

What Rates of Productivity Growth Would Be Required to Offset the Effects of Population Aging? A Study of Twenty Industrialized Countries

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Question/Issues

- 1 What will happen to per capita GDP as a result of the increasing older population?
 - Direct Demographic Effect: Larger Dependent Population
 - Indirect **Productivity/Efficiency of Hours Worked** effect?
 - Young versus Middle Aged versus Old
 - Focus on the **pure** demographic effect of increasing older population.
 - Fall in per capita GDP
- 2 Are there factors to offset this demographic effect?

Supply-Side Analysis

Two Parts:

- 1 Create Age-Sex Groups (ASG)
- 2 Decompose per capita GDP into the following components:
 - Labour force participation rate of ASG
 - Employment rate of ASG
 - Hours worked of ASG
 - Worker efficiency ratio (relative productivity) of ASG workers
 - Population share of ASG
 - leftover productivity

Isolate the **pure** demographic effect using population share component and perform Ad Hoc analysis of potential counterbalances due to changes in the other factors

Comments: Counter balancing

Productivity Impact

- How much productivity growth do we need to prevent GDP from falling?
- Table 5 comparison: historical versus required going forward

Other factors: Increase Participation rate of older workers, Increase Employment rate of all; Increase efficiency of all, combination of factors

Comments: Counter balancing

Two Suggestions:

- 1 Sensitivity Analysis
- 2 Combine productivity impact with impact of other factors
 - Given historical growth rates of productivity then what is the impact of the other factors?

Comment: Policy Relevance

1 Retirement Age

- Implicitly captured by changing the Older-Worker Participation Rate (alluded to)
- **Advisory Council on Economic Growth Report: Tapping Economic Potential Through Broader Workforce Participation**
→ <http://www.budget.gc.ca/aceg-ccce/pdf/workforce-marche-travail-eng.pdf>
 - “ages of eligibility for the Old Age Security (OAS) program and Canada Pension Plan (CPP) should be recalibrated and increased”
- **Globe and Mail (Feb 7, 2017): Ottawa rejects recommendation to raise retirement age**
→ <https://www.theglobeandmail.com/news/politics/ottawa-rejects-recommendation-to-raise-retirement-age/article33939854/>
 - Social Development Minister Jean-Yves Duclos

Comment: Policy Relevance

- 2 Retraining/Training Programs for Older Workers
 - Increase Human Capital → Increase Productivity
- 3 Impact of Immigration
 - Implicitly captured by the population share of ASG

Minor Comments

Typo:

- Page 7, last paragraph, first sentence: “period 2015-3035”