Online Appendix: Not for publication

## Appendix A. Additional robustness

Here, we present the results of additional robustness exercises not discussed in the text.
A.0.1. Cost distance. While in our baseline we control for the natural logarithm of pairwise distance in kilometers, we can show that our results survive controlling for an alternative cost distance measure constructed by Özak (2010, 2018). Using data on the maximum speeds that dismounted infantry can sustain in given conditions based on climate, topography, and terrain, Özak computes the time needed to cross any given grid cell. The cost distance between any two markets, then, is simply the number of weeks needed along the quickest routes between them. Results appear in Table A6 and are almost unchanged. This should not be surprising: the correlation coefficient between this distance measure and our baseline distance measure (log kilometers) is 0.8961 .
A.0.2. Other crops. Although we have focused our analysis on the crops whose prices are reported most in the data (wheat, salt and rice), we are able to show similar results for a wide range of other crops. These data are again taken from Wages and Prices in India. We present estimates of (1) for these other prices and wages in tables A7, A8, A9, and A10. Several other prices show patterns similar to our main results. Where the conditional correlation between market integration and linguistic distance is insignificant, this is often for products whose pairwise price correlations we can compute for a much smaller set of market pairs than our main results.
A.1. Sample. In Table A11, we restrict our sample to modern India, in order to assuage concerns that the results are driven by comparisons between broad, administratively distinct, culturally dissimilar, and geographically distant regions, particularly in Burma. In Table A12, we remove any negative price correlations from the sample. In Table A13, we remove outliers by discarding the top and bottom 5 percent of observations by values of $\rho_{i j}^{p}$. In Table A14, we instead remove outliers by discarding the top and bottom 5 percent of observations by values of linguistic distance. Table A15, we show that market pairs with correlations computed from sparse data do not drive the results by only keeping pairs with at least ten observations in common.

In Table A16, we discard all markets with city populations above 75,000 in order to demonstrate that results are not driven by observations with unusual linguistic diversity and markets that may work differently than elsewhere. In Table A17, we drop coastal markets. These too might be unusually diverse in language and well integrated with other markets both domestic and foreign. In Table A18, we drop Gangetic markets, which are overwhelmingly Hindi-speaking and likely to be well integrated with each other. Tables A19 and A20 report results using only price observations from before or after 1891 (the midpoint in the sample) to compute $\rho_{i j}^{p}$. Across these sample restriction exercises, results remain similar to the baseline.

In figures A2, A3, and A4, we show that our results (corresponding to column (4) in Table 2) when we restrict our results to markets within a maximum cutoff distance from each other. For cutoffs of 1500 km and greater for wheat, 1000 km and greater for salt, and 750 km and greater for rice, results are similar in magnitude and significance to our baseline.

While readers may be concerned that our results are driven by linguistically similar markets facing correlated shocks, we note that our baseline analysis controls for the correlation in rainfall between two markets. As a further check, we drop all market pairs within 500 kilometers of each other in Table A21. Results are similar to the baseline except that the results with the correlation in wheat prices as an outcome have become insignificant in one column.
A.2. Measures of linguistic distance and market integration. In Table A22 we replace our baseline measure of market integration with the natural logarithm of (one plus) the correlation coefficient. Similarly, in Table A23 we replace our main measure with centiles of the correlation coefficient. In Table A24 we replace our baseline measure of linguistic distance with an alternative in which $\delta=0.5$. In Table A25, we instead use the pairwise distance between the largest language in each district to compute linguistic distance. In Table A26, similarly, we use a dummy for whether the largest language differs. These exercises give results similar to those in Table 2.

Our baseline measure of linguistic distance follows the literature (e.g. Esteban et al. (2012)) in taking a nonlinear transformation of the number of branches shared by two languages. The results in figures 6,7 , and 8 , in which we replace this with a dummy for having fewer than a given number of branches, is an alternative nonlinear transformation. Other nonlinear transformations are not as predictive of market integration. In Table A27, we include the square of linguistic distance as an additional right-hand-side variable. This adds noise to the estimation, often making the linear term insignificant while not itself being statistically significant. In Tables A28 and A29, we show that results obtained when taking the log of linguistic distance, or both the correlation coefficient and linguistic distance, are somewhat similar to our baseline results, but generally do not survive the inclusion of both controls and fixed effects. The R-squared values corresponding to the specification with fixed effects and controls are larger in our baseline than in the log-log specification: the relevant values are 0.81 and 0.70 for wheat, 0.61 and 0.45 for salt, and 0.87 and 0.80 for rice.

We report two alternative measures of linguistic distance, computed from the Wichmann et al. (2016) Automated Similarity Judgment Program Database. The first is an alternative cladistic measure that replaces the classification trees from Ethnologue with the classification trees from Glottolog. We use the same procedure as in section 3.2.2 to compute these distances. However, of the 257 unique ISO codes we match to languages in the 1901 census,
only 158 are present in the ASJP data. Like our genetic distance calculations in (5), then, we scale population shares by the share actually matched to the ASJP data.

The second alternative is a lexicostatistical measure similar to that in Dickens (2018). For 100 standard words (e.g. blood, bone) in each language, the ASJP reports the word in a standardized phonetic orthography. For any pair of languages, we compute the average Levenshtein distance between words that have the same meaning, and the average Levenshtein distance between words that have different meanings. The ratio of the two is a measure of linguistic distances across languages, corrected for any accidental similarity of sounds across words with different meanings. Because this ratio can be greater than one, we divide this by its maximum to rescale it between zero and one. We then use these language distances when computing linguistic distances between districts, again rescaling population shares by the share actually matched to the ASJP data.

Results are presented in tables A30 and A31. Though these have some similarities to our baseline measures, they are not as robust, being statistically insignificant in a larger number of specifications. Given the incomplete set of languages and the incomplete word lists in the data (the average entry in the ASJP data reports only 37 words), it is likely that this is due in part to measurement error of the right-hand-side variable.
A.3. Standard errors. Tables A32 and A33 present alternative approaches to standard errors. Rather than clustering by market $i$ and market $j$, we report two-way clustering by either the largest language in each district or by the province in which each district falls. To account for possible correlation over space in the error term, we report Conley (1999) standard errors in Table A34, allowing dependence at distances up to five decimal degrees.
A.4. Convergence. Because it is possible that the gradual erosion of a large price gap across two markets could produce a negative correlation in the prices recorded in the two markets, we show that our results survive controlling for the mean absolute log price difference between any two markets. Results are presented in Table A35 and the results are little different from our main results.
A.5. Additional checks. We show in Table A36 that there is a significant coefficient on the interaction between linguistic and physical distance in our main equation only in one of the twelve reported specifications (fixed effects and controls for rice). For this exercise, we convert $\log$ physical distance into a standardized $N(0,1)$ variable. We recognize that linguistic distance may simply be a marker of other differences across populations, such as the degree of shared history; thus, we show in Table A37, the results that we obtain when we control for whether both markets were part of the Mughal empire. In particular, using the maps in Richards (1995), we consider the extent of the empire in 1605, at the death of Akbar, and in 1707, at its maximum extent. Results are similar to our baseline. Results
for rice are the lone exception; these results are insignificant in two specifications. We show in Table A38 that results are similar if religion from the 1901 census is used to compute religious distance.

## Appendix B. Additional Figures

Figure A1. Ludhiana: Genetic distances


Figure A2. Distance cutoffs: Wheat


Figure A3. Distance cutoffs: Salt


Figure A4. Distance cutoffs: Rice


## Appendix C. Additional Tables

Table A1. Correlation coefficients: Part 1


Table A2. Correlation coefficients: Part 2

|  | D. in Groundnut Suit. | D. in Dry Rice Suit. | D. in Oil Palm | m Suit. | D. in Onion |  | D. in Precipitatio | ion D. in Slope | D. in Soybean Suit. | D. in Sugar Sut | Suit. D. in Tea Suit. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Correlation: Salt - | -. 13 | -. 18 | -. 10 |  | -. 10 |  | -. 40 | -. 35 | -. 12 | -. 12 | -. 01 |
| Correlation: Wheat - | -. 09 | -.23 | -. 42 |  | . 037 |  | -. 29 | -. 16 | -. 00 | -. 32 | -. 29 |
| Correlation: Rice - | -. 05 | -. 06 | -. 01 |  | -. 07 |  | -. 21 | -. 09 | -. 03 | -. 17 | -. 14 |
| Linguistic Distance ( $\mathrm{d}=0.05$ ) - | -. 01 | . 267 | . 190 |  | -. 04 |  | . 227 | . 403 | -. 10 | . 258 | . 102 |
| Ln Distance in KM | . 222 | . 478 | . 202 |  | . 204 |  | . 423 | . 284 | . 183 | . 452 | . 202 |
| Same Province - | -. 08 | -. 26 | -. 00 |  | -. 09 |  | -. 17 | -. 12 | -. 12 | -. 23 | -. 07 |
| Both Coastal . | . 031 | -. 09 | . 171 |  | . 001 |  | . 081 | . 107 | -. 05 | . 005 | . 046 |
| Same River - | -. 08 | -. 09 | -. 01 |  | -. 08 |  | -. 11 | -. 09 | -. 07 | -. 06 | -. 04 |
| Rainfall Correlation - | -. 14 | -. 31 | -. 21 |  | -. 05 |  | -. 36 | -. 17 | -. 07 | -. 46 | -. 32 |
| Difference in Land Quality | . 458 | . 193 | -. 01 |  | . 511 |  | . 231 | -. 05 | . 504 | . 090 | . 023 |
| Difference in Ruggedness | . 020 | . 176 | . 184 |  | . 031 |  | . 287 | . 933 | -. 02 | . 169 | . 157 |
| Difference in Malaria 0 | . 072 | . 232 | . 354 |  | -. 12 |  | . 510 | . 124 | -. 02 | . 360 | . 330 |
| Difference in Humidity 2 | . 287 | . 252 | . 218 |  | . 208 |  | . 498 | . 113 | . 283 | . 677 | . 361 |
| Difference in Altitude | . 060 | . 060 | -. 03 |  | . 136 |  | . 022 | . 261 | . 165 | . 047 | . 032 |
| Difference in Banana Suitability . 2 | . 234 | . 159 | . 543 |  | -. 12 |  | . 528 | . 238 | -. 01 | . 705 | . 867 |
| Difference in Chickpea Suitability . | . 054 | . 144 | -. 02 |  | . 045 |  | . 021 | . 059 | . 025 | -. 00 | -. 02 |
| Difference in Cocoa Suitability . | . 142 | . 302 | . 847 |  | -. 11 |  | . 422 | . 328 | -. 00 | . 432 | . 400 |
| Difference in Cotton Suitability . | . 747 | . 091 | -. 04 |  | . 668 |  | . 151 | -. 06 | . 786 | -. 03 | -. 05 |
| Difference in Groundnut Suitability 1 | 1 | . 056 | . 183 |  | . 736 |  | . 314 | . 014 | . 826 | . 143 | . 213 |
| Difference in Dry Rice Suitability . | . 056 | 1 | . 190 |  | . 033 |  | . 261 | . 204 | . 035 | . 306 | . 110 |
| Difference in Oil Palm Suitability | . 183 | . 190 | 1 |  | -. 09 |  | . 268 | . 197 | . 031 | . 344 | . 312 |
| Difference in Onion Suitability . | . 736 | . 033 | -. 09 |  | 1 |  | . 146 | -. 00 | . 719 | -. 00 | -. 13 |
| Difference in Precipitation . 31 | . 314 | . 261 | . 268 |  | . 146 |  | 1 | . 358 | . 208 | . 545 | . 509 |
| Difference in Slope . | . 014 | . 204 | . 197 |  | -. 00 |  | . 358 | 1 | -. 04 | . 185 | . 172 |
| Difference in Soybean Suitability . 8 | . 826 | . 035 | . 031 |  | . 719 |  | . 208 | -. 04 | 1 | . 013 | -. 02 |
| Difference in Sugar Suitability . | . 143 | . 306 | . 344 |  | -. 00 |  | . 545 | . 185 | . 013 | 1 | . 648 |
| Difference in Tea Suitability . 2 | . 213 | . 110 | . 312 |  | -. 13 |  | . 509 | . 172 | -. 02 | . 648 | , |
| Difference in Wetland Rice Suitability | . 351 | . 308 | . 184 |  | . 375 |  | . 653 | . 160 | . 345 | . 637 | . 304 |
| Difference in White Potato Suitability - | -. 00 | . 163 | -. 05 |  | . 060 |  | -. 03 | . 122 | -. 02 | -. 03 | -. 03 |
| Difference in Wheat Suitability . | . 005 | . 316 | -. 04 |  | . 043 |  | -. 02 | . 108 | -. 01 | -. 02 | -. 01 |
| Difference in Tomato Suitability . | . 654 | . 028 | -. 11 |  | . 822 |  | . 183 | . 011 | . 734 | -. 01 | -. 01 |
| Difference in Temperature . | . 067 | . 127 | -. 08 |  | . 120 |  | . 000 | . 160 | . 040 | . 015 | . 067 |
| Latitude Difference . | . 109 | . 543 | . 190 |  | . 145 |  | . 098 | . 237 | . 058 | . 091 | -. 04 |
| Longitude Difference 20 | . 207 | . 205 | . 172 |  | . 133 |  | . 567 | . 238 | . 171 | . 514 | . 320 |
| Religious Distance | . 299 | . 175 | . 169 |  | . 126 |  | .421 | . 262 | . 273 | . 240 | . 230 |
|  | D. in Wetland Rice Suit. D. in |  | Potato Suit. | D. in Wheat Suit. |  | D. in Tomato Suit. |  | D. in Temperatu | e Latitude D. | Longitude D. | Religious Distance |
| Correlation: Salt | -. 28 | -. 17 |  | -. 20 |  | -. 11 |  | -. 00 | -. 19 | -. 44 | -. 44 |
| Correlation: Wheat | -. 22 | -. 04 |  | -. 08 |  | . 069 |  | -. 04 | -. 25 | -. 32 | -. 18 |
| Correlation: Rice | -. 19 | -. 03 |  | -. 03 |  | -. 09 |  | -. 03 | -. 02 | -. 35 | -. 23 |
| Linguistic Distance ( $\mathrm{d}=0.05$ ) | . 192 | . 022 |  | . 063 |  | -. 14 |  | . 151 | . 531 | . 286 | . 311 |
| Ln Distance in KM | . 512 | . 251 |  | . 301 |  | . 167 |  | . 261 | . 605 | . 672 | . 397 |
| Same Province | -. 26 | -. 16 |  | -. 21 |  | -. 10 |  | -. 14 | -. 29 | -. 31 | -. 16 |
| Both Coastal | -. 02 | -. 12 |  | -. 15 |  | -. 04 |  | -. 03 | -. 04 | . 079 | . 044 |
| Same River | -. 13 | -. 07 |  | -. 08 |  | -. 05 |  | -. 04 | -. 16 | -. 13 | -. 10 |
| Rainfall Correlation | -. 40 | -. 11 |  | -. 16 |  | -. 06 |  | -. 13 | -. 31 | -. 54 | -. 30 |
| Difference in Land Quality | . 475 | . 066 |  | . 050 |  | . 534 |  | . 109 | . 217 | . 236 | . 249 |
| Difference in Ruggedness | . 129 | . 176 |  | . 148 |  | . 048 |  | . 244 | . 241 | . 199 | . 208 |
| Difference in Malaria | . 289 | -. 05 |  | -. 05 |  | -. 11 |  | -. 06 | -. 00 | . 525 | . 515 |
| Difference in Humidity | . 667 | -. 04 |  | -. 03 |  | . 240 |  | . 069 | . 144 | . 447 | . 169 |
| Difference in Altitude | . 032 | . 092 |  | . 048 |  | . 093 |  | . 309 | . 107 | . 085 | -. 02 |
| Difference in Banana Suitability | . 347 | . 017 |  | . 017 |  | -. 02 |  | . 090 | . 061 | . 348 | . 258 |
| Difference in Chickpea Suitability | . 028 | . 600 |  | . 648 |  | . 118 |  | . 196 | . 254 | . 039 | . 009 |
| Difference in Cocoa Suitability | . 297 | -. 05 |  | -. 04 |  | -. 12 |  | -. 08 | . 222 | . 280 | . 280 |
| Difference in Cotton Suitability | . 255 | . 189 |  | . 205 |  | . 732 |  | . 194 | . 151 | . 113 | . 253 |
| Difference in Groundnut Suitability | . 351 | -. 00 |  | . 005 |  | . 654 |  | . 067 | . 109 | . 207 | . 299 |
| Difference in Dry Rice Suitability | . 308 | . 163 |  | . 316 |  | . 028 |  | . 127 | . 543 | . 205 | . 175 |
| Difference in Oil Palm Suitability | . 184 | -. 05 |  | -. 04 |  | -. 11 |  | -. 08 | . 190 | . 172 | . 169 |
| Difference in Onion Suitability | . 375 | . 060 |  | . 043 |  | . 822 |  | . 120 | . 145 | . 133 | . 126 |
| Difference in Precipitation | . 653 | -. 03 |  | -. 02 |  | . 183 |  | . 000 | . 098 | . 567 | . 421 |
| Difference in Slope | . 160 | . 122 |  | . 108 |  | . 011 |  | . 160 | . 237 | . 238 | . 262 |
| Difference in Soybean Suitability | . 345 | -. 02 |  | -. 01 |  | . 734 |  | . 040 | . 058 | . 171 | . 273 |
| Difference in Sugar Suitability | . 637 | -. 03 |  | -. 02 |  | -. 01 |  | . 015 | . 091 | . 514 | . 240 |
| Difference in Tea Suitability | . 304 | -. 03 |  | -. 01 |  | -. 01 |  | . 067 | -. 04 | . 320 | . 230 |
| Difference in Wetland Rice Suitability | y 1 | -. 00 |  | -. 01 |  | . 391 |  | . 016 | . 168 | . 586 | . 328 |
| Difference in White Potato Suitability | y -. 00 | 1 |  | . 935 |  | . 206 |  | . 526 | . 364 | . 026 | . 118 |
| Difference in Wheat Suitability | -. 01 | . 935 |  | 1 |  | . 201 |  | . 484 | . 439 | . 015 | . 080 |
| Difference in Tomato Suitability | . 391 | . 206 |  | . 201 |  | 1 |  | . 280 | . 080 | . 163 | . 180 |
| Difference in Temperature | . 016 | . 526 |  | . 484 |  | . 280 |  | 1 | . 387 | . 025 | . 096 |
| Latitude Difference | . 168 | . 364 |  | . 439 |  | . 080 |  | . 387 | 1 | . 024 | . 112 |
| Longitude Difference | . 586 | . 026 |  | . 015 |  | . 163 |  | . 025 | . 024 |  | . 534 |
| Religious Distance | . 328 | . 118 |  | . 080 |  | . 180 |  | . 096 | . 112 | . 534 | 1 |

Table A3. Main results: All coefficients

|  | (1) | (2) <br> Correlation | (3) | (4) | (5) | $\left.{ }^{(6)}\right)_{\text {Corr }}$ | n: Salt | (8) | (9) | $\stackrel{(10)}{\text { Correl }}^{(0)}$ | n: Rice | (12) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Linguistic Distance | $-0.257^{* * *}$ $(0.035)$ | $-0.210^{* * *}$ | $-0.023$ $(0.025)$ | $-0.067^{* *}$ (0.030) | $-0.484^{* * *}$ | $-0.392^{* * *}$ | $\begin{aligned} n: \text { s.alt } \\ -0.384^{* * *} \end{aligned}$ | $-0.189^{* * *}$ | $-0.083^{* * *}$ | $\begin{gathered} \text { Correl } \\ -0.073^{* * *} \end{gathered}$ |  | $-0.035^{* * *}$ |
| Ln Distance in KM |  |  | ${ }_{-0.001}$ | -0.008 |  |  | -0.065** | ${ }_{-0.014}$ |  |  | ${ }_{-0.041 * * *}$ | -0.017*** |
| Same Province |  |  | (0.013) | (0.010) |  |  | ${ }^{(0.026)}$ | ${ }_{(0.024)}^{(0.05 * * *}$ |  |  | ${ }^{(0.012)}$ | ${ }_{(0.005)}^{(0.05 * *}$ |
| Same Province |  |  | (0.013) | 0.018*) |  |  | $0.118^{* * *}$ | $0.105^{* *}$ |  |  | (0.017) | ${ }_{\text {O }}^{0.031006)}$ |
| Both Coastal |  |  | -0.014 | 0.003 |  |  | 0.052 | 0.080** |  |  | ${ }_{-0.040}$ | ${ }^{-0.006}$ |
| Same River |  |  | ${ }^{(0.022)} 0$ | (0.016) |  |  | ${ }_{(0.033)}^{(0.019} 0$ | ${ }_{\text {- }}^{(0.038)}$ |  |  | (0.032) | (0.008) |
|  |  |  | ${ }_{\text {(0.016 }}$ | (0.009) |  |  | (0.018) | (0.012) |  |  | 0.014 $(0.010)$ | 0.007 <br> $(0.005)$ |
| Rainfall Correlation |  |  | -0.003 | -0.020 |  |  | -0.110** |  |  |  | -0.112*** | -0.015 |
|  |  |  | (0.025) | (0.018) |  |  | (0.052) | (0.037) |  |  | ${ }_{0}^{(0.039)}$ | (0.010) |
| D Land Quality |  |  | $\begin{gathered} 0.018 \\ (0.026) \end{gathered}$ | - ${ }_{(0.017)}$ |  |  | (0.046) | (0.029) |  |  | (0.023) | (0.008) |
| D Ruggedness |  |  | 0.000 | -0.000 |  |  | -0.000** | -0.000** |  |  | -0.000** | -0.000 |
| D Malaria |  |  | ${ }^{(0.0000)}$ | ${ }^{(0.000)}$ |  |  | ${ }_{(0.000)}$ | ${ }^{(0.000)}$ |  |  | (0.000) | (0.000) |
|  |  |  | (0.003) | (0.002) |  |  | (0.006) | (0.006) |  |  | (0.002) | (0.001) |
| D Humidity |  |  | ${ }_{\text {O }}^{0.002 * * *}$ | ${ }_{(0.002 * * *}^{0.001)}$ |  |  | $\xrightarrow{-0.006 * * *}$ | (0.001) |  |  | -0.001 | -0.001* |
| D Altitude |  |  | -0.000*** | -0.000 |  |  | 0.000*** | 0.000*** |  |  | 0.000 | -0.000** |
|  |  |  | ${ }^{(0.000)}$ | (0.000) |  |  | (0.000) | (0.000) |  |  | (0.000) | (0.000) |
| D Banana Suit |  |  | $\begin{aligned} & 0.000^{* * *} \\ & (0.000) \end{aligned}$ | $\begin{gathered} 0.000 \\ (0.000) \\ (0.00 \end{gathered}$ |  |  | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ | $\begin{aligned} & -0.000 \\ & (0.000) \end{aligned}$ |  |  | $\xrightarrow{0.000}(0.000)$ | 0.000 $(0.000)$ |
| D Chickpea Suit |  |  | - ${ }^{-0.000} \mathbf{0 . 0 0 0 )}$ | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ |  |  | $\begin{aligned} & 0.000 \\ & (0.000) \end{aligned}$ | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ |  |  | $\begin{aligned} & 0.000 \\ & (0.000) \end{aligned}$ | $0.000^{* * *}$ <br> (0.000) |
| D Cocoa Suit |  |  | -0.000* | 0.000 |  |  | -0.000 | ${ }_{-0.000}$ |  |  | $0.000 *$ | 0.000 |
| D Cotton Suit |  |  | (0.000) | $(0.000)$ 0.000 0.0 |  |  | (0.000) | (0.000) |  |  | ${ }_{0}^{(0.000)}$ | (0.000) |
|  |  |  | (0.000) | (0.000) |  |  | (0.001) | (0.000) |  |  | (0.000) | (0.000) |
| D Groundnut Suit |  |  | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ | 0.000** <br> (0.000) |  |  | -0.000) | $-0.000$ <br> (0.000) |  |  | 0.000 <br> (0.000) | 0.000* |
| D Dry Rice Suit |  |  | -0.000 | 0.000** |  |  | 0.000 | 0.000 |  |  | -0.000 | 0.000** |
| D Oil Palm Suit |  |  | $(0.000)$ -0.000 | ${ }_{\text {- }}^{(0.0000) * *}$ |  |  | $(0.000)$ $0.000 * *$ | $(0.000)$ 0.000 0 |  |  | ${ }_{\text {col }}^{(0.000)}$ | $\xrightarrow{(0.0000)}$ |
|  |  |  | (0.000) | ${ }^{(0.000)}{ }^{\text {a }}$ |  |  | (0.000) | (0.000) |  |  | (0.000)* | (0.000) |
| D Onion Suit |  |  | - ${ }_{(0.000}^{(0.000)}$ | $-0.000^{* *}$ <br> (0.000) |  |  | $\begin{aligned} & 0.000 \\ & (0.000) \end{aligned}$ | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ |  |  | $-0.000^{* *}$ <br> (0.000) | ${ }_{(0.000)}^{(0.000 *}$ |
| D Precipitation |  |  | - ${ }^{-0.000}(0.000)$ | -0.000 |  |  | $\xrightarrow{-0.0000 * * *}$ | $-0.0000^{*}$ $(0.000)$ |  |  | -0.000 | -0.000 |
| D Slope |  |  | -0.000 | -0.000 |  |  | (0.000) | (0.000) |  |  | ${ }_{0.000 * * *}^{(0.000)}$ | (e.000) |
| D Soybean Suit |  |  | (0.000) | (0.000) |  |  | (0.000) | (0.000) |  |  | (0.000) | (0.000) |
| D Soybean Suit |  |  | (0.000) | (0.000) |  |  | ${ }^{-0.000}(0.000)$ | (0.000) |  |  | 0.000 $(0.000)$ | $\xrightarrow{0.000}(0.000)$ |
| D Sugar Suit |  |  | -0.000 | 0.000 |  |  | 0.000*** | 0.000* |  |  | 0.000*** | 0.000 |
| D Tea Suit |  |  | ${ }^{(0.0000 * * *}$ | -0.000* |  |  | ${ }_{0.001 * * *}$ | ${ }_{0}^{(0.0000} 0$ |  |  | ${ }^{(0.0 .000) * *}$ | ${ }^{(0.0000 * *}$ |
| D Wetland Rice Suit |  |  | (0.000) | (0.000) |  |  | (0.000) | ${ }^{(0.0000)}$ |  |  | (0.000) | $\stackrel{(0.000)}{0.000} 0$ |
| D White Potato Suit |  |  | (0.000) | ${ }^{(0.000)}{ }^{(0.000 * *}$ |  |  | (0.000) | ${ }^{(0.000)}$ |  |  | (0.000) | (0.000) |
| D White Potato Suit |  |  | (0.000) | -0.000 |  |  | (0.000) | $\stackrel{-0.00000}{(0.000)}$ |  |  | (0.000) | - |
| D Wheat Suit |  |  | -0.000 | -0.000** |  |  | -0.000*** | -0.000 |  |  | -0.000 | -0.000 |
| D Tomato Suit |  |  | $(0.000)$ <br> 0.000 <br> 0.0 | ${ }_{0}^{(0.0000)}$ |  |  | ${ }^{(0.000)}$ | ${ }_{0.000}^{(0.000)}{ }^{(0.0 * *}$ |  |  | ${ }_{\text {- }}\left(0.00000^{* *}\right.$ | ${ }^{(0.000)}$ |
| D Temperature |  |  | ${ }^{(0.000)}$ | $\left(\begin{array}{c}(0.000) \\ 0.005 \\ (0.005\end{array}\right.$ |  |  | ${ }_{0}^{(0.000)} 0$ | ${ }_{0}^{(0.000)}$ |  |  | $\stackrel{(0.000)}{0.005}$ | ${ }_{0}^{(0.0000)}{ }^{(0.004 *}$ |
| titude Diff |  |  | (0.005) | ${ }^{(0.003)}$ |  |  | ${ }^{(0.010)}$ | (0.007) |  |  | (0.004) | (0.001) |
| Latitude Difference |  |  | ${ }_{(0}^{-0.001}$ | $\begin{gathered} -0.006^{* * *} \\ (0.002) \end{gathered}$ |  |  | $(0.006)$ | $\begin{gathered} 0.008^{*} \\ (0.004) \end{gathered}$ |  |  | 0.004** <br> (0.002) | $\xrightarrow{0.001 *}(0.001)$ |
| Longitude Difference |  |  | $-0.009^{* * *}$ (0.002) | $\xrightarrow{-0.0055^{* * *}}$ |  |  | $\xrightarrow{-0.007 * * *}$ | $\xrightarrow{-0.004 * * *}$ |  |  | $\xrightarrow{-0.0055^{* * *}}$ | $\xrightarrow{-0.0033^{* * *}}(0.001)$ |
| Religious Distance |  |  | $\begin{gathered} (0.002) \\ -0.051^{* *} \\ (0.023) \end{gathered}$ | $\begin{aligned} & -0.009 \\ & (0.020) \end{aligned}$ |  |  | $\begin{gathered} (0.003) \\ -0.196 * * * \\ (0.071) \end{gathered}$ | $\begin{gathered} (0.002) \\ -0.238^{* * *} \\ (0.055) \end{gathered}$ |  |  | $-0.055^{* *}$ <br> (0.026) | -0.006 <br> (0.012) |
|  | 15,652 | 15,652 | 15,652 | 15,652 | 20,909 | 20,909 | 20,909 | 20,909 |  | 20,909 |  |  |
| $\underset{\mathrm{FE}}{\mathrm{R} \text {-squared }}$ | 0.139 No | ${ }^{0}{ }_{\text {Yes }}$ |  | ${ }_{\text {O }}^{0} \mathrm{Y}$ Yes | ${ }^{0.216}$ No | ${ }^{0.708}$ | 0.566 No cole | ${ }^{0.791}$ | 0.045 No | O. 834 | 0. 282 No \% | ${ }_{\text {cose }}^{0.868}$ |
| Controls | No | No | Yes | Yes | No | No | Yes | Yes | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A4. Comparing linguistic and physical distance

|  | (1) | (2) | (3) |
| :---: | :---: | :---: | :---: |
|  |  | Correlation: Wheat |  |
| Linguistic Distance | $-0.257^{* * *}$ |  | $-0.185^{* * *}$ |
|  | (0.035) |  | (0.037) |
| Ln Distance in KM |  | $-0.114^{* * *}$ | -0.080*** |
|  |  | (0.010) | (0.008) |
| N | 15,652 | 15,652 | 15,652 |
| Rsq | 0.139 | 0.134 | 0.195 |
|  |  | Correlation: Salt |  |
| Linguistic Distance |  |  | -0.346*** |
|  | $(0.061)$ |  | (0.067) |
| Ln Distance in KM |  | $-0.250^{* * *}$ | -0.152*** |
|  |  | $(0.022)$ | (0.021) |
| N | 20,909 | 20,909 | 20,909 |
| Rsq | 0.216 |  | 0.266 |
|  |  | Correlation: Rice |  |
| Linguistic Distance | $\begin{gathered} -0.083^{* * *} \\ (0.017) \end{gathered}$ |  | -0.034* |
|  |  |  | (0.019) |
| Ln Distance in KM |  | $-0.064^{* * *}$ | -0.054*** |
|  |  | (0.006) | (0.006) |
| N | 20,909 | 20,909 | 20,909 |
| Rsq | 0.045 | 0.084 | 0.089 |
| Fixed Effects | No | No | No |
| Controls | No | No | No |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

TABLE A5. Restrict market pairs to districts where the major language is Indo-European


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

TABLE A6. Control for cost distance

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.257^{* * *}$ | -0.210*** | -0.023 | -0.067** |
|  | (0.035) | (0.036) | (0.025) | (0.031) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.139 | 0.762 | 0.580 | 0.806 |
|  | Correlation: Salt |  |  |  |
| Linguistic Distance | $-0.484^{* * *}$ | -0.392*** | $-0.383^{* * *}$ | $-0.190^{* * *}$ |
|  | (0.061) | (0.072) | (0.052) | (0.045) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.216 | 0.708 | 0.566 | 0.792 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | $-0.083^{* * *}$ | $-0.073^{* * *}$ | $-0.055^{* * *}$ | $-0.032^{* * *}$ |
|  | (0.017) | (0.010) | (0.018) | (0.010) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.045 | 0.834 | 0.282 | 0.868 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%$, *Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A7. Other crops


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A8. Other crops

|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ |
| :--- | :---: | :---: | :---: | :---: |
|  |  | Correlation: | Gram |  |
| Linguistic Distance | $-0.204^{* * *}$ | $-0.102^{* * *}$ | $-0.149^{* * *}$ | $-0.053^{* *}$ |
|  | $(0.034)$ | $(0.014)$ | $(0.022)$ | $(0.022)$ |
| N | 16,470 | 16,470 | 16,470 | 16,470 |
| Rsq | 0.223 | 0.816 | 0.672 | 0.868 |
|  |  | Correlation: | Jawar |  |
| Linguistic Distance | $-0.184^{* * *}$ | $-0.155^{* * *}$ | $-0.036^{*}$ | $-0.075^{* * *}$ |
|  | $(0.045)$ | $(0.014)$ | $(0.020)$ | $(0.014)$ |
| N | 8,001 | 8,001 | 8,001 | 8,001 |
| Rsq | 0.194 | 0.800 | 0.652 | 0.841 |
|  |  | -0.004 |  |  |
| Linguistic Distancelation: | Kangni | $-0.799^{*}$ | 0.218 |  |
|  | -0.520 | $(0.337)$ | $(0.469)$ | $(0.283)$ |
| N | $(0.714)$ | 1,275 | 1,275 | 1,275 |
| Rsq | 1,275 | 0.594 | 0.340 | 0.645 |
| Fixed Effects | 0.003 | Yes | No | No |
| Controls | No | No |  | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%, *$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A9. Other crops


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A10. Other crops

|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ |
| :--- | :---: | :---: | :---: | :---: |
|  |  | Correlation: Great Millet |  |  |
| Linguistic Distance | $-0.115^{*}$ | $-0.343^{* * *}$ | $0.231^{* * *}$ | 0.118 |
|  | $(0.059)$ | $(0.053)$ | $(0.070)$ | $(0.079)$ |
| N | 1,228 | 1,228 | 1,228 | 1,228 |
| Rsq | 0.018 | 0.576 | 0.570 | 0.706 |
|  |  | Correlation: | Lesser Millet |  |
| Linguistic Distance | $-0.520^{* * *}$ | $-0.533^{* * *}$ | $-0.264^{* * *}$ | $-0.225^{* * *}$ |
|  | $(0.125)$ | $(0.103)$ | $(0.102)$ | $(0.085)$ |
| N | 253 | 253 | 253 | 253 |
| Rsq | 0.213 | 0.686 | 0.592 | 0.826 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%$, *Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A11. Restrict sample to present-day India

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | -0.268*** | $-0.217^{* * *}$ | -0.044* | -0.074** |
|  | (0.033) | (0.038) | (0.026) | (0.032) |
| N | 10,854 | 10,854 | 10,854 | 10,854 |
| Rsq | 0.203 | 0.792 | 0.553 | 0.853 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | -0.178*** | $-0.223^{* * *}$ | -0.145*** | -0.074** |
|  | (0.041) | (0.037) | (0.046) | (0.036) |
| N | 13,040 | 13,040 | 13,040 | 13,040 |
| Rsq | 0.055 | 0.585 | 0.454 | 0.729 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | -0.010 | $-0.053^{* * *}$ | -0.000 | $-0.012^{* *}$ |
|  | (0.014) | (0.006) | (0.019) | (0.006) |
| N | 13,040 | 13,040 | 13,040 | 13,040 |
| Rsq | 0.001 | 0.877 | 0.241 | 0.908 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A12. No negative correlations

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.243^{* * *}$ | -0.207*** | -0.028 | $-0.066^{* *}$ |
|  | (0.031) | (0.035) | (0.024) | (0.029) |
| N | 15,479 | 15,479 | 15,479 | 15,479 |
| Rsq | 0.160 | 0.770 | 0.592 | 0.825 |
|  | Correlation: Salt |  |  |  |
| Linguistic Distance | -0.269*** | -0.255*** | -0.255*** | $-0.118^{* * *}$ |
|  | (0.033) | (0.030) | (0.040) | (0.031) |
| N | 18,211 | 18,211 | 18,211 | 18,211 |
| Rsq | 0.148 | 0.586 | 0.382 | 0.696 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | $-0.089^{* * *}$ | -0.073*** | -0.061*** | $-0.035^{* * *}$ |
|  | (0.017) | (0.010) | (0.018) | (0.010) |
| N | 20,768 | 20,768 | 20,768 | 20,768 |
| Rsq | 0.063 | 0.799 | 0.338 | 0.842 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%, *$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A13. Remove outliers by price correlation

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | -0.191*** | $-0.178^{* * *}$ | -0.020 | -0.042 |
|  | (0.024) | (0.028) | (0.021) | (0.026) |
| N | 14,243 | 14,243 | 14,243 | 14,243 |
| Rsq | 0.161 | 0.718 | 0.633 | 0.799 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | -0.362*** | $-0.310^{* * *}$ | -0.370*** | $-0.167^{* * *}$ |
|  | (0.048) | (0.055) | (0.045) | (0.040) |
| N | 19,027 | 19,027 | 19,027 | 19,027 |
| Rsq | 0.161 | 0.647 | 0.482 | 0.741 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | -0.077*** | $-0.070^{* * *}$ | -0.059*** | $-0.036^{* * *}$ |
|  | (0.014) | (0.010) | (0.015) | (0.009) |
| N | 19,027 | 19,027 | 19,027 | 19,027 |
| Rsq | 0.086 | 0.765 | 0.373 | 0.823 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

TABLE A14. Remove outliers by linguistic distance

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.230^{* * *}$ | -0.204*** | -0.035 | -0.066 ** |
|  | (0.038) | (0.035) | (0.025) | (0.030) |
| N | 14,586 | 14,586 | 14,586 | 14,586 |
| Rsq | 0.108 | 0.763 | 0.577 | 0.809 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.417^{* * *}$ | -0.370*** | -0.377*** | $-0.201^{* * *}$ |
|  | (0.065) | (0.072) | (0.054) | (0.048) |
| N | 19,015 | 19,015 | 19,015 | 19,015 |
| Rsq | 0.161 | 0.703 | 0.527 | 0.785 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | $-0.072^{* * *}$ | -0.077*** | -0.055*** | $-0.036^{* * *}$ |
|  | (0.019) | (0.011) | (0.019) | (0.010) |
| N | 19,015 | 19,015 | 19,015 | 19,015 |
| Rsq | 0.030 | 0.836 | 0.267 | 0.872 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A15. Remove market pairs with fewer than 10 common observations

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.261^{* * *}$ | $-0.210^{* * *}$ | -0.021 | -0.070** |
|  | (0.035) | (0.036) | (0.024) | (0.030) |
| N | 15,494 | 15,494 | 15,494 | 15,494 |
| Rsq | 0.155 | 0.787 | 0.592 | 0.834 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | -0.484*** | $-0.392^{* * *}$ | -0.384*** | $-0.189^{* * *}$ |
|  | (0.061) | (0.072) | (0.051) | (0.044) |
| N | 20,907 | 20,907 | 20,907 | 20,907 |
| Rsq | 0.216 | 0.709 | 0.566 | 0.791 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | $-0.083^{* * *}$ | $-0.073 * * *$ | -0.056*** | $-0.035^{* * *}$ |
|  | (0.017) | (0.010) | (0.018) | (0.010) |
| N | 20,907 | 20,907 | 20,907 | 20,907 |
| Rsq | 0.045 | 0.836 | 0.283 | 0.870 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

TABLE A16. Drop cities above 75,000

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.265{ }^{* * *}$ | $-0.219^{* * *}$ | -0.013 | -0.081** |
|  | (0.036) | (0.040) | (0.028) | (0.035) |
| N | 10,929 | 10,929 | 10,929 | 10,929 |
| Rsq | 0.138 | 0.758 | 0.568 | 0.801 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.493 * * *$ | -0.398*** | -0.383*** | $-0.203^{* * *}$ |
|  | (0.066) | (0.078) | (0.055) | (0.045) |
| N | 15,051 | 15,051 | 15,051 | 15,051 |
| Rsq | 0.219 | 0.712 | 0.560 | 0.789 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | $-0.094^{* * *}$ | $-0.076^{* * *}$ | -0.068*** | $-0.042^{* * *}$ |
|  | (0.017) | (0.011) | (0.018) | (0.010) |
| N | 15,051 | 15,051 | 15,051 | 15,051 |
| Rsq | 0.085 | 0.782 | 0.318 | 0.833 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%, *$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A17. Drop coastal

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.238^{* * *}$ | $-0.216^{* * *}$ | -0.037 | $-0.074^{* * *}$ |
|  | (0.037) | (0.035) | (0.028) | (0.027) |
| N | 11,895 | 11,895 | 11,895 | 11,895 |
| Rsq | 0.154 | 0.779 | 0.509 | 0.830 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.431^{* * *}$ | $-0.370^{* * *}$ | $-0.381^{* * *}$ | $-0.228^{* * *}$ |
|  | (0.069) | (0.077) | (0.070) | (0.055) |
| N | 14,195 | 14,195 | 14,195 | 14,195 |
| Rsq | 0.181 | 0.740 | 0.505 | 0.797 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | $-0.110^{* * *}$ | $-0.088^{* * *}$ | -0.073*** | $-0.052^{* * *}$ |
|  | (0.023) | (0.014) | (0.025) | (0.015) |
| N | 14,195 | 14,195 | 14,195 | 14,195 |
| Rsq | 0.091 | 0.816 | 0.372 | 0.848 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

## Table A18. Drop Gangetic

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.250^{* * *}$ | $-0.171^{* * *}$ | 0.001 | -0.035 |
|  | (0.035) | (0.036) | (0.029) | (0.027) |
| N | 10,362 | 10,362 | 10,362 | 10,362 |
| Rsq | 0.148 | 0.789 | 0.578 | 0.834 |
|  | Correlation: Salt |  |  |  |
| Linguistic Distance | $-0.445^{* * *}$ | $-0.372^{* * *}$ | -0.327*** | $-0.167^{* * *}$ |
|  | (0.063) | (0.074) | (0.055) | (0.045) |
| N | 14,705 | 14,705 | 14,705 | 14,705 |
| Rsq | 0.178 | 0.651 | 0.548 | 0.756 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | $-0.078^{* * *}$ | $-0.075^{* * *}$ | -0.044** | -0.031*** |
|  | (0.017) | (0.010) | (0.019) | (0.009) |
| N | 14,705 | 14,705 | 14,705 | 14,705 |
| Rsq | 0.036 | 0.841 | 0.263 | 0.871 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

[^0]Table A19. Prices before 1891

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
| Correlation: Wheat |  |  |  |  |
| Linguistic Distance | $-0.236^{* * *}$ | $-0.264^{* * *}$ | -0.090 | -0.032 |
|  | (0.049) | (0.043) | (0.068) | (0.051) |
| N | 15,165 | 15,165 | 15,165 | 15,165 |
| Rsq | 0.075 | 0.567 | 0.329 | 0.654 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.490^{* * *}$ | $-0.672^{* * *}$ | -0.392*** | $-0.261^{* * *}$ |
|  | (0.081) | (0.090) | (0.080) | (0.082) |
| N | 19,701 | 19,701 | 19,701 | 19,701 |
| Rsq | 0.112 | 0.430 | 0.352 | 0.597 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | $-0.158^{* * *}$ | $-0.229^{* * *}$ | -0.077** | -0.067* |
|  | (0.024) | (0.028) | (0.032) | (0.038) |
| N | 19,697 | 19,697 | 19,697 | 19,697 |
| Rsq | 0.049 | 0.401 | 0.258 | 0.504 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A20. Prices after 1891

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | -0.081*** | $-0.148^{* * *}$ | -0.058*** | -0.039** |
|  | (0.015) | (0.025) | (0.014) | (0.020) |
| N | 13,690 | 13,690 | 13,690 | 13,690 |
| Rsq | 0.037 | 0.733 | 0.622 | 0.799 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | -0.344*** | $-0.195^{* * *}$ | $-0.213^{* * *}$ | $-0.091^{* * *}$ |
|  | (0.047) | (0.060) | (0.036) | (0.023) |
| N | 20,908 | 20,908 | 20,908 | 20,908 |
| Rsq | 0.200 | 0.789 | 0.613 | 0.863 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | -0.079*** | $-0.070^{* * *}$ | -0.066*** | $-0.038^{* * *}$ |
|  | (0.017) | (0.013) | (0.016) | (0.009) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.039 | 0.879 | 0.261 | 0.902 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A21. Drop pairs within 500km

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | -0.238*** | $-0.151^{* * *}$ | -0.021 | -0.042 |
|  | (0.036) | (0.037) | (0.028) | (0.032) |
| N | 12,681 | 12,681 | 12,681 | 12,681 |
| Rsq | 0.125 | 0.771 | 0.576 | 0.807 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | -0.454*** | -0.255*** | -0.404*** | -0.112** |
|  | (0.065) | (0.064) | (0.052) | (0.047) |
| N | 17,552 | 17,552 | 17,552 | 17,552 |
| Rsq | 0.189 | 0.732 | 0.561 | 0.801 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | -0.063*** | $-0.044^{* * *}$ | -0.051*** | $-0.022^{* *}$ |
|  | (0.018) | (0.010) | (0.020) | (0.010) |
| N | 17,552 | 17,552 | 17,552 | 17,552 |
| Rsq | 0.026 | 0.845 | 0.271 | 0.867 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

TABLE A22. Log $1+\rho$ as outcome

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.158^{* * *}$ | $-0.127^{* * *}$ | -0.012 | $-0.046^{* *}$ |
|  | (0.024) | (0.024) | (0.016) | (0.020) |
| N | 15,648 | 15,648 | 15,648 | 15,648 |
| Rsq | 0.100 | 0.638 | 0.462 | 0.668 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.393^{* * *}$ | $-0.310^{* * *}$ | -0.295*** | $-0.138^{* * *}$ |
|  | (0.057) | (0.069) | (0.043) | (0.037) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.189 | 0.706 | 0.559 | 0.780 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | -0.046 ${ }^{* * *}$ | $-0.041^{* * *}$ | $-0.031^{* * *}$ | $-0.020^{* * *}$ |
|  | (0.010) | (0.006) | (0.011) | (0.006) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.033 | 0.844 | 0.244 | 0.871 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

[^1]Table A23. Centiles of $\rho$ as outcome


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A24. $\delta=0.5$

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.333^{* * *}$ | $-0.189^{* * *}$ | -0.030 | $-0.037^{* *}$ |
|  | (0.039) | (0.025) | (0.022) | (0.019) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.133 | 0.764 | 0.580 | 0.805 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.723^{* * *}$ | $-0.515^{* * *}$ | -0.435*** | $-0.137^{* * *}$ |
|  | (0.072) | (0.075) | (0.056) | (0.042) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.222 | 0.713 | 0.545 | 0.788 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | $-0.148^{* * *}$ | $-0.116^{* * *}$ | -0.087*** | $-0.042^{* * *}$ |
|  | (0.020) | (0.012) | (0.020) | (0.012) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.065 | 0.840 | 0.283 | 0.868 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A25. Measure distance using largest language

|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ |
| :--- | :---: | :---: | :---: | :---: |
|  |  | Correlation: | Wheat |  |
| Distance by largest language | $-0.206^{* * *}$ | $-0.141^{* * *}$ | $-0.038^{*}$ | $-0.047^{* *}$ |
|  | $(0.035)$ | $(0.027)$ | $(0.020)$ | $(0.020)$ |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.128 | 0.759 | 0.581 | 0.806 |
|  |  | Correlation: | Salt |  |
| Distance by largest language | $-0.415^{* * *}$ | $-0.303^{* * *}$ | $-0.302^{* * *}$ | $-0.135^{* * *}$ |
|  | $(0.054)$ | $(0.061)$ | $(0.046)$ | $(0.040)$ |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.210 | 0.704 | 0.560 | 0.790 |
|  |  | Correlation: | Rice |  |
| Distance by largest language | $-0.064^{* * *}$ | $-0.055^{* * *}$ | $-0.045^{* * *}$ | $-0.023^{* * *}$ |
|  | $(0.014)$ | $(0.009)$ | $(0.014)$ | $(0.008)$ |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.035 | 0.833 | 0.281 | 0.868 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A26. Measure distance as dummy for different largest language

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Different Language | $-0.123^{* * *}$ | -0.071*** | -0.017*** | -0.011* |
|  | (0.015) | (0.010) | (0.006) | (0.006) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.033 | 0.758 | 0.580 | 0.805 |
| Correlation: Salt |  |  |  |  |
| Different Language | $-0.332^{* * *}$ | -0.206*** | -0.028 | 0.010 |
|  | (0.033) | (0.037) | (0.022) | (0.018) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.057 | 0.688 | 0.514 | 0.787 |
| Correlation: Rice |  |  |  |  |
| Different Language | $-0.104^{* * *}$ | $-0.057^{* * *}$ | -0.031*** | $-0.013^{* * *}$ |
|  | (0.009) | (0.008) | (0.010) | (0.004) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.039 | 0.834 | 0.276 | 0.868 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

[^2]Table A27. Linguistic distance squared

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | -0.191 | $-0.400^{* * *}$ | -0.190** | -0.013 |
|  | (0.164) | (0.130) | (0.079) | (0.078) |
| Squared | -0.068 | 0.190 | 0.184** | -0.053 |
|  | (0.160) | (0.123) | (0.090) | (0.071) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.140 | 0.762 | 0.582 | 0.806 |
|  | Correlation: Salt |  |  |  |
| Linguistic Distance | 0.182 | -0.024 | 0.144 | 0.327 |
|  | (0.268) | (0.255) | (0.187) | (0.204) |
| Squared | -0.649** | -0.350 | $-0.524^{* * *}$ | -0.485 ** |
|  | (0.263) | (0.260) | (0.190) | (0.192) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.227 | 0.709 | 0.572 | 0.792 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | -0.139 | -0.074 | -0.005 | 0.023 |
|  | (0.118) | (0.057) | (0.067) | (0.032) |
| Squared | 0.054 | 0.000 | -0.051 | -0.055* |
|  | (0.115) | (0.057) | (0.066) | (0.031) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.045 | 0.834 | 0.282 | 0.869 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%$, *Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A28. Log linguistic distance variable


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A29. Log-log specification

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | heat |  |
| $\ln$ Distance | $-0.074^{* * *}$ | $-0.028^{* * *}$ | -0.012 | -0.003 |
|  | (0.011) | (0.007) | (0.007) | (0.004) |
| N | 15,479 | 15,479 | 15,479 | 15,479 |
| Rsq | 0.061 | 0.668 | 0.338 | 0.697 |
|  |  |  | alt |  |
| ln Distance | $-0.110^{* * *}$ | -0.088*** | $-0.073^{* * *}$ | -0.011 |
|  | (0.014) | (0.013) | (0.013) | (0.010) |
| N | 18,211 | 18,211 | 18,211 | 18,211 |
| Rsq | 0.060 | 0.459 | 0.246 | 0.543 |
|  |  |  |  |  |
| ln Distance | -0.030*** | -0.015*** | $-0.013^{* * *}$ | -0.000 |
|  | (0.005) | (0.003) | (0.004) | (0.002) |
| N | 20,768 | 20,768 | 20,768 | 20,768 |
| Rsq | 0.025 | 0.783 | 0.164 | 0.802 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A30. Cladistic Distance from Glottolog


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%$, *Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A31. Lexicostatistical Distance from ASJP

|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ |
| :--- | :---: | :---: | :---: | :---: |
|  |  | Correlation: | Wheat |  |
| Lexicostatistical Distance | $-0.488^{* * *}$ | $-0.187^{* * *}$ | $-0.117^{* *}$ | -0.016 |
|  | $(0.057)$ | $(0.022)$ | $(0.051)$ | $(0.017)$ |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.125 | 0.759 | 0.583 | 0.805 |
|  |  | Correlation: | Salt |  |
| Lexicostatistical Distance | $-0.891^{* * *}$ | $-0.685^{* * *}$ | $-0.154^{* *}$ | $-0.159^{* * *}$ |
|  | $(0.116)$ | $(0.108)$ | $(0.068)$ | $(0.059)$ |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.111 | 0.710 | 0.515 | 0.788 |
|  |  | Correlation: | Rice |  |
| Lexicostatistical Distance | $-0.172^{* * *}$ | $-0.159^{* * *}$ | 0.035 | $-0.045^{* * *}$ |
|  | $(0.035)$ | $(0.017)$ | $(0.026)$ | $(0.012)$ |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.029 | 0.840 | 0.275 | 0.868 |
| Fixed Effects | No | Yes | No | No |
| Controls | No |  | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A32. Cluster by largest ethnic group

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.257^{* * *}$ | $-0.210^{* * *}$ | -0.023 | $-0.067^{* *}$ |
|  | (0.041) | (0.038) | (0.035) | (0.031) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.139 | 0.762 | 0.580 | 0.806 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.484^{* * *}$ | $-0.392^{* * *}$ | $-0.384^{* * *}$ | -0.189** |
|  | (0.128) | (0.149) | (0.076) | (0.074) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.216 | 0.708 | 0.566 | 0.791 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | $-0.083^{* * *}$ | $-0.073^{* * *}$ | $-0.056^{* * *}$ | $-0.035^{* *}$ |
|  | (0.032) | (0.018) | (0.019) | (0.016) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.045 | 0.834 | 0.282 | 0.868 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by largest ethnic groups in market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. . Fixed effects are for market $i$ and $j$.

Table A33. Cluster by province

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.257^{* * *}$ | $-0.210^{* * *}$ | -0.023* | $-0.067^{* *}$ |
|  | (0.046) | (0.043) | (0.012) | (0.032) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.139 | 0.762 | 0.580 | 0.806 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.484^{* * *}$ | -0.392** | -0.384*** | -0.189** |
|  | (0.173) | (0.178) | (0.084) | (0.094) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.216 | 0.708 | 0.566 | 0.791 |
|  | Correlation: Rice |  |  |  |
| Linguistic Distance | $-0.083^{* *}$ | $-0.073^{* * *}$ | -0.056*** | -0.035* |
|  | (0.038) | (0.023) | (0.016) | (0.018) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.045 | 0.834 | 0.282 | 0.868 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%$, *Significant at $10 \%$. Standard errors clustered by provinces of market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A34. Conley Standard Errors

| Crop | Column | Coefficient | Standard Error | $p<0.05$ |
| :--- | :---: | :---: | :---: | :---: |
| Wheat | 1 | -.2567 | $(.0276)$ | $*$ |
|  | 2 | -.1611 | $(.0368)$ | $*$ |
|  | 3 | -.0228 | $(.0260)$ | $*$ |
| Salt | 4 | -.0667 | $(.0313)$ | $*$ |
|  | 1 | -.4840 | $(.0521)$ | $*$ |
|  | 2 | -.3917 | $(.0943)$ | $*$ |
| Rice | 3 | -.3842 | $(.0504)$ | $*$ |
|  | 4 | -.1889 | $(.0579)$ | $*$ |
|  | 1 | -.0833 | $(.0114)$ | $*$ |
|  | 2 | -.0560 | $(.0115)$ | $*$ |

This table reports results analogous to those in Table 2, but with Conley standard errors accounting for spatial correlation in the error term at distances up to five decimal degrees. The "Crop" column indicates which crop's correlation coefficient is being used as an outcome variable. "Column" indicates the corresponding column in Table 2. "Coefficient" is the corresponding coefficient estimate. "Standard error" is the corresponding standard error. Coefficients that are statistically significant at the $5 \%$ level are indicated with an asterisk.

Table A35. Control for mean absolute log difference

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
| Correlation: Wheat |  |  |  |  |
| Linguistic Distance | $-0.084^{* * *}$ | $-0.112^{* * *}$ | -0.004 | -0.047* |
|  | (0.032) | (0.030) | (0.025) | (0.027) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.287 | 0.783 | 0.594 | 0.814 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | $-0.347^{* * *}$ | -0.254*** | -0.301*** | -0.130*** |
|  | (0.059) | (0.049) | (0.048) | (0.035) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.485 | 0.804 | 0.663 | 0.837 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | $-0.086^{* * *}$ | $-0.057^{* * *}$ | -0.072*** | $-0.036^{* * *}$ |
|  | (0.015) | (0.008) | (0.016) | (0.010) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.222 | 0.859 | 0.378 | 0.873 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A36. Interact linguistic and physical distance


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A37. Mughal History


Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%, *$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

Table A38. Use religious distance from 1901 census

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Correlation: Wheat |  |  |  |
| Linguistic Distance | $-0.257^{* * *}$ | $-0.210^{* * *}$ | -0.023 | $-0.067^{* *}$ |
|  | (0.035) | (0.036) | (0.025) | (0.030) |
| N | 15,652 | 15,652 | 15,652 | 15,652 |
| Rsq | 0.139 | 0.762 | 0.579 | 0.806 |
| Correlation: Salt |  |  |  |  |
| Linguistic Distance | -0.484*** | $-0.392^{* * *}$ | -0.387*** | $-0.180^{* * *}$ |
|  | (0.061) | (0.072) | (0.050) | (0.043) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.216 | 0.708 | 0.562 | 0.791 |
| Correlation: Rice |  |  |  |  |
| Linguistic Distance | $-0.083^{* * *}$ | $-0.073^{* * *}$ | -0.053*** | $-0.035^{* * *}$ |
|  | (0.017) | (0.010) | (0.019) | (0.010) |
| N | 20,909 | 20,909 | 20,909 | 20,909 |
| Rsq | 0.045 | 0.834 | 0.282 | 0.868 |
| Fixed Effects | No | Yes | No | Yes |
| Controls | No | No | Yes | Yes |

Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln ($ distance $)$ in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.


[^0]:    Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market $j$ in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

[^1]:    Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

[^2]:    Notes: ${ }^{* * *}$ Significant at $1 \%,{ }^{* *}$ Significant at $5 \%,{ }^{*}$ Significant at $10 \%$. Standard errors clustered by market i and market j in parentheses. All regressions are OLS and include a constant. Controls are minimum year, maximum year, number of observations, $\ln$ (distance) in km , both coastal, connected to river, rainfall correlation, temperature correlation, and absolute differences in: altitude, latitude, longitude, rainfall, temperature, land quality, ruggedness, malaria, humidity, precipitation, slope, religion, and suitabilities for growing banana, chickpea, cocoa, cotton, groundnut, dryland rice, oil palm, onion, soybean, sugar, tea, wetland rice, white potato, wheat, and tomato. Fixed effects are for market i and j.

