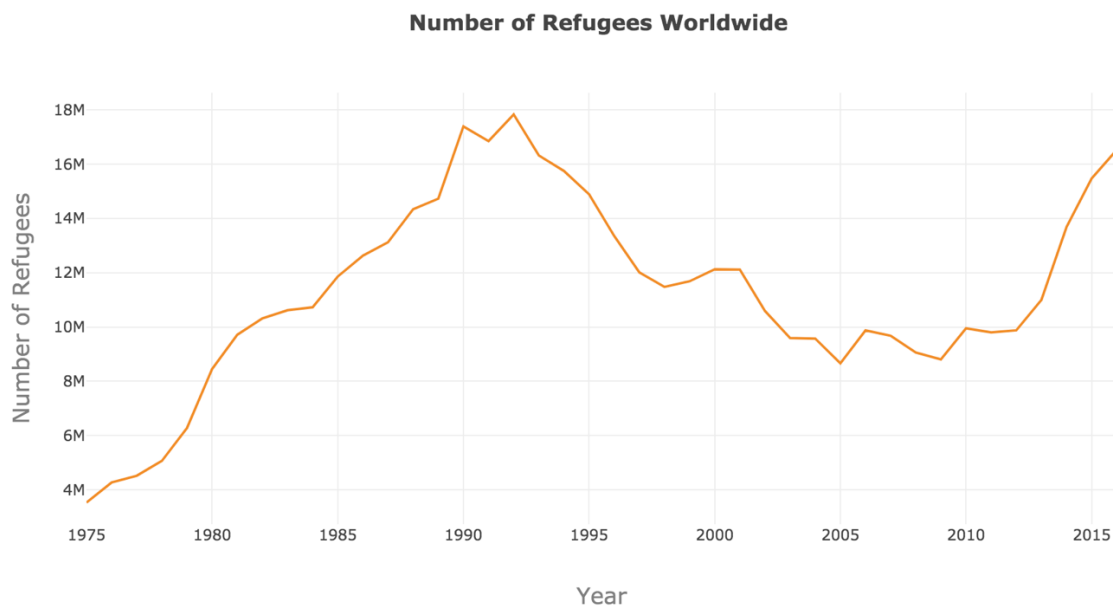


For this project, I will explore a dataset on the number of refugees around the world from 1975 until 2016 which I obtained from the United Nations data portal. I chose to analyze data on refugees since I majored in international relations in undergraduate school and studied history of political regimes, conflict and war which are the main causes of why people become refugees. In addition, I feel very strongly about the refugee crisis because I worked directly with refugees from multiple countries in Africa, Europe and Asia to help them rebuild their life in the United States.

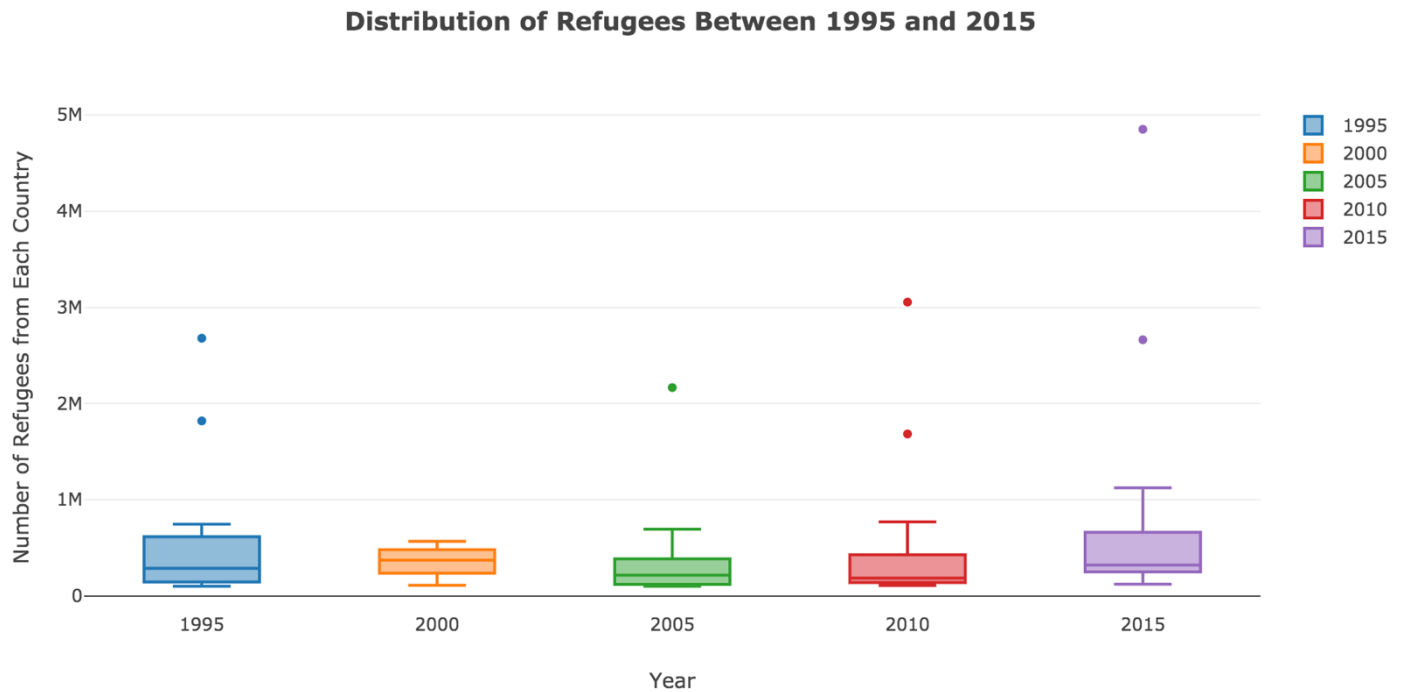
As I explore this data, I will also use auxiliary datasets, including world population and 2016 GDP data from the World Bank's website as well as geographic coordinates data which I found on simplemap.com. I believe these supplementary datasets will help make more interesting and insightful plots. My main goal with this dataset is to look at historic trends around refugee movement, at countries with big refugee populations, specifically focusing on the United States.

First of all, I would like to take a look at the historic trend for the number of refugees worldwide.



Although there is an upward trend in the number of refugees since the year of 2005, we also observe that number of refugees in the world was at its maximum in early 1990s.

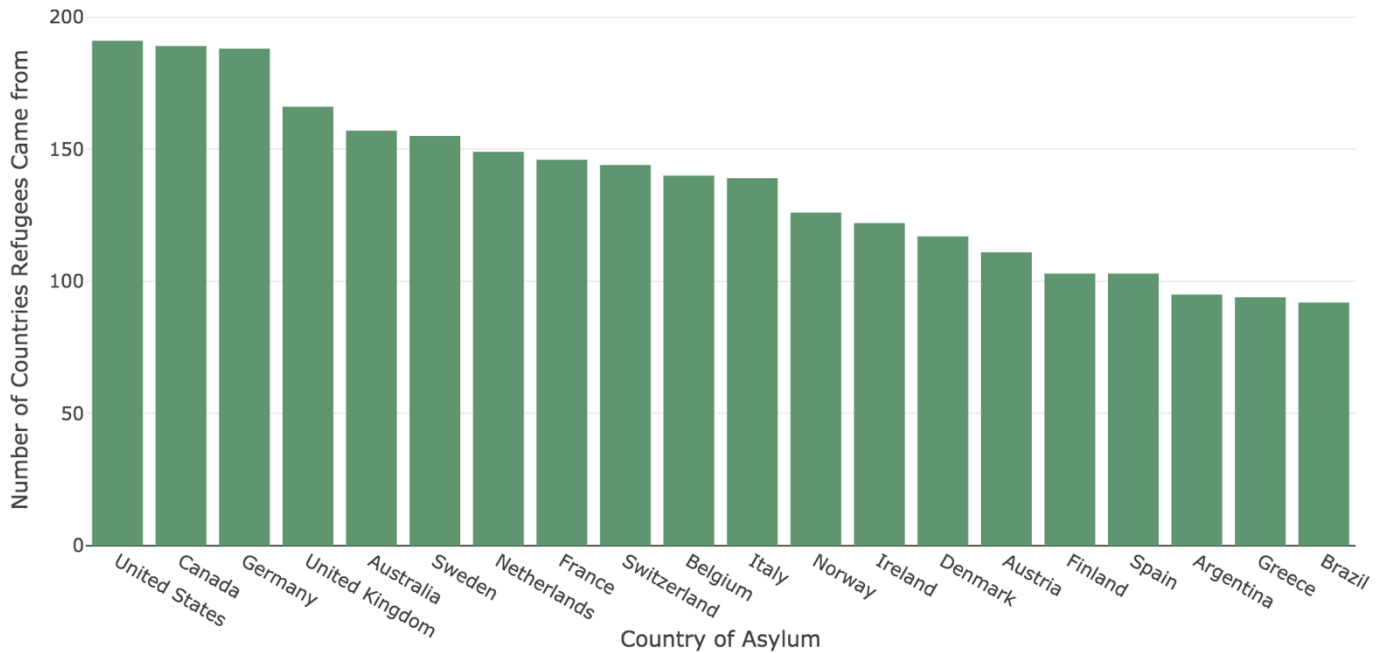
Next, I will take a look at the distribution of refugees from 1995 to 2015 by country of origin.



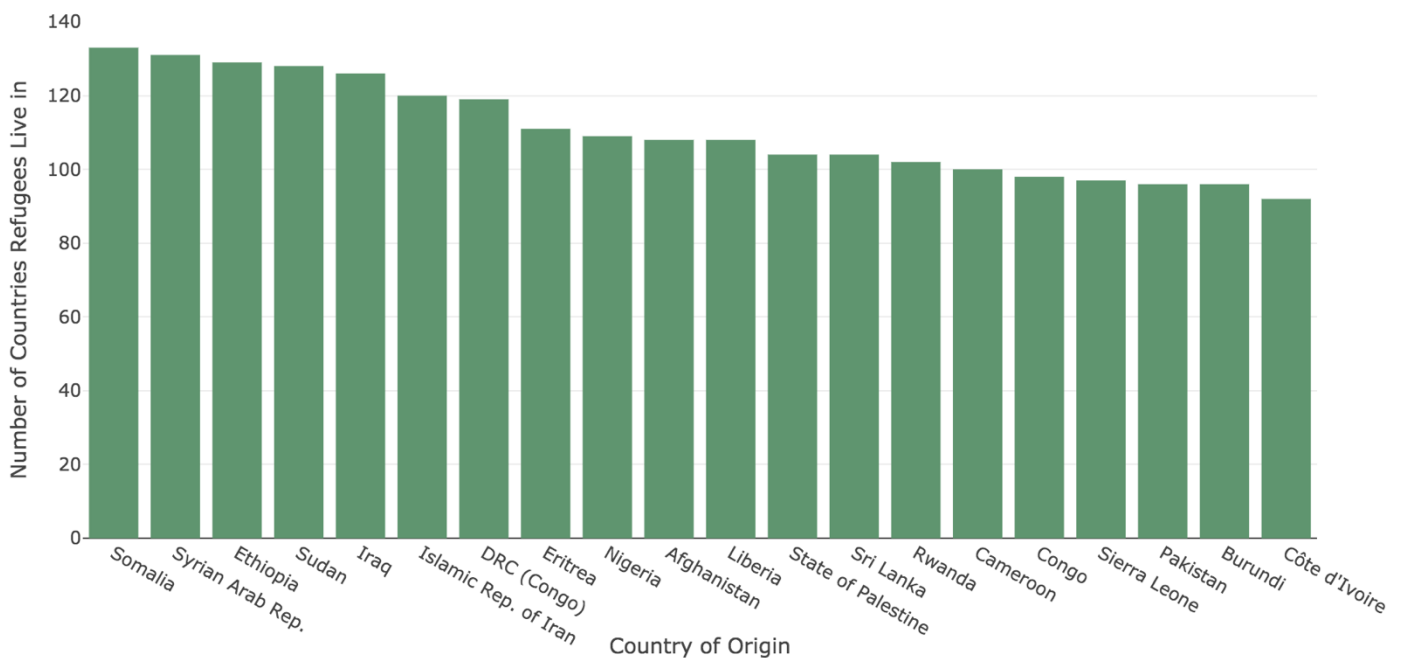
Based on the boxplot above, the year of 2000 has no outliers suggesting that there was no major influx of refugees in 2000. Looking at the outliers for the rest of the years, we observe that there were almost five millions of refugees from one country in 2015, which demonstrates that the refugee crisis has aggravated since 2000.

Let's focus now on countries of origin (where refugees came from) and countries of asylum (where refugees reside). I would like to explore the spread of refugees throughout the world. Specifically, I am interested in finding out which countries of asylum accepted refugees from the most countries in the world and which countries of origin have their denizens spread to the most countries in the world.

Countries that Accepted Refugees from the Most Countries of Origin

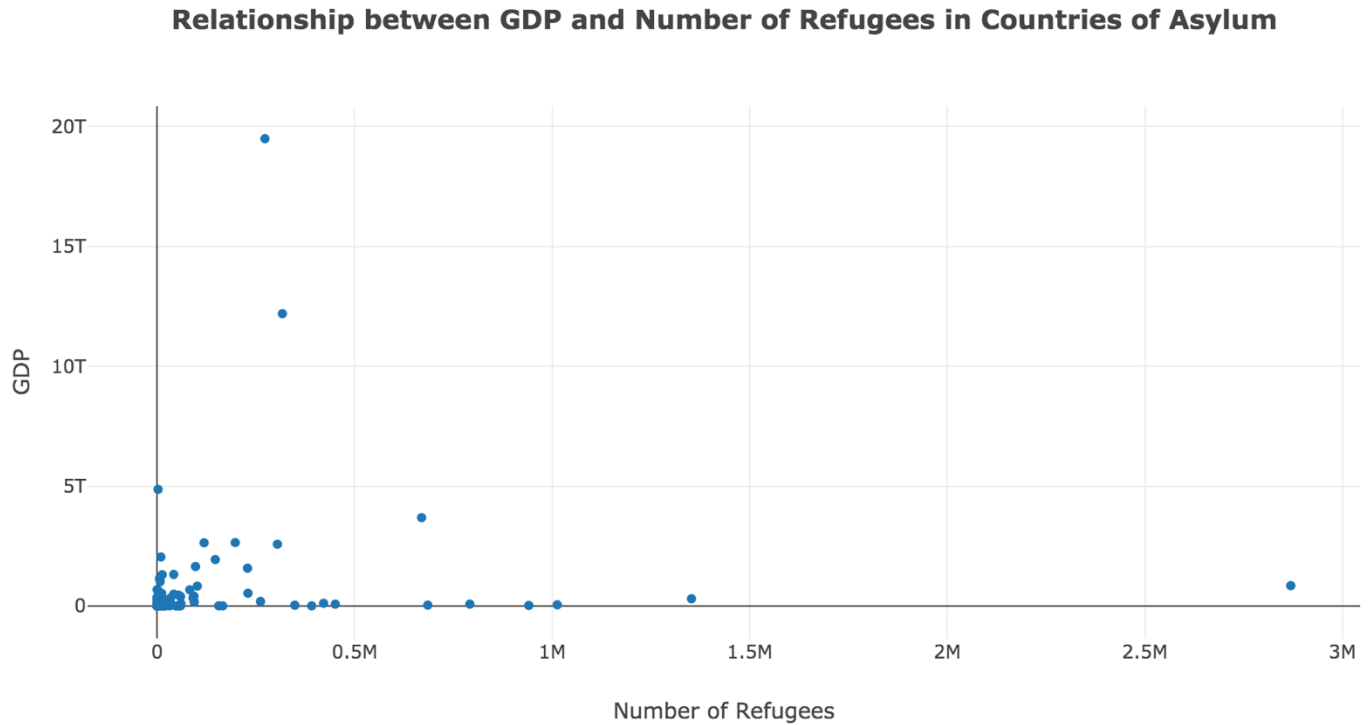


Countries Refugees from which Reside in the Most Countries of Asylum

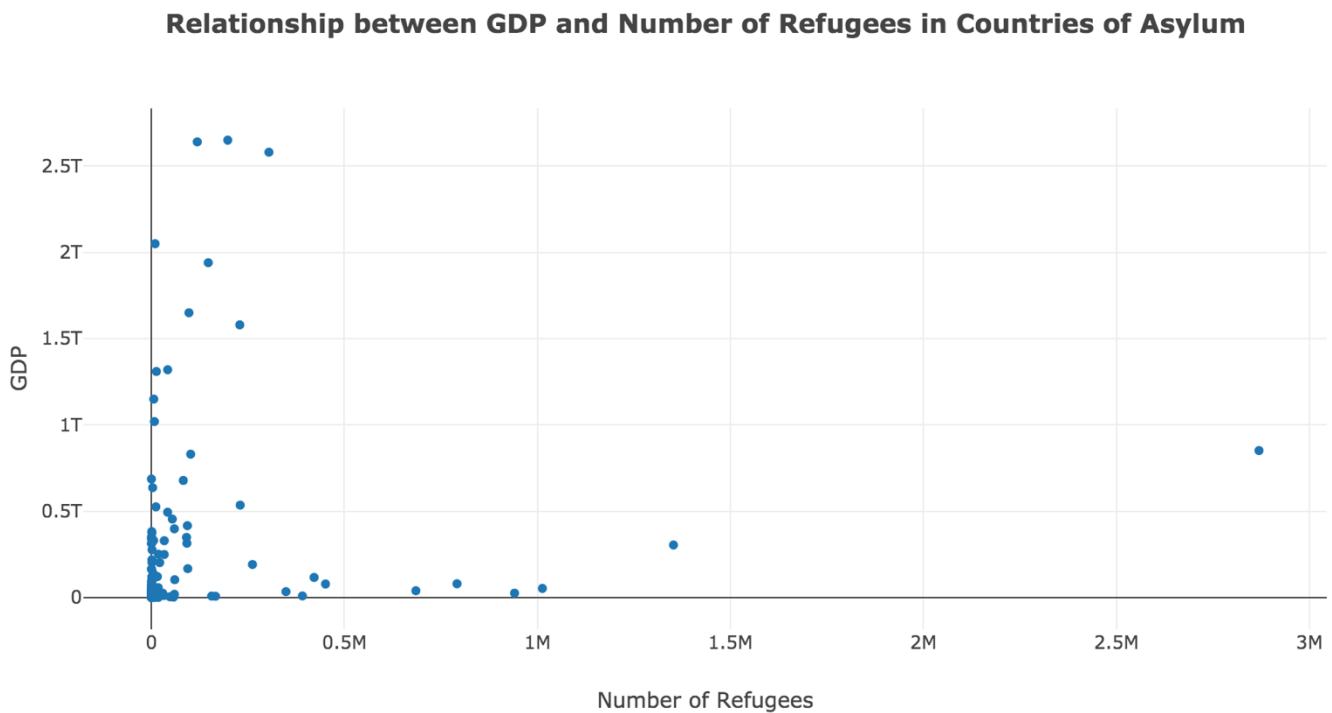


While we may have guessed that countries, such as USA, Canada, Germany and UK would have the most diverse refugee communities in the world, I discovered for myself that refugees from Somalia, Syria, Ethiopia, Sudan and Iraq reside in over 120 countries of asylum.

Let's now focus on the latest data from 2016. Is there are relationship between the number of refugees living in a country of asylum and the GDP of that country?



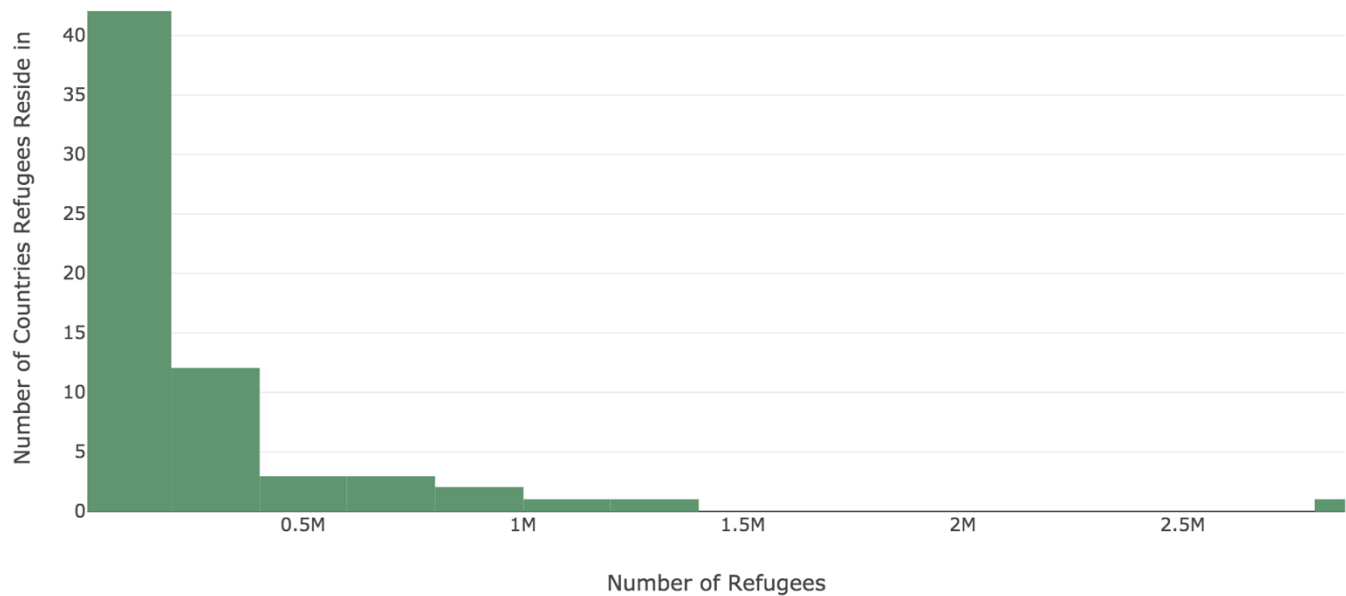
To get a better picture, let's look at the same scatterplot after removing the largest outliers.



Based on the scatterplot above, there doesn't seem to be a linear correlation. It appears instead that the largest refugee communities in 2016 live in countries with low GDP.

Next, I will look at the frequency distribution of refugees in 2016 across different countries.

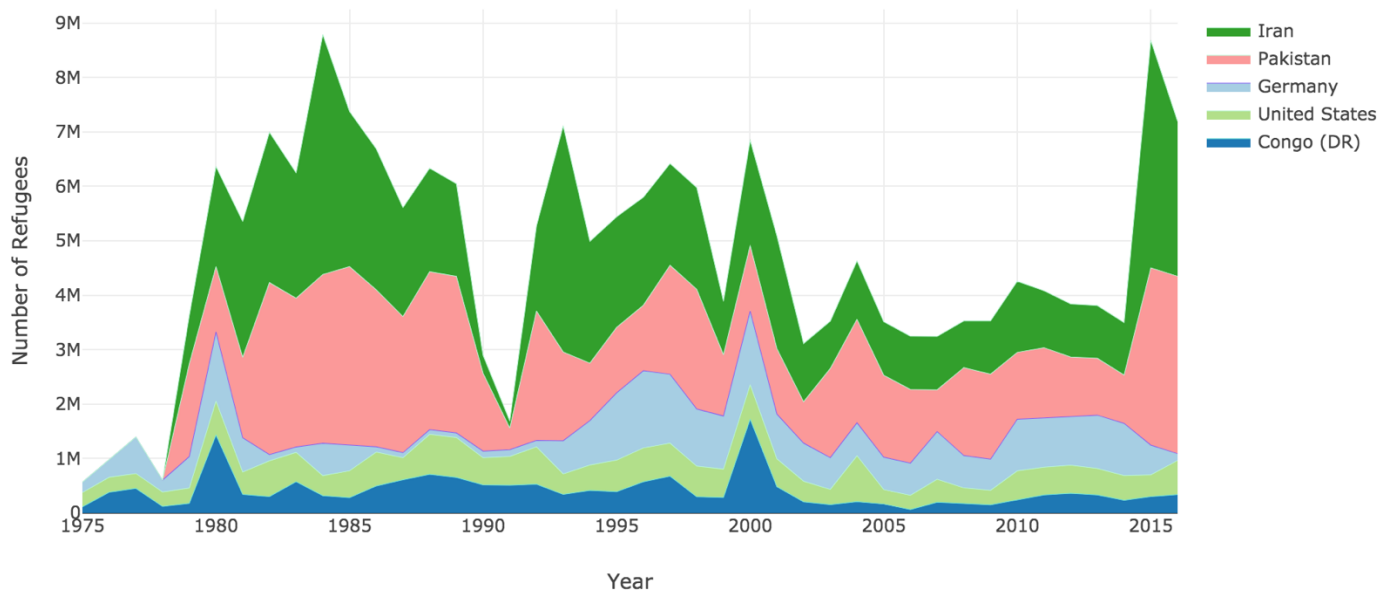
Frequency Distribution of Refugees in 2016 Across Countries



As we can see, there are approximately 5 countries where more than half a million of refugees lived in 2016, while in most of the countries of asylum, the number of refugees is significantly below half a million.

For my next plot, I wanted to focus on five countries with a historically high number of refugees and compare the number of refugees across these countries from 1975 until 2016.

Countries of Asylum with Highest Number of Refugees



Based on the stacked area graph, we see that for all the countries except Iran, the year of 2000 was the year with the highest number of refugees recorded in these countries. For Iran, the number of refugees has been consistently higher than for the other 4 countries. In general, we also observe that the number of accepted refugees in Iran and Pakistan has always been significantly higher than that in countries from Western civilization, such as the United States and Germany.

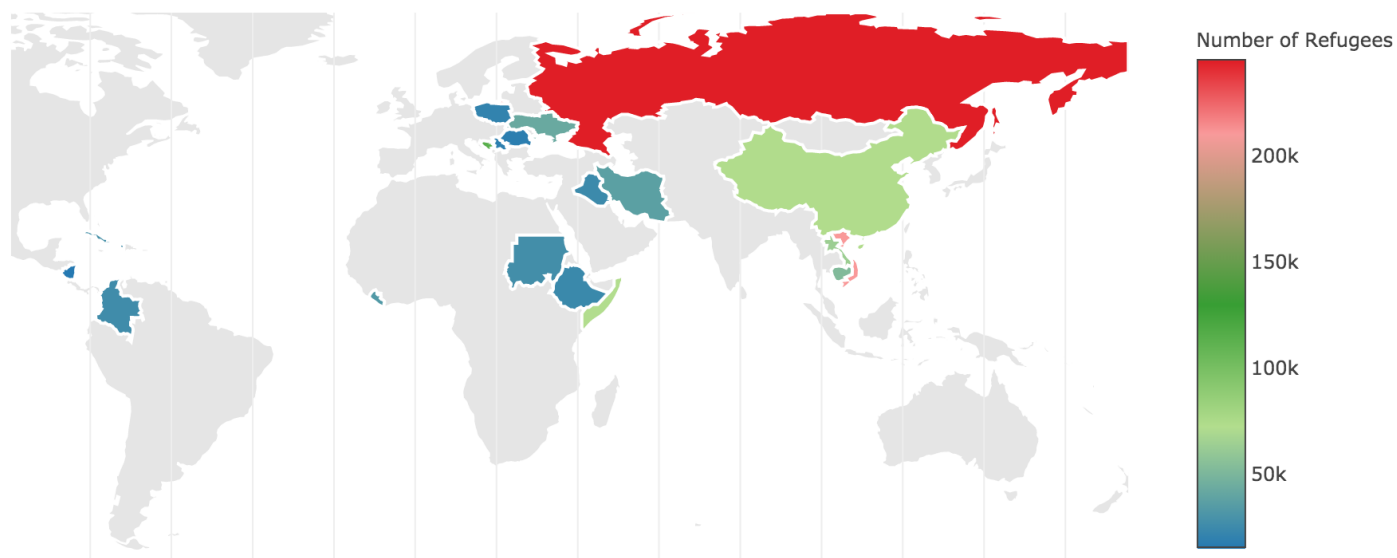
Next, I will look at the refugee population in Europe in 2016 to see which countries have the greatest number of refugees. The plot below is interactive and can be found in this repository. By hovering over each bubble, one can read the country name and the number of refugees in that country. Here's the static plot below.

Refugee Population in Europe in 2016 by Country



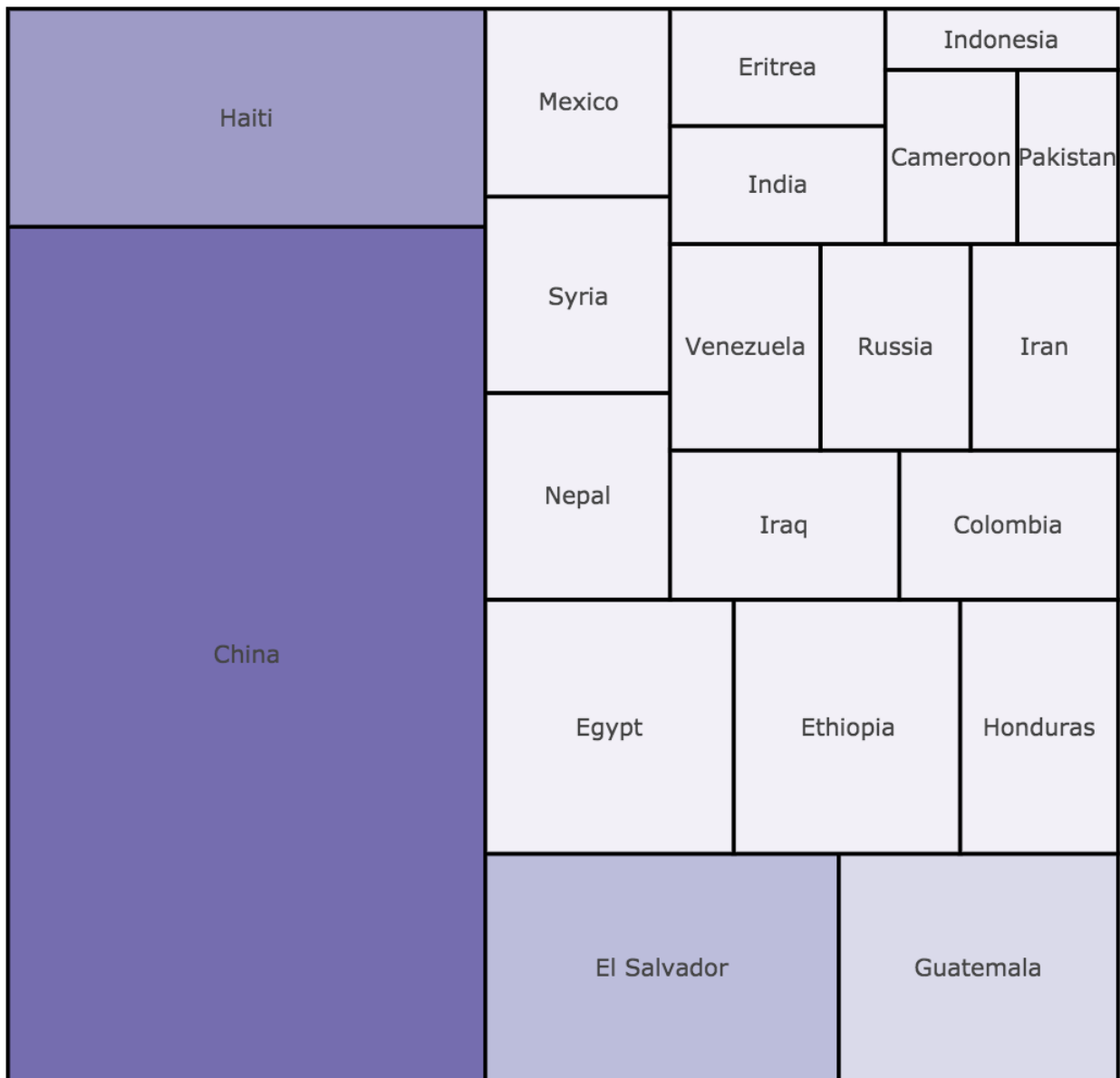
Let's now look at the refugee data for the United States. Below is a plot displaying the largest refugee communities in the United States since 1975. We see that Russia and China had the largest number of refugees in the US at some point since 1975.

Largest Number of Refugees in USA since 1975 by Country of Origin



Next, I will only look at 2016 data for the United States. I am interested in finding out about the countries which had the largest refugee communities in the United States in 2016.

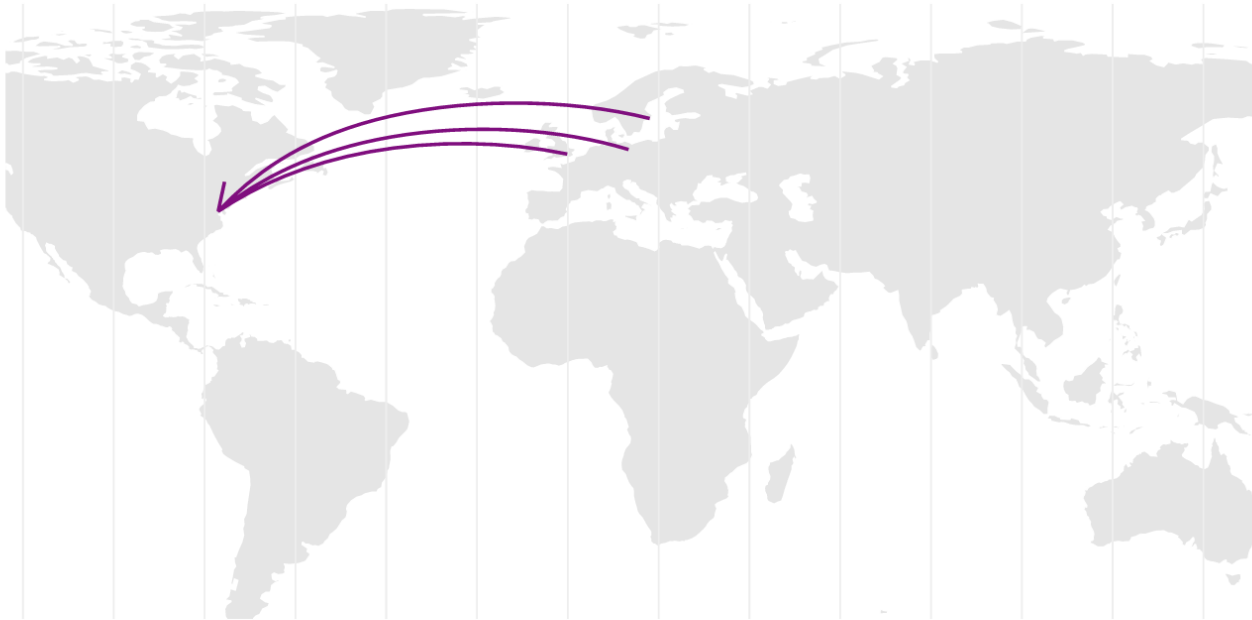
Largest Number of Refugees in USA in 2016 by Country of Origin



We see that China and Haiti had the largest refugee communities in the USA in 2016 followed by smaller communities from 18 other countries.

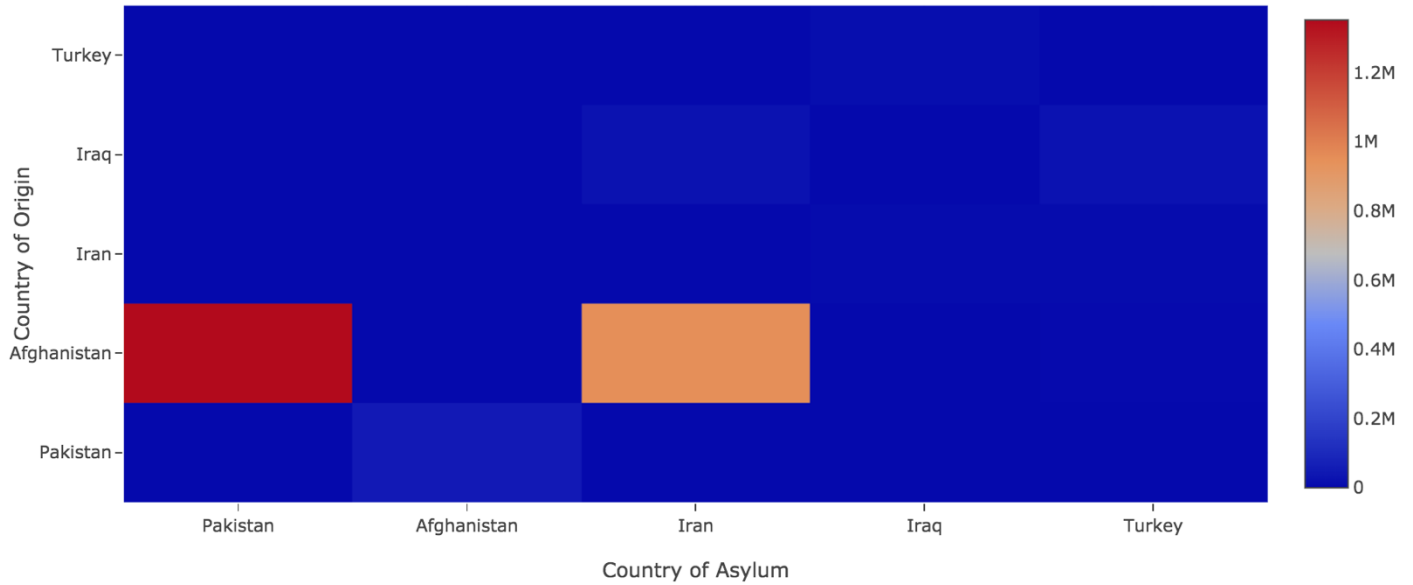
Where do most of refugees from the United States live in? US citizens could obtain a refugee status, for example, for political reasons. According to the map below, most US refugees live in Canada, Sweden, UK and Germany.

Countries of Asylum with the Most Refugees from USA



Lastly, shifting gears to the Middle East and Asia, I looked at the countries in Asia with a high number of refugees in 2016 and discovered through a heatmap that refugee flow is bidirectional for some of these countries. For example, we see that over 1 million Afghans live in Pakistan. At the same time, though, approximately half a million of Pakistani people reside in Afghanistan as refugees.

Number of Refugees Across Countries of Asylums and Origins



In summary, these plots demonstrate that the vast majority of refugees live in countries with relatively low GDP. Even though developed countries accept refugees from the most countries of origin, the numbers are not even close to the numbers of refugees that countries in Asia accept.