

Is the World becoming a better place?

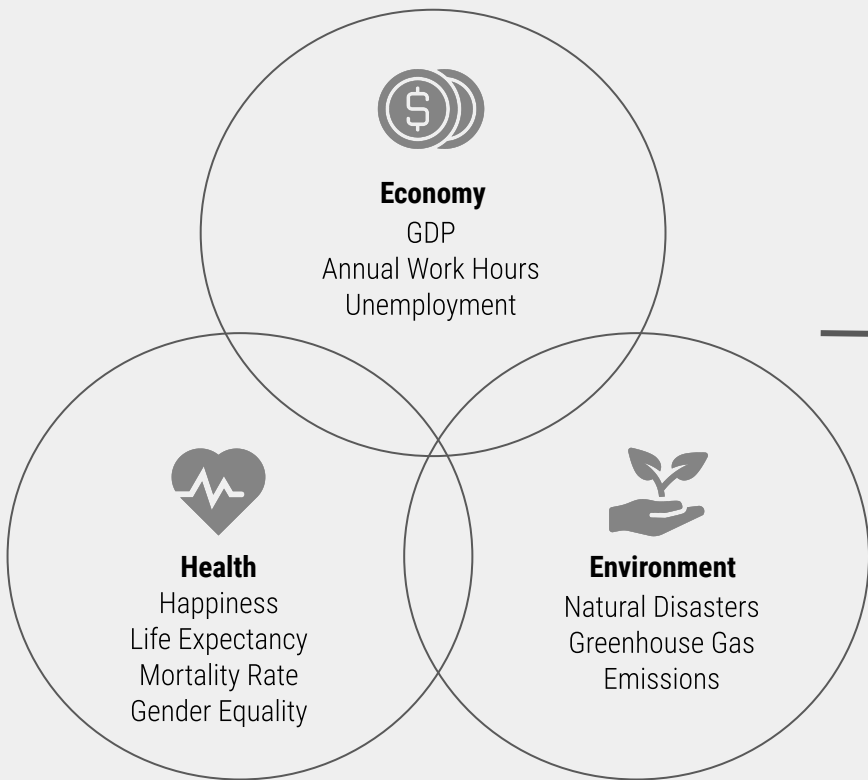
Yingan Chen, Jessica Echterhoff, Chao Tang, Terry Yang

Motivation

- **Bad news dominate** our daily lives
- A **realistic view** on the world and it's global tendencies can **put things in perspective**
- We need some **encouragement** within this global pandemic

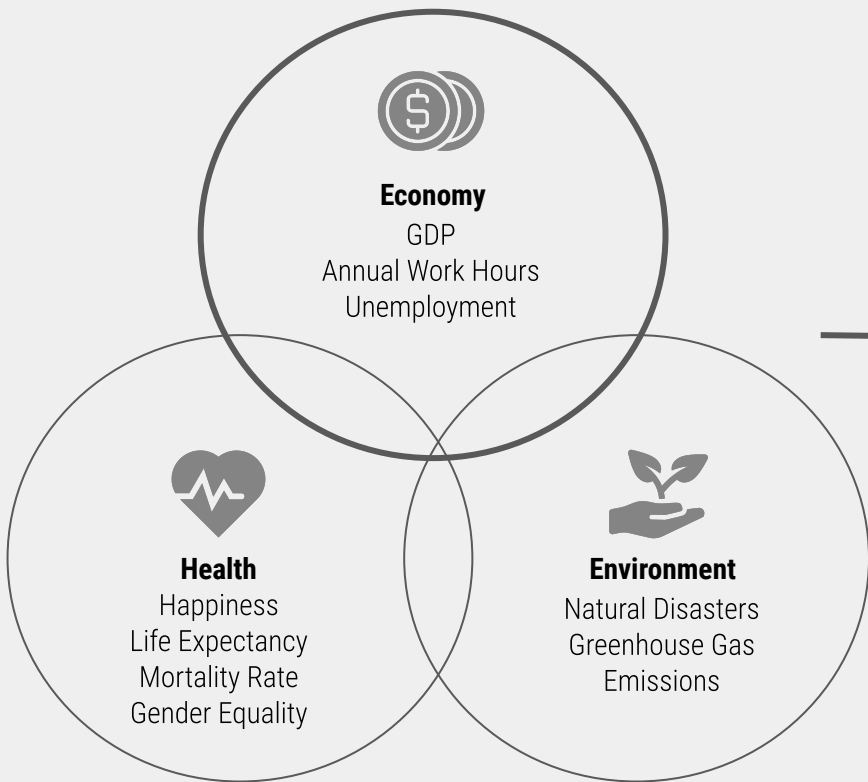


Methods



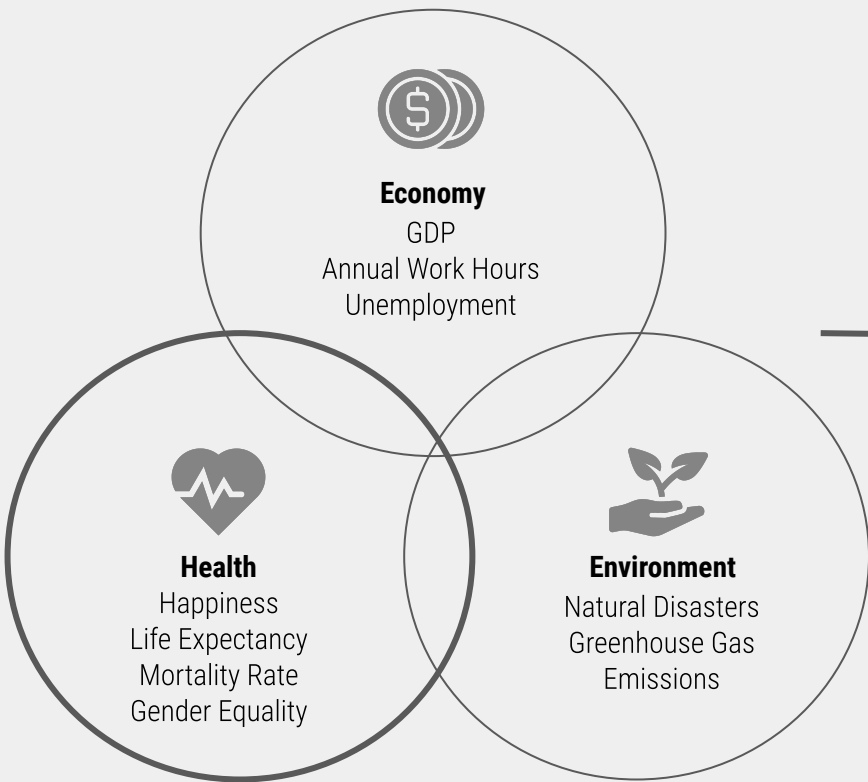
- **Cleaning** an **joining** data which was collected using **different sampling methods**
- **Individual evaluation of categories**
- **Time Series Prediction** using Autoregressive Integrated Moving Average
- **Combining** categories into an overall **improvement index**

Methods



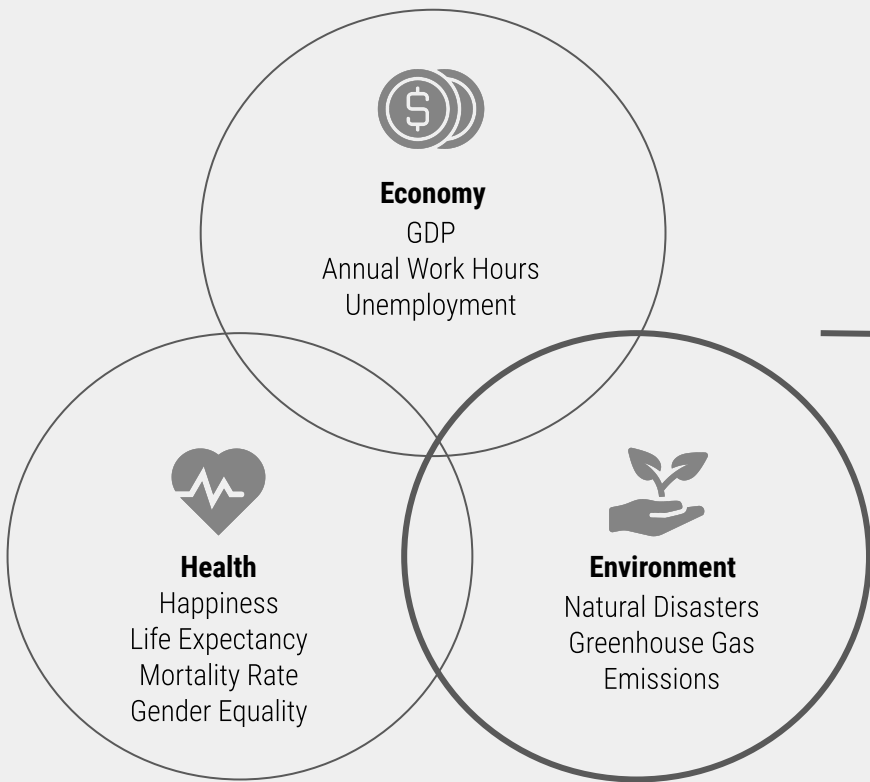
- **Cleaning** an **joining** data which was collected using **different sampling methods**
- **Individual evaluation of categories**
- **Time Series Prediction** using Autoregressive Integrated Moving Average
- **Combining** categories into an overall **improvement index**

Methods



- **Cleaning** an **joining** data which was collected using **different sampling methods**
- **Individual evaluation of categories**
- **Time Series Prediction** using Autoregressive Integrated Moving Average
- **Combining** categories into an overall **improvement index**

Methods

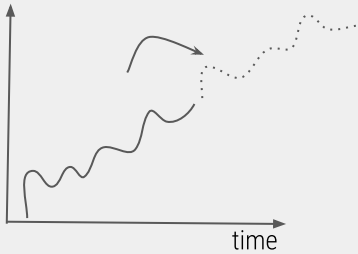


- **Cleaning** an **joining** data which was collected using **different sampling methods**
- **Individual evaluation of categories**
- **Time Series Prediction** using Autoregressive Integrated Moving Average
- **Combining** categories into an overall **improvement index**

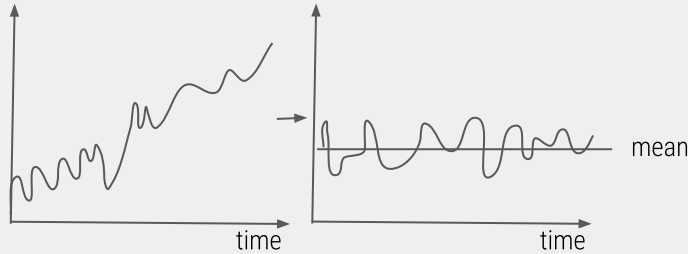
Prediction Method: Autoregressive Integrated Moving Average (ARIMA)

A form of regression analysis that gauges the strength of one dependent variable relative to other changing variables

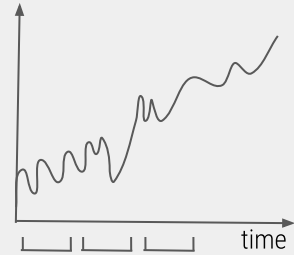
Autoregression (AR): model that shows a changing variable that regresses on its own prior values.



Integrated (I): differencing of raw observations to allow for the time series to become stationary



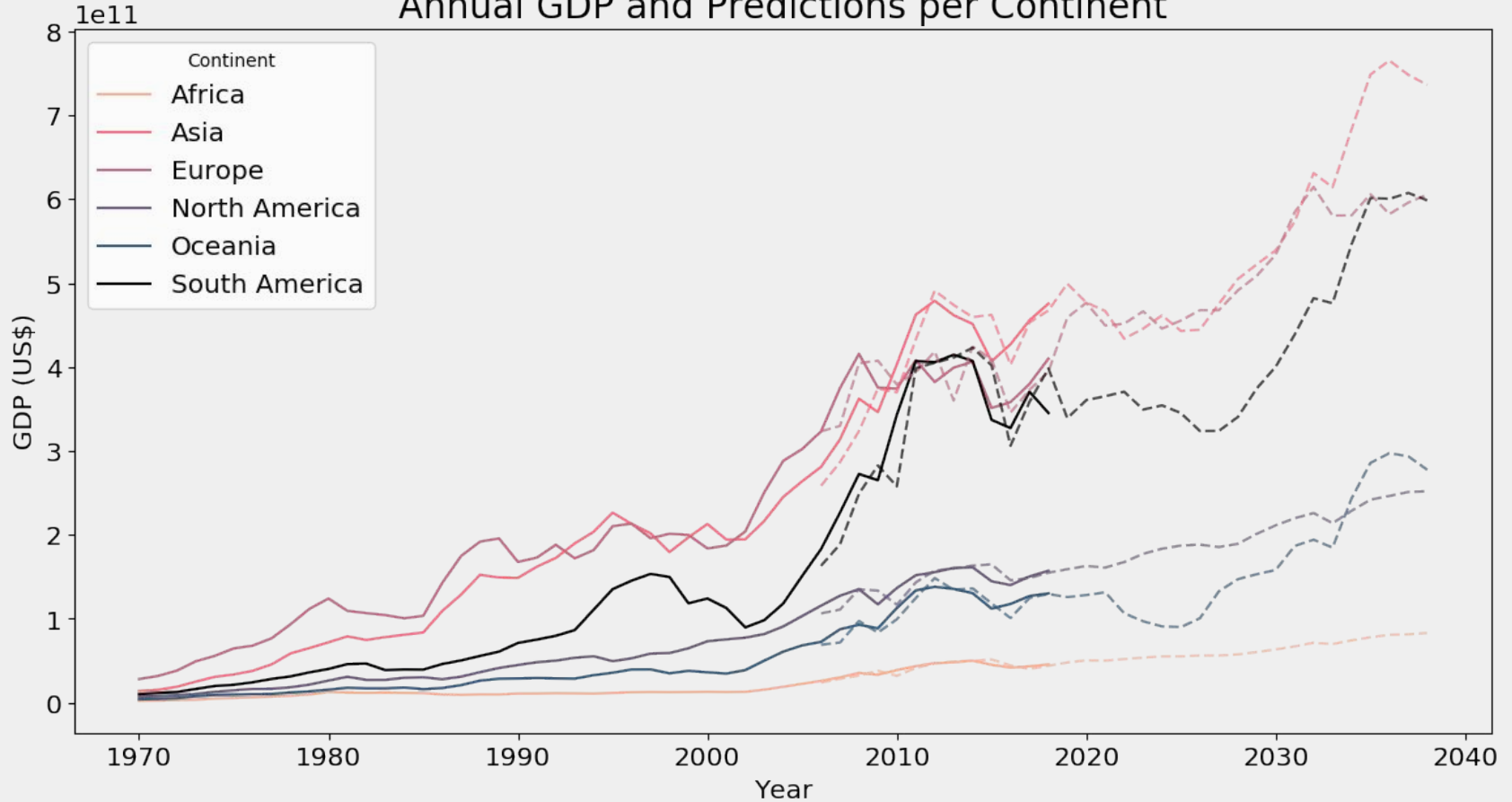
Moving average (MA): applied to lagged observations





Economic Development

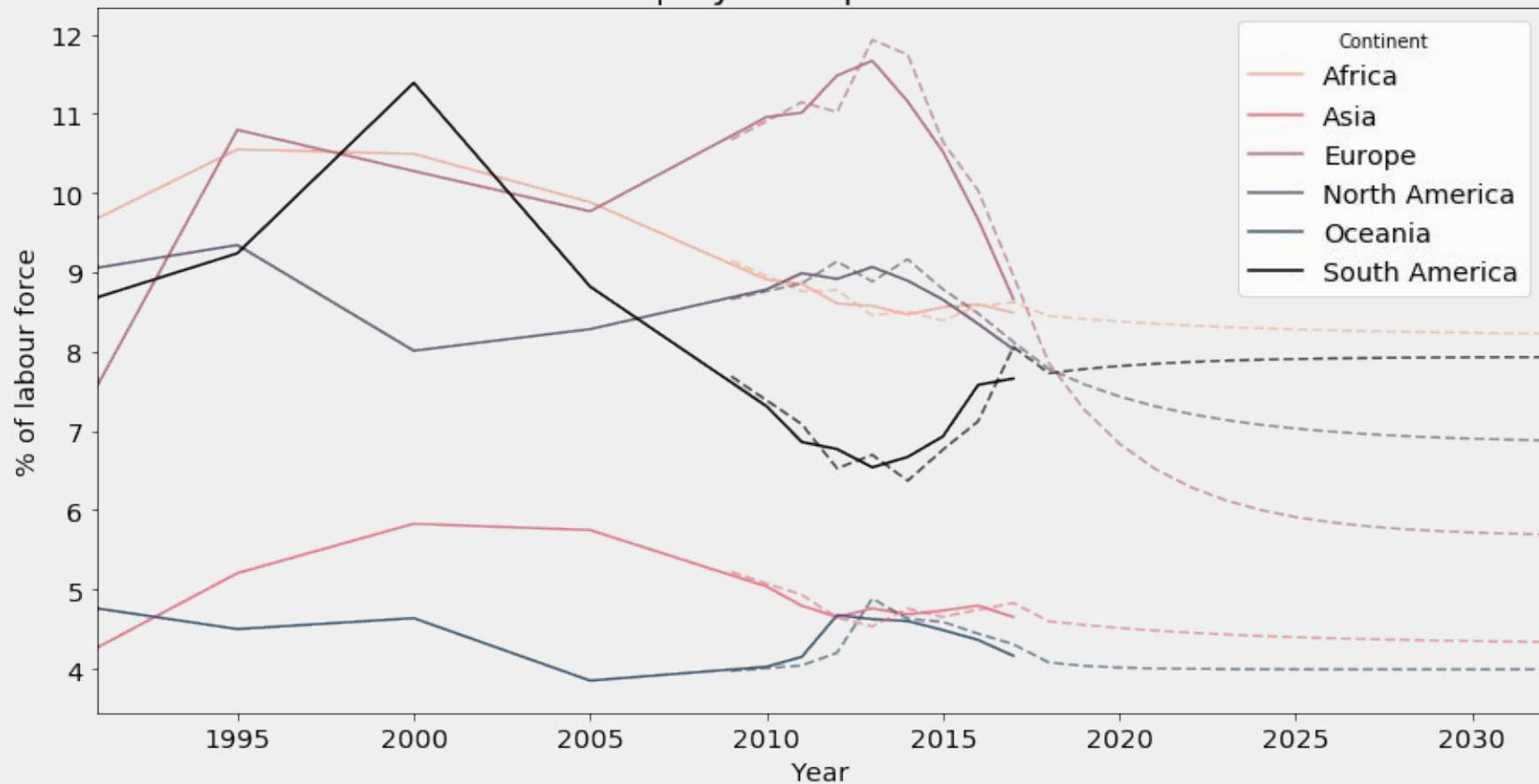
Annual GDP and Predictions per Continent





Economic Development

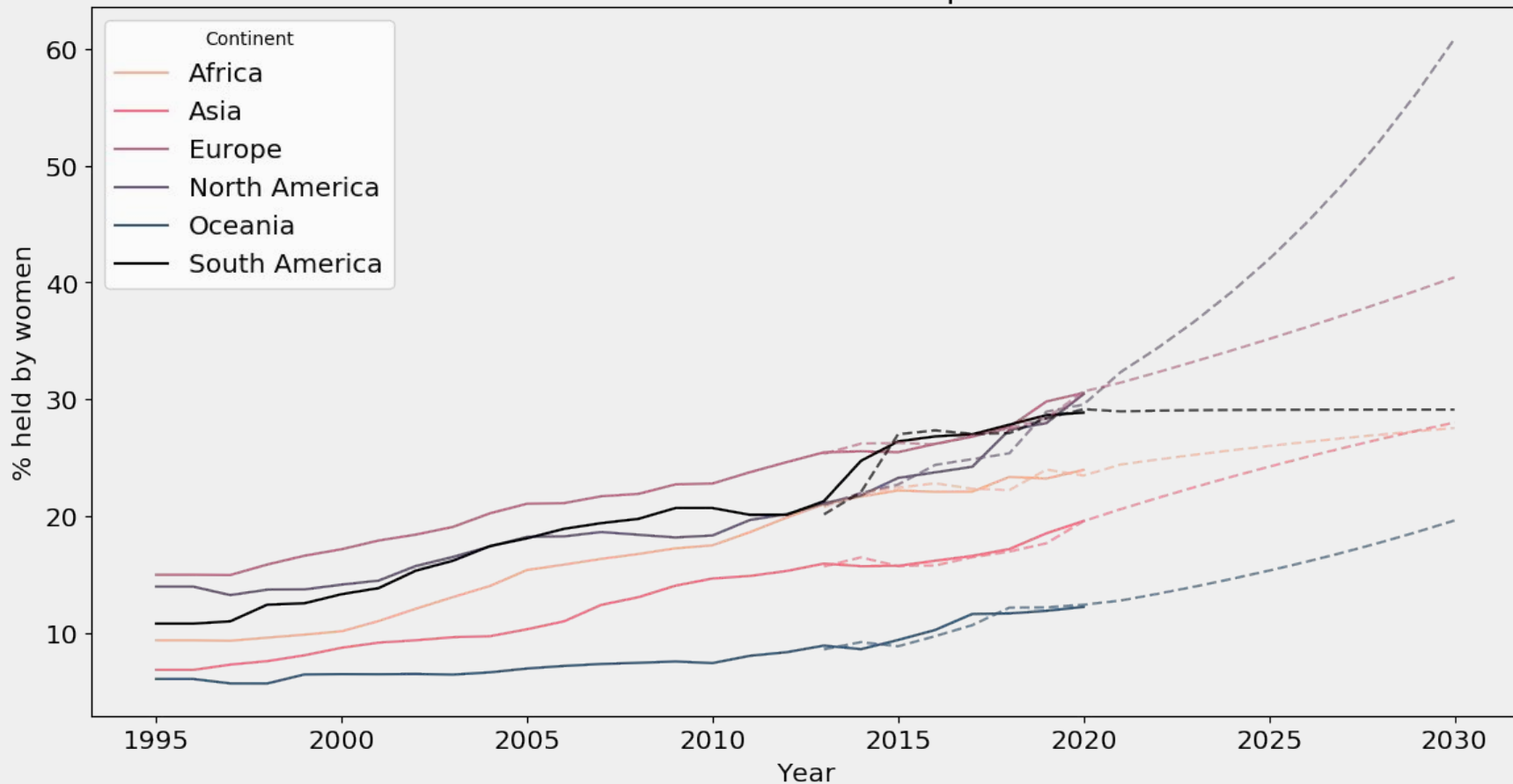
Unemployment per continent





Development of Health and Well Being

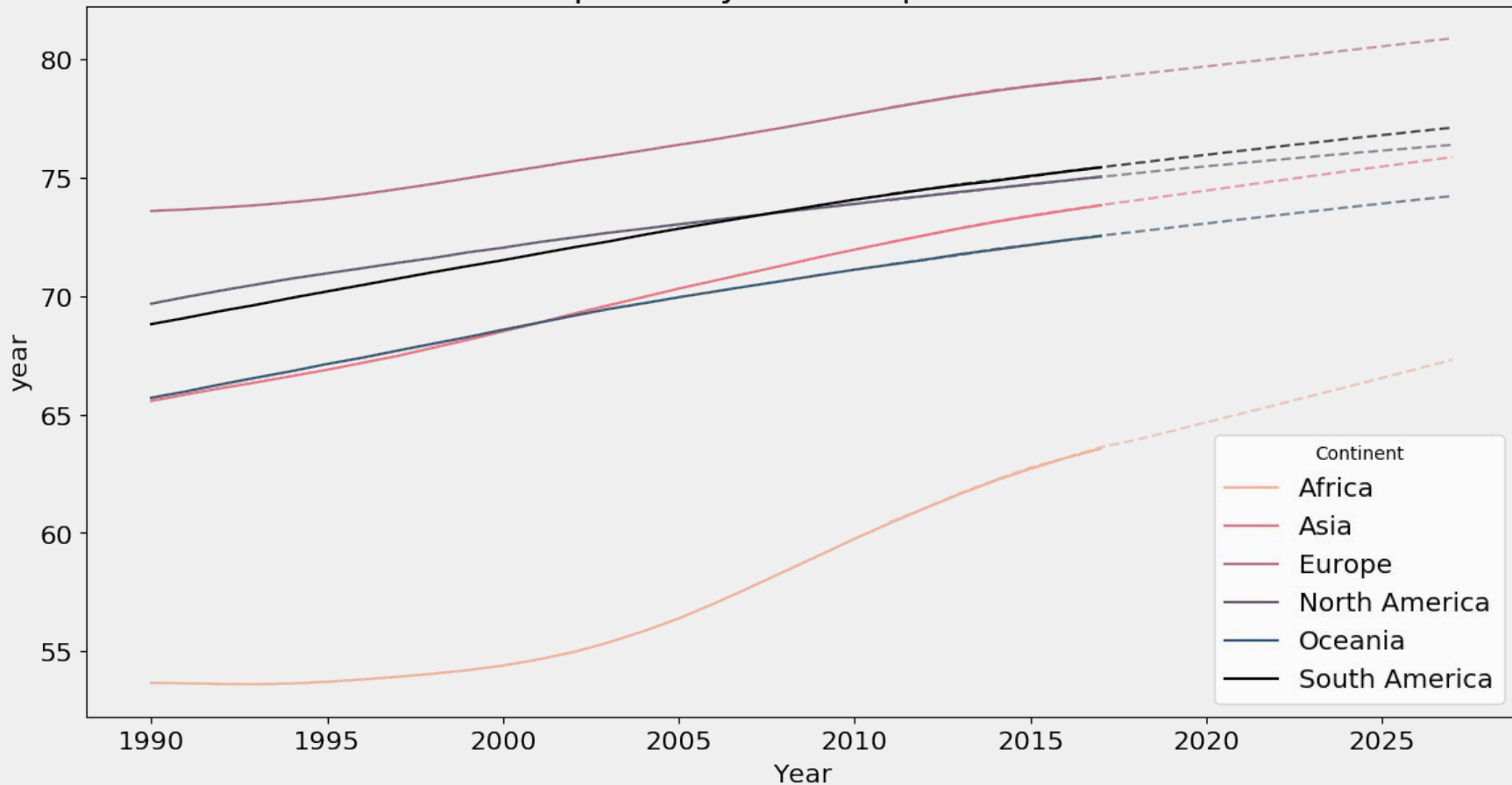
Share of Seats in Parliament per Continent





Development of Health and Well Being

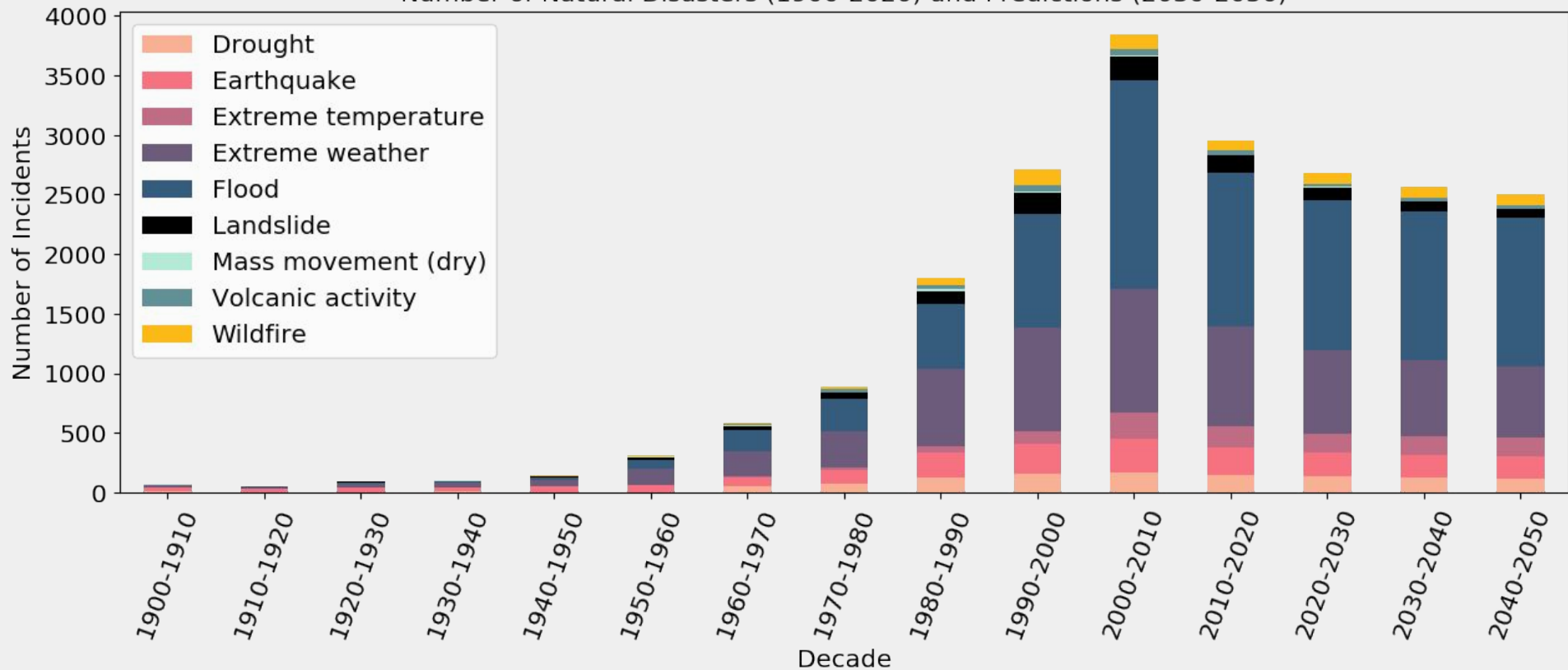
Life Expectancy at Birth per Continent





Environmental Development

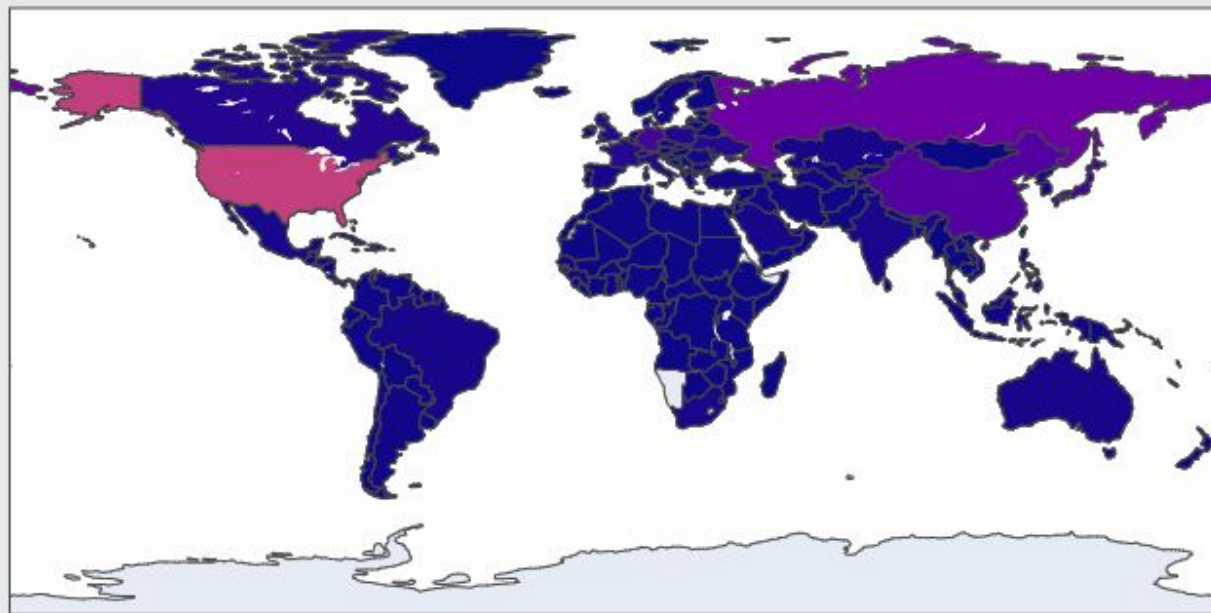
Number of Natural Disasters (1900-2020) and Predictions (2030-2050)





Environmental Development

The Amount of CO₂ Emission of Each Country



Annual CO₂

10k

8k

6k

4k

2k

0



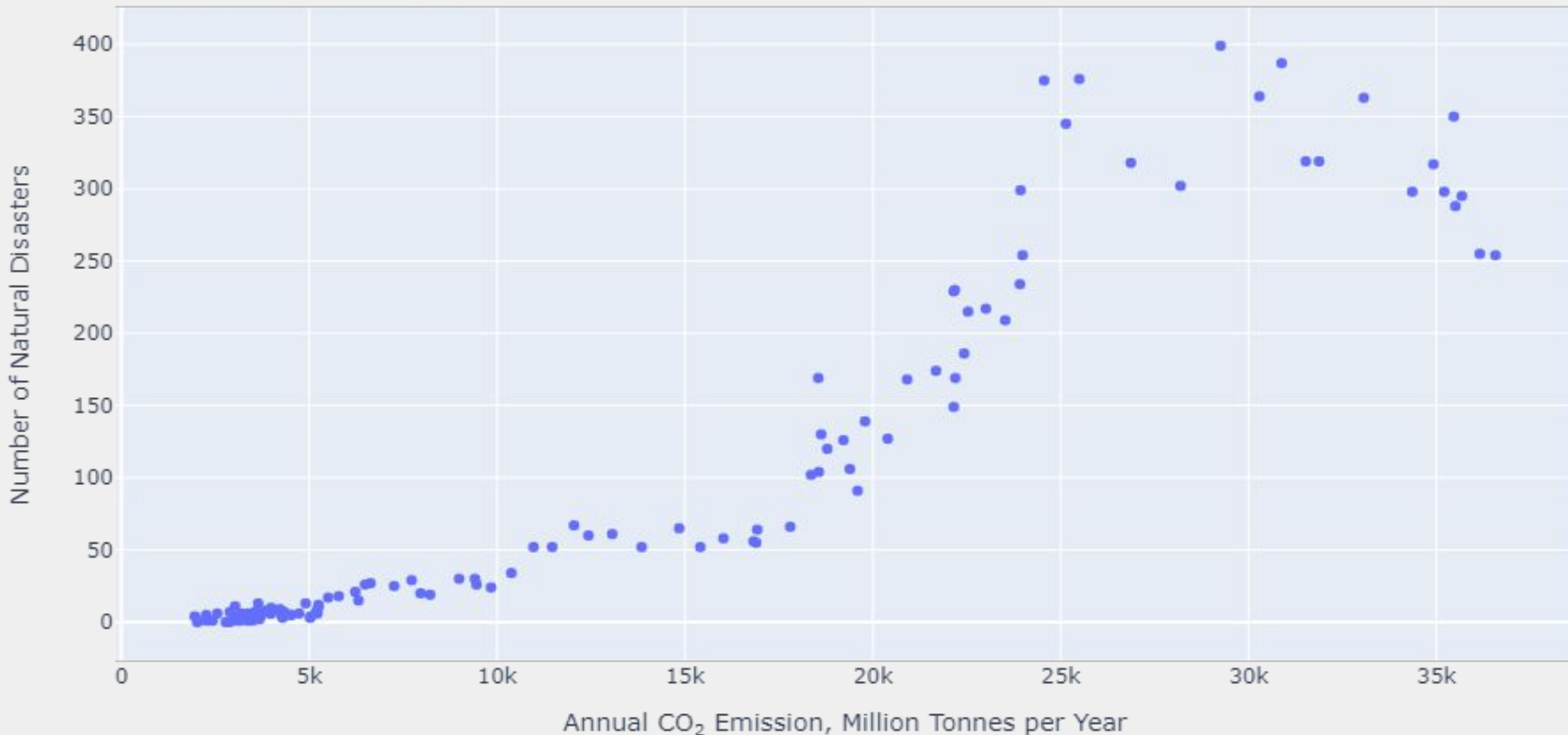
year=1980

1980 1983 1986 1989 1992 1995 1998 2001 2004 2007 2010 2013 2016



Environmental Development

The amount of CO₂ Emission VS Number of Natural Disasters
Related to Global Warming



In a Nutshell

Percentual economic, health and environmental protection growth in comparison to previous year and predictions

0.025%

-0.04%

-0.1%

North America

Europe

Asia

South America

Africa

Oceania

1992



Economy



Health



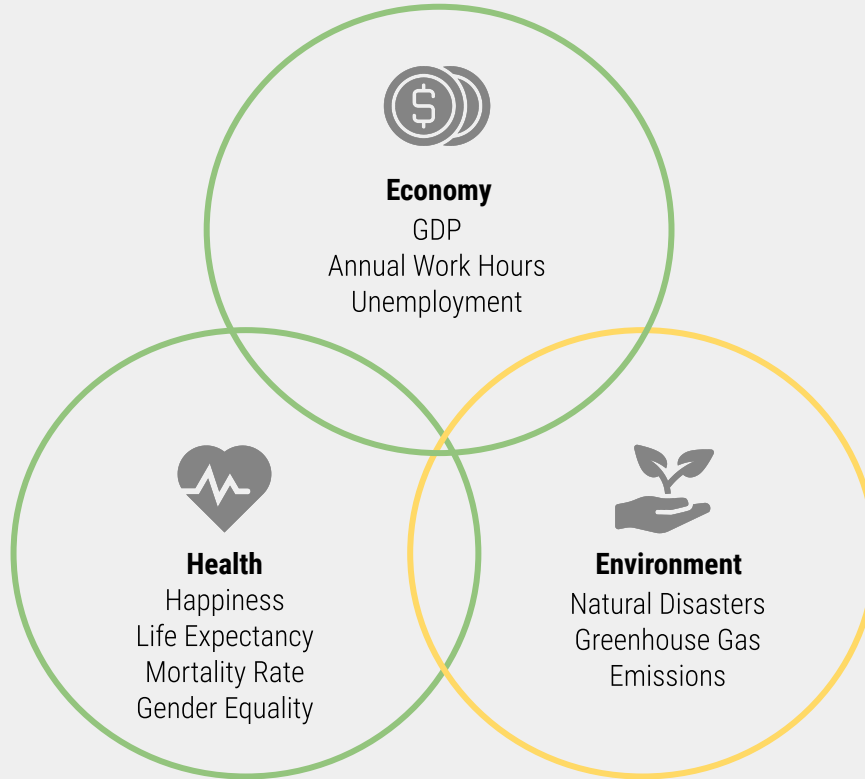
Environment

(based on GDP and unemployment rate)

(based on life expectancy at birth, infant mortality rate)

(based on methane and CO2 emissions)

Conclusion: We are doing better



THANKS

Does anyone have any questions?

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon**, and infographics & images by **Freepik**.

Please keep this slide for attribution.

RESOURCES

Datasets:

- Health
 - Gender equality [\[1\]](#), [\[2\]](#), [\[3\]](#)
 - Death rates by causes [\[4\]](#), [\[5\]](#)
 - Happiness and Life Satisfaction [\[6\]](#)
- Economy
 - Employment rates [\[7\]](#) [\[8\]](#)
 - GDP [\[9\]](#)
- Environmental
 - Disasters [\[10\]](#) [\[11\]](#)
 - Greenhouse Gas Emissions [\[12\]](#)