

Faculti Summary

<https://faculti.net/demography-growth-and-robots-in-advanced-and-emerging-economies/>

The study investigates the effects of demographic change on labor productivity growth, examining both emerging and advanced economies. It discusses the concept of demographic transition, highlighting how reductions in birth rates and increased life expectancy lead to a higher proportion of the working-age population, boosting productivity in emerging economies—a phenomenon referred to as the "demographic dividend."

In contrast, advanced economies face challenges associated with aging populations, leading to a shrinking workforce and decreased productivity growth. The paper identifies several ways demographic changes impact labor productivity, including declines in physical and human capital accumulation, slower innovation rates, and lower overall productivity levels of an aging workforce.

The authors conduct an empirical analysis focusing on labor productivity growth (as opposed to GDP growth) to better understand these dynamics. They also explore the role of automation, finding that increased automation—measured by the ratio of robots per 1,000 employees—can mitigate the negative impacts of demographic aging on productivity in advanced economies.

Key findings include:

1. **Aging and Young Dependency Effects**: Population aging negatively affects labor productivity growth significantly.
2. **Emerging vs. Advanced Economies**: The impact of demographic changes is more pronounced in emerging economies compared to advanced ones, possibly due to differing adaptations in technology and policy in response to demographic shifts.
3. **Role of Automation**: Automation plays a crucial role in buffering the impact of demographic changes on productivity, although it highlights a gap where only a few economies (like Japan and Germany) have sufficient automation to neutralize these effects statistically.

Consequently, the study suggests policy implications, advocating for measures to adapt labor systems, promote lifelong learning, and enhance automation to address the challenges posed by demographic changes. Overall, technological progress, particularly automation, is highlighted as vital for reducing the adverse effects of demographic shifts on economic growth.