

SOCIAL SECURITY: AGE OF ELIGIBILITY BASED ON ACTUARIAL LOGIC

CAA Annual Meeting

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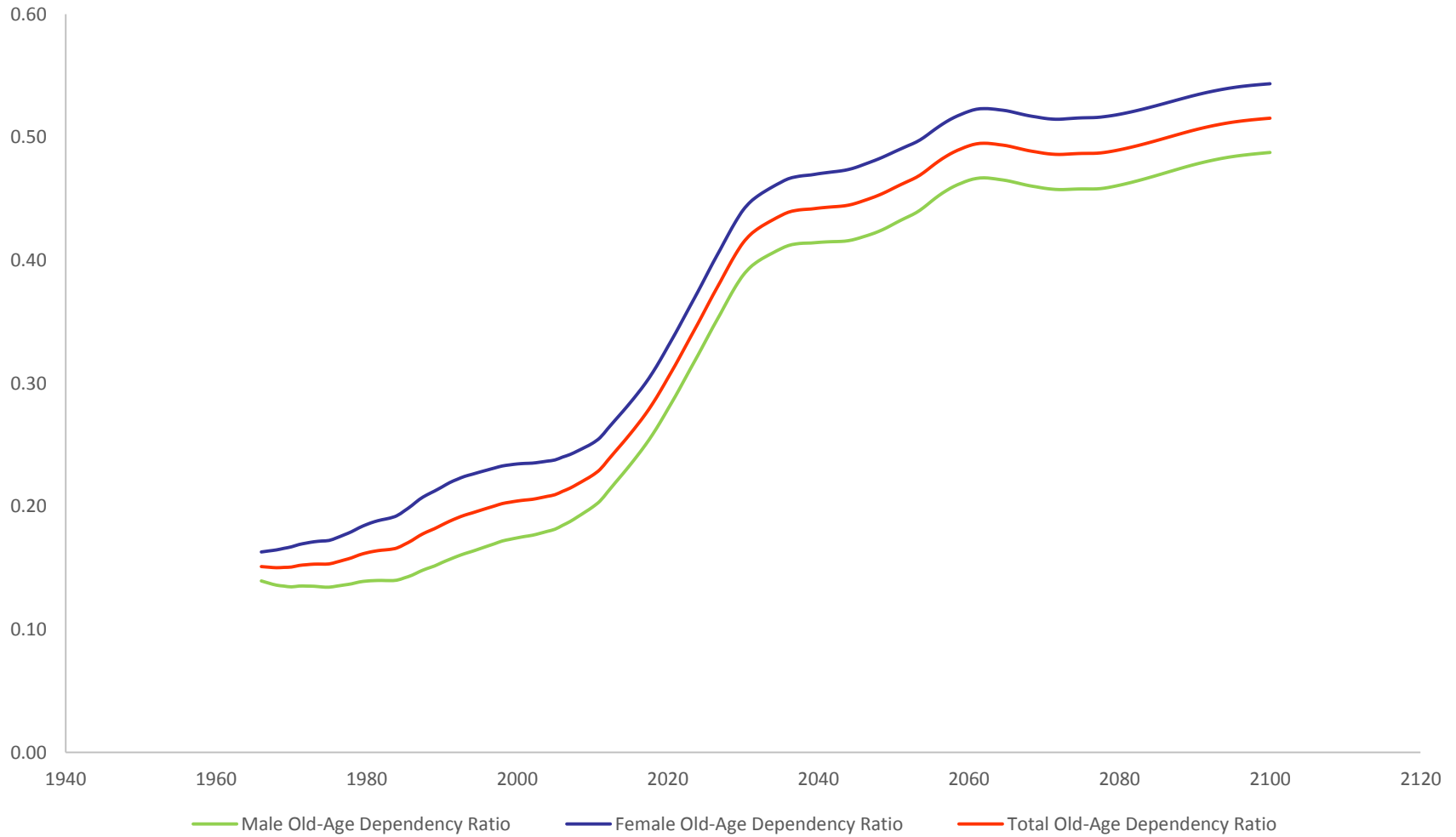
Age of Eligibility (AOE)

- Defined as the Earliest Age a person can receive Full/Unreduced Social Security Benefits

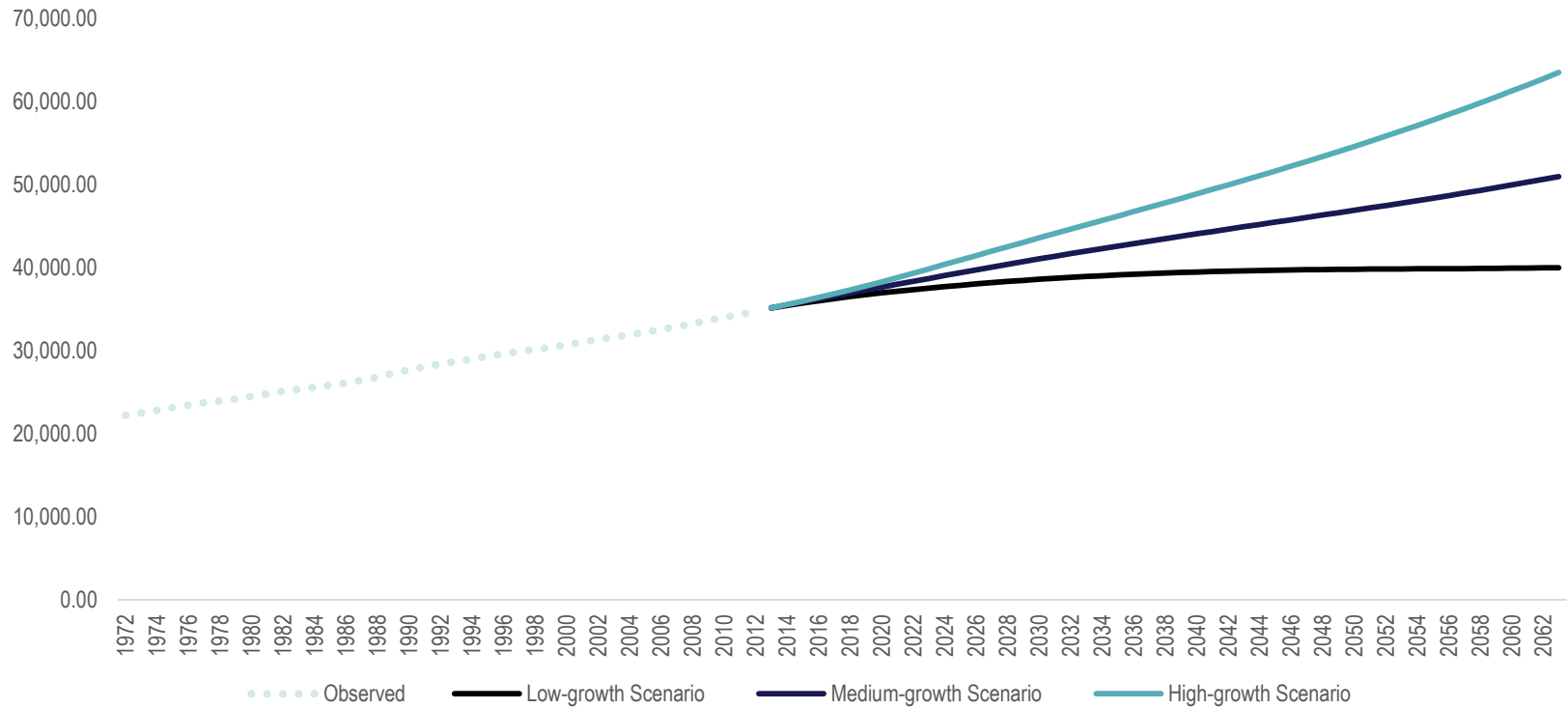
Age of Eligibility (AOE)

- Life Expectancy keeps rising
- Baby Boom now retiring
- Results in Rising Aged Dependency Ratio
- Aged Population dampens GDP Growth
- If Age of Eligibility remains at 65, OAS/GIS will rise in cost
- Is there a way to lower C/QPP Contributions?

Age of Eligibility--Issues

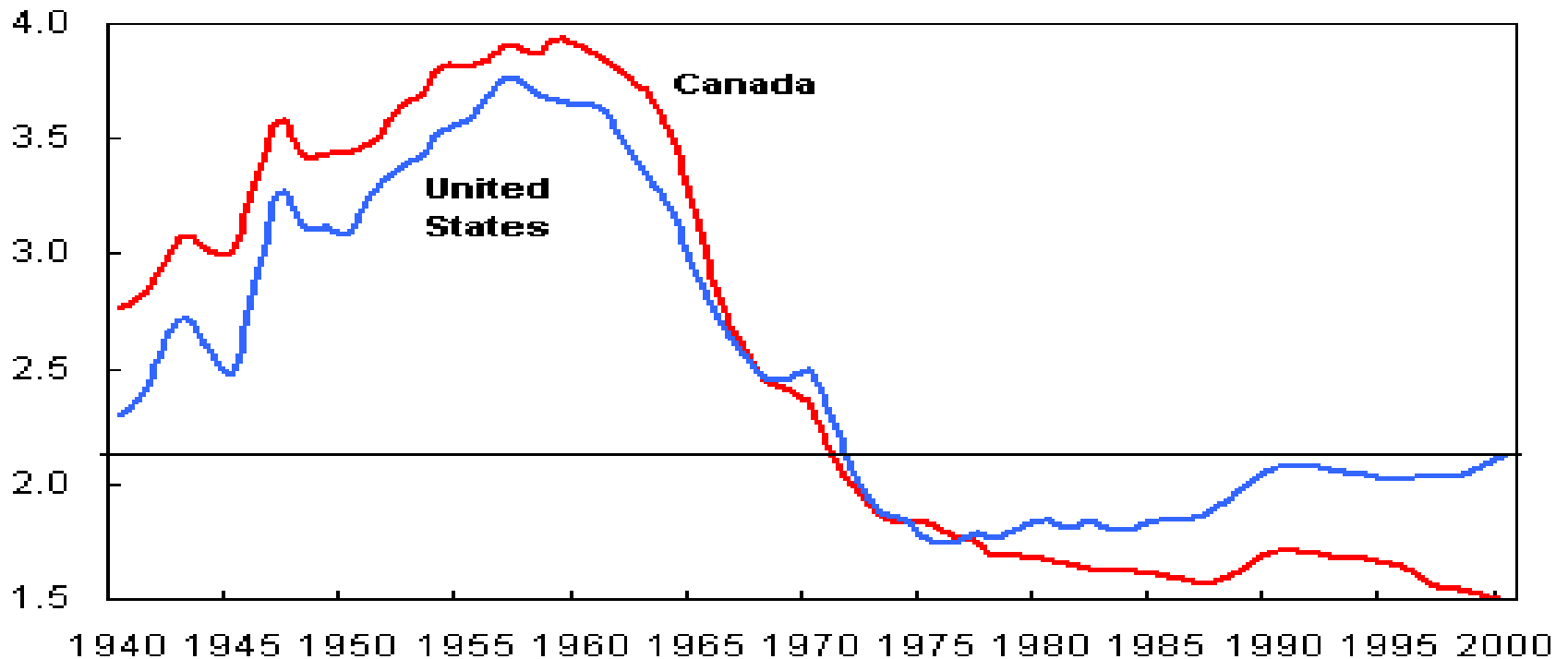


Population Observed, 1972–2013, and Projected, 2014–63, by Low-, Medium-, and High-Growth Scenarios, Canada



Fertility Rates: Canada and U.S.

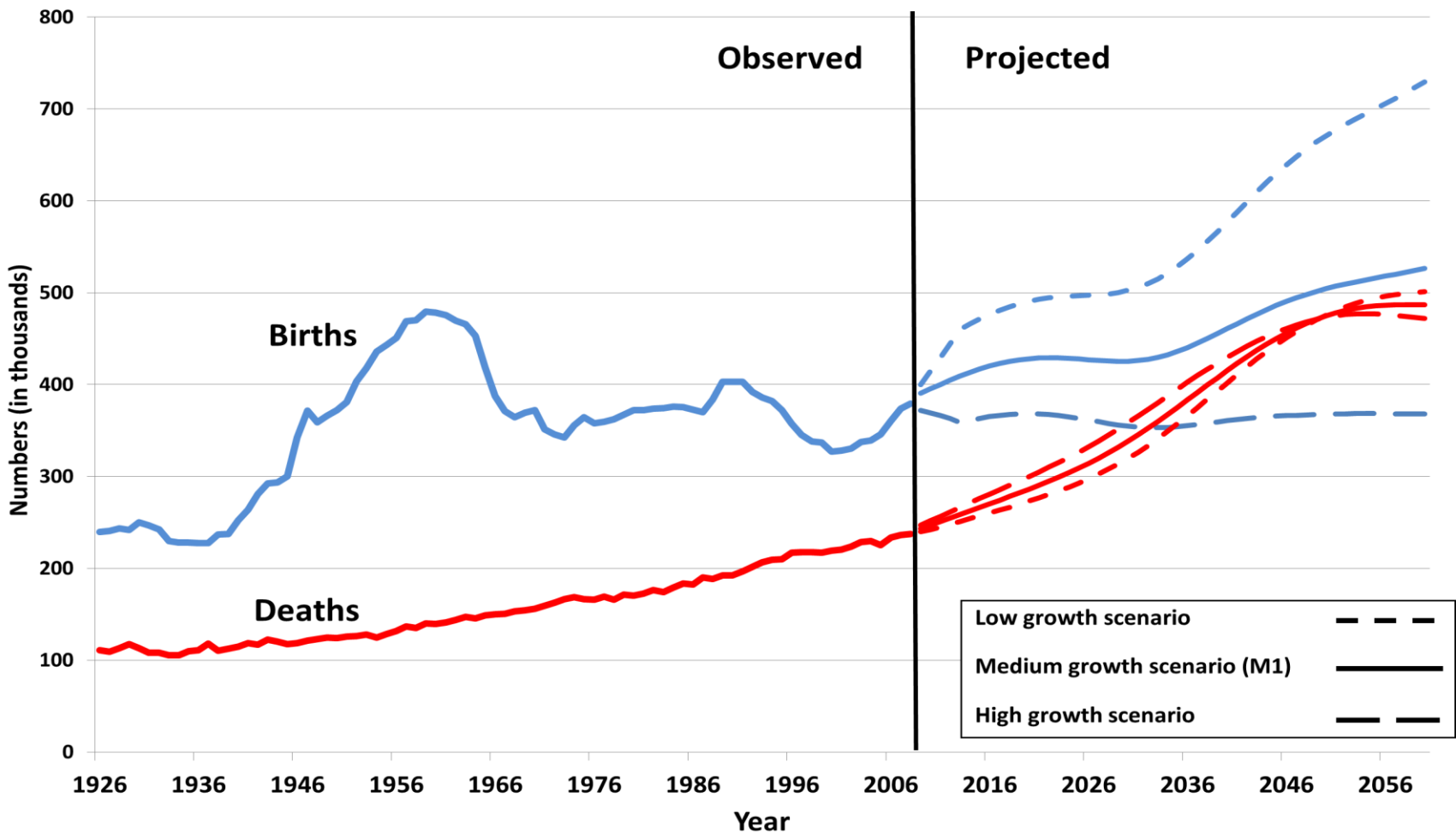
Number of children per woman



Note: The solid black horizontal line denotes the natural replacement population level of 2.1 children per woman.

Source: Statistics Canada

Number of Births and Deaths in Canada, 1926 to 2060

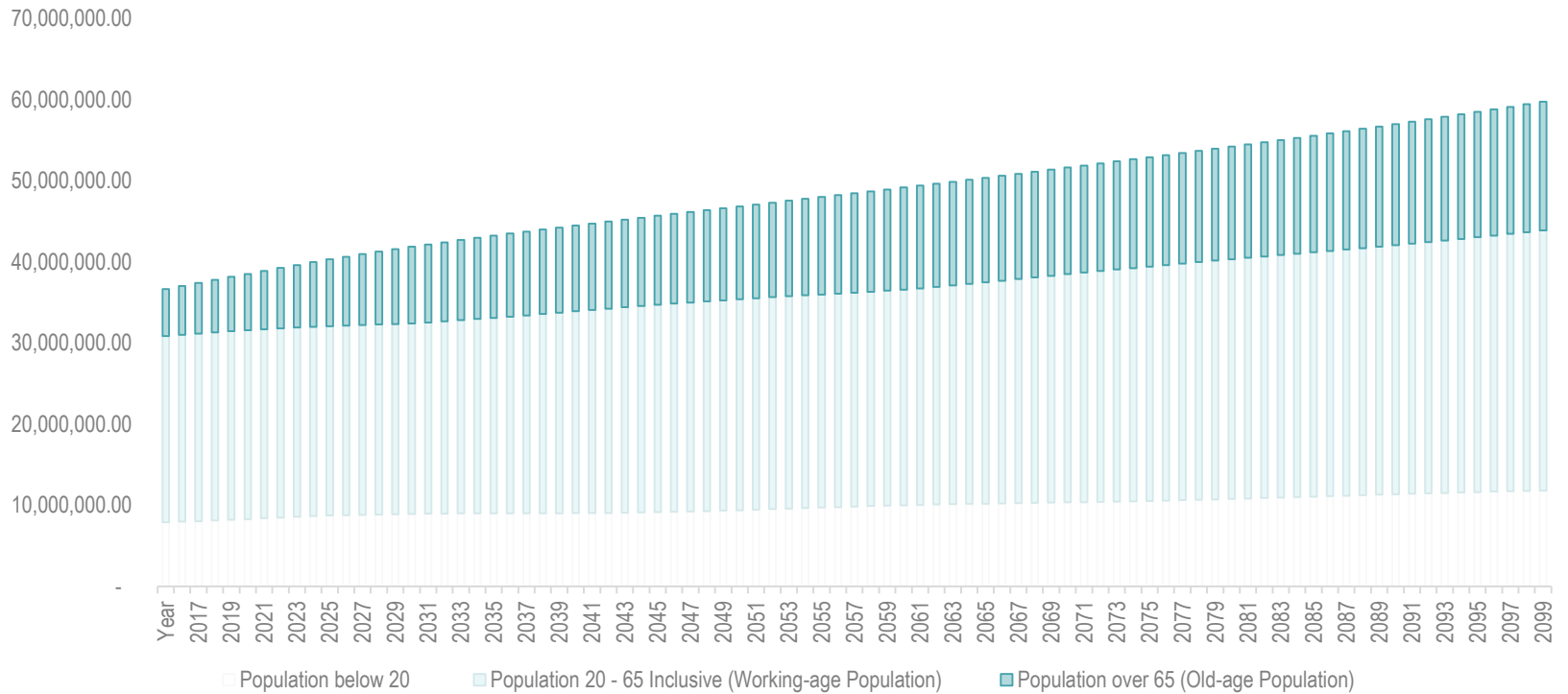


Source: Projected data: Statistics Canada, Publication 91-520-X: Population Projections for Canada, Provinces and Territories, 2009 to 2036
 Historical data: 1926-1970: Provided by Statistics Canada Demography Division
 1971-2009: CANSIM Table 051-0004 Components of population growth, Canada, provinces and territories (Data retrieved November 2012)

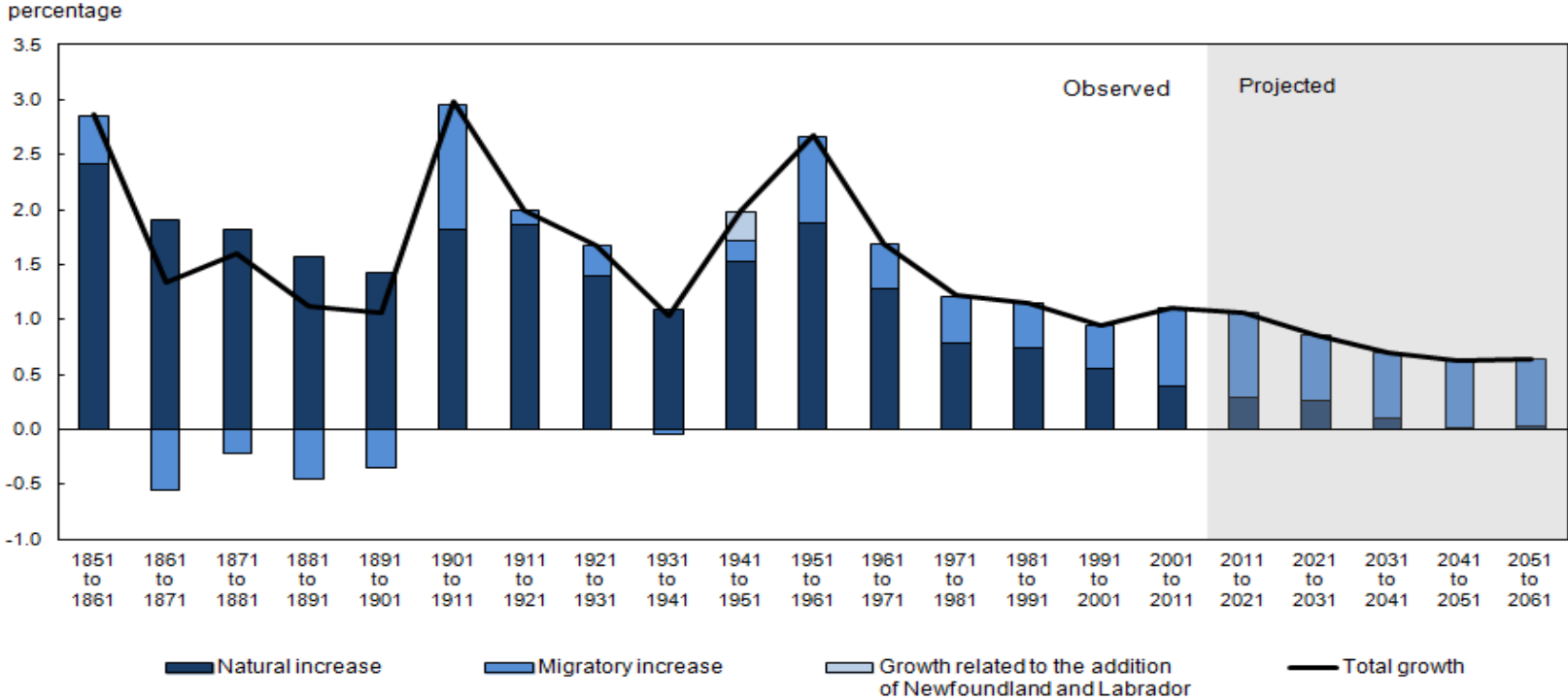
Life Expectancy in Canada

Year	At Birth		At Age 65		At Age 75	
	Male	Female	Male	Female	Male	Female
1921	58.8	60.6	13.0	13.6	7.6	8.0
1941	63.0	66.3	12.8	14.1	7.5	8.2
1961	68.4	74.2	13.5	16.1	8.2	9.5
1981	71.9	79.0	14.6	18.9	9.0	11.9
2001	76.9	82.0	17.0	20.5	10.3	12.9
2011	79.3	83.6	18.8	21.7	11.8	13.9

Projected Population by Age Group, 2016–2100, Canada

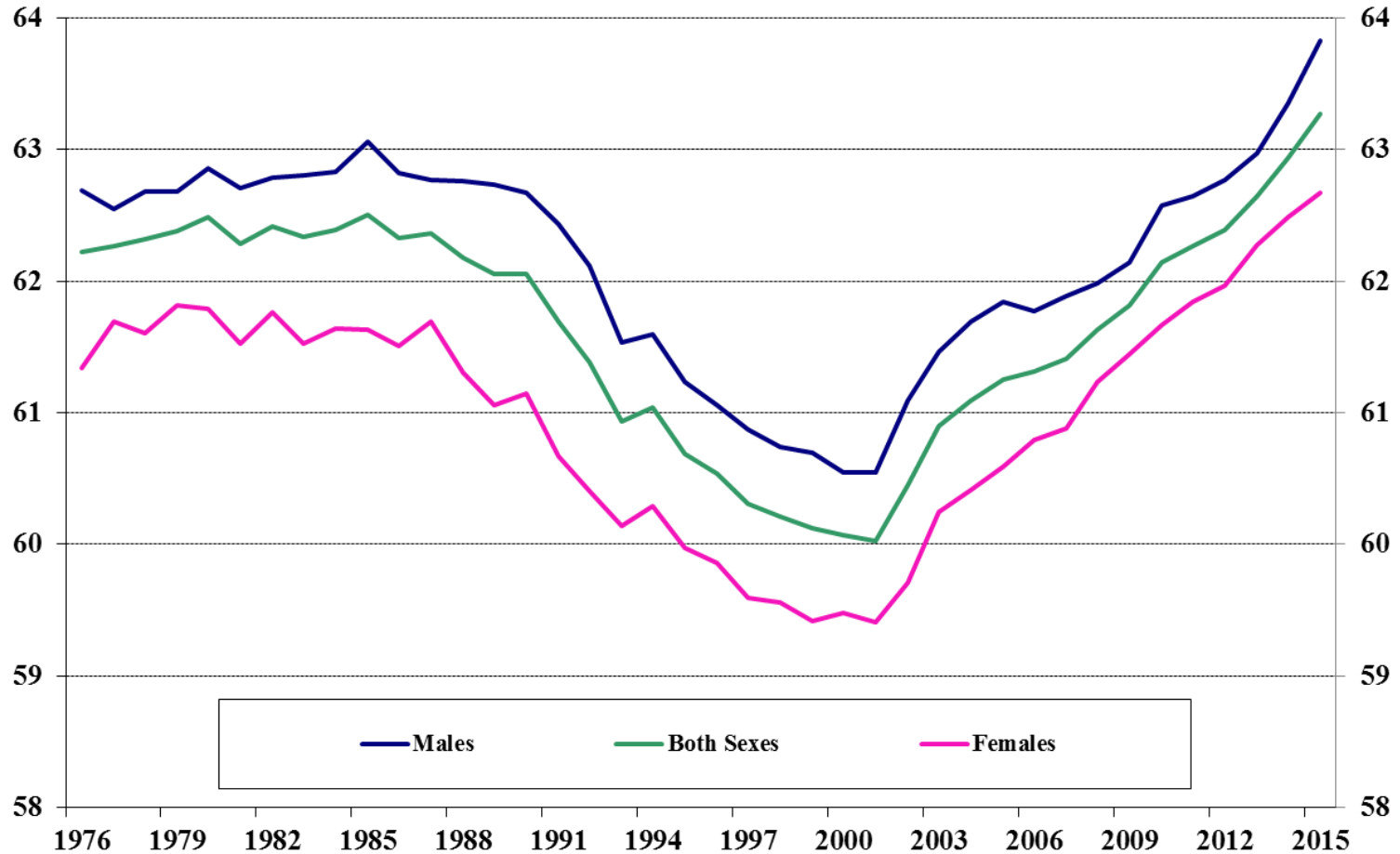


Annual Average Growth Rate, Natural Increase and Migratory Increase per Intercensal Period, Canada, 1851–2061



Mitigating Factor

Average Exit Age from the Labour Force, Canada



Age of Eligibility (AOE)

- This is a problem of Demographic Origins
- Thus, seek a Demographic Solution
- A Common Reform around the world is to Raise the Age of Eligibility as Life Expectancy Rises
- To Immunize the SSRS from this variance

Age of Eligibility (AOE)

- Raising the Age of Eligibility has two Impacts:
 - Longer period of Contributions (and Investment Earnings)
 - Shorter Benefit Period
- Plus a “nudge” to work longer

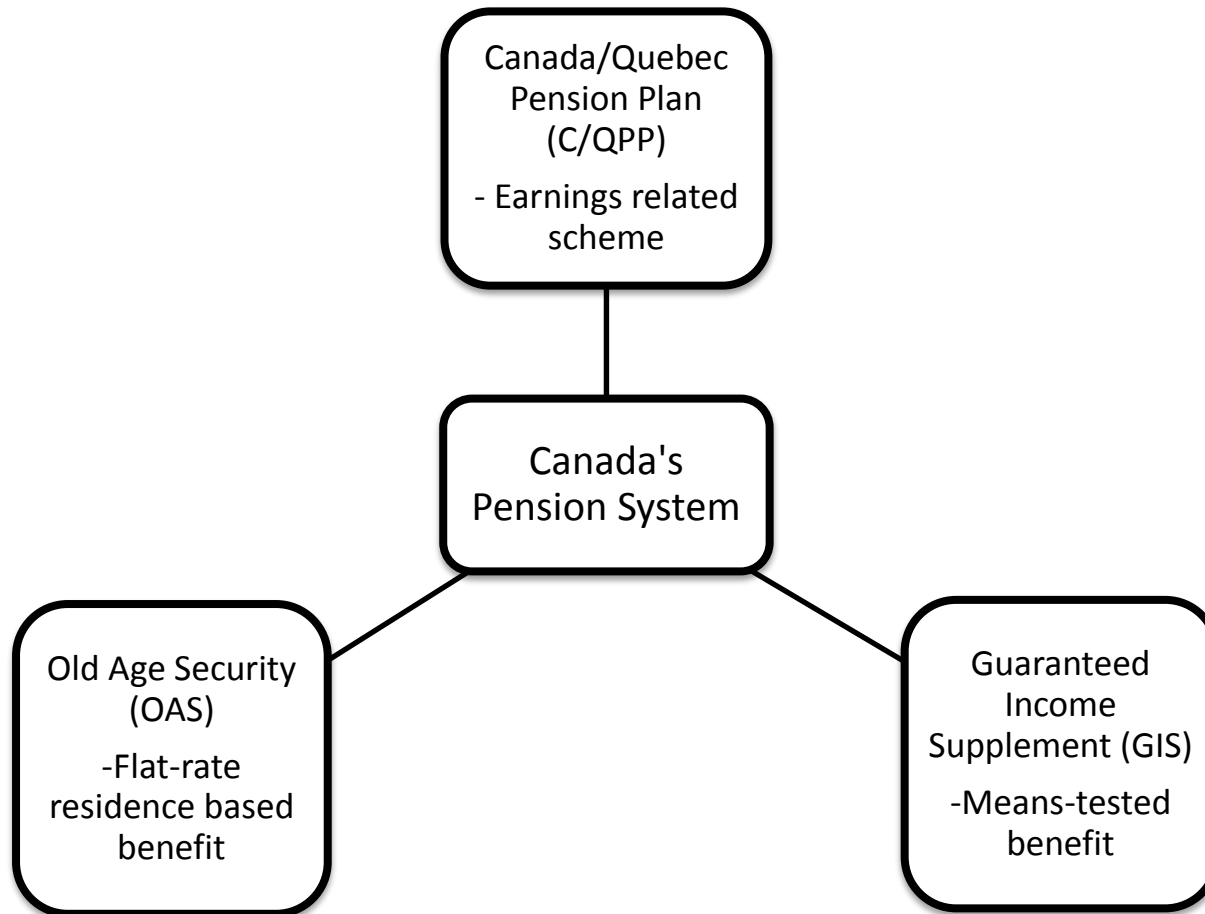
Age of Eligibility (AOE)

- Many Examples Exist:
 - Finland
 - Norway
 - Sweden
 - United Kingdom
- All of these lessen payouts in full for increased longevity
- Our method would only go part way

Age of Eligibility (AOE)

- Inspired by work of Hammond et al (2015) of the Institute/Faculty of Actuaries, UK
- Set a Criterion that Workers should spend a set proportion of their adult life (age 20+) in Retirement
- We transferred this Model to the Canadian Context

Canada's Social Security System



History of the AOE

- 1927, Old Age Security Act, AOE set at 70
- 1965, Canada Pension Plan Act Used AE of 65
- Lowered AOE for OAS to 65
- Introduced the GIS
- 2012, Harper Gov't. proposed raising AOE for OAS from 65 to 67 between 2023 and 2029
- Debate focused on Issues of Sustainability
- 2016, Trudeau Gov't rescinded this Legislation
- But No Actuarial Logic

CPP II

- Introduced in 2016
- Full new benefits not payable until 2065
- Will be “fully funded”
 - no Intergenerational Transfers
 - heightens probability of sustainability

Age of Eligibility—IFOA Working Party

- Key Criterion: People Live a Set Proportion of Adult Life in Retirement,

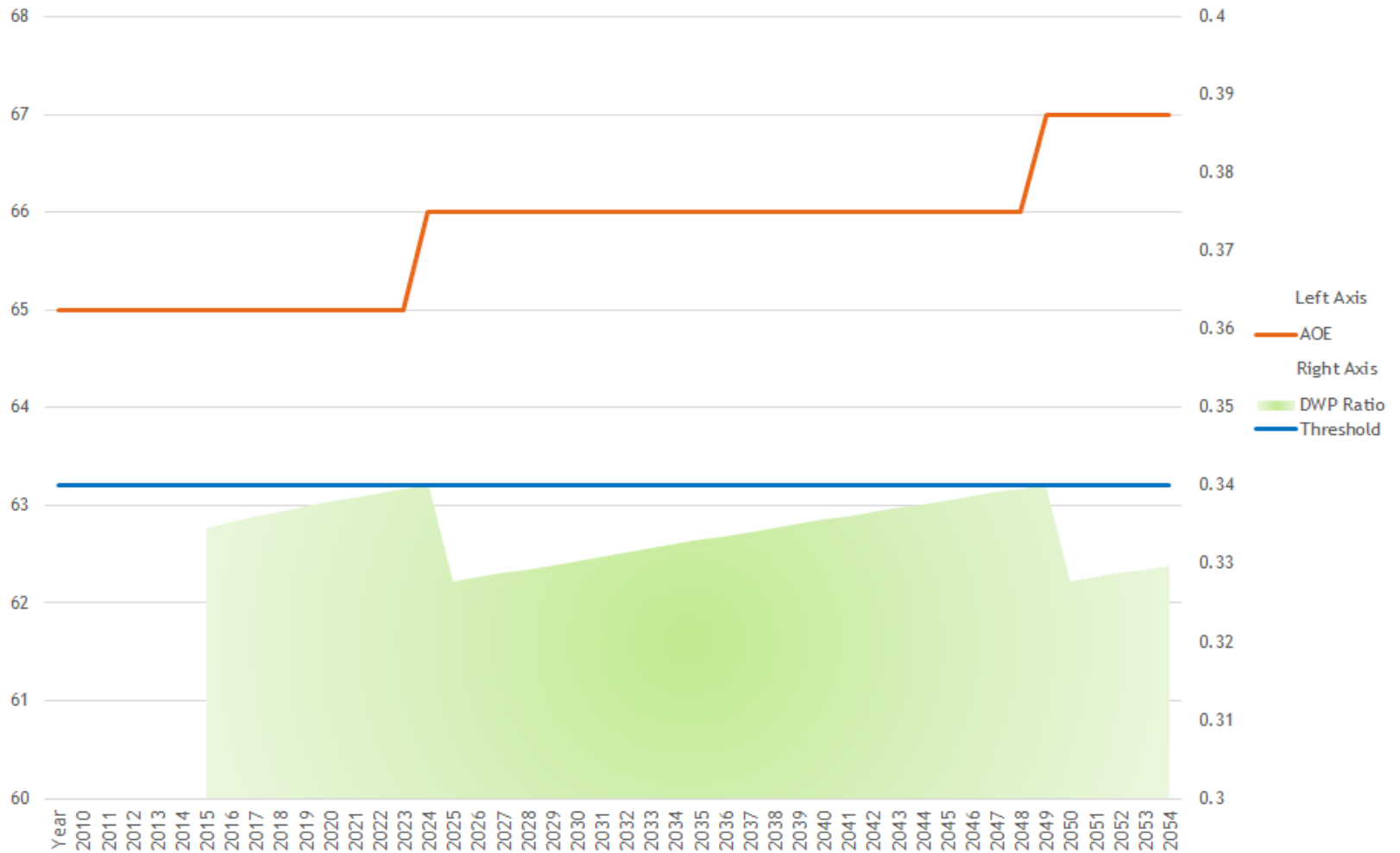
$$\textit{Proportion of adult life spent in retirement} = \frac{e_{AOE}}{e_{AOE} + AOE - \textit{adult life starting age}}$$

- Adult Life starts at Age 20
- Requires Projections of Life Expectancy
- Proportion Appropriate for the UK is 33.3%
- Proportion for Canada is 34%
- Causes Age of Eligibility to Rise starting in 2026

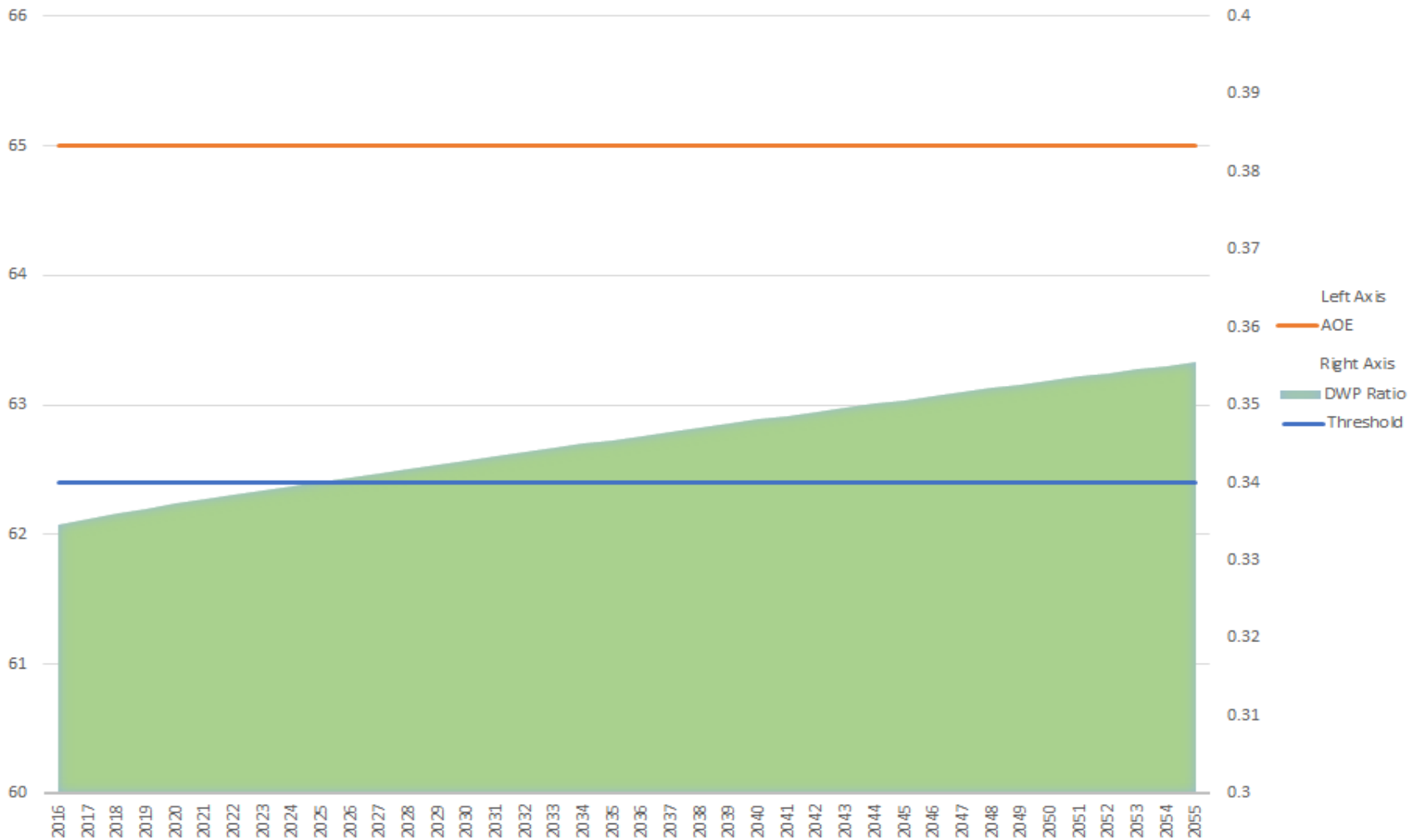
Age of Eligibility—Canadian Context

- Wanted to have a 5-year notice period and a 2-year phase in period
- A 33.3% criterion would require an immediate shift in Age of Eligibility
- A 34% Criterion causes the Age of Eligibility to rise first in 2025
- Since 34% is a Limit that causes a shift, the average period in Retirement is less than 34%

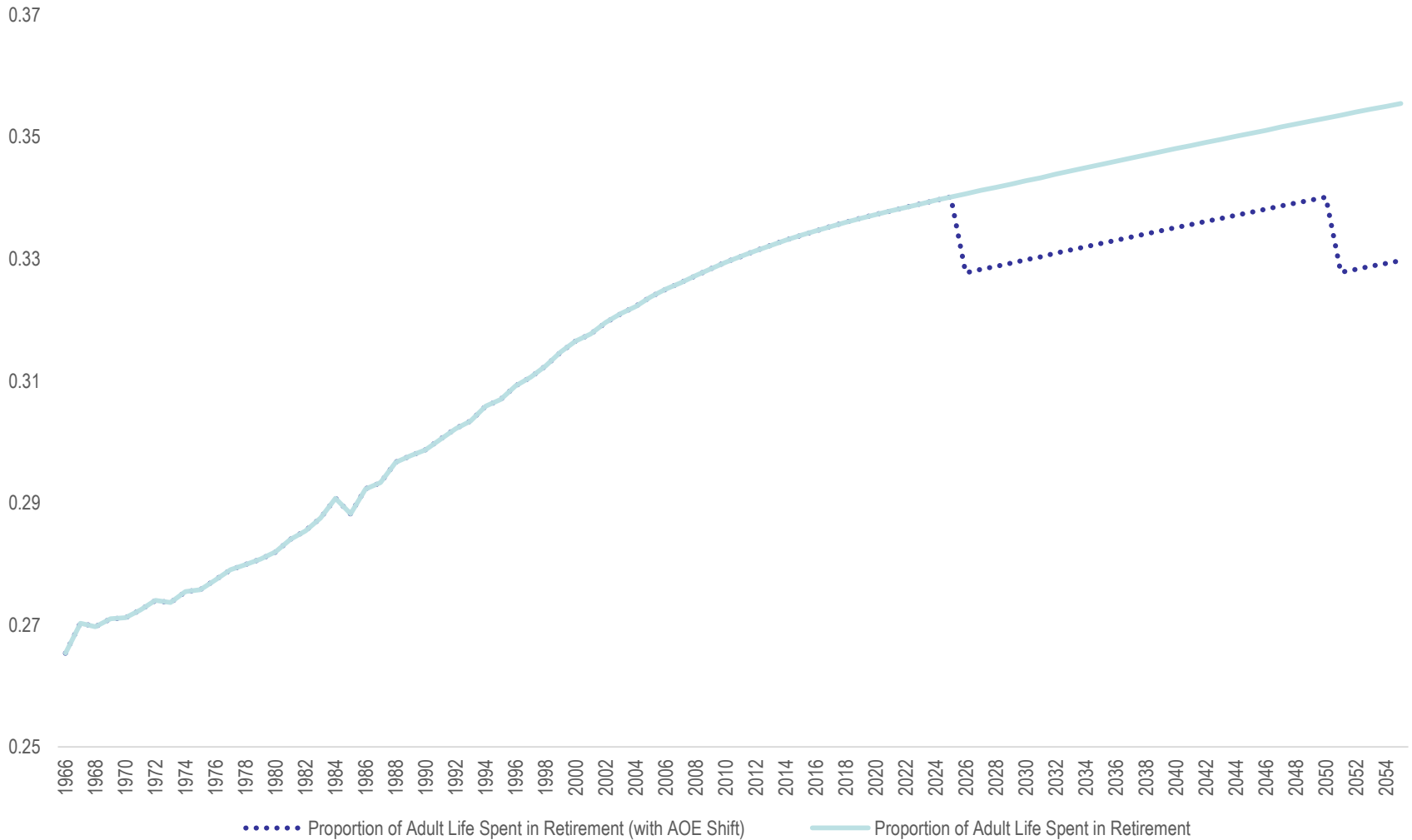
AOE progression and the proportion of adult life spent in retirement, Canada 2010-2055



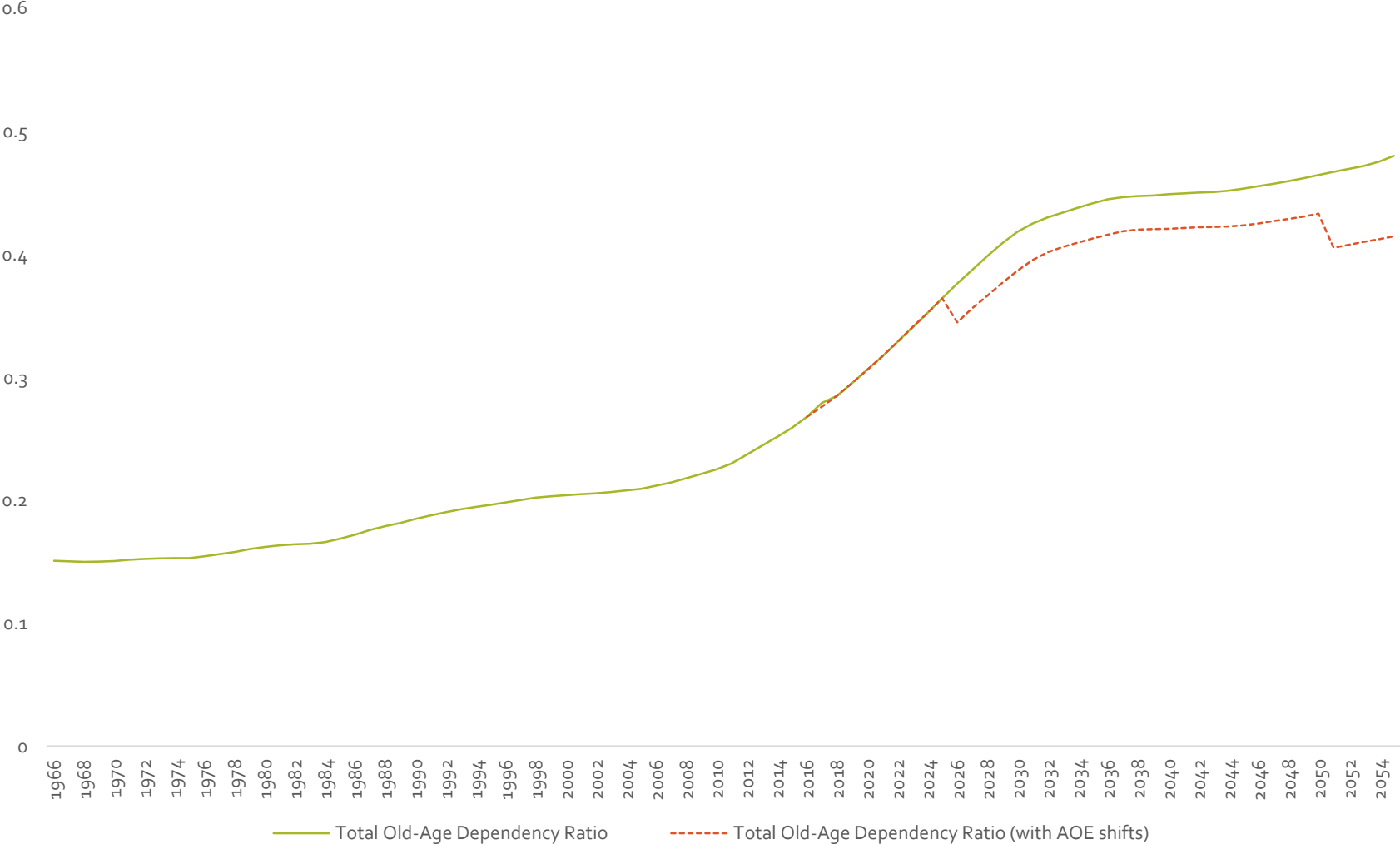
Constant AOE at 65 and the proportion of adult life spent in retirement, Canada 2016-2055



Proportion of Adult Life Spent in Retirement, Canada, 1966-2055



Old-age dependency ratio with shifts in the AOE, Canada



Age of Eligibility--Canada

- OAS, GIS, C/QPP are all sustainable
- But the cost is high
- OAS costs peak at 3.1% of GDP in 2030 and fall to 2.7% of GDP in 2050 versus 2.5% in 2017
- CPP costs 9.9% of earnings up to the AIW
- But CPP II will add 2% up to the AIW and 8% above
- QPP contribution rate to be 10.80% in 2018

Age of Eligibility (AOE)

- CPP Contribution rate would be around 9.5% with our AOE Adjustment
- QPP Contribution rate could also be reduced by around 0.5%
- An Automatic AOE adjustment would “secure” the Sustainability of Canada’s Social Security Systems

AOE—Remaining Issues

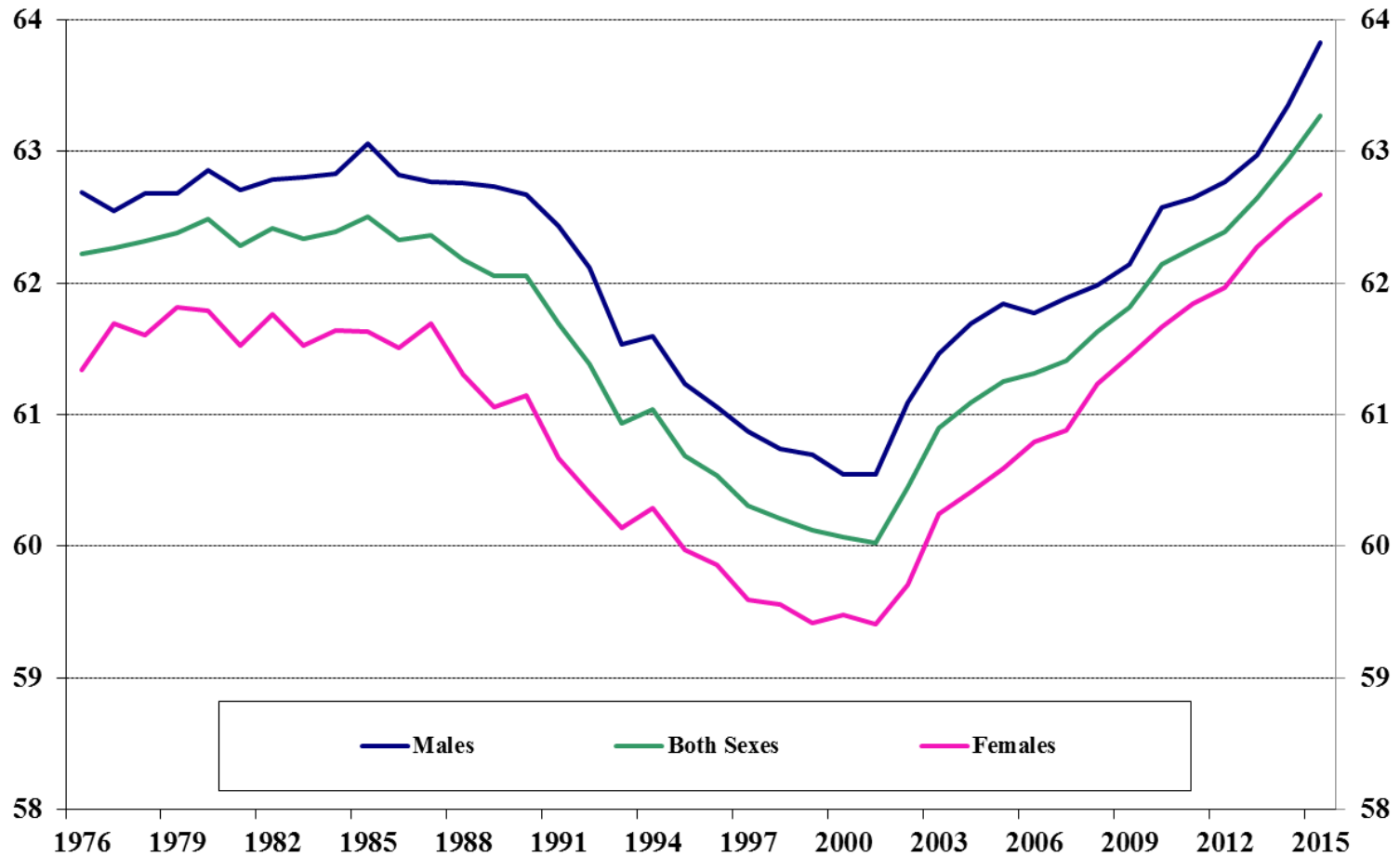
- This Adjustment is Regressive since Raising the Age of Eligibility has a greater impact on those with Lower Life Expectancy--those with Lower Income
- GIS clawback is even more Regressive, so Connect an Age of Eligibility Adjustment to a change in GIS clawbacks

AOE--Conclusion

- Healthy Life Expectancy is Rising as Quickly as Overall Life Expectancy
- Canadians can work a little longer and have been since Y2000

AOE Conclusion

Average Exit Age from the Labour Force, Canada



AOE--Conclusion

- Partial Immunization of Canada's Social Security Systems from Life Expectancy is Wise and Logical
- Creates a "Nudge" for all Canadians to stay in the Active Labour Force a Little Longer
- This should become an "Automatic Balancing Mechanism"
- Put this beyond Political Meddling

Q & A