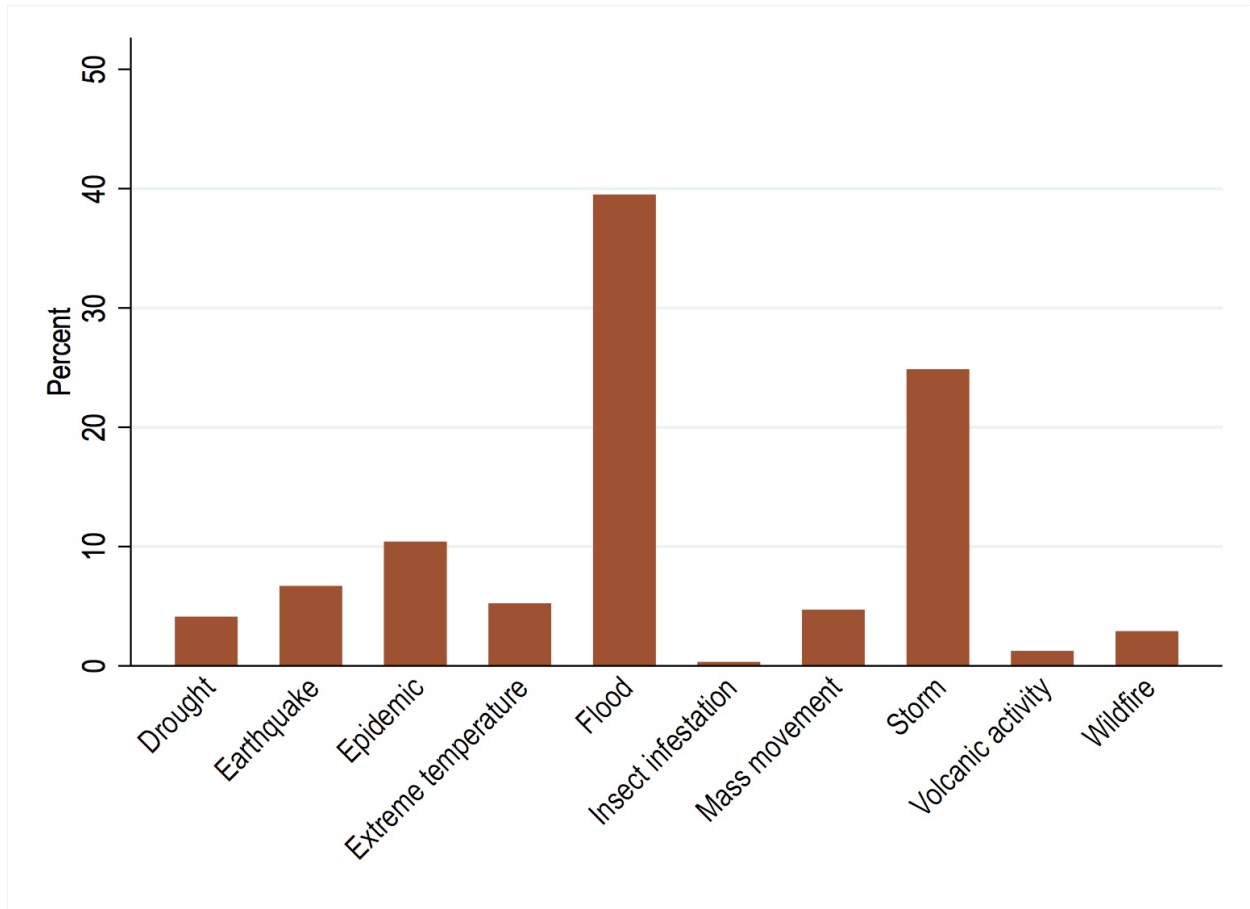


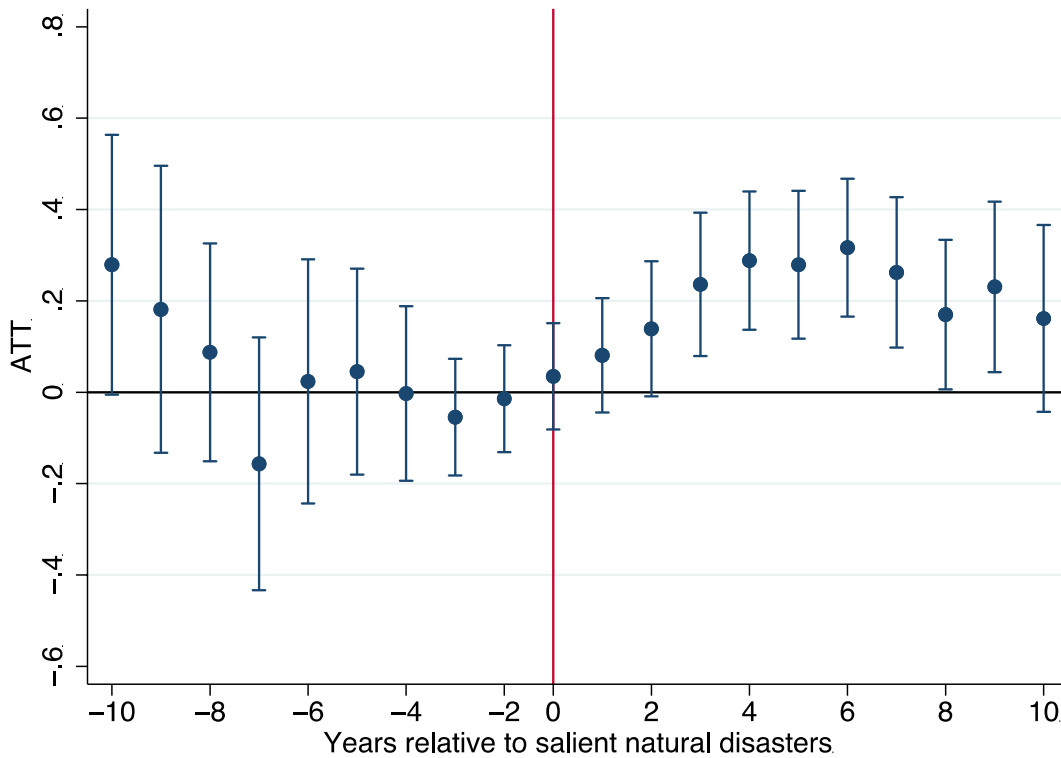
## Online Appendix

Figure A1: Percent of natural disasters by type, 2000-2019



**Notes:** Authors' compilation. Mass movement includes landslides and rockfalls. Flood includes coastal floods, riverine floods, and flash floods. Storm includes tropical cyclones, convective storms, and extra-tropical storms.  
**Sources:** EM-DAT International Disaster Database for years 2000 to 2019.

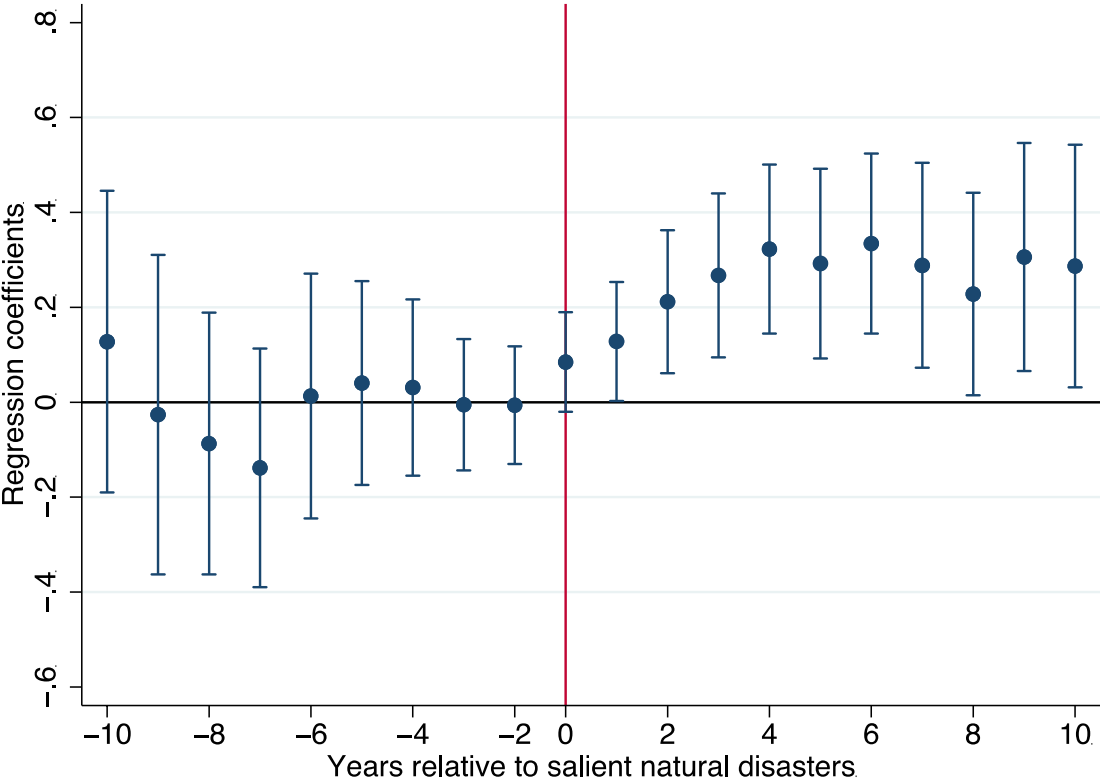
Figure A2: Robustness check: Sun and Abraham event study estimates predicting the effect of home country natural disasters on immigrant removals



**Notes:** Authors' compilation. Figure shows results from event studies predicting log total immigrant removals estimated using Sun and Abraham (2021). Model includes the following baseline controls: TPS, disaster readiness, disaster vulnerability, U.S. male immigrant population age 18 to 65 (logged), U.S. immigrant population age 18 to 65 with a high school degree or less (logged), and country unemployment rate. Models also include country and year fixed effects. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters in the prior year.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

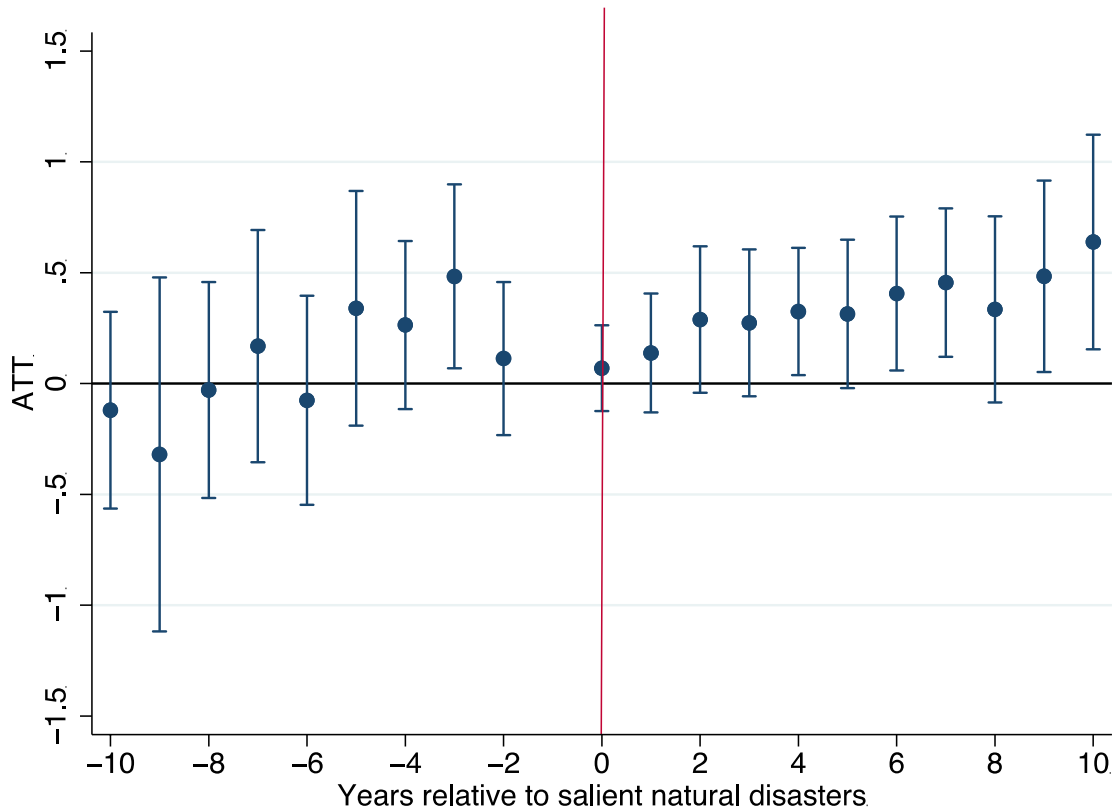
Figure A3: Robustness check: Two-way fixed effects event study estimates predicting the effect of home country natural disasters on immigrant removals



**Notes:** Authors’ compilation. Figure shows results from event studies predicting log total immigrant removals estimated using two-way fixed effects. Model includes only country and year fixed effects. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters over the prior year.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

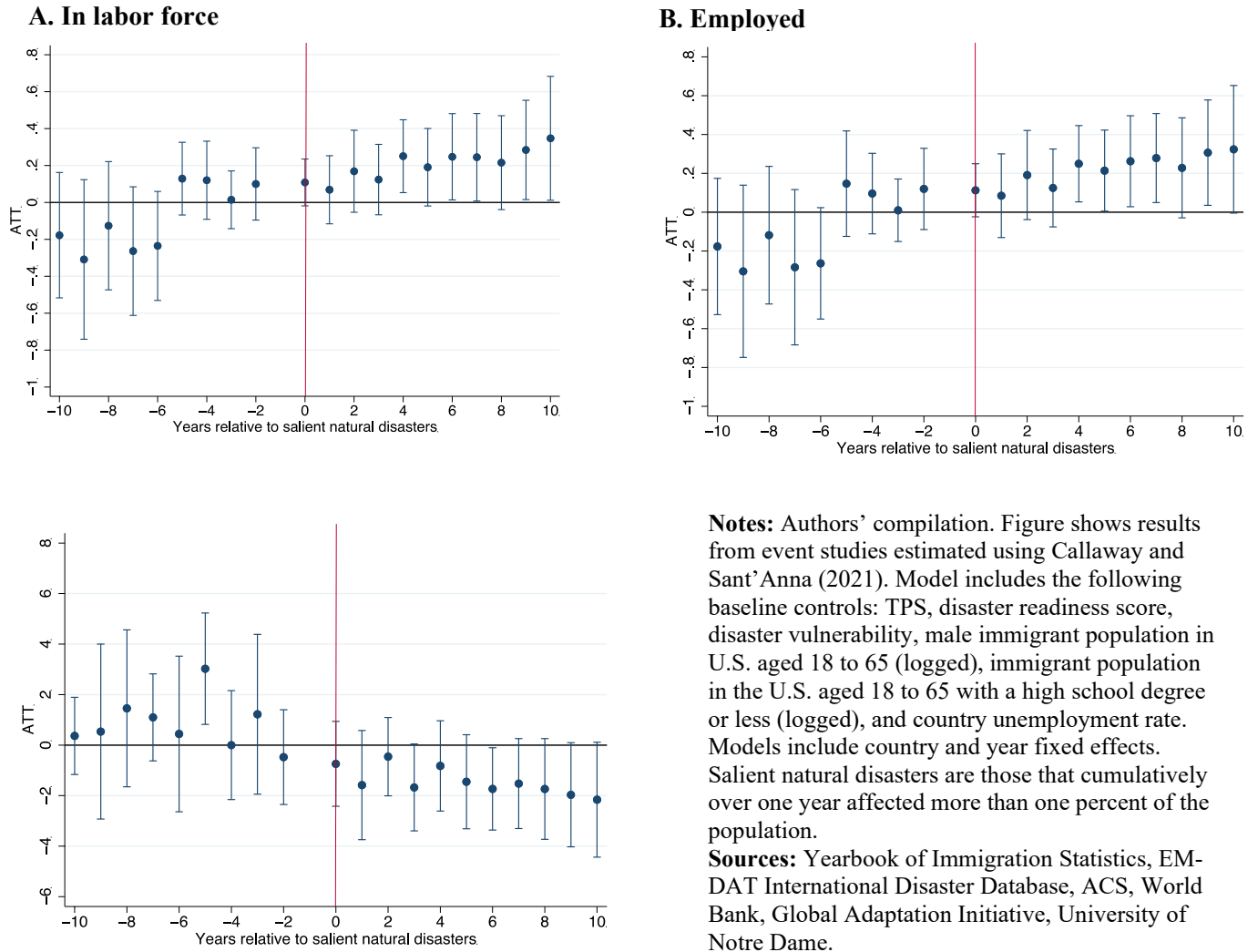
**Figure A4: Event study estimates predicting the effect of home country natural disasters on immigrant apprehensions**



**Notes:** Authors' compilation. Figure shows results from event studies predicting immigrant apprehensions (logged) estimated using Callaway and Sant'Anna (2021). Model includes baseline controls: TPS, disaster readiness, disaster vulnerability, U.S. male immigrant population age 18 to 65 (logged), U.S. immigrant population age 18 to 65 with a high school degree or less (logged), and country unemployment rate. Model includes country and year fixed effects. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters over the prior year. The post-period aggregate estimate is 0.33 (significant at the 5 percent level). The pre-period estimate is 0.092 (statistically insignificant).

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Figure A5: Event study estimates predicting the effect of home country natural disasters on likely undocumented immigrant labor market outcomes

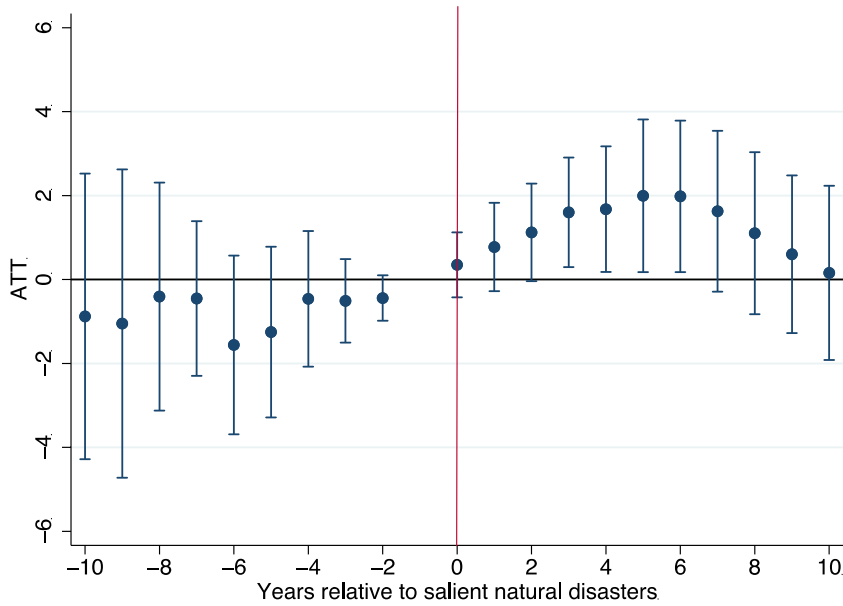


**Notes:** Authors' compilation. Figure shows results from event studies estimated using Callaway and Sant'Anna (2021). Model includes the following baseline controls: TPS, disaster readiness score, disaster vulnerability, male immigrant population in U.S. aged 18 to 65 (logged), immigrant population in the U.S. aged 18 to 65 with a high school degree or less (logged), and country unemployment rate. Models include country and year fixed effects. Salient natural disasters are those that cumulatively over one year affected more than one percent of the population.

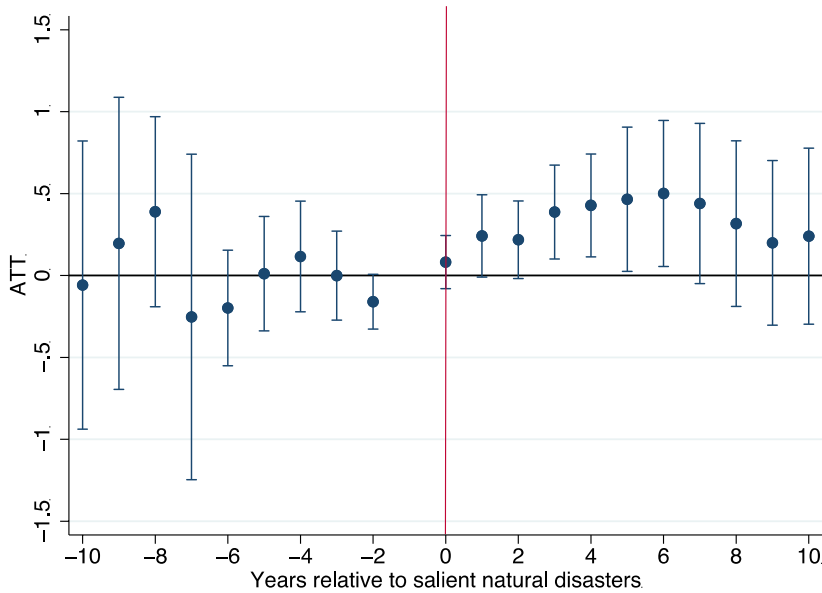
**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank, Global Adaptation Initiative, University of Notre Dame.

Figure A6: Event study estimates predicting the effect of home country natural disasters on immigrant remittances

**A. Remittances as percent of GDP**



**B. Personal transfers (logged)**



**Notes:** Authors' compilation. Figure shows results from event studies predicting remittance flows and estimated using Callaway and Sant'Anna (2021). Models include the following controls: country disaster readiness, country disaster vulnerability, country unemployment rate. All models include country and year fixed effects. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters over the prior year.

**Sources:** EM-DAT International Disaster Database, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Table A1: Effect of home country natural disasters on immigrant removals using lower cutoff (disasters above the 75<sup>th</sup> percentile)

DV: Log(total removals)	(1)	(2)
Pre-Disaster	-0.025 (0.104)	0.221 (0.145)
Post-Disaster	0.105 (0.085)	0.044 (0.107)
Observations	1,877	1,556
Country and immigrant demographic controls	No	Yes
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes

Standard errors in parentheses (clustered by country)

\*\*p<0.01, \*p<0.05

**Notes:** Authors' compilation. Models estimated using Callaway and Sant'Anna (2021). Baseline country and immigrant demographic controls include: TPS, home country disaster readiness, home country disaster vulnerability, U.S. immigrant male population aged 18 to 65 (logged), U.S. immigrant population aged 18 to 65 with a high school degree or less (logged), and home country unemployment rate. Always treated units are omitted from the analyses. Disaster equals one in the year a country experience natural disasters that cumulatively affected or killed more than 0.002 percent of the home country population.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Table A2: Robustness check: Effect of home country natural disasters on immigrant removals using Sun and Abraham estimator

<b>DV: Log(total removals)</b>	<b>(1)</b>	<b>(2)</b>
<b><i>Panel A. One percent threshold</i></b>		
Pre-Disaster	-0.044 (0.068)	0.043 (0.065)
Post-Disaster	0.182** (0.052)	0.200** (0.056)
Observations	2,239	2,018
<b><i>Panel B. Five percent threshold</i></b>		
Pre-Disaster	0.075 (0.086)	0.170* (0.067)
Post-Disaster	0.162** (0.066)	0.198** (0.071)
Observations	2,465	2,220
<b><i>Panel C. Ten percent threshold</i></b>		
Pre-Disaster	0.014 (0.094)	0.086 (0.084)
Post-Disaster	0.227** (0.078)	0.266** (0.084)
Observations	2,578	2,329
Country and immigrant demographic controls	No	Yes
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes

Standard errors in parentheses (clustered by country)

\*\*p<0.01, \*p<0.05

**Notes:** Authors' compilation. Table shows Sun and Abraham (2021) estimators predicting log total immigrant removals using alternative cutoffs to define salient natural disasters. All models include the following baseline country and immigrant demographic controls: TPS, home country readiness score, home country disaster vulnerability score, U.S. immigrant male population age 18 to 65 (logged), U.S. immigrant population age 18 to 65 with a high school degree or less, and home country unemployment rate (logged). Always treated units are omitted from the analyses.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Table A3: Robustness check: Effect of home country natural disasters on immigrant removals using alternative time windows

DV: log(total Removals)	Years relative to salient natural disasters				
	Five (1)	Six (2)	Seven (3)	Eight (4)	Nine (5)
Pre-Disaster	-0.130 (0.097)	-0.077 (0.099)	-0.072 (0.111)	-0.088 (0.121)	-0.053 (0.128)
Post-Disaster	0.223* (0.092)	0.236* (0.097)	0.252* (0.102)	0.248* (0.109)	0.255* (0.116)
Observations	1,793	1,793	1,793	1,793	1,793

Standard errors in parentheses (clustered by country)

\*\*p<0.01, \*p<0.05

**Notes:** Authors' compilation. Table shows Callaway and Sant'Anna (2021) estimators predicting log total immigrant removals using alternative time windows. All models include the following baseline country and immigrant demographic controls: TPS, home country readiness score, home country disaster vulnerability score, U.S. immigrant male population age 18 to 65 (logged), U.S. immigrant population age 18 to 65 with a high school degree or less (logged), and home country unemployment rate. All models include country and year fixed effects. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters over the prior year.

Always treated units are omitted from the analyses.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Table A4: Effect of home country natural disasters on immigrant removals by number of exposures

	<b>Only one exposure</b>	<b>Multiple exposures</b>
<b>DV: Log(total removals)</b>	<b>(1)</b>	<b>(2)</b>
Pre-Disaster	0.042 (0.121)	-0.090 (0.118)
Post-Disaster	0.334* (0.162)	0.245** (0.091)
Observations	1,121	1,870

Standard errors in parentheses (clustered by country)

\*\*p<0.01, \*p<0.05

**Notes:** Authors' compilation. Table shows Callaway and Sant'Anna (2021) estimators predicting log total immigrant removals using alternative samples. Column (1) is restricted to countries that experienced no natural disasters that cumulatively affected or killed more than one percent of a country's population as well as countries that experienced such disasters in only one year. Column (2) consists of countries that that experienced no natural disasters that cumulatively affected or killed more than one percent of a country's population as well as countries that experienced such disasters in two or more years. All models include the following baseline country and immigrant demographic controls: TPS, home country readiness score, home country disaster vulnerability score, U.S. immigrant male population age 18 to 65 (logged), U.S. immigrant population age 18 to 65 with a high school degree or less, (logged) and home country unemployment rate. Models include country and year fixed effects. Always treated units are omitted from the analyses.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Table A5: Effect of home country natural disasters on likely undocumented immigrant labor market outcomes

	<b>Labor force participation</b>	<b>Employed</b>	<b>Hours worked per week</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
Pre-Disaster	-0.083 (0.072)	-0.086 (0.078)	0.852 (0.701)
Post-Disaster	0.204* (0.092)	0.216* (0.095)	-1.441* (0.727)
Country and immigrant controls	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,907	1,907	1,909

Standard errors in parentheses (clustered by country)

\*\*p<0.01, \*p<0.05, +p<0.1

**Notes:** Table shows Callaway and Sant’Anna (2021) estimators. All models include the following baseline country and immigrant demographic controls: TPS, home country readiness score, home country disaster vulnerability score, U.S. immigrant male population age 18 to 65 (logged), U.S. immigrant population age 18 to 65 with a high school degree or less (logged), and home country unemployment rate. Models include country and year fixed effects. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters over the prior year. Always treated units are omitted from the analyses.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Table A6: Robustness check: Employment outcomes with individual-level data

	<b>Labor force</b>	<b>Employed</b>	<b>Hours worked</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
<b>A. Noncitizen immigrants</b>			
Pre-disaster	-0.012** (0.004)	-0.016** (0.004)	0.096 (0.100)
Post-disaster	0.004 (0.003)	0.008* (0.003)	0.284* (0.113)
Observations	1,477,491	1,477,491	1,477,491
<b>B. Likely undocumented immigrants</b>			
Pre-disaster	-0.012* (0.005)	-0.017* (0.007)	-0.049 (0.142)
Post-disaster	0.005 (0.004)	0.007 (0.004)	0.254 (0.170)
Observations	878,270	878,270	878,270

Standard errors in parentheses (clustered by country)

\*\*p<0.01, \*p<0.05

**Notes:** Authors' compilation. Table shows Sun and Abraham (2021) estimators. All models include the following immigrant demographic controls: male indicator, number of children, Hispanic ethnicity, Black, Asian, Other race or ethnicity, age in years, indicator for presence in the United States for less than 10 years, married, speaks only English, does not speak English or has limited English proficiency, high school or less, some college, migrated before age 12. Models include baseline controls for home country readiness, vulnerability, and unemployment. Always treated units are omitted from the analyses. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters over the prior year.

**Sources:** Yearbook of Immigration Statistics, EM-DAT International Disaster Database, ACS, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.

Table A7: Effect of home country natural disasters on remittances

	<b>Remittances as percent of GDP (1)</b>	<b>Personal transfers (logged) (2)</b>
Pre-Disaster	-0.779 (0.798)	0.022 (0.171)
Post-Disaster	1.181 (0.740)	0.224 (0.160)
Observations	2,058	1,986

Standard errors in parentheses (clustered by country)

\*\*p<0.01, \*p<0.05

**Notes:** Authors' compilation. Table shows results estimated with Callaway and Sant'Anna (2021) estimator. All models include the following baseline home country controls: readiness score, disaster vulnerability score, and unemployment rate. All models include country and year fixed effects. Always treated are omitted from the analyses. Salient natural disasters are those in which more than one percent of the population was affected or killed by natural disasters over the prior year.

**Sources:** EM-DAT International Disaster Database, World Bank indicators, Global Adaptation Initiative, University of Notre Dame.