

ABSTRACT

The Phillips curve becomes one of the basic theories of economics which introduced by A.W Phillips (1958) to explain about trade-off between inflation rate and unemployment rate. The changing of economic conditions provoke an issue of whether the simple Phillips curve proposed by A.W Phillips is still valid. The entry of technology, especially automation as a sign of industrial revolution, also there is a phenomenon of openness, and the decline of inflation rate in developed countries, create a presumption that automation and trade openness are the causes of low inflation rate and the weakening of Phillips curve theory in developed countries.

The purpose of this study is to see the effect of automation which proxied by robot density in the manufacturing industry on the existence of Phillips curve in 16 open economy countries which included in OECD with large robot density (Austria, Belgium, Canada, Denmark, German, Finland, Czech Republic, France, Italy, Japan, South Korea, Slovakia, Spain, Sweden, Switzerland, and United States) for 2015 – 2018. This study uses a static panel data method and scatterplot overview. The data used are secondary data which obtained from International Federation of Robotics, OECD.stat, and World Bank.

The result shows that in the period of 4 years (2015 – 2018), trade-off between inflation rate (CPI) and unemployment rate in open economy countries is still existed, as seen from the regression estimate and scatterplot overview which shows a fairly steep slope. Later found a positive effect of automation on inflation rate with a slope which is still flat. This shows that automation has just entered an early stage in affecting inflation rates in an open economy countries. Whereas the output gap has a positive effect with a fairly steep slope on inflation rate and trade openness shows a positive relationship on inflation with a slope which almost flat. Overall, for range of four years (2015 – 2018), the Phillips curve is still valid despite the use of automation in the manufacturing industry and the effect of automation on inflation rate is still at an early stage and can continue to develop for the next period.

Keywords: *Phillips curve, open economy countries, robot density, panel data*