对于每一个天气自变量，滞后期从之后0期 (L.0) 一直测试到之后7期 (L.7), 看看在什么情况下能够实现显著性，我们只保留当将所有自变量一次性加入后仍然保持都为显著的情况并生成下列一系列表格。下面的表格均来自面板回归，面板个体是solar能源站site的编号site\_no，也就是说我们在回归中认为每个site对公司股价超额收益率的影响是等权重的，好处是这样的样本数更多。

**一．等权重考虑每个Solar\_site对对应公司股价超额收益率的影响做面板数据回归：**

* **不考虑四季区分而是直接使用全部数据：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield (solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.096\*\*\* |
|  | (12.83) |
| L3.temperature(degC) | -0.000\*\* |
|  | (-2.22) |
| L1.maximum\_temperature(degC) | 0.000\* |
|  | (1.82) |
| precipitation(mm) | 0.000 |
|  | (1.32) |
| L4.precipitation\_cover(%) | 0.000\*\* |
|  | (2.38) |
| L1.dew\_point(degC) | -0.000\*\* |
|  | (-2.33) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-4.87) |
| L1.visibility | -0.000\* |
|  | (-1.96) |
| L2.cloud\_cover(%) | -0.000\*\*\* |
|  | (-3.57) |
| Constant | 0.006\*\*\* |
|  | (5.07) |
|  |  |
| Observations | 8,674 |
| R-squared | 0.029 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | NextEnergy (solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.225\*\*\* |
|  | (53.40) |
| L2.temperature(degC) | -0.000\*\*\* |
|  | (-4.04) |
| maximum\_temperature(degC) | 0.000\*\*\* |
|  | (8.51) |
| precipitation(mm) | 0.000\*\*\* |
|  | (4.40) |
| precipitation\_cover(%) | 0.000\*\*\* |
|  | (4.95) |
| L1.dew\_point(degC) | -0.000\*\*\* |
|  | (-2.76) |
| L1.relative\_humidity(%) | 0.000\*\*\* |
|  | (4.20) |
| L1.visibility | 0.000\*\*\* |
|  | (5.47) |
| L1.cloud\_cover(%) | -0.000\*\*\* |
|  | (-5.29) |
| Constant | -0.005\*\*\* |
|  | (-4.91) |
|  |  |
| Observations | 32,267 |
| R-squared | 0.087 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight (solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.185\*\*\* |
|  | (46.96) |
| temperature(degC) | -0.001\*\*\* |
|  | (-6.47) |
| maximum\_temperature(degC) | 0.000\*\*\* |
|  | (3.43) |
| L1.precipitation(mm) | -0.000 |
|  | (-1.40) |
| L1.precipitation\_cover(%) | 0.000\*\*\* |
|  | (5.34) |
| dew\_point(degC) | 0.001\*\*\* |
|  | (5.88) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-7.28) |
| visibility | -0.000\*\*\* |
|  | (-3.82) |
| L2.cloud\_cover(%) | -0.000\*\*\* |
|  | (-4.35) |
| Constant | 0.022\*\*\* |
|  | (7.15) |
|  |  |
| Observations | 35,987 |
| R-squared | 0.063 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three (solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.192\*\*\* |
|  | (70.98) |
| temperature(degC) | -0.001\*\*\* |
|  | (-5.26) |
| maximum\_temperature(degC) | 0.000\*\*\* |
|  | (4.50) |
| precipitation(mm) | 0.000\*\*\* |
|  | (4.81) |
| L8.precipitation\_cover(%) | -0.000\* |
|  | (-1.84) |
| dew\_point(degC) | 0.001\*\*\* |
|  | (4.56) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-4.97) |
| visibility | -0.000\* |
|  | (-1.73) |
| L1.cloud\_cover(%) | -0.000\*\*\* |
|  | (-3.68) |
| Constant | 0.011\*\*\* |
|  | (4.84) |
|  |  |
| Observations | 76,567 |
| R-squared | 0.063 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，春季Spring：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  spring(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.166\*\*\* |
|  | (12.12) |
| temperature(degC) | -0.003\*\* |
|  | (-2.50) |
| maximum\_temperature(degC) | 0.000\*\* |
|  | (1.96) |
| precipitation(mm) | 0.000 |
|  | (0.33) |
| L3.precipitation\_cover(%) | -0.000\* |
|  | (-1.78) |
| dew\_point(degC) | 0.003\*\* |
|  | (2.27) |
| relative\_humidity(%) | -0.001\*\*\* |
|  | (-2.76) |
| L2.visibility | -0.000\*\* |
|  | (-2.10) |
| L2.cloud\_cover(%) | -0.000\*\*\* |
|  | (-2.84) |
| Constant | 0.063\*\*\* |
|  | (2.79) |
|  |  |
| Observations | 2,135 |
| R-squared | 0.098 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy\_  spring(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.362\*\*\* |
|  | (47.05) |
| temperature(degC) | -0.004\*\*\* |
|  | (-5.55) |
| maximum\_temperature(degC) | 0.001\*\*\* |
|  | (6.40) |
| precipitation(mm) | 0.000\*\*\* |
|  | (4.43) |
| L4.precipitation\_cover(%) | -0.000\*\*\* |
|  | (-3.41) |
| dew\_point(degC) | 0.003\*\*\* |
|  | (5.04) |
| relative\_humidity(%) | -0.001\*\*\* |
|  | (-4.36) |
| visibility | -0.000 |
|  | (-0.36) |
| L6.cloud\_cover(%) | -0.000\*\*\* |
|  | (-3.08) |
| Constant | 0.052\*\*\* |
|  | (4.20) |
|  |  |
| Observations | 7,852 |
| R-squared | 0.232 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_  spring(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.247\*\*\* |
|  | (32.69) |
| temperature(degC) | -0.001\*\*\* |
|  | (-4.47) |
| L1.maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-3.56) |
| precipitation(mm) | 0.000 |
|  | (0.51) |
| precipitation\_cover(%) | -0.000\*\*\* |
|  | (-3.07) |
| dew\_point(degC) | 0.002\*\*\* |
|  | (5.20) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-5.47) |
| visibility | -0.000\*\*\* |
|  | (-2.80) |
| L2.cloud\_cover(%) | -0.000\*\*\* |
|  | (-3.31) |
| Constant | 0.043\*\*\* |
|  | (5.69) |
|  |  |
| Observations | 8,874 |
| R-squared | 0.119 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_  spring(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.286\*\*\* |
|  | (56.72) |
| temperature(degC) | -0.002\*\*\* |
|  | (-6.60) |
| maximum\_temperature(degC) | 0.000\*\*\* |
|  | (5.27) |
| precipitation(mm) | 0.000\*\*\* |
|  | (3.86) |
| precipitation\_cover(%) | -0.000\*\*\* |
|  | (-3.17) |
| dew\_point(degC) | 0.002\*\*\* |
|  | (6.26) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-5.73) |
| L2.visibility | 0.000\*\*\* |
|  | (3.33) |
| L3.cloud\_cover(%) | -0.000\*\* |
|  | (-2.51) |
| Constant | 0.029\*\*\* |
|  | (5.34) |
|  |  |
| Observations | 18,910 |
| R-squared | 0.154 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，夏季 Summer：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  summer(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.065\*\*\* |
|  | (3.48) |
| L3.temperature(degC) | -0.000\*\* |
|  | (-2.07) |
| maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-2.71) |
| L1.precipitation(mm) | -0.000\*\*\* |
|  | (-3.03) |
| L4.precipitation\_cover(%) | 0.000\*\* |
|  | (2.29) |
| dew\_point(degC) | -0.000\*\* |
|  | (-2.01) |
| L1.relative\_humidity(%) | -0.000\*\* |
|  | (-2.36) |
| visibility | 0.000 |
|  | (1.27) |
| L2.cloud\_cover(%) | -0.000\*\* |
|  | (-2.22) |
| Constant | 0.011\*\*\* |
|  | (4.50) |
|  |  |
| Observations | 2,205 |
| R-squared | 0.034 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy\_  summer(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.021\*\* |
|  | (2.10) |
| temperature(degC) | -0.001\*\*\* |
|  | (-2.79) |
| L3.maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-2.67) |
| precipitation(mm) | 0.000 |
|  | (1.47) |
| precipitation\_cover(%) | 0.000\*\*\* |
|  | (3.90) |
| dew\_point(degC) | 0.001\*\* |
|  | (2.46) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-3.10) |
| visibility | -0.000 |
|  | (-0.12) |
| L1.cloud\_cover(%) | -0.000\* |
|  | (-1.86) |
| Constant | 0.024\*\*\* |
|  | (3.35) |
|  |  |
| Observations | 8,216 |
| R-squared | 0.007 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_  summer(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.113\*\*\* |
|  | (11.60) |
| temperature(degC) | -0.002\*\*\* |
|  | (-5.60) |
| L2.maximum\_temperature(degC) | -0.000\*\* |
|  | (-2.35) |
| precipitation(mm) | -0.000\*\*\* |
|  | (-5.77) |
| L1.precipitation\_cover(%) | 0.000\*\*\* |
|  | (7.30) |
| dew\_point(degC) | 0.001\*\*\* |
|  | (4.70) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-5.62) |
| visibility | -0.000\*\*\* |
|  | (-3.95) |
| L1.cloud\_cover(%) | -0.000\*\*\* |
|  | (-3.02) |
| Constant | 0.044\*\*\* |
|  | (6.38) |
|  |  |
| Observations | 9,193 |
| R-squared | 0.041 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_  summer(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.066\*\*\* |
|  | (9.96) |
| temperature(degC) | -0.001\*\*\* |
|  | (-5.90) |
| L2.maximum\_temperature(degC) | -0.000\*\* |
|  | (-2.01) |
| precipitation(mm) | -0.000\*\* |
|  | (-1.97) |
| precipitation\_cover(%) | 0.000\*\* |
|  | (2.54) |
| dew\_point(degC) | 0.001\*\*\* |
|  | (4.80) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-6.00) |
| visibility | -0.000\*\* |
|  | (-2.34) |
| L4.cloud\_cover(%) | -0.000\*\*\* |
|  | (-3.47) |
| Constant | 0.032\*\*\* |
|  | (6.77) |
|  |  |
| Observations | 19,530 |
| R-squared | 0.015 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，秋季 Autumn：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  autumn(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | -0.073\*\*\* |
|  | (-4.71) |
| L5.temperature(degC) | 0.000\*\*\* |
|  | (3.40) |
| L4.maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-2.99) |
| L3.precipitation(mm) | -0.000\*\* |
|  | (-2.08) |
| L2.precipitation\_cover(%) | 0.000\*\* |
|  | (2.38) |
| dew\_point(degC) | -0.000 |
|  | (-0.87) |
| relative\_humidity(%) | -0.000\*\*\* |
|  | (-4.86) |
| visibility | -0.000\*\*\* |
|  | (-5.72) |
| L4.cloud\_cover(%) | -0.000\*\*\* |
|  | (-4.35) |
| Constant | 0.014\*\*\* |
|  | (5.80) |
|  |  |
| Observations | 2,164 |
| R-squared | 0.043 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy\_  autumn(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.021\*\*\* |
|  | (2.60) |
| L3.temperature(degC) | 0.000\*\* |
|  | (2.30) |
| L1.maximum\_temperature(degC) | -0.000\* |
|  | (-1.96) |
| precipitation(mm) | 0.000\*\* |
|  | (2.01) |
| precipitation\_cover(%) | 0.000\*\*\* |
|  | (5.20) |
| dew\_point(degC) | 0.000 |
|  | (1.59) |
| L7.relative\_humidity(%) | -0.000\*\*\* |
|  | (-3.05) |
| visibility | 0.000 |
|  | (0.76) |
| L1.cloud\_cover(%) | -0.000\*\*\* |
|  | (-4.18) |
| Constant | 0.002\*\* |
|  | (2.22) |
|  |  |
| Observations | 7,983 |
| R-squared | 0.011 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_  autumn(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.080\*\*\* |
|  | (10.53) |
| L5.temperature(degC) | 0.000\*\*\* |
|  | (5.18) |
| L5.maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-5.21) |
| L1.precipitation(mm) | -0.000\*\*\* |
|  | (-4.62) |
| L1.precipitation\_cover(%) | 0.000\*\*\* |
|  | (4.76) |
| dew\_point(degC) | -0.000\*\*\* |
|  | (-6.84) |
| L5.relative\_humidity(%) | -0.000\*\*\* |
|  | (-6.45) |
| visibility | 0.000 |
|  | (0.92) |
| L7.cloud\_cover(%) | -0.000\*\*\* |
|  | (-4.83) |
| Constant | 0.008\*\*\* |
|  | (6.80) |
|  |  |
| Observations | 8,900 |
| R-squared | 0.032 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_  autumn(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.038\*\*\* |
|  | (7.19) |
| L3.temperature(degC) | 0.000\*\*\* |
|  | (3.38) |
| L2.maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-4.80) |
| L5.precipitation(mm) | -0.000\*\*\* |
|  | (-3.21) |
| L4.precipitation\_cover(%) | -0.000\* |
|  | (-1.70) |
| dew\_point(degC) | -0.000 |
|  | (-0.41) |
| L3.relative\_humidity(%) | -0.000\*\*\* |
|  | (-2.97) |
| visibility | 0.000 |
|  | (0.01) |
| cloud\_cover(%) | -0.000\*\*\* |
|  | (-4.76) |
| Constant | 0.003\*\*\* |
|  | (3.97) |
|  |  |
| Observations | 19,157 |
| R-squared | 0.007 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，冬季 Winter：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  winter(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | -0.003 |
|  | (-0.16) |
| temperature(degC) | 0.000 |
|  | (1.02) |
| maximum\_temperature(degC) | -0.000\*\* |
|  | (-2.18) |
| L5.precipitation(mm) | -0.000\*\* |
|  | (-2.30) |
| L5.precipitation\_cover(%) | 0.000\*\*\* |
|  | (4.43) |
| dew\_point(degC) | -0.000 |
|  | (-0.22) |
| L4.relative\_humidity(%) | -0.000\*\*\* |
|  | (-4.17) |
| visibility | 0.000 |
|  | (1.17) |
| L8.cloud\_cover(%) | -0.000\*\*\* |
|  | (-2.91) |
| Constant | 0.009\*\*\* |
|  | (4.37) |
|  |  |
| Observations | 2,058 |
| R-squared | 0.027 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy\_  winter(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.034\*\*\* |
|  | (3.72) |
| L3.temperature(degC) | 0.000\*\*\* |
|  | (5.15) |
| L1.maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-3.17) |
| L7.precipitation(mm) | -0.000\* |
|  | (-1.88) |
| L3.precipitation\_cover(%) | 0.000\*\*\* |
|  | (2.88) |
| dew\_point(degC) | 0.000\*\*\* |
|  | (5.42) |
| L1.relative\_humidity(%) | -0.000\*\*\* |
|  | (-2.66) |
| visibility | -0.000 |
|  | (-1.08) |
| L1.cloud\_cover(%) | -0.000\*\*\* |
|  | (-4.31) |
| Constant | 0.003\*\*\* |
|  | (2.66) |
|  |  |
| Observations | 7,670 |
| R-squared | 0.015 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_  winter(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.083\*\*\* |
|  | (10.64) |
| L3.temperature(degC) | 0.000\*\*\* |
|  | (3.39) |
| L3.maximum\_temperature(degC) | -0.000\*\*\* |
|  | (-3.45) |
| L3.precipitation(mm) | 0.000\*\*\* |
|  | (5.53) |
| L1.precipitation\_cover(mm) | -0.000\*\*\* |
|  | (-3.54) |
| dew\_point(degC) | -0.000\*\*\* |
|  | (-4.74) |
| L4.relative\_humidity(%) | -0.000\*\*\* |
|  | (-2.62) |
| visibility | -0.000\*\*\* |
|  | (-4.01) |
| L4.cloud\_cover(%) | -0.000\*\*\* |
|  | (-4.39) |
| Constant | 0.005\*\*\* |
|  | (4.69) |
|  |  |
| Observations | 8,642 |
| R-squared | 0.026 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_  winter(solarsite-panel) |
|  |  |
| ln\_rmln\_rf | 0.060\*\*\* |
|  | (10.67) |
| temperature(degC) | -0.000\*\*\* |
|  | (-7.45) |
| L2.maximum\_temperature(degC) | 0.000\*\* |
|  | (2.31) |
| L2.precipitation(mm) | 0.000\*\*\* |
|  | (4.38) |
| L.precipitation\_cover(%) | -0.000\*\* |
|  | (-2.50) |
| dew\_point(degC) | 0.000\*\*\* |
|  | (7.11) |
| L4.relative\_humidity(%) | -0.000\*\*\* |
|  | (-7.83) |
| visibility | -0.000 |
|  | (-0.03) |
| L2.cloud\_cover(%) | -0.000\*\*\* |
|  | (-6.21) |
| Constant | 0.007\*\*\* |
|  | (9.21) |
|  |  |
| Observations | 18,476 |
| R-squared | 0.014 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**二. 按照每个Solar\_site的solar power capacity算为权重考虑每个Solar\_site对对应公司股价超额收益率的影响(power capacity越高则分配给对应天气feature的权重越高), 对每家公司做时间序列回归，最后将三家公司合并后做以每家公司为个体的面板回归:**

* **不考虑四季区分而是直接使用全部数据：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield  (timeseries) |
|  |  |
| ln\_rmln\_rf | 0.095\*\*\* |
|  | (4.82) |
| L2.weighted\_cloud\_cover\_sum(%) | -0.000\*\* |
|  | (-1.98) |
| L4.weighted\_maximum\_temperature\_sum(degC) | -0.000\*\* |
|  | (-2.49) |
| weighted\_relative\_humidity\_sum(%) | -0.000\*\* |
|  | (-2.40) |
| Constant | 0.009\*\*\* |
|  | (3.09) |
|  |  |
| Observations | 1,239 |
| R-squared | 0.030 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy  (timeseries) |
|  |  |
| ln\_rmln\_rf | 0.228\*\*\* |
|  | (10.64) |
| L7.weighted\_cloud\_cover\_sum(%) | -0.000\*\*\* |
|  | (-3.82) |
| L6.weighted\_relative\_humidity\_sum(%) | 0.000\*\* |
|  | (2.33) |
| L4.weighted\_visibility\_sum | 0.000\*\* |
|  | (2.03) |
| Constant | -0.006\* |
|  | (-1.91) |
|  |  |
| Observations | 1,236 |
| R-squared | 0.094 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight  (timeseries) |
|  |  |
| ln\_rmln\_rf | 0.185\*\*\* |
|  | (8.70) |
| L10.weighted\_cloud\_cover\_sum(%) | -0.000\* |
|  | (-1.66) |
| weighted\_relative\_humidity\_sum(%) | -0.000\*\* |
|  | (-2.04) |
| L4.weighted\_temperature\_sum(degC) | -0.000 |
|  | (-1.39) |
| Constant | 0.007\*\* |
|  | (2.43) |
|  |  |
| Observations | 1,233 |
| R-squared | 0.064 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three  (company-panel) |
|  |  |
| ln\_rmln\_rf | 0.169\*\*\* |
|  | (13.95) |
| L2.weighted\_cloud\_cover\_sum(%) | -0.000\* |
|  | (-1.84) |
| L10.weighted\_precipitation\_cover\_sum(%) | -0.000\* |
|  | (-1.76) |
| L3.weighted\_dew\_point\_sum(degC) | -0.000\*\*\* |
|  | (-2.84) |
| L9.weighted\_maximum\_temperature\_sum(degC) | 0.000\*\* |
|  | (2.01) |
| L4.weighted\_visibility\_sum | 0.000\*\* |
|  | (2.06) |
| L3.weighted\_relative\_humidity\_sum(%) | 0.000\* |
|  | (1.78) |
| Constant | -0.004\* |
|  | (-1.77) |
|  |  |
| Observations | 3,699 |
| R-squared | 0.056 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，春季季度season面板回归Spring：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  Spring (panel) |
|  |  |
| ln\_rmln\_rf | 0.168\*\*\* |
|  | (4.53) |
| weighted\_relative\_humidity\_sum(%) | -0.000\* |
|  | (-1.88) |
| L2.weighted\_cloud\_cover\_sum(%) | -0.000 |
|  | (-1.29) |
| Constant | 0.014\*\* |
|  | (2.21) |
|  |  |
| Observations | 298 |
| R-squared | 0.097 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy\_Spring (panel) |
|  |  |
| ln\_rmln\_rf | 0.461\*\*\* |
|  | (10.26) |
| L7.weighted\_cloud\_cover\_sum(%) | -0.000\*\*\* |
|  | (-3.42) |
| L3.weighted\_temperature\_sum(degC) | -0.001\*\*\* |
|  | (-2.78) |
| weighted\_maximum\_temperature\_sum(degC) | 0.000\* |
|  | (1.88) |
| L9.weighted\_dew\_point\_sum(degC) | 0.000\* |
|  | (1.69) |
| Constant | 0.005 |
|  | (1.41) |
|  |  |
| Observations | 263 |
| R-squared | 0.347 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_  Spring (panel) |
|  |  |
| ln\_rmln\_rf | 0.242\*\*\* |
|  | (5.34) |
| L5.weighted\_cloud\_cover\_sum(%) | 0.000\* |
|  | (1.89) |
| L6.weighted\_relative\_humidity\_sum(%) | -0.000\* |
|  | (-1.67) |
| Constant | 0.009 |
|  | (1.26) |
|  |  |
| Observations | 278 |
| R-squared | 0.112 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_  Spring (panel) |
|  |  |
| ln\_rmln\_rf | 0.301\*\*\* |
|  | (10.90) |
| L2.weighted\_relative\_humidity\_sum(%) | -0.000\* |
|  | (-1.65) |
| L5.weighted\_cloud\_cover\_sum(%) | 0.000\*\* |
|  | (2.27) |
| L5.weighted\_precipitation\_cover\_sum(%) | -0.000\* |
|  | (-1.94) |
| L9.weighted\_temperature\_sum(degC) | 0.001\*\*\* |
|  | (2.92) |
| L3.weighted\_maximum\_temperature\_sum(degC) | -0.000\* |
|  | (-1.85) |
| L7.weighted\_dew\_point\_sum(degC) | -0.000\*\* |
|  | (-2.04) |
| Constant | 0.006 |
|  | (1.12) |
|  |  |
| Observations | 789 |
| R-squared | 0.167 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，夏季季度season面板回归Summer：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  Summer (panel) |
|  |  |
| ln\_rmln\_rf | 0.008 |
|  | (0.13) |
| L4.weighted\_cloud\_cover\_sum(%) | 0.000\*\*\* |
|  | (2.98) |
| L1.weighted\_relative\_humidity\_sum(%) | -0.000\*\* |
|  | (-2.40) |
| L8.weighted\_precipitation\_cover\_sum(%) | 0.000\* |
|  | (1.88) |
| L15.weighted\_precipitation\_sum(mm) | 0.000\* |
|  | (1.90) |
| L7.weighted\_visibility\_sum | -0.000\*\* |
|  | (-2.26) |
| Constant | 0.011\*\* |
|  | (2.02) |
|  |  |
| Observations | 244 |
| R-squared | 0.100 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy\_  Summer (panel) |
|  |  |
| ln\_rmln\_rf | 0.027 |
|  | (0.50) |
| L4.weighted\_dew\_point\_sum(degC) | -0.000\* |
|  | (-1.96) |
| Constant | 0.005\* |
|  | (1.87) |
|  |  |
| Observations | 299 |
| R-squared | 0.014 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_  Summer (panel) |
|  |  |
| ln\_rmln\_rf | 0.121\* |
|  | (1.95) |
| L9.weighted\_cloud\_cover\_sum(%) | -0.000\* |
|  | (-1.95) |
| weighted\_precipitation\_sum(mm) | -0.000\*\*\* |
|  | (-3.43) |
| weighted\_temperature\_sum(degC) | -0.001\*\* |
|  | (-2.43) |
| L13.weighted\_precipitation\_cover\_sum(%) | -0.000\* |
|  | (-1.96) |
| L10.weighted\_dew\_point\_sum(degC) | 0.000\*\* |
|  | (2.31) |
| Constant | 0.007 |
|  | (1.52) |
|  |  |
| Observations | 254 |
| R-squared | 0.109 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_  Summer (panel) |
|  |  |
| ln\_rmln\_rf | 0.056\* |
|  | (1.80) |
| weighted\_dew\_point\_sum(degC) | -0.000\*\*\* |
|  | (-3.03) |
| L4.weighted\_temperature\_sum(degC) | -0.000\*\*\* |
|  | (-3.28) |
| L8.weighted\_maximum\_temperature\_sum(degC) | 0.000\* |
|  | (1.83) |
| Constant | 0.008\*\*\* |
|  | (3.21) |
|  |  |
| Observations | 837 |
| R-squared | 0.032 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，秋季季度season面板回归Autumn：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  Autumn (panel) |
|  |  |
| ln\_rmln\_rf | -0.024 |
|  | (-0.53) |
| L8.weighted\_relative\_humidity\_sum(%) | -0.000\*\*\* |
|  | (-3.76) |
| L7.weighted\_precipitation\_cover\_sum(%) | 0.000\*\*\* |
|  | (2.83) |
| L8.weighted\_cloud\_cover\_sum(%) | 0.000\*\*\* |
|  | (2.73) |
| L6.weighted\_precipitation\_sum(mm) | -0.000\*\*\* |
|  | (-2.65) |
| L1.weighted\_temperature\_sum(degC) | -0.000\* |
|  | (-1.67) |
| Constant | 0.025\*\*\* |
|  | (3.48) |
|  |  |
| Observations | 267 |
| R-squared | 0.085 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenerg\_  Autumn (panel) |
|  |  |
| ln\_rmln\_rf | 0.089\* |
|  | (1.95) |
| L7.weighted\_cloud\_cover\_sum(%) | -0.000\* |
|  | (-1.89) |
| weighted\_relative\_humidity\_sum(%) | -0.000\*\* |
|  | (-2.01) |
| L9.weighted\_precipitation\_cover\_sum(%) | -0.000\*\* |
|  | (-2.11) |
| L8.weighted\_precipitation\_sum(mm) | 0.000\*\*\* |
|  | (3.16) |
| Constant | 0.016\*\* |
|  | (2.34) |
|  |  |
| Observations | 262 |
| R-squared | 0.079 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_  Autumn (panel) |
|  |  |
| ln\_rmln\_rf | 0.114\*\* |
|  | (2.52) |
| weighted\_cloud\_cover\_sum | -0.000\*\*\* |
|  | (-2.67) |
| L8.weighted\_precipitation\_sum | 0.000\*\* |
|  | (2.00) |
| L8.weighted\_visibility\_sum | -0.000\* |
|  | (-1.83) |
| Constant | 0.005\*\* |
|  | (2.33) |
|  |  |
| Observations | 267 |
| R-squared | 0.068 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_  Autumn (panel) |
|  |  |
| ln\_rmln\_rf | 0.054\*\* |
|  | (2.03) |
| L8.weighted\_cloud\_cover\_sum(%) | 0.000\*\*\* |
|  | (3.12) |
| weighted\_relative\_humidity\_sum(%) | -0.000\*\* |
|  | (-2.17) |
| L11.weighted\_precipitation\_cover\_sum(%) | -0.000\* |
|  | (-1.91) |
| L5.weighted\_precipitation\_sum(mm) | -0.000\*\* |
|  | (-2.01) |
| L7.weighted\_visibility\_sum | 0.000\*\* |
|  | (2.43) |
| Constant | 0.004 |
|  | (1.15) |
|  |  |
| Observations | 756 |
| R-squared | 0.039 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* **考虑四季，冬季季度season面板回归Winter：**

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Bluefield\_  Winter (panel) |
|  |  |
| ln\_rmln\_rf | -0.038 |
|  | (-0.83) |
| L4.weighted\_relative\_humidity\_sum(%) | -0.000\*\*\* |
|  | (-2.67) |
| L5.weighted\_precipitation\_cover\_sum(%) | 0.000\*\* |
|  | (2.22) |
| L11.weighted\_cloud\_cover\_sum(%) | -0.000 |
|  | (-1.51) |
| L8.weighted\_temperature\_sum(degC) | -0.001\*\*\* |
|  | (-2.98) |
| L10.weighted\_visibility\_sum | -0.000\* |
|  | (-1.77) |
| L7.weighted\_dew\_point\_sum(degC) | 0.000\* |
|  | (1.76) |
| Constant | 0.023\*\*\* |
|  | (3.14) |
|  |  |
| Observations | 240 |
| R-squared | 0.092 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Nextenergy\_winter (panel) |
|  |  |
| ln\_rmln\_rf | 0.007 |
|  | (0.14) |
| L11.weighted\_precipitation\_cover\_sum(%) | -0.000\*\* |
|  | (-2.34) |
| weighted\_relative\_humidity\_sum(%) | 0.000\*\* |
|  | (2.43) |
| L2.weighted\_precipitation\_sum(mm) | 0.000\*\* |
|  | (2.06) |
| L4.weighted\_visibility\_sum | 0.000\*\* |
|  | (2.05) |
| Constant | -0.020\*\*\* |
|  | (-2.62) |
|  |  |
| Observations | 240 |
| R-squared | 0.068 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | Foresight\_winter (panel) |
|  |  |
| ln\_rmln\_rf | 0.108\*\* |
|  | (2.40) |
| L4.weighted\_cloud\_cover\_sum(%) | -0.000\*\* |
|  | (-2.38) |
| L7.weighted\_precipitation\_cover\_sum(%) | 0.000\* |
|  | (1.84) |
| L3.weighted\_precipitation\_sum(mm) | 0.000\*\* |
|  | (2.13) |
| Constant | 0.002 |
|  | (1.16) |
|  |  |
| Observations | 260 |
| R-squared | 0.057 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

|  |  |
| --- | --- |
|  | (1) |
| VARIABLES | All\_three\_winter (panel) |
|  |  |
| ln\_rmln\_rf | 0.036 |
|  | (1.32) |
| L4.weighted\_relative\_humidity\_sum(%) | -0.000\*\* |
|  | (-2.21) |
| L8.weighted\_precipitation\_cover\_sum(%) | -0.000\*\* |
|  | (-2.08) |
| Constant | 0.010\*\* |
|  | (2.42) |
|  |  |
| Observations | 765 |
| R-squared | 0.015 |

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

