

## Plná verze článku / Full paper

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# Regional Disparities in COVID and Mobility

(with Patterns for Employment)

CR

Regional Colloquium

2021/08/31 (updated: 2021-08-31)

# Research Question (Left) VS Conditions (Right)

Purpose:

1. Decrease in Mobility<sup>1</sup>;
2. Corresponds with;
3. the decrease in pandemics;
4. if this pattern;
5. correlates with a high decrease;
6. in salaries and employment;

1. public stay-at-home orders;
2. willing decrease of movements;
3. fear of pandemic;
4. parks, grocery stores, workplaces<sup>1</sup>;
5. pharmacies, transportation stations<sup>1</sup>;
6. retail, recreation, and home<sup>1</sup>;

[1] By Types of Economic Activities

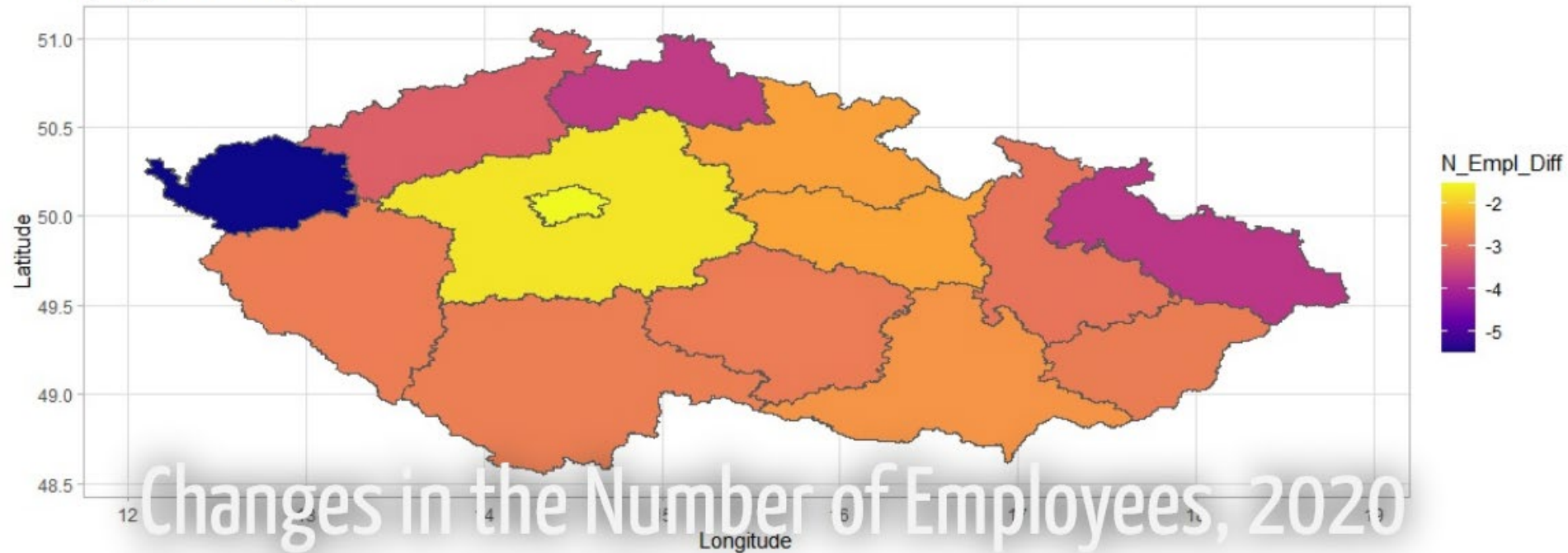
# Topics:

- 1) Introduction
- 2) Results + Discussion
- 3) Discussion

# Topic 1:

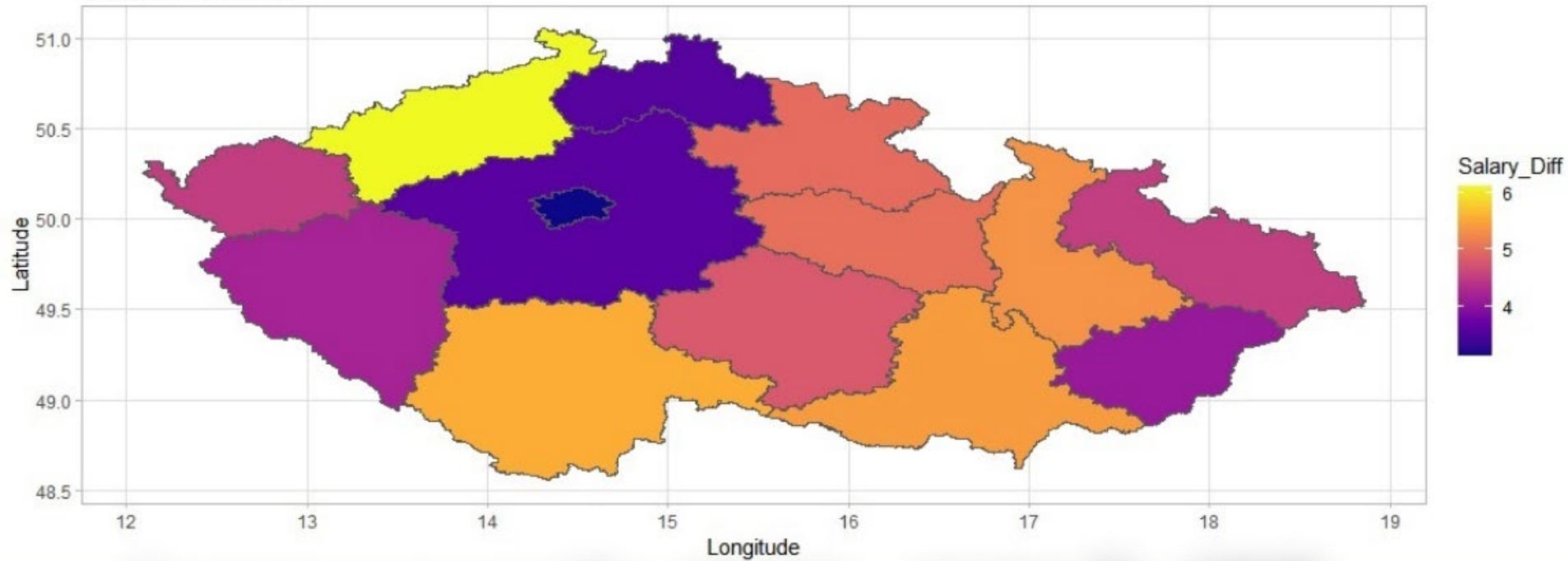
Introduction

Change in the Number of Employees, 2020 to 2019, %  
(14 regions observed)



Changes in the Number of Employees, 2020  
to 2019, percentage

*Income per capita, 2019 – 2020 (in CZK)*  
(14 regions observed)



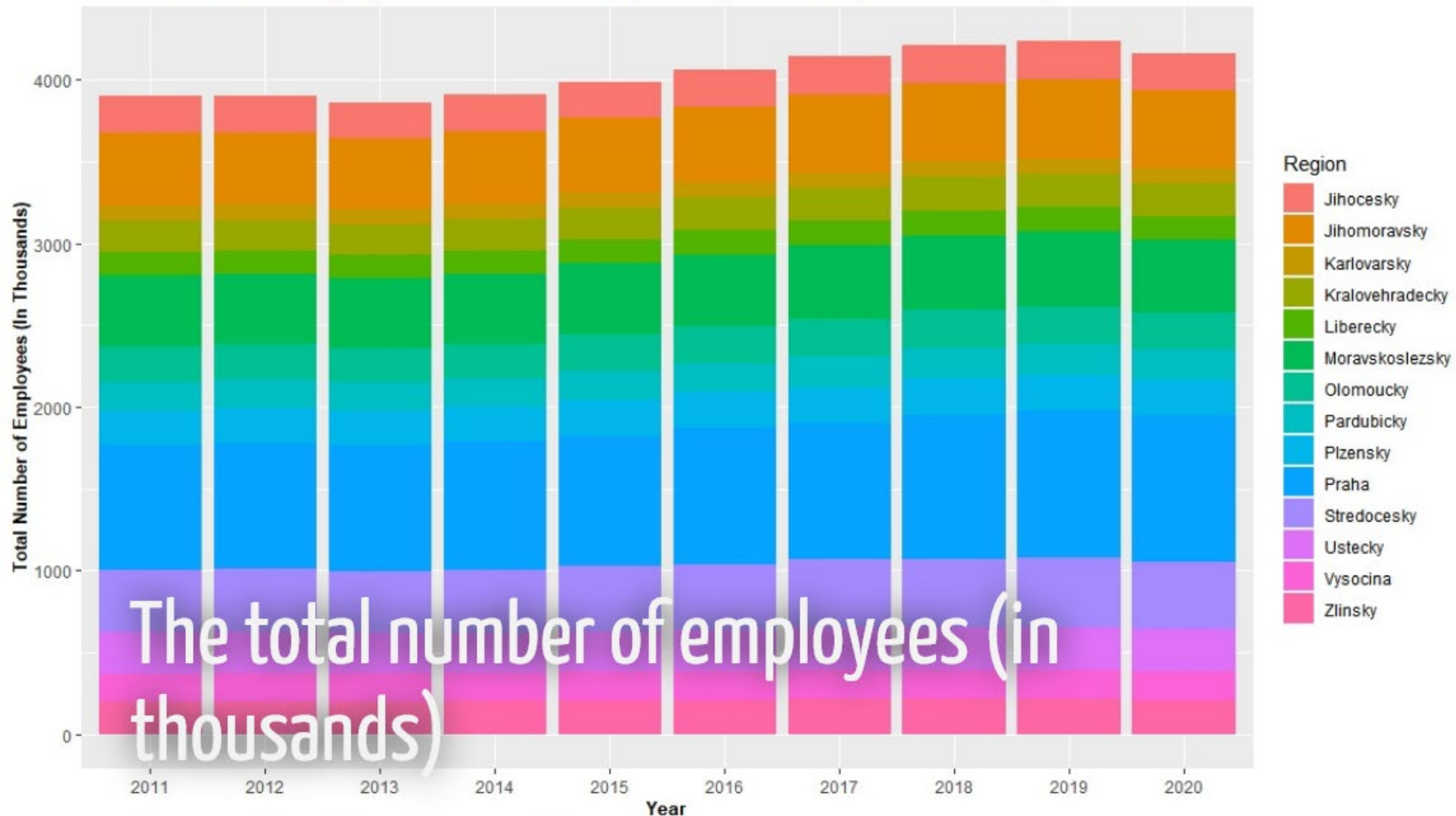
# Income per capita, 2019 – 2020 (in CZK)

Source: Own Processing in R

Although the number of employees decreased in 2020,  
the average salary increased (on average) in the regions of the Czech Republic.  
The governmental measures supported an increase in salary in 2020.

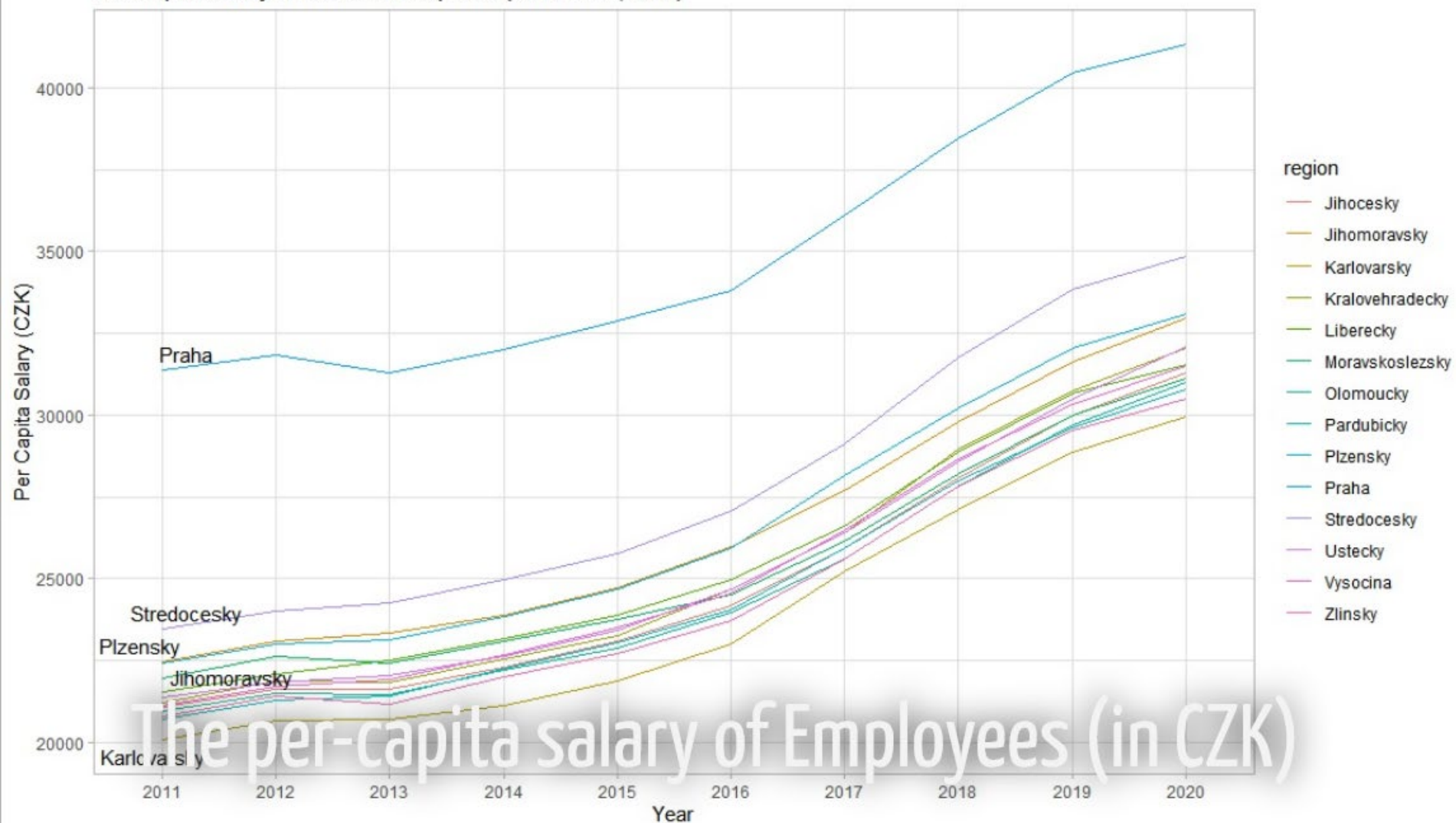


Total Number of Employees in the Czech Republic (2011-2020, In Thousands)



Source: Own Processing in R

Per Capita Salary in the Czech Republic (2011-2020, CZK)



The per-capita salary of Employees (in CZK)

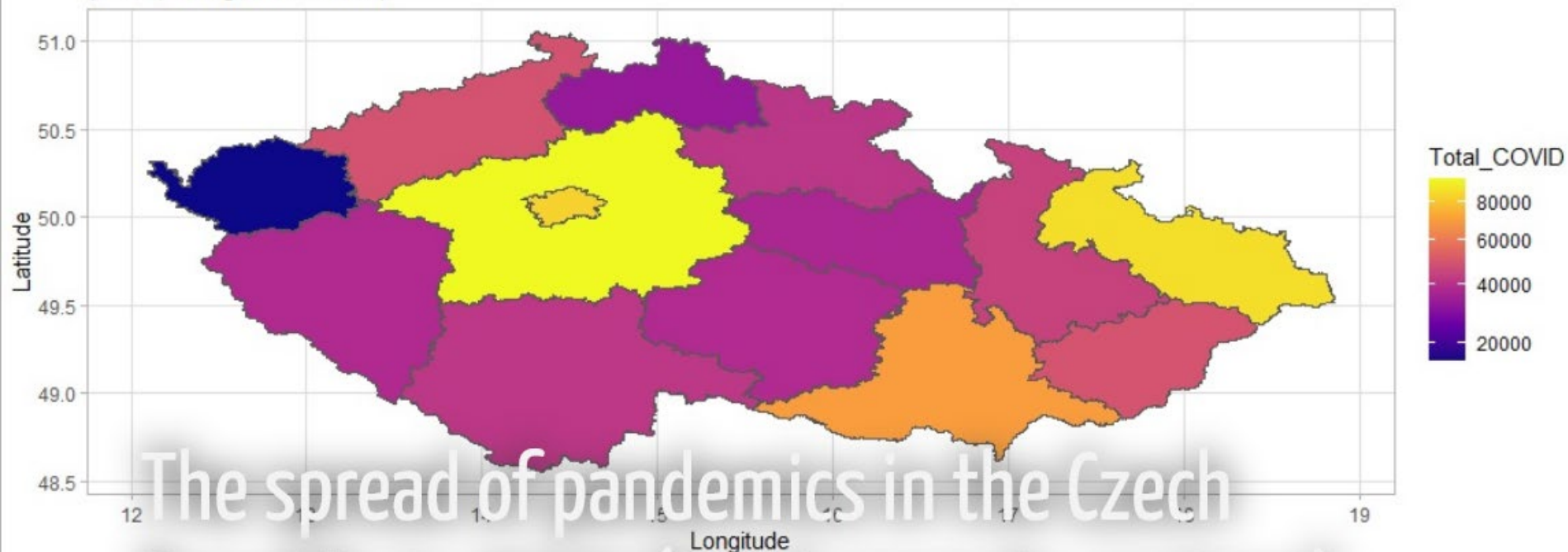
Source: Own Processing in R

The employment decreased by 5%

while the level of salary increased by 3-6%.

The governmental measures supported the patterns from significant drops in salary and employment.

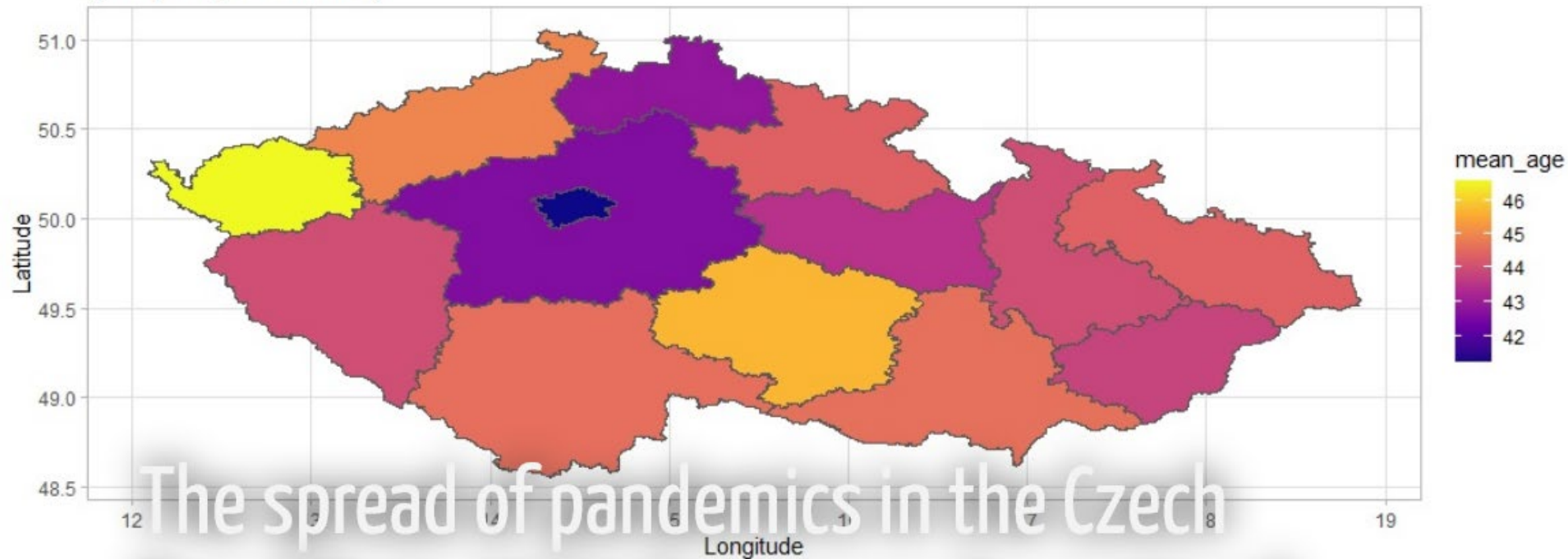
The Total Number of COVID Cases in 2020  
(cases, 14 regions observed)



# The spread of pandemics in the Czech Republic in 2020 (total cases by regions)

Source: Own Processing in R

The Mean Age of the COVID-Infected People in 2020  
(years, 14 regions observed)



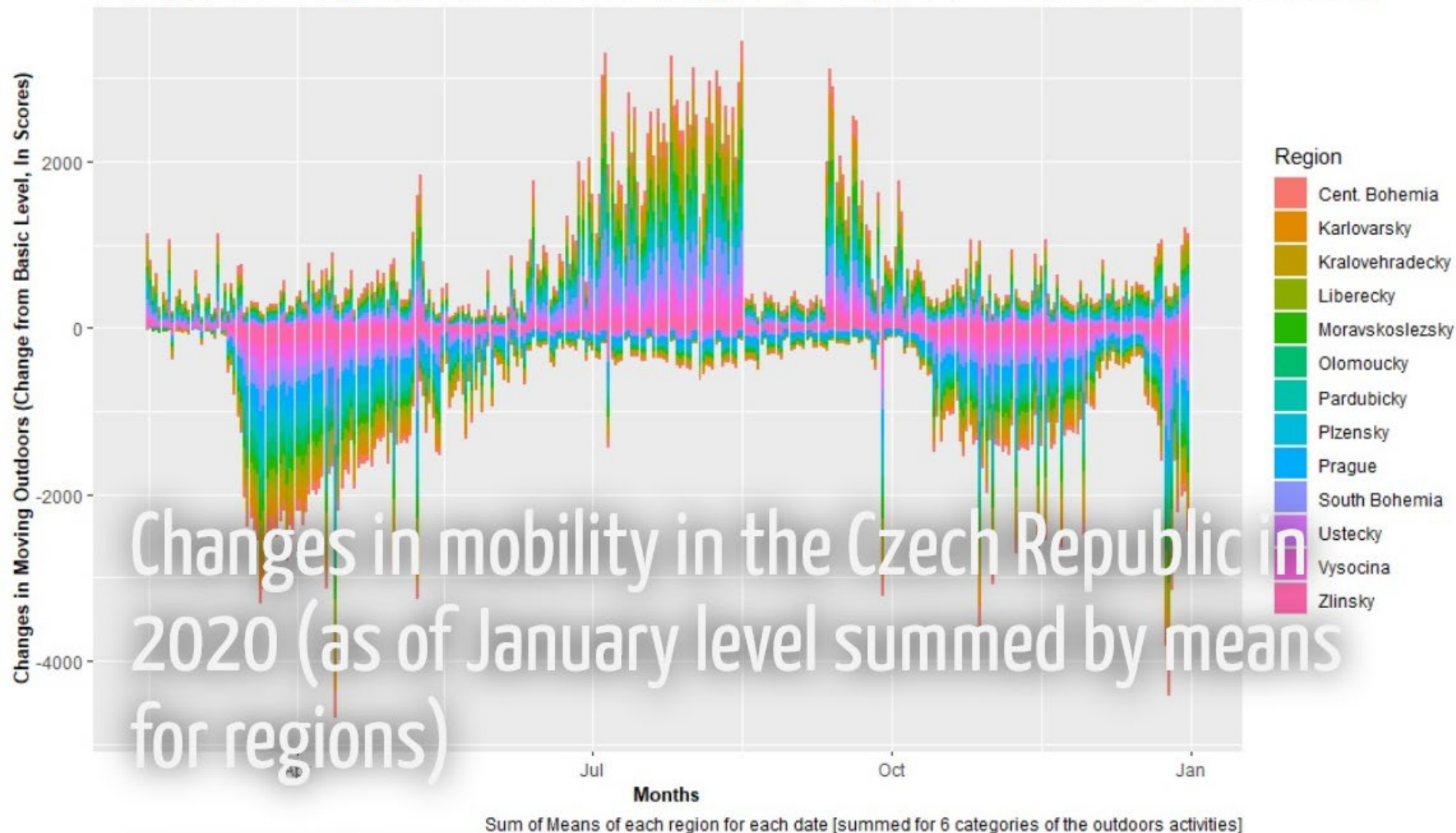
# The spread of pandemics in the Czech Republic in 2020 (mean age by regions)

Source: Own Processing in R

# Topic 2:

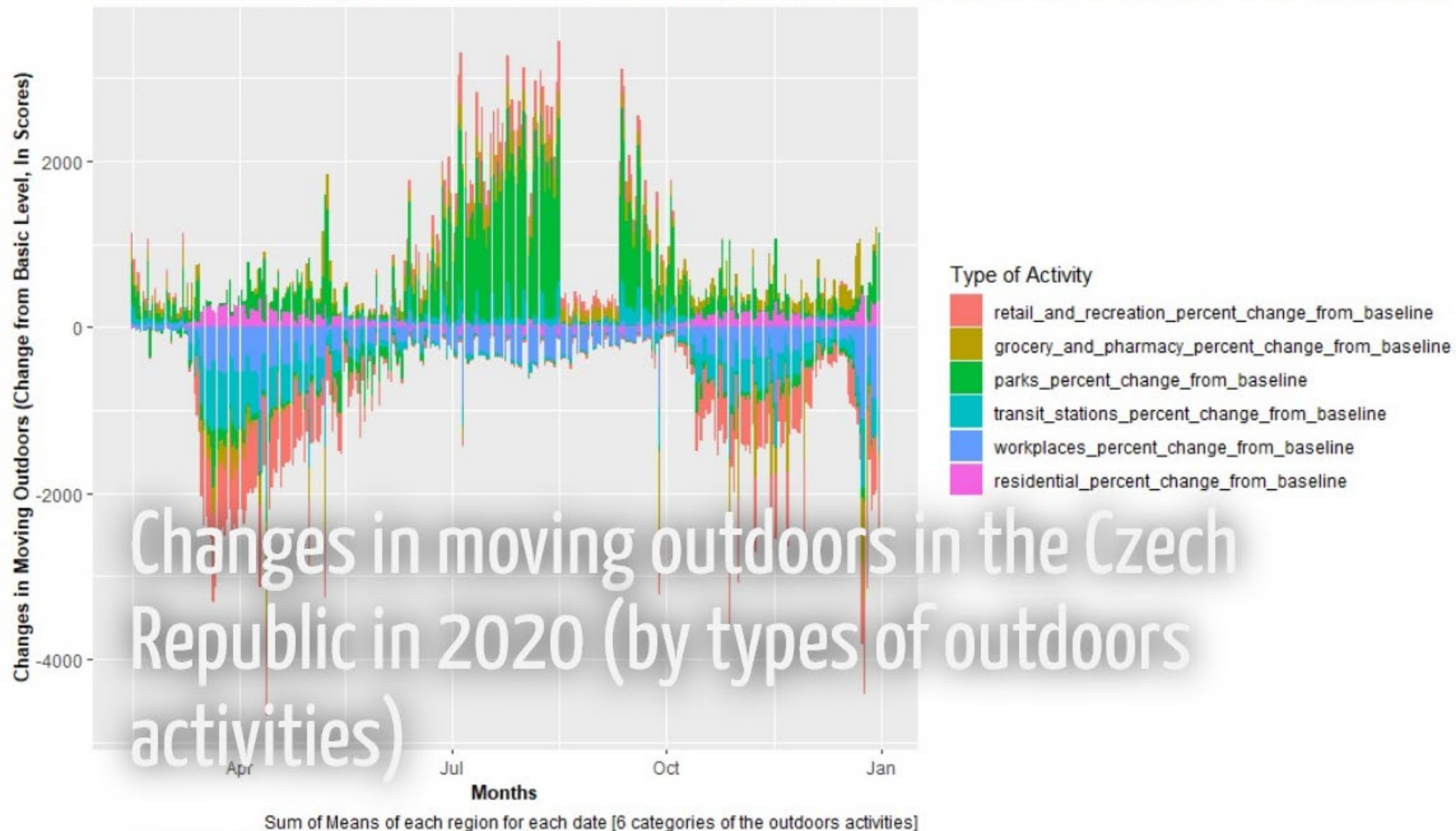
Results + Discussion

## Changes in Moving Outdoors in the Czech Regions (Change from Basic Level, In Scores, 2020)



Source: Own Processing in R

## Changes in Moving Outdoors in the Czech Regions (By Types of Outdoor Activities, In Scores, 2020)



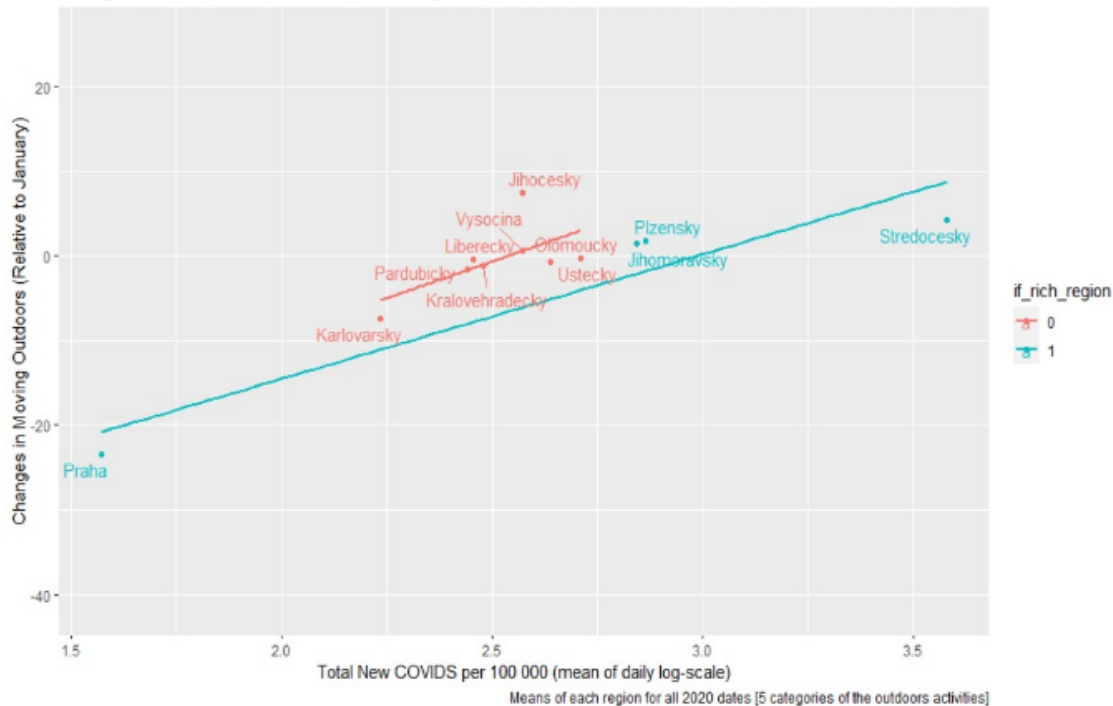
Source: Own Processing in R



# Changes in mobility in the Czech Republic and new COVID cases per 100 000 in 2020

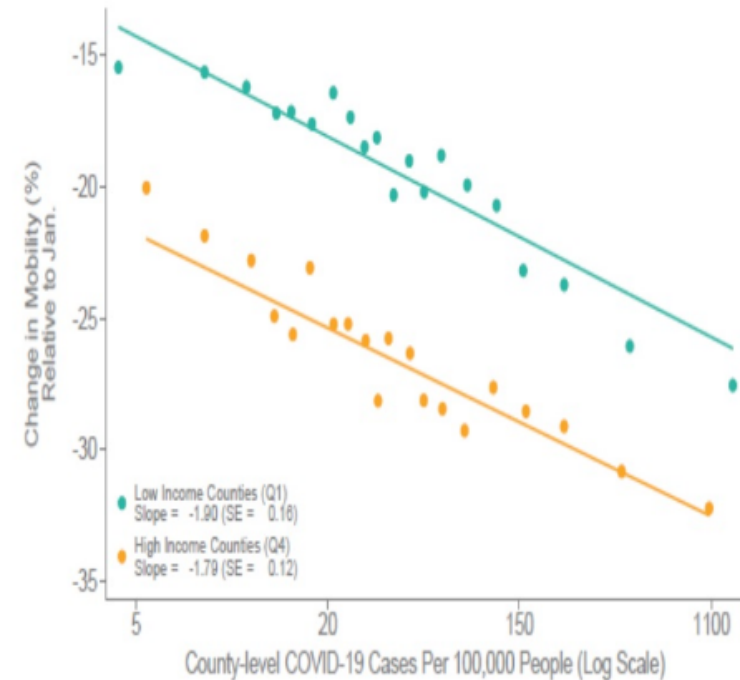
## The Czech Republic pattern

Changes in Moving Outdoors in the Czech Regions (By Types of Outdoor Activities, Relative to January, 2020)



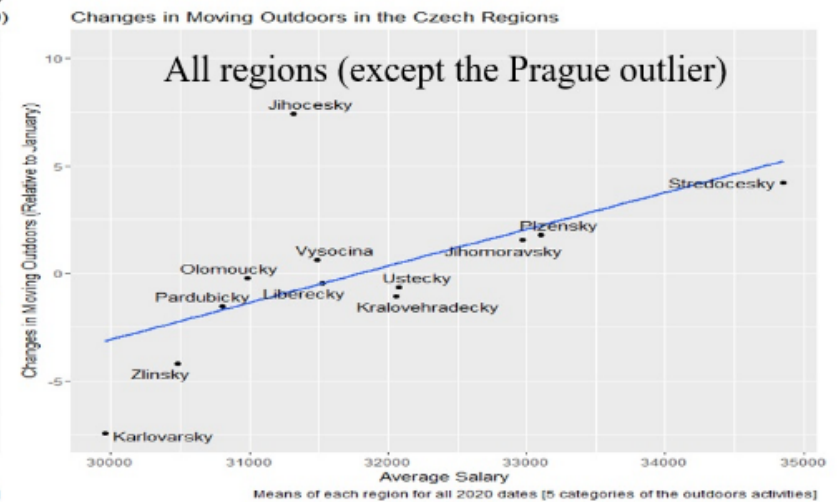
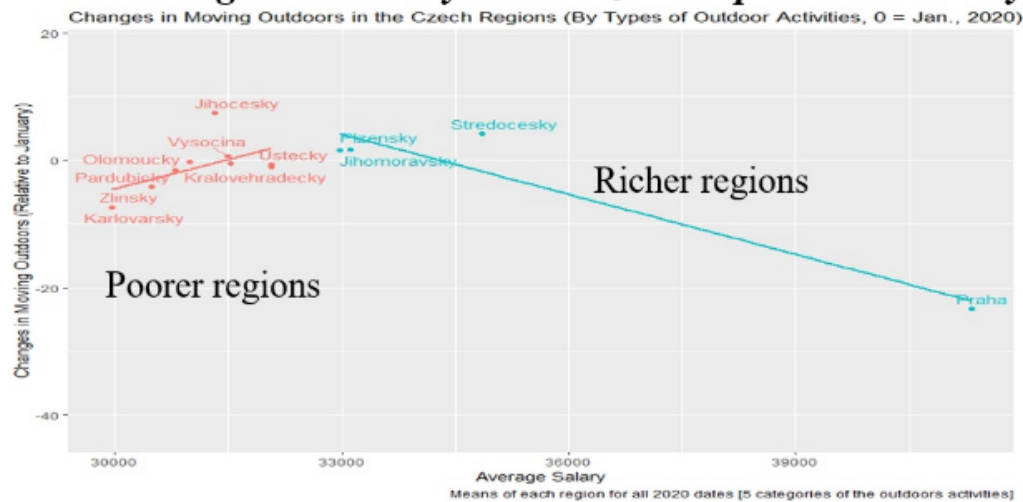
Source: own processing (2021)

## The US pattern



Source: (Chetty et al., 2020, p. 82), annual log-scale

## Changes in mobility in the Czech Republic and salary in 2020



Source: own processing (2021)

**Fig. 9: Analysis of the effect from the pandemics by regression analysis as a change from 100.00 percent of the activity in January 2020**

	Dependent variable:						
	Avg_Mobilitys (1)	retail_and_recreation (2)	grocery_and_pharmacy (3)	parks (4)	transit_stations (5)	workplaces (6)	residential (home) (7)
Total_COVID_per_100000 as New Cases per Day	-0.018*** (0.001)	-0.033*** (0.002)	0.003** (0.001)	-0.032*** (0.003)	-0.018*** (0.001)	-0.014*** (0.001)	0.009*** (0.0004)
Constant	9.478*** (1.416)	-1.482 (1.806)	7.440*** (1.220)	74.399*** (3.323)	-13.345*** (1.363)	-14.200*** (1.033)	3.458*** (0.410)
Regional FE (LSDV)	V	V	V	V	V	V	V
Observations	3,862	4,112	4,138	3,862	3,988	4,148	4,173
R2	0.123	0.123	0.024	0.117	0.154	0.081	0.134
Adjusted R2	0.120	0.120	0.021	0.114	0.151	0.078	0.131
Residual Std. Error	23.863 (df = 3848)	31.846 (df = 4098)	21.620 (df = 4124)	55.993 (df = 3848)	23.175 (df = 3974)	18.305 (df = 4134)	7.268 (df = 4159)
F Statistic	41.520*** (df = 13; 3848)	44.206*** (df = 13; 4098)	7.856*** (df = 13; 4124)	39.285*** (df = 13; 3848)	55.685*** (df = 13; 3974)	27.944*** (df = 13; 4134)	49.459*** (df = 13; 4159)

Note: **1.0 = 1%** COVID = exogenous (you cannot choose if you are sick or not); Mobility = Endogenous (you can adjust your movements based on the situation with the pandemics) \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Source: own processing (2021)

# Part 3:

Disculssion