

**The economic case for or against refugees:  
The impact on international trade flows**

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## **Worldwide Refugee Admissions Processing System (WRAPS) Data set**

- From the Refugee Processing Center (RPC), Bureau of Population, Refugees, and Migration (PRM), U.S. State Department.
- Individual-level data on all refugees who arrived to the U.S. between 1990 and 2015.
- Year of arrival, city and state of placement within the U.S., socio-economic characteristics (such as age, gender, marital status, education, occupation), country of origin, type of refugee (U.S. tie vs. non U.S. tie), ...

# The impact of refugees to the United States

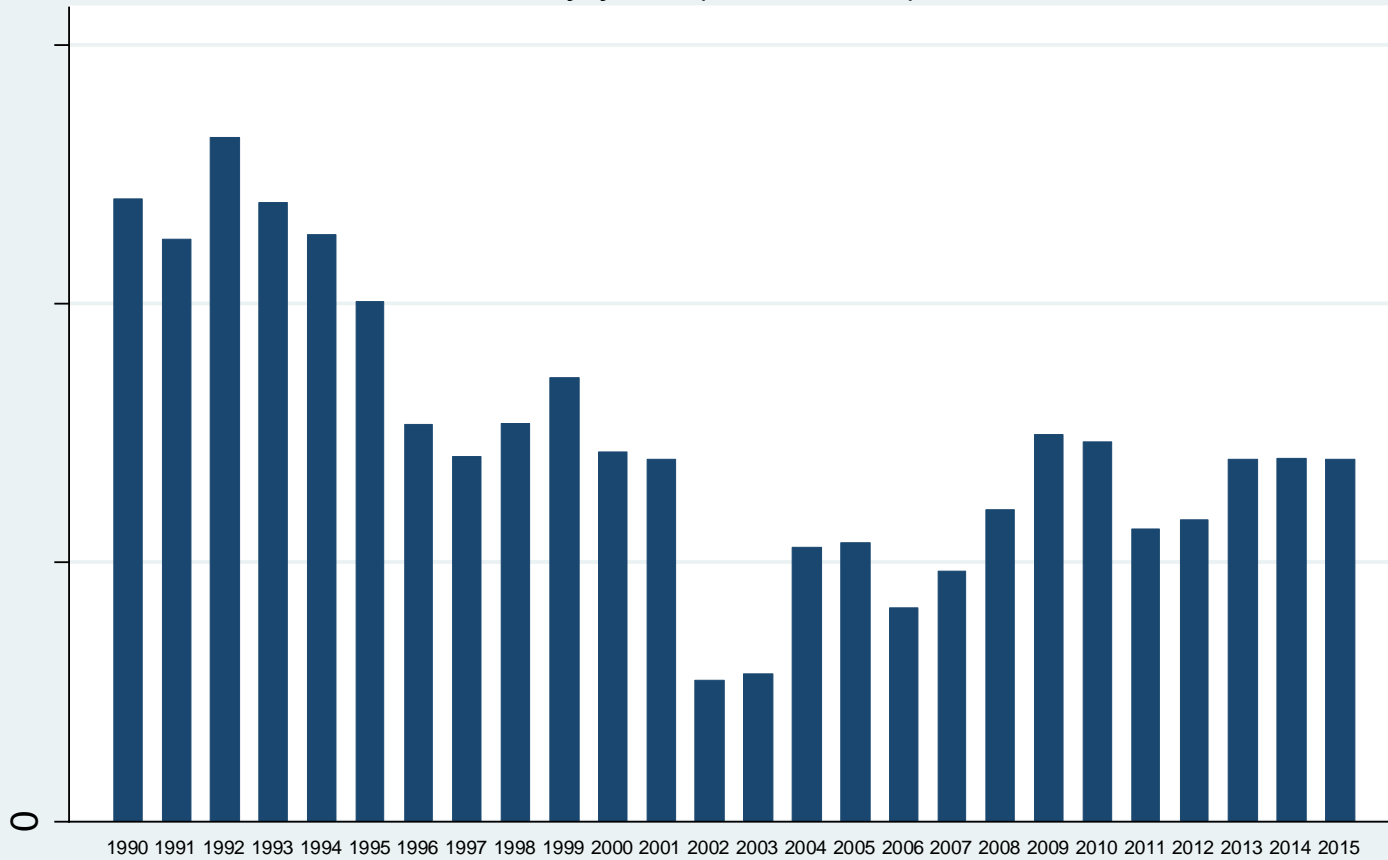
- The WRAPS data set makes it possible to analyze the impact of refugees on local U.S. communities.
- This impact can take place through different channels:
  - Labor-market channel
  - Price channel
  - Government budget channel
  - International trade channel 
  - Non-economic channels (cultural, political, security/crime potential effects, among others)

# Outline of this presentation

- Summary statistics of the WRAPS refugees data: tables & figures
- Results on the international trade channel

Figure 1a: Total number of refugees to the U.S. by year, 1990-2015

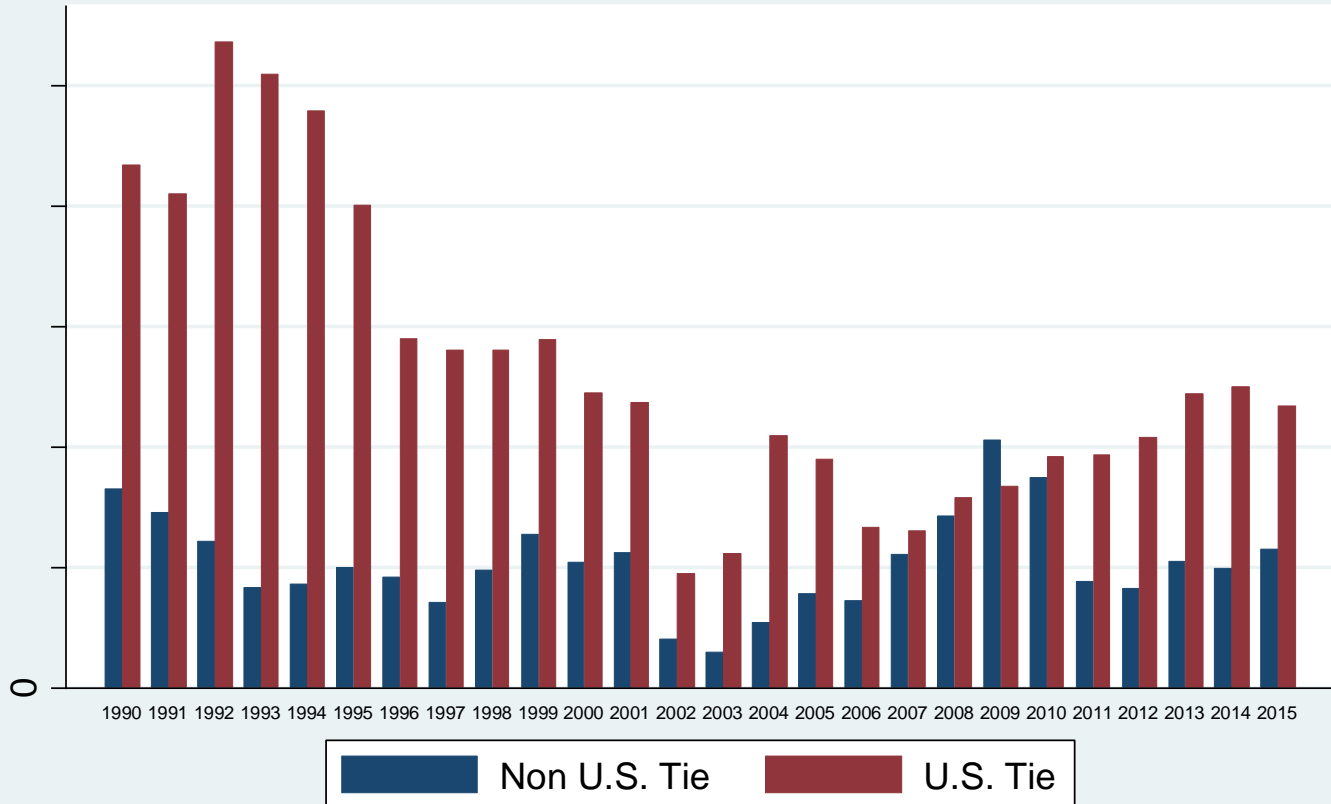
### Number of Refugees to the U.S. by year (1990-2015)



Source: WRAPS data set, Bureau of Population, Refugees and Migration, U.S. State Department

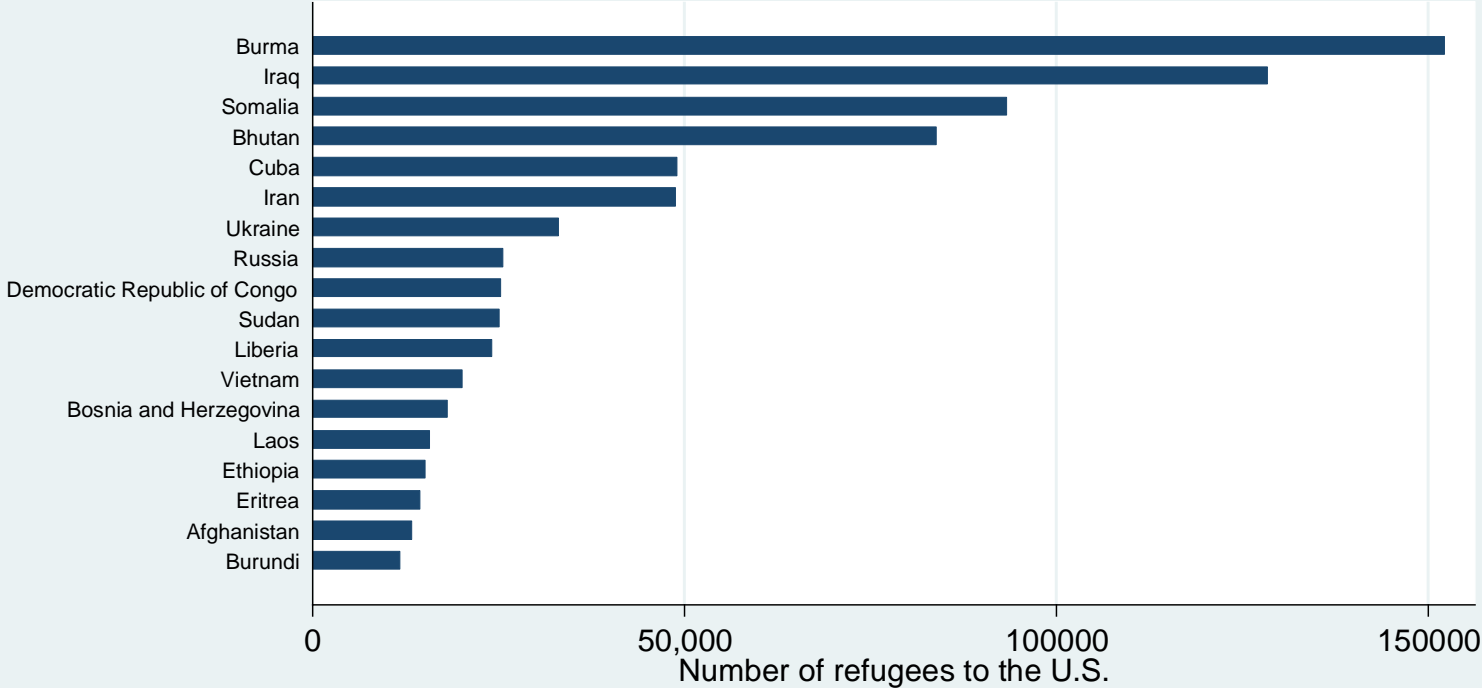
Figure 1b: Number of refugees to the U.S. by year, U.S. Tie vs. Non U.S. Tie, 1990-2015

## Number of Refugees to the U.S., U.S. Tie vs. Non U.S. Tie by year (1990-2015)



Source: WRAPS data set, Bureau of Population, Refugees and Migration, U.S. State Department

# Number of Refugees to the U.S. (2000-2015) by nationality (for nationalities with numbers > 10000)



Source: WRAPS data set, Bureau of Population, Refugees and Migration, U.S. State Department

**Table 2: Total number of refugees to the U.S. by state, top 10 U.S. states, 1990-2015**

U.S. state	2000-2015		Cum.
	Freq.	Percent	
CA	102,938	12.05	12.05
TX	75,156	8.8	20.85
NY	53,910	6.31	27.17
FL	46,558	5.45	32.62
MN	40,582	4.75	37.37
WA	40,128	4.7	42.07
AZ	35,842	4.2	46.27
MI	34,982	4.1	50.36
GA	33,827	3.96	54.32
PA	30,605	3.58	57.91



## International trade channel

- Refugees often keep close ties with their country of origin and with the network of migrants from the same origin country.
- Hence refugees can reduce bilateral transaction costs – which are usually associated with asymmetric information and imperfect contract enforcement – in business interactions. This should increase *exports from the U.S. to refugees' origin countries*. It will also increase *imports to the U.S. from refugees' origin countries*.
- Refugees may increase demand in the U.S. for goods produced back home: This should increase *imports to the U.S. from refugees' origin countries*.
- These effects will boost trade flows between the two locations and raise welfare.
- At the same time, refugees come from countries which are characterized by difficult political and economic conditions. This will affect the trade impacts.

## Related literature on refugees and trade

- There exists a large literature analyzing the impact of migration to the U.S. on international trade and FDI flows. The most recent contributions in this literature are careful in tackling the issue of endogeneity.
- Parsons and Vezina (2014) show that, after the end of the 1994 trade embargo on Vietnam, the share of U.S. exports going to Vietnam was higher in those U.S. states with larger Vietnamese communities, which were the ones receiving larger refugee inflows 20 years earlier.
- Steingress (2015) exploits the exogenous allocation of some refugees, those without family in the U.S., to provide causal evidence on the trade-enhancing effect of overall migration.
- Burchardi et al. (2016) use the ethnic composition of U.S. states, from the 19th century onwards, to predict the current immigrant population and to estimate its causal impact on foreign direct investment.
- Cohen et al. (2017) use the location of World War II Japanese internment camps to instrument for the size of the Japanese population in local communities in the U.S. The paper finds that today firms in areas close to internment camps import from and export to Japan significantly more than other firms.

# Strategy of the empirical analysis

- Our empirical analysis exploits variation in the number of refugees across U.S. states and origin countries, over time.
- It also uses bilateral imports and exports data by U.S. state and country of origin, which are only available for recent years.
- We focus on exports and imports in, respectively, 2008 and 2013 and regress them on lagged refugee stocks (which we measure as a share of the state population in the year 2000).
- We lag refugee stocks to account for the fact that it takes time for refugees to establish themselves in their destinations and affect trade flows to/from their countries of origin.
- In addition, by focusing on two years of trade data five years apart, we only exploit variation in the stock of refugees over a five-year period – since the yearly numbers of refugee arrivals by country of origin are small, it makes sense to look at lower-frequency changes.

# Strategy of the empirical analysis (cont.)

- Hence the estimating equations look as follows:

$$\log(exp_{sct}) = \beta \cdot \frac{refstock_{sc(t-5)}}{P_s^{2000}} + \delta_{sc} + \delta_{st} + \delta_{ct} + \varepsilon_{sct} \quad (1)$$

$$\log(imp_{sct}) = \beta \cdot \frac{refstock_{sc(t-5)}}{P_s^{2000}} + \delta_{sc} + \delta_{st} + \delta_{ct} + \varepsilon_{sct} \quad (2)$$

which in first differences become:

$$\log(exp_{sc,2013}) - \log(exp_{sc,2008}) = \beta \cdot \frac{\sum_{t=2004}^{2008} ref_{sct}}{P_s^{2000}} + \delta_s + \delta_c + \varepsilon_{sc} \quad (1')$$

$$\log(imp_{sc,2013}) - \log(imp_{sc,2008}) = \beta \cdot \frac{\sum_{t=2004}^{2008} ref_{sct}}{P_s^{2000}} + \delta_s + \delta_c + \varepsilon_{sc} \quad (2')$$

## Strategy of the empirical analysis (cont.)

- We include state-by-year, state-by-origin-country and origin-country-by-year fixed effects. Hence we analyze variation for a given country of origin and state pair over time.
- In other words: we control for the effect of changing economic conditions both in the U.S. state of placement and in refugees' origin country as well as for the fact that some U.S. states may be “natural” trading partners of a given origin country independently from refugees.

## **Additional threats to identification of a causal effect:**

1. Sorting at the individual level: For example, if refugees were free to choose where to locate, they might go to states where there are more trade opportunities with their origin country.

This is not an issue since:

- *We instrument the change in the total stock of refugees with the number of arrivals of no-U.S.-tie refugee cases (i.e. those with no family members already in the U.S.)*
- The placement upon arrival of no-U.S.-tie refugee cases is decided by resettlement agencies, not by the refugees.

## **Additional threats to identification of a causal effect (cont.):**

2. Strategic placement by resettlement agencies: For example, a given state may have greater opportunities for trade with a specific origin country, hence the resettlement agency may send refugees from that country to that city.
  - Given the fixed effects, this is an issue only if resettlement agencies can decide the U.S. state of placement according to time-varying information on trade opportunities between a state and an origin country.
  - This is unlikely given delays.
  - In her analysis of the impact of networks on refugees' labor market integration, Beaman (2012) makes the same point: arrival delays prevent resettlement agencies to be strategic in their placement of refugees with respect to time-varying factors.

“Overall, the IRC employee who is solely in charge of placement states that the effectiveness of strategic decision-making is limited since she never knows when a refugee who is assigned to the IRC by the State Department will actually be allowed to travel. To highlight the stochastic component, consider 2005: there were cases that were given refugee status in 2001 but who arrived in 2005 due to delays associated with heightened September 11, 2001 security requirements.” (Beaman 2012, p.139).

Note that IRC (International Rescue Committee) is one of the nine U.S. refugee resettlement agencies.



Table 1. The impact of refugees resettled to the U.S. on international trade flows

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	log(Exports)	log(Imports)	log(Exports)	log(Imports)	log(Exports)	log(Imports)	log(Exports)	log(Imports)
	Instrumental Variable estimates							
Number of refugees (share of state population in 2000)	0.0384 [0.0612]	-0.131** [0.0584]	0.0267 [0.0577]	-0.120* [0.0603]	0.156*** [0.0528]	0.0425 [0.221]	0.159*** [0.0476]	-0.0709 [0.214]
Constant	0.0568 [0.0359]	-0.182** [0.0717]						
Origin country by State fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
State by year fixed effects	no	no	yes	yes	no	no	yes	yes
Origin country by year fixed effects	no	no	no	no	yes	yes	yes	yes
Observations	5,020	3,944	5,020	3,944	5,020	3,944	5,020	3,944
R-squared	-0.001	0.000	0.148	0.100	0.278	0.292	0.408	0.370
Instrumental variable	Number of no-US-Tie refugees (as a share of state population in 2000)							
IV F-stat	60.85	105.9	61.72	96.10	24.55	16.04	24.85	16.35

Robust standard errors, clustered by U.S. state, in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. The independent variable (the number of refugees as a share of the state population in 2000) is standardized over each sample, the exports sample and the imports sample.

## Main results on the trade channel

- Refugees resettled to the U.S. significantly increase exports from the U.S. state where they are placed to their country of origin.
- A one standard deviation increase in the share of refugees (out of the local population) increases exports to their country of origin by around 16%.
- The effect for imports is insignificant, consistent with the hard economic conditions in refugees' origin countries.
- The empirical analysis controls for the effect of changing economic conditions both in the U.S. state of placement and in refugees' origin country as well as for the fact that some U.S. states may be “natural” trading partners of a given origin country independently from refugees.
- Finally, the methodology exploits (exogenous) variation in the number of cases/individuals without U.S. ties – who do not decide the initial location of resettlement within the U.S..
- For all these reasons, the results shed light on the causal effect of refugees as opposed to a simple correlation.

# Appendix

**Table 1: Total number of refugees to the U.S. by year, 1990-2015**

<b>year</b>	<b>refugees</b>
1990	120,244
1991	112,406
1992	132,081
1993	119,517
1994	113,250
1995	100,326
1996	76,542
1997	70,427
1998	76,869
1999	85,659
2000	71,389
2001	69,886
2002	27,131
2003	28,403
2004	52,873
2005	53,814
2006	41,223
2007	48,282
2008	60,191
2009	74,654
2010	73,311
2011	56,424
2012	58,238
2013	69,926
2014	69,988
2015	69,967
<b>Total</b>	<b>1,933,021</b>

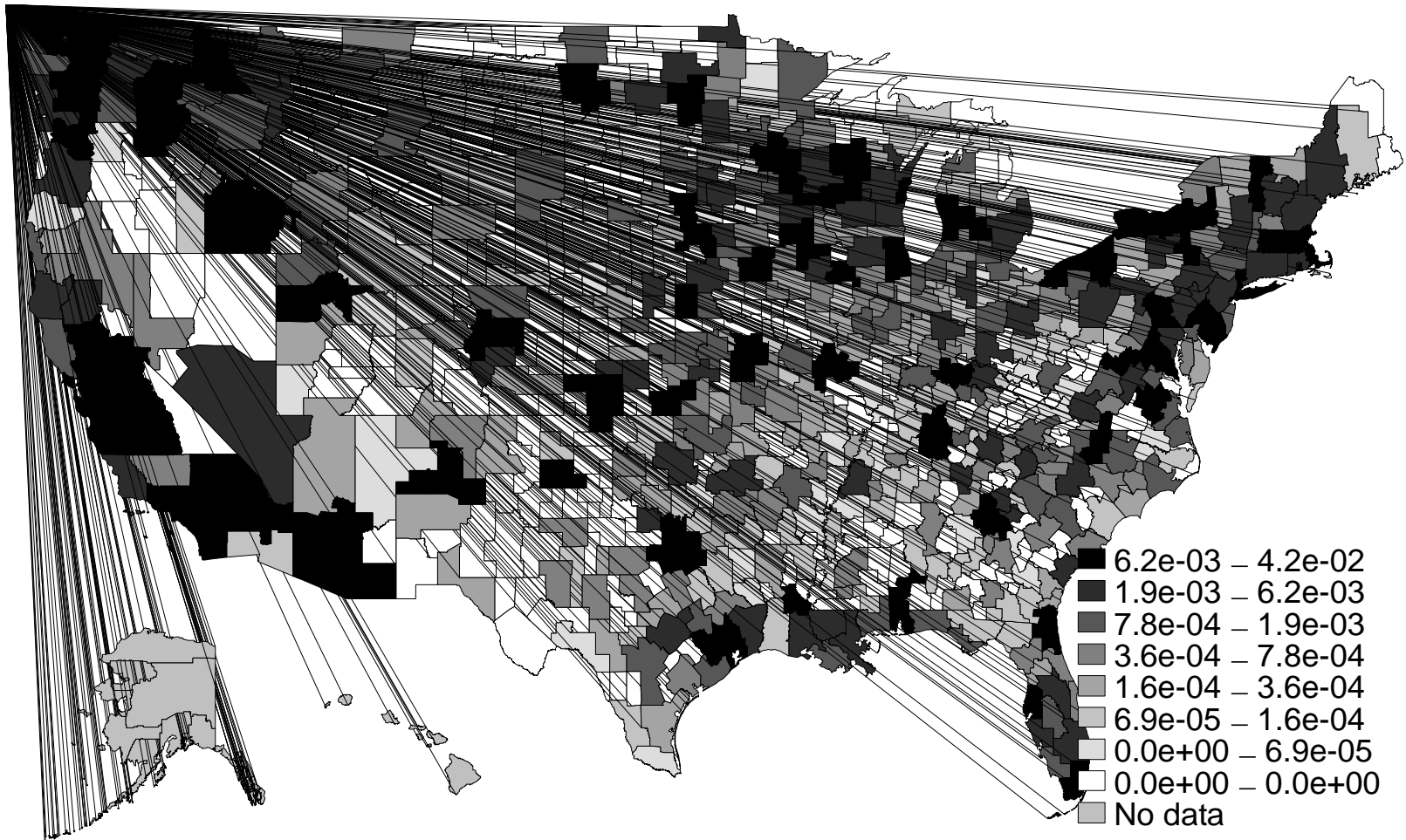
**Table 3: Number of refugees to the U.S. for the top 10 nationalities of origin, 1990-2015**

<b>1990-2015</b>			
<b>nationality</b>	<b>Freq.</b>	<b>Percent</b>	<b>Cum.</b>
<b>Vietnam</b>	310,730	16.08	16.08
<b>Ukraine</b>	182,704	9.45	25.53
<b>Iraq</b>	157,408	8.15	33.68
<b>Burma</b>	153,828	7.96	41.64
<b>Bosnia and Herzegovina</b>	131,909	6.83	48.47
<b>Somalia</b>	128,457	6.65	55.11
<b>Russia</b>	111,606	5.78	60.89
<b>Bhutan</b>	84,019	4.35	65.24
<b>Cuba</b>	80,558	4.17	69.41
<b>Iran</b>	70,025	3.62	73.03

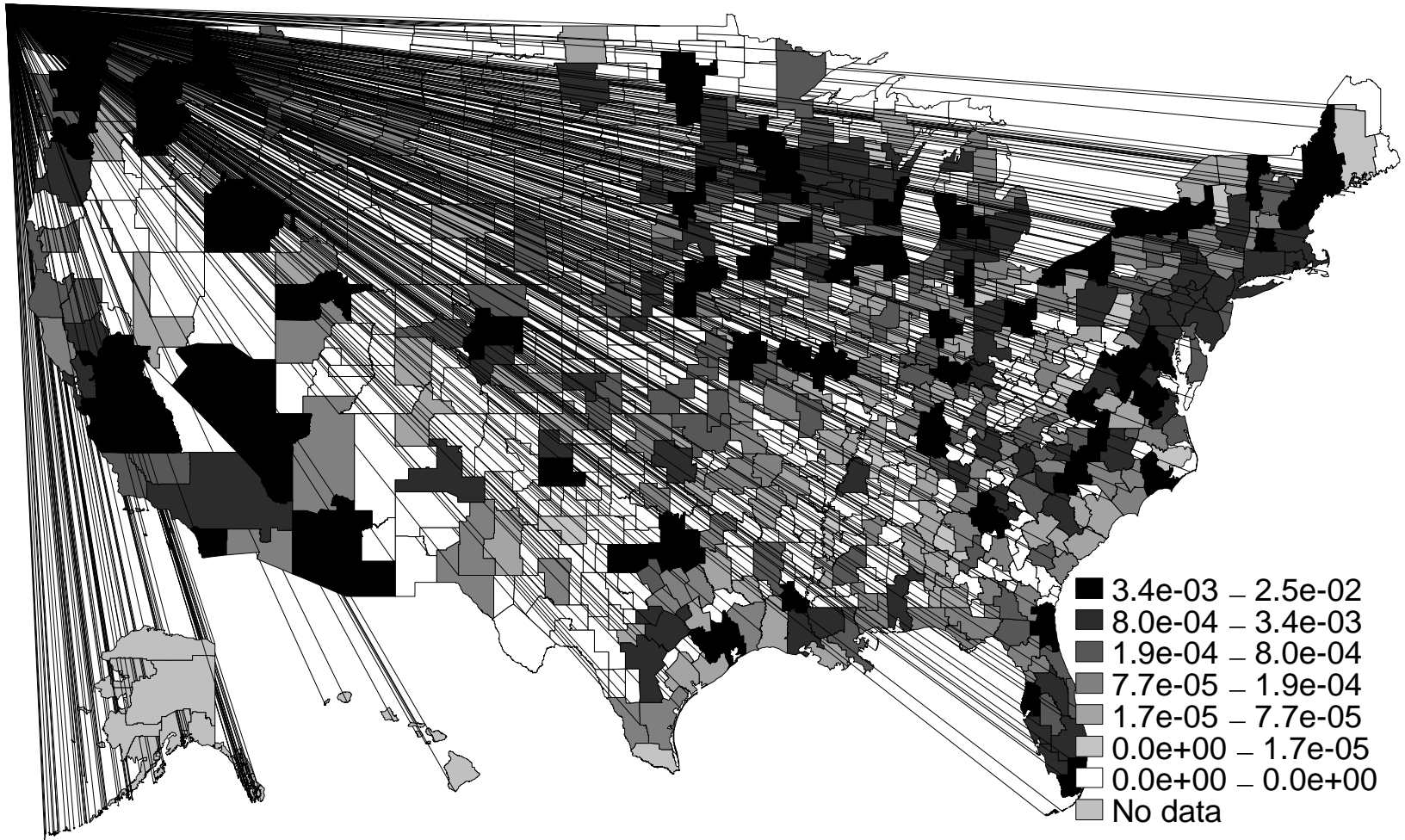
<b>1990-2000</b>			
<b>nationality</b>	<b>Freq.</b>	<b>Percent</b>	<b>Cum.</b>
<b>Vietnam</b>	290,566	26.95	26.95
<b>Ukraine</b>	149,624	13.88	40.82
<b>Bosnia and Herzegovina</b>	113,813	10.55	51.38
<b>Russia</b>	85,913	7.97	59.34
<b>Soviet Union</b>	53,266	4.94	64.28
<b>Laos</b>	45,492	4.22	68.5
<b>Somalia</b>	35,143	3.26	71.76
<b>Cuba</b>	31,571	2.93	74.69
<b>Belarus</b>	29,499	2.74	77.42
<b>Iraq</b>	28,866	2.68	80.1

<b>2000-2015</b>			
<b>nationality</b>	<b>Freq.</b>	<b>Percent</b>	<b>Cum.</b>
<b>Burma</b>	152,228	17.82	17.82
<b>Iraq</b>	128,542	15.05	32.87
<b>Somalia</b>	93,314	10.93	43.8
<b>Bhutan</b>	84,019	9.84	53.63
<b>Cuba</b>	48,987	5.74	59.37
<b>Iran</b>	48,843	5.72	65.09
<b>Ukraine</b>	33,080	3.87	68.96
<b>Russia</b>	25,693	3.01	71.97
<b>DRC</b>	25,439	2.98	74.95
<b>Sudan</b>	25,239	2.95	77.9

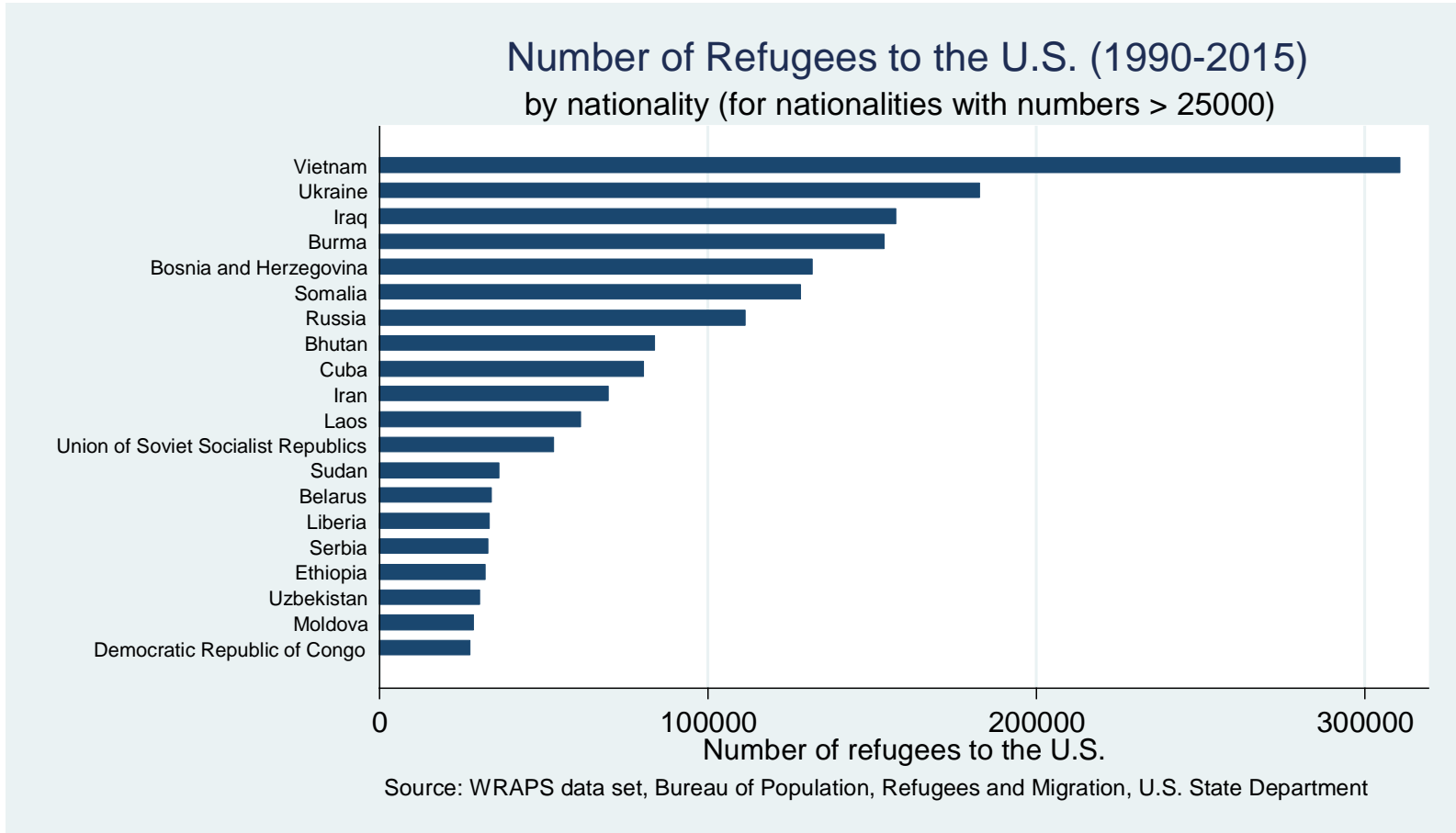
The number of resettled refugees, as a share of the local population (1990-2000)



The number of resettled refugees, as a share of the local population (2000-2010)



**Figure 3: Total number of refugees to the U.S. by nationality of origin, 1990-2015**



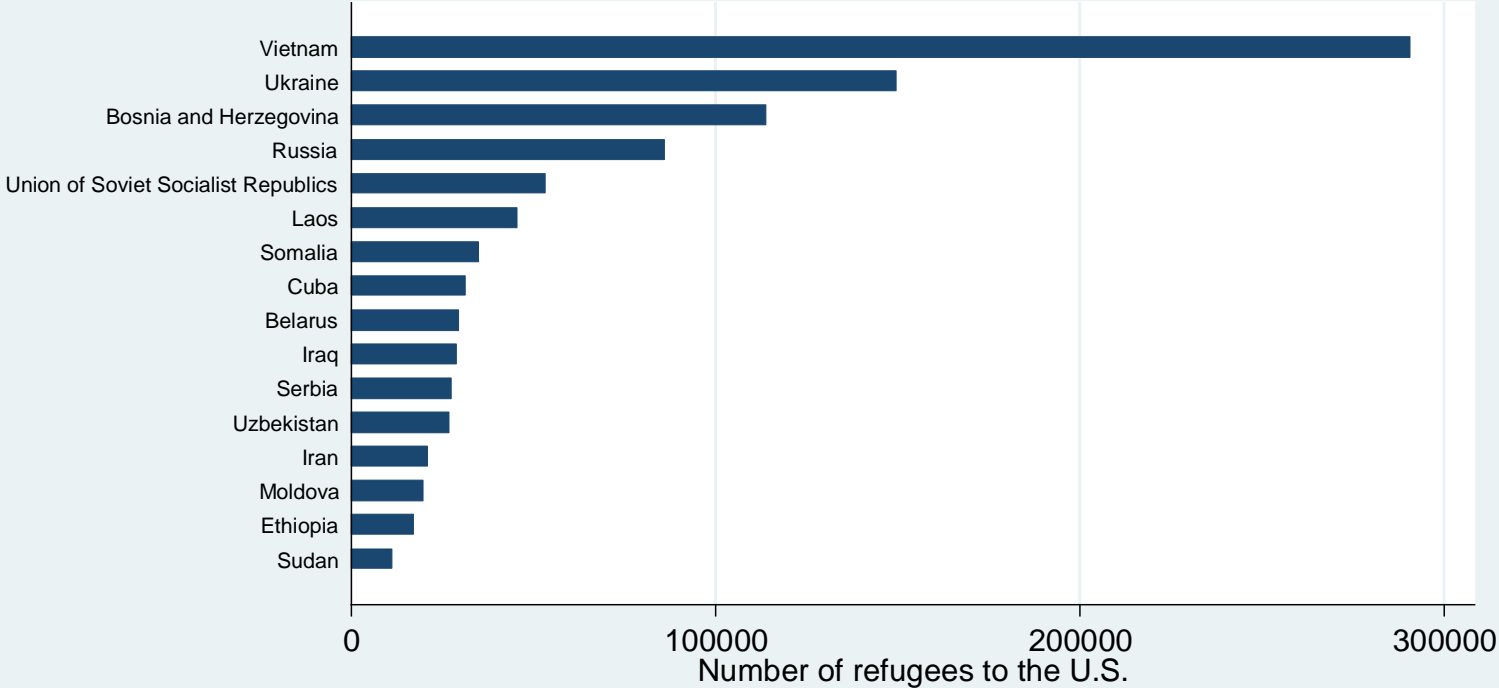


### Table 1: International resettlement waves

Note: The data on total number of resettled and on number of resettled in the US are from the UNHRC. A resettlement wave is identified as an episode of several consecutive years of growth of internationally resettled refugees from a country, in correspondence of an earlier or contemporaneous crisis in the country of origin reaching a total of 10,000 or more people resettled in the US.

(1) Origin	(2) Start Year	(3) End Year	(4) Total # of Resettlements over wave	(5) Total # of Resettlements in USA over wave	(6) Correspondin g period of refugee crisis	(7) Reason for refugee crisis
<b>Afghanistan</b>	1999	2008	52637	11676	2000-2002	Taliban Regime and US war in Afghanistan
<b>Bhutan</b>	2009	2013	75765	65051	1992-1995	Ethnic Unrest in Bhutan
<b>Cambodia</b>	1980	1989	109821	88346	1977-78	Genocide, Khmer Rouge era
<b>Dem. Rep. of Congo</b>	2005	2014	34235	17787	1995-2004	First and second Congo War, Itsuri Conflict
<b>Ethiopia</b>	1988	1994	27779	16465	1975-1980	Civil War
<b>Former Yugoslavia</b>	1993	2001	265481	160203	1991-1996	Balkan War, Bosnian War
<b>Iran</b>	1986	1992	41702	29151	1980-1988	Iran-Iraq War
<b>Iraq</b>	1992	2014	250907	146699	1980-1988	Iran-Iraq War 80-88 and then, 2004-2014 US war and then civil War
<b>Laos</b>	1979	1981	92315	86149	1976-79	Evacuation of the Hmong
<b>Liberia</b>	2004	2006	17661	13831	2002-2003	Liberia Civil war
<b>Myanmar</b>	2005	2014	165354	133566	2000-2006	Tensions between the National League for democracy and the military Junta, civil war
<b>Poland</b>	1981	1992	106816	36219	no large mass of refugee flows	Solidarnosch founded by Walesa in 1980, unrest and turmoil against the Soviet-controlled regime
<b>Russia</b>	1989	1995	324419	318041	1988-1994	Collapse of Soviet Union
<b>Somalia</b>	2009	2014	48045	35872	2008-12	US airstrikes, Ethiopia Invasion
<b>Sudan/S. Sudan</b>	1997	2009	64694	26004	1998-04	Sudanese civil war in Darfur
<b>Vietnam</b>	1981	1996	548991	476011	1977-79	Vietnam war and Vietnam-Cambodian war

## Number of Refugees to the U.S. (1990-2000) by nationality (for nationalities with numbers > 10000)



Source: WRAPS data set, Bureau of Population, Refugees and Migration, U.S. State Department

**Table 2: Number of refugees to the top 10 U.S. states, 1990-2015**

<b>1990-2015</b>			
<b>U.S. state</b>	<b>Freq.</b>	<b>Percent</b>	<b>Cum.</b>
<b>CA</b>	335,355	17.43	17.43
<b>NY</b>	228,751	11.89	29.32
<b>TX</b>	129,266	6.72	36.04
<b>WA</b>	96,785	5.03	41.07
<b>FL</b>	95,154	4.95	46.01
<b>IL</b>	73,832	3.84	49.85
<b>MN</b>	67,696	3.52	53.37
<b>GA</b>	66,894	3.48	56.84
<b>PA</b>	64,956	3.38	60.22
<b>MI</b>	62,080	3.23	63.45

<b>1990-2000</b>			
<b>U.S. state</b>	<b>Freq.</b>	<b>Percent</b>	<b>Cum.</b>
<b>CA</b>	232,417	21.72	21.72
<b>NY</b>	174,841	16.34	38.06
<b>WA</b>	56,657	5.29	43.35
<b>TX</b>	54,110	5.06	48.41
<b>FL</b>	48,596	4.54	52.95
<b>IL</b>	44,149	4.13	57.08
<b>PA</b>	34,351	3.21	60.29
<b>MA</b>	33,432	3.12	63.41
<b>GA</b>	33,067	3.09	66.5
<b>MN</b>	27,114	2.53	69.04

<b>2000-2015</b>			
<b>U.S. state</b>	<b>Freq.</b>	<b>Percent</b>	<b>Cum.</b>
<b>CA</b>	102,938	12.05	12.05
<b>TX</b>	75,156	8.8	20.85
<b>NY</b>	53,910	6.31	27.17
<b>FL</b>	46,558	5.45	32.62
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<b>WA</b>	40,128	4.7	42.07
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