

ABSTRACT

The effects of capital, raw materials, fuel, and labour on the output of large and medium manufacturing industries in Indonesia are still unknown. The uncertainty of these production factors is further complicated by the global economic and policy changes that occurred between 2013 and 2022, so further research is needed to understand these influences. This study analyses the behaviour of the production function of large and medium manufacturing industries in Indonesia using panel data from 34 provinces.

Using the Fixed Effects Model (FEM), this study evaluates the influence of production factors such as capital, labour, raw materials, and fuel on efficiency and economies of scale. Based on the estimation results, capital, raw materials, and fuel have a positive and significant effect. Labour shows a positive but insignificant effect. During the period 2013 to 2022, the manufacturing industry generally experienced an increase in economies of scale.

Keywords: *production function, manufacturing industry, fixed effect model*