

**ARTICLE**

## **Utilizing Machine Learning for Economic Analysis: A Random Forest Model to Assess GDP Per Employed Person of China and India**

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### **Abstract**

This study examines how high-technology exports, research and development (R&D), poverty, labor force participation, and services employment affect GDP per employed person in China and India. Utilizing a comprehensive World Bank dataset and a Random Forest model, the analysis reveals that poverty, R&D, and services employment are the most significant predictors of GDP per employed person. While high-tech exports and labor force participation also contribute, their effects are less pronounced. The model performs better for China than India, with deviations in India's predictions suggesting limitations in capturing its GDP trends. Key findings highlight that poverty reduction, R&D investment, and service sector growth are crucial for economic productivity, with high-tech exports also playing a significant role.

**Keywords:** High-Technology Exports, GDP per Employed Person, Random Forest Model, Economic Growth, India, China.

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