### 1 Region and Domain

Poland

economic activity or measures

#### 2 Research Question

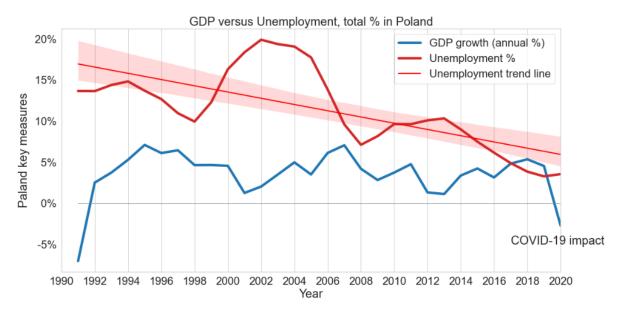
How change the GDP growth (annual %) (higher is better) and Unemployment, total (% of total labor force) (modeled ILO estimate) (lover is better) after transformation (from communism to democracy and free market). Poland joined NATO in 1999 and the European Union in 2004.

#### 3 Links

GDP = 'https://api.worldbank.org/v2/en/indicator/NY.GDP.MKTP.KD.ZG?downloadformat=excel' Unemployment =

'https://api.worldbank.org/v2/en/indicator/SL.UEM.TOTL.ZS?downloadformat=excel'

### 4 Image



### 5 Discussion

This visualization was concerned with answering the question of how to change the GDP and Unemployment rate after Polish transformation in the last 29 years. The worldbank.org provides economics data for all countries in xml, csv and excel format. The data is getting from two excel files downloaded from api.worldbank.org and is transforming to one dataset joining with country and Year. Both metrics are converted to percentage value end plot on the same x axis. Grid is set to vertical and the unemployment trend line was added to help readers identify any data trends.

The plot shows a downgrading trend (generally) in unemployment where the highest value was in 2002. After GDP increases in 1992 - 1994 the unemployment trend changed to a downtrend in 1994. Another trend changed GDP was in 1995 and unemployment trend changed in 1998 and reached its highest value in 2002 then changed because a GDP war returned to uptrend in 2001. GDP reached its local maximum in 2007 and unemployment changed to uptrend in 2008. Finally unemployment changed to a downtrend in 2013. Sadly GDP is dramatically going downtown in 2019-2020 because global COVID-19 pandemic reaches Poland.

## Truthful

The data is from a verified source and all charts use the same axis.

# Beautiful

Color is carefully chosen and linewidth (data is fatter and trend line is thinner). Chart is minimalistic.

## **Functional**

I used a data-ink ratio to help increase the functionality of a visualization.

# Insightful

Data is presented that way to show trends in metrics. It's easy to find correlations between different metrics.