Some Macroeconomic Challenges from Population Aging

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Queen’s University, August 2011
The Basic Demographics of Population Aging
A declining fertility rate has reduced the population growth rate ...

Current fertility rate ~ 1.6 children per woman

Source: Statistics Canada
... which **inevitably** leads to population aging.

Distribution of the Population By Sex and Age Group

Aging will dramatically reduce the working-age share of the population ...
... and will also cause a shift toward groups with lower LF participation rates ...

LF Participation Rate by Age Group, 2008

Source: Statistics Canada.
... resulting in a reduction in the aggregate labour-force participation rate.

Aggregate LF Participation Rate

Source: Statistics Canada calculations.
Challenge #1:
Productivity Growth
What drives “material” living standards?

\[
\text{GDP/POP} = \text{(GDP/E)} \times \text{(E/LF)} \times \text{(LF/POP)}
\]

<table>
<thead>
<tr>
<th>(Per capita income)</th>
<th>(productivity)</th>
<th>(employment rate)</th>
<th>(LF participation rate)</th>
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</thead>
<tbody>
<tr>
<td>\text{Past 40 years}</td>
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<td>\text{Next 40 years}</td>
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Decomposing past and future growth:

Decomposition of per capita Real GDP Growth

Detail: Productivity is usually measured as GDP per hour whereas here it is measured more simply as GDP per worker.

Source: Author's calculations
Policies to promote productivity growth?

1. A beneficial overall economic environment.

2. Other policies are centered around:
   - quality of labour
   - quantity and quality of capital
   - innovation and technical knowledge
   - competition, role of FDI

3. The costs of productivity policies:
   – direct fiscal costs
   – winners and losers
Real Output per Hour Growth, Business Sector, Canada and the United States (1947-2010)

Source: GDP in chained dollars and total hours worked from the Productivity and Costs Program of the Bureau of Labor Statistics for the United States, and annual averages of quarterly estimates from the Productivity Program Database of Statistics Canada for Canada.
GDP per hour in the Business Sector in Canada, 1947-2010
(Canada as % of the United States)

Source: CSLS Canada-US Productivity Database
Our productivity growth is “OK” by world standards.

International Comparison of Productivity Growth
(Average Annual Growth, %, 1997-2007)
Challenge #2: Fiscal Adjustment
The Two-Part Demographic “Fiscal Squeeze”

Over the next ~ 30 years there will be:

1. Slower growth in per capita tax base
   (growth will be cut roughly in half from past 40 years!)

2. Faster growth in per capita spending on “age-related” items
Aging + “other” factors will drive health spending.

Source: OECD cost pressure scenario and author’s calculations.
Elderly benefits will also rise as a share of GDP.

Increase in Elderly Benefits (~ OAS + GIS)

(percent of GDP)

Together, health and elderly benefits will add ~ 3.5 pps of GDP to public spending between 2020 and 2040!

Source: Chief Actuary (scenario: benefits rates indexed at inflation plus 60% of the assumed real wage growth) and author's calculations.
The Difficult Fiscal Choices?

1. Restrain spending growth
   - especially on non-age-related items?

2. Increase tax rates (or the “tax burden”)

3. Defer the problem
   ➜ increase borrowing (debt)
If we absorb these costs purely through debt ...

Spending and Revenue Paths From 2020 to 2040

(percentage points of GDP)

Source: OECD, CIHI, and author's calculations.
... we will revisit the “debt wall” of the mid 1990s.

FPT Debt-to-GDP Ratio

Source: Author’s calculations.
Some Popular Quick Fixes?

1. Increase immigration.

2. Increase fertility.

3. Increase retirement age (or LF part rates).

4. Restrain the growth of health-care spending.
The coming demographic forces will drive two macro policy agendas in Canada:

1. The need for enhanced productivity growth
2. The need to make difficult fiscal adjustments

Better productivity growth ➔ find cost-effective policies.
Fiscal adjustment ➔ identify our fiscal priorities.
Some international perspective?

Debt Ratios (per cent of GDP)

Change in 65+ as a share of population, 2010-2030 (p.p.)
Thank you. Questions?