

Against the backdrop of Japan's rapidly aging population, this study provides an empirical analysis of the relationship between the growth of the elderly population and GDP per capita growth rate from a macroeconomic theoretical perspective, applying a Harvard model to aggregate panel data by prefecture for the period 1955-2015. We find that the impact of the late-aged population on economic growth is different. Through the path of lower labor productivity, we find that the negative impact of an increase in the elderly population in the earlier period on the growth rate of GDP per capita within a prefecture is not statistically significant, but a 1% increase in the elderly population in the later period tends to reduce the growth rate of GDP per capita from -0.129% to -0.153%, as The study found that the growth rate of GDP per capita tends to decline from -0.129% to -0.153%. It is also estimated that from the 1955s through 2015, the increase in the late elderly population has reduced the average annual growth rate of GDP per capita within prefectures by about 0.6%. In particular, the largest reduction was -2.68% for the period from 1970 to 1975. Furthermore, this study observed a phenomenon in which the effect of the late-aged population on economic growth is related to some extent to economic trends. On the other hand, the analysis of aggregate time series data for the country as a whole from 1955 to 2019 shows that the late elderly population had some impact on economic growth, but this impact was not statistically significant. The simulation results indicate that over the past decade, the Japanese economy has also been affected by technological progress and a slowdown in the supply of human capital, and it is likely that the growth potential of the Japanese economy over the next decade will remain sluggish. Finally, based on these findings, the study made policy recommendations that included more efficient government consumption, a review of the industrial structure, an emphasis on new technological development, and more aggressive measures to address the aging of the population. We sincerely hope that this study will help restart the Japanese economy.