

Effect of income inequality on COVID-19 pandemic: Evidence from European countries

David A. Sánchez-Páez

Background

- More inequitable countries have worse health outcomes.
- From LDC, the higher the income inequality, the greater the impact of COVID.

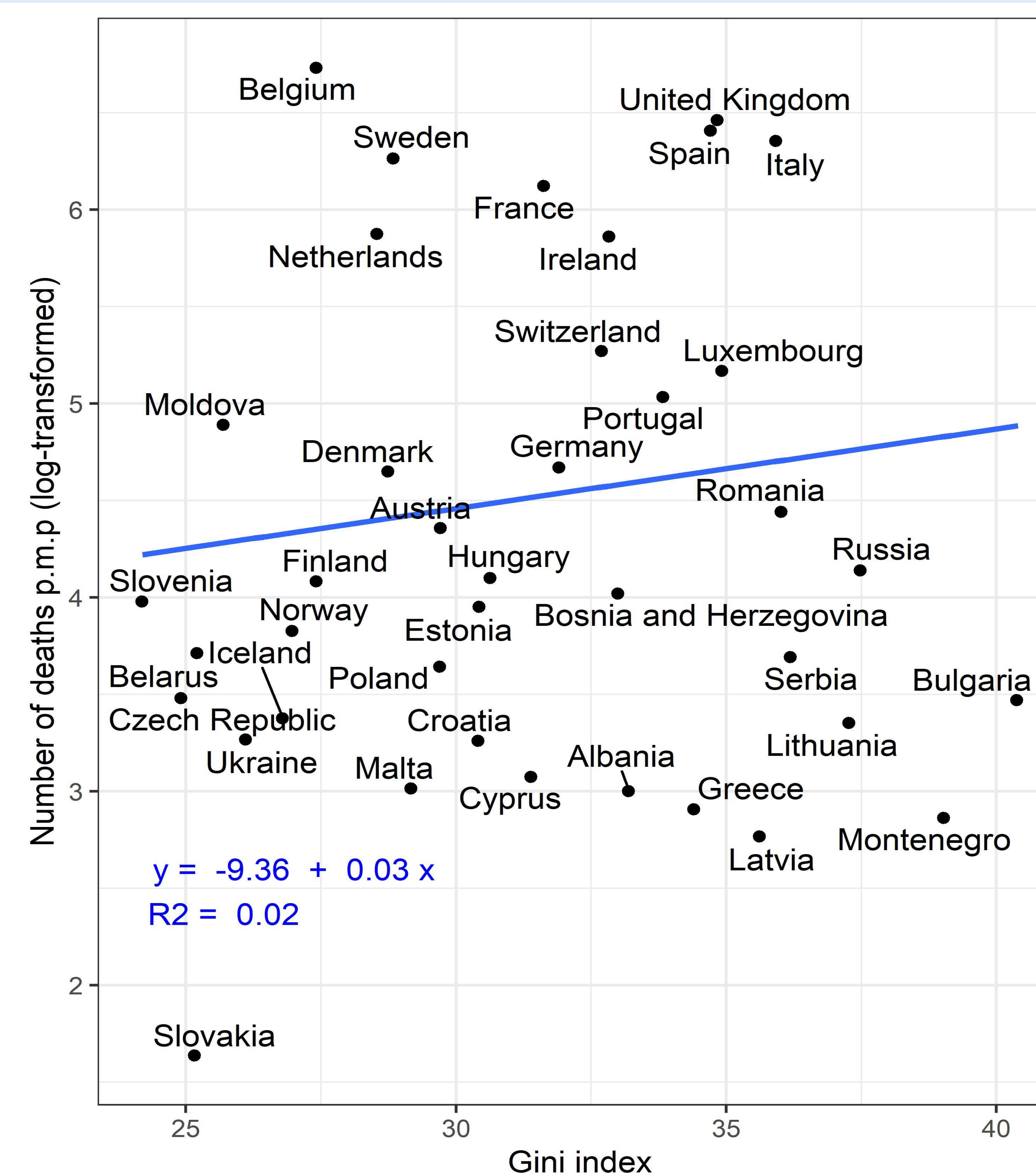
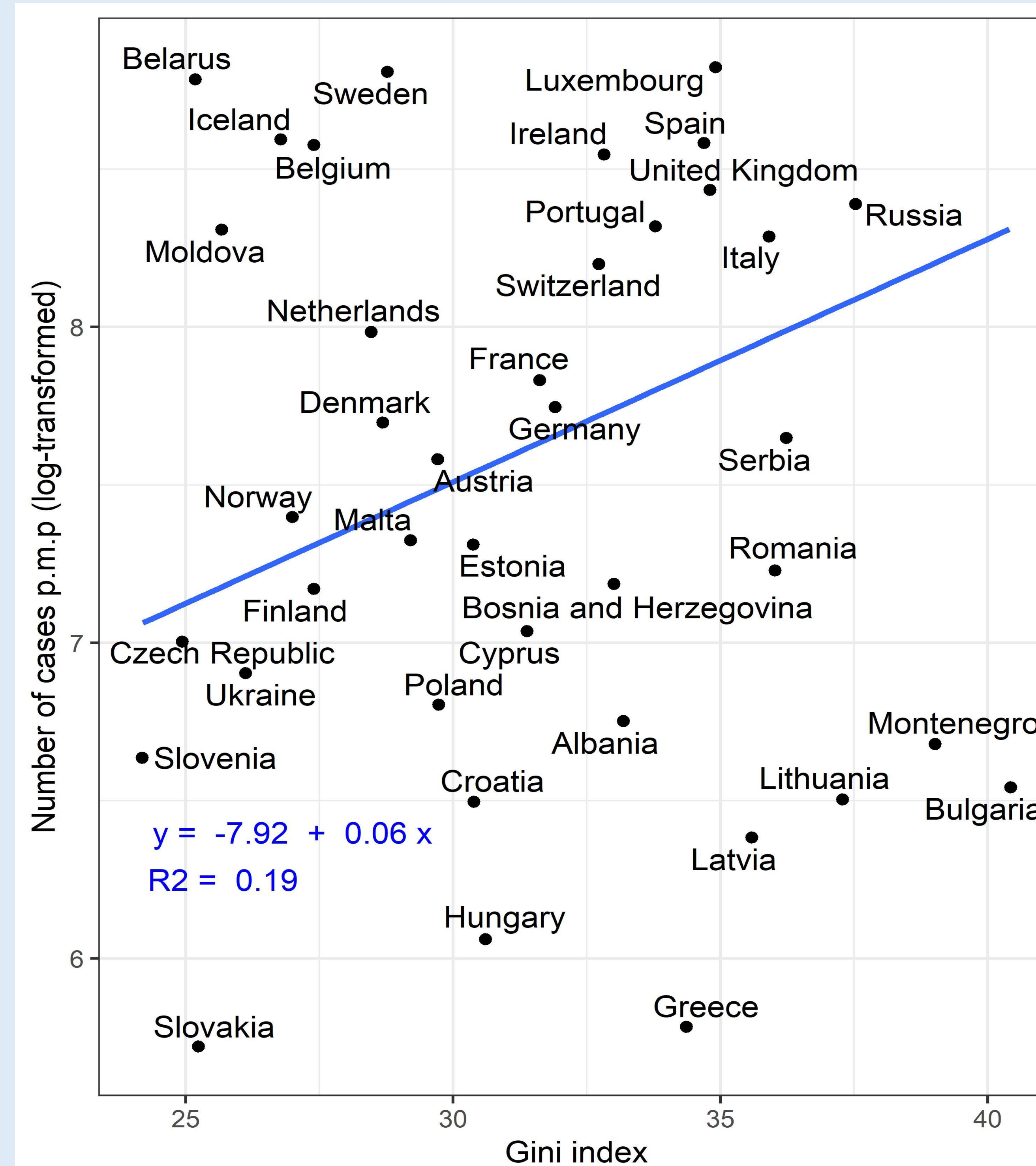
Research question

Has income inequality among European countries exacerbated COVID's impact?

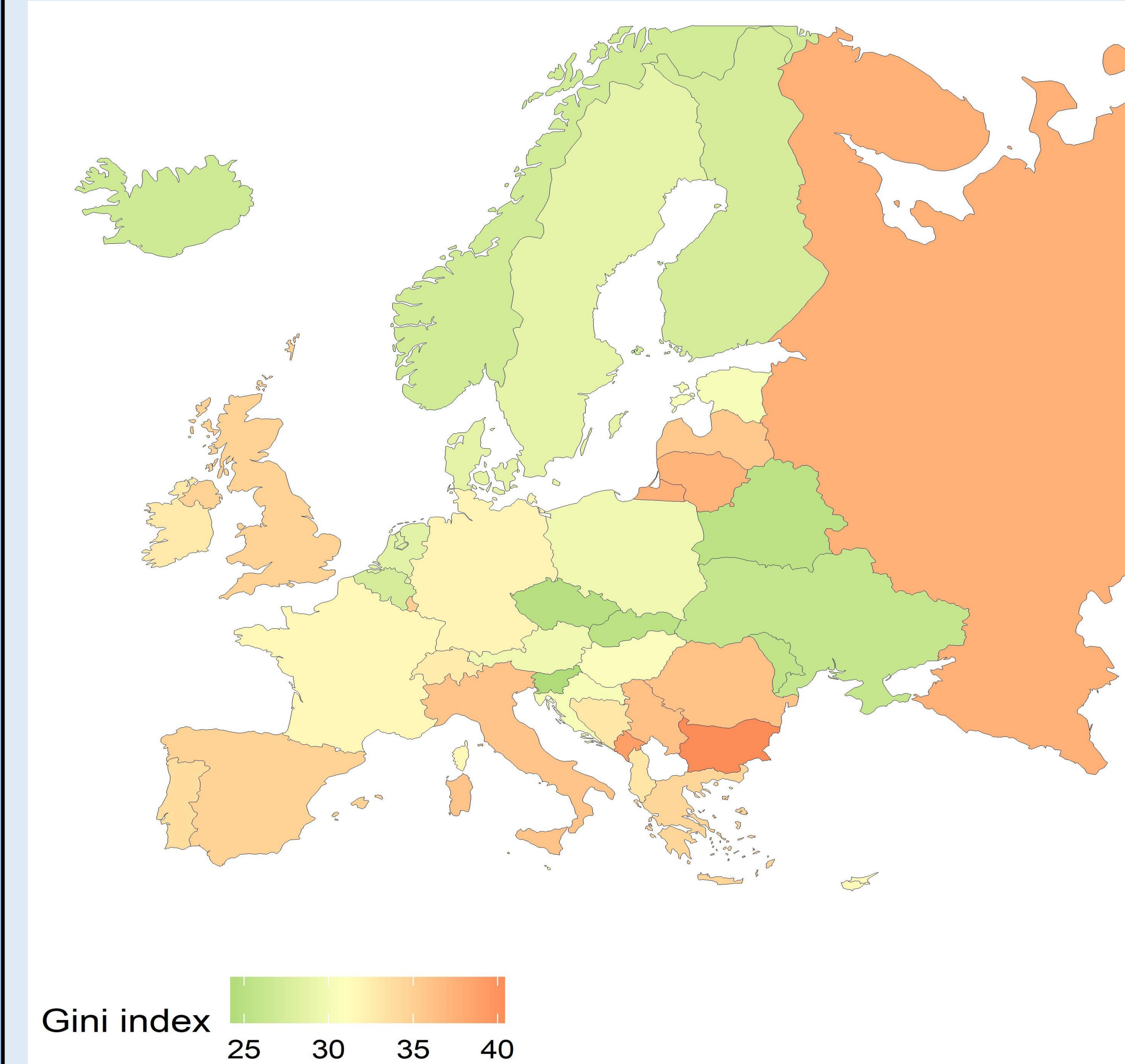
Data and methods

- 39 countries.
- COVID data from Our World in Data. Other variables from United Nations, UNESCO, WHO, and World Bank. Cut-off date is 30/06/20.
- Poisson regressions including log of population as offset.

Association between COVID-19 cases and deaths, and Gini index



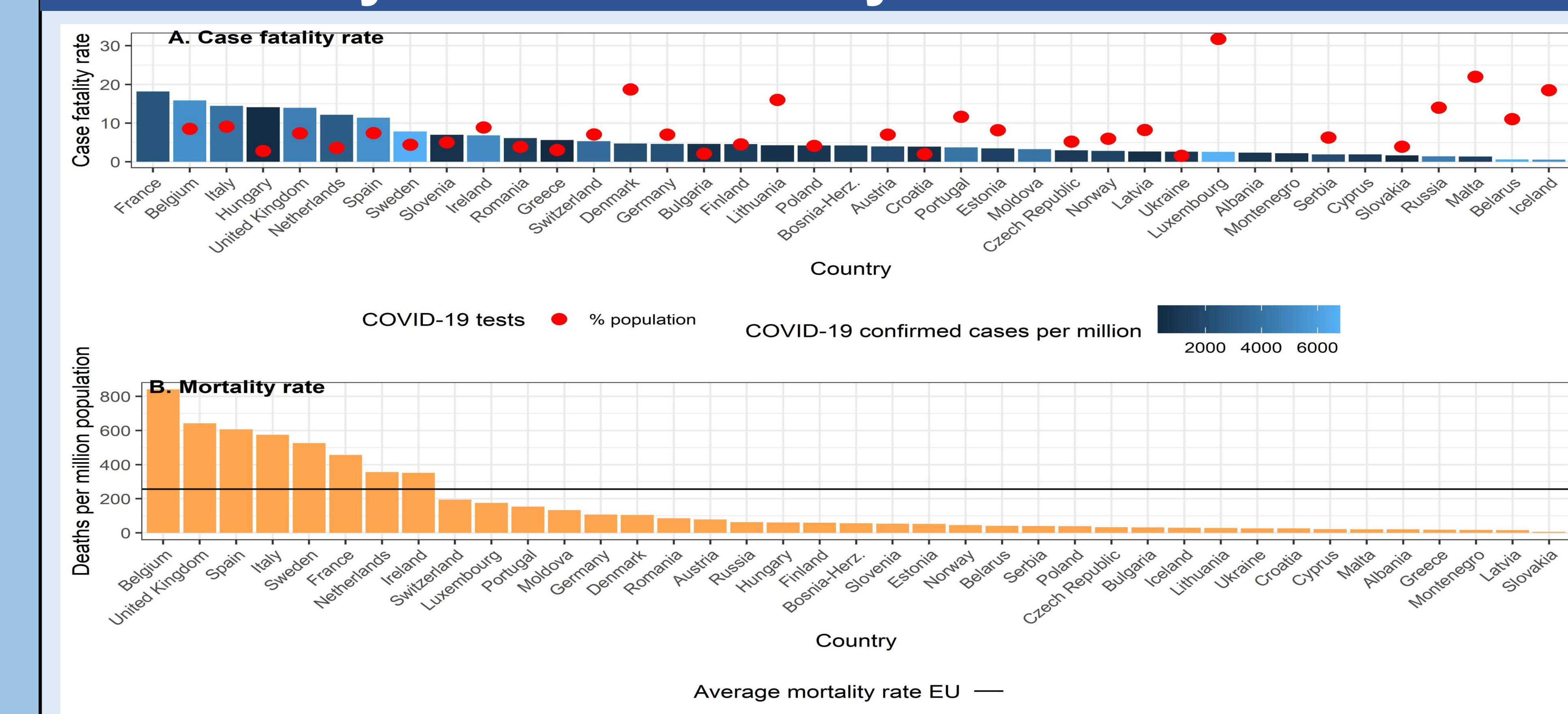
Gini index in European countries



Conclusions

- COVID-19 has spread faster and the effects have been more adverse in countries with unequal income distribution.
- During the first wave, the probability of becoming infected and dying from COVID-19 increased with Gini index.
- It is not the level (GDP) but the distribution of income that matters.
- Education is inversely correlated.
- Older people have higher odds of death.
- In high populated areas, COVID spread faster and the chances of dying are higher.

Case fatality rate and mortality rate



Relative risk of Gini index on cases and deaths

Variable	Cases				Deaths			
	[1]	CI 95%	[2]	CI 95%	[3]	CI 95%	[4]	CI 95%
Gini	1.07	1.07 - 1.07	1.05	1.05 - 1.05	1.03	1.03 - 1.03	1.10	1.10 - 1.11
GDP pc			1.00	1.00 - 1.00			1.00	1.00 - 1.00
Education			0.98	0.98 - 0.99			0.97	0.97 - 0.97
65+			0.88	0.87 - 0.88			1.12	1.11 - 1.12
Urbanization			1.03	1.03 - 1.03			1.06	1.06 - 1.06
Physicians			1.25	1.24 - 1.25			0.52	0.52 - 0.53
Beds			1.00	1.00 - 1.00			0.99	0.99 - 0.99
Model accuracy								
R-squared	0.19		0.65		0.02		0.87	