

Table 1: Cross-section Regression Models explaining Crop Revenue per Acre

|                            | Log(Corn Rev)<br>Cross-section | Log(Cotton Rev)<br>Cross-section | Log(Hay Rev)<br>Cross-section | Log(Wheat Rev)<br>Cross-section | Log(Soybean Rev)<br>Cross-section |
|----------------------------|--------------------------------|----------------------------------|-------------------------------|---------------------------------|-----------------------------------|
|                            | (1)                            | (2)                              | (3)                           | (4)                             | (5)                               |
| Avg. Temperature           | 6.63***<br>(2.48)              | -50.91***<br>(12.94)             | 26.14***<br>(2.45)            | 0.83<br>(1.45)                  | 14.81***<br>(2.17)                |
| Avg. Temperature Squared   | -0.35***<br>(0.07)             | 1.10***<br>(0.30)                | -0.86***<br>(0.07)            | -0.01<br>(0.04)                 | -0.49***<br>(0.06)                |
| Precipitation              | 4.55***<br>(0.92)              | 3.72**<br>(1.47)                 | 13.06***<br>(1.23)            | 9.81***<br>(0.59)               | 5.18***<br>(0.72)                 |
| Precipitation Squared      | -0.09***<br>(0.02)             | -0.07**<br>(0.03)                | -0.27***<br>(0.02)            | -0.18***<br>(0.01)              | -0.09***<br>(0.01)                |
| Latitude                   | -5.57***<br>(0.53)             | -7.99***<br>(1.20)               | -5.51***<br>(0.60)            | 3.18***<br>(0.40)               | -1.96***<br>(0.53)                |
| Income per Capita          | 0.00***<br>(0.00)              | 0.00<br>(0.00)                   | 0.00***<br>(0.00)             | 0.00***<br>(0.00)               | 0.00***<br>(0.00)                 |
| Population Density         | -0.01***<br>(0.00)             | -0.02***<br>(0.01)               | -0.00<br>(0.00)               | -0.00<br>(0.00)                 | -0.01***<br>(0.00)                |
| Population Density Squared | 0.00***<br>(0.00)              | 0.00***<br>(0.00)                | 0.00<br>(0.00)                | 0.00<br>(0.00)                  | 0.00***<br>(0.00)                 |
| Water Capacity             | 2.69***<br>(0.23)              | 2.76***<br>(0.79)                | 4.34***<br>(0.29)             | 1.56***<br>(0.22)               | 3.89***<br>(0.23)                 |
| Percent Clay               | -0.15**<br>(0.06)              | 0.92***<br>(0.10)                | -0.33***<br>(0.07)            | 0.28***<br>(0.04)               | 0.20***<br>(0.05)                 |
| Minimum Permeability       | 2.22***<br>(0.39)              | 6.55***<br>(1.65)                | -3.57***<br>(0.44)            | 1.60***<br>(0.34)               | 1.55***<br>(0.41)                 |
| K-factor of Top Soil       | -64.87***<br>(8.89)            | 8.71<br>(19.72)                  | -104.04***<br>(12.15)         | 12.28*<br>(7.40)                | -99.83***<br>(7.23)               |
| Best Soil Class            | 0.32***<br>(0.02)              | 0.06<br>(0.05)                   | 0.25***<br>(0.03)             | 0.10***<br>(0.02)               | 0.12***<br>(0.02)                 |
| Weights                    | Acres                          | Acres                            | Acres                         | Acres                           | Acres                             |
| Fixed-effect               | State                          | State                            | State                         | State                           | State                             |
| Observations               | 2,324                          | 767                              | 1,895                         | 2,215                           | 2,108                             |
| R <sup>2</sup>             | 0.29                           | 0.41                             | 0.40                          | 0.33                            | 0.32                              |
| Adjusted R <sup>2</sup>    | 0.29                           | 0.40                             | 0.39                          | 0.33                            | 0.32                              |

Notes:

All coefficients multiplied by 100

Table 2: Cross-section Regression Models explaining Crop Revenue per Acre

|                            | Log(Corn Rev)<br>Cross-section | Log(Cotton Rev)<br>Cross-section | Log(Hay Rev)<br>Cross-section | Log(Wheat Rev)<br>Cross-section | Log(Soybean Rev)<br>Cross-section |
|----------------------------|--------------------------------|----------------------------------|-------------------------------|---------------------------------|-----------------------------------|
|                            | (1)                            | (2)                              | (3)                           | (4)                             | (5)                               |
| Degree Days (10-30C)       | -0.03***<br>(0.00)             | 0.01<br>(0.01)                   | -0.02***<br>(0.01)            | 0.03***<br>(0.00)               | 0.01<br>(0.00)                    |
| Degree Days (30C)          | -0.13***<br>(0.05)             | -0.21***<br>(0.06)               | -0.05<br>(0.05)               | -0.18***<br>(0.03)              | -0.34***<br>(0.04)                |
| Precipitation              | 4.74***<br>(0.91)              | 0.91<br>(1.71)                   | 15.91***<br>(1.28)            | 9.14***<br>(0.56)               | 6.63***<br>(0.66)                 |
| Precipitation Squared      | -0.09***<br>(0.02)             | -0.03<br>(0.03)                  | -0.32***<br>(0.02)            | -0.18***<br>(0.01)              | -0.13***<br>(0.01)                |
| Latitude                   | -5.46***<br>(0.50)             | -8.12***<br>(1.24)               | -5.54***<br>(0.59)            | 4.63***<br>(0.40)               | -1.77***<br>(0.50)                |
| Income per Capita          | 0.00***<br>(0.00)              | 0.00<br>(0.00)                   | 0.00***<br>(0.00)             | 0.00***<br>(0.00)               | 0.00***<br>(0.00)                 |
| Population Density         | -0.01***<br>(0.00)             | -0.01*<br>(0.01)                 | -0.00<br>(0.00)               | -0.00**<br>(0.00)               | -0.01***<br>(0.00)                |
| Population Density Squared | 0.00***<br>(0.00)              | 0.00*<br>(0.00)                  | 0.00<br>(0.00)                | 0.00<br>(0.00)                  | 0.00***<br>(0.00)                 |
| Water Capacity             | 2.77***<br>(0.23)              | 2.11***<br>(0.79)                | 4.26***<br>(0.30)             | 1.38***<br>(0.22)               | 3.88***<br>(0.23)                 |
| Percent Clay               | -0.11*<br>(0.06)               | 0.89***<br>(0.10)                | -0.29***<br>(0.07)            | 0.23***<br>(0.04)               | 0.20***<br>(0.05)                 |
| Minimum Permeability       | 2.32***<br>(0.39)              | 7.55***<br>(1.64)                | -3.22***<br>(0.46)            | 1.61***<br>(0.33)               | 1.32***<br>(0.41)                 |
| K-factor of Top Soil       | -63.81***<br>(8.88)            | 25.85<br>(19.35)                 | -96.21***<br>(12.59)          | 15.29**<br>(7.31)               | -103.05***<br>(7.24)              |
| Best Soil Class            | 0.32***<br>(0.02)              | 0.10**<br>(0.05)                 | 0.27***<br>(0.03)             | 0.12***<br>(0.02)               | 0.12***<br>(0.02)                 |
| Weights                    | Acres                          | Acres                            | Acres                         | Acres                           | Acres                             |
| Fixed-effect               | State                          | State                            | State                         | State                           | State                             |
| Observations               | 2,324                          | 767                              | 1,895                         | 2,215                           | 2,108                             |
| R <sup>2</sup>             | 0.29                           | 0.41                             | 0.35                          | 0.35                            | 0.33                              |
| Adjusted R <sup>2</sup>    | 0.29                           | 0.40                             | 0.35                          | 0.35                            | 0.32                              |

Notes:

All coefficients multiplied by 100

Table 3: Cross-section Regression Models explaining Proportion of Acres by Crop

|                            | Corn Acres<br>Cross-section | Cotton Acres<br>Cross-section | Hay Acres<br>Cross-section | Wheat Acres<br>Cross-section | Soybean Acres<br>Cross-section |
|----------------------------|-----------------------------|-------------------------------|----------------------------|------------------------------|--------------------------------|
|                            | (1)                         | (2)                           | (3)                        | (4)                          | (5)                            |
| Avg. Temperature           | -2.49<br>(2.30)             | 10.38***<br>(2.55)            | -1.32<br>(0.87)            | 5.87<br>(8.13)               | 12.61***<br>(4.05)             |
| Avg. Temperature Squared   | 0.06<br>(0.06)              | -0.25***<br>(0.06)            | 0.03<br>(0.02)             | -0.13<br>(0.20)              | -0.31***<br>(0.10)             |
| Precipitation              | 0.00<br>(0.17)              | -0.39**<br>(0.19)             | 0.21***<br>(0.06)          | 0.90<br>(0.60)               | -0.21<br>(0.30)                |
| Precipitation Squared      | 0.00<br>(0.00)              | 0.01**<br>(0.00)              | -0.00***<br>(0.00)         | -0.01<br>(0.01)              | 0.01<br>(0.01)                 |
| Latitude                   | 0.16<br>(0.11)              | -0.10<br>(0.13)               | 0.01<br>(0.04)             | -0.13<br>(0.40)              | 0.04<br>(0.20)                 |
| Income per Capita          | 0.00<br>(0.00)              | -0.00**<br>(0.00)             | 0.00<br>(0.00)             | 0.00<br>(0.00)               | -0.00<br>(0.00)                |
| Population Density         | -0.00*<br>(0.00)            | 0.00<br>(0.00)                | -0.00<br>(0.00)            | -0.01**<br>(0.01)            | -0.00<br>(0.00)                |
| Population Density Squared | 0.00<br>(0.00)              | -0.00<br>(0.00)               | 0.00<br>(0.00)             | 0.00**<br>(0.00)             | 0.00<br>(0.00)                 |
| Water Capacity             | 0.04<br>(0.04)              | -0.13***<br>(0.05)            | -0.00<br>(0.02)            | -0.03<br>(0.16)              | 0.05<br>(0.08)                 |
| Percent Clay               | -0.01<br>(0.01)             | 0.01<br>(0.01)                | -0.00<br>(0.00)            | 0.02<br>(0.03)               | 0.02<br>(0.02)                 |
| Minimum Permeability       | 0.03<br>(0.04)              | 0.01<br>(0.05)                | -0.03*<br>(0.02)           | 0.41***<br>(0.15)            | 0.02<br>(0.07)                 |
| K-factor of Top Soil       | -1.25<br>(1.17)             | 0.55<br>(1.29)                | 0.45<br>(0.44)             | 11.39***<br>(4.13)           | -4.47**<br>(2.06)              |
| Best Soil Class            | 0.01**<br>(0.00)            | 0.02***<br>(0.00)             | -0.00**<br>(0.00)          | 0.02<br>(0.01)               | 0.02**<br>(0.01)               |
| Weights                    | Total Acres                 | Total Acres                   | Total Acres                | Total Acres                  | Total Acres                    |
| Fixed-effect               | State                       | State                         | State                      | State                        | State                          |
| Observations               | 61                          | 61                            | 61                         | 61                           | 61                             |
| R <sup>2</sup>             | 0.42                        | 0.63                          | 0.66                       | 0.42                         | 0.41                           |
| Adjusted R <sup>2</sup>    | 0.26                        | 0.53                          | 0.57                       | 0.26                         | 0.24                           |

Notes:

All coefficients multiplied by 100

Table 4: Cross-section Regression Models explaining Proportion of Acres by Crop

|                            | Corn Acres<br>Cross-section | Cotton Acres<br>Cross-section | Hay Acres<br>Cross-section | Wheat Acres<br>Cross-section | Soybean Acres<br>Cross-section |
|----------------------------|-----------------------------|-------------------------------|----------------------------|------------------------------|--------------------------------|
|                            | (1)                         | (2)                           | (3)                        | (4)                          | (5)                            |
| Degree Days (10-30C)       | 0.00<br>(0.00)              | 0.00*<br>(0.00)               | -0.00<br>(0.00)            | -0.00*<br>(0.00)             | 0.00**<br>(0.00)               |
| Degree Days (30C)          | -0.02***<br>(0.01)          | -0.01<br>(0.01)               | -0.00<br>(0.00)            | 0.07***<br>(0.02)            | -0.03**<br>(0.01)              |
| Precipitation              | -0.03<br>(0.16)             | -0.30<br>(0.22)               | 0.19***<br>(0.07)          | 1.02*<br>(0.54)              | -0.12<br>(0.31)                |
| Precipitation Squared      | 0.00<br>(0.00)              | 0.00<br>(0.00)                | -0.00***<br>(0.00)         | -0.02<br>(0.01)              | 0.00<br>(0.01)                 |
| Latitude                   | 0.15<br>(0.10)              | -0.06<br>(0.14)               | 0.01<br>(0.04)             | -0.13<br>(0.34)              | 0.12<br>(0.19)                 |
| Income per Capita          | 0.00<br>(0.00)              | -0.00*<br>(0.00)              | 0.00<br>(0.00)             | 0.00<br>(0.00)               | 0.00<br>(0.00)                 |
| Population Density         | -0.01***<br>(0.00)          | 0.00<br>(0.00)                | -0.00<br>(0.00)            | -0.01<br>(0.01)              | -0.01*<br>(0.00)               |
| Population Density Squared | 0.00***<br>(0.00)           | -0.00<br>(0.00)               | 0.00<br>(0.00)             | 0.00<br>(0.00)               | 0.00<br>(0.00)                 |
| Water Capacity             | 0.02<br>(0.04)              | -0.12**<br>(0.06)             | -0.01<br>(0.02)            | 0.07<br>(0.14)               | 0.03<br>(0.08)                 |
| Percent Clay               | -0.02**<br>(0.01)           | 0.00<br>(0.01)                | -0.01<br>(0.00)            | 0.08**<br>(0.03)             | 0.00<br>(0.02)                 |
| Minimum Permeability       | 0.00<br>(0.04)              | 0.01<br>(0.06)                | -0.03**<br>(0.02)          | 0.53***<br>(0.14)            | -0.01<br>(0.08)                |
| K-factor of Top Soil       | -0.99<br>(1.11)             | 1.86<br>(1.49)                | 0.36<br>(0.45)             | 9.75***<br>(3.74)            | -2.36<br>(2.13)                |
| Best Soil Class            | 0.01**<br>(0.00)            | 0.02***<br>(0.00)             | -0.00*<br>(0.00)           | 0.02<br>(0.01)               | 0.02**<br>(0.01)               |
| Weights                    | Acres                       | Acres                         | Acres                      | Acres                        | Acres                          |
| Fixed-effect               | State                       | State                         | State                      | State                        | State                          |
| Observations               | 61                          | 61                            | 61                         | 61                           | 61                             |
| R <sup>2</sup>             | 0.48                        | 0.51                          | 0.64                       | 0.52                         | 0.36                           |
| Adjusted R <sup>2</sup>    | 0.34                        | 0.38                          | 0.54                       | 0.40                         | 0.19                           |

Notes:

All coefficients multiplied by 100