

## **Abstract**

This thesis aims to examine the effect of vaccination on the development of the Covid-19 pandemic. The three key variables are used as dependent variables: the number of new cases, new deaths, and hospitalization. The dataset containing numerous countries and capturing periods from 2020 to 2022 was obtained, therefore a panel data estimator was employed. Moreover, the Czech Republic and Israel were selected for deeper investigation, and their data were filtered from the dataset. The data structure changed from panel data to time series, so OLS regression was selected as an appropriate method. In all models, vaccination variables and also several others were included in lags because a time gap is necessary to increase individuals' immunity in the case of the vaccine. Last but not least, the excess deaths analysis is created and focuses on investigating excess deaths caused primarily or secondarily by the Covid-19 pandemic. Furthermore, it predicts the amount of money not paid in the form of pensions till 2030 for the elderly who are included in the excess deaths. Finally, it compares this amount of money with the expenditures associated with vaccine purchases.

**JEL Classification** C01, C23, I10, I31

**Keywords** Covid-19, vaccination, panel data, time series data

**Title** The Impact of Vaccinations on the Development of Covid-19 Pandemic