

Macro Roundup Article

Headline: [Impact of Industrial Robot on Labour Productivity: Empirical Study Based on Industry Panel Data](#)

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Summary: Fig. 1 illustrates the relationship between robot density and [labor productivity] LP in the Chinese economy during 2006–2020. Robot density is reflected by the number of industrial robots per 10,000 workers in the Chinese labour force. LP is calculated as gross domestic product divided by the number of workers in the labour force. The density of robots in China increased from 0.23 in 2006 to 12.57 in 2020, with an average growth rate of 33%. LP increased from 28,313 yuan/person in 2006 to 135,349 yuan/person in 2020, with an average annual growth rate of 12 % without correction for inflation [Note that inflation in China has been in the low single digits during this period]. A country's continued economic growth becomes increasingly dependent on rising LP to supplant a shrinking labour force. Based on a panel data sample of 17 different Chinese industries from 2006 to 2021, this study explores the impact of China's industrial robots on LP. On average, every 1% increase in industrial robot application density raises LP by 0.018%. The influence coefficient of the low density robot industry is larger than that of the high-density robot industry, [and though] the scale of industrial robot usage before 2012 was smaller than that after 2012, its effect on LP was more significant. The study outcomes highlight the possibility of diminishing marginal effect of industrial robots in promoting LP.

Related Articles: [The Characteristics and Geographic Distribution of Robot Hubs in U.S. Manufacturing Establishments and What Progress Has There Been In Industrial Robots?](#) and [Chinese Robot Maker Says Protectionism Will Not Stop Its March](#)

Primary Topic: Investment

Topics: Academic paper, Database, GDP, Investment, Productivity

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