


Chapter 17

Does Population Aging Affect Income Inequality?

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ABSTRACT

This study analyzes the relationship between the elderly dependency ratio and income inequality over the period 1972-2019 in countries such as the USA, Japan, the UK, France, Germany, Canada, and Italy, which rank top in the population aging, using the Fourier-Shin cointegration test. According to the results, the rise in the elderly dependency ratio of all countries included in the analysis, except for France, has a positive impact on income inequality. The result implying that the rise in the elderly dependency ratio increases the income inequality and renders some policy recommendations possible. Accordingly, the provision of adequate childcare programs and family aids can result in greater labor force participation in the short- and long-run. In addition, a pension system can be developed to lower the elderly dependency ratio, more money can be saved for the retirement period, and working domains can be developed for the post-retirement period.

INTRODUCTION

The question of how population growth affects economic growth and economic development has been one of the most important fields of study of economists, demographers and politicians from past to present. Studies dealing with the population in terms of resource production indicate that the population is one of the main actors of economic growth and development. At the same time, the studies considered in terms

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of resource consumption were evaluated as a factor that hinders development. Although a consensus on the effects of the population on economic growth and development could not be obtained in the studies, the common feature of these studies is the focus on the size of the population. Considering agricultural societies where living conditions are very difficult, access to resources is very limited, and wars and epidemics are considered a natural part of life, economic growth can be achieved with approaches that encourage population growth. However, considering the change from the industrial revolution to the present, when seeking an answer to the question of how the population affects economic growth and economic development, it is more important to focus on the demographic characteristics of the population rather than the size of the population.

The demographic characteristics of the population are constantly changing over time. The most important approach that tries to explain the demographic change of the population by using birth and death rates is the “*Theory of Demographic Transition*”. According to this theory, firstly put forward by Thompson (1929) but later systematized by Davis (1945) and Notestein (1945), all societies experience three stages. The first of these stages covers the period before the industrial revolution, when the high mortality rate was observed due to wars, the difficulties of physical conditions, insufficient food and clean water supply, lack of treatment for epidemic diseases such as plague and malaria, etc. In the second phase, with the industrial revolution, physical conditions improved, health and living conditions improved rapidly, life expectancy increased, and the number of literate and educated people began to increase. Therefore, while death rates fell rapidly at this stage, birth rates fell relatively slowly. In the third stage, birth rates, as well as death rates, remained at very low levels, the population growth rate slowed down and the population, which remained constant for a certain period afterwards, entered a decreasing trend. This situation means the completion of the demographic transition.

Theory of Demographic Transition, which expresses low birth and death rates, causes a global population aging. For example, in Japan, which ranks first in population aging, leaving Europe and The USA behind, while 19 of 100 people of working age were over 65 as of 1990, this number increased to 47 in 2015. It is expected to reach 80 in 2060. The number of people of working age over 65 is expected to at least double by 2060 and triple the share of people over 80 in the world population, mostly in the G20 countries. It is estimated that, by 2060, the working age population will decrease by approximately 25 million in Japan, 12 million in Germany and 300 million in China (Rouzet, Sánchez, Renault and Roehn, 2019). Therefore, aging not only exposes developed countries such as Europe, USA and Japan, but also emerging market economies to a demographic condition that they did not know before. Several negative economic consequences that may arise in the face of this uncertainty are mentioned.

The first and most predictable of these is that, as Bloom, Canning and Fink (2010) stated, the aging of the population causes a decrease in both labor supply and productivity, as well as savings rates and has negative consequences on economic growth. The biggest reason for this is the relative size difference in employment and population ratios, increasing capital per worker, and decreasing adaptation to technological change with aging. Secondly, the issue Goldin (2016) emphasized is that a decrease in the standard of living with an increase in the aging rate of the population increases demographic stress. Third, population aging puts high financial pressure on the economy in terms of pension payments, health expenditures and costs of elderly care financing. In fact, these pressures are predicted to increase the public debt burden by %180 of GDP in developed G20 economies and %130 of GDP in developing G20 economies in the next 30 years (Rouzet et al., 2019; Bloom et al., 2010).

The fourth possible consequence of the aging of the population is increased income inequality. While some of the studies on this topic associate the effect of aging on income inequality with the decline in

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