

## 1 Growth Table - First Half

|                                       | Dependent Variable: <b>Productivity Growth</b> |                       |                              |                       |                      |                       |
|---------------------------------------|--|-----------------------|------------------------------|-----------------------|----------------------|-----------------------|
|                                       | First Half of Study                            |                       | No Prior Computer Experience |                       |                      |                       |
|                                       | (1)  | (2)                   | (3)                          | (4)                   | (5)                  | (6)                   |
| Sum of Temperature Coefficients       | -0.01490**<br>[0.025]                          | -0.01545**<br>[0.023] | -0.01408*<br>[0.076]         | -0.01572*<br>[0.055]  | -0.01355<br>[0.241]  | -0.01628<br>[0.213]   |
| Temperature ( $^{\circ}C$ )           | -0.00194<br>(0.00805)                          | -0.00209<br>(0.00784) | -0.00223<br>(0.00929)        | -0.00279<br>(0.00904) | 0.000263<br>(0.0148) | -0.00984<br>(0.0133)  |
| Lag 1 of Temperature                  | -0.0104<br>(0.0128)                            | -0.0121<br>(0.0126)   | -0.0139<br>(0.0155)          | -0.0161<br>(0.0153)   | 0.00297<br>(0.0172)  | 0.0136<br>(0.0138)    |
| Lag 2 of Temperature                  | 0.0124<br>(0.0107)                             | 0.0144<br>(0.0104)    | 0.0175<br>(0.0129)           | 0.0199<br>(0.0126)    | -0.00642<br>(0.0143) | -0.0112<br>(0.0127)   |
| Lag 3 of Temperature                  | -0.0149*<br>(0.00645)                          | -0.0156*<br>(0.00679) | -0.0155*<br>(0.00781)        | -0.0167*<br>(0.00828) | -0.0104<br>(0.0103)  | -0.00885<br>(0.00970) |
| Control for Lag of Dependent Variable | No   | Yes                   | No                           | Yes                   | No                   | Yes                   |
| Dependent Variable Mean               | 0.0998   | 0.0987                | 0.112                        | 0.111                 | 0.0593               | 0.0584                |
| Observations                          | 2246   | 2234                  | 1721                         | 1710                  | 523                  | 522                   |
| R-squared                             | 0.217  | 0.241                 | 0.205                        | 0.229                 | 0.304                | 0.417                 |

## 2 Growth Table - Full Study

|                                       | Dependent Variable: <b>Productivity Growth</b> |                       |                              |                       |                      |                     |
|---------------------------------------|--|-----------------------|------------------------------|-----------------------|----------------------|---------------------|
|                                       | Full Sample                                    |                       | No Prior Computer Experience |                       |                      |                     |
|                                       | (1)  | (2)                   | (3)                          | (4)                   | (5)                  | (6)                 |
| Sum of Temperature Coefficients       | 0.00119<br>[0.762]                             | 0.00083<br>[0.829]    | -0.00046<br>[0.898]          | -0.00138<br>[0.703]   | 0.00105<br>[0.933]   | 0.00420<br>[0.704]  |
| Temperature ( $^{\circ}C$ )           | 0.00621<br>(0.00671)                           | 0.00432<br>(0.00658)  | 0.00141<br>(0.00603)         | -0.00135<br>(0.00590) | 0.0193<br>(0.0208)   | 0.0117<br>(0.0156)  |
| Lag 1 of Temperature                  | -0.00881<br>(0.00845)                          | -0.00702<br>(0.00841) | -0.00891<br>(0.00894)        | -0.00618<br>(0.00894) | -0.00775<br>(0.0220) | 0.00129<br>(0.0164) |
| Lag 2 of Temperature                  | 0.000931<br>(0.00675)                          | 0.00215<br>(0.00665)  | 0.00772<br>(0.00749)         | 0.00890<br>(0.00746)  | -0.0262<br>(0.0154)  | -0.0229<br>(0.0135) |
| Lag 3 of Temperature                  | 0.00285<br>(0.00574)                           | 0.00139<br>(0.00560)  | -0.000683<br>(0.00461)       | -0.00275<br>(0.00459) | 0.0158<br>(0.0220)   | 0.0141<br>(0.0195)  |
| Control for Lag of Dependent Variable | No   | Yes                   | No                           | Yes                   | No                   | Yes                 |
| Dependent Variable Mean               | 0.0624   | 0.0644                | 0.0699                       | 0.0729                | 0.0378               | 0.0374              |
| Observations                          | 4363   | 4275                  | 3336                         | 3258                  | 1027                 | 1017                |
| R-squared                             | 0.157  | 0.174                 | 0.161                        | 0.176                 | 0.163                | 0.301               |

### 3 Growth Table - Placebo

|                                       | Dependent Variable: <b>Productivity Growth</b> |                         |                        |                         |
|---------------------------------------|--|-------------------------|------------------------|-------------------------|
|                                       | First Half<br>of Study                         | Second Half<br>of Study | First Half<br>of Study | Second Half<br>of Study |
|                                       | (1)  | (2)                     | (3)                    | (4)                     |
| Sum of Temperature Coefficients       | -0.02075***<br>[0.003]                         | 0.00611<br>[0.473]      | -0.02129***<br>[0.003] | 0.00794<br>[0.274]      |
| Temperature ( $^{\circ}C$ )           | -0.0126*<br>(0.00612)                          | 0.0139<br>(0.0137)      | -0.0126*<br>(0.00599)  | 0.00716<br>(0.0126)     |
| Lag 1 of Temperature                  | -0.000961<br>(0.0116)                          | -0.0107<br>(0.0149)     | -0.00278<br>(0.0114)   | 0.00202<br>(0.0140)     |
| Lag 2 of Temperature                  | 0.00772<br>(0.0105)                            | -0.0156<br>(0.00813)    | 0.00982<br>(0.0102)    | -0.0169**<br>(0.00637)  |
| Lag 3 of Temperature                  | -0.0150*<br>(0.00646)                          | 0.0186<br>(0.0103)      | -0.0157*<br>(0.00680)  | 0.0157<br>(0.00803)     |
| Control for Lag of Dependent Variable | No   | No                      | Yes                    | Yes                     |
| Dependent Variable Mean               | 0.0998   | 0.0226                  | 0.0987                 | 0.0262                  |
| Observations                          | 2246   | 2116                    | 2234                   | 2035                    |
| R-squared                             | 0.219  | 0.158                   | 0.242                  | 0.385                   |

## 4 Growth Table w/ Leads - First Half

|                                       | Dependent Variable: <b>Productivity Growth</b> |                       |                                 |                     |
|---------------------------------------|--|-----------------------|---------------------------------|---------------------|
|                                       | Full Sample                                    |                       | No Prior<br>Computer Experience | Computer Experience |
|                                       | (1)  | (2)                   | (3)                             | (4)                 |
| Sum of Temperature Coefficients       | -0.00434<br>[0.495]                            | -0.00182<br>[0.773]   | -0.00499<br>[0.469]             | 0.01280<br>[0.516]  |
| Sum of Lead Temperature Coefficients  | -0.00105<br>[0.881]                            | 0.00429<br>[0.519]    | 0.00238<br>[0.759]              | 0.01094<br>[0.507]  |
| Temperature ( $^{\circ}C$ )           | -0.00329<br>(0.00679)                          | -0.00611<br>(0.00645) | -0.00737<br>(0.00747)           | 0.00186<br>(0.0126) |
| Control for Lag of Dependent Variable | No   | Yes                   | Yes                             | Yes                 |
| Dependent Variable Mean               | 0.0998   | 0.0987                | 0.111                           | 0.0584              |
| Observations                          | 2246   | 2234                  | 1710                            | 522                 |
| R-squared                             | 0.215  | 0.239                 | 0.226                           | 0.416               |

## 5 Growth Table w/ Leads - Full Sample

|                                       | Dependent Variable: <b>Productivity Growth</b> |                       |                                 |                      |
|---------------------------------------|--|-----------------------|---------------------------------|----------------------|
|                                       | Full Sample                                    |                       | No Prior<br>Computer Experience | Computer Experience  |
|                                       | (1)  | (2)                   | (3)                             | (4)                  |
| Sum of Temperature Coefficients       | 0.00043<br>[0.899]                             | 0.00237<br>[0.474]    | -0.00101<br>[0.783]             | 0.00808<br>[0.350]   |
| Sum of Lead Temperature Coefficients  | 0.00046<br>[0.905]                             | 0.00367<br>[0.322]    | 0.00292<br>[0.529]              | -0.00008<br>[0.991]  |
| Temperature ( $^{\circ}C$ )           | -0.0000340<br>(0.00435)                        | -0.00130<br>(0.00406) | -0.00394<br>(0.00472)           | 0.00815<br>(0.00618) |
| Control for Lag of Dependent Variable | No   | Yes                   | Yes                             | Yes                  |
| Dependent Variable Mean               | 0.0624   | 0.0644                | 0.0729                          | 0.0374               |
| Observations                          | 4363   | 4275                  | 3258                            | 1017                 |
| R-squared                             | 0.157  | 0.174                 | 0.176                           | 0.299                |

## 6 Productivity with N lags

|                                       | Dependent Variable: <b>Productivity</b> |                   |                   |                   |                   |                   |                   |                   |
|---------------------------------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                       | N = 0 Lags                              |                   | N = 1 Lag         |                   | N = 2 Lags        |                   | N = 3 Lags        |                   |
|                                       | (1)                                     | (2)               | (3)               | (4)               | (5)               | (6)               | (7)               | (8)               |
| Temperature ( $^{\circ}C$ )           | -2.736<br>(2.991)                       | -3.138<br>(2.557) | 0.273<br>(3.616)  | -1.339<br>(2.986) | 0.369<br>(3.776)  | -1.599<br>(3.056) | 0.197<br>(3.804)  | -1.696<br>(3.064) |
| Lag 1 of Temperature                  |   |                   | -5.307<br>(3.042) | -3.182<br>(2.804) | -5.061<br>(2.940) | -3.909<br>(2.990) | -4.757<br>(2.998) | -3.730<br>(2.998) |
| Lag 2 of Temperature                  |   |                   |                   |                   | -0.522<br>(2.847) | 1.499<br>(2.718)  | 0.112<br>(2.971)  | 1.866<br>(2.985)  |
| Lag 3 of Temperature                  |   |                   |                   |                   |                   |                   | -1.389<br>(2.614) | -0.819<br>(2.831) |
| Control for Lag of Dependent Variable | No                                      | Yes               | No                | Yes               | No                | Yes               | No                | Yes               |
| Dependent Variable Mean               | 1581.2                                  | 1621.7            | 1581.2            | 1621.7            | 1581.2            | 1621.7            | 1581.2            | 1621.7            |
| Observations                          | 9515                                    | 8447              | 9515              | 8447              | 9515              | 8447              | 9515              | 8447              |
| R-squared                             | 0.870                                   | 0.881             | 0.870             | 0.881             | 0.870             | 0.881             | 0.870             | 0.881             |

7 Table 1

|                             | Dependent Variable is <b>Average Hourly</b> |                                |                           |                                   |                             |
|-----------------------------|---|--------------------------------|---------------------------|-----------------------------------|-----------------------------|
|                             | <b>Quality Adjusted Output</b>              | <b>Total Number of Entries</b> | <b>Active Typing Time</b> | <b>Mistakes (per 100 entries)</b> | <b>Performance Earnings</b> |
|                             | (1)   | (2)                            | (3)                       | (4)                               | (5)                         |
| Temperature ( $^{\circ}C$ ) | -11.05***<br>(2.656)                        | -11.40***<br>(2.728)           | -0.146***<br>(0.0305)     | -0.0342<br>(0.0324)               | -0.192***<br>(0.0546)       |
| Dependent Variable Mean     | 1570.5                                      | 1683.1                         | 25.88                     | 11.35                             | 21.15                       |
| Observations                | 10884                                       | 10884                          | 10884                     | 10884                             | 10884                       |
| R-squared                   | 0.864                                       | 0.858                          | 0.549                     | 0.661                             | 0.761                       |

8 Table 2

|  | Dependent Variable is <b>Average Hourly Quality Adjust Output</b> |                      |                      |                      |
|--|---|----------------------|----------------------|----------------------|
|  | N = No Lags   | N = Three Lags       | N = Four Lags        | N = Five Lags        |
|  | (1)   | (2)                  | (3)                  | (4)                  |
| Temperature ( $^{\circ}C$ )                        | -10.80***<br>(2.561)  | -13.82***<br>(3.284) | -14.10***<br>(3.325) | -14.28***<br>(3.310) |
| Sum of Lagged Temperature Coefficients, Lag 3 to N | .   | -4.128               | -6.930               | -8.585               |
| p-value  | .   | 0.107                | 0.0308               | 0.0102               |
| Observations                                       | 10215   | 10215                | 10215                | 10215                |
| R-squared  | 0.871   | 0.871                | 0.871                | 0.872                |

9 Table a1

|                         | Dependent Variable is <b>Average Hourly</b> |                                |                           |                                   |                             |
|-------------------------|---|--------------------------------|---------------------------|-----------------------------------|-----------------------------|
|                         | <b>Quality Adjusted Output</b>              | <b>Total Number of Entries</b> | <b>Active Typing Time</b> | <b>Mistakes (per 100 entries)</b> | <b>Performance Earnings</b> |
|                         | (1)   | (2)                            | (3)                       | (4)                               | (5)                         |
| Heat Index              | -6.475***<br>(1.374)                        | -6.454***<br>(1.411)           | -0.0803***<br>(0.0157)    | 0.000256<br>(0.0175)              | -0.0958***<br>(0.0287)      |
| Dependent Variable Mean | 1570.5                                      | 1683.1                         | 25.88                     | 11.35                             | 21.15                       |
| Observations            | 10884                                       | 10884                          | 10884                     | 10884                             | 10884                       |
| R-squared               | 0.864                                       | 0.858                          | 0.549                     | 0.661                             | 0.761                       |

10 Table a2

|                             | Dependent Variable is <b>Average Hourly</b> |                                |                           |                                   |                             |
|-----------------------------|---|--------------------------------|---------------------------|-----------------------------------|-----------------------------|
|                             | <b>Quality Adjusted Output</b>              | <b>Total Number of Entries</b> | <b>Active Typing Time</b> | <b>Mistakes (per 100 entries)</b> | <b>Performance Earnings</b> |
|                             | (1)   | (2)                            | (3)                       | (4)                               | (5)                         |
| Temperature ( $^{\circ}C$ ) | -11.06***<br>(2.653)                        | -11.36***<br>(2.724)           | -0.145***<br>(0.0304)     | -0.0296<br>(0.0326)               | -0.191***<br>(0.0550)       |
| PM 2.5                      | 0.00786<br>(0.137)                          | -0.0386<br>(0.141)             | -0.000766<br>(0.00161)    | -0.00444*<br>(0.00197)            | -0.00103<br>(0.00290)       |
| Dependent Variable Mean     | 1570.5                                      | 1683.1                         | 25.88                     | 11.35                             | 182.4                       |
| Observations                | 10884                                       | 10884                          | 10884                     | 10884                             | 10884                       |
| R-squared                   | 0.864                                       | 0.858                          | 0.549                     | 0.661                             | 0.761                       |

## 11 Table a3

|                             | Dependent Variable is                |                                      |                                 |                               |                                   |
|-----------------------------|--------------------------------------|--------------------------------------|---------------------------------|-------------------------------|-----------------------------------|
|                             | Quality Adjusted<br>Output (per day) | Total Number of<br>Entries (per day) | Active Typing<br>Time (min/day) | Mistakes (per 100<br>entries) | Performance<br>Earnings (per day) |
|                             | (1)                                  | (2)                                  | (3)                             | (4)                           | (5)                               |
| Temperature ( $^{\circ}C$ ) | -216.7***<br>(29.82)                 | -227.1***<br>(30.95)                 | -3.156***<br>(0.370)            | -1.080***<br>(0.309)          | -0.192***<br>(0.0546)             |
| Dependent Variable Mean     | 13520.4                              | 14486.3                              | 222.7                           | 97.48                         | 182.4                             |
| Observations                | 10884                                | 10884                                | 10884                           | 10884                         | 10884                             |
| R-squared                   | 0.796                                | 0.785                                | 0.460                           | 0.633                         | 0.761                             |

## 12 Table a4

|                             | Dependent Variable is               |                                     |                                |                               |                                  |
|-----------------------------|-------------------------------------|-------------------------------------|--------------------------------|-------------------------------|----------------------------------|
|                             | Quality Adjusted<br>Output (per hr) | Total Number of<br>Entries (per hr) | Active Typing<br>Time (min/hr) | Mistakes (per 100<br>entries) | Performance<br>Earnings (per hr) |
|                             | (1)                                 | (2)                                 | (3)                            | (4)                           | (5)                              |
| Temperature ( $^{\circ}C$ ) | -5.934*<br>(2.543)                  | -6.070*<br>(2.624)                  | -0.0956**<br>(0.0326)          | -0.0225<br>(0.0324)           | -0.0908<br>(0.0478)              |
| Dependent Variable Mean     | 1586.7                              | 1700.0                              | 26.13                          | 11.44                         | 21.41                            |
| Observations                | 92744                               | 92744                               | 92744                          | 92744                         | 92744                            |
| R-squared                   | 0.488                               | 0.476                               | 0.290                          | 0.267                         | 0.345                            |

## 13 Table a5

|                             | Dependent Variable is       |                       |                       |                        |
|-----------------------------|-----------------------------|-----------------------|-----------------------|------------------------|
|                             | Participant Present<br>(=1) | Check-in Time         | Check-out Time        | Total Hours of<br>Work |
|                             | (1)                         | (2)                   | (3)                   | (4)                    |
| Temperature ( $^{\circ}C$ ) | 0.00190<br>(0.00188)        | -0.00283<br>(0.00350) | -0.00566<br>(0.00591) | -0.00283<br>(0.00690)  |
| Dependent Variable Mean     | 0.893                       | 10.59                 | 18.33                 | 7.740                  |
| Observations                | 12655                       | 10884                 | 10884                 | 10884                  |
| R-squared                   | 0.258                       | 0.474                 | 0.213                 | 0.331                  |

## 14 Table a6

|                             | Dependent Variable:      |                       |                        |                      |                       |                      |                      |                     |
|-----------------------------|--------------------------|-----------------------|------------------------|----------------------|-----------------------|----------------------|----------------------|---------------------|
|                             | Participant Present (=1) |                       | Check-in Time          |                      | Check-out Time        |                      | Total Hours of Work  |                     |
|                             | (1)                      | (2)                   | (3)                    | (4)                  | (5)                   | (6)                  | (7)                  | (8)                 |
| Temperature ( $^{\circ}C$ ) | -0.000297<br>(0.00201)   |                       | 0.00373<br>(0.00387)   |                      | -0.00640<br>(0.00706) |                      | -0.0101<br>(0.00806) |                     |
| Lag 1 of Temperature        | 0.00395<br>(0.00213)     |                       | -0.0116**<br>(0.00401) |                      | 0.00131<br>(0.00649)  |                      | 0.0129<br>(0.00769)  |                     |
| High Temperature (=1)       |                          | 0.0175<br>(0.0151)    |                        | -0.0180<br>(0.0298)  |                       | -0.0133<br>(0.0495)  |                      | 0.00470<br>(0.0591) |
| Medium Temperature (=1)     |                          | 0.00855<br>(0.0135)   |                        | -0.0125<br>(0.0258)  |                       | 0.00427<br>(0.0404)  |                      | 0.0168<br>(0.0489)  |
| Low Temperature (=1)        |                          | -0.000467<br>(0.0107) |                        | -0.00326<br>(0.0189) |                       | -0.0656*<br>(0.0283) |                      | -0.0623<br>(0.0346) |
| Dependent Variable Mean     | 0.893                    | 0.893                 | 10.59                  | 10.59                | 18.33                 | 18.33                | 7.740                | 7.740               |
| Observations                | 12655                    | 12655                 | 10884                  | 10884                | 10884                 | 10884                | 10884                | 10884               |
| R-squared                   | 0.259                    | 0.258                 | 0.474                  | 0.474                | 0.213                 | 0.214                | 0.331                | 0.331               |

## 15 Table a7

|                             | Dependent Variable is  |                      |                       |                           |
|-----------------------------|------------------------|----------------------|-----------------------|---------------------------|
|                             | Cognition Index<br>(1) | PVT<br>(2)           | Corsi<br>(3)          | Hearts and Flowers<br>(4) |
| Temperature ( $^{\circ}C$ ) | 0.00134<br>(0.00450)   | 0.00488<br>(0.00497) | -0.00666<br>(0.00701) | 0.00524<br>(0.00514)      |
| Dependent Variable Mean     | 0.000000000            | -0.000000003         | -0.051094322          | -0.000000000              |
| Observations                | 9866                   | 9675                 | 5102                  | 5142                      |
| R-squared                   | 0.527                  | 0.475                | 0.503                 | 0.736                     |

## 16 Table a11

|                                | April-September<br>(1) | October-March<br>(2) | p-value, 1 = 2<br>(3) |
|--------------------------------|------------------------|----------------------|-----------------------|
| Literate in English (=1)       | 0.799<br>(0.030)       | 0.781<br>(0.025)     | 0.645                 |
| Prior Computer Experience (=1) | 0.247<br>(0.033)       | 0.306<br>(0.028)     | 0.179                 |
| Years of Education             | 9.983<br>(0.210)       | 10.309<br>(0.177)    | 0.241                 |
| Math Ability (=1)              | 0.632<br>(0.037)       | 0.615<br>(0.029)     | 0.716                 |