

The Dynamics of Population Ageing and FDI Inflows: A Multi-Country Study

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Research Outline

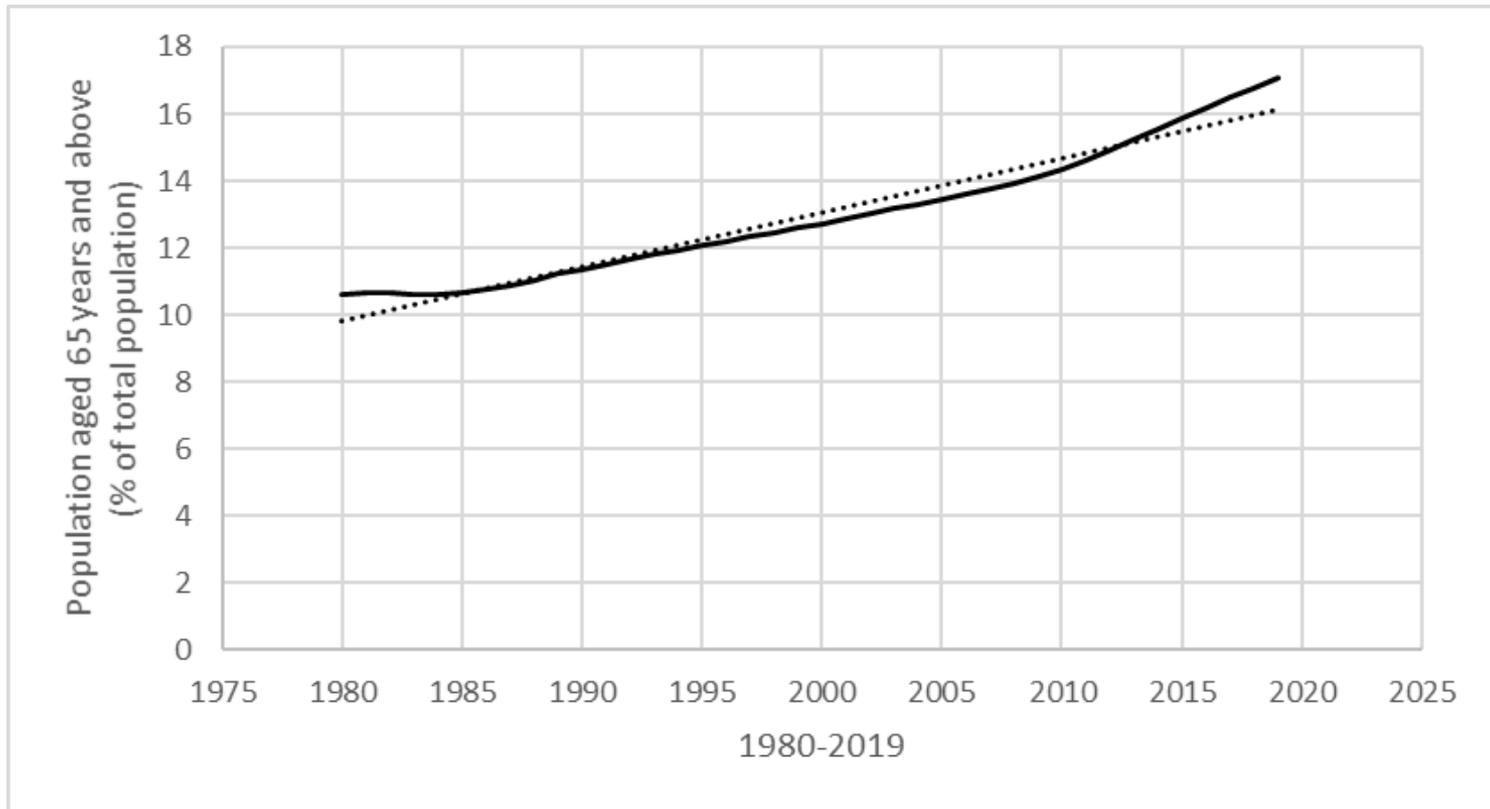
The neoclassical theory posits an inverse relationship between population ageing and FDI inflows. We investigate the short-run and long-run relationships between population ageing and net FDI inflows (% of GDP) for 20 OECD countries, controlling for national income, exchange rate, trade openness and domestic investment. The long-run effects of population ageing on net FDI inflows (% of GDP) are mixed and country-specific. The effects are significantly negative for Australia, Austria, Costa Rica, Denmark, Finland, Spain and Sweden; significantly positive for Colombia, Germany, Greece, Italy, Japan, Norway and Portugal, and insignificant for Belgium, Chile, France, Mexico, the UK and the USA.

Neoclassical Theory of Economic Growth

- The neoclassical theory of economic growth predicts that, as the working age population in the developed countries shrinks, the capital-labor ratio in those countries will rise.
- Due to diminishing returns to factor inputs, the returns to capital relative to labor will fall; consequently, capital will flow from the developed to the developing countries, and net FDI inflows into the developed countries will decrease.
- Capital will flow from industrialized countries with aged societies and high dependency ratios to developing countries with relatively younger population and low dependency ratios.
- An increase in population ageing in a country is, therefore, expected to reduce FDI inflows in that country.

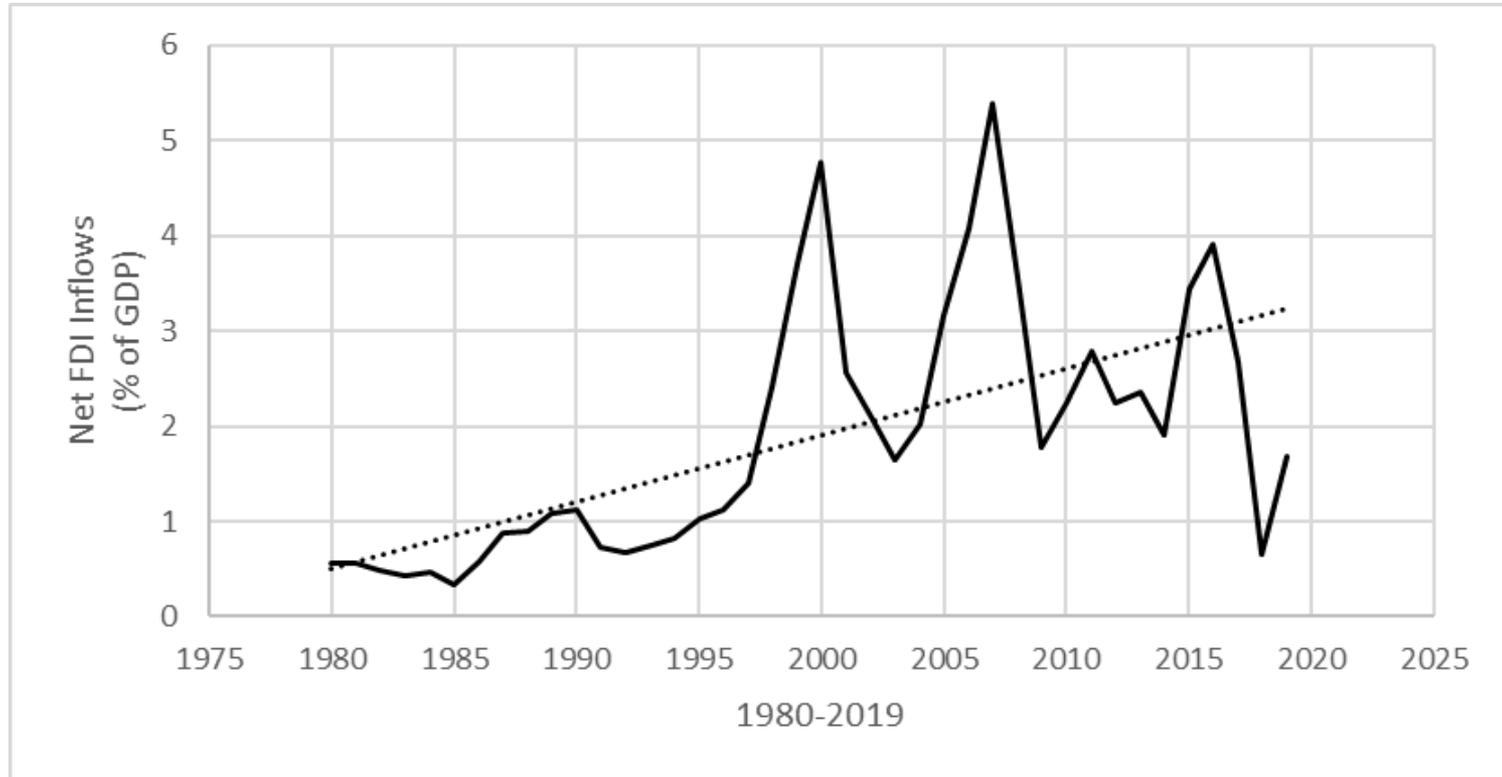
Stylized Facts: Figure 1

Proportion of Elderly in Total Population: OECD Countries



Stylized Facts: Figure 2

Net FDI Inflows in Proportion to GDP: OECD Countries



Motivation for Research

- Population ageing is a pressing public policy concern for national governments of OECD countries because of continuously rising social expenditures and steadily declining tax revenues and foreign capital inflows.
- An ageing population may have significant negative effects on national saving and investment rates, per-capita GDP growth and national labor force.
- Very Little attention has been given to examining the existence of a cointegrating relationship between a demographic factor such as population ageing and net FDI inflows for the individual OECD economies with structural breaks in time series data.

Data

- Annual data from the World Development Indicators of the World Bank Group on 20 OECD countries, namely, Australia, Austria, Belgium, Chile, Columbia, Costa Rica, Denmark, Finland, France, Germany, Greece, Italy, Japan, Mexico, Norway, Portugal, Spain, Sweden, the UK and the USA are obtained.
- The period of study is 1980-2019.
- The dependent variable in our model is net FDI inflows (% of GDP). It is the difference between new investment inflows and disinvestment in the reporting economy from foreign investors (% of GDP).
- Population ageing is measured by the number of individuals aged 65 years and above (% of total population).

Control Variables

- GDP in real terms with 2010 constant prices as a measure of national income and market size.
- Trade openness measured by the sum of exports and imports (% of GDP).
- The real effective exchange rate index. An increase (decrease) in the exchange rate index would imply an appreciation (depreciation) of the domestic currency.
- Domestic investment (% of GDP).

Model Specification

The effect of population ageing on net FDI inflows (% of GDP) for each country separately at time t is examined by estimating a model of the form

$$FDI_t = \alpha_0 + \alpha_1 OLD_t + \alpha_2 GDP_t + \alpha_3 OPN_t + \alpha_4 RER_t + \alpha_5 INV_t + \varepsilon_t$$

FDI is the foreign direct investment, net inflows (% of GDP); OLD is the number of individuals aged 65 years and above (% of total population); GDP in real terms is a measure of national income; OPN is the trade-to-GDP ratio; RER is the real effective exchange rate index; INV is the domestic investment (% of GDP); ε_t is the random error with mean zero; t represents the time suffix.

Main Results

- The long-run effects of population ageing on net FDI inflows (% of GDP) are mixed, and that is a contradiction to the predictions of the neoclassical theory of economic growth.
- The short-run and long-run effects of population ageing on the net FDI inflows (% of GDP) are significantly negative for Finland, Spain and Sweden.
- The short-run and long-run effects of population ageing on the net FDI inflows (% of GDP) are significantly positive for Germany, Greece and Norway.
- For Colombia, Italy, Japan and Portugal, a significantly negative short-run effect is offset by a significantly positive long-run effect, thereby giving rise to a J-curve phenomenon.

Concluding Remarks and Policy Implications

- In contrast to the predictions of the neoclassical theory, the short-run and long-run effects are mixed; therefore, policy implications would be country-specific.
- No single policy instrument to counteract the negative effects of population ageing can be commonly suggested for all 20 OECD countries.

Thank you for your attention!