## Table S11: Relationship between Temperature, Relative Humidity, and *R* Value: Check with spatial random effect of the U.S. counties.

Spatial random effects are introduced in first step of Fama-Macbeth regression to account for spatial correlation. The neighborhood structure is calculated from the Earth distances between counties.

| | Overall | Before Lockdown (April 7) | After Lockdown (April 7) |
|---|---|---|---|
| **Temperature** | | | |
| coef | -0.0136 | -0.0135 | -0.0136 |
| 95%CI | [-0.0215, -0.0057] | [-0.0236, -0.0034] | [-0.0280, 0.0007] |
| std.err | 0.0039 | 0.0049 | 0.0068 |
| t-stat | -3.46 | -2.78 | -2.00 |
| p-value | 0.001 | 0.011 | 0.061 |
| **Relative Humidity** | | | |
| coef | -0.0052 | -0.0072 | -0.0029 |
| 95%CI | [-0.0095, -0.0010] | [-0.0130, -0.0014] | [-0.0042, -0.0016] |
| std.err | 0.0021 | 0.0028 | 0.0006 |
| t-stat | -2.51 | -2.57 | -4.59 |
| p-value | 0.016 | 0.017 | 0.0003 |
| **Population Density** | | | |
| coef | 3.26e-8 | 2.98e-6 | -3.54e-6 |
| 95%CI | [-0.00002, 0.00002] | [-0.00003, 0.00004] | [-5.13e-6, -1.95e-6] |
| std.err | 8.58e-6 | 0.00002 | 7.57e-7 |
| t-stat | 0.00 | 0.18 | -4.67 |
| p-value | 0.997 | 0.858 | 0.0002 |
| **Percentage over 65** | | | |
| coef | -0.7988 | -1.0894 | -0.4471 |
| 95%CI | [-1.4330, -0.1647] | [-2.0771, -0.1017] | [-0.7620, -0.1322] |
| std.err | 0.3140 | 0.4763 | 0.1499 |
| t-stat | -2.54 | -2.29 | -2.98 |

Supplemental material

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| | Overall | Before Lockdown (April 7) | After Lockdown (April 7) |
|---|---|---|---|
| p-value | 0.015 | 0.032 | 0.008 |
| **Gini** | | | |
| coef | -1.8186 | -2.2916 | -1.2460 |
| 95%CI | [-3.3837, -0.2534] | [-4.5288, -0.0543] | [-2.1425, -0.3495] |
| std.err | 0.7750 | 1.0788 | 0.4267 |
| t-stat | -2.35 | -2.12 | -2.92 |
| p-value | 0.024 | 0.045 | 0.009 |
| **Socio-economic factor** | | | |
| coef | 0.1131 | 0.1480 | 0.0708 |
| 95%CI | [0.0682, 0.1580] | [0.0903, 0.2056] | [0.0451, 0.0965] |
| std.err | 0.0222 | 0.0278 | 0.0122 |
| t-stat | 5.08 | 5.32 | 5.78 |
| p-value | 0.0002 | 0.0002 | 0.0002 |
| **No. of ICU beds per capita** | | | |
| coef | -0.0092 | -0.0127 | -0.0050 |
| 95%CI | [-0.0238, 0.0054] | [-0.0359, 0.0105] | [-0.0101, 0.0002] |
| std.err | 0.0072 | 0.0112 | 0.0025 |
| t-stat | -1.27 | -1.14 | -2.01 |
| p-value | 0.210 | 0.267 | 0.059 |
| **Fraction of maximum moving distance over normal time** | | | |
| coef | 0.0040 | 0.0024 | 0.0059 |
| 95%CI | [0.0012, 0.0068] | [-0.0014, 0.0063] | [0.0054, 0.0064] |
| std.err | 0.0014 | 0.0019 | 0.0002 |
| t-stat | 2.93 | 1.30 | 25.03 |
| p-value | 0.005 | 0.207 | 0 |
| **Home-stay minutes** | | | |
| coef | 0.0003 | 0.0005 | 0.00002 |
| 95%CI | [0.00002, 0.0006] | [0.0001, 0.0009] | [-0.0002, 0.0002] |
| std.err | 0.0001 | 0.0002 | 0.0001 |

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| | Overall | Before Lockdown (April 7) | After Lockdown (April 7) |
|---|---|---|---|
| t-stat | 2.15 | 2.81 | 0.19 |
| p-value | 0.038 | 0.010 | 0.851 |
| **Latitude** | | | |
| coef | -0.0152 | -0.0278 | -0.00004 |
| 95%CI | [-0.0308, 0.0003] | [-0.0423, -0.0133] | [-0.0208, 0.0207] |
| std.err | 0.0077 | 0.0070 | 0.0099 |
| t-stat | -1.98 | -3.97 | -0.00 |
| p-value | 0.055 | 0.001 | 0.997 |
| **Longitude** | | | |
| coef | 0.0060 | 0.0084 | 0.0032 |
| 95%CI | [0.0033, 0.0088] | [0.0064, 0.0104] | [0.0015, 0.0049] |
| std.err | 0.0014 | 0.0010 | 0.0008 |
| t-stat | 4.45 | 8.78 | 3.86 |
| p-value | 0.0003 | 0 | 0.001 |
| **const** | | | |
| coef | 1.7377 | 2.2018 | 1.1759 |
| 95%CI | [1.1715, 2.3039] | [1.6623, 2.7413] | [1.1594, 1.1923] |
| std.err | 0.2803 | 0.2601 | 0.0078 |
| t-stat | 6.20 | 8.46 | 150.10 |
| p-value | 0 | 0 | 0 |

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