair leg correlation, low to high

	pair	2week pair perf	2week long perf	2week short perf	gross	long	short	daily	intraday	change in rank
1	ABC7	0.5	0	0.5	23.6	MC FP	MC FP	0	0	0
2	AC128	-0.7	-0.7	0	21.1	MGGT LN	MGGT LN	0	0	0
3	AC99	0.1	0.1	0	29.9	IBST LN	RUKM150	-44	0	22
4	DH48	0.6	0	0.6	23.6	CARLB DC	CARLB DC	0	0	0
5	DH20	-5.2	2.1	-7.3	756	GRFS US	GRF SM	-59	-1	32
6	MC122	0.1	0.1	-0.1	66.9	SIGC LN	F3BANK	-1	-1	0
7	MC89	-0.7	-0.7	0	38.6	TMO LN	MCX	5	-1	1
8	DH32	0	0	0	4.3	TPZ SM	IBEX	-7	-2	1
9	ABC28	-0.3	-0.3	0	19.1	GLO LN	MCX	-32	-7	9
10	MC132	-0.3	-0.3	0	17.9	GLO LN	MCX	-32	-7	9
11	GJ4	0.2	-0.4	0.6	61.1	ASML NA	NDX	-44	-8	18
12	MC53	-2	-2	0	56.3	ELTA LN	MCX	-14	-9	-1
13	GJ26	-1.5	-3	1.5	159	SAP GY	NDX	-35	-13	8
14	ABC44	-1.6	-1.6	-0.1	93.1	BT/A LN	MCX	-27	-14	0
15	JR15	4.4	3.2	1.2	235.3	LBK SM	SAN SM	-28	-16	0
16	JR10	-2.2	-2.1	-0.1	149.8	BIRG ID	LLOY LN	-39	-17	9
17	DH38	0.8	0.5	0.3	186.3	MRL SM	ENG SM	-43	-20	11
18	DH67	3.1	1.5	1.6	102.4	LBK SM	CABK SM	-31	-20	1
19	ABC32	7.3	6.6	0.7	189.9	REC IM	MDAX	-36	-22	4
20	MC162	-0.3	-0.4	0.1	35.2	ULVR LN	MCX	-26	-23	-6
21	ACTW20	-1.1	-0.4	-0.7	36.6	MRW LN	GNC LN	-29	-24	-4
22	MC130	1	0.8	0.2	13.6	PRSM LN	SMT LN	-27	-24	-6
23	JR37	3	1.9	1.2	149.2	DANSKE DC	HSBA LN	-23	-27	-9
24	JR44	0.3	0.9	-0.6	77.8	HSTG LN	ADM LN	-28	-27	-6
25	ACTW21	0.2	-0.2	0.4	30.2	ULVR LN	BNZL LN	-30	-31	-5
26	JR18	3.5	2.6	0.8	168	BG AV	SX5E	-33	-31	-2
27	GJ7	-0.3	0.1	-0.4	128.9	ERF FP	SGSN SW	-36	-34	-1
28	ABC9	-1.5	-0.2	-1.3	134.2	BBY LN	MCX	-42	-36	3
29	GJ25	1.7	-0.5	2.2	86.5	DAX	ECM LN	-42	-39	2
30	ABC40	2.1	0.3	1.9	75.4	RYA LN	IAG LN	-42	-40	1
31	ACTW34	-0.6	-0.7	0	46.5	SGE LN	UKX	-47	-40	6
32	MC145	0.5	0.7	-0.2	82.2	SSPG LN	CPG LN	-29	-40	-10
33	MC149	-0.2	-0.2	0	31.4	SGRO LN	MCX	-46	-41	4
34	ABC45	-0.6	-1	0.4	103.8	SHL GY	MTX GY	-29	-43	-12
35	DH66	0.6	0.8	-0.2	43.9	NESTE FH	FP FP	-32	-43	-9
36	ABC23	1.8	1.2	0.6	216	RWE GY	SX5E	-54	-46	8
37	GJ27	1.8	-1	2.8	153.5	DAX	ITRK LN	-41	-46	-3
38	MC167	-1.1	-0.5	-0.6	43	MRW LN	F3RETG	-42	-49	-3
39	GJ18	0.3	0	0.3	60.7	EL FP	FTSEMIB	-30	-51	-14
40	MC160	-0.3	-0.5	0.2	39.7	AVV LN	F3ENGN	-37	-51	-8
41	ABC41	0.9	0.4	0.5	165.6	DB1 GY	WDI GY	-41	-52	-6
42	ACTW26	-0.4	-0.1	-0.3	48.6	ABF LN	F3RETG	-44	-52	-3
43	JR46	2	1.3	0.7	200.6	SREN SW	SXIP	-71	-52	16
44	AC126	-0.3	-1.1	0.8	65	JMAT LN	UMI BB	-33	-53	-13
45	ACTW5	-0.4	-0.6	0.2	50.4	DGE LN	CPG LN	-47	-53	-1
46	MC166	-0.8	-0.1	-0.7	85.8	ABF LN	F3RETG	-45	-53	-3
47	AC124	0.3	-0.5	0.8	66.7	DGE LN	BNZL LN	-47	-54	-2
48	ACTW22	0.2	-0.1	0.3	22	SXS LN	SXAP	-45	-54	-4
49	GJ22	-4.7	-7.2	2.5	130.4	CAP FP	TEMN SW	-57	-54	4
50	AC111	1.7	1	0.6	72.7	BA/ LN	COB LN	-31	-55	-17
51	AC125	-0.7	-1.7	1	173.5	SX86E	SX5E	-51	-55	-1
52	GJ28	1.5	-0.7	2.1	92.2	DAX	DSY FP	-47	-55	-3
53	MC143	1.1	1.3	-0.2	23.3	PLUS LN	F3OTHR	-14	-55	-24
54	GJ16	-0.2	-0.7	0.6	92.6	TITR IM	FTSEMIB	-53	-56	0
55	JR36	-0.9	0.2	-1.1	191.7	JUP LN	SDR LN	-65	-56	9
56	JR45	-0.2	0.2	-0.4	156.8	CS FP	G IM	-53	-56	0
57	DH63	1.2	0.6	0.6	72.2	ANIM IM	FTSEMIB	-57	-57	1
58	DH62	-0.4	-0.5	0.1	26.9	DAI GY	SXNP	-67	-58	9
59	MC173	0.2	0.3	0	24.3	TW/ LN	MCX	-52	-58	-3
60	AC96	-3.3	-1.4	-1.9	132.3	FERG LN	CRH LN	-52	-59	-4
61	ABC47	1.1	0.4	0.7	106.2	CA FP	CAC	-26	-60	-27
62	AC127	-0.5	-0.6	0	38.2	METSO FH	FLS DC	-47	-60	-8
63	ACTW40	1.9	1.1	0.8	62.2	IMB LN	BATS LN	-67	-61	6
64	ACTW2	-0.7	-0.1	-0.6	67.7	BBY LN	MCX	-60	-62	-1
65	ABC8	1	1.2	-0.2	164.5	RSA LN	MCX	-45	-63	-13
66	AC115	0.8	0.1	0.8	61.2	WEIR LN	IMI LN	-60	-63	-2
67	ABC33	-1	-1.1	0	64.1	JMAT LN	SKFB SS	-42	-64	-17
68	AC122	-2.2	-2.3	0.1	175	RIO LN	UKX	-47	-64	-12
69	JR16	-1.4	-1.6	0.2	145.7	MAP SM	SXIE	-66	-65	1
70	MC158	0.5	0.3	0.1	60.3	CNA LN	SSE LN	-50	-65	-12
71	GJ29	-0.1	-0.8	0.7	121.1	CAC	SW FP	-38	-66	-22
72	MC129	0	0.2	-0.2	55.3	LSE LN	STJ LN	-50	-66	-13
73	ACTW46	0.1	0.2	-0.1	56.2	F3INSU	MCX	-57	-67	-9
74	DH65	-1.4	-2	0.6	241.5	BN FP	NESN SW	-71	-67	1
75	ABC42	-0.8	-2.2	1.3	126	AALB NA	TWEKA NA	-62	-70	-6
76	JR32	1.2	1.2	0	164.7	ABN NA	SEBA SS	-57	-70	-10
77	AC57	-1.1	-2.2	1.1	210.7	LAND LN	BLND LN	-63	-72	-6
78	ACTW37	0.9	1	-0.1	65.8	BKG LN	MCX	-59	-72	-9
79	ABC39	0.3	-1.9	2.2	221.8	RI FP	VIE FP	-54	-74	-13
80	AC123	-0.5	-1	0.5	109.2	NG/ LN	SSE LN	-54	-74	-13
81	ACTW30	-0.1	0	-0.1	28.1	UKX	F3FINS	-79	-74	1
82	JR42	2.1	1.8	0.3	236.2	RSA LN	UKX	-46	-74	-19
83	ABC29	0.3	-3	3.3	202.1	EXO IM	FTSEMIB	-85	-76	4
84	ABC43	-0.2	-1.1	1	91.3	AIR FP	SAF FP	-62	-76	-9
85	ACTW35	-1.1	-1.3	0.2	75.4	SMIN LN	UKX	-62	-76	-9
86	ABC46	-3.3	-4.7	1.4	156.8	VOW3 GY	DAX	-74	-78	-2
87	AC121	-0.3	1	-1.3	79.9	TW/ LN	BDEV LN	-83	-78	1
88	DH52	-0.1	-0.2	0.1	15.6	SAB SM	SX7E	-72	-78	-3
89	MC172	-1.4	-1.5	0.1	86	RIO LN	UKX	-60	-79	-12
90	ABC38	-0.4	-1	0.6	90.2	RR/ LN	SXNP	-51	-80	-20
91	GJ13	0.6	0.2	0.4	154.7	VIV FP	SXMP	-64	-80	-10
92	ABC35	-1	-1.7	0.7	86.2	PRU LN	AV/ LN	-74	-81	-5
93	DH58	0.8	1.2	-0.4	84.9	TEN IM	ENI IM	-58	-81	-16
94	JR43	-0.4	-0.6	0.2	136.3	ALV GY	SXIP	-87	-83	0
95	AC53	0.9	3.6	-2.7	199.7	RDSA LN	BP/ LN	-85	-88	-2
96	ACTW17	0.1	0	0.1	31.6	REL LN	F3MEDA	-63	-88	-14
97	ACTW25	-0.7	1.3	-1.9	155.2	RDSA LN	BP/ LN	-84	-89	-4
98	ACTW28	-0.2	-0.6	0.3	71.4	NG/ LN	F3UTLOS	-82	-89	-6
99	ACTW6	-0.2	-1.3	1.1	91.1	LAND LN	F3REITS	-92	-90	-2

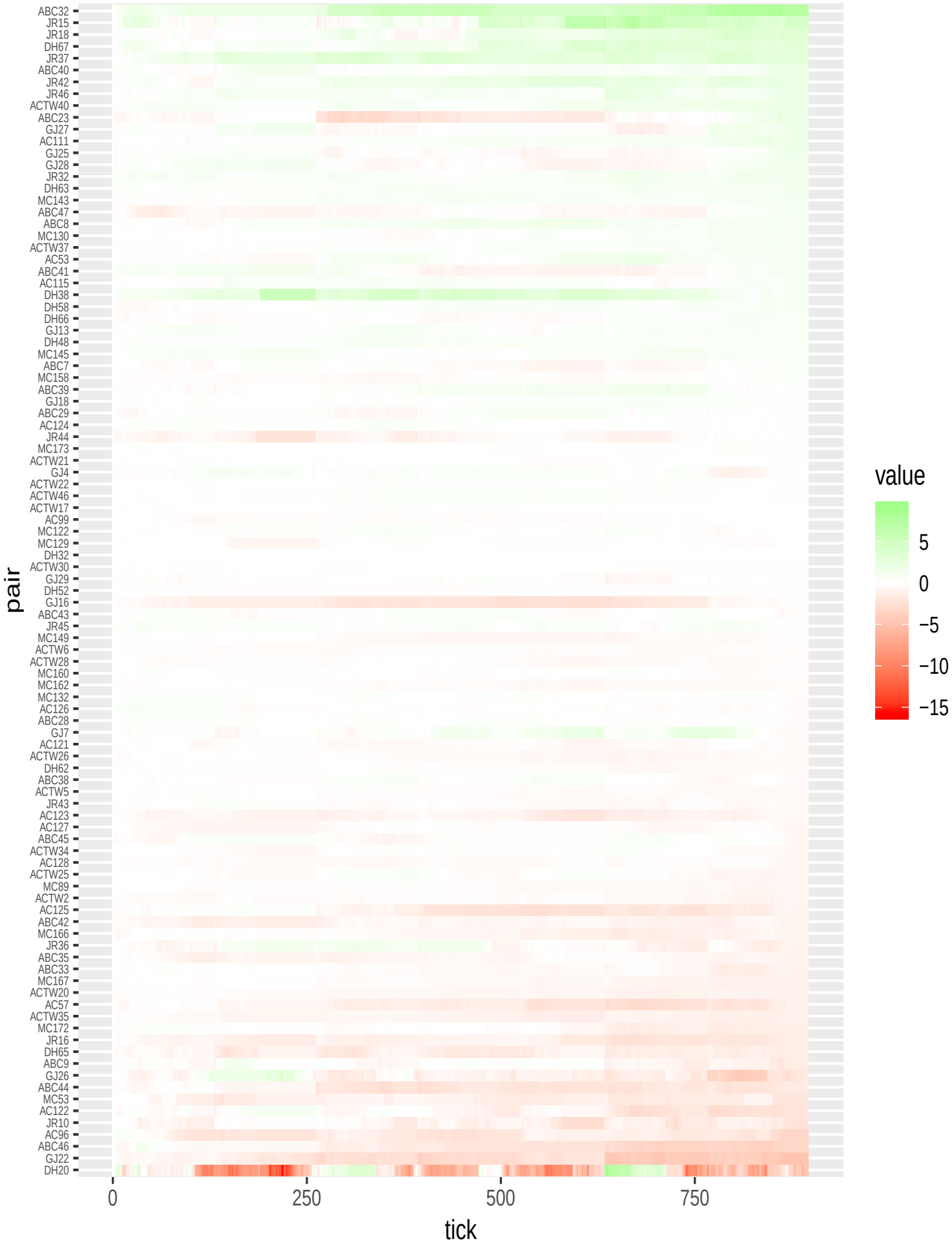
ordered daily pair leg correlation, low to high

	pair	2week pair perf	2week long perf	2week short perf	gross	long	short	daily	intraday	change in rank
1	ABC7	0.5	0	0.5	23.6	MC FP	MC FP	0	0	0
2	AC128	-0.7	-0.7	0	21.1	MGGT LN	MGGT LN	0	0	0
3	DH48	0.6	0	0.6	23.6	CARLB DC	CARLB DC	0	0	0
4	MC122	0.1	0.1	-0.1	66.9	SIGC LN	F3BANK	-1	-1	0
5	MC89	-0.7	-0.7	0	38.6	TMO LN	MCX	5	-1	-1
6	DH32	0	0	0	4.3	TPZ SM	IBEX	-7	-2	-1
7	MC53	-2	-2	0	56.3	ELTA LN	MCX	-14	-9	1
8	MC143	1.1	1.3	-0.2	23.3	PLUS LN	F3OTHR	-14	-55	24
9	JR37	3	1.9	1.2	149.2	DANSKE DC	HSBA LN	-23	-27	9
10	MC162	-0.3	-0.4	0.1	35.2	ULVR LN	MCX	-26	-23	6
11	ABC47	1.1	0.4	0.7	106.2	CA FP	CAC	-26	-60	27
12	ABC44	-1.6	-1.6	-0.1	93.1	BT/A LN	MCX	-27	-14	0
13	MC130	1	0.8	0.2	13.6	PRSM LN	SMT LN	-27	-24	6
14	JR15	4.4	3.2	1.2	235.3	LBK SM	SAN SM	-28	-16	0
15	JR44	0.3	0.9	-0.6	77.8	HSTG LN	ADM LN	-28	-27	6
16	ACTW20	-1.1	-0.4	-0.7	36.6	MRW LN	GNC LN	-29	-24	4
17	MC145	0.5	0.7	-0.2	82.2	SSPG LN	CPG LN	-29	-40	10
18	ABC45	-0.6	-1	0.4	103.8	SHL GY	MTX GY	-29	-43	12
19	ACTW21	0.2	-0.2	0.4	30.2	ULVR LN	BNZL LN	-30	-31	5
20	GJ18	0.3	0	0.3	60.7	EL FP	FTSEMIB	-30	-51	14
21	DH67	3.1	1.5	1.6	102.4	LBK SM	CABK SM	-31	-20	-1
22	AC111	1.7	1	0.6	72.7	BA/ LN	COB LN	-31	-55	17
23	ABC28	-0.3	-0.3	0	19.1	GLO LN	MCX	-32	-7	-9
24	MC132	-0.3	-0.3	0	17.9	GLO LN	MCX	-32	-7	-9
25	DH66	0.6	0.8	-0.2	43.9	NESTE FH	FP FP	-32	-43	9
26	JR18	3.5	2.6	0.8	168	BG AV	SX5E	-33	-31	2
27	AC126	-0.3	-1.1	0.8	65	JMAT LN	UMI BB	-33	-53	13
28	GJ26	-1.5	-3	1.5	159	SAP GY	NDX	-35	-13	-8
29	ABC32	7.3	6.6	0.7	189.9	REC IM	MDAX	-36	-22	-4
30	GJ7	-0.3	0.1	-0.4	128.9	ERF FP	SGSN SW	-36	-34	1
31	MC160	-0.3	-0.5	0.2	39.7	AVV LN	F3ENGN	-37	-51	8
32	GJ29	-0.1	-0.8	0.7	121.1	CAC	SW FP	-38	-66	22
33	JR10	-2.2	-2.1	-0.1	149.8	BIRG ID	LLOY LN	-39	-17	-9
34	GJ27	1.8	-1	2.8	153.5	DAX	ITRK LN	-41	-46	3
35	ABC41	0.9	0.4	0.5	165.6	DB1 GY	WDI GY	-41	-52	6
36	ABC9	-1.5	-0.2	-1.3	134.2	BBY LN	MCX	-42	-36	-3
37	GJ25	1.7	-0.5	2.2	86.5	DAX	ECM LN	-42	-39	-2
38	ABC40	2.1	0.3	1.9	75.4	RYA LN	IAG LN	-42	-40	-1
39	MC167	-1.1	-0.5	-0.6	43	MRW LN	F3RETG	-42	-49	3
40	ABC33	-1	-1.1	0	64.1	JMAT LN	SKFB SS	-42	-64	17
41	DH38	0.8	0.5	0.3	186.3	MRL SM	ENG SM	-43	-20	-11
42	AC99	0.1	0.1	0	29.9	IBST LN	RUKM150	-44	0	-22
43	GJ4	0.2	-0.4	0.6	61.1	ASML NA	NDX	-44	-8	-18
44	ACTW26	-0.4	-0.1	-0.3	48.6	ABF LN	F3RETG	-44	-52	3
45	MC166	-0.8	-0.1	-0.7	85.8	ABF LN	F3RETG	-45	-53	3
46	ACTW22	0.2	-0.1	0.3	22	SXS LN	SXAP	-45	-54	4
47	ABC8	1	1.2	-0.2	164.5	RSA LN	MCX	-45	-63	13
48	MC149	-0.2	-0.2	0	31.4	SGRO LN	MCX	-46	-41	-4
49	JR42	2.1	1.8	0.3	236.2	RSA LN	UKX	-46	-74	19
50	ACTW34	-0.6	-0.7	0	46.5	SGE LN	UKX	-47	-40	-6
51	ACTW5	-0.4	-0.6	0.2	50.4	DGE LN	CPG LN	-47	-53	1
52	AC124	0.3	-0.5	0.8	66.7	DGE LN	BNZL LN	-47	-54	2
53	GJ28	1.5	-0.7	2.1	92.2	DAX	DSY FP	-47	-55	3
54	AC127	-0.5	-0.6	0	38.2	METSO FH	FLS DC	-47	-60	8
55	AC122	-2.2	-2.3	0.1	175	RIO LN	UKX	-47	-64	12
56	MC158	0.5	0.3	0.1	60.3	CNA LN	SSE LN	-50	-65	12
57	MC129	0	0.2	-0.2	55.3	LSE LN	STJ LN	-50	-66	13
58	AC125	-0.7	-1.7	1	173.5	SX86E	SX5E	-51	-55	1
59	ABC38	-0.4	-1	0.6	90.2	RR/ LN	SXNP	-51	-80	20
60	MC173	0.2	0.3	0	24.3	TW/ LN	MCX	-52	-58	3
61	AC96	-3.3	-1.4	-1.9	132.3	FERG LN	CRH LN	-52	-59	4
62	GJ16	-0.2	-0.7	0.6	92.6	TITR IM	FTSEMIB	-53	-56	0
63	JR45	-0.2	0.2	-0.4	156.8	CS FP	G IM	-53	-56	0
64	ABC23	1.8	1.2	0.6	216	RWE GY	SX5E	-54	-46	-8
65	ABC39	0.3	-1.9	2.2	221.8	RI FP	VIE FP	-54	-74	13
66	AC123	-0.5	-1	0.5	109.2	NG/ LN	SSE LN	-54	-74	13
67	GJ22	-4.7	-7.2	2.5	130.4	CAP FP	TEMN SW	-57	-54	-4
68	DH63	1.2	0.6	0.6	72.2	ANIM IM	FTSEMIB	-57	-57	-1
69	ACTW46	0.1	0.2	-0.1	56.2	F3INSU	MCX	-57	-67	9
70	JR32	1.2	1.2	0	164.7	ABN NA	SEBA SS	-57	-70	10
71	DH58	0.8	1.2	-0.4	84.9	TEN IM	ENI IM	-58	-81	16
72	DH20	-5.2	2.1	-7.3	756	GRFS US	GRF SM	-59	-1	-32
73	ACTW37	0.9	1	-0.1	65.8	BKG LN	MCX	-59	-72	9
74	ACTW2	-0.7	-0.1	-0.6	67.7	BBY LN	MCX	-60	-62	1
75	AC115	0.8	0.1	0.8	61.2	WEIR LN	IMI LN	-60	-63	2
76	MC172	-1.4	-1.5	0.1	86	RIO LN	UKX	-60	-79	12
77	ABC42	-0.8	-2.2	1.3	126	AALB NA	TWEKA NA	-62	-70	6
78	ABC43	-0.2	-1.1	1	91.3	AIR FP	SAF FP	-62	-76	9
79	ACTW35	-1.1	-1.3	0.2	75.4	SMIN LN	UKX	-62	-76	9
80	AC57	-1.1	-2.2	1.1	210.7	LAND LN	BLND LN	-63	-72	6
81	ACTW17	0.1	0	0.1	31.6	REL LN	F3MEDA	-63	-88	14
82	GJ13	0.6	0.2	0.4	154.7	VIV FP	SXMP	-64	-80	10
83	JR36	-0.9	0.2	-1.1	191.7	JUP LN	SDR LN	-65	-56	-9
84	JR16	-1.4	-1.6	0.2	145.7	MAP SM	SXIE	-66	-65	-1
85	DH62	-0.4	-0.5	0.1	26.9	DAI GY	SXNP	-67	-58	-9
86	ACTW40	1.9	1.1	0.8	62.2	IMB LN	BATS LN	-67	-61	-6
87	JR46	2	1.3	0.7	200.6	SREN SW	SXIP	-71	-52	-16
88	DH65	-1.4	-2	0.6	241.5	BN FP	NESN SW	-71	-67	-1
89	DH52	-0.1	-0.2	0.1	15.6	SAB SM	SX7E	-72	-78	3
90	ABC46	-3.3	-4.7	1.4	156.8	VOW3 GY	DAX	-74	-78	2
91	ABC35	-1	-1.7	0.7	86.2	PRU LN	AV/ LN	-74	-81	5
92	ACTW30	-0.1	0	-0.1	28.1	UKX	F3FINS	-79	-74	-1
93	ACTW28	-0.2	-0.6	0.3	71.4	NG/ LN	F3UTLOS	-82	-89	6
94	AC121	-0.3	1	-1.3	79.9	TW/ LN	BDEV LN	-83	-78	-1
95	ACTW25	-0.7	1.3	-1.9	155.2	RDSA LN	BP/ LN	-84	-89	4
96	ABC29	0.3	-3	3.3	202.1	EXO IM	FTSEMIB	-85	-76	-4
97	AC53	0.9	3.6	-2.7	199.7	RDSA LN	BP/ LN	-85	-88	2
98	JR43	-0.4	-0.6	0.2	136.3	ALV GY	SXIP	-87	-83	0
99	ACTW6	-0.2	-1.3	1.1	91.1	LAND LN	F3REITS	-92	-90	2

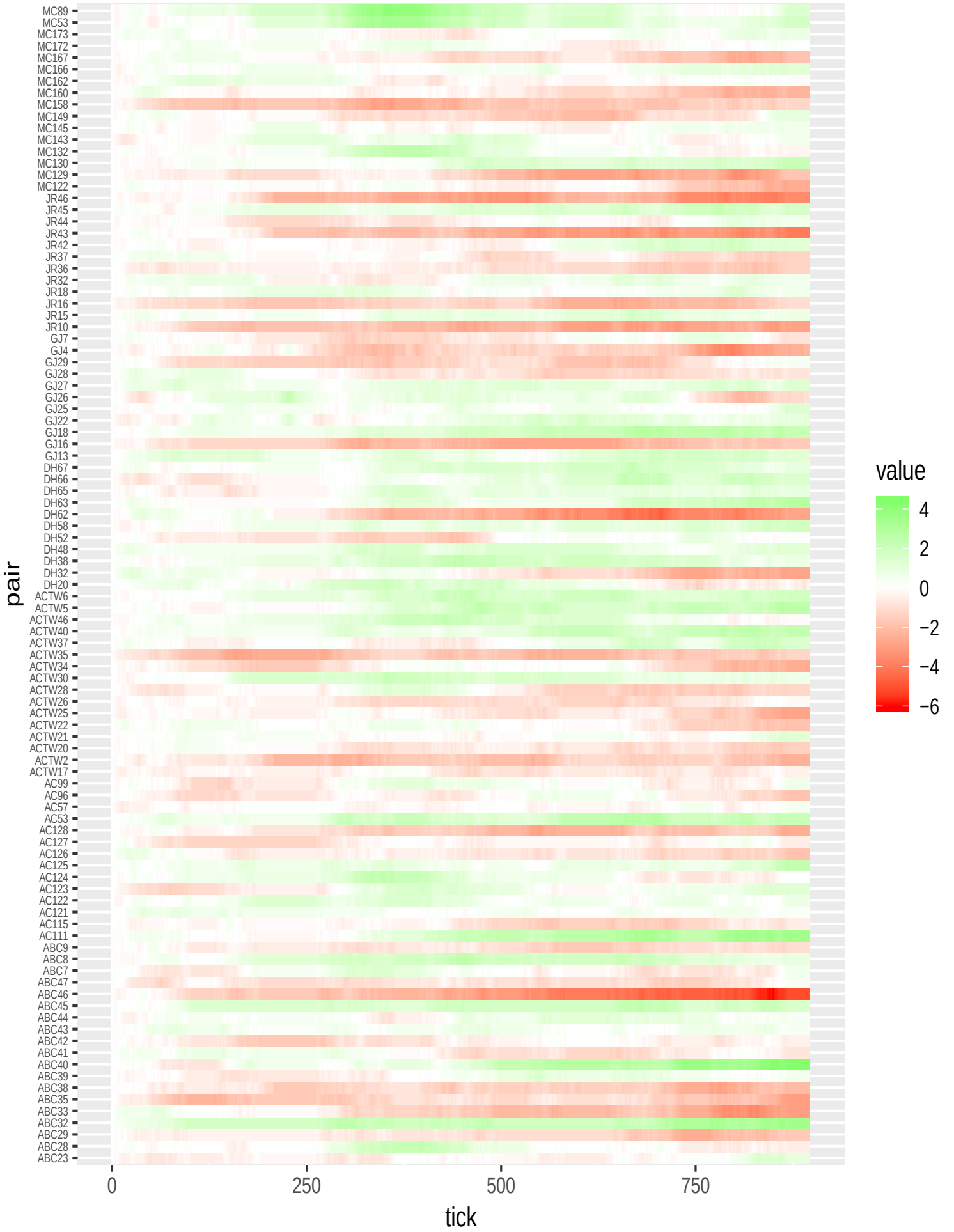
15 DUKE performance image: P&L ordered by pair name



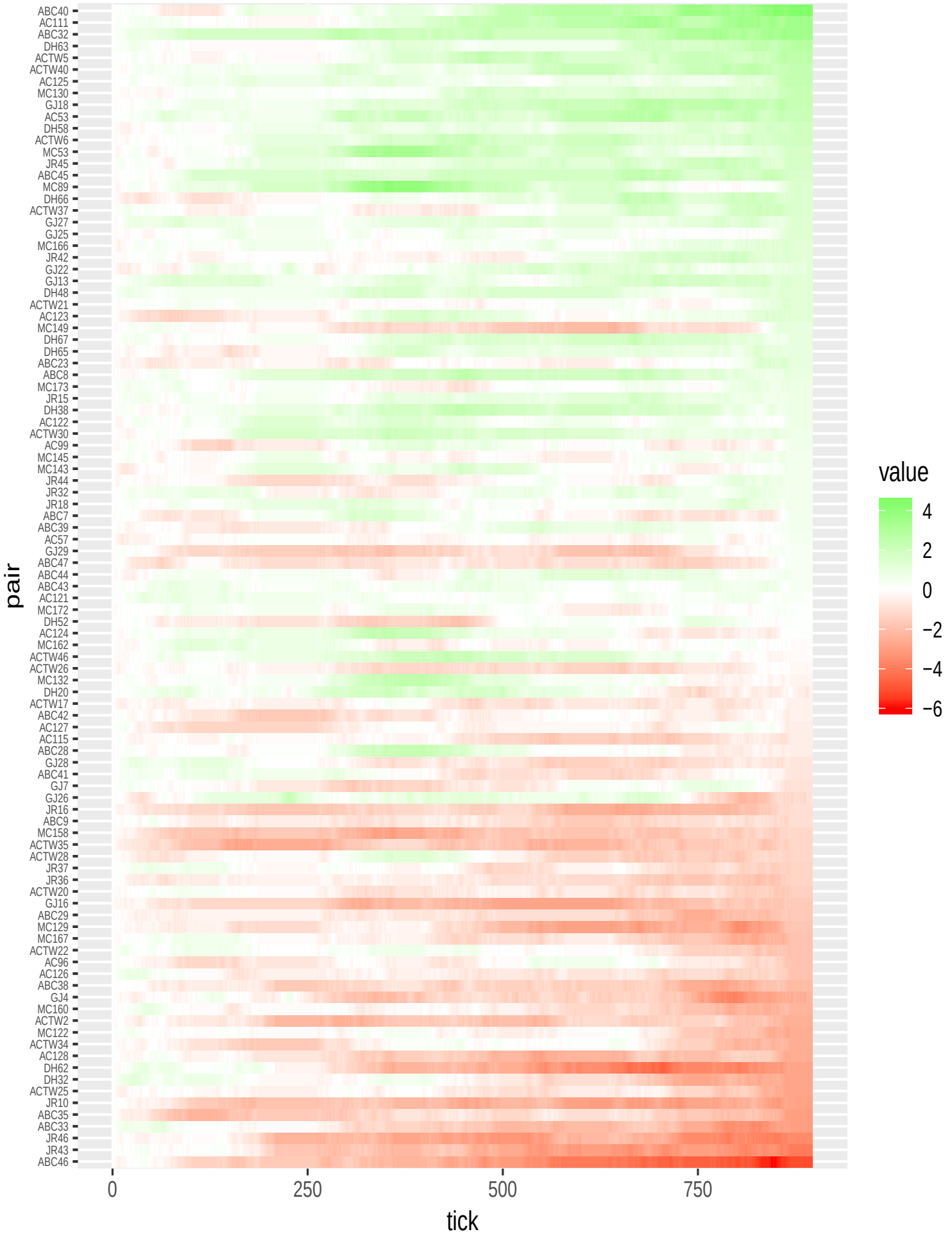
16 DUKE performance image: by P&L



17 DUKE performance image: Cummulative hit-ratio

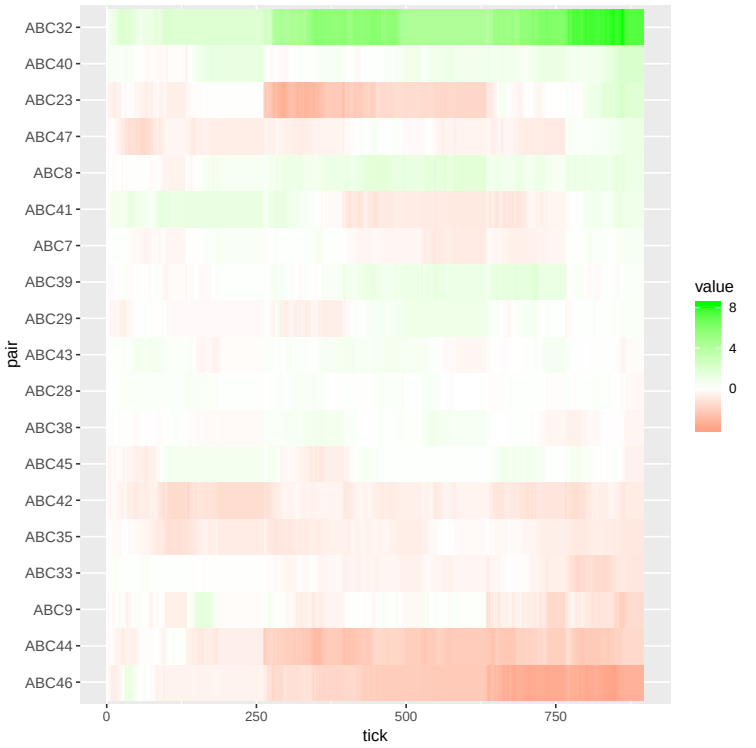


18 DUKE performance image: Cummulative hit-ratio, sorted

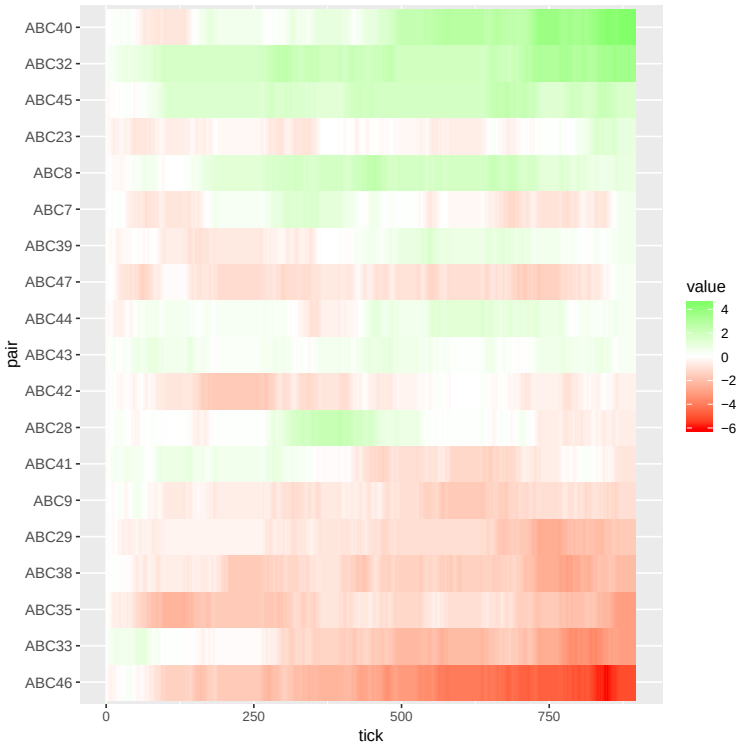


19 ABC performance image

Cummulative P&L (bps)



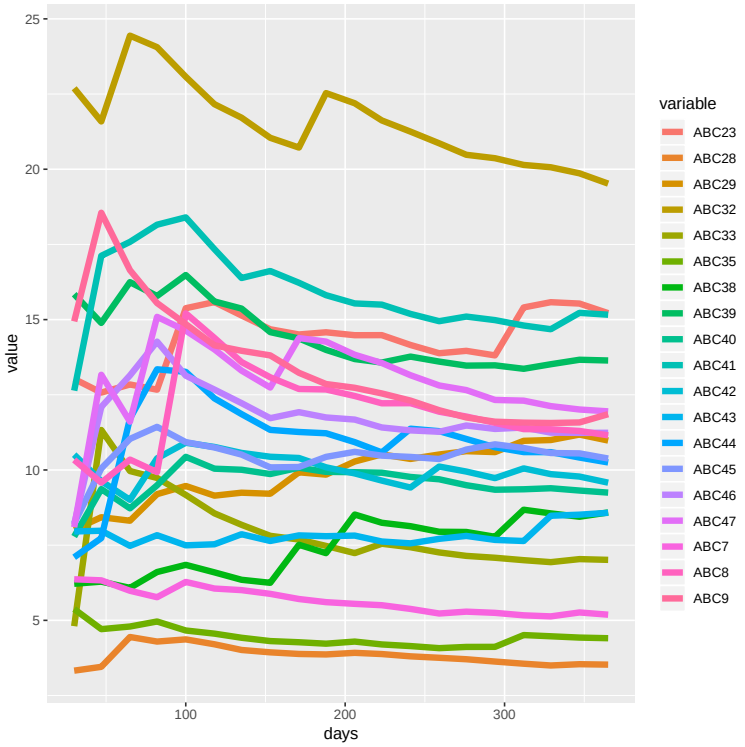
Cummulative hit ratio (pct)



Conviction ratios

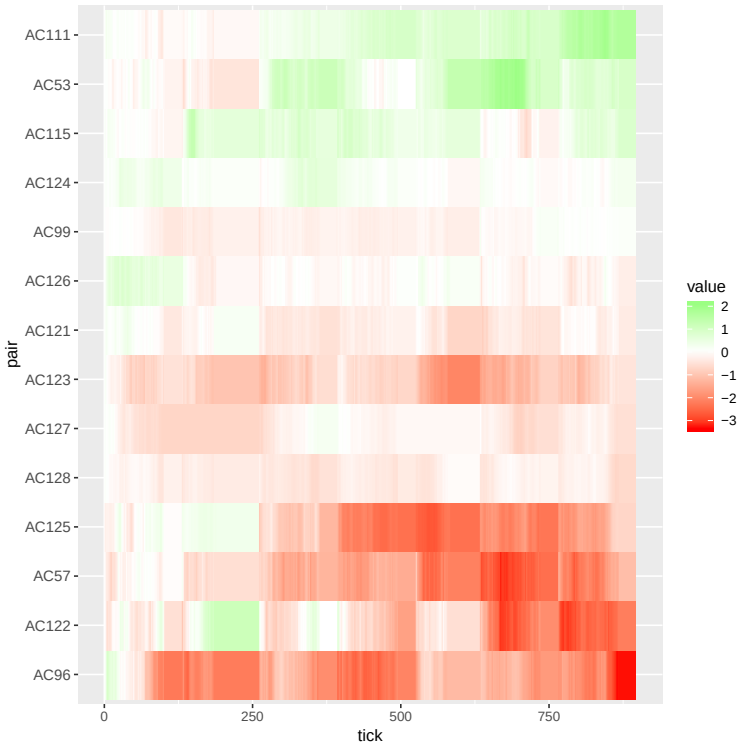
	pair	1day conv	10min conv	30d vol	365d vol
1	ABC23	1.58	1.46	13	15.2
2	ABC32	1.48	1.54	22.7	19.5
3	ABC41	1.37	1.06	12.6	15.2
4	ABC39	1.26	1.2	15.8	13.6
5	ABC29	1.23	1.24	8	11
6	ABC9	1.19	1.75	14.9	11.9
7	ABC46	1.12	1.08	8.2	11.2
8	ABC47	1.09	0.87	8.1	11.9
9	ABC44	1.07	1.16	7.1	10.3
10	ABC8	1.02	1.05	10.3	11.2
11	ABC40	0.88	0.92	7.8	9.2
12	ABC45	0.87	0.88	8.2	10.4
13	ABC42	0.86	1.01	10.5	9.6
14	ABC38	0.81	0.58	6.2	8.6
15	ABC43	0.76	0.65	8	8.6
16	ABC33	0.72	0.58	4.8	7
17	ABC35	0.43	0.51	5.4	4.4
18	ABC7	0.43	0.63	6.4	5.2
19	ABC28	0.25	0.52	3.3	3.5

Historical vols

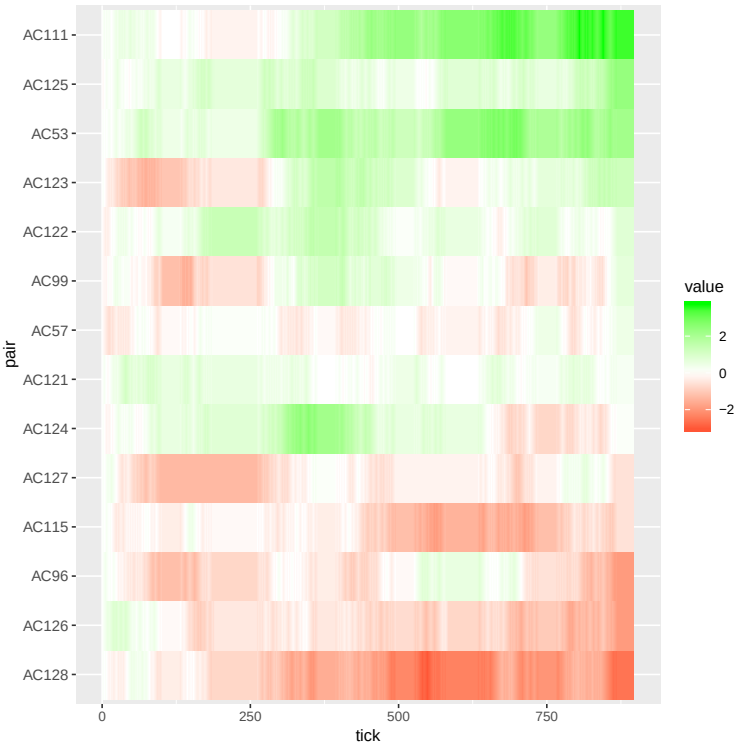


20 AC performance image

Cummulative P&L (bps)



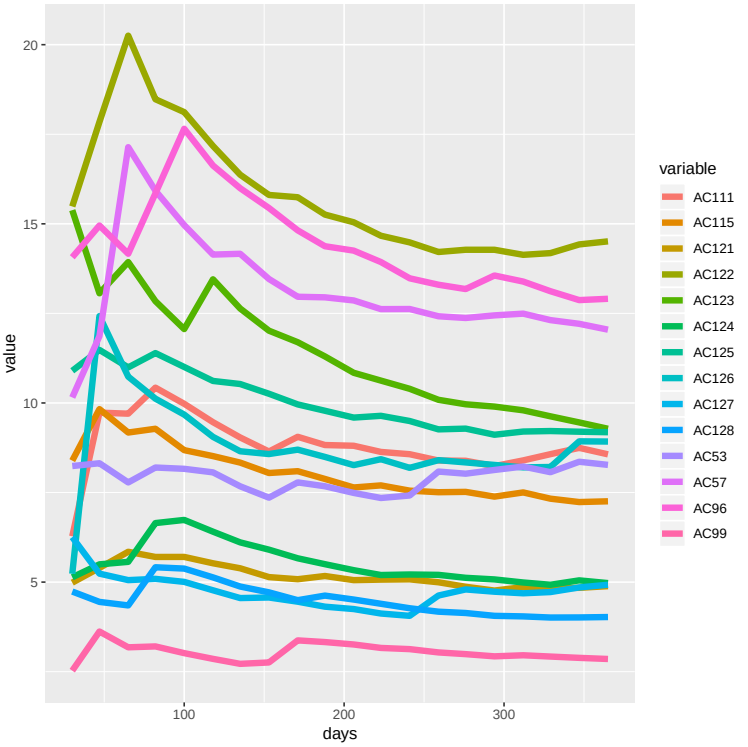
Cummulative hit ratio (pct)



Conviction ratios

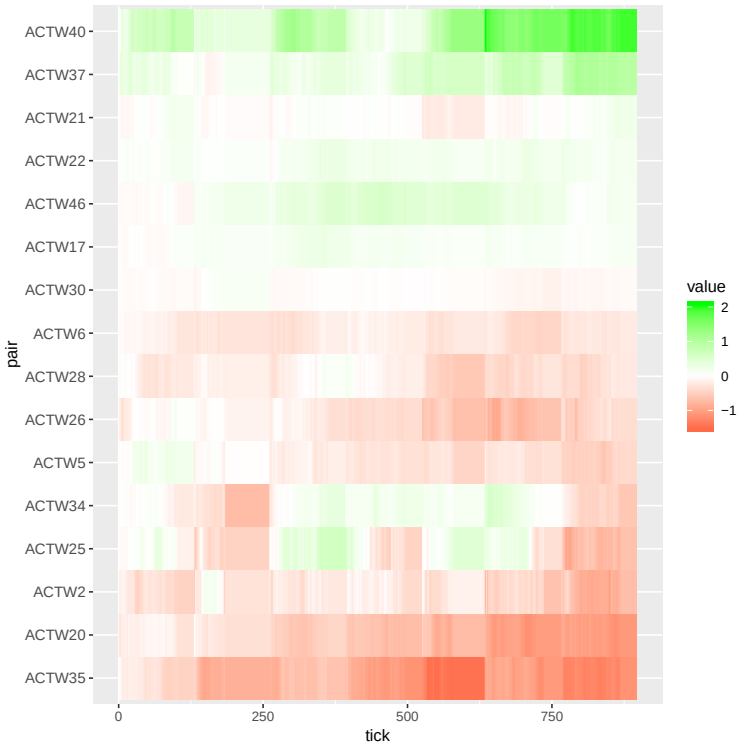
	pair	1day conv	10min conv	30d vol	365d vol
1	AC122	1.83	1.68	15.5	14.5
2	AC57	1.55	1.49	10.2	12
3	AC96	1.45	1.39	14.1	12.9
4	AC125	1.11	1.22	10.9	9.2
5	AC111	1.08	0.78	6.3	8.6
6	AC126	1.07	0.87	5.2	8.9
7	AC123	1.01	0.92	15.4	9.3
8	AC53	1	1.05	8.2	8.3
9	AC115	0.82	0.96	8.4	7.3
10	AC124	0.6	0.62	5.1	5
11	AC121	0.6	0.7	5	4.9
12	AC127	0.58	0.43	6.3	4.9
13	AC128	0.5	0.49	4.7	4
14	AC99	0.33	0.52	2.5	2.9

Historical vols

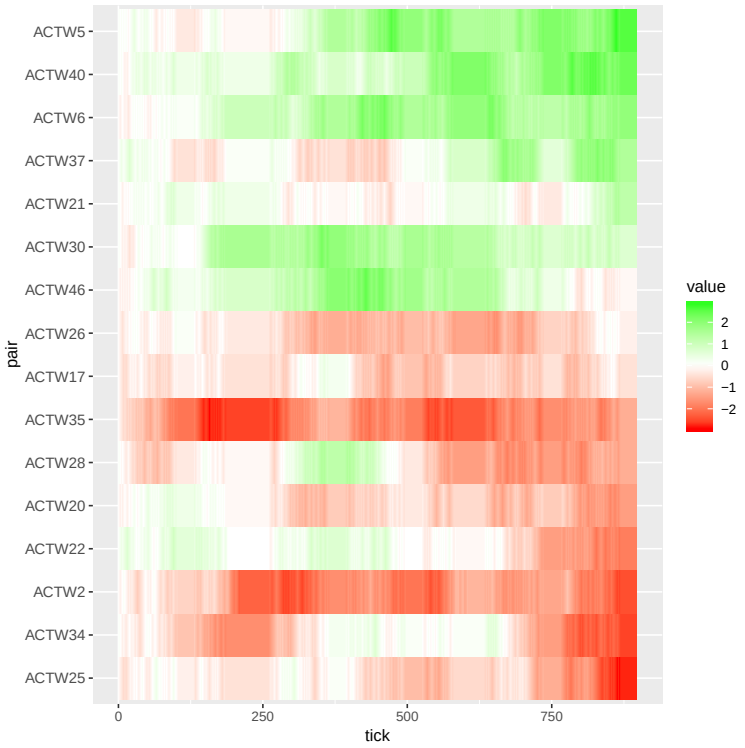


21 ACTW performance image

Cummulative P&L (bps)



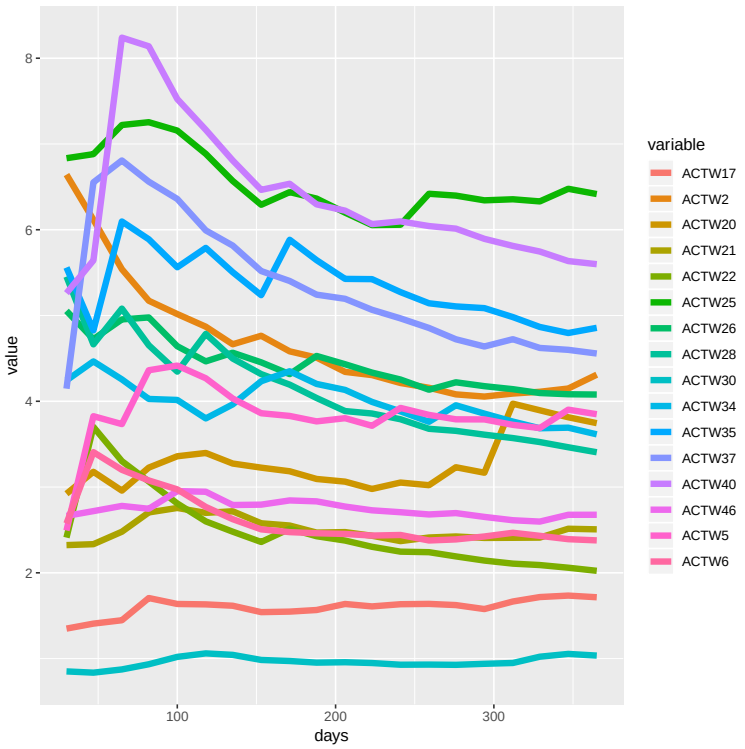
Cummulative hit ratio (pct)



Conviction ratios

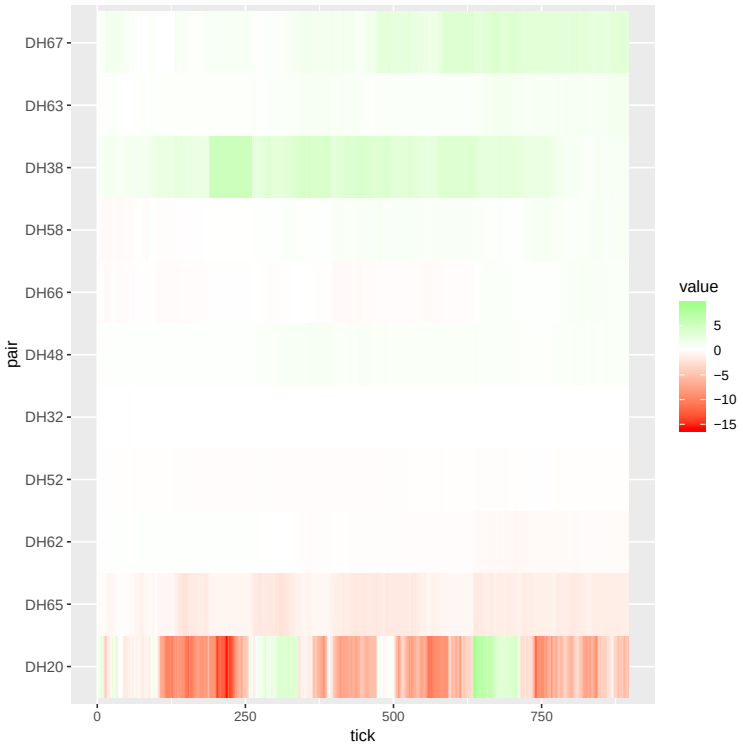
	pair	1day conv	10min conv	30d vol	365d vol
1	ACTW25	1.97	1.94	6.8	6.4
2	ACTW40	1.56	1.99	5.3	5.6
3	ACTW2	1.53	2.04	6.6	4.3
4	ACTW37	1.41	1.37	4.1	4.6
5	ACTW35	1.38	1.17	5.6	4.9
6	ACTW26	1.27	1.25	5.1	4.1
7	ACTW20	1.15	1.02	2.9	3.7
8	ACTW5	1.11	1.06	2.5	3.8
9	ACTW34	1.01	1.25	4.2	3.6
10	ACTW28	0.96	0.89	5.5	3.4
11	ACTW21	0.88	0.76	2.3	2.5
12	ACTW46	0.8	0.74	2.7	2.7
13	ACTW6	0.7	0.73	2.6	2.4
14	ACTW22	0.54	0.59	2.4	2
15	ACTW17	0.49	0.35	1.3	1.7
16	ACTW30	0.29	0.38	0.9	1

Historical vols

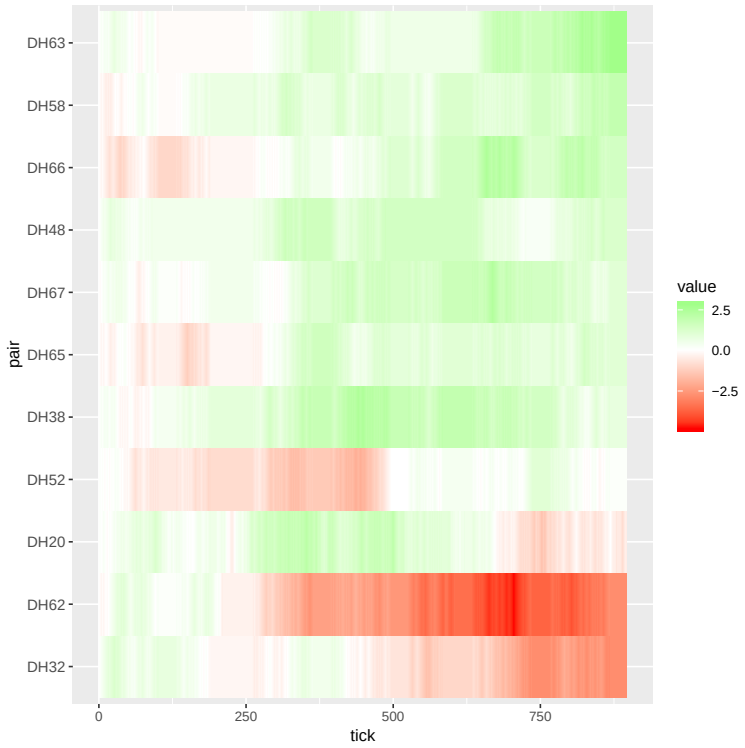


22 DH performance image

Cummulative P&L (bps)



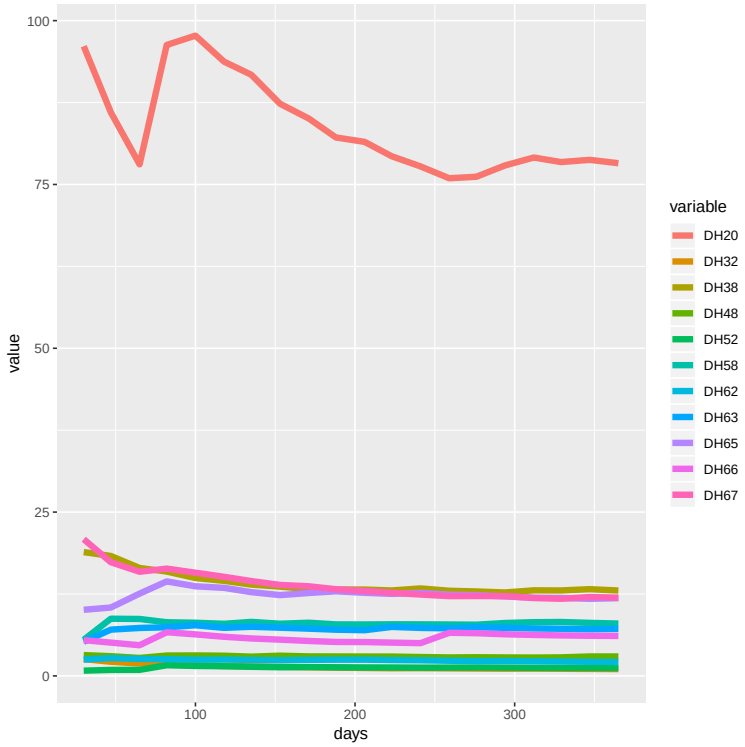
Cummulative hit ratio (pct)



Conviction ratios

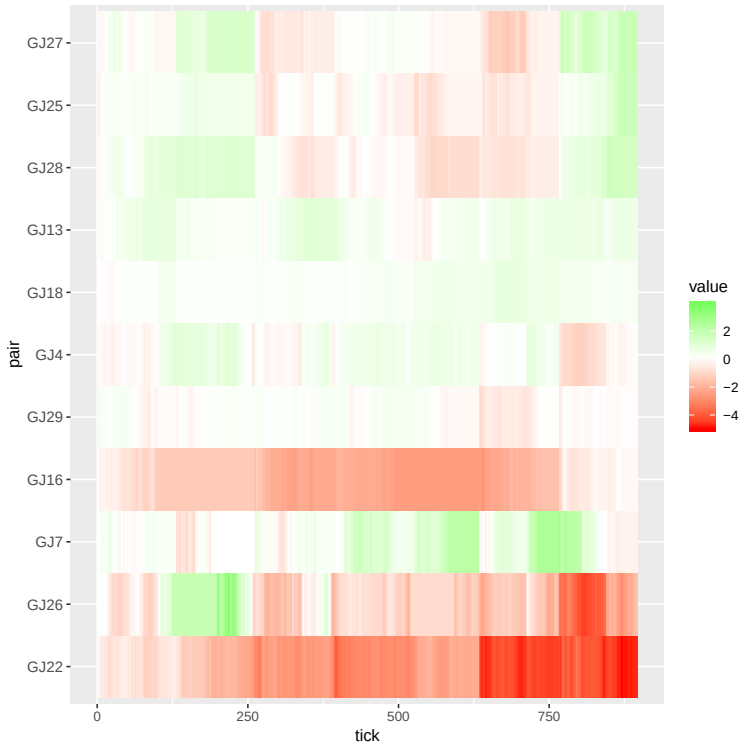
	pair	1day conv	10min conv	30d vol	365d vol
1	DH20	5.46	9.21	96.1	78.2
2	DH67	1.68	1.46	20.9	11.9
3	DH38	0.95	1.94	18.9	13
4	DH65	0.9	1	10.1	11.9
5	DH58	0.63	0.43	5.5	8
6	DH63	0.54	0.41	5.2	7.2
7	DH66	0.43	0.31	5.5	6.1
8	DH48	0.22	0.17	3.2	3
9	DH62	0.14	0.2	2.5	2.1
10	DH52	0.1	0.1	0.8	1.2
11	DH32	0.07	0.03	2.6	1

Historical vols

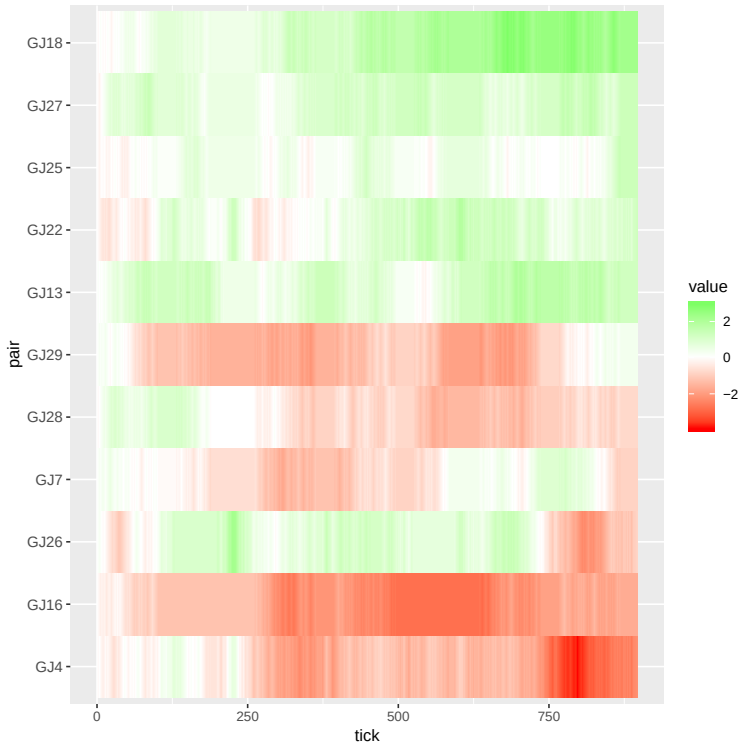


23 GJ performance image

Cummulative P&L (bps)



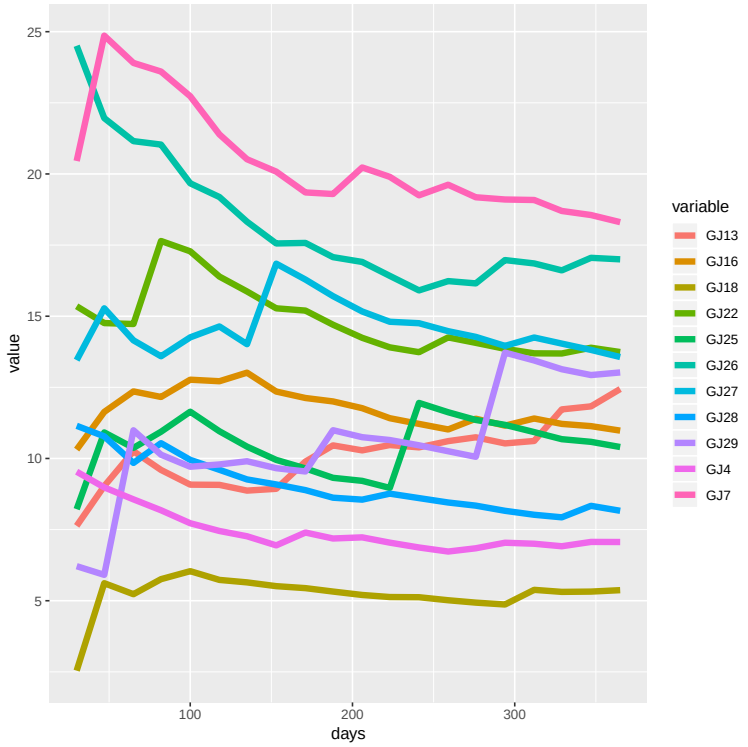
Cummulative hit ratio (pct)



Conviction ratios

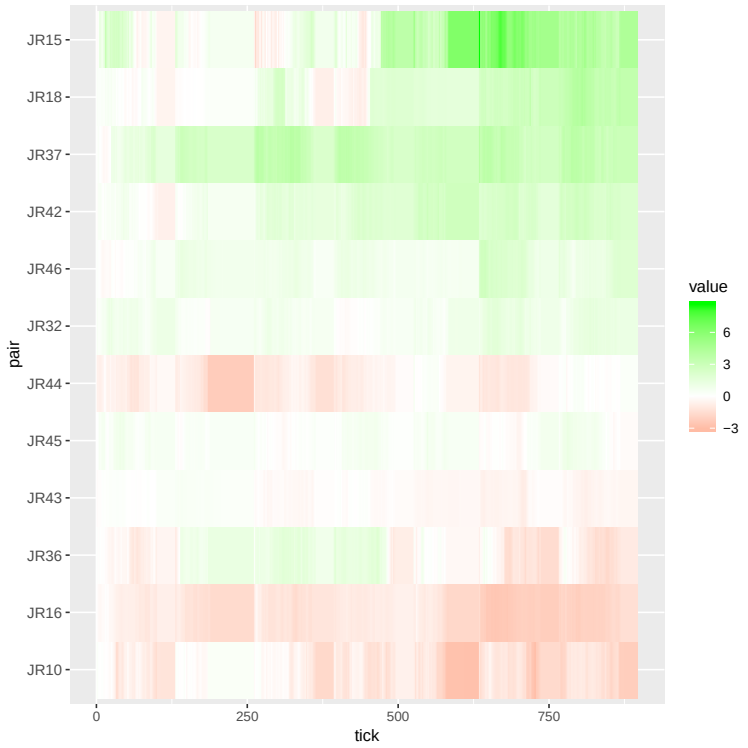
	pair	1day conv	10min conv	30d vol	365d vol
1	GJ7	1.43	1.93	20.5	18.3
2	GJ26	1.32	2.36	24.5	17
3	GJ27	1.21	1.48	13.5	13.6
4	GJ13	1.21	0.73	7.6	12.4
5	GJ22	1.15	1.52	15.4	13.7
6	GJ29	1.02	0.77	6.2	13
7	GJ16	0.94	0.76	10.3	11
8	GJ25	0.85	1.01	8.2	10.4
9	GJ28	0.68	0.83	11.1	8.2
10	GJ18	0.61	0.35	2.5	5.4
11	GJ4	0.57	1.11	9.5	7.1

Historical vols

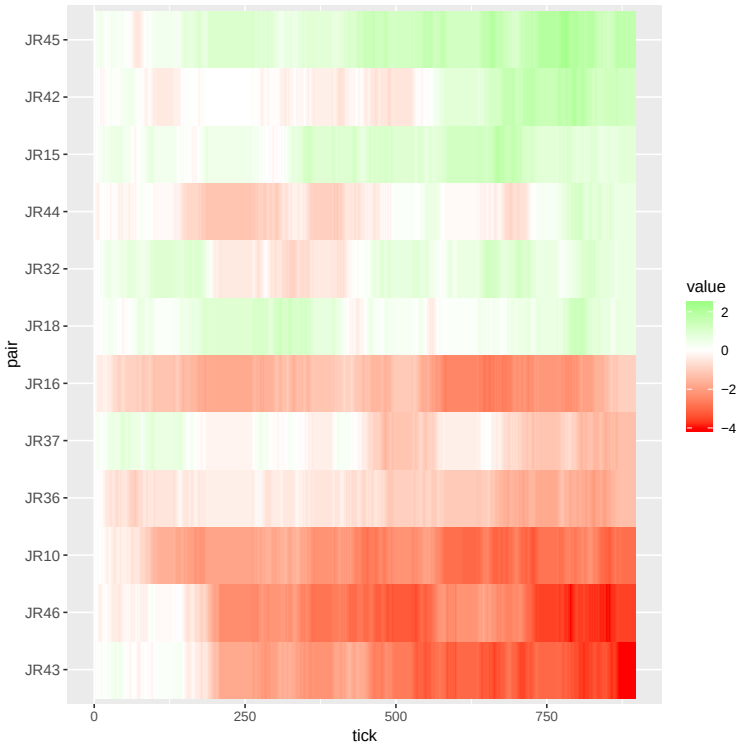


24 JR performance image

Cummulative P&L (bps)



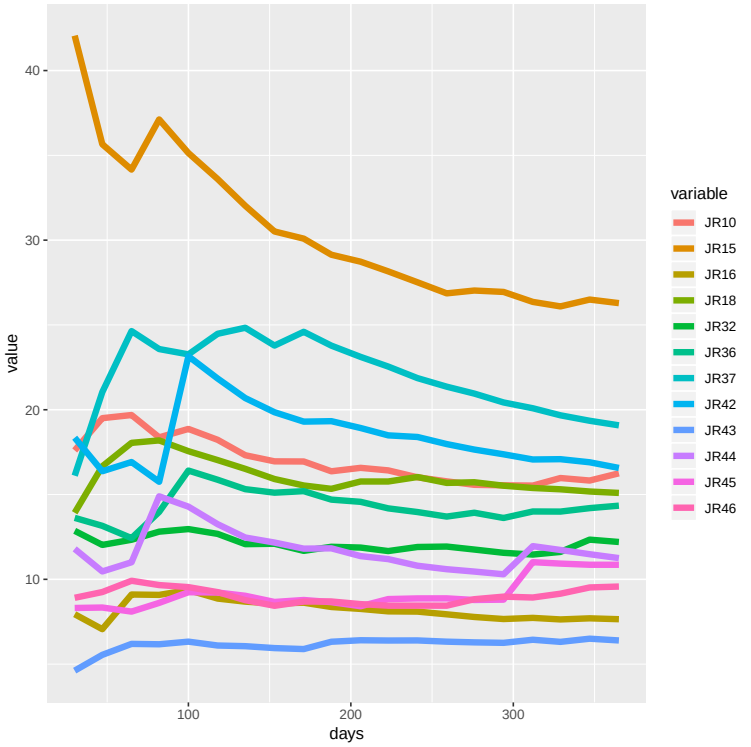
Cummulative hit ratio (pct)



Conviction ratios

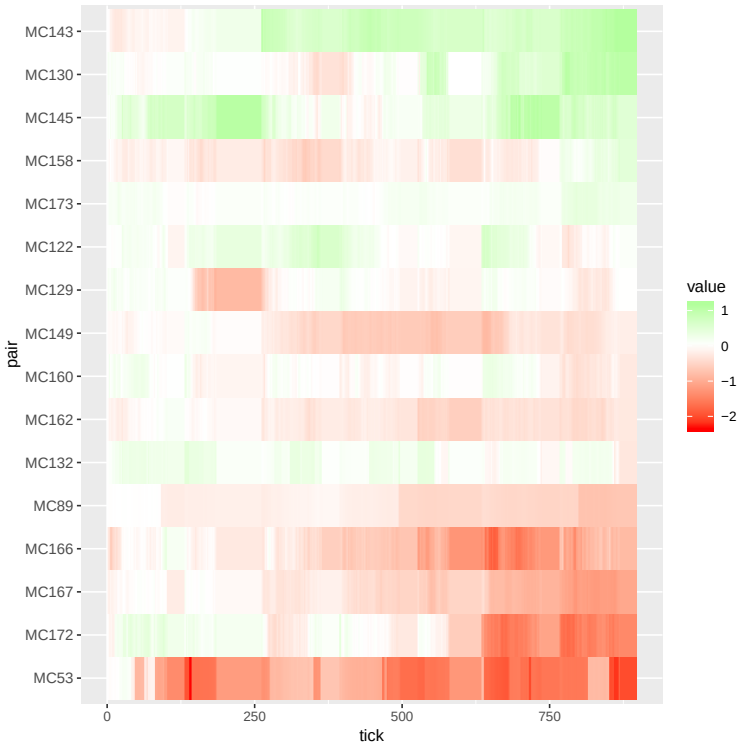
	pair	1day conv	10min conv	30d vol	365d vol
1	JR15	3.8	3.21	42.1	26.3
2	JR10	1.41	1.5	17.6	16.3
3	JR37	1.3	1.21	16.1	19.1
4	JR42	1.26	1.05	18.4	16.6
5	JR36	1.06	1.44	13.6	14.3
6	JR18	1.03	1.35	13.9	15.1
7	JR45	0.94	0.78	8.3	10.9
8	JR32	0.91	0.79	12.9	12.2
9	JR44	0.81	1.08	11.8	11.3
10	JR16	0.75	0.69	7.9	7.6
11	JR46	0.73	0.9	8.9	9.6
12	JR43	0.48	0.43	4.6	6.4

Historical vols

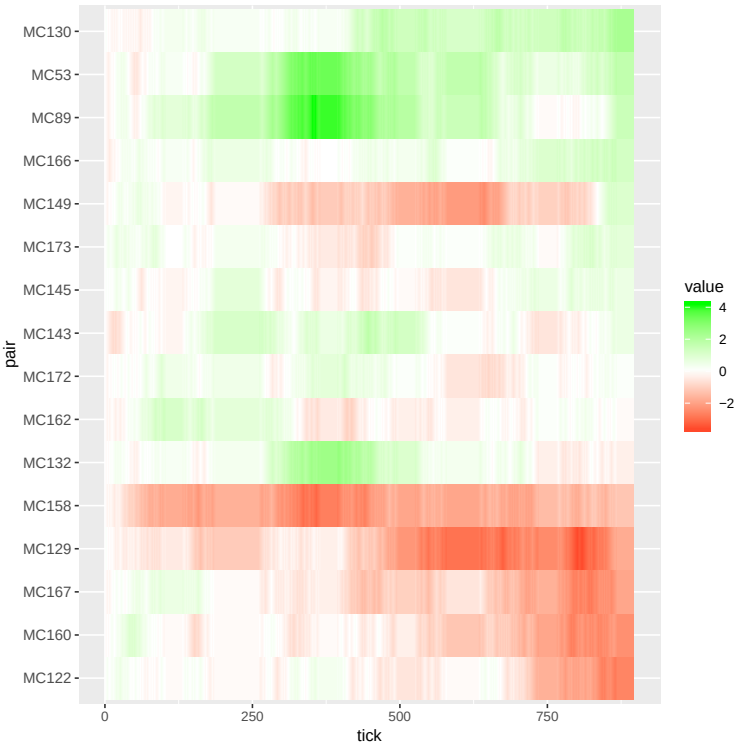


25 MC performance image

Cummulative P&L (bps)



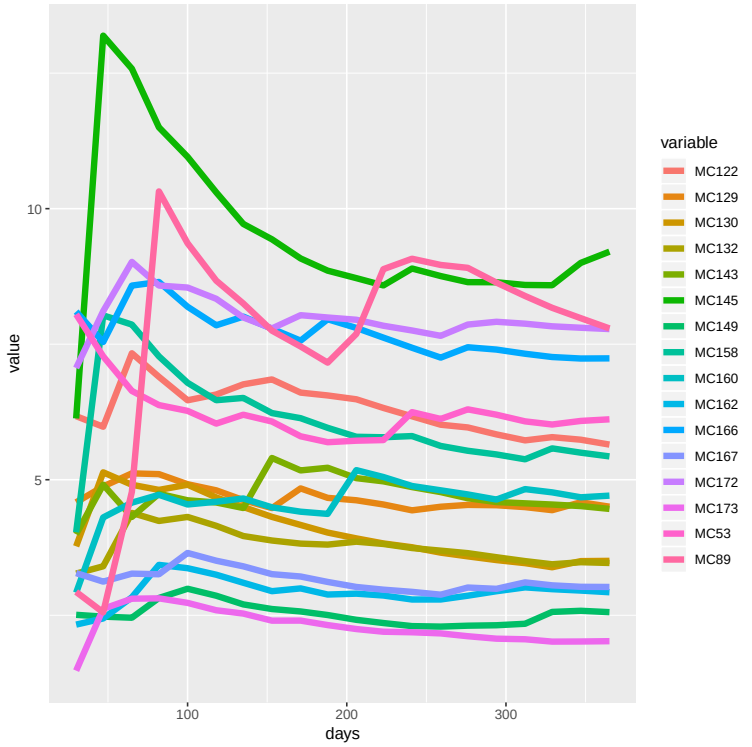
Cummulative hit ratio (pct)



Conviction ratios

	pair	1day conv	10min conv	30d vol	365d vol
1	MC172	1.72	1.54	7.1	7.8
2	MC145	1.7	1.51	6.1	9.2
3	MC166	1.47	1.61	8.1	7.2
4	MC53	1.37	2.81	8.1	6.1
5	MC89	1.19	0.4	2.9	7.8
6	MC158	1.17	1	4	5.4
7	MC160	1.04	1.01	2.9	4.7
8	MC122	1	1.11	6.2	5.6
9	MC143	0.94	1.08	4	4.5
10	MC129	0.85	0.93	4.6	4.5
11	MC130	0.79	1.32	3.8	3.5
12	MC162	0.73	0.66	2.3	2.9
13	MC167	0.67	0.77	3.3	3
14	MC132	0.53	1.17	3.3	3.5
15	MC149	0.52	0.6	2.5	2.6
16	MC173	0.41	0.46	1.5	2

Historical vols



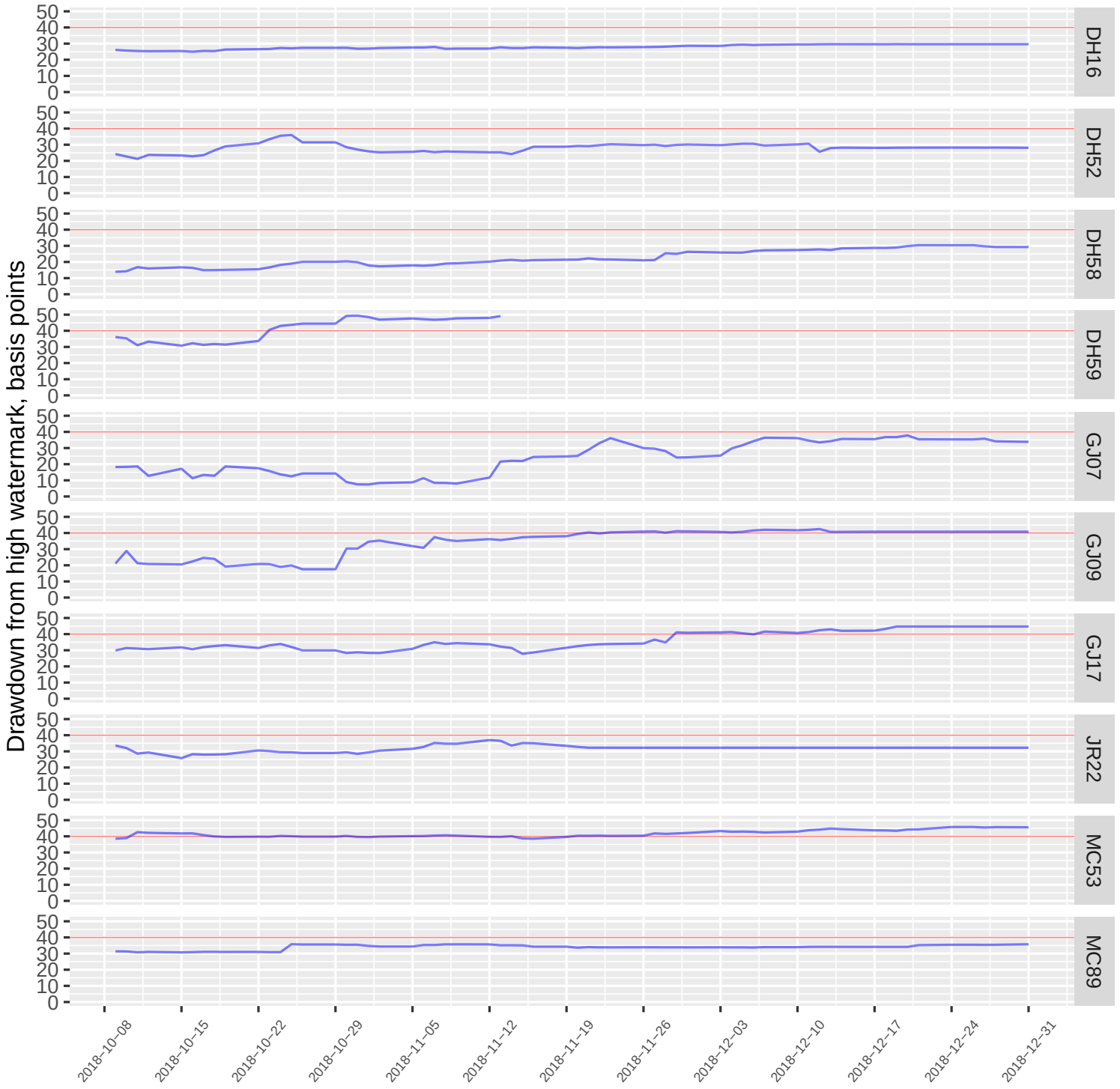
26 Data sources

- We rely on the performance attribution database to obtain pair P&L time-series.
- The allocation of positions (and P&L) to pairs is a daily manual process that relies on a feed of settled trades from our custodian.
- This means that our information is out of date by at least the settlement period (best practice would be to have exposures on the day they were traded).
- Because coverage at the performance team varies, our numbers can be out of date beyond the settlement lag.
- A standard portfolio management system would bring this process up to current best practice.

Latest bucket P&L date	
LUKE	2019-01-02 12:00:00.0000000
DUKE	2019-01-02 12:00:00.0000000

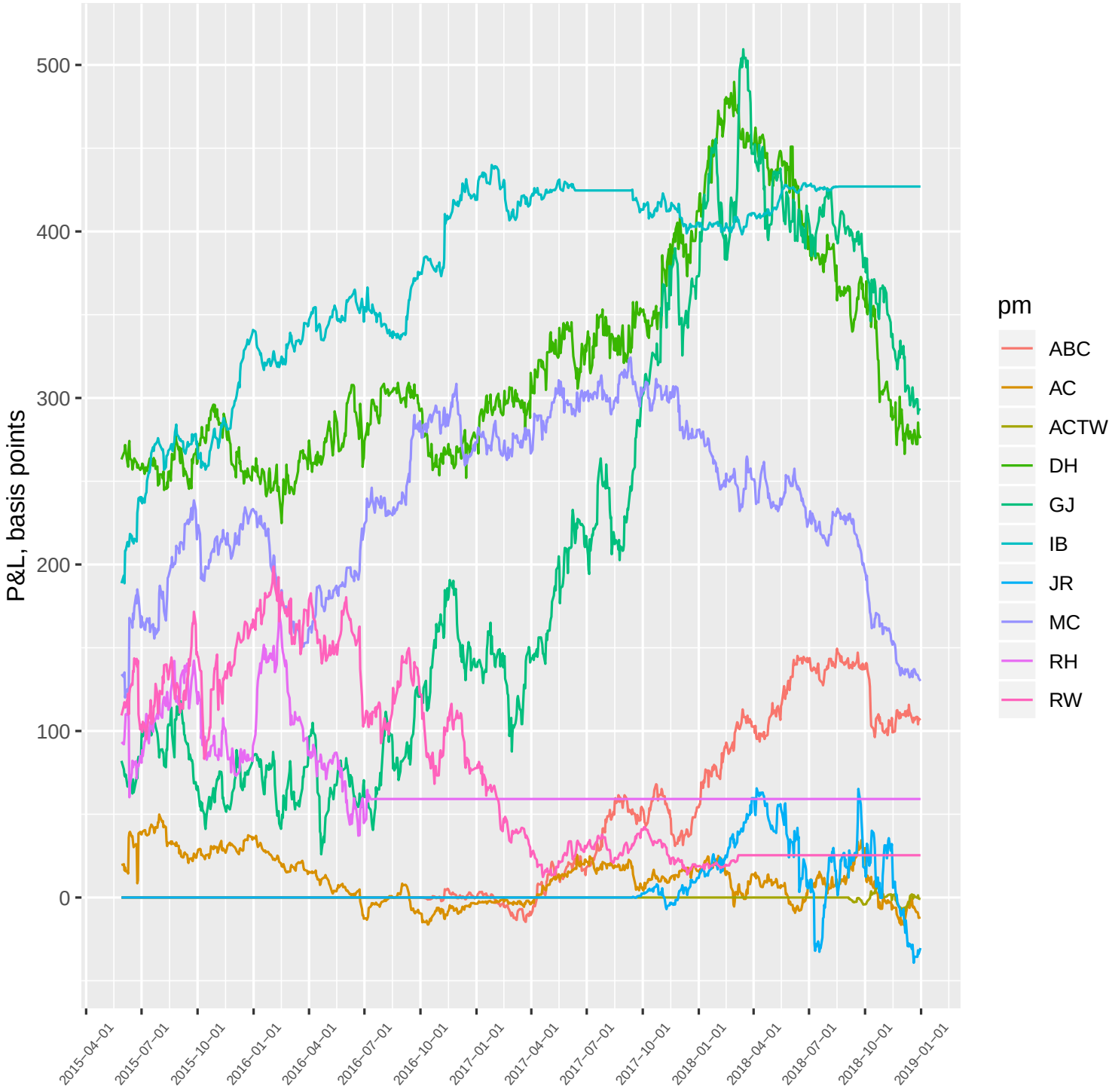
Database copy date	
rn	V1
PRDFundPerformance_BackupDateTime	2019-01-03 23:04:58
PRDQSTFundPerformance_RestoreDateTime	2019-01-04 05:00:04

27 top DUKE drawdowns, as of 2018-12-31



28 Historical DUKE performance by manager: 2015-05-29 to 2018-12-31

28.1 DUKE: All together



28.2 DUKE: By manager