**Appendices**

**Appendix A: Model Specification**

We use a varying-intercept model to examine Hypotheses 1 and 2 and a varying-intercept-varying-slope model to examine Hypotheses 3 and 4.

A random-intercept model:

*Attitudes toward Immigrationij*

= β0*j* + *β1Trust in foreignersij* + *β2Trust in political institutionsij* + *XijB* + ε*ij*, (1)

β0*j* = γ00 + γ01*Developmentj* +*U*0*j*.

A random-intercept-varying-slope model:

*Attitudes toward Immigrationij*

= β0*j* + β1*jTrust in foreignersij* + β2*jTrust* *in political institutionsij* + *XijB* + ε*ij*, (2)

β0*j* = γ00 + γ01*Developmentj* +*U*0*j*,

β1*j* = γ10 + γ11*Developmentj* +*U*1*j*,

β2*j* = γ20 + γ21*Developmentj* +*U*2*j*,

where subscript *j* denotes a country and *i* denotes an individual. *B* is a vector of coefficients for *Trust in foreigners*, *Trust in political institutions*, and matrix *X* that includes a group of individual level variables capturing economic or socio-psychological motives, in addition to demographic factors. ε*ij* is an idiosyncratic error at the individual level, which is assumed to be independent and identically distributed with a mean of zero and variance σ2. Next, γ00 is the common intercept across countries, whereas γ10 and γ20 are the common slope associated with the trust in foreigners slope and trust in political institutions slope. γ01 is the effect of economic development on the country specific intercepts and γ11 (γ21) is the effect of economic development on the country specific slope of trust in foreigners (trust in political institutions); *U*0*j*, *U*1*j*, and *U*2*j* are error in country level estimates. The main quantities of interests are *β*1 and *β*2 in testing Hypotheses 1 and 2and γ11 andγ21 in testing Hypotheses3 and 4.

**Appendix B. Additional Tables**

Table A Summary Statistics - Individual Level Covariates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Mean | SD | Min | Max | Count |
| Increase the number of immigrants | 2.569 | 0.820 | 1 | 4 | 24841 |
| Provide equal employment opportunity | 1.558 | 0.825 | 1 | 3 | 28453 |
| Trust in foreigners | 2.377 | 0.815 | 1 | 4 | 28453 |
| Trust in political institutions | 2.510 | 0.670 | 1 | 4 | 28453 |
| Generalized trust | 0.304 | 0.460 | 0 | 1 | 28453 |
| Male | 0.540 | 0.498 | 0 | 1 | 28453 |
| Age | 43.110 | 15.253 | 15 | 95 | 28453 |
| Married | 0.584 | 0.493 | 0 | 1 | 28453 |
| Education | 4.625 | 2.300 | 1 | 8 | 28453 |
| Employed | 0.459 | 0.498 | 0 | 1 | 28453 |
| Income (Donnelly and Pop-Echers) | 0.529 | 0.279 | 0 | 1 | 28453 |
| Religious attendance | 3.870 | 2.154 | 1 | 7 | 28453 |
| God important | 7.163 | 3.157 | 1 | 10 | 28453 |
| Ethnocentrism | -0.025 | 1.005 | -1 | 3 | 28453 |
| Social prejudice | -0.064 | 0.977 | -2 | 2 | 28453 |
| National pride | 3.480 | 0.708 | 1 | 4 | 28453 |
| Skill characteristics | 9.369 | 5.245 | 2 | 20 | 28453 |

Note: Based on observations used in column (2) in Table 2.

Table B List of Countries

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Name | Per Capita GDP | pc GDP (Logged) | Total Sample | No covariates | | With Covariates | |
| No | Drop rate | No | Drop Rate |
| 1 | Australia (AU) | 33996 | 10.4 | 1,421 | 1,358 | 4.4 | 1,084 | 23.7 |
| 2 | Burkina Faso (BF) | 475 | 6.2 | 1,534 | 1,378 | 10.2 | 351 | 77.1 |
| 3 | Bulgaria (BG) | 4371 | 8.4 | 1,001 | 833 | 16.8 | 284 | 71.6 |
| 4 | Brasil (BR) | 5788 | 8.7 | 1,500 | 1,471 | 1.9 | 630 | 58 |
| 5 | Canada (CA) | 40245 | 10.6 | 2,164 | 2,017 | 6.8 | 866 | 60 |
| 6 | Switzerland (CH) | 63225 | 11.1 | 1,241 | 1,140 | 8.1 | 754 | 39.2 |
| 7 | Chile (CL) | 7615 | 8.9 | 1,000 | 894 | 10.6 | 576 | 42.4 |
| 8 | People's Republic of China (CN) | 2651 | 7.9 | 2,015 | 1,046 | 48.1 | 215 | 89.3 |
| 9 | Cyprus (CY) | 23864 | 10.1 | 1,050 | 1,047 | 0.3 | 554 | 47.2 |
| 10 | Germany (DE) | 36400 | 10.5 | 2,064 | 1,716 | 16.9 | 1,267 | 38.6 |
| 11 | Spain (ES) | 32708 | 10.4 | 1,200 | 980 | 18.3 | 748 | 37.7 |
| 12 | Ethiopia (ET) | 245 | 5.5 | 1,500 | 1,267 | 15.5 | 491 | 67.3 |
| 13 | Finland (FI) | 38968 | 10.6 | 1,014 | 981 | 3.3 | 449 | 55.7 |
| 14 | France (FR) | 36545 | 10.5 | 1,001 | 974 | 2.7 | 753 | 24.8 |
| 15 | United Kingdom (GB) | 42448 | 10.7 | 1,041 | 812 | 22 | 537 | 48.4 |
| 16 | Georgia (GE) | 2920 | 8 | 1,500 | 1,274 | 15.1 | 891 | 40.6 |
| 17 | Ghana (GH) | 1099 | 7 | 1,534 | 1,513 | 1.4 | 786 | 48.8 |
| 18 | Indonesia (ID) | 1601 | 7.4 | 2,015 | 1,821 | 9.6 | 806 | 60 |
| 19 | India (IN) | 830 | 6.7 | 2,001 | 1,591 | 20.5 | 1,002 | 49.9 |
| 20 | Italy (IT) | 31973 | 10.4 | 1,012 | 876 | 13.4 | 392 | 61.3 |
| 21 | South Korea (KR) | 18658 | 9.8 | 1,200 | 1,197 | 0.2 | 1,147 | 4.4 |
| 22 | Moldova (MD) | 951 | 6.9 | 1,046 | 1,007 | 3.7 | 829 | 20.7 |
| 23 | Mali (ML) | 562 | 6.3 | 1,534 | 1,389 | 9.5 | 233 | 84.8 |
| 24 | Mexico (MX) | 7824 | 9 | 1,560 | 1,482 | 5 | 709 | 54.6 |
| 25 | Netherlands (NL) | 44009 | 10.7 | 1,050 | 922 | 12.2 | 553 | 47.3 |
| 26 | Norway (NO) | 95190 | 11.5 | 1,025 | 1,002 | 2.2 | 869 | 15.2 |
| 27 | Poland (PL) | 7976 | 9 | 1,000 | 923 | 7.7 | 363 | 63.7 |
| 28 | Serbia (RS) | 4130 | 8.3 | 1,220 | 1,032 | 15.4 | 343 | 71.9 |
| 29 | Russia (RU) | 6948 | 8.8 | 2,033 | 1,699 | 16.4 | 1,048 | 48.5 |
| 30 | Rwanda (RW) | 380 | 5.9 | 1,507 | 1,444 | 4.2 | 803 | 46.7 |
| 31 | Sweden (SE) | 46256 | 10.7 | 1,003 | 953 | 5 | 784 | 21.8 |
| 32 | Slovenia (SI) | 18168 | 9.8 | 1,037 | 908 | 12.4 | 615 | 40.7 |
| 33 | Thailand (TH) | 3738 | 8.2 | 1,534 | 1,518 | 1 | 1,321 | 13.9 |
| 34 | Turkey (TR) | 9312 | 9.1 | 1,346 | 1,231 | 8.5 | 660 | 51 |
| 35 | Trinidad and Tobago (TT) | 14163 | 9.6 | 1,002 | 967 | 3.5 | 488 | 51.3 |
| 36 | Ukraine (UA) | 2303 | 7.7 | 1,000 | 724 | 27.6 | 299 | 70.1 |
| 37 | United States (US) | 46437 | 10.7 | 1,249 | 1,201 | 3.8 | 626 | 49.9 |
| 38 | Uruguay (UY) | 5879 | 8.7 | 1,000 | 922 | 7.8 | 157 | 84.3 |
| 39 | Vietnam (VN) | 797 | 6.7 | 1,495 | 1,299 | 13.1 | 1,181 | 21 |
| 40 | South Africa (ZA) | 5851 | 8.7 | 2,988 | 2,887 | 3.4 | 1,655 | 44.6 |
| 41 | Zambia (ZM) | 1161 | 7.1 | 1,500 | 1,385 | 7.7 | 334 | 77.7 |

Note: Countries are selected based on the model on job opportunity. Drop Rate 1 indicates the proportion of observations dropped in a model without any individual level covariates. Drop Rate 2 indicates the proportion of observations dropped in a model with a complete set of control variables such as column (2) in each Table.

Table C Robustness check - Different sets of covariates

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Trust in foreigners | 0.144\* | 0.125\* | 0.116\* | 0.123\* | 0.110\* | 0.104\* |
|  | (0.005) | (0.005) | (0.007) | (0.004) | (0.005) | (0.006) |
| Trust in political institutions | 0.047\* | 0.045\* | 0.064\* | -0.026\* | -0.026\* | 0.003 |
|  | (0.006) | (0.006) | (0.009) | (0.006) | (0.006) | (0.008) |
| Generalized social trust |  | 0.117\* | 0.088\* |  | 0.111\* | 0.099\* |
|  |  | (0.009) | (0.011) |  | (0.008) | (0.011) |
| Male |  | 0.012 | 0.029\* |  | -0.019\* | -0.020\* |
|  |  | (0.007) | (0.010) |  | (0.007) | (0.009) |
| Age |  | -0.001\* | -0.001\* |  | -0.002\* | -0.001\* |
|  |  | (0.000) | (0.000) |  | (0.000) | (0.000) |
| Married |  | 0.001 | -0.016 |  | -0.007 | -0.001 |
|  |  | (0.008) | (0.010) |  | (0.007) | (0.010) |
| Education |  | 0.026\* | 0.018\* |  | 0.023\* | 0.014\* |
|  |  | (0.002) | (0.003) |  | (0.002) | (0.003) |
| Employed |  |  | -0.032\* |  |  | -0.005 |
|  |  |  | (0.011) |  |  | (0.010) |
| Income |  |  | 0.100\* |  |  | 0.036 |
|  |  |  | (0.020) |  |  | (0.019) |
| Religious attendance |  |  | -0.002 |  |  | 0.003 |
|  |  |  | (0.003) |  |  | (0.003) |
| God important |  |  | -0.003 |  |  | -0.003 |
|  |  |  | (0.002) |  |  | (0.002) |
| Ethnocentrism |  |  | -0.047\* |  |  | -0.041\* |
|  |  |  | (0.005) |  |  | (0.005) |
| Social prejudice |  |  | -0.036\* |  |  | -0.066\* |
|  |  |  | (0.006) |  |  | (0.005) |
| Nationalism |  |  | -0.043\* |  |  | -0.065\* |
|  |  |  | (0.008) |  |  | (0.007) |
| Skill characteristics |  |  | 0.006\* |  |  | 0.009\* |
|  |  |  | (0.001) |  |  | (0.001) |
| Life satisfaction |  |  | 0.009\* |  |  | 0.001 |
|  |  |  | (0.003) |  |  | (0.003) |
| Family economic condition |  |  | 0.001 |  |  | 0.005\* |
|  |  |  | (0.003) |  |  | (0.002) |
| Constant | 2.168\* | 2.125\* | 2.135\* | 1.336\* | 1.327\* | 1.352\* |
|  | (0.052) | (0.057) | (0.065) | (0.050) | (0.050) | (0.056) |
| δy | 0.766 | 0.76 | 0.737 | 0.744 | 0.74 | 0.733 |
| δCountry | 0.3 | 0.314 | 0.302 | 0.3 | 0.291 | 0.264 |
| Observations | 45,302 | 43,213 | 24,872 | 51,081 | 48,563 | 28,243 |
| Number of Countries | 37 | 37 | 37 | 41 | 41 | 41 |
| Log Likelihood | -52,289 | -49,544 | -27,799 | -57,470 | -54,346 | -31,394 |

Notes: All models are estimated using a random-intercept model. Columns (1) to (3) examine *Increase the number of immigrants*, and column (4) to (6) examine *Provide equal employment opportunity to immigrants.* \*p <0.05.

Table D Robustness check – Fixed effects estimation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of Immigrants | | Job Opportunity | |
|  | (1) | (2) | (3) | (4) |
| Trust in foreigners | 0.153\* | 0.120\* | 0.141\* | 0.113\* |
|  | (0.006) | (0.008) | (0.005) | (0.007) |
| Trust in political institutions | 0.047\* | 0.067\* | -0.026\* | 0.003 |
|  | (0.007) | (0.010) | (0.006) | (0.009) |
| Generalized trust |  | 0.090\* |  | 0.103\* |
|  |  | (0.013) |  | (0.013) |
| Male |  | 0.018 |  | -0.024\* |
|  |  | (0.010) |  | (0.010) |
| Age |  | -0.001\* |  | -0.001\* |
|  |  | (0.000) |  | (0.000) |
| Married |  | -0.019 |  | 0.003 |
|  |  | (0.011) |  | (0.011) |
| Education |  | 0.020\* |  | 0.018\* |
|  |  | (0.003) |  | (0.003) |
| Employed |  | -0.021 |  | 0.004 |
|  |  | (0.012) |  | (0.012) |
| Income |  | 0.120\* |  | 0.069\* |
|  |  | (0.020) |  | (0.020) |
| Religious attendance |  | -0.002 |  | 0.008\* |
|  |  | (0.003) |  | (0.003) |
| God important |  | -0.003 |  | -0.003 |
|  |  | (0.002) |  | (0.002) |
| Ethnocentrism |  | -0.055\* |  | -0.049\* |
|  |  | (0.006) |  | (0.005) |
| Social prejudice |  | -0.043\* |  | -0.078\* |
|  |  | (0.006) |  | (0.006) |
| National pride |  | -0.044\* |  | -0.073\* |
|  |  | (0.009) |  | (0.008) |
| Skill characteristics |  | 0.005\* |  | 0.009\* |
|  |  | (0.001) |  | (0.001) |
| Constant | 2.159\* | 2.155\* | 1.304\* | 1.389\* |
|  | (0.021) | (0.047) | (0.018) | (0.044) |
| Number of Countries | 37 | 37 | 41 | 41 |
| Observations | 45302 | 25061 | 51081 | 28453 |

Note: All models are estimated using ordinary least squares regression with country fixed effects. Columns (1) and (2) examine *Increase the number of immigrants*, and columns (3) and (4) examine *Provide equal employment opportunity to immigrants.* \*p <0.05.

Table E Robustness check – Parents’ Immigrant Status

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Non-immigrant Parents | | Immigrant Parents | |
|  | (1) | (2) | (3) | (4) |
| Trust in foreigners | 0.113\* | 0.098\* | 0.125\* | 0.058\* |
|  | (0.007) | (0.007) | (0.023) | (0.026) |
| Trust in political institutions | 0.065\* | -0.003 | 0.079\* | 0.080\* |
|  | (0.009) | (0.008) | (0.031) | (0.035) |
| Generalized social trust | 0.086\* | 0.092\* | 0.136\* | 0.181\* |
|  | (0.012) | (0.012) | (0.040) | (0.046) |
| Male | 0.033\* | -0.026\* | 0.008 | -0.075\* |
|  | (0.010) | (0.010) | (0.035) | (0.040) |
| Age | -0.001\* | -0.001\* | -0.001 | -0.003\* |
|  | (0.000) | (0.000) | (0.001) | (0.001) |
| Married | -0.019\* | -0.005 | 0.033 | 0.064 |
|  | (0.011) | (0.010) | (0.036) | (0.041) |
| Education | 0.018\* | 0.010\* | 0.012 | -0.014 |
|  | (0.003) | (0.003) | (0.009) | (0.011) |
| Employed | -0.032\* | -0.002 | 0.001 | -0.004 |
|  | (0.011) | (0.011) | (0.037) | (0.042) |
| Income | 0.125\* | 0.060\* | -0.059 | -0.011 |
|  | (0.020) | (0.019) | (0.068) | (0.077) |
| Religious attendance | -0.002 | 0 | 0.008 | 0.011 |
|  | (0.003) | (0.003) | (0.010) | (0.012) |
| God important | -0.004 | -0.006\* | -0.005 | 0.002 |
|  | (0.002) | (0.002) | (0.007) | (0.008) |
| Ethnocentrism | -0.049\* | -0.031\* | -0.031 | -0.059\* |
|  | (0.006) | (0.005) | (0.022) | (0.025) |
| Social prejudice | -0.038\* | -0.064\* | -0.038\* | -0.074\* |
|  | (0.006) | (0.006) | (0.021) | (0.023) |
| Nationalism | -0.038\* | -0.063\* | -0.079\* | -0.104\* |
|  | (0.008) | (0.008) | (0.026) | (0.030) |
| Skill | 0.006\* | 0.009\* | 0.007\* | 0.016\* |
|  | (0.001) | (0.001) | (0.004) | (0.004) |
| Constant | 2.167\* | 1.424\* | 2.305\* | 1.657\* |
|  | (0.067) | (0.060) | (0.157) | (0.175) |
| δy | 0.740 | 0.714 | 0.702 | 0.801 |
| δCountry | 0.032 | 0.26 | 0.312 | 0.305 |
| Observations | 22,716 | 23,168 | 1,798 | 1,826 |
| Number of Countries | 36 | 36 | 36 | 35 |
| Log Likelihood | -25,465 | -25,134 | -1,951 | -2,235 |

Note: All models are estimated using a random-intercept model. Columns (1) and (2) consider respondents neither of whose parents are immigrants. Columns (3) and (4) examine respondents, at least one of their parents is immigrant. Columns (1) and (3) examine *Increase the number of immigrants*, and column (2) and (4) examine *Provide equal employment opportunity to immigrants.* \*p <0.05.

Table F Robustness check – Additional Tests on the Contact Hypothesis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of Immigrants | | Job Opportunity | |
|  | (1) | (2) | (3) | (4) |
| Trust in foreigners | 0.013 | 0.125\* | -0.027 | 0.121\* |
|  | (0.018) | (0.016) | (0.017) | (0.018) |
| × Urban | 0.002\* |  | 0.002\* |  |
|  | (0.000) |  | (0.000) |  |
| × Proportion of Immigrants |  | 0.020\* |  | 0.042\* |
|  |  | (0.011) |  | (0.012) |
| Urban | -0.008\* |  | -0.002 |  |
|  | (0.002) |  | (0.002) |  |
| Proportion of Immigrants |  | -0.074 |  | -0.025 |
| (Logged, Centered) |  | (0.047) |  | (0.022) |
| Trust in political institutions | 0.067\* | 0.062\* | 0.004 | -0.0002 |
|  | (0.008) | (0.009) | (0.008) | (0.008) |
| Generalized social trust | 0.087\* | 0.094\* | 0.098\* | 0.111\* |
|  | (0.011) | (0.012) | (0.011) | (0.011) |
| Male | 0.029\* | 0.031\* | -0.020\* | -0.020\* |
|  | (0.010) | (0.010) | (0.009) | (0.009) |
| Age | -0.001\* | -0.001\* | -0.001\* | -0.002\* |
|  | (0.000) | (0.000) | (0.000) | (0.000) |
| Married | -0.014 | -0.005 | 0.0004 | 0.003 |
|  | (0.010) | (0.011) | (0.009) | (0.010) |
| Education | 0.017\* | 0.017\* | 0.013\* | 0.014\* |
|  | (0.003) | (0.003) | (0.002) | (0.003) |
| Employed | -0.030\* | -0.033\* | -0.004 | -0.01 |
|  | (0.011) | (0.011) | (0.010) | (0.010) |
| Income | 0.115\* | 0.107\* | 0.055\* | 0.049\* |
|  | (0.019) | (0.019) | (0.017) | (0.018) |
| Religious attendance | -0.002 | 0.003 | 0.004 | 0.004 |
|  | (0.003) | (0.003) | (0.003) | (0.003) |
| God important | -0.003 | -0.004 | -0.003 | -0.003 |
|  | (0.002) | (0.002) | (0.002) | (0.002) |
| Ethnocentrism | -0.047\* | -0.046\* | -0.039\* | -0.037\* |
|  | (0.005) | (0.006) | (0.005) | (0.005) |
| Social prejudice | -0.036\* | -0.034\* | -0.065\* | -0.060\* |
|  | (0.006) | (0.006) | (0.005) | (0.005) |
| Nationalism | -0.040\* | -0.036\* | -0.064\* | -0.061\* |
|  | (0.008) | (0.008) | (0.007) | (0.007) |
| Skill | 0.006\* | 0.005\* | 0.009\* | 0.008\* |
|  | (0.001) | (0.001) | (0.001) | (0.001) |
| Constant | 2.666\* | 2.175\* | 1.461\* | 1.321\* |
|  | (0.143) | (0.080) | (0.125) | (0.049) |
| δy | 0.737 | 0.734 | 0.732 | 0.729 |
| δCountry | 0.284 | 0.396 | 0.245 | 0.174 |
| Observations | 25,061 | 23,401 | 28,453 | 25,741 |
| Number of Countries | 37 | 35 | 41 | 38 |
| Log Likelihood | -27,998 | -26,080 | -31,587 | -28,481 |

Note: All models are estimated using a random-intercept model. All models indicate that the positive association between trust in foreigners and attitude toward immigration strengthens among people with greater contact with foreigners. \*p <0.05.