

## **ABSTRACT**

*The demographic transition, characterized by an increasing proportion of the elderly population, is a major structural challenge for developed countries, particularly in the OECD region. The increase in the Old-Age Dependency Ratio (OADR) has the potential to undermine fiscal sustainability through a narrowing tax base and increased social spending, particularly on health and pensions. This study aims to analyze the impact of the demographic transition on fiscal sustainability in 33 developed OECD countries over the period 2006–2023. Fiscal sustainability is measured using two indicators: the fiscal balance (Cyclically Adjusted Primary Balance/CAPB) and government debt.*

*This study uses secondary data sourced from the OECD, IMF, and World Bank. The analytical method used is panel data regression with a Fixed Effects Model (FEM) approach for the fiscal balance model and a Random Effects Model (REM) for the government debt model. The independent variables include OADR, tax revenue, health spending, unemployment rate, inflation, GDP growth, population growth, trade level, and a dummy economic shock (the 2008-2009 financial crisis and the COVID-19 pandemic).*

*The results show that the demographic transition significantly impacts fiscal sustainability through increasing government debt, but not significantly on the fiscal balance. Health spending is proven to worsen fiscal sustainability through both a decrease in the fiscal balance and an increase in government debt. Tax revenue has a positive effect on the fiscal balance, while the unemployment rate increases the government debt ratio. Inflation and economic shocks negatively impact the fiscal balance, while population growth contributes positively to fiscal sustainability through an increase in the fiscal balance and a decrease in government debt. Overall, the main pressures on fiscal sustainability in advanced OECD countries stem from long-term structural factors, particularly population aging and increasing health spending.*

*Keyword : Fiscal Sustainability, Demographic Transition, Population Aging, OECD Developed Countries*