Abstract

Unemployment rate is a crucial macroeconomic aspect for each state, which aim to have it as low as possible. However, if it is too low, many problems could arise due to a large number of job vacancies and a small number of people needed for market. As the Internet is very useful nowadays, the main aim of the thesis is to investigate the relationship between the Czech unemployment rate and job search on the Internet by users who are interested in changing jobs or are unemployed and need to find some work. Thanks to the relationship, we can conclude whether online data could improve unemployment prediction, which is needed to make effective government decisions. This thesis should also provide easier and better prediction of movements in the unemployment rate, which is inaccurate as most data sources used in economics are commonly available only after a substantial lag. The study applies data freely available on the website of Integrated Portal of the Ministry of Labour and Social Affairs, which provides statistics of unemployment rates, as well as data from portal Jobs.cz, where are information about job vacancies on the portal and response of candidates to occupied positions. The thesis uses a simple autoregressive model of the unemployment in the Czech Republic and extends it with extra variables containing data from the portal Jobs.cz. In addition to the augmented autoregressive model of the Czech Republic, the study estimates the same models for 14 regions of the Czech Republic separately. The results indicate that data from the job search portal Jobs.cz improve nowcasts of the Czech unemployment rate as well as base models with relationship between the unemployment rate and data on number of job vacancies and responses to them. Nevertheless, our findings show that the job-related data do not improve forecasts of the unemployment rate.

Keywords

unemployment rates, unemployment prediction, nowcasting, Czech Republic, online data, job vacancies, job search, regions