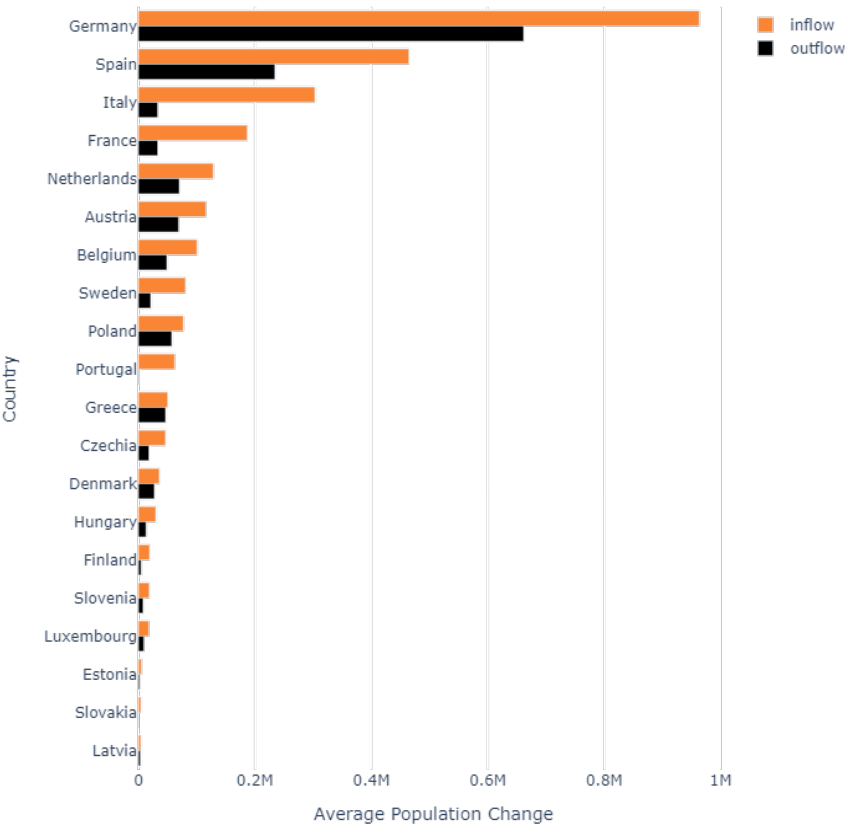




# Data analytics report

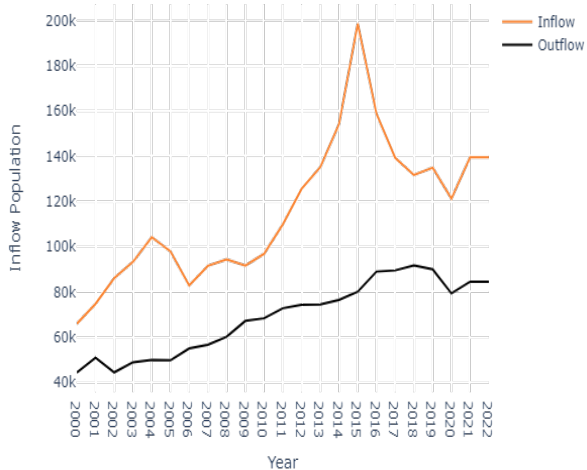
Average Change in Population Across EU



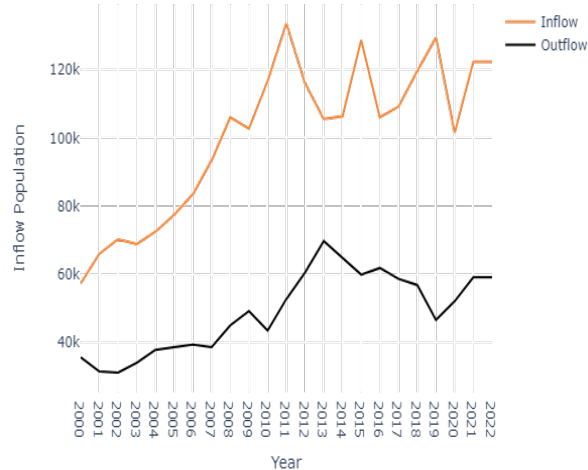
Heat Map

# Population change across each EU country

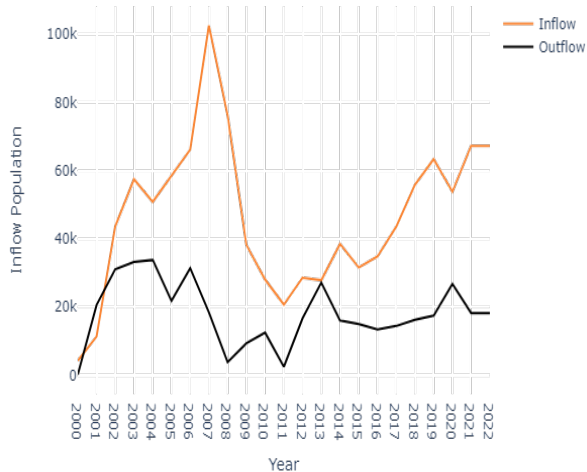
## Austria



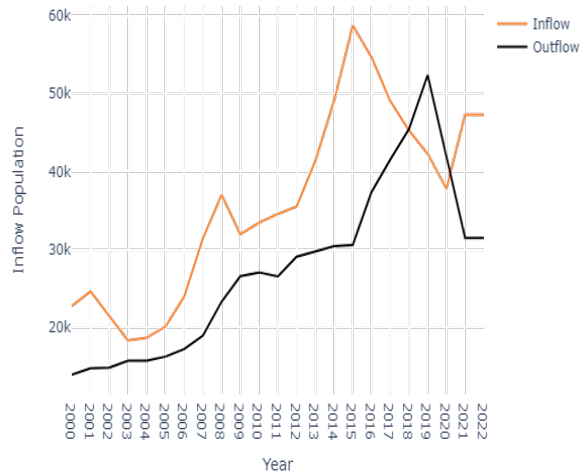
## Belgium



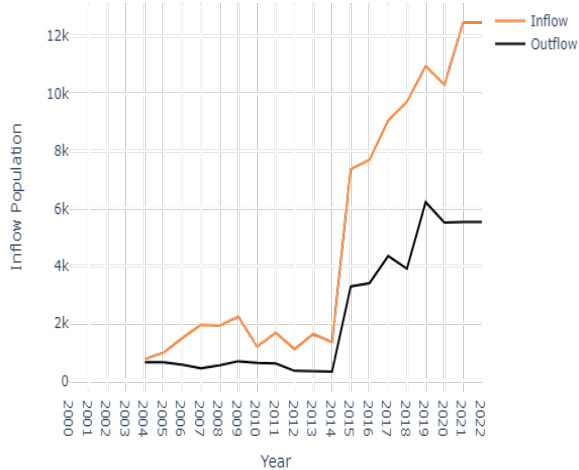
## Czechia



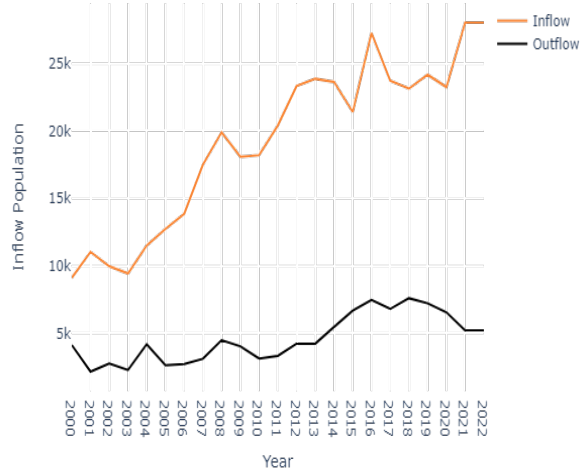
## Denmark



## Estonia

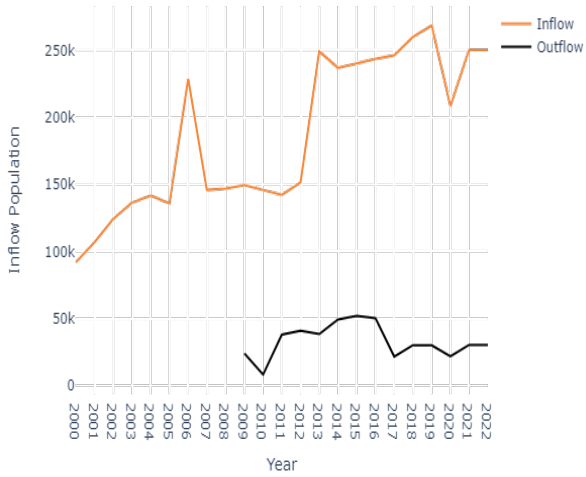


## Finland

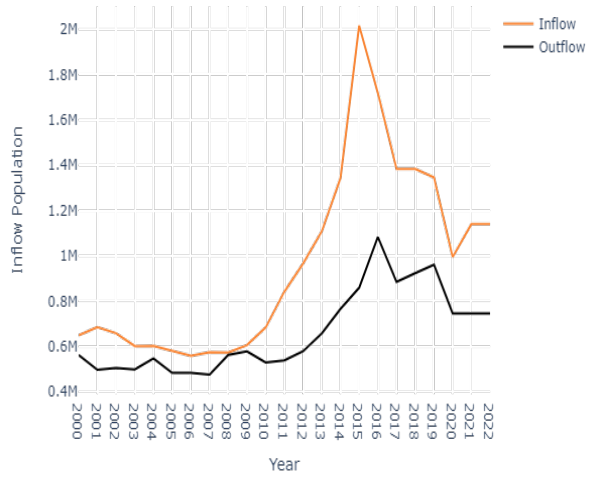


# Population change across each EU country

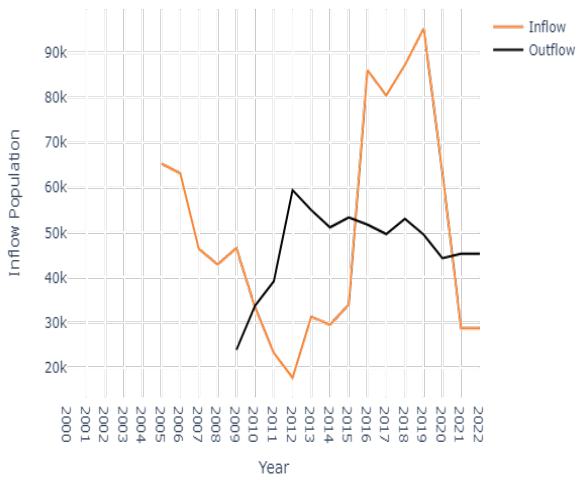
## France



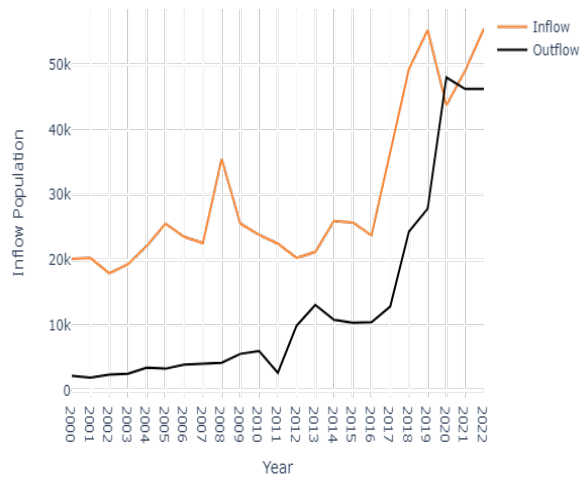
## Germany



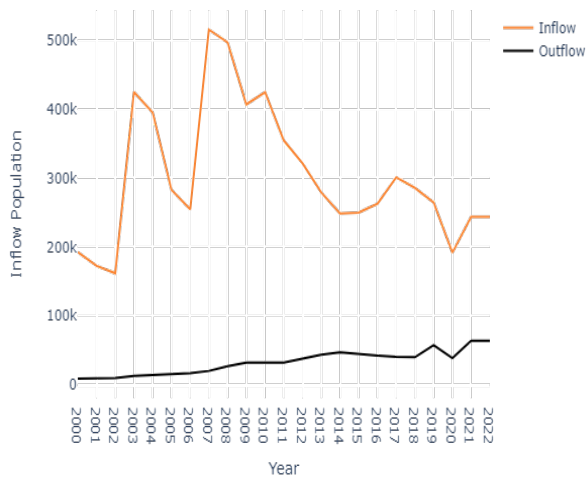
## Greece



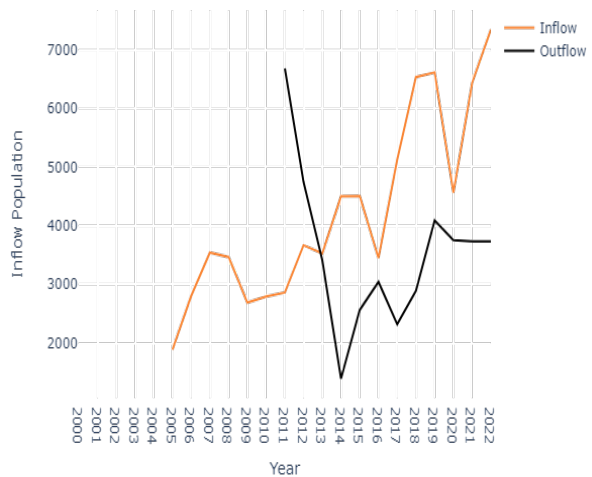
## Hungary



## Italy

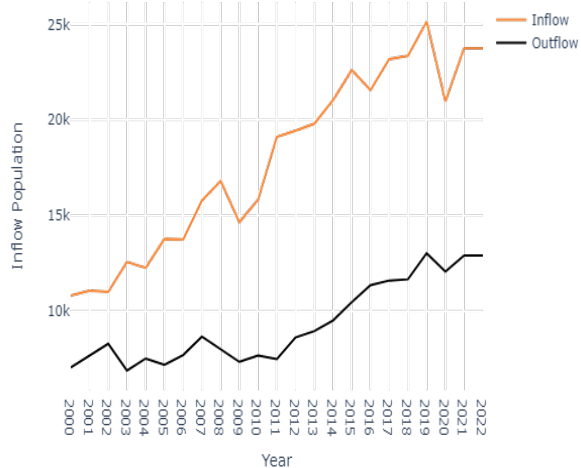


## Latvia

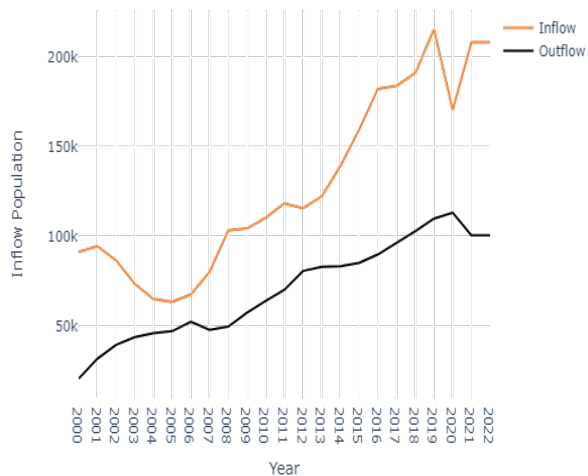


# Population change across each EU country

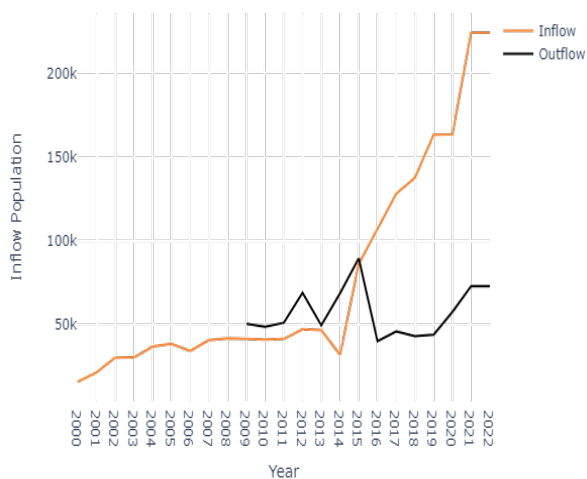
## Luxembourg



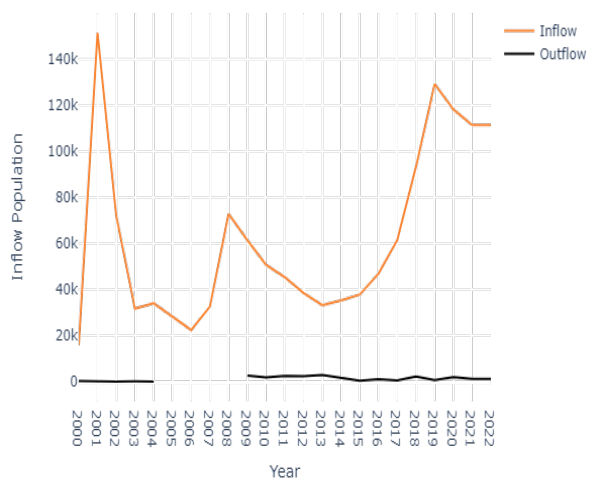
## Netherlands



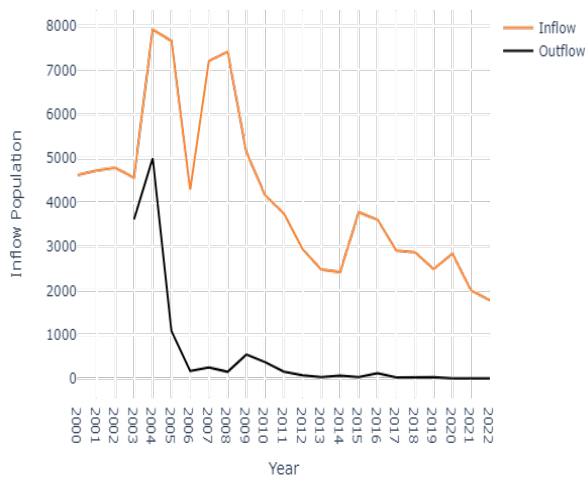
## Poland



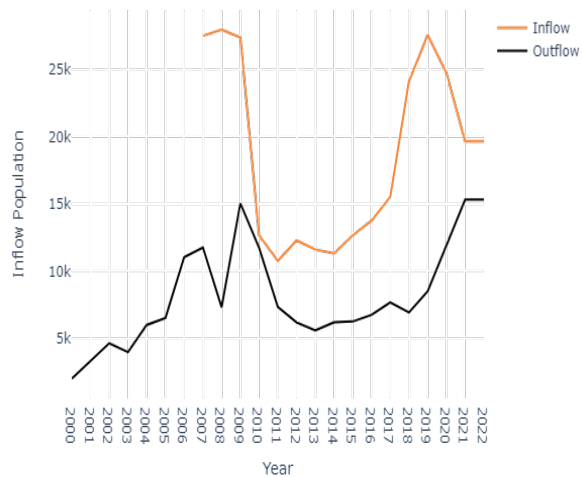
## Portugal



## Slovakia

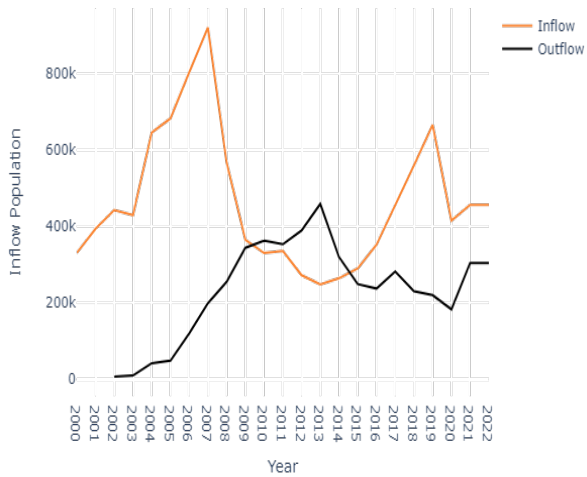


## Slovenia

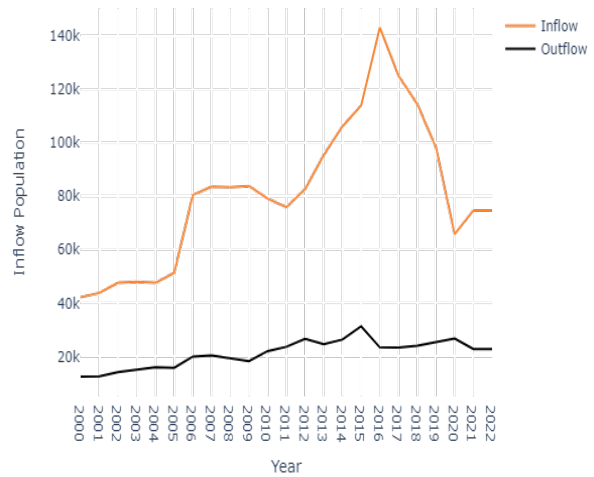


# Population change across each EU country

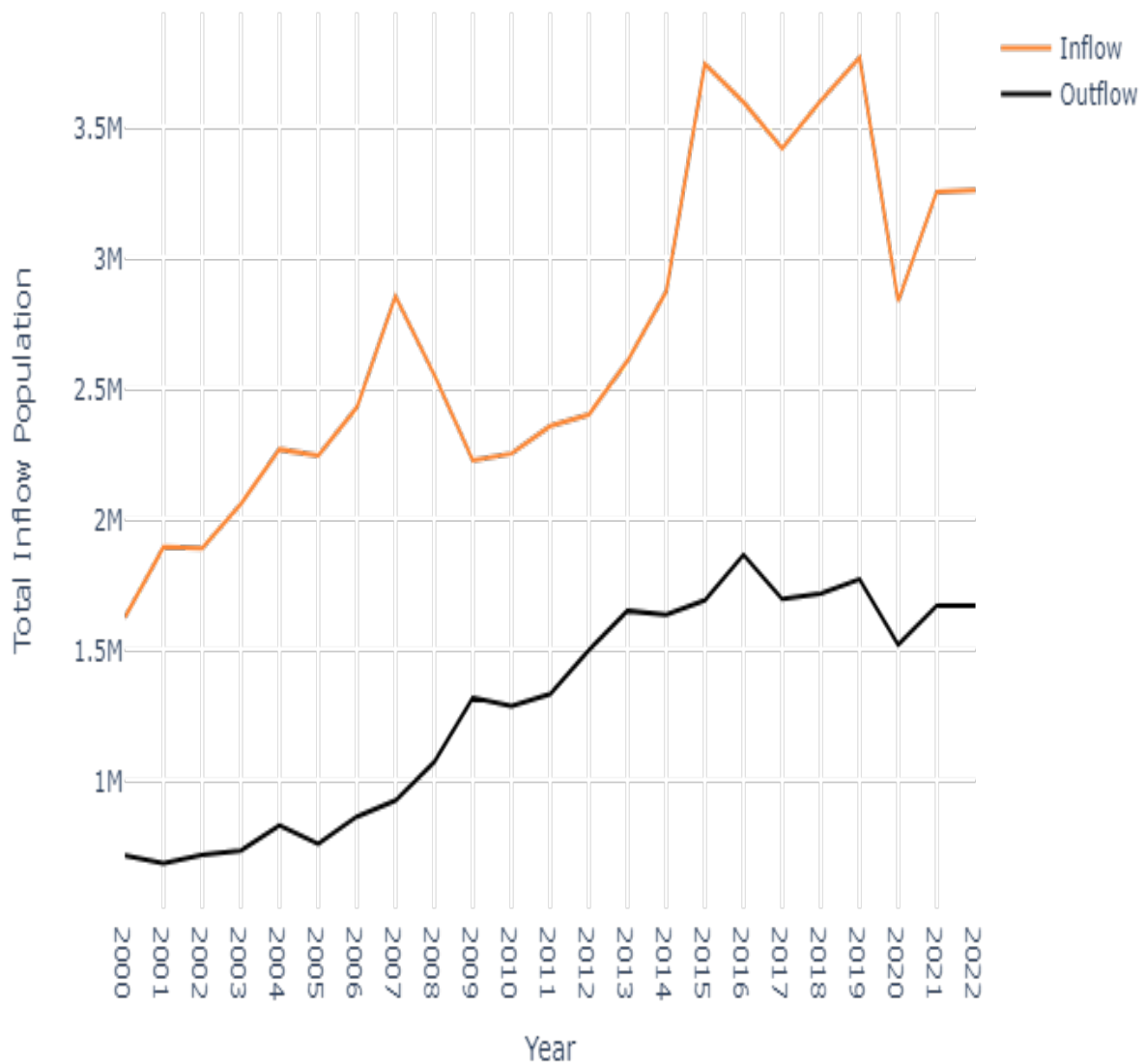
## Spain



## Sweden



## Time Series Analysis of Total Inflow/Outflow of EU Countries



# Key Events

Based on the analysis of population inflow across 2000-2022, it was determined that the years with the highest population spike/dip are:

**2020**

The main factor affecting immigration into the European Union (EU) in 2020 was the global COVID-19 pandemic. With widespread travel restrictions and border closures aimed at curbing the virus, international migration slowed significantly. Many individuals postponed or canceled plans to move to EU countries for work, study, or family reasons due to health concerns and travel limitations. Economic uncertainties resulting from the pandemic, such as job losses, also contributed to the decline in immigration. Overall, the pandemic led to a notable reduction in immigrant inflow to the EU compared to previous years.

**2015**

The major event in 2015 that affected immigrant inflow across the European Union (EU) was the European migrant crisis. This crisis was characterized by a significant influx of refugees and migrants, primarily from war-torn countries in the Middle East and North Africa, seeking asylum and better living conditions in EU member states. The crisis led to heightened tensions, debates over immigration policies, and the implementation of various measures by EU countries to manage the influx of migrants.

**2007**

In 2007, the major event affecting immigrant inflow across the European Union (EU) was the enlargement of the EU to include Bulgaria and Romania. This enlargement led to an increase in migration flows from these countries to other EU member states, as citizens of Bulgaria and Romania gained the right to freely move and work within the EU. The accession of these countries prompted discussions and debates within the EU regarding immigration policies and the management of migration from newer member states.

**2021**

In 2021, one significant event that increased immigrant inflow across the European Union (EU) was the Taliban's takeover of Afghanistan. This led to a surge in Afghan refugees seeking asylum in EU member states, particularly those involved in military operations in Afghanistan. The humanitarian crisis sparked by the Taliban's resurgence prompted discussions among EU countries regarding refugee resettlement and asylum policies, resulting in an increase in immigrant arrivals to the EU.

**2009**

In 2009, a major event that decreased immigrant inflow across the European Union (EU) was the global financial crisis. The economic downturn resulted in decreased job opportunities and heightened unemployment rates in many EU countries, leading to a decline in labor migration. Additionally, stricter immigration policies were implemented by some EU member states in response to the economic crisis, making it more challenging for immigrants to enter and find work in the EU.

## Regression

Several forecasting models were examined for the forecasting of future population including ARIMA, SARIMAX, Random Forest Regressor. However, due to the limited amount of data, it was decided that a simple linear regression would be suitable.

### Time Series Analysis with Forecasting

