

国泰君安191因子回测-131-140

郑骋, 香港中文大学(深圳), 金融工程硕士
电话: 15825675534, 邮箱: zhengzc@zju.edu.cn

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1 Alpha131

$$\text{Alpha} = (\text{RANK}(\text{DELAT}(\text{VWAP}, 1)) * \text{TSRANK}(\text{CORR}(\text{CLOSE}, \text{MEAN}(\text{VOLUME}, 50), 18), 18)) \quad (1)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-2.77	-14.32	102.01	-4.48(-0.283)	27.73	0.36	-5.62	-1.68	337 X 240	-0.94	14.01	-27.71	-0.0277
20110101-20111231	10.0	-10.0	-1.48	-7.57	98.41	-3.22(-0.204)	16.12	0.43	-3.08	-0.89	419 X 295	-41.08	-39.34	25.93	-0.0155
20120101-20121231	10.0	-10.01	-0.8	-4.13	97.75	-1.93(-0.122)	11.19	0.42	-1.69	-0.4	683 X 480	-0.68	3.25	-7.58	-0.0105
20130101-20131231	10.0	-10.0	-1.53	-8.04	92.93	-3.4(-0.215)	17.69	0.4	-3.46	-1.0	1202 X 823	17.89	19.03	-33.96	-0.0148
20140101-20141231	10.0	-10.0	-2.39	-12.21	95.22	-5.9(-0.373)	24.76	0.34	-5.13	-2.11	1092 X 754	24.9	35.54	-49.3	-0.0218
20150101-20151231	10.0	-10.0	-3.48	-17.79	95.77	-4.19(-0.265)	35.92	0.38	-7.44	-1.81	884 X 602	56.43	46.78	-92.05	-0.0208
20160101-20161231	10.0	-10.0	-0.68	-3.5	98.67	-1.61(-0.102)	13.76	0.41	-1.42	-0.3	1210 X 847	-15.14	-15.42	8.12	-0.0096
20170101-20171231	10.0	-10.0	-0.79	-4.04	94.35	-2.19(-0.138)	8.98	0.48	-1.71	-0.45	1484 X 1036	-19.25	0.88	11.17	-0.0094
20180101-20181231	10.0	-10.0	-0.58	-2.99	93.3	-1.58(-0.1)	6.83	0.5	-1.29	-0.28	1763 X 1224	-38.82	-38.75	32.82	-0.0058
20190101-20191231	9.99	-10.0	-0.35	-1.77	94.09	-0.89(-0.056)	5.72	0.5	-0.75	-0.12	2024 X 1397	21.14	26.71	-24.67	-0.0046
20200101-20200331	9.98	-10.01	0.37	7.94	95.02	2.49(0.158)	3.72	0.52	3.33	0.72	2120 X 1418	-6.74	-12.47	22.52	0.008
20100104-20200331	10.0	-10.0	-14.49	-7.27	96.23	-2.83(-0.179)	149.91	0.42	-3.03	-0.78	1134 X 785	0.26	4.85	-14.82	-0.0135

Figure 1: 回测结果

-0.6355	8.0	4.98	0.56	3.97	133	213652_h12688
-0.642	4.93	7.6	2.35	1.8	110	214368_fac125
-0.7049	3.33	3.55	2.31	1.01	175	211934_my_H177

Figure 2: 相关性结果

2 Alpha132

$$\text{Alpha} = \text{MEAN}(\text{AMOUNT}, 20) \quad (2)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-3.13	-16.19	5.03	-3.61(-0.229)	32.37	0.38	-128.68	-6.48	577 X 1212	-8.24	14.01	-24.13	-0.0185
20110101-20111231	10.0	-10.0	-2.52	-12.92	4.54	-3.98(-0.251)	29.26	0.42	-113.88	-6.71	648 X 1475	-51.43	-39.34	25.59	-0.016
20120101-20121231	10.0	-10.0	-2.15	-11.08	4.41	-3.66(-0.232)	27.41	0.4	-100.48	-5.81	700 X 1660	-8.58	3.25	-13.58	-0.014
20130101-20131231	10.0	-10.0	-4.12	-21.65	4.05	-4.99(-0.316)	41.94	0.4	-213.58	-11.54	704 X 1741	-5.44	19.03	-37.86	-0.0189
20140101-20141231	10.0	-10.0	-2.64	-13.47	5.12	-2.68(-0.17)	43.46	0.4	-105.3	-4.36	805 X 1699	31.57	35.54	-58.51	-0.0193
20150101-20151231	10.0	-9.99	-7.49	-38.39	4.35	-4.62(-0.292)	76.65	0.37	-352.97	-13.73	870 X 1826	10.15	46.78	-86.98	-0.0228
20160101-20161231	10.0	-10.0	-4.83	-24.73	5.25	-4.79(-0.303)	48.25	0.35	-188.32	-10.38	962 X 1897	-42.08	-15.42	-7.36	-0.0248
20170101-20171231	10.0	-10.0	-0.83	-4.23	4.77	-0.9(-0.057)	13.93	0.48	-35.48	-0.85	965 X 2265	-22.75	0.88	14.28	-0.005
20180101-20181231	10.0	-10.0	-2.41	-12.41	3.76	-2.48(-0.157)	31.28	0.39	-132.0	-4.51	972 X 2534	-56.36	-38.75	31.54	-0.0106
20190101-20191231	10.0	-10.0	-2.05	-10.49	3.95	-3.03(-0.191)	24.57	0.44	-106.17	-4.93	1064 X 2545	13.64	26.71	-34.62	-0.0073
20200101-20200331	10.0	-10.0	-0.53	-11.53	3.56	-1.87(-0.118)	13.42	0.52	-129.37	-3.36	1082 X 2601	-26.22	-12.47	3.18	-0.0077
20100104-20200331	10.0	-10.0	-32.71	-16.43	4.5	-3.32(-0.21)	328.33	0.41	-145.94	-6.34	833 X 1903	-14.23	4.85	-18.63	-0.0155

Figure 3: 回测结果

-0.7383	2.98	4.51	2.25	2.84	175	211919_my_210
-0.8458	5.4	4.91	3.16	8.78	136	213518_h388
-0.9351	4.52	4.94	2.6	7.69	175	211919_my_47

Figure 4: 相关性结果

3 Alpha133

$$Alpha = ((20 - HIGHDAY(HIGH, 20))/20) * 100 - ((20 - LOWDAY(LOW, 20))/20) * 100 \quad (3)$$

dates	long(M)	short(M)	pn1(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	9.99	-10.0	-0.55	-2.85	33.62	-0.63 (-0.04)	15.53	0.48	-3.4	-0.18	896 X 893	9.96	14.01	-15.66	-0.005
20110101-20111231	10.0	-10.0	-1.16	-5.94	30.48	-1.6 (-0.101)	16.4	0.46	-7.79	-0.71	942 X 1181	-41.14	-39.34	29.26	-0.0127
20120101-20121231	9.99	-10.0	-1.98	-10.21	30.96	-3.23 (-0.204)	20.33	0.39	-13.19	-1.86	1085 X 1275	-4.76	3.25	-15.65	-0.0203
20130101-20131231	9.98	-10.01	-1.95	-10.27	29.38	-3.02 (-0.191)	19.72	0.42	-13.98	-1.78	1266 X 1180	17.11	19.03	-37.58	-0.0159
20140101-20141231	9.97	-10.02	-0.15	-0.76	26.89	-0.23 (-0.014)	13.87	0.44	-1.14	-0.04	1311 X 1193	38.5	35.54	-39.83	-0.0025
20150101-20151231	9.91	-10.05	-4.72	-24.2	29.92	-1.95 (-0.124)	28.69	0.43	-32.36	-1.76	1430 X 1266	36.8	46.78	-84.38	-0.0212
20160101-20161231	9.98	-10.0	-2.15	-11.04	28.45	-2.59 (-0.164)	23.09	0.41	-15.51	-1.62	1391 X 1468	-25.17	-15.42	3.08	-0.0181
20170101-20171231	10.0	-10.0	-0.47	-2.39	26.08	-0.72 (-0.046)	6.49	0.47	-3.67	-0.22	1517 X 1713	-22.0	0.88	17.21	-0.0083
20180101-20181231	10.0	-9.98	-3.03	-15.58	29.48	-4.61 (-0.292)	32.04	0.34	-21.14	-3.35	1646 X 1861	-62.28	-38.75	31.21	-0.0262
20190101-20191231	9.99	-10.0	-3.45	-17.67	31.07	-6.81 (-0.431)	34.96	0.34	-22.75	-5.14	1792 X 1818	3.39	26.71	-38.7	-0.0269
20200101-20200331	9.98	-10.0	-0.49	-6.3	32.61	-1.29 (-0.082)	7.62	0.47	-7.81	-0.57	1793 X 1889	-19.72	-12.47	7.09	-0.0114
20100104-20200331	9.98	-10.01	-19.9	-10.0	29.69	-1.93 (-0.122)	206.38	0.42	-13.47	-1.12	1339 X 1397	-5.38	4.85	-14.61	-0.0156

Figure 5: 回測結果

-0.7442	5.82	7.88	4.91	4.69	175	211935_my_H310
-0.8312	3.48	4.27	2.2	4.56	175	211919_my_11
-0.8322	2.19	5.58	2.46	1.17	175	211930_h_ori251

Histogram

Figure 6: 相关性结果

4 Alpha134

$$Alpha = (CLOSE - DELAY(CLOSE, 12)) / DELAY(CLOSE, 12) * VOLUME \quad (4)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%sopret	%inxret	%negret	IC
201000104-20101231	1.0	-10.0	-3.10	-1.95	50.7	-2.46 (-0.155)	23.59	0.42	-17.16	-0.31	686 X 1060	-35.9	19.01	-1.02	-0.0141
20110101-20111231	1.0	-10.0	-4.49	-7.62	59.5	-1.27 (-0.08)	23.06	0.45	-5.14	-0.45	884 X 1175	-46.1	39.34	30.82	-0.0057
20120101-20121231	1.0	-10.0	-4.96	-25.43	58.69	-4.37 (-0.277)	51.26	0.38	-17.38	-2.88	871 X 1431	-36.81	3.25	-14.19	-0.0183
20130101-20131231	1.0	-10.0	-4.01	-21.13	55.64	-2.43 (-0.154)	40.16	0.4	-15.16	-1.5	790 X 1565	-13.65	19.03	-28.52	-0.0159
20140101-20141231	9.99	-9.98	0.64	3.3	53.81	0.34 (-0.022)	31.65	0.49	2.45	0.08	717 X 1590	60.05	35.54	-53.48	-0.0027
20150101-20151231	9.97	-9.95	-4.62	-23.73	53.54	-2.19 (-0.138)	60.06	0.39	-17.74	-1.46	870 X 1433	10.88	46.78	-58.42	-0.0107
20160101-20161231	9.98	-9.99	-5.59	-28.7	55.94	-3.23 (-0.204)	66.89	0.35	-20.52	-2.31	869 X 1741	-70.27	-15.42	12.86	-0.0172
20170101-20171231	9.98	-10.0	-3.21	-16.64	55.56	-1.51 (-0.096)	49.16	0.43	-11.85	-0.83	992 X 2027	-53.49	0.88	20.53	-0.0117
20180101-20181231	9.98	-9.99	-7.97	-41.13	57.35	-4.6 (-0.291)	82.34	0.35	-28.66	-3.89	1454 X 1895	-115.73	-38.75	33.52	-0.0223
20190101-20191231	9.98	-10.0	-10.06	-51.75	53.82	-5.67 (-0.359)	105.43	0.32	-38.34	-5.56	1249 X 2350	-76.98	26.71	-26.22	-0.0242
20200101-20200331	10.0	-10.0	-2.0	-42.91	52.16	-4.09 (-0.259)	28.95	0.43	-33.04	-1.71	1297 X 2379	-114.78	-12.47	28.63	-0.0205
20100104-20200331	9.99	-9.99	-46.55	-23.43	56.26	-2.65 (-0.167)	469.19	0.4	-16.64	-1.71	947 X 1645	-37.64	4.85	-9.17	-0.0144

Figure 7: 回测结果

-0.6024	3.41	6.33	4.76	2.66	175	211919_my_94
-0.6459	2.7	6.47	5.83	1.68	136	213518_h4838
-0.6996	3.69	7.37	5.3	3.0	175	211919_my_280

Histogram

Figure 8: 相关性结果

5 Alpha135

$$\text{Alpha} = \text{SMA}(\text{DELAY}(\text{CLOSE}/\text{DELAY}(\text{CLOSE}, 20), 1), 20, 1) \quad (5)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-0.97	-4.98	7.57	-0.92(-0.058)	15.08	0.45	-26.34	-0.74	765 X 1020	8.94	14.01	-18.91	-0.0054
20110101-20111231	10.0	-10.0	-1.1	-5.65	7.03	-1.26(-0.079)	15.98	0.48	-32.16	-1.13	924 X 1197	-42.07	-39.34	30.76	-0.0097
20120101-20121231	10.0	-10.0	-3.63	-18.67	7.22	-4.53(-0.287)	36.34	0.4	-103.4	-7.29	1049 X 1309	-15.06	3.25	-22.28	-0.0325
20130101-20131231	10.0	-10.0	-1.61	-8.48	6.78	-1.36(-0.086)	21.72	0.49	-50.02	-1.53	971 X 1475	16.42	19.03	-33.37	-0.0063
20140101-20141231	9.99	-10.01	-2.94	-15.03	7.61	-2.94(-0.186)	35.06	0.42	-78.95	-4.14	1016 X 1488	16.11	35.54	-46.09	-0.0151
20150101-20151231	9.92	-10.01	-10.97	-56.39	8.31	-5.19(-0.328)	110.56	0.38	-271.31	-13.53	1073 X 1621	3.78	46.78	-116.01	-0.0361
20160101-20161231	9.97	-10.0	-5.66	-29.04	9.81	-3.61(-0.228)	57.73	0.4	-118.51	-6.21	1019 X 1839	-54.74	-15.42	-3.44	-0.0192
20170101-20171231	9.97	-10.0	-2.05	-10.59	9.78	-1.35(-0.085)	29.69	0.47	-43.05	-1.4	1213 X 2013	-35.32	0.88	14.2	-0.0094
20180101-20181231	10.0	-10.0	-3.44	-17.68	7.72	-3.43(-0.217)	38.21	0.39	-91.59	-5.19	1601 X 1905	-64.1	-38.75	28.74	-0.0221
20190101-20191231	9.99	-10.0	-2.85	-14.6	7.58	-3.28(-0.208)	29.5	0.44	-77.06	-4.56	1492 X 2116	0.11	26.71	-29.3	-0.0128
20200101-20200331	9.99	-10.0	-0.54	-11.69	7.07	-1.68(-0.106)	12.93	0.5	-66.13	-2.15	1380 X 2301	-31.82	-12.47	8.41	-0.0088
20100104-20200331	9.98	-10.0	-35.77	-18.0	7.92	-2.74(-0.173)	360.32	0.43	-90.75	-4.12	1119 X 1616	-17.02	4.85	-18.93	-0.0167

Figure 9: 回测结果

-0.6235	2.76	2.93	2.44	3.18	75	215796_yf4
-0.6315	5.37	5.08	3.21	4.05	97	215063_qh141
-0.9985	3.32	4.02	1.31	5.83	175	211919_my_42

Figure 10: 相关性结果

6 Alpha136

$$\text{Alpha} = ((-1 * \text{RANK}(\text{DELTA}(\text{RET}, 3))) * \text{CORR}(\text{OPEN}, \text{VOLUME}, 10)) \quad (6)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	0.87	4.51	90.25	1.56(0.098)	4.03	0.52	2.0	0.35	841 X 691	17.37	14.01	-8.36	0.0069
20110101-20111231	10.0	-10.0	1.75	8.97	88.62	4.21(0.266)	1.49	0.59	4.05	1.34	998 X 821	-28.28	-39.34	46.22	0.0134
20120101-20121231	10.0	-10.0	0.72	3.72	88.95	1.71(0.108)	3.81	0.55	1.67	0.35	1176 X 947	5.79	3.25	1.65	0.0057
20130101-20131231	10.0	-10.0	0.38	1.97	89.2	0.9(0.057)	5.78	0.54	0.89	0.13	1287 X 1017	23.64	19.03	-19.69	0.0027
20140101-20141231	10.0	-9.99	0.83	4.24	89.44	1.74(0.11)	3.08	0.56	1.9	0.38	1245 X 993	38.55	35.54	-30.08	0.0059
20150101-20151231	9.99	-9.96	1.77	9.06	88.52	1.86(0.118)	15.17	0.55	4.11	0.6	1192 X 989	79.88	46.78	-61.86	0.0073
20160101-20161231	10.0	-9.95	1.45	7.46	91.07	3.36(0.212)	3.75	0.61	3.28	0.96	1415 X 1122	-2.45	-15.42	17.42	0.0114
20170101-20171231	9.99	-9.97	1.9	9.76	87.01	3.58(0.226)	2.01	0.61	4.49	1.2	1672 X 1292	-10.23	0.88	29.79	0.0133
20180101-20181231	10.0	-9.99	2.01	10.35	86.13	4.43(0.28)	1.79	0.61	4.81	1.54	1831 X 1474	-29.28	-38.75	50.02	0.0127
20190101-20191231	9.98	-9.99	1.76	9.04	87.89	4.28(0.271)	2.64	0.58	4.12	1.37	1996 X 1584	27.53	26.71	-9.42	0.0124
20200101-20200331	9.98	-10.0	-0.01	-0.28	86.44	-0.08(-0.005)	2.83	0.48	-0.13	-0.0	1989 X 1677	-11.64	-12.47	11.06	0.0
20100104-20200331	10.0	-9.99	13.44	6.75	88.65	2.46(0.155)	15.16	0.57	3.05	0.68	1380 X 1107	11.69	4.85	1.82	0.009

Figure 11: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.7151	4.5	6.24	3.53	2.29	146	213024_agen.ZSAlpha_16
0.5757	3.24	3.06	0.92	1.8	90	215414_fac132
0.5715	5.43	7.58	4.01	3.51	175	211930_h_ori63

Figure 12: 相关性结果

7 Alpha137

$$\begin{aligned}
 \text{Alpha} = & 16 * (\text{CLOSE} - \text{DELAY}(\text{CLOSE}, 1) + (\text{CLOSE} - \text{OPEN})/2 + \text{DELAY}(\text{CLOSE}, 1) - \text{DELAY}(\text{OPEN}, 1))/ \\
 & ((\text{ABS}(\text{HIGH} - \text{DELAY}(\text{CLOSE}, 1)) > \text{ABS}(\text{LOW} - \text{DELAY}(\text{CLOSE}, 1))) \& \\
 & \text{ABS}(\text{HIGH} - \text{DELAY}(\text{CLOSE}, 1)) > \text{ABS}(\text{HIGH} - \text{DELAY}(\text{LOW}, 1))) ? \text{ABS}(\text{HIGH} - \text{DELAY}(\text{CLOSE}, 1)) + \\
 & \text{ABS}(\text{LOW} - \text{DELAY}(\text{CLOSE}, 1))/2 + \text{ABS}(\text{DELAY}(\text{CLOSE}, 1) - \text{DELAY}(\text{OPEN}, 1))/4 : \\
 & (\text{ABS}(\text{LOW} - \text{DELAY}(\text{CLOSE}, 1)) > \text{ABS}(\text{HIGH} - \text{DELAY}(\text{LOW}, 1))) \& \text{ABS}(\text{LOW} - \text{DELAY}(\text{CLOSE}, 1)) > \\
 & \text{ABS}(\text{HIGH} - \text{DELAY}(\text{CLOSE}, 1))) ? \text{ABS}(\text{LOW} - \text{DELAY}(\text{CLOSE}, 1)) + \text{ABS}(\text{HIGH} - \text{DELAY}(\text{CLOSE}, 1))/2 + \\
 & \text{ABS}(\text{DELAY}(\text{CLOSE}, 1) - \text{DELAY}(\text{OPEN}, 1))/4 : \text{ABS}(\text{HIGH} - \text{DELAY}(\text{LOW}, 1)) + \\
 & \text{ABS}(\text{DELAY}(\text{CLOSE}, 1) - \text{DELAY}(\text{OPEN}, 1))/4))) * \\
 & \text{MAX}(\text{ABS}(\text{HIGH} - \text{DELAY}(\text{CLOSE}, 1)), \text{ABS}(\text{LOW} - \text{DELAY}(\text{CLOSE}, 1)))
 \end{aligned}
 \tag{7}$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	9.99	-10.0	-4.69	-24.2	117.3	-3.27(-0.207)	49.28	0.38	-8.26	-1.49	867 X 916	-16.19	14.01	-32.23	-0.0065
20110101-20111231	10.0	-10.0	-3.17	-16.23	112.05	-3.1(-0.196)	38.71	0.43	-5.79	-1.18	1052 X 1049	-54.38	-39.34	21.92	-0.005
20120101-20121231	9.99	-10.0	-1.67	-8.57	115.14	-1.69(-0.107)	21.86	0.43	-2.98	-0.46	1155 X 1174	-4.4	3.25	-12.77	-0.0024
20130101-20131231	9.96	-10.0	-1.9	-10.16	116.54	-1.62(-0.103)	19.5	0.41	-3.43	-0.48	1129 X 1233	5.7	19.03	-25.63	-0.0035
20140101-20141231	9.79	-9.99	-4.42	-22.48	116.24	-3.26(-0.206)	48.44	0.38	-7.85	-1.44	1093 X 1227	8.1	35.54	-53.09	-0.0056
20150101-20151231	9.88	-9.88	-1.38	-7.2	112.27	-0.58(-0.037)	36.07	0.48	-2.56	-0.15	1067 X 1254	60.39	46.78	-74.77	-0.0008
20160101-20161231	9.88	-9.98	-2.39	-12.54	118.06	-1.89(-0.119)	32.51	0.4	-4.18	-0.61	1243 X 1377	-44.78	-15.42	19.78	-0.004
20170101-20171231	9.9	-9.97	-2.74	-13.97	118.99	-2.32(-0.147)	30.68	0.44	-4.76	-0.8	1489 X 1544	-44.96	0.88	16.43	-0.0034
20180101-20181231	9.95	-9.93	-4.28	-22.36	117.74	-3.66(-0.232)	45.61	0.4	-7.53	-1.6	1722 X 1634	-70.74	-38.75	26.49	-0.0055
20190101-20191231	9.94	-9.99	-1.84	-9.58	116.15	-1.29(-0.082)	31.02	0.41	-3.27	-0.37	1746 X 1858	-2.39	26.71	-16.54	-0.0028
20200101-20200331	9.81	-10.05	-0.24	-4.95	118.59	-0.82(-0.052)	7.62	0.53	-1.76	-0.17	1717 X 1963	-37.52	-12.47	26.35	-0.003
20100104-20200331	9.93	-9.98	-28.73	-14.51	116.11	-2.02(-0.128)	292.55	0.42	-5.0	-0.71	1268 X 1342	-16.95	4.85	-12.07	-0.0039

Figure 13: 回测结果

-0.4179	3.63	2.06	0.6	1.49	175	211936_my_H804
-0.4523	3.43	4.55	3.86	2.38	175	211919_my_199
-0.543	3.37	4.64	1.43	1.47	175	211919_my_83

Figure 14: 相关性结果

8 Alpha138

$$\begin{aligned} \text{Alpha} = & ((\text{RANK}(\text{DECAYLINEAR}(\text{DELTA}(((\text{LOW} * 0.7) + (\text{VWAP} * 0.3))), 3), 20)) - \\ & \text{TSRANK}(\text{DECAYLINEAR}(\text{TSRANK}(\text{CORR}(\text{TSRANK}(\text{LOW}, 8), \\ & \text{TSRANK}(\text{MEAN}(\text{VOLUME}, 60), 17), 5), 19), 16), 7)) * -1 \end{aligned} \quad (8)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	1.49	7.67	56.56	2.04(0.129)	4.73	0.53	5.43	0.75	148 X 148	21.01	14.01	-5.65	0.0096
20110101-20111231	10.0	-10.0	0.7	3.58	54.14	1.18(0.075)	4.07	0.54	2.67	0.3	188 X 187	-26.2	-39.34	33.43	0.0059
20120101-20121231	10.01	-10.0	0.16	0.79	50.69	0.29(0.018)	7.49	0.53	0.63	0.04	322 X 322	9.17	3.25	-7.58	0.0025
20130101-20131231	10.0	-10.0	0.32	1.67	43.5	0.75(0.047)	3.71	0.47	1.54	0.15	619 X 614	27.67	19.03	-24.33	0.0013
20140101-20141231	10.0	-10.0	0.41	2.12	43.7	1.04(0.066)	4.1	0.57	1.94	0.23	533 X 527	39.06	35.54	-34.82	0.005
20150101-20151231	10.0	-10.0	1.79	9.17	47.28	3.0(0.19)	3.47	0.53	7.76	1.32	414 X 411	81.78	46.78	-63.39	0.0084
20160101-20161231	10.0	-10.0	1.5	7.67	44.38	4.19(0.265)	2.54	0.62	6.91	1.74	632 X 631	-2.18	-15.42	17.51	0.0128
20170101-20171231	10.0	-10.0	0.52	2.64	42.21	1.48(0.093)	3.03	0.55	2.51	0.37	773 X 761	-10.67	0.88	15.97	0.007
20180101-20181231	10.0	-10.0	0.83	4.26	43.18	2.39(0.151)	1.89	0.62	3.94	0.75	912 X 905	-30.16	-38.75	38.67	0.0079
20190101-20191231	10.0	-10.0	1.31	6.7	41.1	3.97(0.251)	1.88	0.58	6.52	1.6	975 X 956	34.09	26.71	-20.7	0.0103
20200101-20200331	10.0	-9.99	-0.24	-5.2	40.78	-1.68(-0.106)	4.56	0.43	-5.1	-0.6	919 X 896	-14.53	-12.47	4.13	-0.0056
20100104-20200331	10.0	-10.0	8.78	4.4	46.54	1.75(0.111)	7.5	0.55	3.79	0.54	560 X 555	13.67	4.85	-4.86	0.0068

Figure 15: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.6309	3.32	3.85	-0.3	3.1	129	213796_v1v2_n_191004_21
0.6226	2.66	4.84	2.64	1.99	101	214797_pv_model_1_mod_gen6_191114_164
0.6021	3.48	4.27	2.2	4.56	175	211919_my_11

Figure 16: 相关性结果

9 Alpha139

$$\text{Alpha} = (-1 * \text{CORR}(\text{OPEN}, \text{VOLUME}, 10)) \quad (9)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	0.99	5.13	51.05	1.89(0.119)	3.86	0.55	4.02	0.6	686 X 846	19.93	14.01	-9.67	0.0082
20110101-20111231	10.0	-10.0	1.62	8.31	50.58	3.66(0.232)	1.54	0.61	6.58	1.49	835 X 984	-26.47	-39.34	43.1	0.0125
20120101-20121231	10.0	-10.0	0.84	4.33	49.48	2.11(0.134)	3.91	0.55	3.5	0.63	973 X 1150	8.26	3.25	0.4	0.0076
20130101-20131231	10.0	-10.0	0.82	4.3	48.84	2.18(0.138)	3.49	0.55	3.52	0.65	1047 X 1256	27.99	19.03	-19.39	0.0065
20140101-20141231	10.0	-10.0	0.78	3.96	48.98	1.78(0.113)	3.0	0.56	3.23	0.51	1013 X 1226	39.33	35.54	-31.43	0.0064
20150101-20151231	9.99	-9.96	2.11	10.8	49.24	2.38(0.15)	14.54	0.57	8.79	1.11	979 X 1203	83.34	46.78	-61.9	0.0107
20160101-20161231	10.0	-9.94	1.71	8.79	50.46	4.32(0.273)	3.04	0.59	6.96	1.8	1171 X 1366	-4.51	-15.42	22.14	0.015
20170101-20171231	10.0	-9.97	2.27	11.65	49.26	4.73(0.299)	1.67	0.64	9.46	2.3	1402 X 1562	-6.87	0.88	30.22	0.018
20180101-20181231	10.0	-9.99	2.08	10.68	46.93	4.47(0.283)	2.06	0.61	9.1	2.13	1557 X 1749	-27.36	-38.75	48.74	0.0146
20190101-20191231	9.99	-10.0	1.69	8.64	46.71	4.41(0.279)	1.8	0.57	7.4	1.89	1620 X 1961	31.22	26.71	-13.9	0.0122
20200101-20200331	9.98	-10.01	0.15	3.19	46.01	1.04(0.066)	2.49	0.5	2.8	0.27	1689 X 1978	-6.23	-12.47	12.64	0.0049
20100104-20200331	10.0	-9.99	15.05	7.56	49.08	2.92(0.185)	14.53	0.58	6.16	1.15	1142 X 1346	13.99	4.85	1.13	0.011

Figure 17: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.7791	4.5	6.24	3.53	2.29	146	213024_agen.ZSAlpha_16
0.6977	5.43	7.58	4.01	3.51	175	211930_h_ori63
0.6695	2.54	4.55	1.23	1.4	103	214732_fac27

Figure 18: 相关性结果

10 Alpha140

$$\begin{aligned} \text{Alpha} = & \text{MIN}(\text{RANK}(\text{DECAYLINEAR}(((\text{RANK}(\text{OPEN}) + \text{RANK}(\text{LOW})) - (\text{RANK}(\text{HIGH}) + \text{RANK}(\text{CLOSE}))), 8)), \\ & \text{TSRANK}(\text{DECAYLINEAR}(\text{CORR}(\text{TSRANK}(\text{CLOSE}, 8), \text{TSRANK}(\text{MEAN}(\text{VOLUME}, 60), 20), 8), 7), 3)) \end{aligned} \quad (10)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	2.02	10.44	63.17	2.89(0.183)	3.54	0.55	6.61	1.18	166 X 248	27.48	14.01	-6.59	0.0138
20110101-20111231	10.0	-10.0	1.64	8.36	60.07	2.51(0.159)	3.27	0.53	5.58	0.94	203 X 323	-23.54	-39.34	40.31	0.0151
20120101-20121231	10.0	-10.0	1.85	9.53	56.84	3.41(0.216)	2.95	0.58	6.71	1.4	342 X 548	13.82	3.25	5.25	0.0166
20130101-20131231	10.0	-10.0	0.98	5.15	52.98	1.47(0.093)	7.14	0.52	3.89	0.46	627 X 1005	31.61	19.03	-21.3	0.0056
20140101-20141231	10.0	-10.0	1.01	5.14	52.37	1.97(0.125)	4.4	0.53	3.92	0.62	587 X 910	38.92	35.54	-28.65	0.006
20150101-20151231	10.0	-10.0	3.19	16.36	54.34	2.58(0.163)	5.73	0.54	12.04	1.41	495 X 684	83.39	46.78	-50.64	0.0118
20160101-20161231	10.0	-10.0	1.94	9.95	51.39	3.06(0.193)	3.32	0.59	7.75	1.35	662 X 1026	-2.18	-15.42	22.09	0.0131
20170101-20171231	10.0	-10.0	1.26	6.48	50.44	2.71(0.171)	3.0	0.57	5.14	0.97	782 X 1284	-11.89	0.88	24.85	0.0102
20180101-20181231	10.0	-10.0	1.15	5.91	50.37	2.24(0.142)	5.25	0.59	4.69	0.77	956 X 1551	-29.06	-38.75	40.88	0.0084
20190101-20191231	10.0	-10.0	2.62	13.43	50.46	5.96(0.377)	2.98	0.64	10.65	3.07	1082 X 1754	33.96	26.71	-7.1	0.0181
20200101-20200331	10.0	-10.0	0.67	14.5	50.29	4.4(0.279)	1.83	0.57	11.54	2.37	1140 X 1778	4.84	-12.47	24.17	0.0169
20100104-20200331	10.0	-10.0	18.34	9.21	54.15	2.66(0.168)	7.14	0.56	6.81	1.1	603 X 953	15.96	4.85	2.46	0.012

Figure 19: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.7687	4.71	5.42	2.35	5.11	175	211930_h_ori13
0.7344	3.95	7.96	5.38	2.91	175	211919_my_221
0.7262	3.26	4.79	4.17	2.13	100	214925_pv_model_8_gen6_191114_48

Figure 20: 相关性结果

11 总结

alpha131偏好t期vwap大于t-1期，同时量价相关性在近日越低越好（背离），即看多上涨缩量，看空下跌缩量的股票。从结果来看这类组合并不理想。

alpha133偏好过去20日最高价离当期越远越好，过去20最低价离当期越近越好（均值回归的思想）。