1 ..... - 4 -
2 ..... - 5 -
2.1 ..... - 6 -
2.2 ..... - 9 -
2.3 ..... - 16 -
3 ..... - 17 -
3.1 ..... - 18 -
3.2 ..... - 19 -
3.3 ..... - 20 -
4 ..... - 24 -

1 ..... - 5 -
2 A ERP 2002/1/4-2019/8/29 - 7 -
3 ..... - 7 -
4 ..... - 8 -
5 2008/6/30-2019/8/29 ..... - 9 -
6 2008/6/30-2019/8/29 ..... - 9 -
7 2008/6/30-2019/8/29 ..... - 9 -
8 DDM ..... - 10 -
9 ..... - 11 -
10 ..... - 12 -
11 ..... - 12 -
12 ..... - 13 -
13 2004/3/31-2019/8/29 .... - 14 -
14 2004/3/31-2019/8/29 .... - 14 -
15 2004/3/31-2019/8/29 ..... - 14 -
16 2004/3/31-2019/8/29 ..... - 15 -
17 2004/3/31-2019/8/29 ..... - 15 -
18 2004/3/31-2019/8/29 ..... - 16 -
19 2014/10/27-2019/8/29 - 17 -
20 2014/10/27-2019/8/29 - 17 -
21 2014/10/27-2019/8/29 ..... - 17 -
22 ..... - 18 -
23 2008/6-2019/8 ..... - 19 -
24 ..... - 20 -
25 2014/10-2019/8 - 20 -
26 ..... - 21 -
27 2014/10/27-2019/8/29 ..... - 21 -

28
2014/10/27-2019/8/29 .....- 22 -
29
2014/10/27-2019/8/29 .....- 22 -
30
2014/10/27-2019/8/29 .....- 23 -
31
2014/10/27-2019/8/29 .....- 23 -
32
2014/10/27-2019/8/29 .....- 23 -

# 1 “ ”

2015 6

1

2

Sharpe Ratio

IC t

3 2

4 1

**1**

## 2

1 1/3

**2**

A

A

52% 48%

$$t=\frac{\bar{F}_1-\bar{F}_3}{\sqrt{\frac{(n_1-1)S_1^2+(n_3-1)S_3^2}{n_1+n_3-2}\left(\frac{1}{n_1}+\frac{1}{n_3}\right)}}$$

$\bar{F}_1$

$\bar{F}_3$

$S_1^2$

$S_3^2$

$n_1$

$n_3$

t

t

t

## 2.1

A

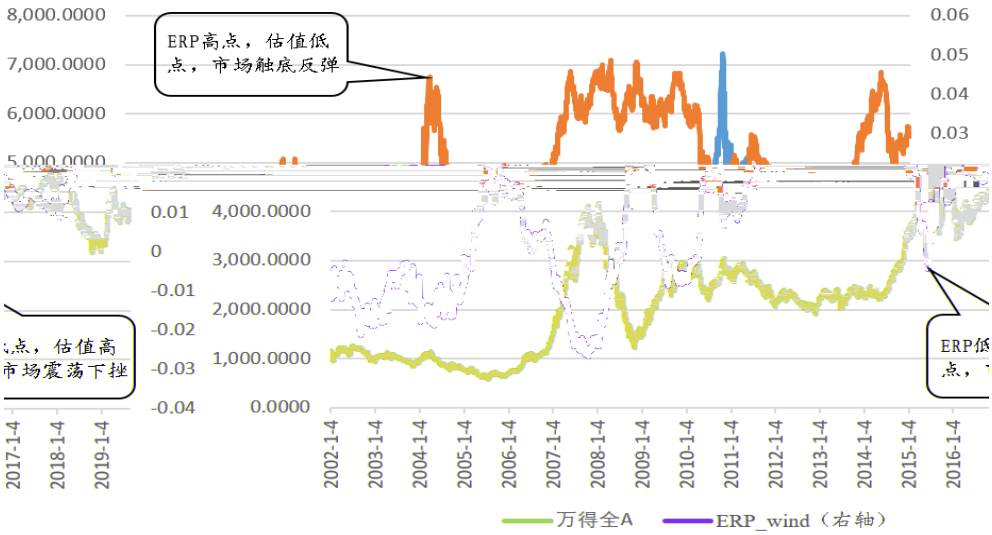
ERP 1/PE- PE PB

A

ERP

ERP

**2 A ERP 2002/1/4-2019/8/29**




Wind

A

GDP

**3**

ERP:

A

DRP: -

GDP

GDP GDP: :

ERP

ERP

GDP

2019 GDP 2019

7 15 2019 7 15 GDP GDP

GDP

65%

**t**

**4**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | **t-Value** | | | | | |
| ERP_wind | Wind | A | 0.65 | 1.71 | 4.31% | 27.57% | 0.16 | 81.78% |
| DRP_bonus | | | 2.15 | 3.02 | 16.94% | 27.67% | 0.61 | 47.76% |
| | | | | | | | | |
| | | | **t-Value** | | | | | |
| ERP_wind | Wind | A | 1.76 | 1.26 | 10.12% | 27.57% | 0.37 | 80.18% |
| DRP_bonus | | | 1.88 | 1.61 | 14.15% | 27.33% | 0.52 | 53.61% |

Wind

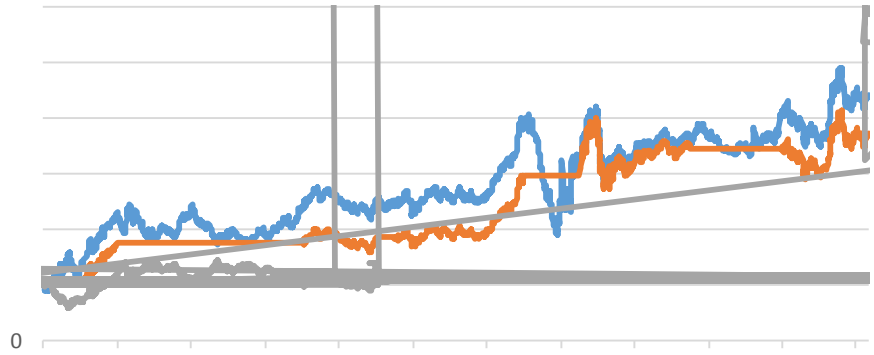
1.61

2019 8 29

14.15% 12.39%

A 5.95%

**5** **2008/6/30-2019/8/29**




Wind

**6** **2008/6/30-2019/8/29**

| | | | | |
|---|---|---|---|---|
| | 14.15% | 27.33% | 0.52 | 53.61% |
| | 12.39% | 17.27% | 0.72 | 32.43% |
| | 5.95% | 27.35% | 0.22 | 55.99% |
| **Relative** | 1.57% | 21.19% | 0.07 | 60.02% |

Wind

100% 60%

77.78%

**7** **2008/6/30-2019/8/29**

| | | | |
|---|---|---|---|
| | 1 | 4 | 100.00% |
| | -1 | 5 | 60.00% |
| | | 9 | 77.78% |

Wind

## 2.2

DDM

DDM

d

**8 DDM**

A

**192**

- PMI

- PPI

-

-

-

➢

**9**

| | | | |
|---|---|---|---|
| | | | |
| | | | PMI |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | PPI/CPI |
| | PPI | | |
| | | | Shibor |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | 50ETF |

Shibor

7 8

14

***2***

**T**

192

50% 13

**10**

| | | |
|---|---|---|
| fixed_invest_building_yoy | : : | 2004-03-17 |
| pmi_new_export_order | PMI: | 2005-08-01 |
| ppi_mom | PPI | 2002-07-22 |
| d_Shibor_2W_1M | Shibor 2W): : | 2006-11-30 |
| d_Shibor_ON_1M | Shibor ON): : | 2006-11-30 |
| repo_7D_1M | 7 : | 2003-01-29 |
| DRP_bonus_1M | : | 2008-05-30 |
| market_mom_1M | : | 2000-02-29 |
| market_mom_3M | : | 2000-04-28 |
| defend_ey_1M | | 2005-02-28 |
| d_defend_ey_1M | : | 2005-03-31 |
| d_usdchn_1M | : : | 2012-06-29 |
| medicine_ey_1M | | 2005-02-28 |

Wind

**11**

**t-Value**

| | | | | | |
|---|---|---|---|---|---|
| fixed_invest_building_yoy | : : | 4.00 | 28.68% | 1.01 | 1.68 |
| pmi_new_export_order | PMI: | 0.91 | 6.34% | 0.22 | 3.83 |
| ppi_mom | PPI | 3.40 | 21.67% | 0.79 | 5.49 |
| d_Shibor_2W_1M | Shibor 2W): : | 1.15 | 6.89% | 0.23 | 48.05 |
| d_Shibor_ON_1M | Shibor ON): : | 1.86 | 13.15% | 0.45 | 47.9 |
| repo_7D_1M | 7 : | 2.42 | 14.66% | 0.53 | 36.84 |
| DRP_bonus_1M | : | 1.67 | 10.93% | 0.39 | 13.31 |
| market_mom_1M | : | 3.70 | 21.52% | 0.79 | 33.55 |
| market_mom_3M | : | 1.74 | 8.05% | 0.3 | 22.27 |
| defend_ey_1M | | 3.27 | 24.89% | 0.87 | 41.7 |
| d_defend_ey_1M | : | 1.19 | 7.28% | 0.25 | 51.8 |
| d_usdchn_1M | : : | 2.48 | 23.20% | 0.88 | 46.88 |
| medicine_ey_1M | | 0.60 | 2.77% | 0.1 | 42.38 |

Wind

**12**

| | | t-Value | | | |
|---|---|---|---|---|---|
| fixed_invest_building_yoy | : : | 3.58 | 25.15% | 0.89 | 1.69 |
| pmi_new_export_order | PMI: | 0.73 | 2.79% | 0.1 | 3.86 |
| ppi_mom | PPI | 3.33 | 20.92% | 0.76 | 5.5 |
| d_Shibor_2W_1M | Shibor 2W): : | 2.43 | 18.71% | 0.64 | 12.86 |
| d_Shibor_ON_1M | Shibor ON): : | 1.89 | 14.09% | 0.48 | 13.64 |
| repo_7D_1M | 7 : | 1.77 | 9.29% | 0.33 | 4.83 |
| DRP_bonus_1M | : | 2.15 | 16.94% | 0.61 | 3.02 |
| market_mom_1M | : | 2.27 | 8.59% | 0.32 | 10.35 |
| market_mom_3M | : | 1.98 | 7.66% | 0.28 | 5.8 |
| defend_ey_1M | | 2.83 | 22.08% | 0.77 | 11.99 |
| d_defend_ey_1M | : | 2.31 | 16.86% | 0.59 | 14.98 |
| d_usdchn_1M | : : | 2.28 | 27.80% | 1.05 | 9.77 |
| medicine_ey_1M | | 2.94 | 20.22% | 0.7 | 10.62 |

Wind

➢

1/3

7.39 2019 8 29

47.37%

28.94% A 8.72%

**13** **2004/3/31-2019/8/29**

Wind

**14** **2004/3/31-2019/8/29**

| | | | | |
|---|---|---|---|---|
| | 47.37% | 28.30% | 1.67 | 38.31% |
| | 28.94% | 20.56% | 1.41 | 34.27% |
| | 8.72% | 28.43% | 0.31 | 70.59% |
| **Relative** | 14.29% | 19.55% | 0.73 | 35.72% |

Wind

48.28% 71.43%

59.65%

**15**
**2004/3/31-2019/8/29**

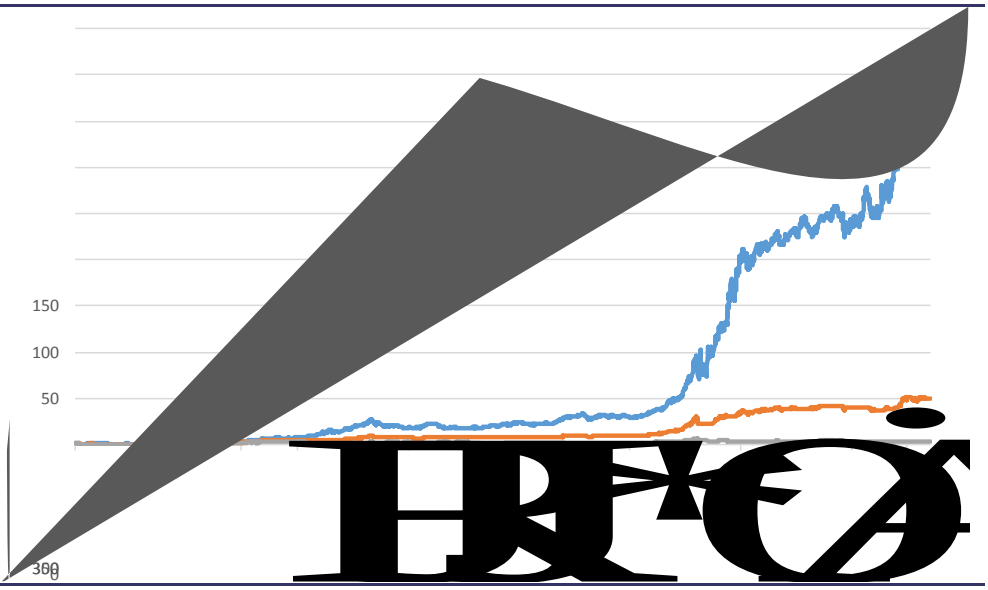
[redacted]

1/3

4.93 2019 8 29

28.22% 20.04%

**16** **2004/3/31-2019/8/29**




Wind

**17** **2004/3/31-2019/8/29**

| | | | | |
|---|---|---|---|---|
| | 28.22% | 28.38% | 0.99 | 56.22% |
| | 20.04% | 21.56% | 0.93 | 43.03% |
| | 8.72% | 28.43% | 0.31 | 70.59% |
| **Relative** | 6.82% | 18.49% | 0.37 | 37.58% |

Wind

47.37% 57.89%

52.63%

**18**
**2004/3/31-2019/8/29**

| | | |
|---|---|---|
| 1 | 19 | 47.37% |
| -1 | 19 | 57.89% |
| | 38 | 52.63% |

Wind

## 2.3

1
2
3
4
5

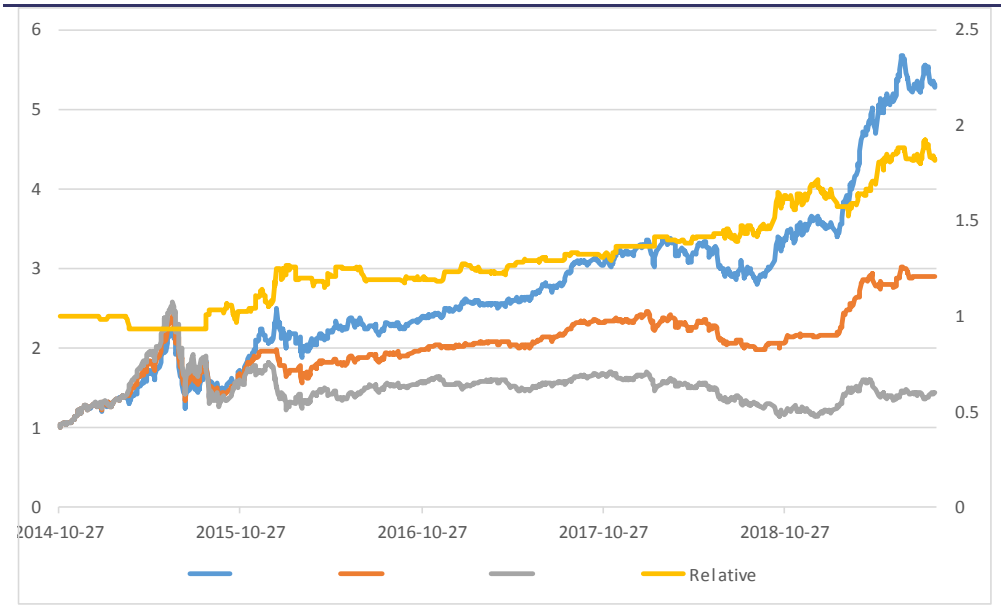
51

A

AdaBoost
2019-10-17 AdaBoost

85.68 2019 8 29
41.23% 24.70%
A 7.77%

**19** **2014/10/27-2019/8/29**




Wind

**20** **2014/10/27-2019/8/29**

| | | | | |
|---|---|---|---|---|
| | 41.23% | 29.30% | 1.41 | 44.41% |
| | 24.70% | 25.31% | 0.98 | 44.89% |
| | 7.77% | 29.39% | 0.26 | 55.99% |
| **Relative** | 13.25% | 14.85% | 0.89 | 11.09% |

Wind

64.42% 54.37%

59.42%

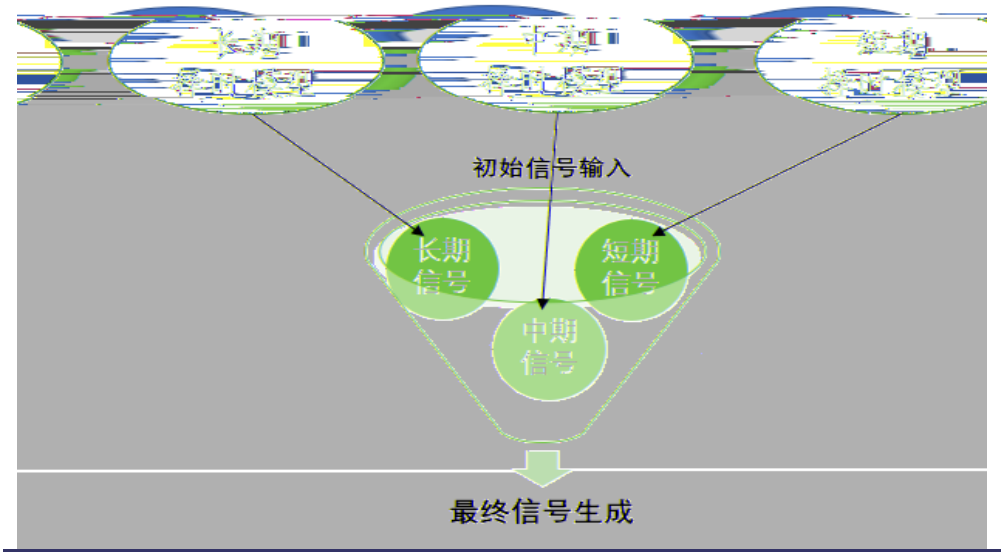
**21**
**2014/10/27-2019/8/29**

| | | | |
|---|---|---|---|
| | 1 | 104 | 64.42% |
| | -1 | 103 | 54.37% |
| | | 207 | 59.42% |

Wind

## 3

**22**




### 3.1

$P(C)$

$(X_1, X_2, X_3)$ $P(C|X_1, X_2, X_3)$

$$P(C|X_1, X_2, X_3) = \frac{P(C) \cdot P(X_1|C) \cdot P(X_2|C, X_1) \cdot P(X_3|C, X_1, X_2)}{P(X_1, X_2, X_3)}$$

$P(C)$

$(X_1, X_2)$

$$P(C|X_1, X_2) = \frac{P(C) \cdot P(X_1|C) \cdot P(X_2|C, X_1)}{P(X_1, X_2)}$$

### 3.2

2008 6

T T

0

0

T

T

| 23 | | | | 2008/6-2019/8 | |
|---|---|---|---|---|---|
| | | | | | t-Value |
| 1 | 1 | 52 | 69.23% | 30.77% | 4.08 |
| 1 | -1 | 19 | 31.58% | 68.42% | -1.66 |
| -1 | 1 | 25 | 72.00% | 28.00% | 1.41 |
| -1 | -1 | 38 | 34.21% | 65.79% | -2.17 |

Wind

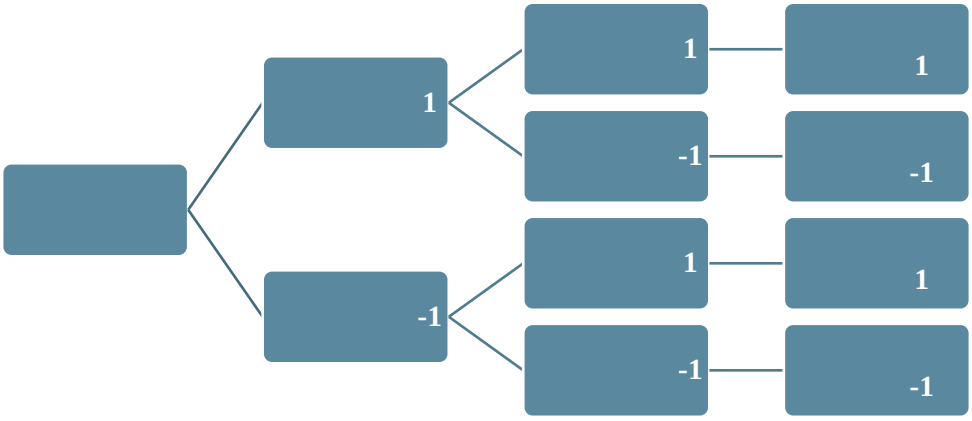
1

2

3

4

**24**




## 3.3

2014 10

T

t 5%

t

**25** **2014/10-2019/8**

| | | | | | | t-Value |
|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 318 | 59.12% | 40.88% | 4.52 |
| 1 | 1 | -1 | 204 | 50.00% | 50.00% | -0.43 |
| 1 | -1 | 1 | 62 | 53.23% | 46.77% | -0.8 |
| 1 | -1 | -1 | 112 | 42.86% | 57.14% | -1.65 |
| -1 | 1 | 1 | 175 | 62.86% | 37.14% | 1.88 |
| -1 | 1 | -1 | 25 | 64.00% | 36.00% | 0.22 |
| -1 | -1 | 1 | 231 | 51.52% | 48.48% | -0.72 |
| -1 | -1 | -1 | 57 | 47.37% | 52.63% | -2.13 |

Wind

T

t 0

1

0

2

0

3

0

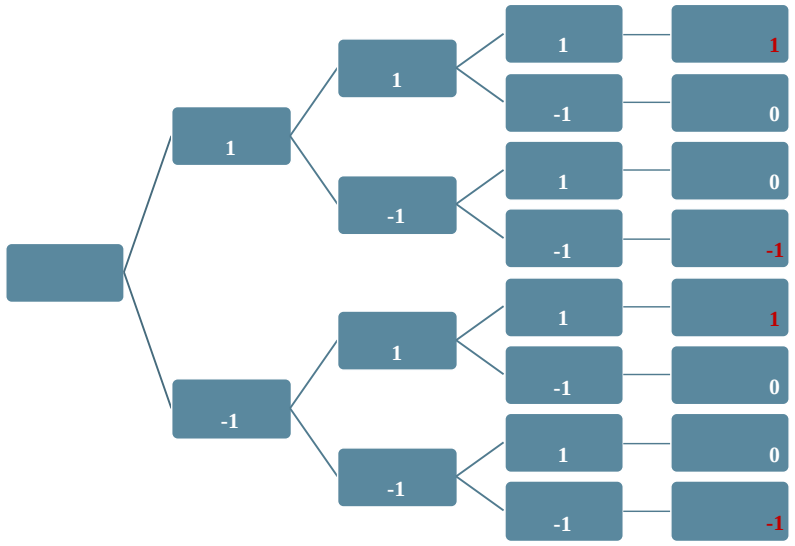
4

0

5 T

T

**26**

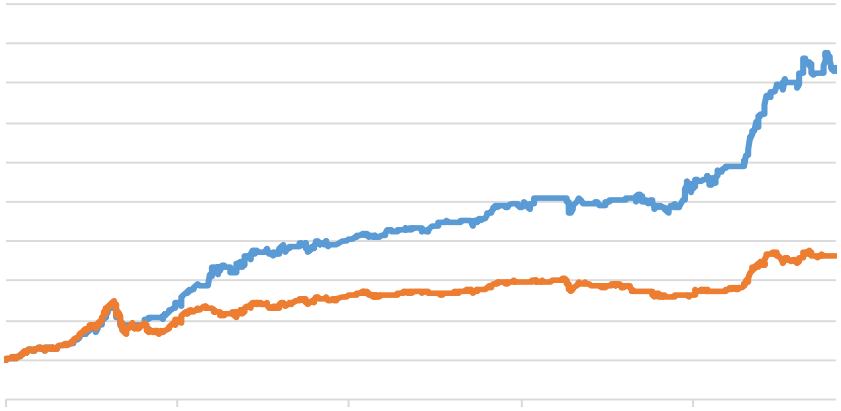



➢

2019 8 29 46.27 54.95% 2.73 30.69%

**27**

**2014/10/27-2019/8/29**



Wind

**28**
**2014/10/27-2019/8/29**

| | | | | |
|---|---|---|---|---|
| | 54.95% | 20.13% | 2.73 | 26.62% |
| | 30.69% | 20.14% | 1.52 | 33.99% |
| | 7.77% | 29.39% | 0.26 | 55.99% |
| **Relative** | 17.27% | 15.13% | 1.14 | 14.91% |

Wind

70.97% 64%

45.37% 56.82%

**29**
**2014/10/27-2019/8/29**

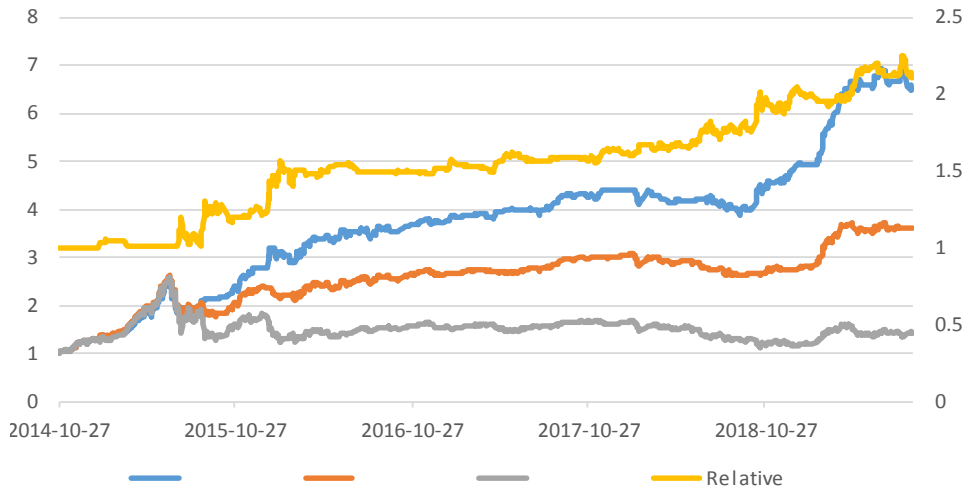
| | | | |
|---|---|---|---|
| | 1 | 62 | 70.97% |
| | 0 | 108 | 45.37% |
| | -1 | 50 | 64.00% |
| | | 220 | 56.82% |

Wind

➢ 0.05%

0.05% 2019 8 29
47.31% 2.39
30.37%

**30**
**2014/10/27-2019/8/29**




Wind

**31**
**2014/10/27-2019/8/29**

| | | | | |
|---|---|---|---|---|
| | 47.31% | 19.78% | 2.39 | 26.62% |
| | 30.37% | 19.66% | 1.54 | 33.55% |
| | 7.77% | 29.39% | 0.26 | 55.99% |
| **Relative** | 16.74% | 15.90% | 1.05 | 14.91% |

Wind

74.19%

58% 45.37%

56.36%

**32**
**2014/10/27-2019/8/29**

| | | |
|---|---|---|
| 1 | 62 | 74.19% |
| 0 | 108 | 45.37% |
| -1 | 50 | 58.00% |
| | 220 | 56.36% |

Wind

## 4

➢

1

2