Table S1 Descriptive statistics results.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | Meaning | Samplenumber | Meanvalue | Std.Deviation | Minimum value | Maximum value |
| GTFP | Green Total Factor Productivity | 330 | 1.064 | 0.070 | 0.733 | 1.423 |
| IER | Command-based environmental regulations | 330 | 1.396 | 0.696 | 0.299 | 4.231 |
| MER | Market-based environmental regulations | 330 | 0.044 | 0.042 | 0.002 | 0.483 |
| INS | Industrial structure | 330 | 46.543 | 8.250 | 19.014 | 61.500 |
| INN | Intensity of Research and Development | 330 | 0.631 | 1.567 | 0.023 | 9.375 |
| FDI | Foreign investment | 330 | 5.445 | 4.840 | 0.142 | 25.000 |
| PGDP | Economic development level | 330 | 4.256 | 2.393 | 0.692 | 12.899 |
| GOV | Government intervention | 330 | 3.629 | 1.379 | 0.924 | 9.247 |
| POL | Pollution control investment | 330 | 0.090 | 0.092 | 0.001 | 0.799 |

Table S2 Sensitivity analysis

|  |  |  |  |
| --- | --- | --- | --- |
| Name | MSE | R-squared | obs |
| hand | 0.004867 | 0.0569 | 82 |
| enet | 0.0048664 | 0.0570 | 82 |

Table S3 Self-sampling test of the threshold effect

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| threshold variable | Core explanatory variable | Type | F-statistics | p values | threshold value | Lower limit of confidence interval | Upper limit of confidence interval |
| FDI | IER | single threshold | 13.71\* | 0.0533 | 1.2492 | 1.2272 | 1.3344 |
| Double threshold | 21.42\*\* | 0.0100 | 1.5880 | 1.5222 | 1.6554 |
| Triple threshold | — | — | — | — | — |
| FDI | MER | single threshold | 16.63\*\*\* | 0.0000 | 1.2492 | 1.2272 | 1.3344 |
| Double threshold | 23.55\*\*\* | 0.0033 | 1.5880 | 1.5222 | 1.6554 |
| Triple threshold | — | — | — | — | — |

Note: \* indicates significance at the 10% level \*\* Indicates significance at 5% level. \*\*\* Indicates significance at 1% level.

Table S4 Results of robustness test

|  |  |  |
| --- | --- | --- |
|  | add variable education | eliminate outliers of GTFP  |
|  | GTFP | GTFP | GTFP | GTFP | GTFP | GTFP |
| IER | -0.016\* |  |  |  | -0.018\*\*\* |  |
|  | (-1.94) |  |  |  | (-2.71) |  |
| MER |  | -0.117 |  |  |  | 0.009 |
|  |  | (-0.70) |  |  |  | (0.07) |
| INS | 0.005\*\*\* | 0.004\*\*\* | 0.004\*\*\* | 0.004\*\*\* | 0.004\*\*\* | 0.004\*\*\* |
|  | (4.42) | (4.23) | (4.23) | (4.09) | (4.69) | (4.26) |
| INN | -0.012 | -0.013 | -0.005 | -0.005 | -0.005 | -0.004 |
|  | (-1.13) | (-1.20) | (-0.65) | (-0.62) | (-0.57) | (-0.50) |
| FDI | 0.003 | 0.003 |  |  | 0.0031 | 0.003 |
|  | (1.13) | (1.10) |  |  | (1.58) | (1.53) |
| PGDP | 0.001 | 0.000 | -0.002 | -0.001 | -0.004 | -0.005 |
|  | (0.27) | (0.10) | (-0.45) | (-0.39) | (-1.15) | (-1.50) |
| GOV | 0.010\* | 0.010\* | 0.005 | 0.003 | 0.009\*\* | 0.009\*\* |
|  | (1.88) | (1.92) | (1.00) | (0.63) | (2.31) | (2.18) |
| POL | -0.040 | -0.038 | 0.004 | -0.040 | -0.035 | -0.044 |
|  | (-0.74) | (-0.65) | (0.07) | (-0.73) | (-0.76) | (-0.90) |
| education | -0.068 | -0.091\*\* | -0.086\*\* | -0.090\*\* |  |  |
|  | (-1.58) | (-2.02) | (-2.07) | (-2.12) |  |  |
| IER\_1(FDI≤1.2492) |  |  | -0.018\*\* |  |  |  |
|  |  |  | (-2.10) |  |  |  |
| IER\_2(1.2492<FDI<1.5880) |  |  | 0.048\*\*\* |  |  |  |
|  |  |  | (3.48) |  |  |  |
| IER\_3(FDI≥1.5880) |  |  | -0.0082 |  |  |  |
|  |  |  | (-0.87) |  |  |  |
| MER\_1(FDI≤1.2431) |  |  |  | -0.431\* |  |  |
|  |  |  |  | (-1.69) |  |  |
| MER\_2(1.2431<FDI<1.5880) |  |  |  | 1.316\*\*\* |  |  |
|  |  |  |  | (3.75) |  |  |
| MER\_3(FDI≥1.5880) |  |  |  | 0.034 |  |  |
|  |  |  |  | (0.21) |  |  |
| \_cons | 1.356\*\*\* | 1.523\*\*\* | 1.530\*\*\* | 1.572\*\*\* | 0.883\*\*\* | 0.879\*\*\* |
|  | (4.04) | (4.36) | (4.80) | (4.78) | (17.45) | (17.14) |
| *R*2 | 0.181 | 0.172 | 0.264 | 0.257 | 0.232 | 0.212 |
| *N* | 330 | 330 | 330 | 330 | 324 | 324 |

Note: \* indicates significance at the 10% level \*\* Indicates significance at 5% level. \*\*\* Indicates significance at 1% level. The t-values are in parentheses.