Migration

US Migration Trends

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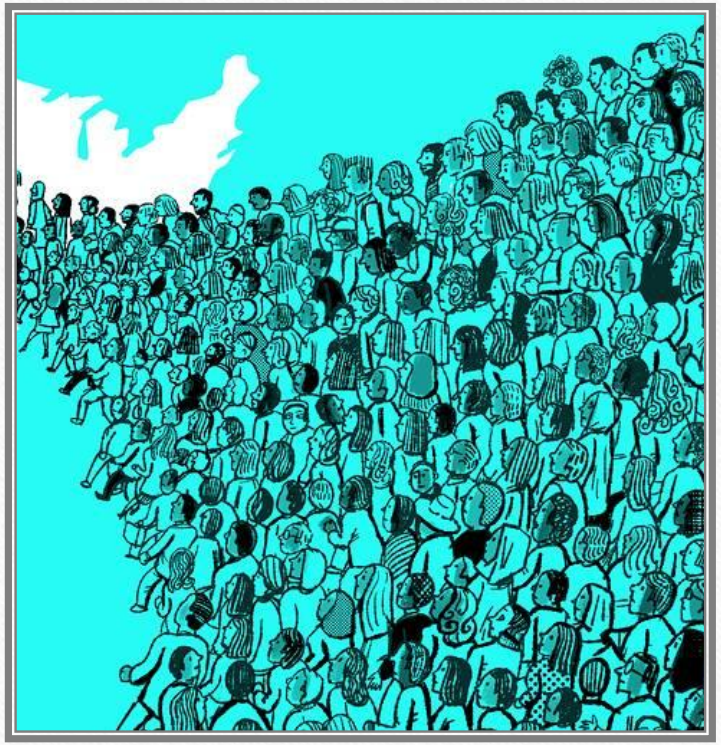
Motivation

- The US is the top receiver of migration flows in the world.
- In 2017, the total international migrant population in the US was 49 million.
- We are interested in understanding the primary reasons why immigrants choose to settle in the US.



Questions

1. Why are people choosing to live in the United States? Is it because they seeking economic opportunity or are they fleeing violence in their home country?
2. How has US immigration policy impacted the rate of LPR issuance over the past 3 administrations?
3. Which major regions are migrants coming from? Are they coming from the Middle East and/or Central America?
4. What are the trends of migration to the US based on Age and Gender?
5. How has US migration trends changed over the past two and a half decades?

Summary

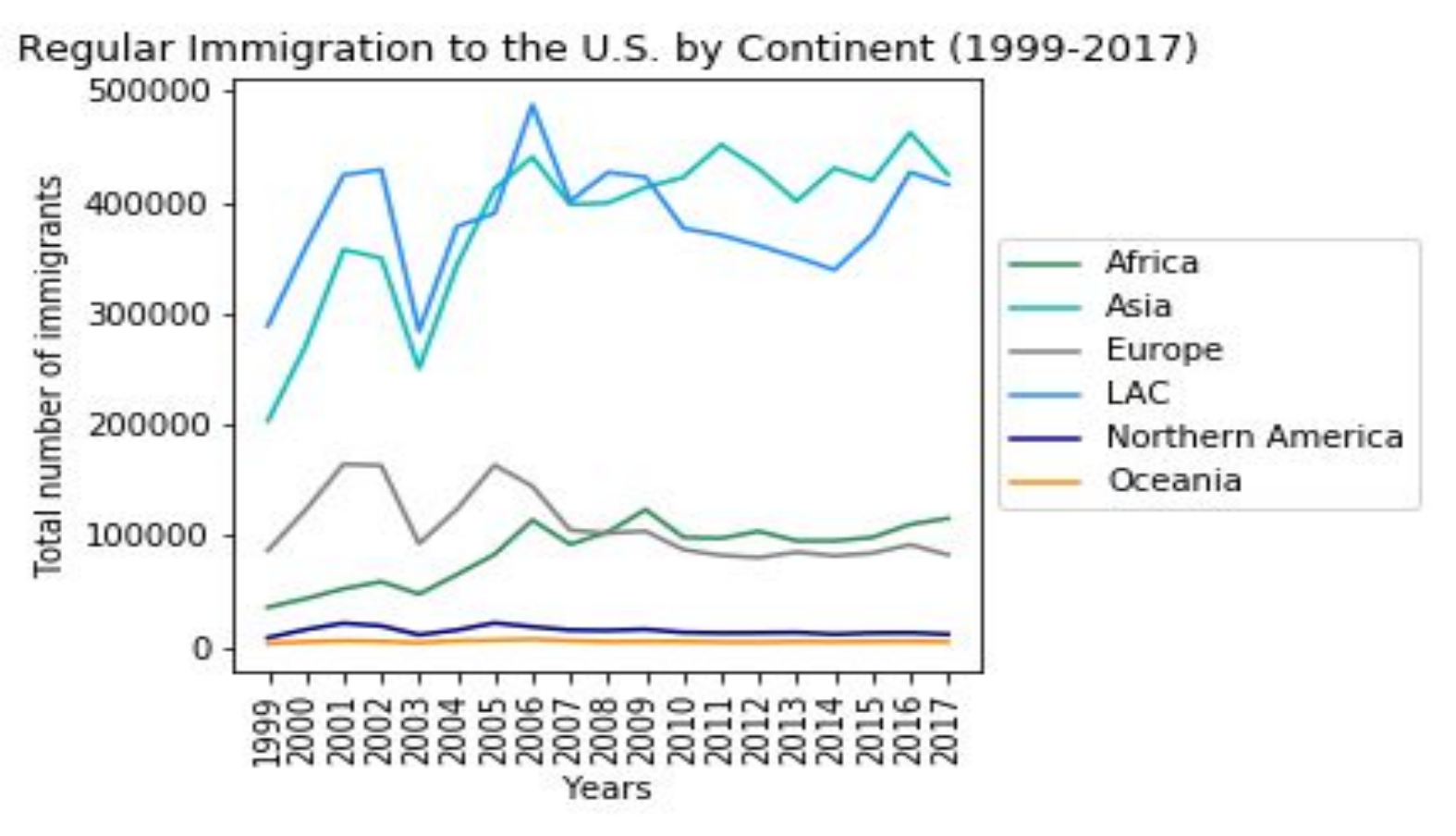
- LPR recipients mainly come from Asia (China and India) and Latin America and the Caribbean. (Mexico and the DR).
- Most migrants coming to the US over the past two and a half decades fall into the work age range (25-39 years old).
- Over the last two and a half decades more men and women are arriving to the US. However, the difference between men and women is 33%.
- Countries that have higher income, have lower migration flows to the US.
- Countries that have higher homicide counts, have higher migration flows to the US.

Data and Exploration

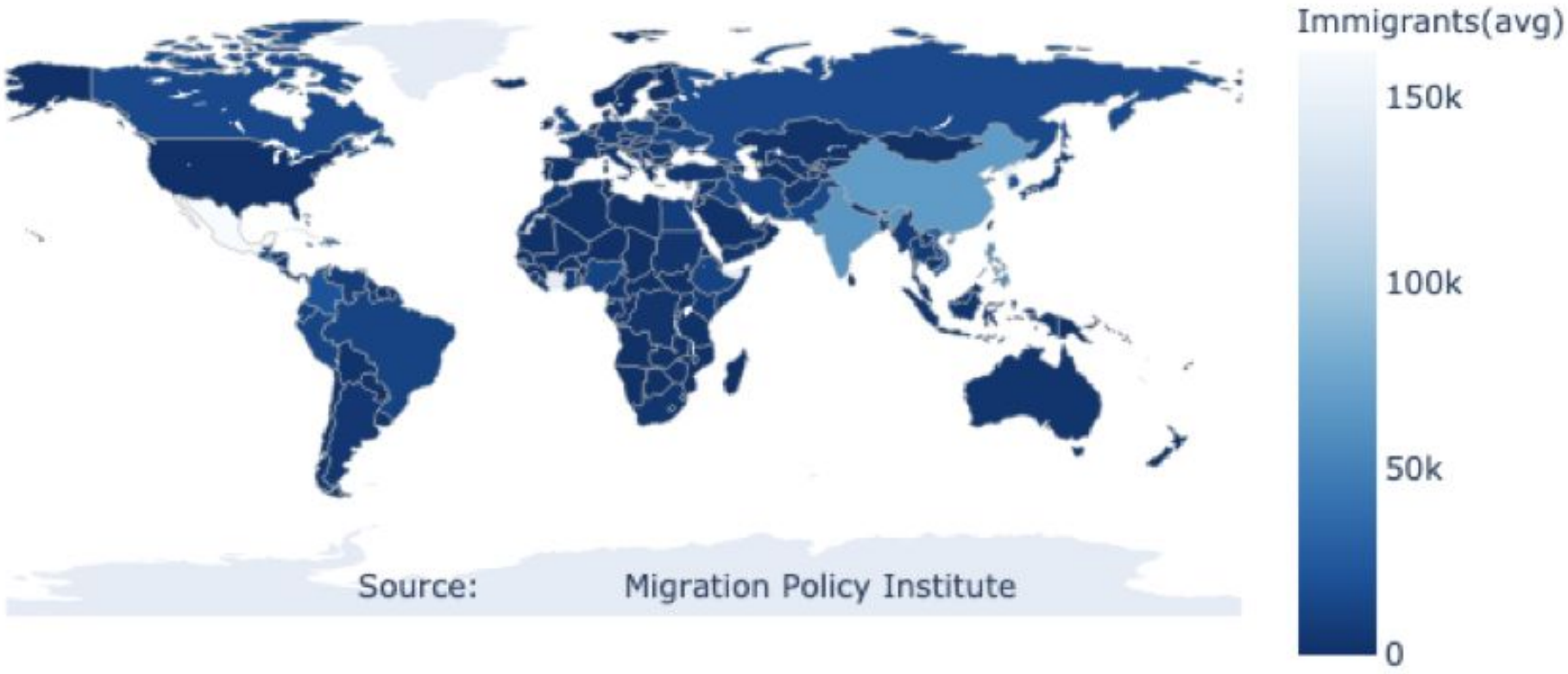
- **For trends:**
  - Migration Policy Institute LPR grants and UN migration flows towards the U.S.
- **For model:**
  - IMF World Economic Outlook Database for GDP per capita and Population
  - CEPII for Distance
  - UN Office on Drugs and Crime for homicides

- **What we did:**
  - Analyzed annual trends across regions, gender and age
  - Compared the number of individuals with Lawful Permanent Residence (LPR) status at the start of the Bush, Obama, and Trump administrations to see how politics affected US immigration policy
  - Measured the economic significance of per capita income and homicides on immigration flows

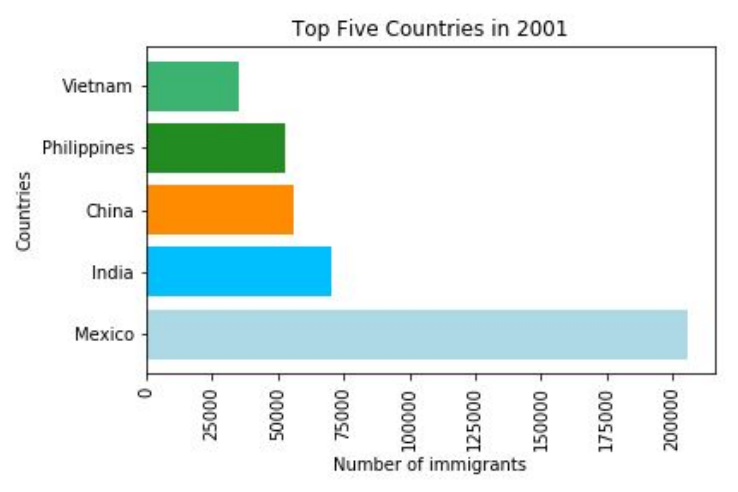
Who were granted LPR status between 1999 and 2017?

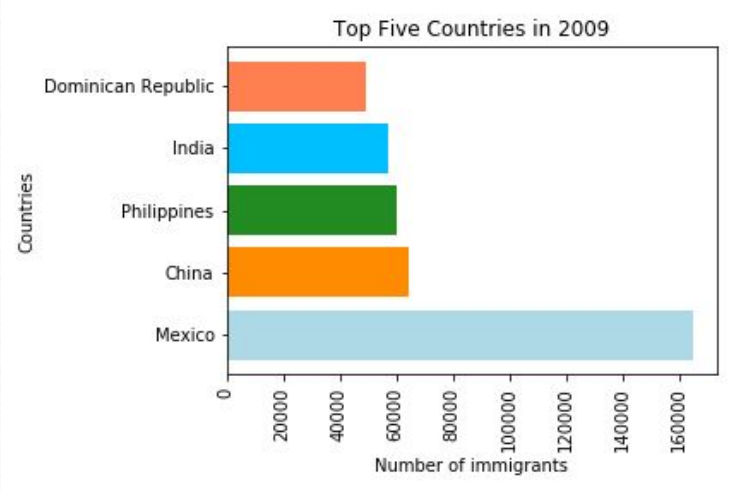


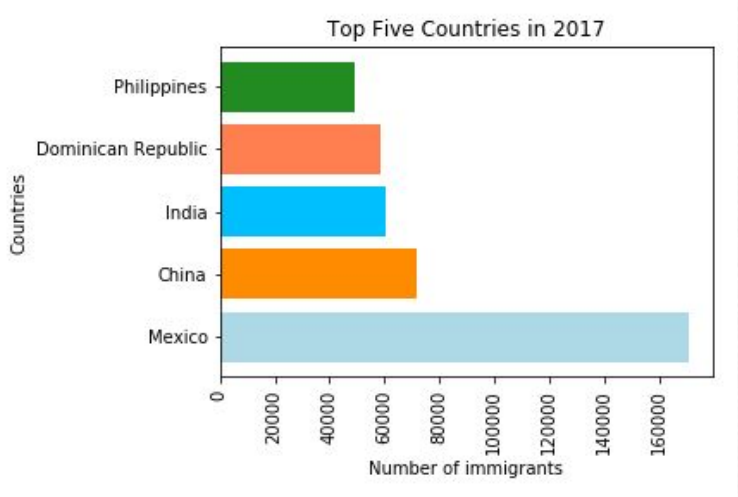
Immigrants by country of Origin (1999-2017)

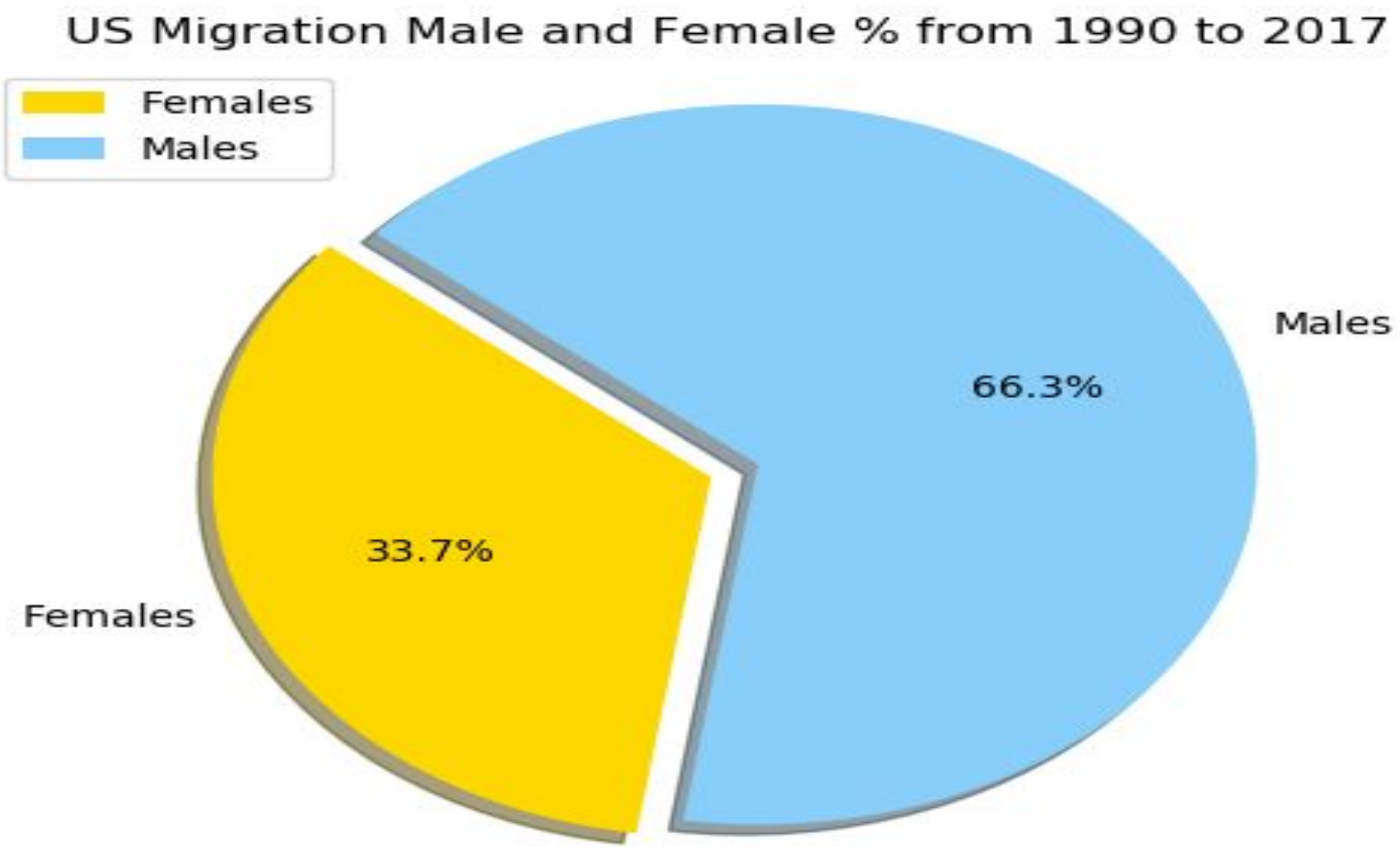


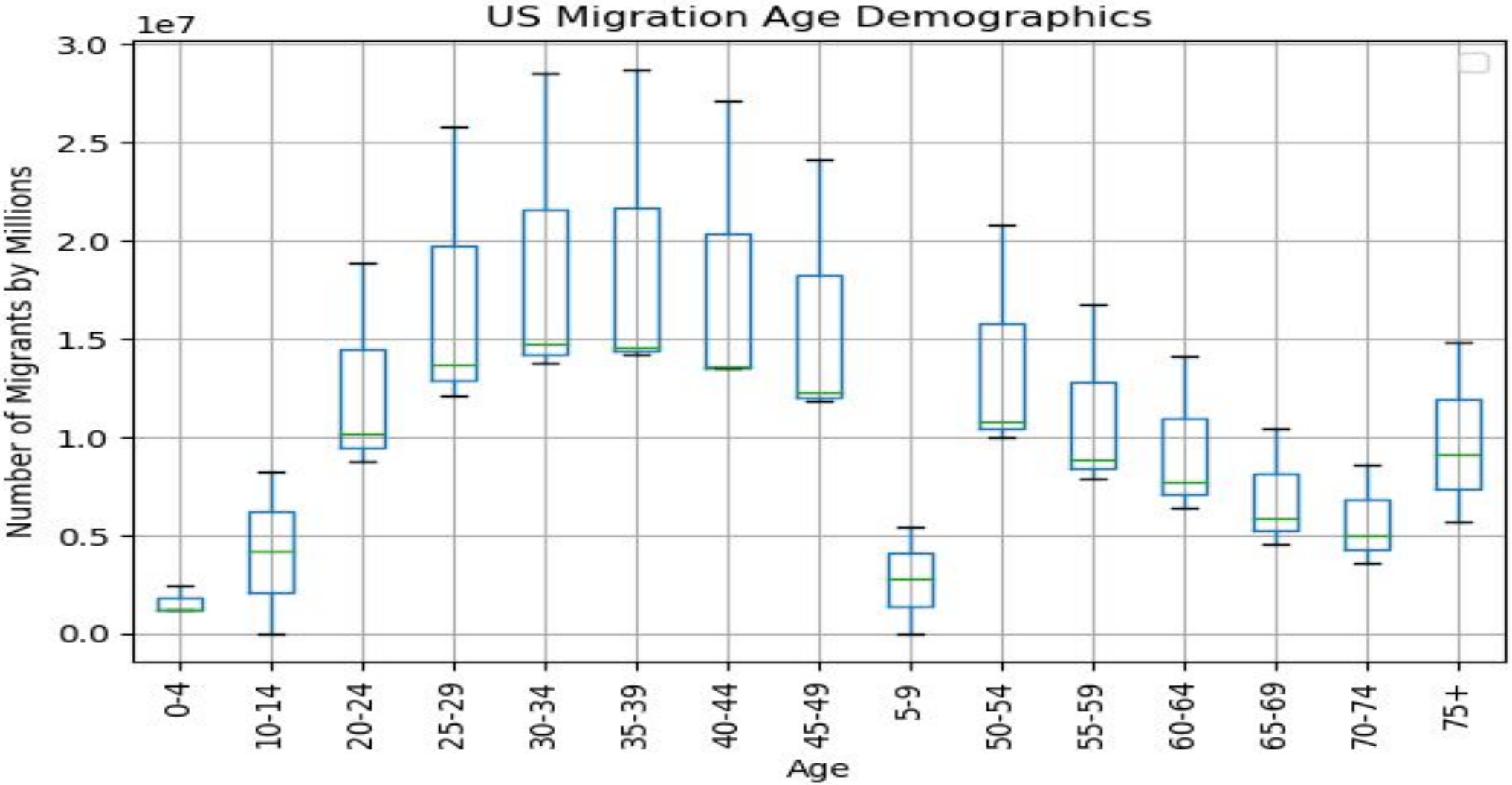
Top Five Countries

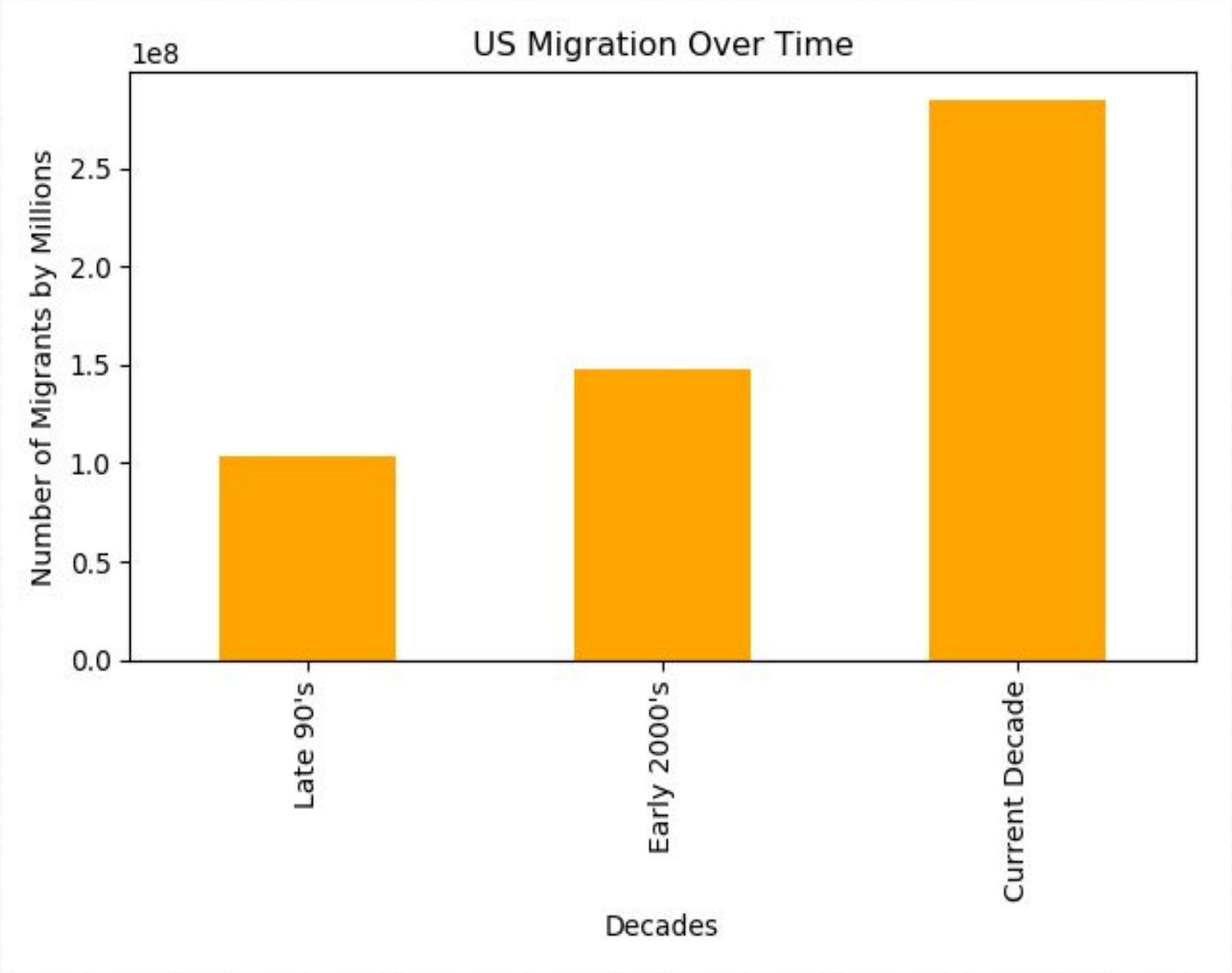




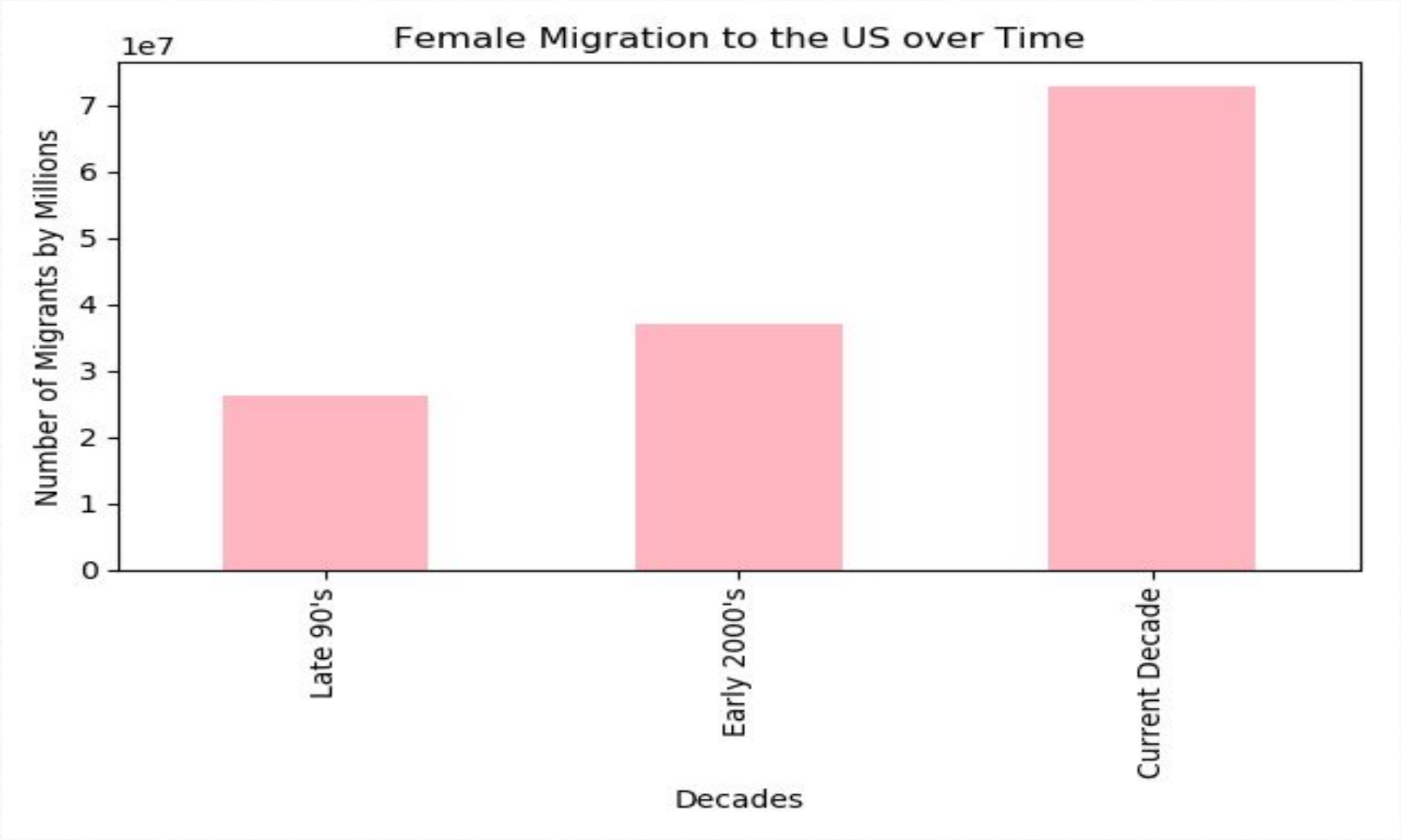


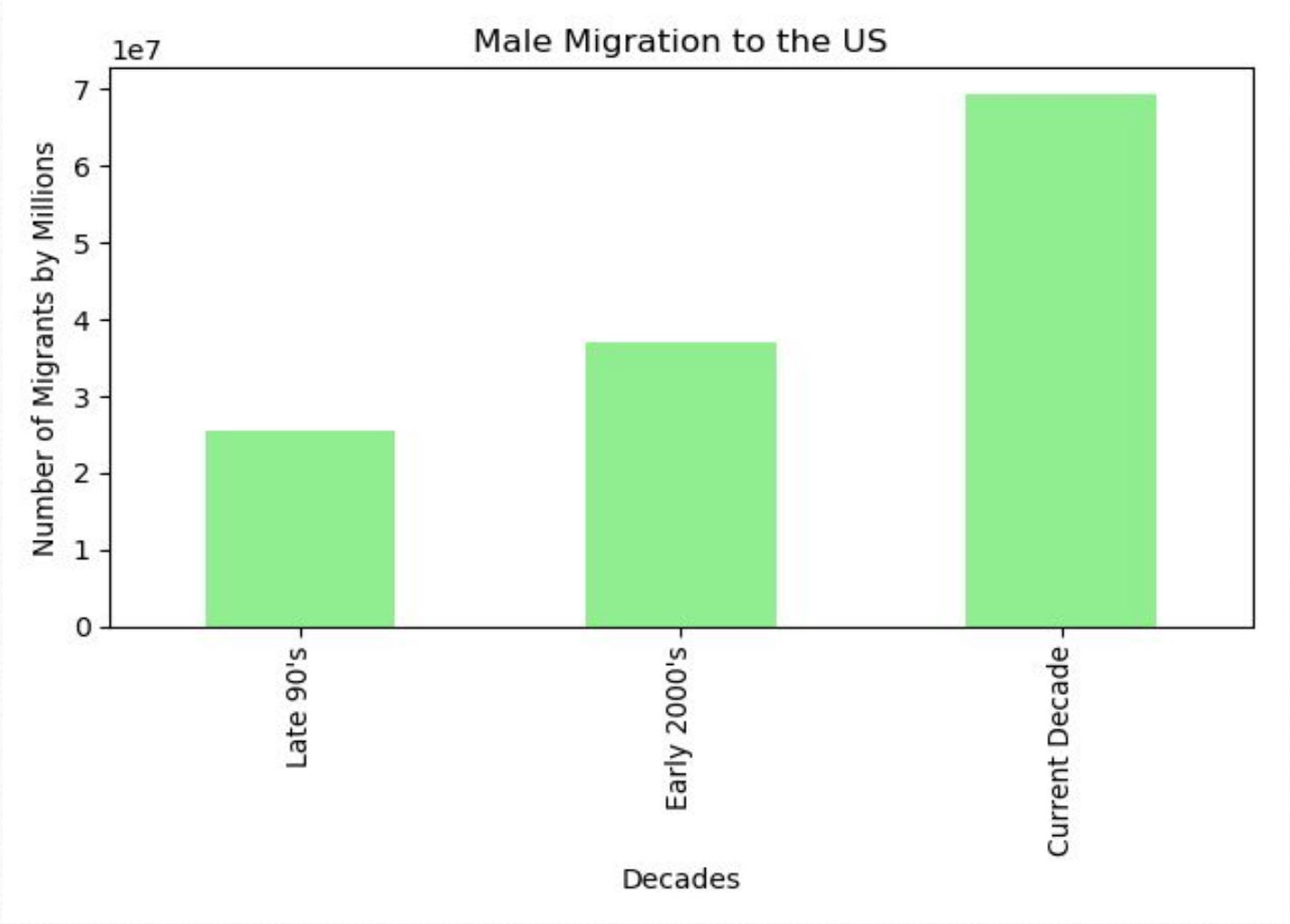

US Migration Male and Female % from 1990 to 2017
Females
Males
66.3%
Males
33.7%
Females

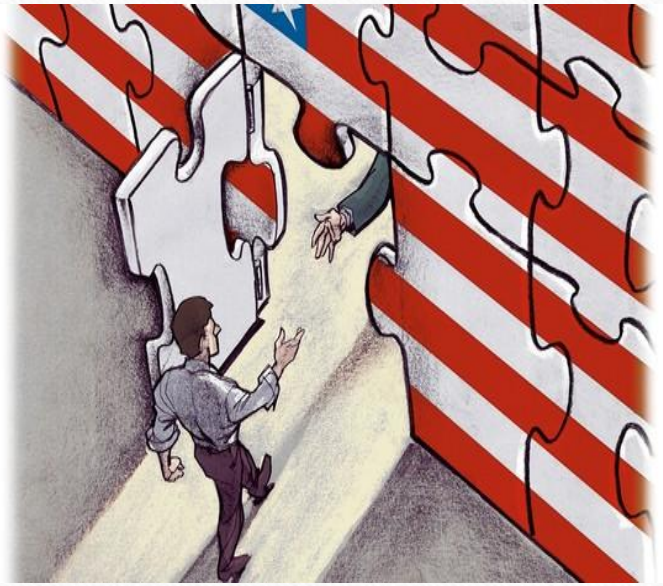

US Migration Age Demographics
1e7
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Number of Migrants by Millions
0-4
10-14
20-24
25-29
30-34
35-39
40-44
45-49
5-9
50-54
55-59
60-64
65-69
70-74
75+
Age



How has Migration to the United States changed over time?


Female Migration to the US over Time
1e7
Number of Migrants by Millions
0
1
2
3
4
5
6
7
Late 90's
Early 2000's
Current Decade
Decades





Male migration to the US has more than doubled since the late 90's

Male migration to the US has been consistent over the

Hypothesis Test

- H0: The difference in per capita income and homicide counts in origin country does not affect immigration flows to the US.

- HA: The difference in per capita income and homicide counts in origin country affects immigration flows to the US.

Model Specification

$$\text{Inflows}_{i,t} = \alpha + \beta_1 * \text{GDP per capita}_{i,t} + \beta_2 * \text{Homicides}_{i,t} + \beta_3 * \text{Population}_{i,t} + \beta_4 * \text{Distance}_{i,t} + \varepsilon_{i,t}$$

Dependent variable

- Natural log of the number of individuals that were granted Lawful Permanent Residence status (LPRs) by country of origin

Explanatory variables

- Difference between the natural log of GDP per capita in origin country and that of the US
- Difference between the natural log of Homicide counts in origin country and that of the US

Control variables

- Difference between the natural log of population in origin country and that of the US
- Natural log of the distance between origin country and the US

OLS Regression Results

Dep. Variable:	Ln_Inflows	R-squared:	0.536
Model:	OLS	Adj. R-squared:	0.535
Method:	Least Squares	F-statistic:	554.1
Date:	Fri, 26 Jul 2019	Prob (F-statistic):	0.00
Time:	18:54:33	Log-Likelihood:	-3921.0
No. Observations:	2274	AIC:	7852.
Df Residuals:	2269	BIC:	7881.
Df Model:	4		
Covariance Type:	HC3		

	coef	std err	z	P>|z|	[0.025	0.975]
const	17.9102	0.923	19.394	0.000	16.100	19.720
DIncome	-0.0566	0.025	-2.227	0.026	-0.106	-0.007
DHomicides	0.2355	0.030	7.886	0.000	0.177	0.294
DPop	0.4591	0.038	12.053	0.000	0.384	0.534
Ln_Distance	-0.9128	0.097	-9.386	0.000	-1.103	-0.722

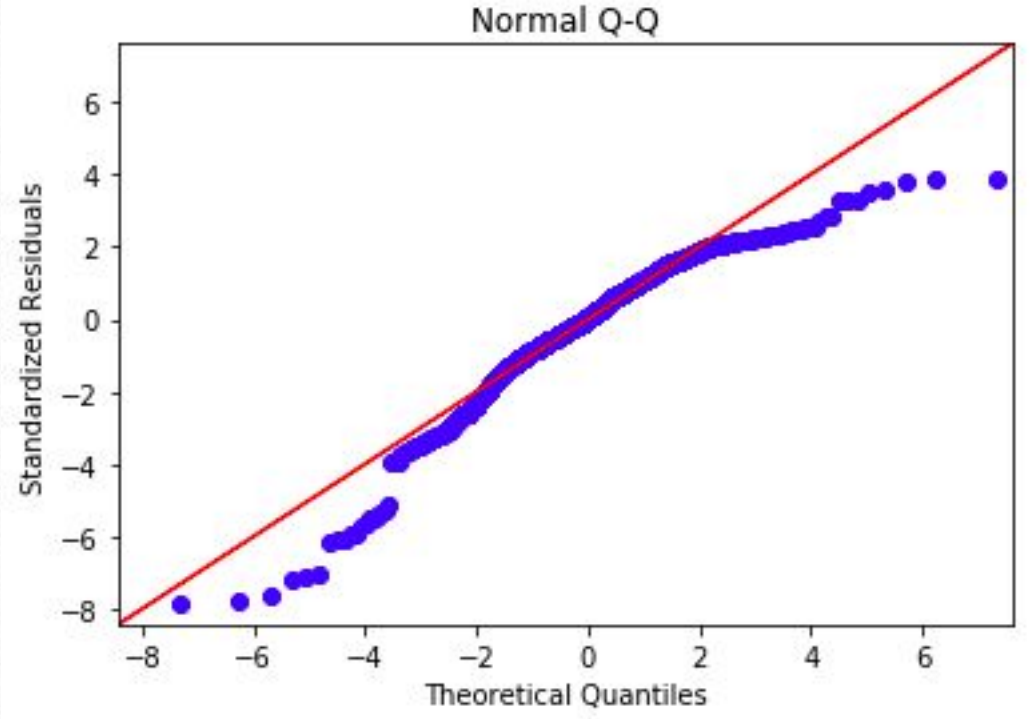
Omnibus:	560.242	Durbin-Watson:	0.218
Prob(Omnibus):	0.000	Jarque-Bera (JB):	2120.037
Skew:	-1.169	Prob(JB):	0.00
Kurtosis:	7.113	Cond. No.	198.

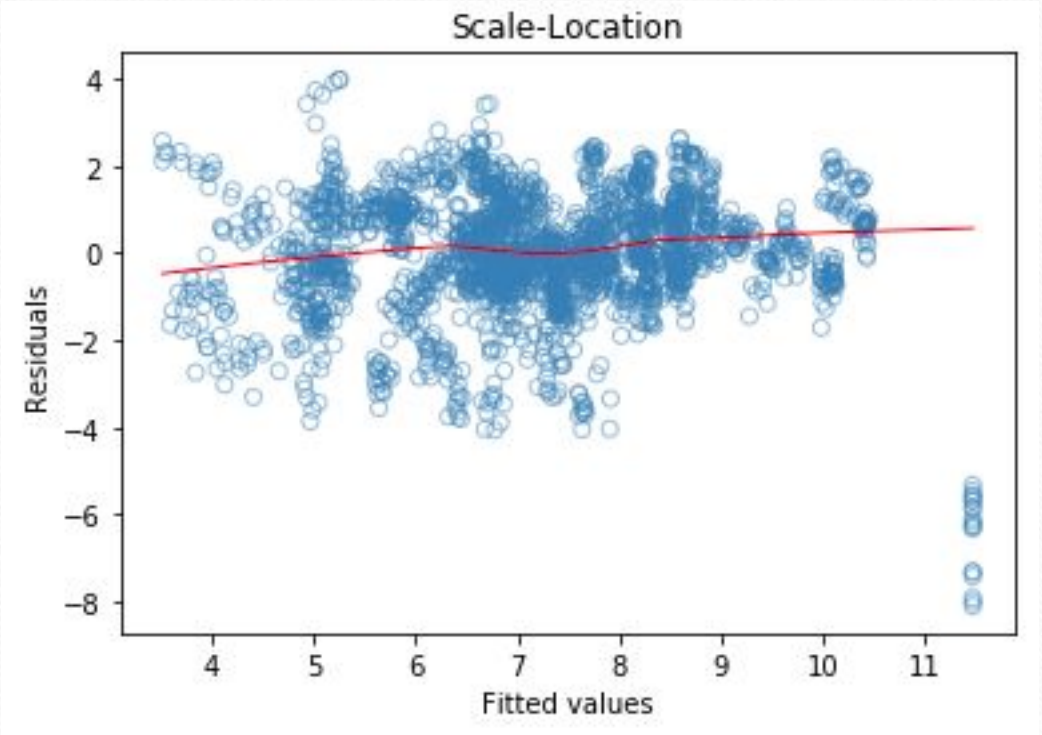
Warnings:
[1] Standard Errors are heteroscedasticity robust (HC3)

Measuring Economic Significance

- **GDP per capita**
  - All else equal, a one-standard deviation increase in the income gap will decrease immigration flows to the US by 7%
- **Homicides**
  - All else equal, a one-standard deviation increase in the homicide gap will increase immigration flows to the US by 41%

Model Diagnostics





Post Mortem

Data

- Data availability for individuals with irregular migration status
- Poor data coverage for homicide counts
- Finding long enough time series on total migration inflows
- Finding universal country codes

GitHub

- Using GitHub to make revisions and sharing data

Next Steps

- What about people who did not make it? Analyzing patterns for missing migrants.
- Using broader measure of migration, i.e. irregular migrants, asylum seekers, and LPRs
- Controlling for other factors such as environmental catastrophes as a driver for migration

Questions?