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Supplementary Materials for

In search of opportunity and community: Internal migration of refugees in the United States

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Supplementary Text

Figs. S1 to S12

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1. Supplementary Text

A. Match Rates to LPR Data

Figures S1, S2, and S3 show the match rate between WRAPS data and the LPR data. Overall 96% of refugees were successfully merged to the LPR dataset and the match rate is relatively stable across arrival state, origin, and arrival years.

B. Descriptive Statistics

Descriptive statistics for the analysis sample are shown in Table S1.

C. Additional Results for Push Model

We conducted several robustness checks for the push model displayed in Figure 2.

Figure S4 adds arrival state predictors to the specification; the results are similar to those found in the gravity model. Refugees placed in states with a higher fraction of co-nationals and lower rates of unemployment are more likely to out-migrate, while other factors such as the cost of housing and the welfare generosity have small and insignificant effects.

Figures S5 and S6 display results from the push model by refugees without and with US-ties. The results are similar to Figure 2 suggesting that whether refugees are placed by the resettlement agency as “free” cases or close to a family tie does not confound the results.

Figures S7 display the results when we restrict the sample to refugees who are the principal applicant. The results are similar to Figure 2 suggesting that within family dynamics are not confounding the results.

Figure S8 includes all states within the model, including those that initially received less than 1,000 refugees across the period. The results are similar to when the small states are excluded.

Figure S9 replicates the model but only includes refugees who submitted their application to LPR status within 24 months, instead of the 36 months we used as the cutoff for the main analysis. Results are similar to those with the 36 months cut off.

D. Additional Results for Gravity Model

We conducted several robustness checks for the gravity model displayed in Figure 3. Figure S10 includes secondary migration flows from the small states that received less than 1,000 refugees over the study period. The results are similar to the main analysis.

Figure S11 replicates the gravity model but only includes refugees who submitted their application to LPR status within 24 months, instead of the 36 months we used as the cutoff for the main analysis. Results remain consistent with the findings presented in text.

Table S2 fits an alternate version of the gravity model in which arrival and destination covariates are replaced by the differences within the dyads. This imposes a symmetry assumption on the underlying relationship. Results remain substantively similar to the main models used in Figure 3 that do not impose the symmetry restriction.

Table S3 evaluates three alternative measures of state welfare generosity. The three alternate measures of state welfare spending are:

- *State welfare spending per capita* is drawn from US Census Bureau's Annual Survey of State Government Finances, and scaled by the total state population in a given year.
- *TANF rate* is drawn from the Urban Institute's Welfare Rules Database and refers to the standardized monthly payment rate for a family of 3, in unadjusted US dollars.
- *TANF uptake* refers to the percentage of individuals below the poverty line receiving TANF benefits; the measure is constructed using data from the Office of Family Assistance at the Department of Health and Human Services.

Results across these measures are consistent and indicate no discernable effect of welfare generosity on secondary migration patterns.

Table S4 evaluates four alternative measures of state partisanship. The four alternate annual measures of state partisanship are:

- *Policy Index* refers to the State Liberalism Policy Index developed by Caughey and Warshaw (2016), in which higher values indicate more liberal state policies.
- *Share of Dem Senate Seats* refers to the share of seats in the state Senate occupied by Democrats;
- *Share of Dem House Seats* provides a similar figure for the state House of Representatives.
- *Share of Dem Seats (Both Chambers)* is the average of the former two indicators.

Results across these measures are consistent, and indicate no consistent discernable effect of state partisanship on secondary migration patterns.

Table S5 further probes whether the patterns we observe are specific to certain origin groups. To test for this we re-estimate the model 15 times and each time omit one of the origin groups from the sample. We find that the coefficients for all proxies are stable across specifications which indicates that the patterns we observe are not driven by a specific origin group.

E. Additional Descriptive Statistics

Figure S12 shows the rate of secondary migration by arrival year. There is no consistent pattern of variation in the rate of secondary migration over time.

Figures

Figure S1: Match Rate by Arrival State. Percent of adult refugees who were successfully merged into the LPR dataset, by arrival state. N= 495,283.

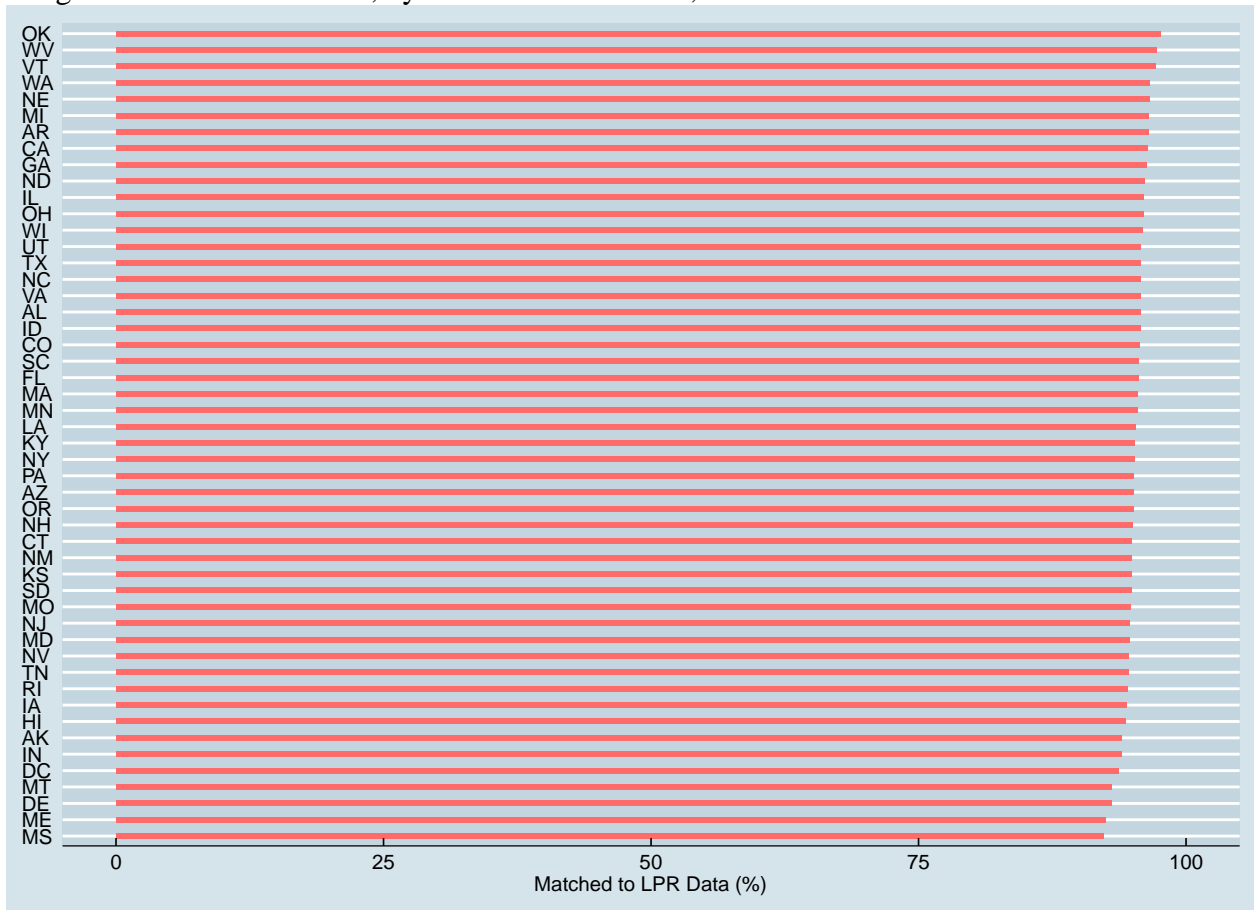


Figure S2: Match Rate by Refugee Nationality. Percent of adult refugees who were successfully merged into the LPR dataset, by national origin. N= 495,283.

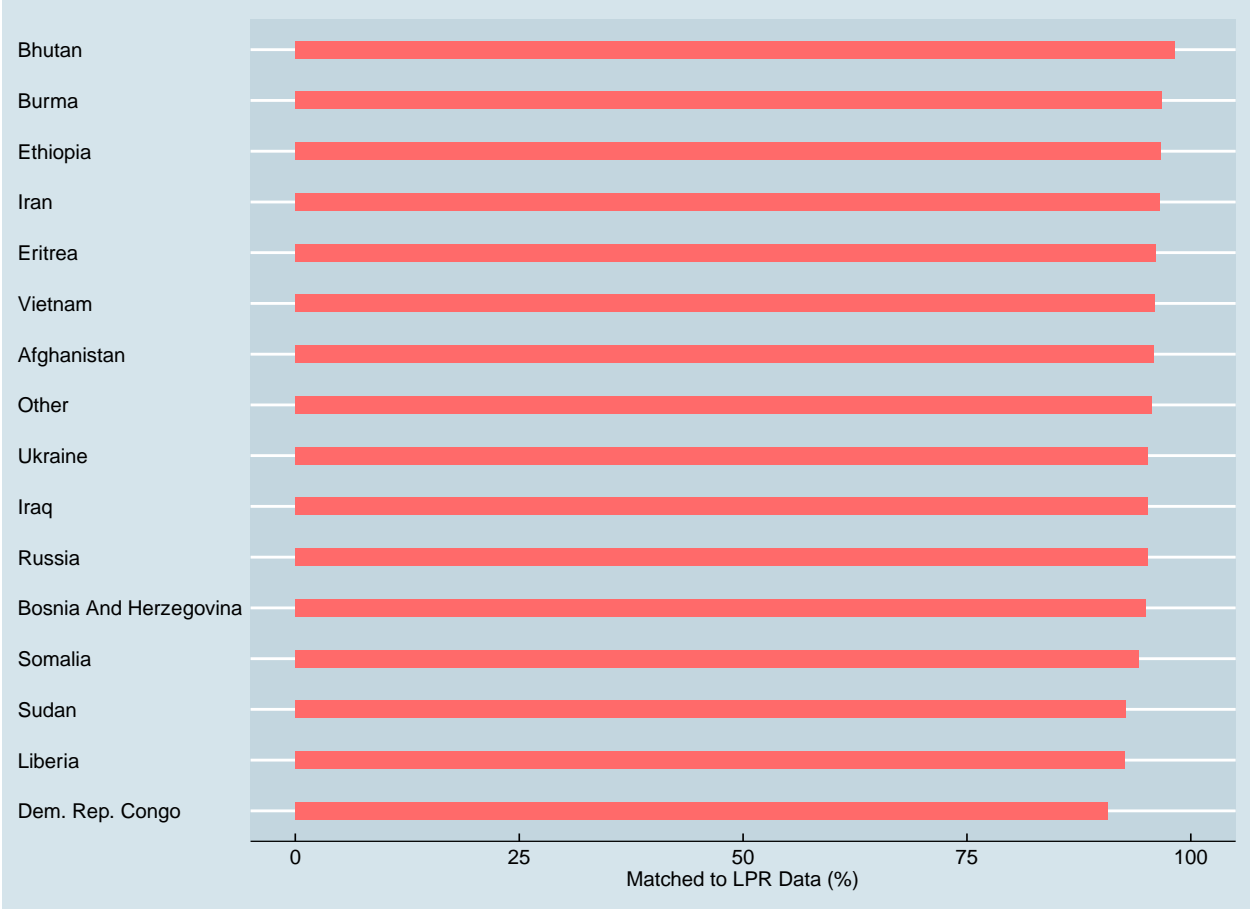


Figure S3: Match Rate by Arrival Year. Percent of adult refugees who were successfully merged into the LPR dataset, by year. N= 495,283.

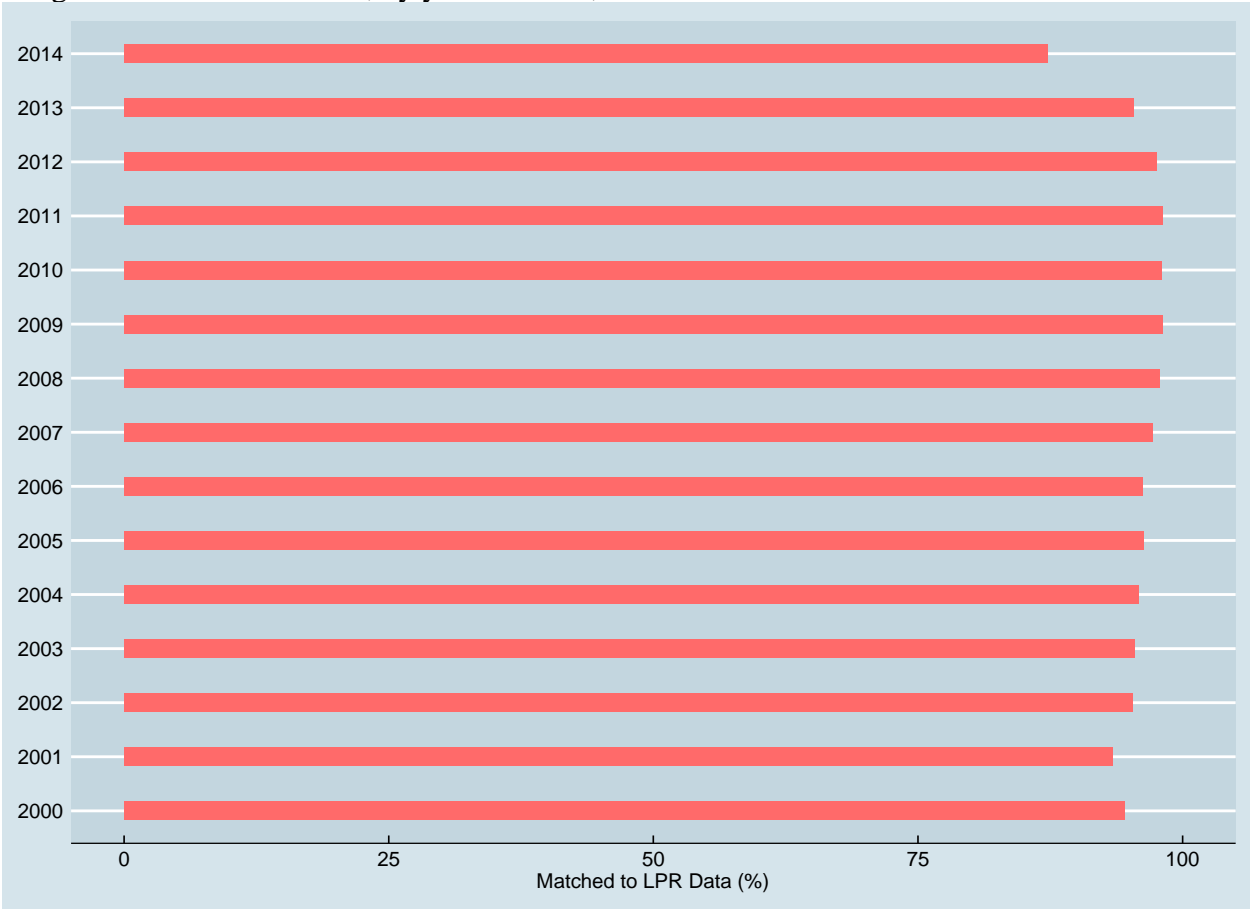


Figure S4: Push Model with Arrival State Predictors. Coefficients from a linear probability model regressing whether a refugee left their arrival state before applying for LPR status on refugee characteristics and arrival state predictors. Models include state and arrival year fixed effects and control for time to LPR application. Lines represent 95% robust confidence intervals. Unfilled circles represent reference categories for each attribute. N= 399,836 refugees from the top 15 origins and 39 states that received at least 1,000 refugees over the study period.

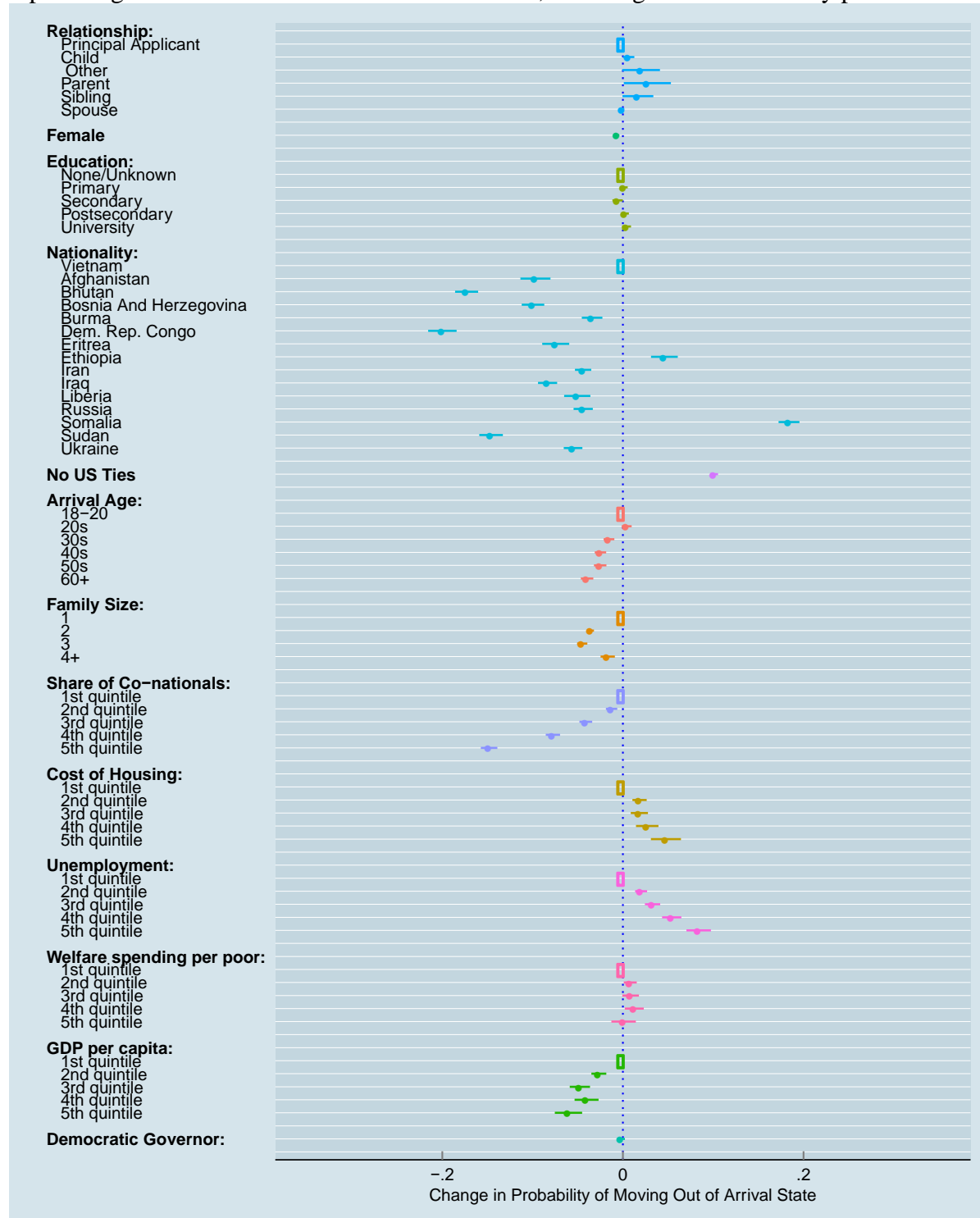


Figure S5: Push Model for Refugees “Free” Cases Without US-Ties. Coefficients from a linear probability model regressing whether a refugee left their arrival state before applying for LPR status on refugee characteristics. Models include state and arrival year fixed effects and control for time to LPR application. Lines represent 95% robust confidence intervals. Unfilled circles represent reference categories for each attribute. N=130,515 refugees without US ties.

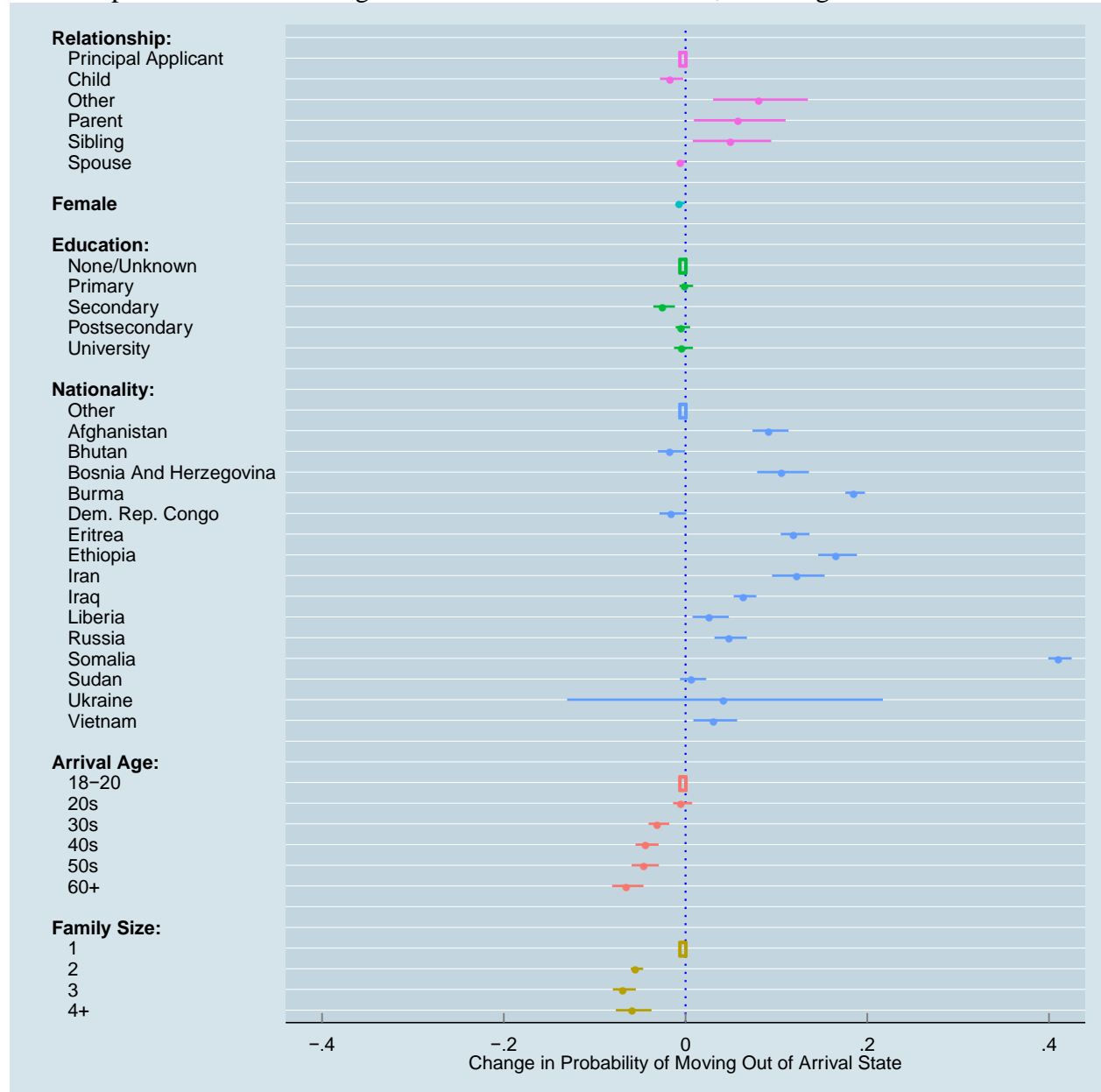


Figure S6: Push Model for Refugees With US-Ties. Coefficients from a linear probability model regressing whether a refugee left their arrival state before applying for LPR status on refugee characteristics. Models include state and arrival year fixed effects and control for time to LPR application. Lines represent 95% robust confidence intervals. Unfilled circles represent reference categories for each attribute. N=317,232 refugees with US ties.

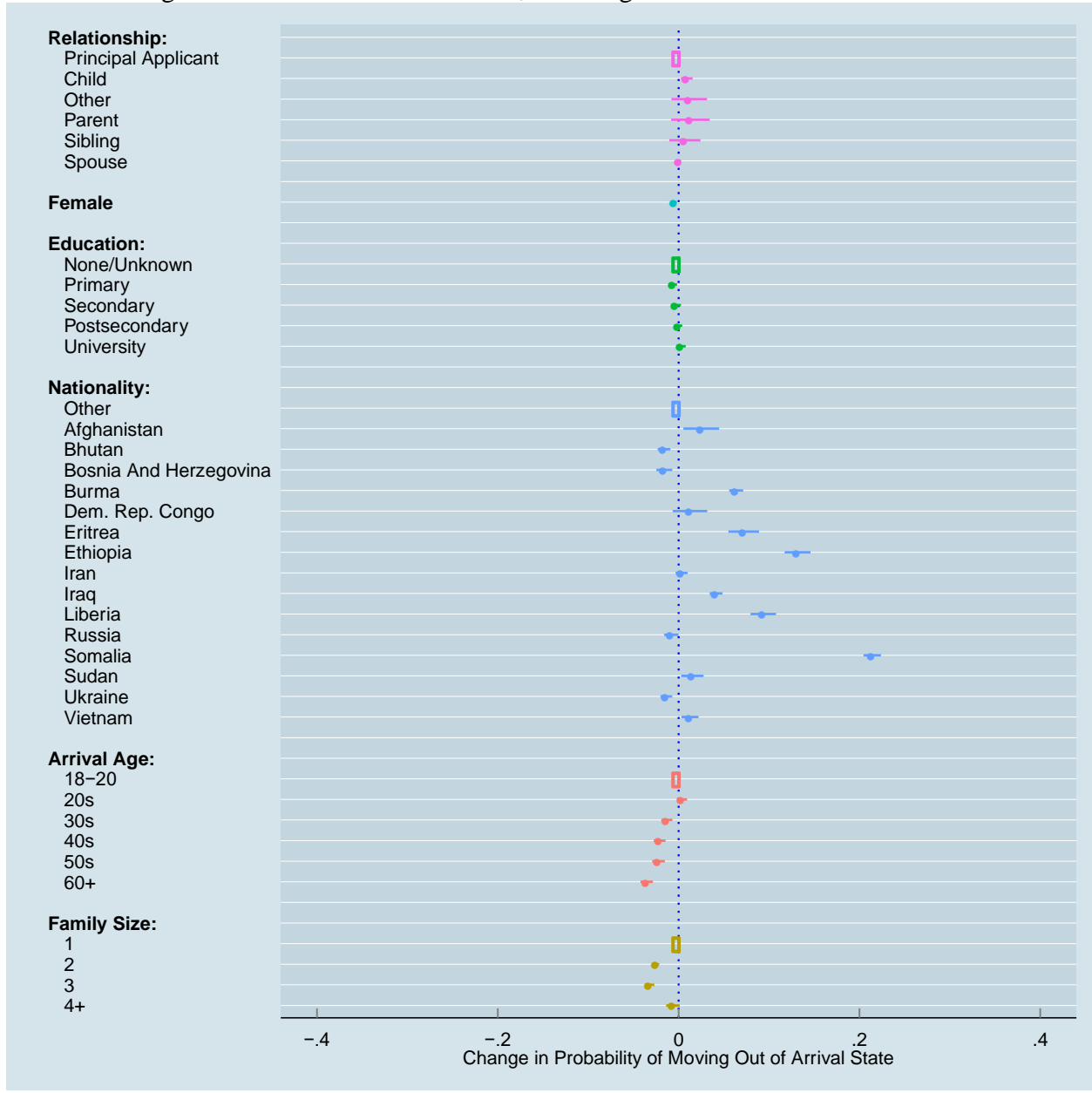


Figure S7: Replication of the Push Model for Principal Applicants. Coefficients from a linear probability model regressing whether a refugee left their arrival state before applying for LPR status on refugee characteristics. Models include state and arrival year fixed effects and control for time to LPR application. Lines represent 95% robust confidence intervals. Unfilled circles represent reference categories for each attribute. N= 278,707 refugees who are the principal applicant.

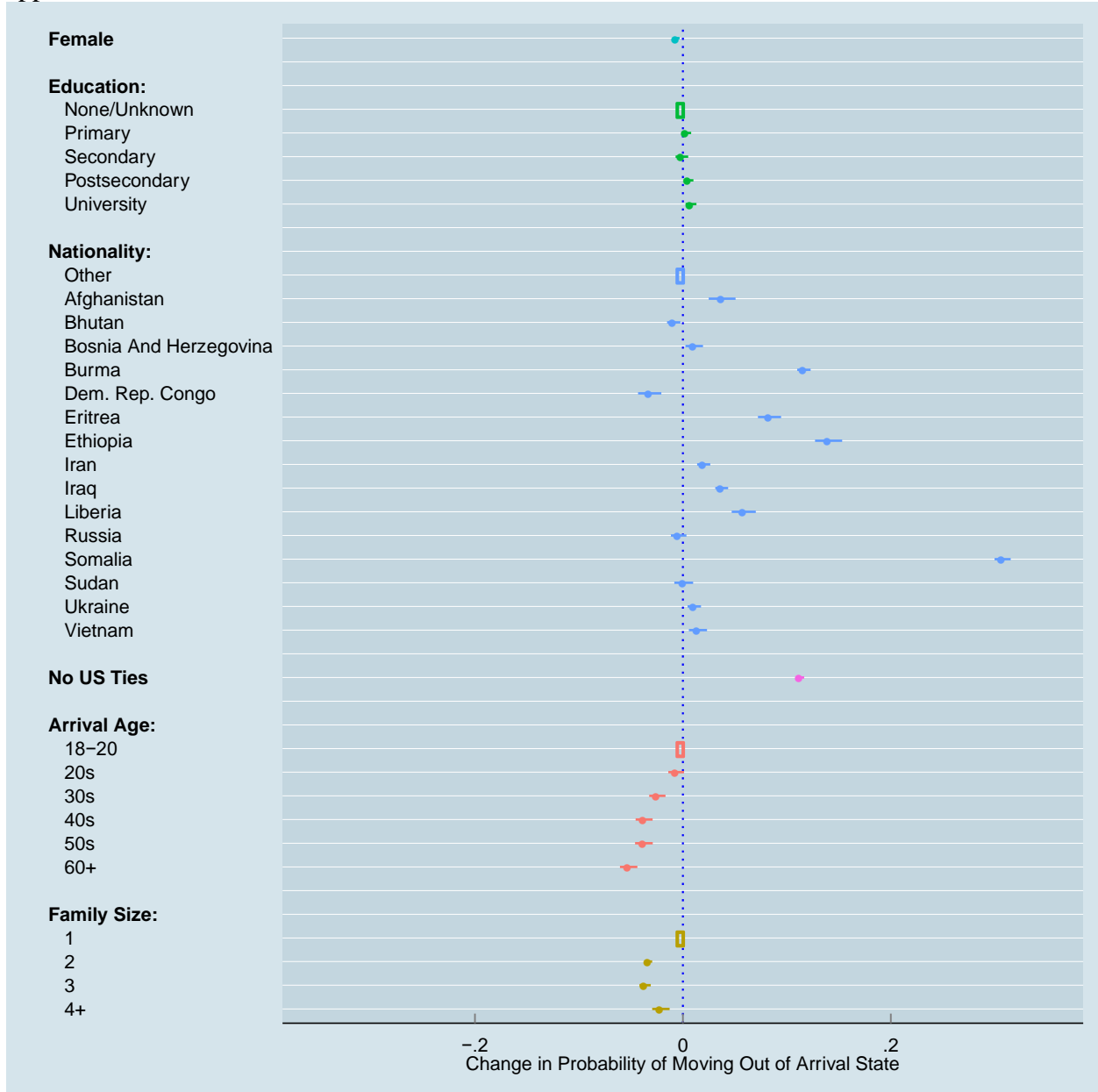


Figure S8: Push Model Including Refugees From All States. Note: Coefficients from a linear probability model regressing whether a refugee left their arrival state before applying for LPR status on refugee characteristics. Models include state and arrival year fixed effects and control for time to LPR application. Lines represent 95% robust confidence intervals. Unfilled circles represent reference categories for each attribute. N=447,747 refugees from the all states that received refugees over the study period.

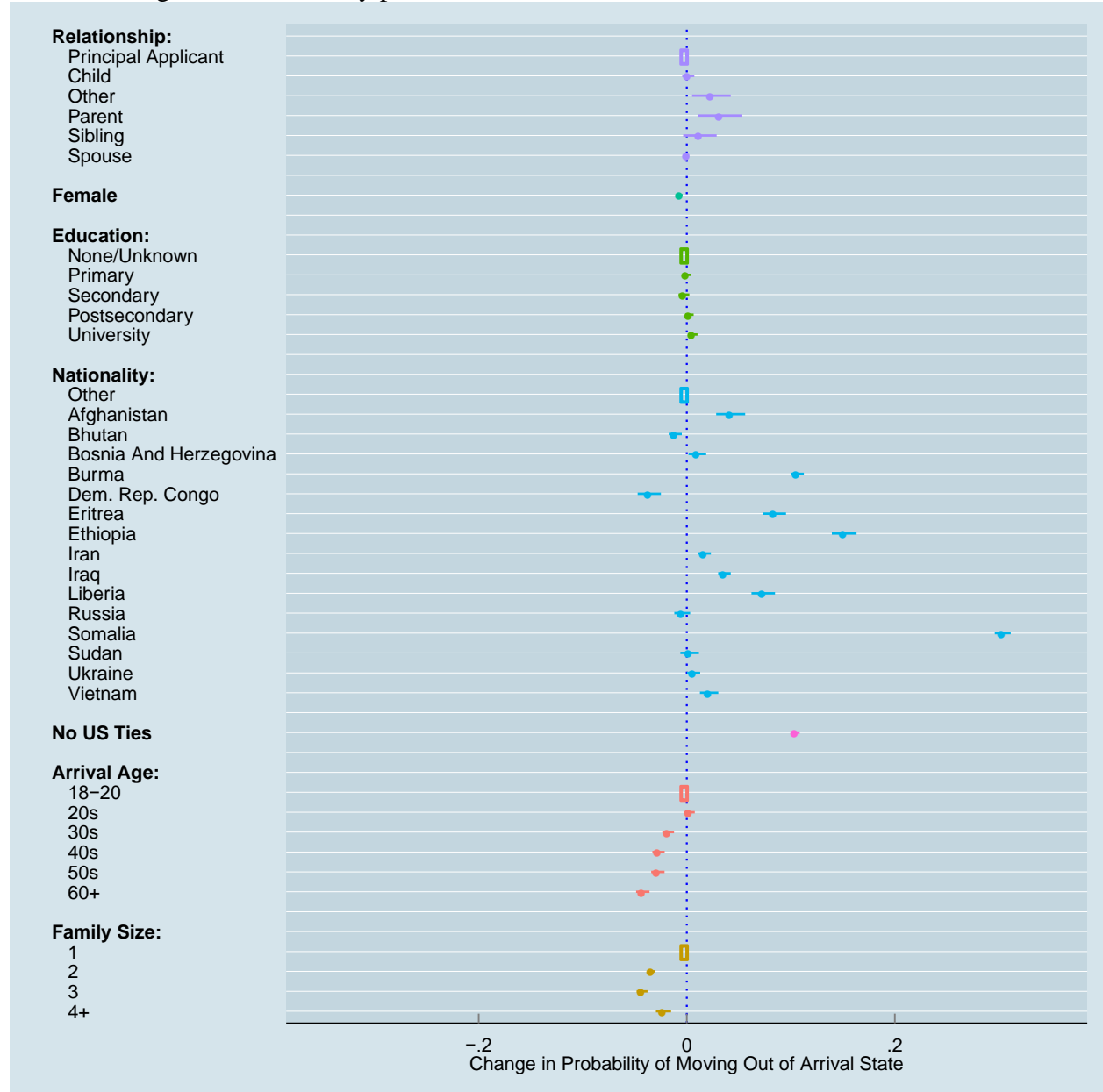


Figure S9: Push Model for Refugees who Applied for LPR Status within 24 Months.

Coefficients from a linear probability model regressing whether a refugee left their arrival state before applying for LPR status on refugee characteristics. Models include state and arrival year fixed effects and control for time to LPR application. Lines represent 95% robust confidence intervals. Unfilled circles represent reference categories for each attribute. N=415,035 refugees who applied for LPR status within 24 months after arrival from the 39 states that received at least 1,000 refugees over the study period.

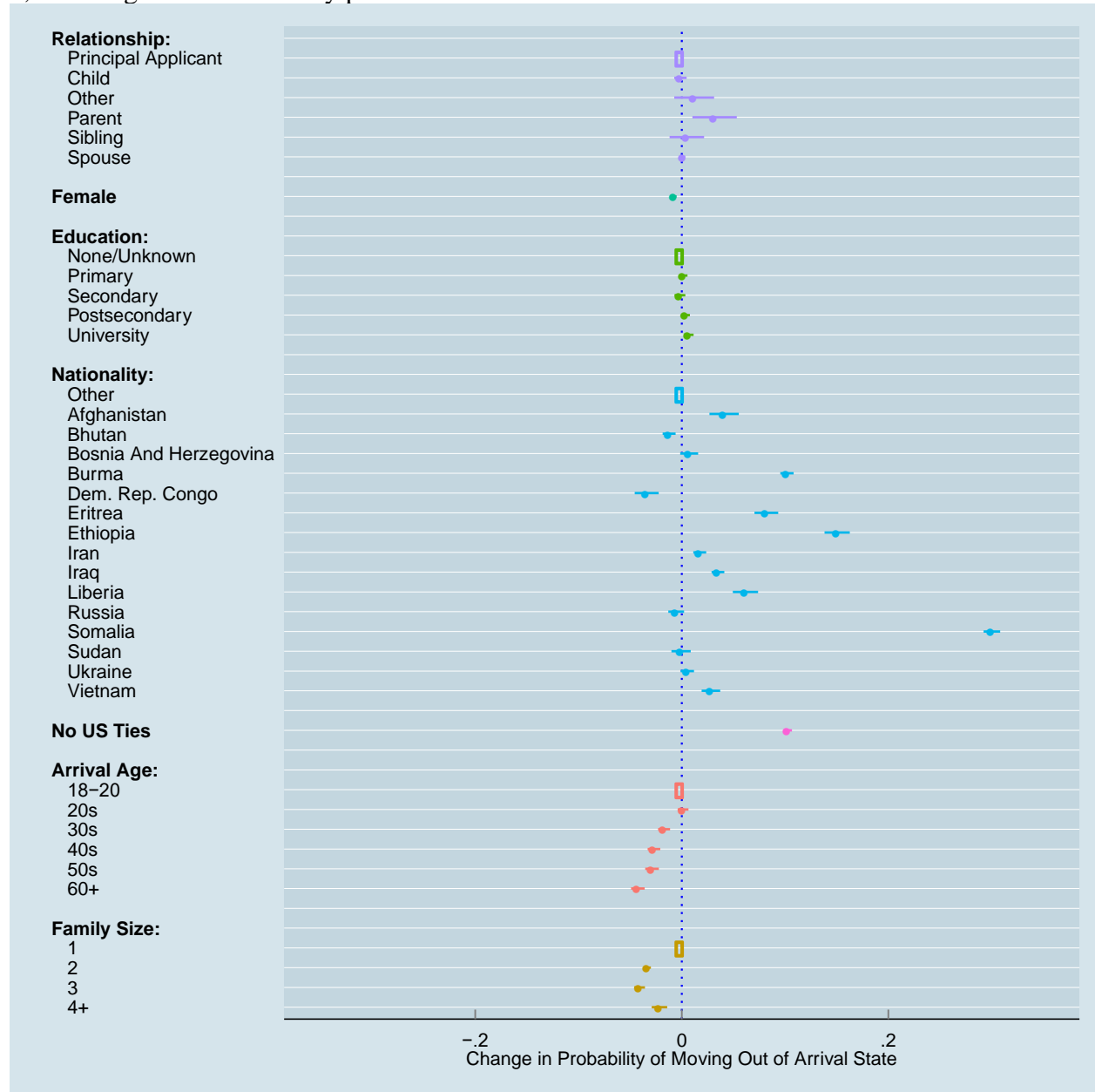


Figure S10: Gravity Model with All States. Coefficients from a gravity model regressing the log total secondary migration flows on sending and destination state characteristics (coarsened into five equally sized bins). Individual-level flows are aggregated to the state-year-origin level. Models control for the initial stock of refugees in each arrival state-year-origin and also include state pair and arrival year fixed effects. Lines represent 95% robust confidence intervals two-way clustered on arrival and destination state. N=232,352 state-to-state flows.

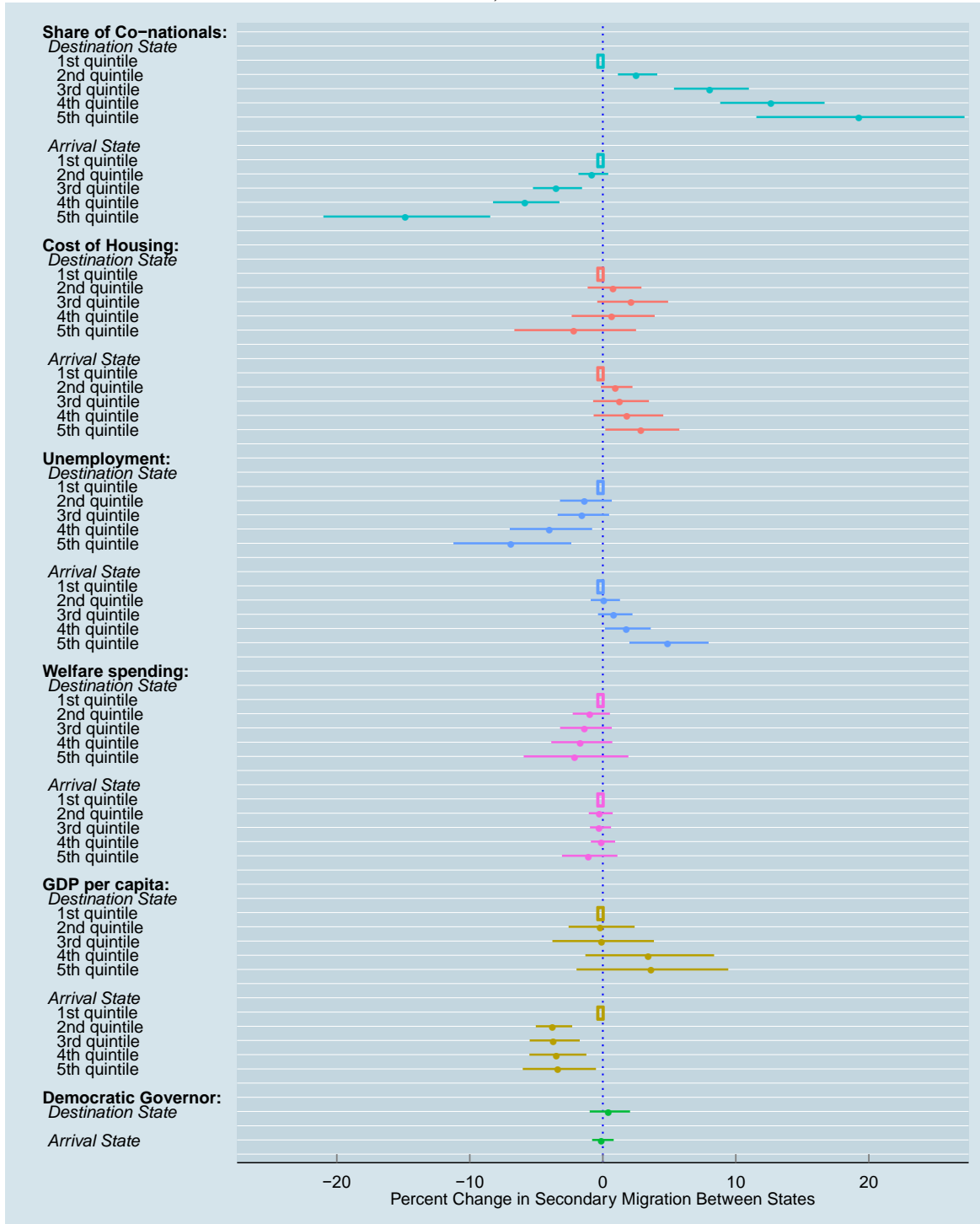


Figure S11: Gravity Model with Refugees who Applied for LPR Status within 24 Months.

Coefficients from a gravity model regressing the log total secondary migration flows on sending and destination state characteristics (coarsened into five equally sized bins). Individual-level flows are aggregated to the state-year-origin level. Models control for the initial stock of refugees in each arrival state-year-origin and also include state pair and arrival year fixed effects. Lines represent 95% robust confidence intervals two-way clustered on arrival and destination state. N=192,374 state-to-state flows of refugees who applied for LPR status within 24 months of arrival and from the 39 states that received at least 1,000 refugees over the study period.

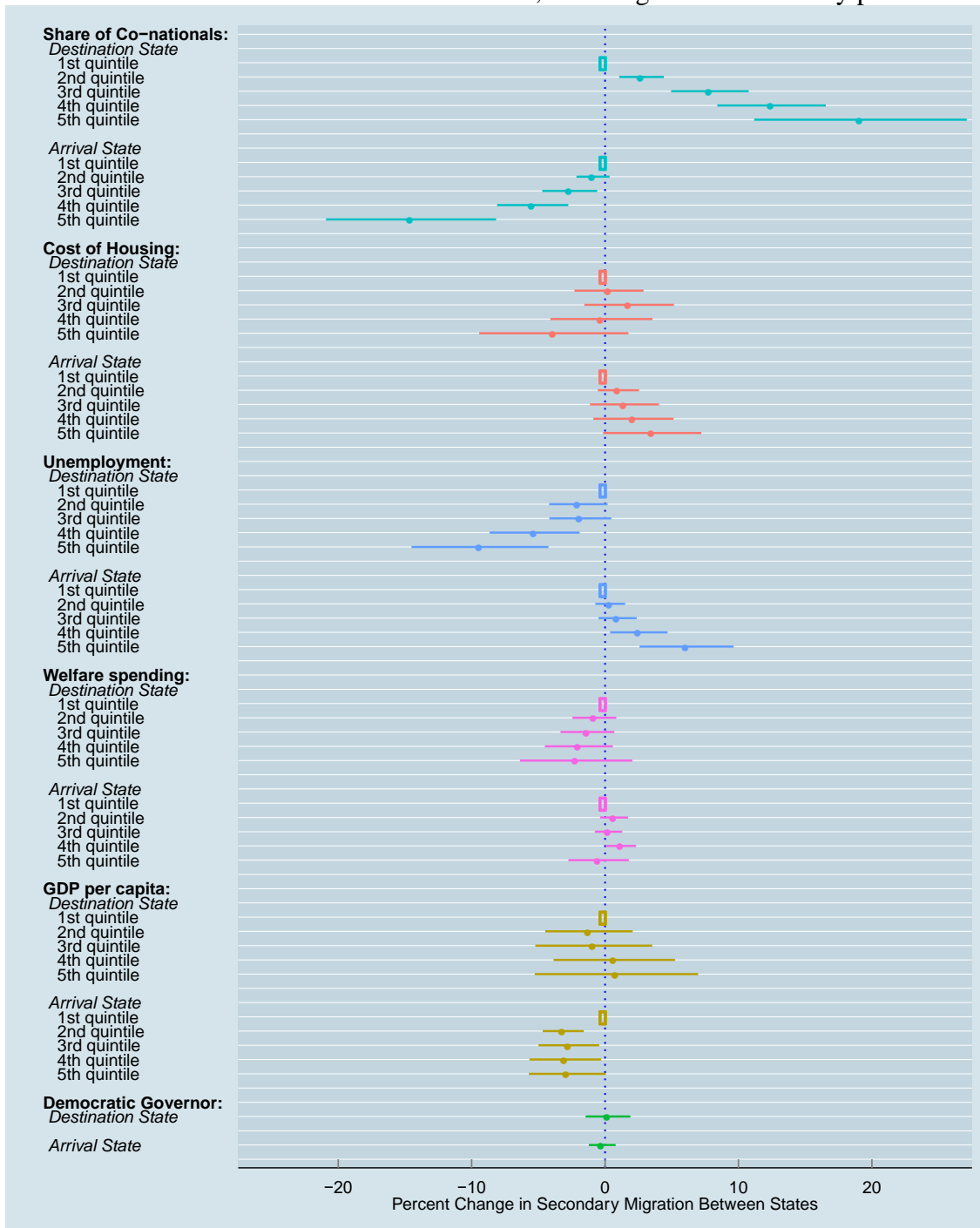
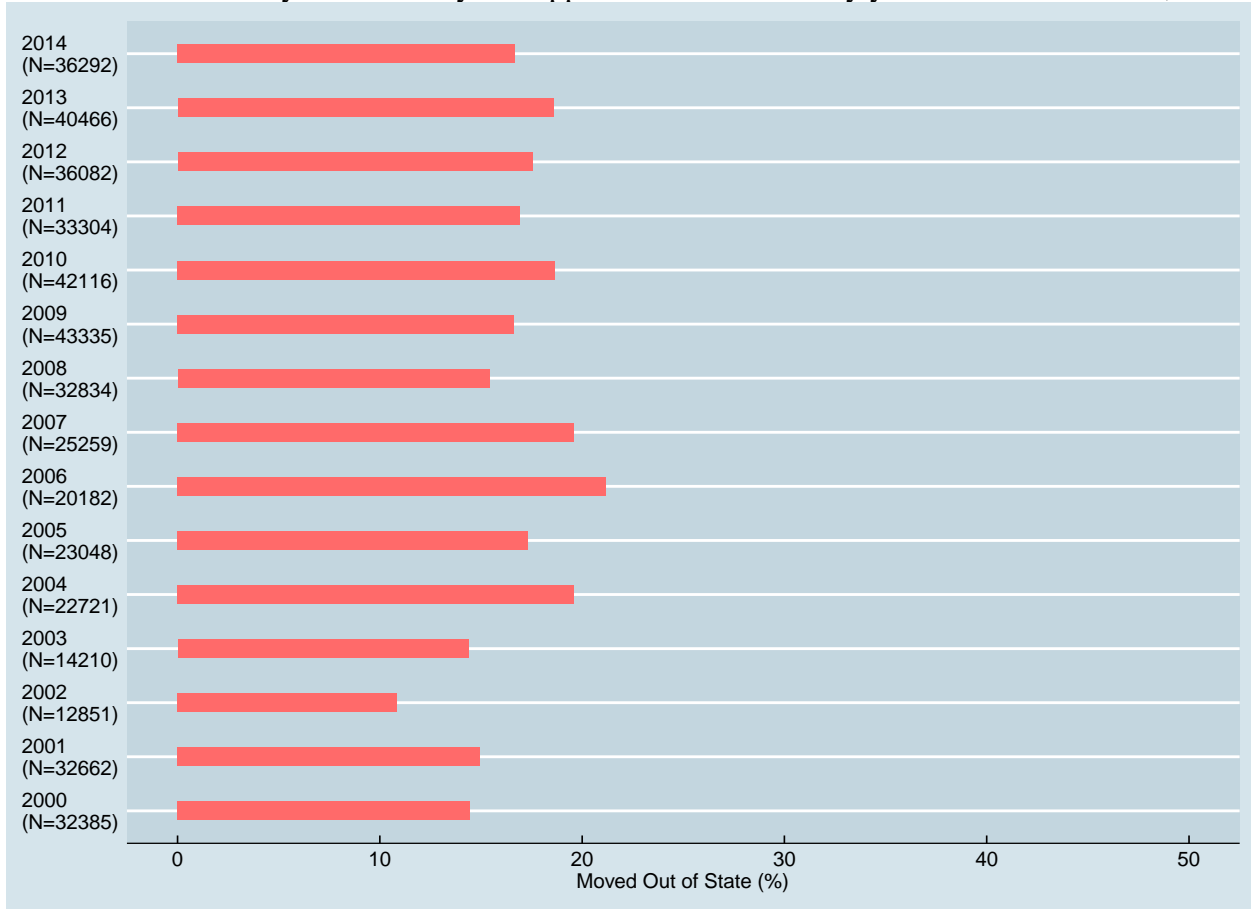


Figure S12: Secondary Migration Rate Arrival Year. Proportion of refugees who moved out of their arrival state by the time they had applied for LPR status by year of arrival. N= 447,747.



Tables

Table S1: Summary Statistics

Variable	Mean	SD	Min	Max
Moved out of State	0.17	0.38	0	1
Family Size: 1	0.34	0.47	0	1
Family Size: 2	0.45	0.5	0	1
Family Size: 3	0.12	0.33	0	1
Family Size: 4+	0.08	0.28	0	1
Relationship: Principal Applicant	0.62	0.48	0	1
Relationship: Child	0.11	0.31	0	1
Relationship: Other	0.00	0.06	0	1
Relationship: Parent	0.00	0.05	0	1
Relationship: Sibling	0.01	0.08	0	1
Relationship: Spouse	0.26	0.44	0	1
Gender: Female	0.48	0.5	0	1
Education: None/Unknown	0.19	0.4	0	1
Education: Primary	0.26	0.44	0	1
Education: Secondary	0.33	0.47	0	1
Education: Postsecondary	0.08	0.27	0	1
Education: University	0.14	0.34	0	1
Ties: No US Ties	0.29	0.45	0	1
Age: 18-20	0.12	0.32	0	1
Age: 20s	0.34	0.47	0	1
Age: 30s	0.24	0.43	0	1
Age: 40s	0.15	0.36	0	1
Age: 50s	0.08	0.28	0	1
Age: 60+	0.07	0.25	0	1
Country: Afghanistan	0.01	0.12	0	1
Country: Bhutan	0.12	0.32	0	1
Country: Bosnia And Herzegovina	0.04	0.2	0	1
Country: Burma	0.17	0.38	0	1
Country: Dem. Rep. Congo	0.02	0.13	0	1
Country: Eritrea	0.02	0.14	0	1
Country: Ethiopia	0.02	0.14	0	1
Country: Iran	0.08	0.27	0	1
Country: Iraq	0.16	0.37	0	1
Country: Liberia	0.02	0.14	0	1
Country: Other	0.1	0.3	0	1
Country: Russia	0.04	0.19	0	1
Country: Somalia	0.09	0.29	0	1
Country: Sudan	0.03	0.16	0	1
Country: Ukraine	0.04	0.21	0	1
Country: Vietnam	0.03	0.17	0	1
Year of Arrival	2007.84	4.37	2000	2014

Note: Adults refugees who arrived between 2000-2014 and had submitted their application to adjust to LPR status within 36 months of arrival. N=447,747.

Table S2: Gravity Model with Differenced State Predictors

Model No.	(1)
Difference in Share of Co-Nationals	
2nd Quintile	0.026 [*]
	(0.012)
3rd Quintile	0.033 [*]
	(0.015)
4th Quintile	0.093 [*]
	(0.021)
5th Quintile	0.174 [*]
	(0.039)
Difference in Cost of Housing	
2nd Quintile	-0.019
	(0.011)
3rd Quintile	-0.038
	(0.022)
4th Quintile	-0.057
	(0.032)
5th Quintile	-0.079
	(0.041)
Difference in Unemployment	
2nd Quintile	-0.027 [*]
	(0.009)
3rd Quintile	-0.044 [*]
	(0.013)
4th Quintile	-0.058 [*]
	(0.017)
5th Quintile	-0.081 [*]
	(0.020)
Difference in Welfare spending	
2nd Quintile	-0.001
	(0.006)
3rd Quintile	-0.007
	(0.010)
4th Quintile	-0.016
	(0.012)
5th Quintile	-0.030
	(0.016)
Difference in GDP per capita growth	
2nd Quintile	0.002
	(0.007)
3rd Quintile	0.011
	(0.012)
4th Quintile	0.026
	(0.017)
5th Quintile	0.042
	(0.023)
Difference in Democratic Governor:	
No	-0.002
	(0.006)
Yes	-0.001
	(0.011)
Stock of Arrivals	
2nd Quintile	0.029 [*]
	(0.005)
3rd Quintile	0.066 [*]
	(0.010)
4th Quintile	0.155 [*]
	(0.020)
5th Quintile	0.415 [*]
	(0.041)
Constant	-0.001
	(0.034)
Year Fixed Effects	Yes
State Pair Fixed Effects	Yes
Observations	197343

Note: Coefficients from a gravity model regressing the log total secondary state-to-state-by-origin migration flows on sending and destination state characteristics (coarsened into five equally sized bins). Robust standard errors two-way clustered on arrival and destination state in parentheses. ^{*} $p < 0.05$. Models include year and state-pair fixed effects. Includes states that received at least 1,000 refugees over the study period (2000-2014).

Table S3: Gravity Model with Alternative Welfare Proxies

Model No	(1)		(2)		(3)	
Coefficients for:	Destination State	Arrival State	Destination State	Arrival State	Destination State	Arrival State
Welfare spending (per person)						
2nd Quintile	0.009 (0.012)	0.002 (0.007)				
3rd Quintile	0.011 (0.020)	0.017 (0.010)				
4th Quintile	0.003 (0.021)	0.012 (0.013)				
5th Quintile	0.008 (0.025)	0.011 (0.013)				
TANF Rate						
2nd Quintile			0.020 (0.019)	0.009 (0.012)		
3rd Quintile			0.027 (0.028)	0.003 (0.015)		
4th Quintile			0.018 (0.038)	0.014 (0.021)		
5th Quintile			0.036 (0.050)	0.012 (0.025)		
TANF Uptake						
2nd Quintile					-0.019 (0.013)	-0.003 (0.006)
3rd Quintile					-0.020 (0.015)	-0.002 (0.009)
4th Quintile					-0.034* (0.016)	0.010 (0.013)
5th Quintile					-0.031 (0.019)	0.025 (0.018)
Share of Co-Nationals						
2nd Quintile	0.028* (0.009)	-0.007 (0.007)	0.027* (0.009)	-0.006 (0.007)	0.028* (0.009)	-0.007 (0.007)
3rd Quintile	0.087* (0.016)	-0.030* (0.011)	0.086* (0.016)	-0.030* (0.011)	0.087* (0.016)	-0.031* (0.011)
4th Quintile	0.137* (0.022)	-0.061* (0.015)	0.136* (0.022)	-0.060* (0.015)	0.138* (0.022)	-0.061* (0.015)
5th Quintile	0.207* (0.043)	-0.161* (0.035)	0.207* (0.043)	-0.160* (0.035)	0.208* (0.043)	-0.161* (0.035)
Cost of Housing						
2nd Quintile	0.004 (0.012)	0.013 (0.008)	0.002 (0.013)	0.013 (0.008)	0.004 (0.013)	0.010 (0.008)
3rd Quintile	0.018 (0.018)	0.013 (0.013)	0.016 (0.017)	0.012 (0.013)	0.016 (0.017)	0.011 (0.013)
4th Quintile	-0.008 (0.021)	0.022 (0.015)	-0.009 (0.021)	0.018 (0.016)	-0.010 (0.021)	0.015 (0.016)
5th Quintile	-0.045 (0.028)	0.031 (0.017)	-0.048 (0.030)	0.028 (0.019)	-0.042 (0.028)	0.025 (0.019)
Unemployment						
2nd Quintile	-0.018 (0.011)	0.003 (0.006)	-0.018 (0.011)	0.004 (0.006)	-0.016 (0.011)	0.004 (0.006)
3rd Quintile	-0.017 (0.013)	0.007 (0.008)	-0.017 (0.013)	0.008 (0.008)	-0.014 (0.012)	0.009 (0.008)
4th Quintile	-0.051* (0.018)	0.022 (0.012)	-0.050* (0.017)	0.025* (0.011)	-0.047* (0.017)	0.026* (0.011)
5th Quintile	-0.088* (0.025)	0.062* (0.018)	-0.086* (0.024)	0.064* (0.018)	-0.083* (0.025)	0.064* (0.018)
GDP per capita Growth						
2nd Quintile	-0.011 (0.016)	-0.030* (0.008)	-0.007 (0.016)	-0.032* (0.008)	-0.008 (0.017)	-0.036* (0.009)
3rd Quintile	-0.006 (0.022)	-0.028* (0.011)	-0.003 (0.021)	-0.025* (0.011)	-0.001 (0.022)	-0.030* (0.013)
4th Quintile	0.011 (0.023)	-0.032* (0.013)	0.011 (0.025)	-0.029 (0.013)	0.016 (0.023)	-0.032* (0.015)
5th Quintile	0.014 (0.030)	-0.026 (0.016)	0.012 (0.031)	-0.022 (0.015)	0.015 (0.029)	-0.027 (0.016)
Governor Democrat	0.004 (0.008)	-0.002 (0.005)	0.002 (0.009)	-0.003 (0.005)	0.003 (0.008)	-0.003 (0.005)
Stock of Arrivals						
2nd Quintile		0.028* (0.005)		0.029* (0.005)		0.029* (0.005)
3rd Quintile		0.066 (0.010)		0.066 (0.010)		0.066 (0.010)
4th Quintile		0.156* (0.020)		0.156* (0.020)		0.156* (0.020)
5th Quintile		0.412 (0.041)		0.412 (0.041)		0.412 (0.041)
Constant		-0.040 (0.027)		-0.073 (0.053)		-0.022 (0.029)
Year Fixed Effects		Yes		Yes		Yes
State Pair Fixed Effects		Yes		Yes		Yes
Observations		197343		197343		197343

Note: Coefficients from a gravity model regressing the log total secondary state-to-state-by-origin migration flows on sending and destination state characteristics (coarsened into five equally sized bins). Robust standard errors two-way clustered on arrival and destination state in

parentheses. * $p < 0.05$. Models include year and state-pair fixed effects. Includes states that received at least 1,000 refugees over the study period (2000-2014).

Table S4: Gravity Model with Alternative Measures of State Partisanship

Model No.	(1)		(2)		(3)		(4)	
Coefficients for:	Destination State	Arrival State	Destination State	Arrival State	Destination State	Arrival State	Destination State	Arrival State
Policy Index								
2nd Quintile	0.010 (0.015)	0.003 (0.007)						
3rd Quintile	0.026 (0.021)	0.017 (0.015)						
4th Quintile	0.039 (0.032)	0.003 (0.015)						
5th Quintile	0.082 (0.039)	-0.013 (0.020)						
Share of Dem Senate Seats								
2nd Quintile			0.003 (0.013)	-0.008 (0.009)				
3rd Quintile			-0.013 (0.016)	-0.005 (0.009)				
4th Quintile			0.007 (0.019)	-0.010 (0.011)				
5th Quintile			0.013 (0.020)	-0.016 (0.011)				
Share of Dem House Seats								
2nd Quintile					-0.016 (0.016)	0.003 (0.005)		
3rd Quintile					-0.012 (0.017)	-0.001 (0.007)		
4th Quintile					0.007 (0.020)	-0.017 (0.010)		
5th Quintile					-0.002 (0.023)	0.000 (0.013)		
Share of Dem Seats								
2nd Quintile							-0.006 (0.015)	-0.008 (0.007)
3rd Quintile							-0.011 (0.018)	-0.008 (0.011)
4th Quintile							0.003 (0.018)	-0.017 (0.009)
5th Quintile							0.012 (0.024)	-0.026 (0.012)
Share of Co-Nationals								
2nd Quintile	0.028 [*] (0.009)	-0.007 (0.007)	0.028 [*] (0.009)	-0.007 (0.007)	0.028 [*] (0.009)	-0.007 (0.007)	0.028 [*] (0.009)	-0.007 (0.007)
3rd Quintile	0.087 (0.016)	-0.030 (0.011)	0.087 (0.016)	-0.031 (0.011)	0.086 (0.016)	-0.030 (0.011)	0.086 (0.016)	-0.030 (0.011)
4th Quintile	0.137 (0.022)	-0.061 [*] (0.015)	0.138 (0.022)	-0.061 [*] (0.015)	0.137 (0.022)	-0.060 (0.015)	0.137 (0.022)	-0.061 (0.015)
5th Quintile	0.207 (0.043)	-0.161 [*] (0.035)	0.208 (0.043)	-0.161 [*] (0.035)	0.207 (0.043)	-0.161 [*] (0.035)	0.207 (0.043)	-0.160 (0.035)
Cost of Housing								
2nd Quintile	0.002 (0.013)	0.012 (0.008)	0.004 (0.014)	0.010 (0.008)	0.004 (0.012)	0.010 (0.008)	0.005 (0.013)	0.009 (0.007)
3rd Quintile	0.017 (0.017)	0.013 (0.013)	0.017 (0.018)	0.011 (0.013)	0.018 (0.017)	0.010 (0.013)	0.019 (0.018)	0.009 (0.012)
4th Quintile	-0.010 (0.021)	0.018 (0.015)	-0.011 (0.021)	0.018 (0.015)	-0.010 (0.020)	0.018 (0.015)	-0.012 (0.020)	0.019 (0.015)
5th Quintile	-0.048 (0.029)	0.028 (0.017)	-0.049 (0.030)	0.030 (0.018)	-0.048 (0.028)	0.030 (0.018)	-0.049 (0.029)	0.032 (0.017)
Unemployment								
2nd Quintile	-0.020 (0.011)	0.004 (0.006)	-0.020 (0.011)	0.004 (0.006)	-0.019 (0.011)	0.002 (0.007)	-0.018 (0.011)	0.004 (0.006)
3rd Quintile	-0.018 (0.013)	0.009 (0.008)	-0.019 (0.012)	0.009 (0.008)	-0.017 (0.013)	0.006 (0.008)	-0.018 (0.012)	0.009 (0.008)
4th Quintile	-0.053 [*] (0.018)	0.026 (0.011)	-0.053 [*] (0.017)	0.026 (0.011)	-0.049 (0.018)	0.020 (0.011)	-0.052 (0.017)	0.024 (0.011)
5th Quintile	-0.091 [*] (0.026)	0.064 [*] (0.018)	-0.094 [*] (0.025)	0.064 [*] (0.019)	-0.086 [*] (0.026)	0.057 [*] (0.018)	-0.090 [*] (0.025)	0.063 [*] (0.018)
Welfare spending								
2nd Quintile	-0.008 (0.008)	0.000 (0.005)	-0.007 (0.008)	-0.000 (0.005)	-0.007 (0.009)	-0.001 (0.005)	-0.007 (0.008)	-0.001 (0.005)
3rd Quintile	-0.012 (0.010)	-0.002 (0.005)	-0.013 (0.010)	-0.003 (0.005)	-0.013 (0.010)	-0.002 (0.005)	-0.012 (0.010)	-0.003 (0.005)
4th Quintile	-0.020 (0.013)	0.008 (0.006)	-0.021 (0.013)	0.007 (0.006)	-0.020 (0.013)	0.006 (0.006)	-0.020 (0.014)	0.007 (0.006)
5th Quintile	-0.024 (0.021)	-0.006 (0.012)	-0.021 (0.020)	-0.008 (0.011)	-0.020 (0.021)	-0.009 (0.012)	-0.022 (0.021)	-0.007 (0.012)
GDP per capita growth								
2nd Quintile	-0.010 (0.016)	-0.033 [*] (0.009)	-0.009 (0.017)	-0.031 [*] (0.009)	-0.012 (0.017)	-0.032 [*] (0.009)	-0.011 (0.017)	-0.030 [*] (0.009)
3rd Quintile	-0.003 (0.022)	-0.028 [*] (0.012)	-0.001 (0.022)	-0.027 (0.012)	-0.005 (0.024)	-0.026 (0.013)	-0.005 (0.023)	-0.024 (0.012)
4th Quintile	0.012 (0.023)	-0.031 [*] (0.014)	0.013 (0.024)	-0.029 (0.013)	0.012 (0.024)	-0.030 (0.014)	0.011 (0.023)	-0.028 (0.014)
5th Quintile	0.013 (0.030)	-0.026 (0.016)	0.017 (0.031)	-0.025 (0.016)	0.014 (0.030)	-0.026 (0.016)	0.013 (0.030)	-0.024 (0.016)
Stock of Arrivals								
2nd Quintile		0.029 [*] (0.005)		0.028 [*] (0.005)		0.029 [*] (0.005)		0.028 [*] (0.005)
3rd Quintile		0.065 [*] (0.010)		0.066 (0.010)		0.066 (0.010)		0.066 (0.010)
4th Quintile		0.156 (0.020)		0.156 (0.020)		0.156 (0.020)		0.156 (0.020)
5th Quintile		0.412 [*] (0.041)		0.412 [*] (0.041)		0.412 [*] (0.041)		0.412 [*] (0.041)
Constant		-0.062 (0.035)		-0.022 (0.034)		-0.018 (0.031)		-0.015 (0.032)
Year Fixed Effects		Yes		Yes		Yes		Yes
State Pair Fixed Effects		Yes		Yes		Yes		Yes
Observations		197343		197343		197343		197343

Note: Coefficients from a gravity model regressing the log total secondary state-to-state-by-origin migration flows on sending and destination state characteristics (coarsened into five equally sized bins). Robust standard errors two-way clustered on arrival and destination state in

parentheses. * $p < 0.05$. Models include year and state-pair fixed effects. Includes states that received at least 1,000 refugees over the study period (2000-2014).

Table S5: Estimates from Gravity Model: Robustness to Omitting Origins

Model No	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Origin Removed:	None	Afghan istan	Bhutan	Bosnia & Herzeg ovina	Burma	DRC	Eritrea	Ethiopi a	Iran	Iraq	Liberia	Russia	Somali a	Sudan	Ukrain e	Vietna m
Destination State:																
Share of Co-Nationals																
2nd Quintile	0.028* (0.009)	0.031* (0.010)	0.013 (0.009)	0.028* (0.009)	0.024* (0.008)	0.035* (0.011)	0.031* (0.010)	0.027* (0.009)	0.028* (0.009)	0.034* (0.009)	0.030* (0.009)	0.028* (0.009)	0.023* (0.009)	0.028* (0.010)	0.027* (0.009)	0.029* (0.009)
3rd Quintile	0.087* (0.016)	0.090* (0.017)	0.070* (0.014)	0.088* (0.017)	0.069* (0.014)	0.093* (0.018)	0.093* (0.018)	0.090* (0.016)	0.090* (0.017)	0.100* (0.019)	0.090* (0.017)	0.086* (0.016)	0.069* (0.015)	0.091* (0.017)	0.088* (0.017)	0.087* (0.016)
4th Quintile	0.137* (0.022)	0.137* (0.023)	0.122* (0.021)	0.141* (0.024)	0.106* (0.021)	0.144* (0.023)	0.141* (0.023)	0.149* (0.024)	0.153* (0.024)	0.141* (0.024)	0.138* (0.024)	0.141* (0.024)	0.115* (0.021)	0.147* (0.024)	0.145* (0.023)	0.137* (0.023)
5th Quintile	0.207* (0.043)	0.208* (0.044)	0.197* (0.041)	0.211* (0.045)	0.183* (0.043)	0.214* (0.044)	0.211* (0.043)	0.219* (0.046)	0.208* (0.044)	0.209* (0.046)	0.213* (0.046)	0.226* (0.047)	0.159* (0.034)	0.214* (0.044)	0.215* (0.047)	0.221* (0.046)
Arrival State: Share of Co-Nationals																
2nd Quintile	-0.007 (0.007)	-0.007 (0.007)	-0.016* (0.007)	-0.008 (0.007)	-0.012 (0.006)	-0.002 (0.008)	-0.007 (0.007)	-0.007 (0.007)	-0.009 (0.007)	-0.002 (0.007)	-0.007 (0.007)	-0.009 (0.007)	-0.003 (0.008)	-0.004 (0.008)	-0.008 (0.007)	-0.008 (0.007)
3rd Quintile	-0.030* (0.011)	-0.030* (0.011)	-0.046* (0.011)	-0.029* (0.011)	-0.031* (0.011)	-0.028* (0.012)	-0.030* (0.011)	-0.028* (0.011)	-0.029* (0.011)	-0.028* (0.012)	-0.032* (0.012)	-0.033* (0.011)	-0.022* (0.011)	-0.031* (0.012)	-0.029* (0.011)	-0.033* (0.011)
4th Quintile	-0.061* (0.015)	-0.058* (0.016)	-0.081* (0.016)	-0.056* (0.015)	-0.054* (0.014)	-0.059* (0.016)	-0.061* (0.016)	-0.064* (0.016)	-0.055* (0.015)	-0.063* (0.016)	-0.064* (0.016)	-0.062* (0.015)	-0.052* (0.016)	-0.068* (0.016)	-0.054* (0.015)	-0.063* (0.015)
5th Quintile	-0.160* (0.035)	-0.159* (0.036)	-0.182* (0.036)	-0.168* (0.037)	-0.135* (0.033)	-0.159* (0.035)	-0.160* (0.036)	-0.176* (0.039)	-0.163* (0.037)	-0.172* (0.038)	-0.167* (0.037)	-0.150* (0.035)	-0.129* (0.027)	-0.171* (0.037)	-0.158* (0.037)	-0.153* (0.034)
Destination State:																
Cost of Housing																
2nd Quintile	0.002 (0.013)	0.001 (0.014)	-0.000 (0.013)	0.001 (0.013)	-0.005 (0.009)	0.002 (0.014)	0.003 (0.012)	0.002 (0.014)	0.003 (0.014)	0.010 (0.013)	-0.000 (0.014)	0.002 (0.014)	-0.001 (0.012)	0.006 (0.014)	0.001 (0.013)	-0.001 (0.013)
3rd Quintile	0.016 (0.017)	0.014 (0.018)	0.009 (0.019)	0.016 (0.017)	0.012 (0.013)	0.018 (0.018)	0.018 (0.017)	0.019 (0.019)	0.019 (0.018)	0.023 (0.018)	0.014 (0.018)	0.017 (0.019)	0.010 (0.017)	0.021 (0.019)	0.015 (0.017)	0.011 (0.018)
4th Quintile	-0.010 (0.020)	-0.012 (0.021)	-0.015 (0.023)	-0.011 (0.021)	-0.004 (0.015)	-0.010 (0.021)	-0.005 (0.020)	-0.009 (0.022)	-0.009 (0.021)	-0.012 (0.022)	-0.011 (0.021)	-0.010 (0.021)	-0.014 (0.019)	-0.006 (0.023)	-0.010 (0.021)	-0.015 (0.021)
5th Quintile	-0.048 (0.029)	-0.050 (0.030)	-0.055 (0.031)	-0.050 (0.030)	-0.028 (0.021)	-0.047 (0.029)	-0.045 (0.029)	-0.047 (0.031)	-0.047 (0.029)	-0.057 (0.030)	-0.051 (0.030)	-0.046 (0.029)	-0.053 (0.027)	-0.046 (0.032)	-0.048 (0.029)	-0.056 (0.030)
Arrival State:																
Cost of Housing																
2nd Quintile	0.012 (0.008)	0.014 (0.008)	0.013 (0.008)	0.014 (0.008)	0.012 (0.007)	0.013 (0.008)	0.012 (0.008)	0.011 (0.008)	0.012 (0.008)	0.014* (0.007)	0.011 (0.008)	0.013 (0.008)	0.007 (0.008)	0.013 (0.008)	0.010 (0.008)	0.012 (0.008)
3rd Quintile	0.013 (0.013)	0.013 (0.013)	0.017 (0.012)	0.014 (0.013)	0.008 (0.012)	0.015 (0.014)	0.014 (0.013)	0.011 (0.013)	0.014 (0.013)	0.018 (0.010)	0.013 (0.014)	0.016 (0.013)	0.007 (0.012)	0.013 (0.014)	0.009 (0.013)	0.012 (0.013)
4th Quintile	0.020 (0.015)	0.021 (0.016)	0.021 (0.014)	0.021 (0.016)	0.018 (0.016)	0.022 (0.016)	0.020 (0.015)	0.018 (0.016)	0.019 (0.015)	0.022 (0.012)	0.019 (0.016)	0.024 (0.015)	0.010 (0.014)	0.022 (0.017)	0.016 (0.015)	0.020 (0.016)
5th Quintile	0.031 (0.018)	0.032 (0.019)	0.034 (0.018)	0.031 (0.018)	0.026 (0.018)	0.035 (0.020)	0.033 (0.018)	0.030 (0.019)	0.028 (0.017)	0.034* (0.017)	0.033 (0.019)	0.037* (0.017)	0.022 (0.017)	0.035 (0.020)	0.028 (0.017)	0.033 (0.018)
Destination State:																
Unemployment																
2nd Quintile	-0.019 (0.011)	-0.021 (0.012)	-0.018 (0.011)	-0.018 (0.011)	-0.016 (0.009)	-0.018 (0.012)	-0.020 (0.011)	-0.018 (0.012)	-0.022 (0.012)	-0.017 (0.010)	-0.019 (0.011)	-0.021 (0.012)	-0.019 (0.010)	-0.021 (0.012)	-0.020 (0.011)	-0.021 (0.012)

3rd Quintile	-0.019 (0.012)	-0.021 (0.013)	-0.018 (0.013)	-0.013 (0.012)	-0.015 (0.010)	-0.019 (0.013)	-0.022 (0.013)	-0.018 (0.013)	-0.022 (0.013)	-0.020 (0.012)	-0.018 (0.013)	-0.022 (0.013)	-0.020 (0.011)	-0.021 (0.014)	-0.020 (0.012)	-0.020 (0.013)
4th Quintile	-0.054* (0.018)	-0.057* (0.019)	-0.057* (0.018)	-0.045* (0.017)	-0.047* (0.014)	-0.055* (0.019)	-0.059* (0.018)	-0.056* (0.019)	-0.058* (0.019)	-0.054* (0.015)	-0.053* (0.018)	-0.054* (0.019)	-0.047* (0.018)	-0.058* (0.020)	-0.056* (0.018)	-0.054* (0.019)
5th Quintile	-0.092* (0.026)	-0.096* (0.027)	-0.097* (0.026)	-0.081* (0.025)	-0.070* (0.019)	-0.097* (0.028)	-0.098* (0.026)	-0.098* (0.028)	-0.099* (0.027)	-0.099* (0.025)	-0.094* (0.028)	-0.092* (0.028)	-0.081* (0.026)	-0.101* (0.029)	-0.093* (0.027)	-0.092* (0.028)
Arrival State:																
Unemployment																
2nd Quintile	0.004 (0.006)	0.005 (0.006)	0.007 (0.006)	-0.001 (0.006)	0.010 (0.006)	0.003 (0.007)	0.003 (0.006)	0.003 (0.007)	0.004 (0.007)	0.006 (0.006)	0.005 (0.006)	0.003 (0.006)	0.007 (0.006)	0.004 (0.007)	0.003 (0.006)	0.004 (0.006)
3rd Quintile	0.009 (0.007)	0.010 (0.008)	0.011 (0.008)	0.004 (0.008)	0.015* (0.007)	0.008 (0.008)	0.009 (0.008)	0.010 (0.008)	0.009 (0.008)	0.011 (0.008)	0.009 (0.008)	0.008 (0.008)	0.010 (0.006)	0.011 (0.008)	0.009 (0.008)	0.010 (0.008)
4th Quintile	0.026* (0.011)	0.028* (0.011)	0.023 (0.012)	0.020 (0.012)	0.030* (0.009)	0.025* (0.012)	0.025* (0.011)	0.026* (0.012)	0.026* (0.012)	0.027* (0.010)	0.026* (0.011)	0.025* (0.011)	0.026* (0.009)	0.029* (0.012)	0.024* (0.011)	0.027* (0.011)
5th Quintile	0.064* (0.018)	0.068* (0.019)	0.058* (0.019)	0.058* (0.020)	0.060* (0.015)	0.065* (0.021)	0.063* (0.020)	0.067* (0.019)	0.067* (0.020)	0.067* (0.016)	0.067* (0.019)	0.067* (0.019)	0.064* (0.016)	0.063* (0.020)	0.071* (0.019)	0.062* (0.019)
Destination State:																
Welfare spending																
2nd Quintile	-0.008 (0.008)	-0.009 (0.009)	-0.006 (0.009)	-0.010 (0.008)	-0.004 (0.008)	-0.010 (0.008)	-0.009 (0.009)	-0.010 (0.009)	-0.010 (0.009)	-0.013 (0.008)	-0.008 (0.009)	-0.008 (0.009)	-0.002 (0.008)	-0.009 (0.009)	-0.009 (0.009)	-0.009 (0.009)
3rd Quintile	-0.014 (0.010)	-0.013 (0.010)	-0.013 (0.011)	-0.015 (0.010)	-0.008 (0.008)	-0.016 (0.011)	-0.016 (0.011)	-0.017 (0.011)	-0.015 (0.011)	-0.020 (0.011)	-0.014 (0.011)	-0.012 (0.010)	-0.004 (0.009)	-0.015 (0.011)	-0.015 (0.010)	-0.015 (0.010)
4th Quintile	-0.019 (0.013)	-0.017 (0.013)	-0.021 (0.014)	-0.021 (0.013)	-0.012 (0.010)	-0.021 (0.014)	-0.020 (0.014)	-0.020 (0.014)	-0.020 (0.014)	-0.026 (0.015)	-0.019 (0.014)	-0.019 (0.014)	-0.008 (0.012)	-0.020 (0.014)	-0.021 (0.013)	-0.020 (0.014)
5th Quintile	-0.021 (0.021)	-0.021 (0.022)	-0.028 (0.024)	-0.025 (0.020)	-0.014 (0.014)	-0.026 (0.021)	-0.024 (0.022)	-0.024 (0.024)	-0.022 (0.022)	-0.019 (0.023)	-0.019 (0.023)	-0.017 (0.022)	-0.008 (0.019)	-0.021 (0.023)	-0.022 (0.021)	-0.021 (0.021)
Arrival State:																
Welfare spending																
2nd Quintile	0.000 (0.005)	0.002 (0.005)	0.000 (0.006)	0.002 (0.005)	0.001 (0.004)	-0.001 (0.006)	0.000 (0.006)	0.001 (0.006)	0.001 (0.006)	-0.002 (0.006)	-0.000 (0.006)	-0.000 (0.005)	0.005 (0.006)	-0.001 (0.006)	-0.000 (0.006)	-0.000 (0.005)
3rd Quintile	-0.002 (0.005)	-0.000 (0.005)	-0.001 (0.006)	-0.001 (0.005)	-0.004 (0.004)	-0.004 (0.006)	-0.001 (0.006)	-0.001 (0.006)	-0.001 (0.006)	-0.004 (0.005)	-0.003 (0.006)	-0.002 (0.005)	0.002 (0.006)	-0.002 (0.005)	-0.003 (0.005)	-0.001 (0.005)
4th Quintile	0.007 (0.006)	0.008 (0.006)	0.009 (0.006)	0.010 (0.006)	0.008 (0.005)	0.005 (0.007)	0.008 (0.006)	0.008 (0.006)	0.008 (0.007)	0.002 (0.006)	0.005 (0.006)	0.006 (0.006)	0.009 (0.006)	0.007 (0.006)	0.005 (0.006)	0.008 (0.006)
5th Quintile	-0.008 (0.012)	-0.006 (0.012)	-0.010 (0.012)	-0.006 (0.013)	-0.003 (0.009)	-0.013 (0.013)	-0.008 (0.013)	-0.010 (0.013)	-0.007 (0.013)	-0.007 (0.011)	-0.007 (0.013)	-0.008 (0.012)	-0.006 (0.011)	-0.010 (0.013)	-0.009 (0.012)	-0.007 (0.012)
Destination State:																
GDP per capita growth																
2nd Quintile	-0.009 (0.017)	-0.008 (0.018)	-0.005 (0.017)	-0.013 (0.017)	-0.010 (0.013)	-0.010 (0.018)	-0.014 (0.017)	-0.012 (0.018)	-0.010 (0.018)	0.006 (0.013)	-0.010 (0.017)	-0.005 (0.018)	-0.010 (0.017)	-0.011 (0.018)	-0.008 (0.017)	-0.009 (0.018)
3rd Quintile	-0.002 (0.023)	-0.003 (0.024)	-0.001 (0.024)	-0.005 (0.024)	0.004 (0.016)	-0.004 (0.024)	-0.006 (0.023)	-0.006 (0.024)	-0.002 (0.024)	0.015 (0.020)	-0.005 (0.023)	0.001 (0.025)	-0.009 (0.021)	-0.003 (0.024)	0.000 (0.022)	-0.004 (0.024)
4th Quintile	0.014 (0.024)	0.014 (0.025)	0.017 (0.025)	0.007 (0.025)	0.014 (0.017)	0.011 (0.025)	0.010 (0.024)	0.009 (0.026)	0.014 (0.026)	0.034 (0.022)	0.015 (0.024)	0.019 (0.024)	0.002 (0.022)	0.012 (0.025)	0.014 (0.023)	0.012 (0.025)
5th Quintile	0.016 (0.030)	0.018 (0.031)	0.019 (0.033)	0.010 (0.032)	0.012 (0.023)	0.014 (0.033)	0.012 (0.031)	0.010 (0.034)	0.020 (0.033)	0.040 (0.028)	0.015 (0.032)	0.022 (0.031)	-0.003 (0.031)	0.015 (0.032)	0.017 (0.030)	0.014 (0.031)
Arrival State:																
GDP per capita growth																
2nd Quintile	-0.032* (0.009)	-0.033* (0.009)	-0.032* (0.008)	-0.033* (0.008)	-0.022* (0.008)	-0.036* (0.009)	-0.033* (0.009)	-0.034* (0.009)	-0.035* (0.009)	-0.029* (0.008)	-0.034* (0.009)	-0.031* (0.008)	-0.031* (0.009)	-0.034* (0.009)	-0.031* (0.009)	-0.032* (0.009)

3rd Quintile	-0.027*	-0.030*	-0.029*	-0.030*	-0.011	-0.034*	-0.030*	-0.029*	-0.031*	-0.024*	-0.028*	-0.026*	-0.026*	-0.030*	-0.027*	-0.026*
	(0.012)	(0.013)	(0.012)	(0.013)	(0.010)	(0.013)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)	(0.011)	(0.011)	(0.013)	(0.013)	(0.012)
4th Quintile	-0.030*	-0.031*	-0.028*	-0.033*	-0.014	-0.037*	-0.031*	-0.032*	-0.033*	-0.028*	-0.031*	-0.030*	-0.030*	-0.033*	-0.032*	-0.029*
	(0.014)	(0.015)	(0.012)	(0.015)	(0.012)	(0.015)	(0.015)	(0.015)	(0.015)	(0.013)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
5th Quintile	-0.026	-0.027	-0.022	-0.029	-0.018	-0.033	-0.029	-0.025	-0.027	-0.025	-0.025	-0.028	-0.023	-0.027	-0.024	-0.026
	(0.016)	(0.017)	(0.016)	(0.017)	(0.013)	(0.018)	(0.017)	(0.017)	(0.017)	(0.015)	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)	(0.017)
Destination State:	0.003	0.002	0.003	0.003	0.008	0.004	0.005	0.004	0.003	0.002	0.004	0.004	-0.001	0.004	0.002	0.004
Democratic Governor	(0.009)	(0.009)	(0.009)	(0.009)	(0.006)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Arrival State:	-0.002	-0.002	0.002	-0.001	-0.001	-0.001	-0.003	-0.001	-0.001	-0.002	-0.001	-0.005	-0.000	-0.001	-0.004	-0.002
Democratic Governor	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.006)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)
Stock of Arrivals																
2nd Quintile	0.029*	0.028*	0.030*	0.029*	0.026*	0.030*	0.029*	0.027*	0.030*	0.030*	0.028*	0.028*	0.027*	0.028*	0.028*	0.030*
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
3rd Quintile	0.066*	0.066*	0.070*	0.067*	0.062*	0.069*	0.065*	0.063*	0.065*	0.069*	0.064*	0.065*	0.056*	0.066*	0.064*	0.068*
	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)	(0.011)	(0.010)	(0.009)	(0.010)	(0.011)	(0.010)	(0.010)	(0.008)	(0.011)	(0.010)	(0.010)
4th Quintile	0.156*	0.156*	0.166*	0.159*	0.150*	0.163*	0.153*	0.152*	0.157*	0.163*	0.151*	0.157*	0.136*	0.161*	0.155*	0.158*
	(0.020)	(0.020)	(0.021)	(0.021)	(0.020)	(0.021)	(0.021)	(0.019)	(0.020)	(0.021)	(0.020)	(0.020)	(0.018)	(0.021)	(0.020)	(0.020)
5th Quintile	0.412*	0.413*	0.451*	0.420*	0.355*	0.421*	0.415*	0.407*	0.412*	0.428*	0.409*	0.422*	0.373*	0.417*	0.413*	0.416*
	(0.041)	(0.042)	(0.046)	(0.044)	(0.040)	(0.043)	(0.042)	(0.041)	(0.042)	(0.045)	(0.042)	(0.043)	(0.038)	(0.042)	(0.042)	(0.042)
Constant	-0.029	-0.032	-0.019	-0.022	-0.021	-0.038	-0.028	-0.026	-0.030	-0.048	-0.028	-0.032	-0.012	-0.034	-0.023	-0.031
	(0.025)	(0.026)	(0.023)	(0.024)	(0.022)	(0.028)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.023)	(0.026)	(0.025)	(0.025)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Pair Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	197343	185550	183256	190925	182499	183689	185786	182485	182746	181932	185329	186275	179131	179361	187234	186604

Note: Coefficients from a gravity model regressing the log total secondary state-to-state-by-origin migration flows on sending and destination state characteristics (coarsened into five equally sized bins). Robust standard errors two-way clustered on arrival and destination state in parentheses. * $p < 0.05$. Models include year and state-pair fixed effects. Includes states that received at least 1,000 refugees over the study period (2000-2014). The first column shows the model for the full sample, each other column shows the estimates when one origin group is omitted from the sample at a time (see top row for the excluded origin group).