



Office of the Superintendent of
Financial Institutions Canada

Bureau du surintendant des
institutions financières Canada

Office of the Chief Actuary

Bureau de l'actuaire en chef

Canada Pension Plan Actuarial Report and its Independent Peer Review Process

*Presentation to the Public Service
Pension Advisory Committee*



OSFI
BSIF

18 May 2005

Canada 

Presentation

- **Purpose of the CPP Actuarial Report**
- **Demographic and Economic Assumptions**
- **Steady-State Funding**
- **Peer Review Process and Strengthening the Accountability**



Purpose of the CPP Actuarial Report

- Inform on the current and projected financial status of the Canada Pension Plan
- Calculate the steady-state contribution rate

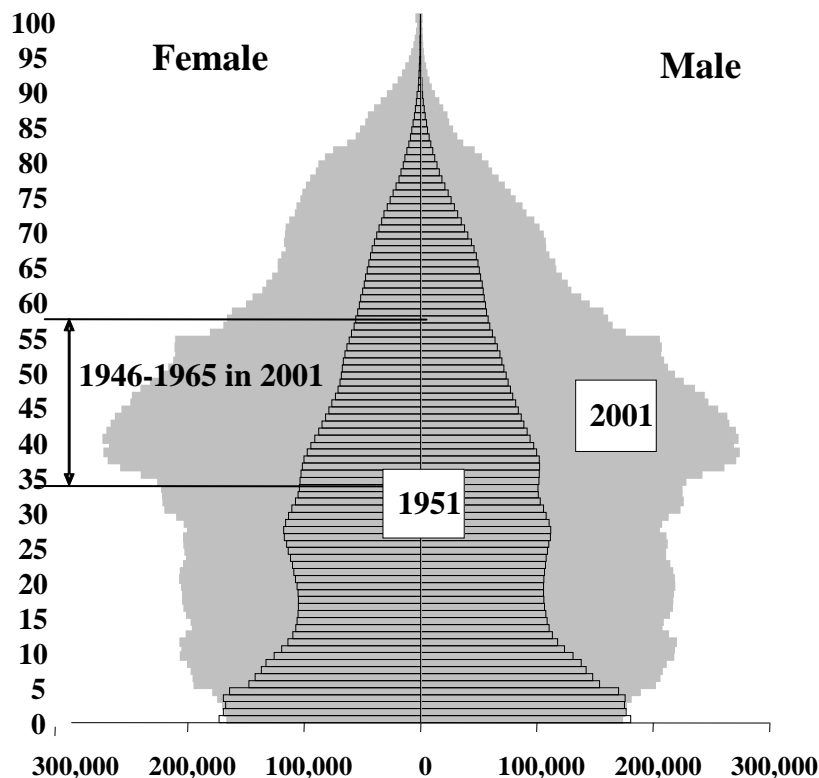
Consultations on Assumptions

- CPP and QPP seminars were organized to get opinions from a wide range of experts in the fields of demography, economics and investments.
- Federal and provincial officials attended these seminars.

Demographic Assumptions

- Fertility
(Number of births)
- Migration
- Mortality
(Life expectancy)

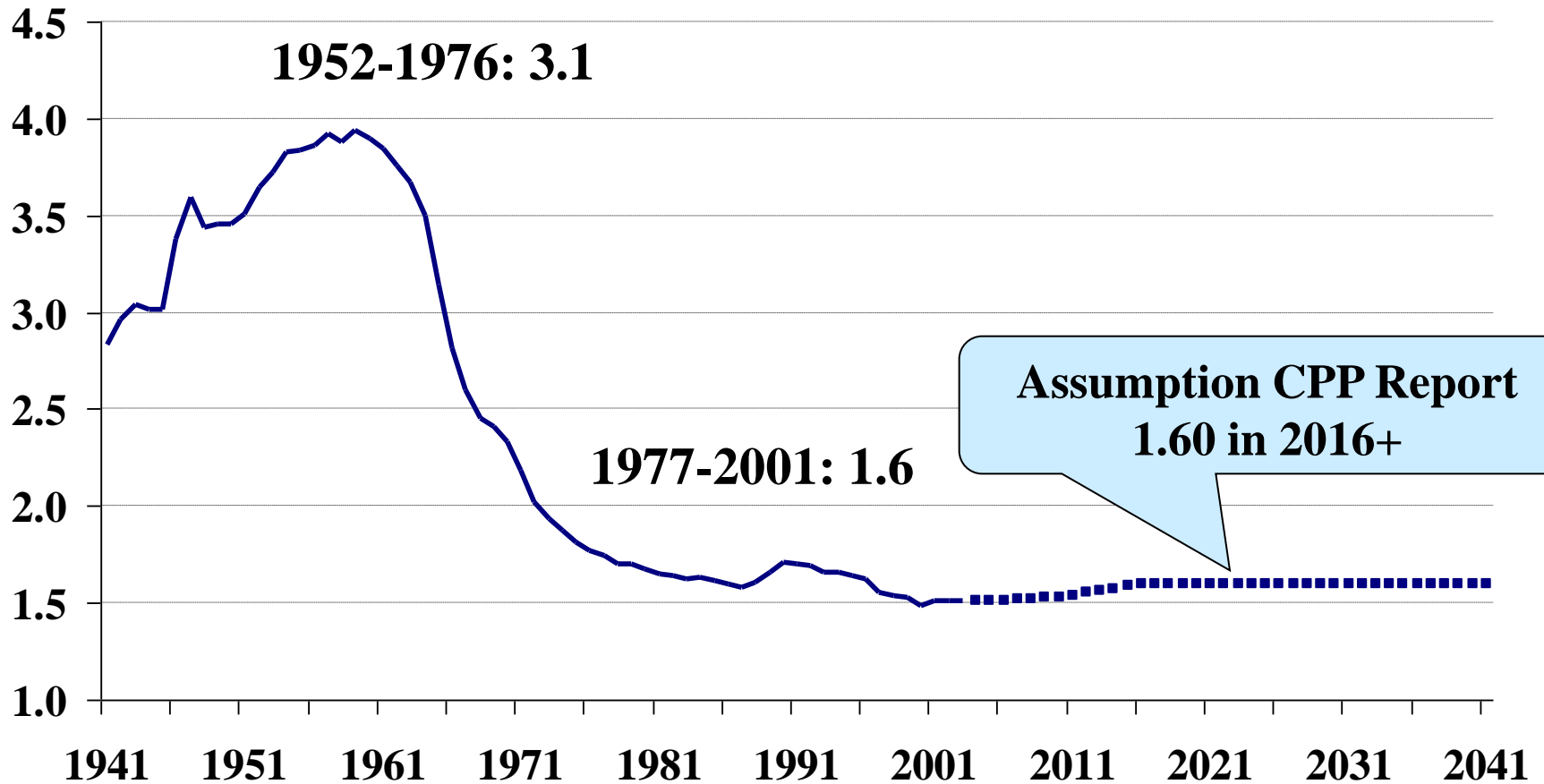
Age Profile of Canada's Population, 1951 & 2001



Sources: Statistics Canada (population census and historical data),
U.N. 2002 population projections, CPP seminars

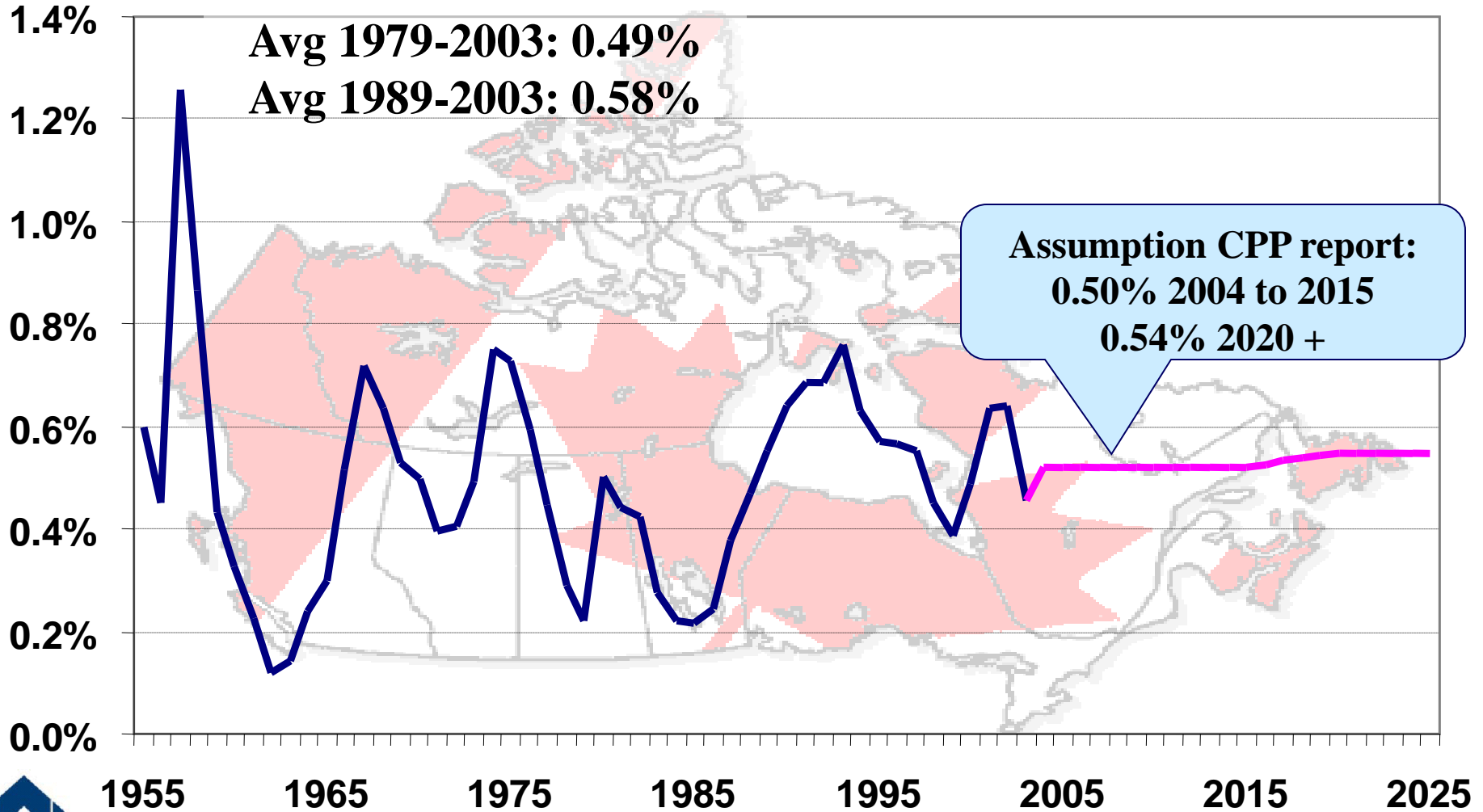
Fertility Rate

(Children per woman)



Panel's views: reasonable

Net Migration Rate

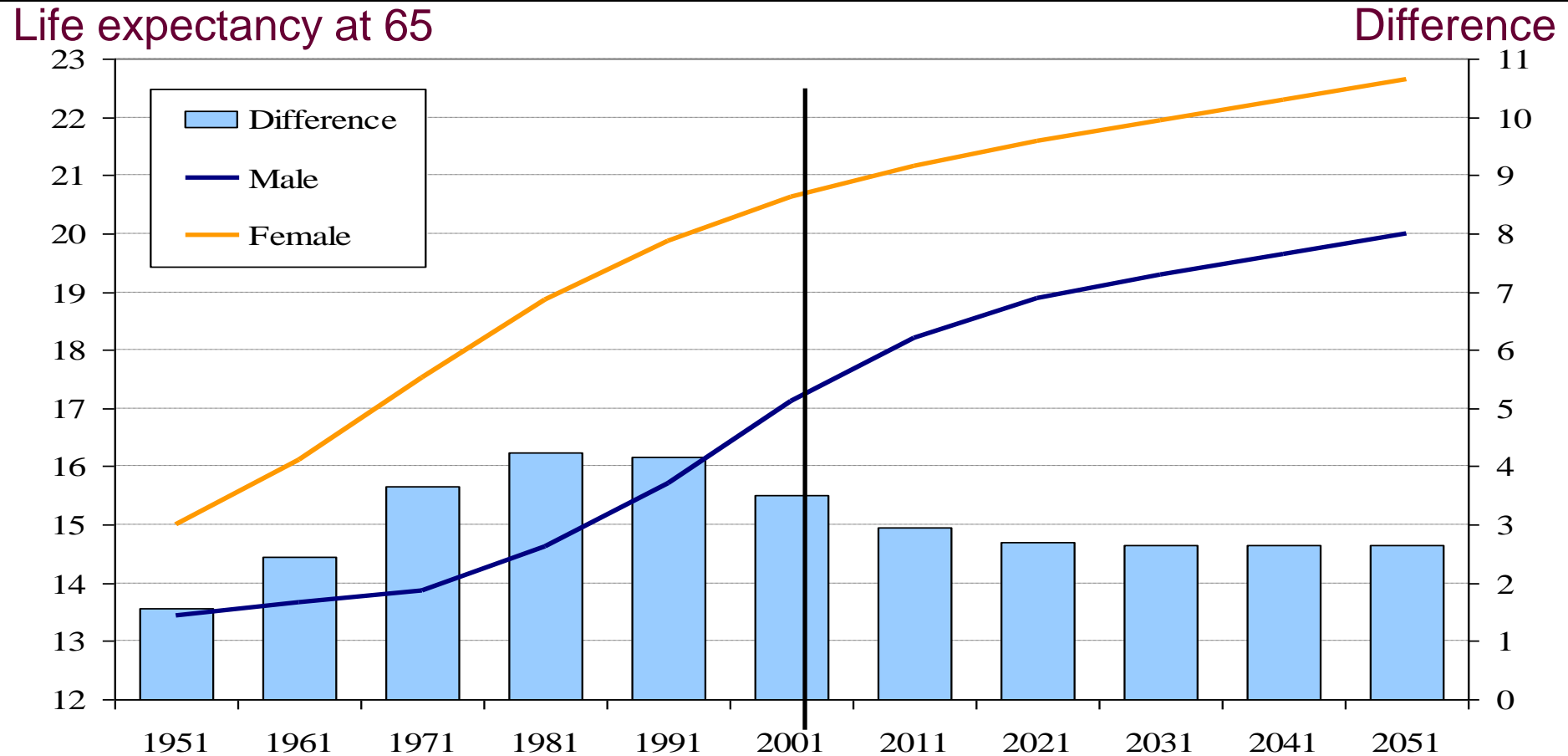


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Panel's views: reasonable

Increase in Life Expectancies



More contributors are expected to reach the retirement age of 65.

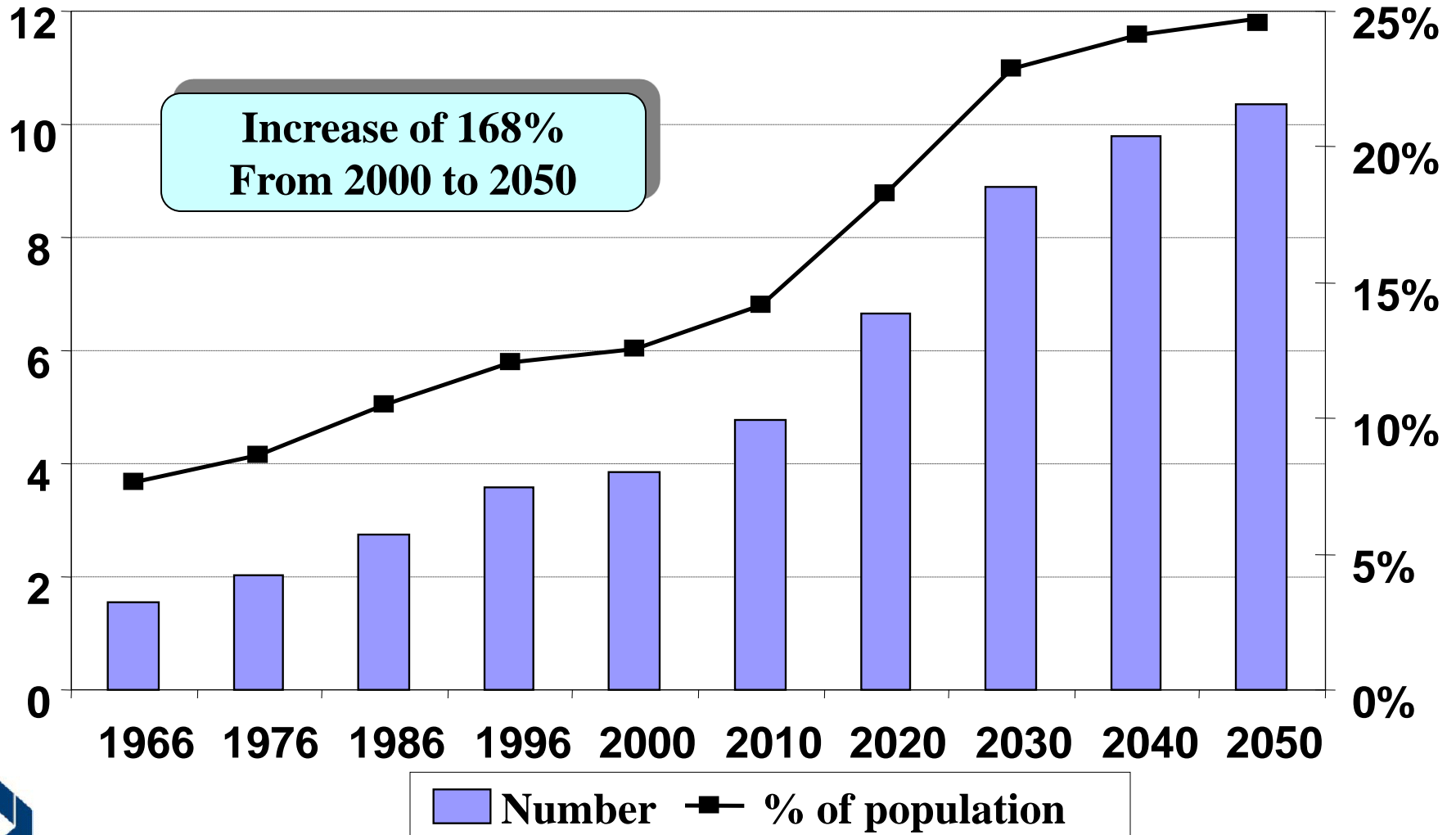
Retirement beneficiaries are expected to receive their benefit for a longer period.

Panel's views: reasonable but they would have chosen higher life expectancies.

Population 65+

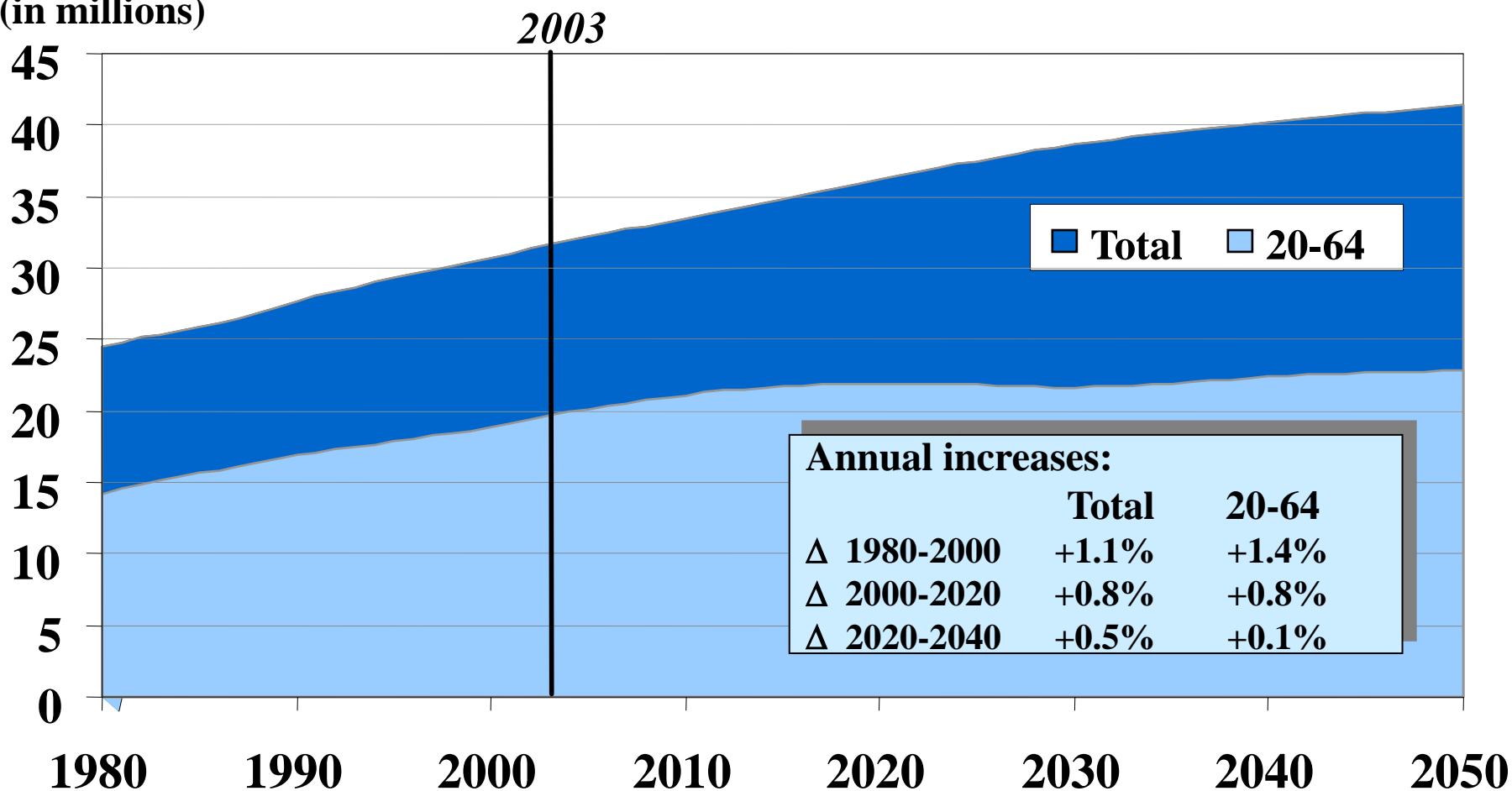
(In millions)

(% of population)



Working Age and Total Population (Canada)

(in millions)

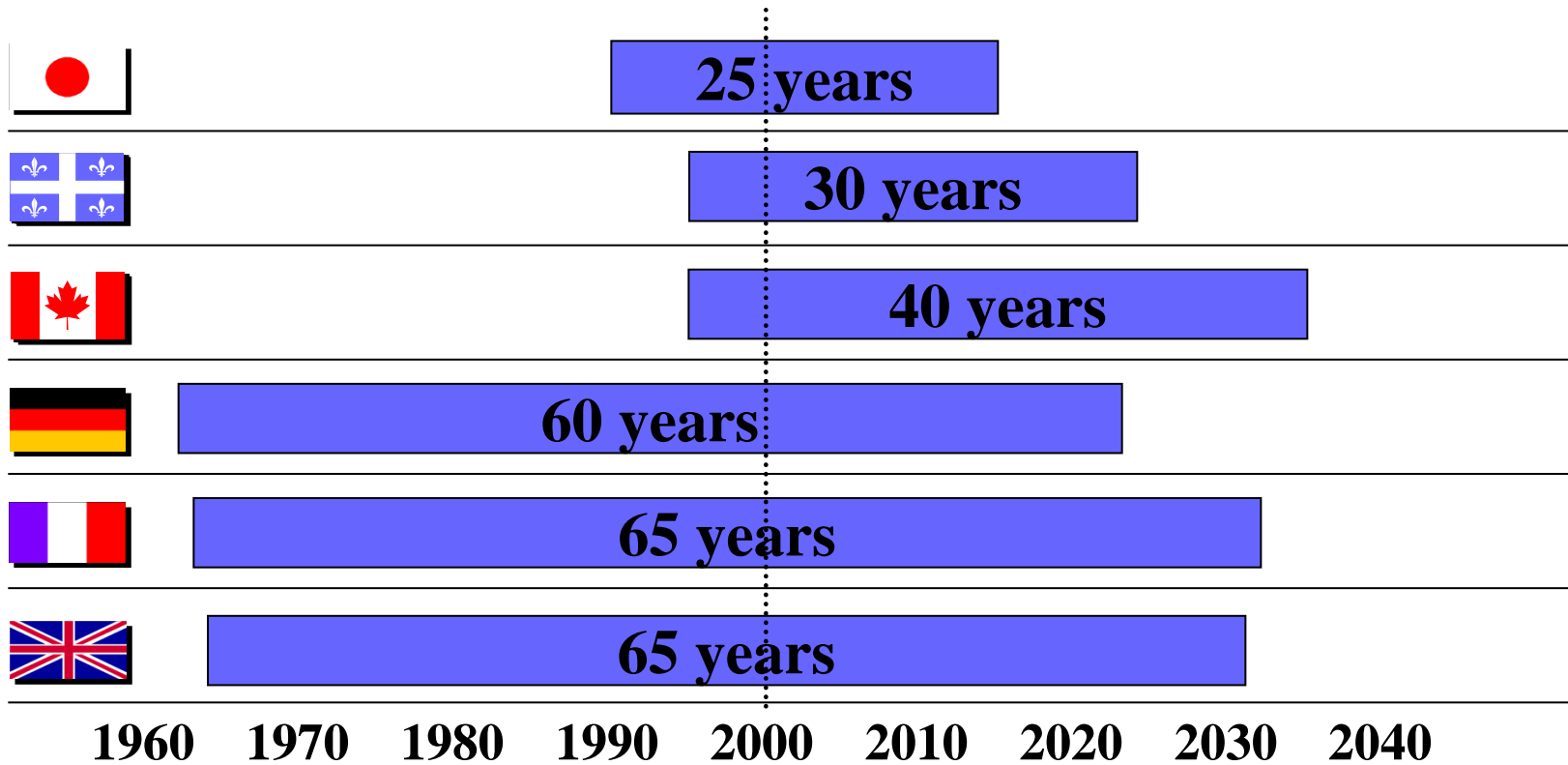


After 2025, almost all projected population increase will come from migration.



Global Aging

Projected number of years needed to go from 12% to 24% of 65 and over as a % the total population

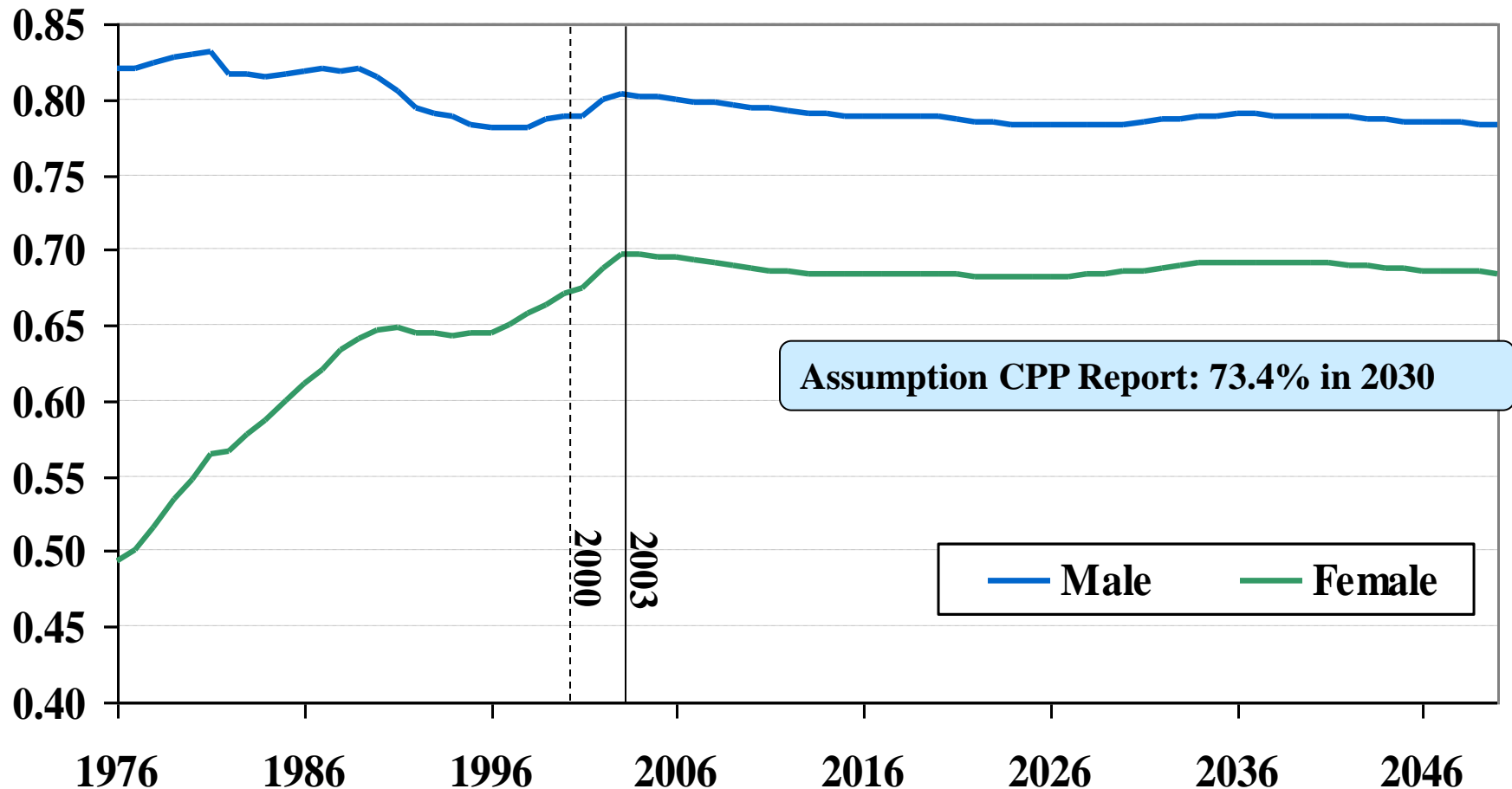


Economic Assumptions

- Participation rates
- Employment increase (Job creation rate)
- Unemployment rate
- Inflation rate
- Increase of average employment earnings
- Interest rate and rate of return by asset class

Sources: Historical trends, Recent experience, PEAP from U of T., Department of Finance estimates, Conference Board, Report on Canadian Economic Statistics by CIA, CPPIB, Watson Wyatt Economic Expectations Survey, CPP seminars

Participation Rates 15-69 (Canada)

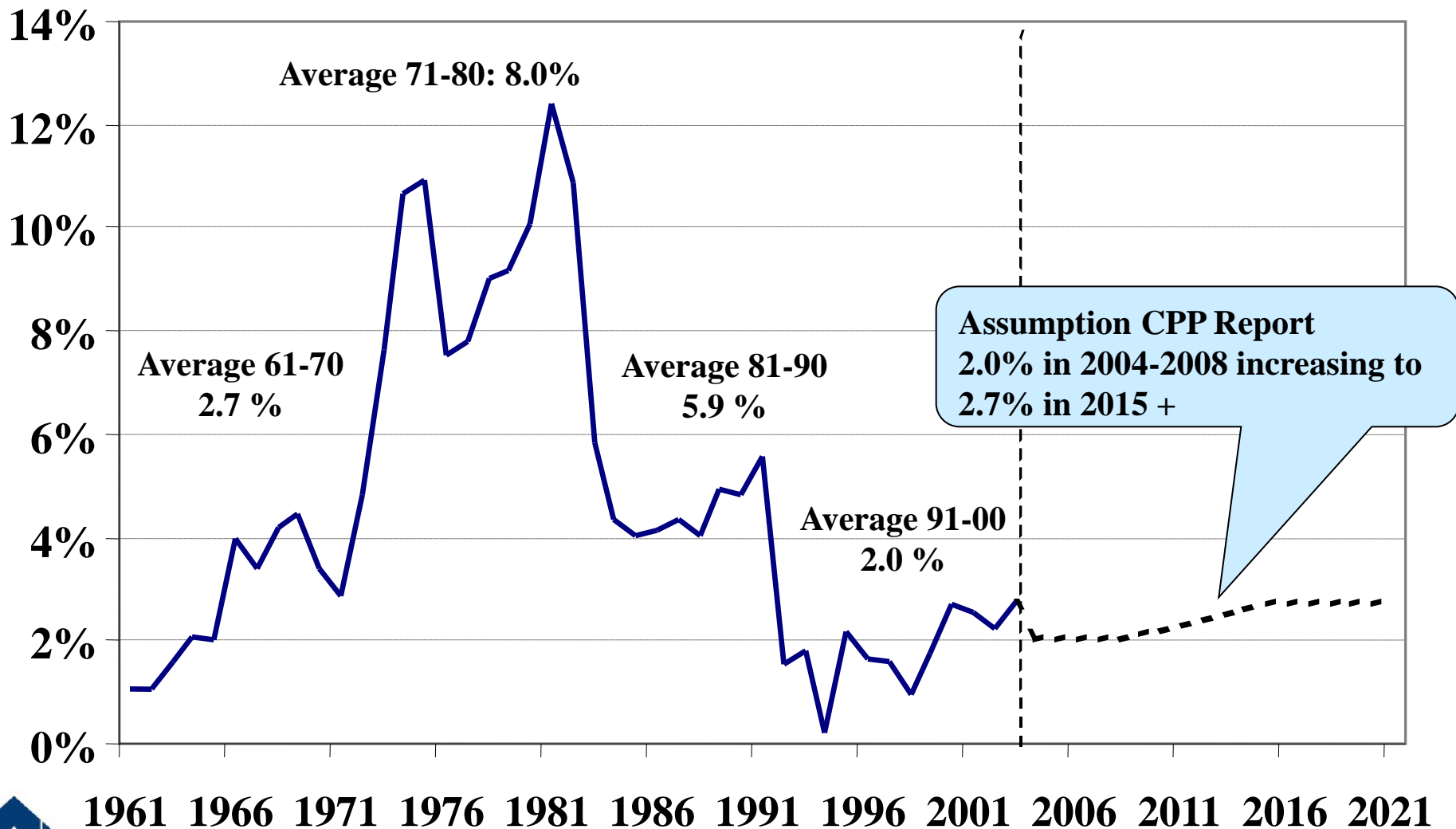


Assumption CPP Report: 73.4% in 2030

Male Female

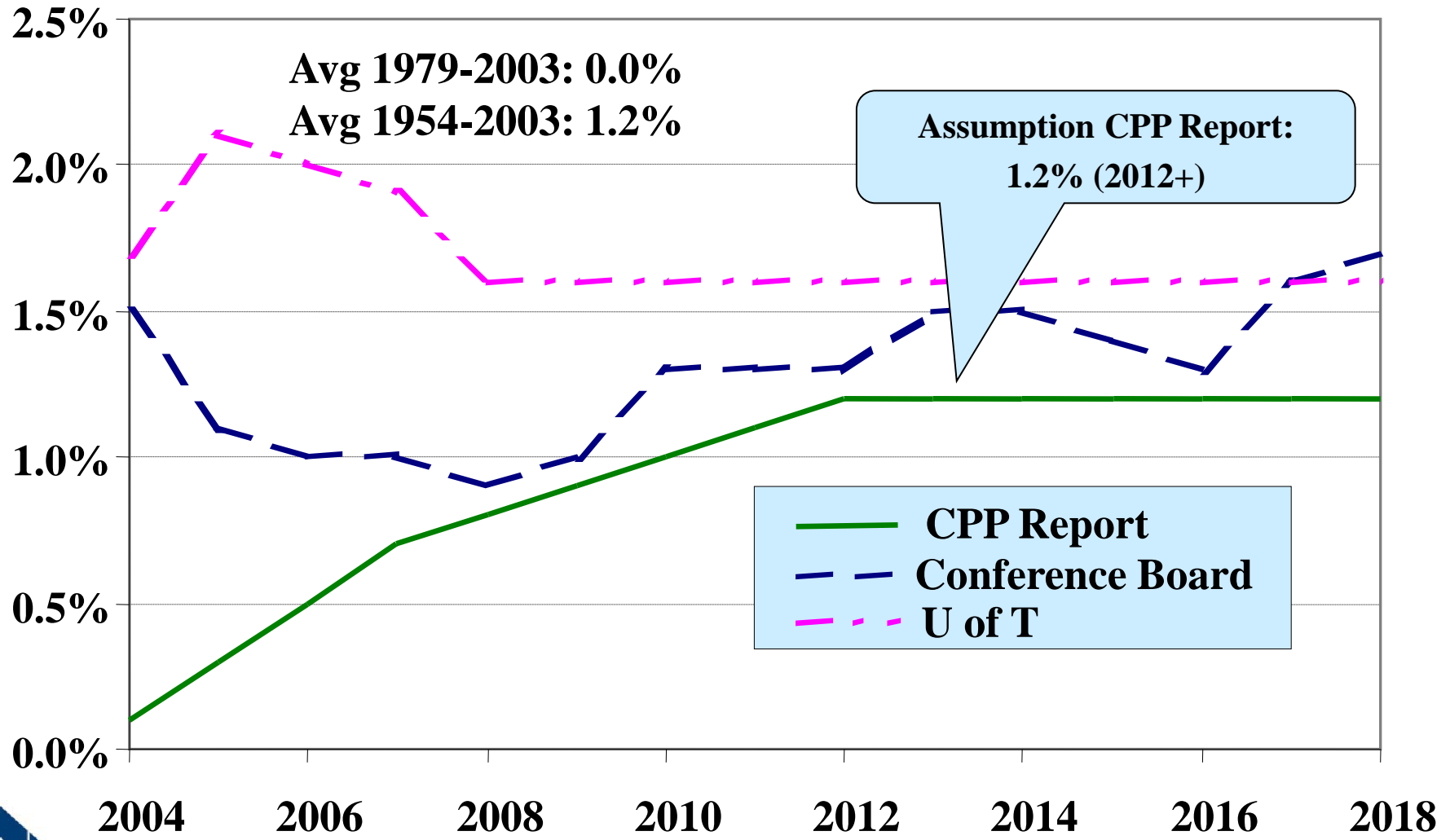
Panel's views: reasonable

Annual Increase in Consumer Price Index



Panel's views: reasonable but they would have chosen a lower inflation rate.

Annual Increase in Real Wages



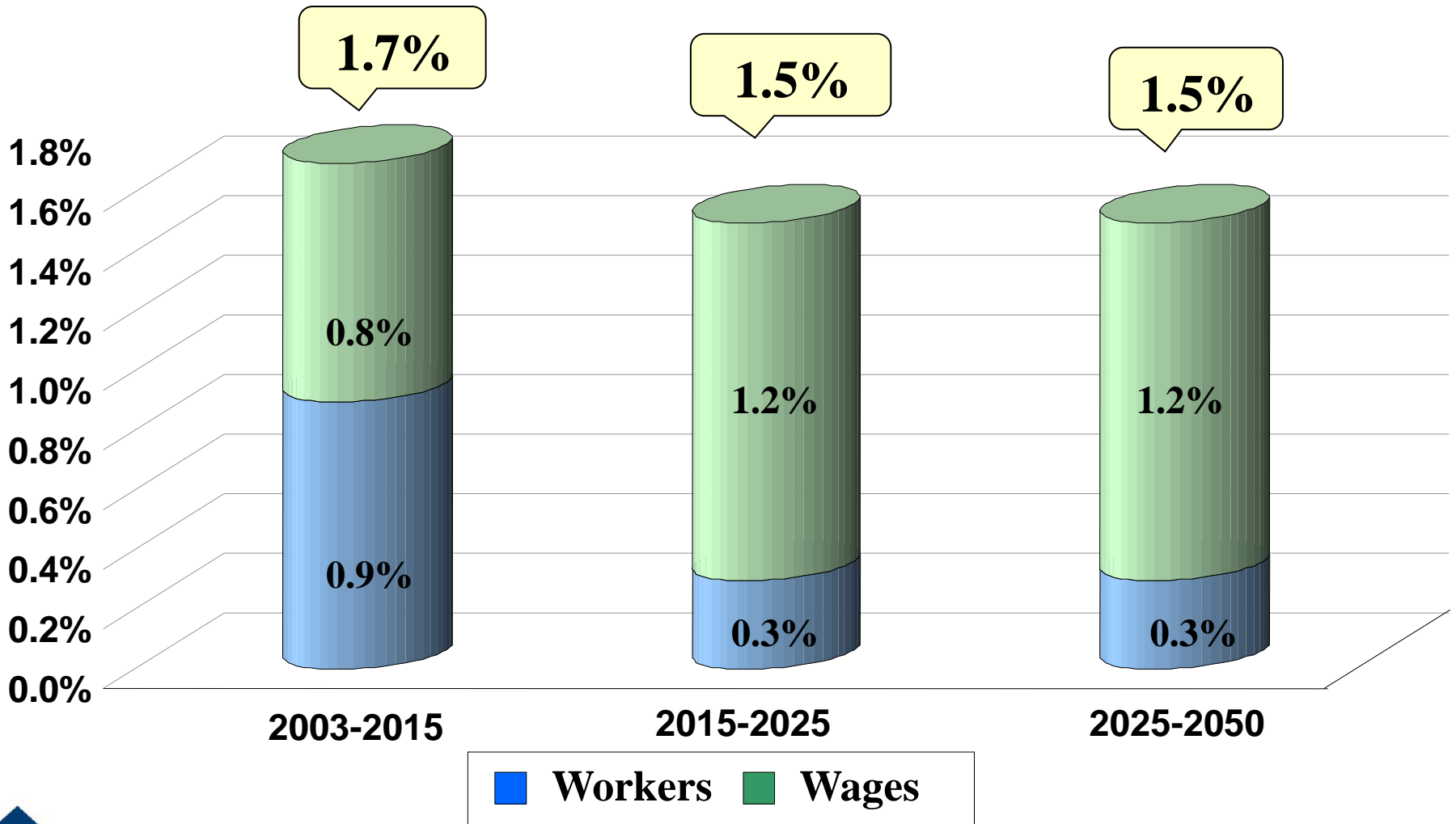
Panel's views: reasonable but they would have chosen higher real wages.



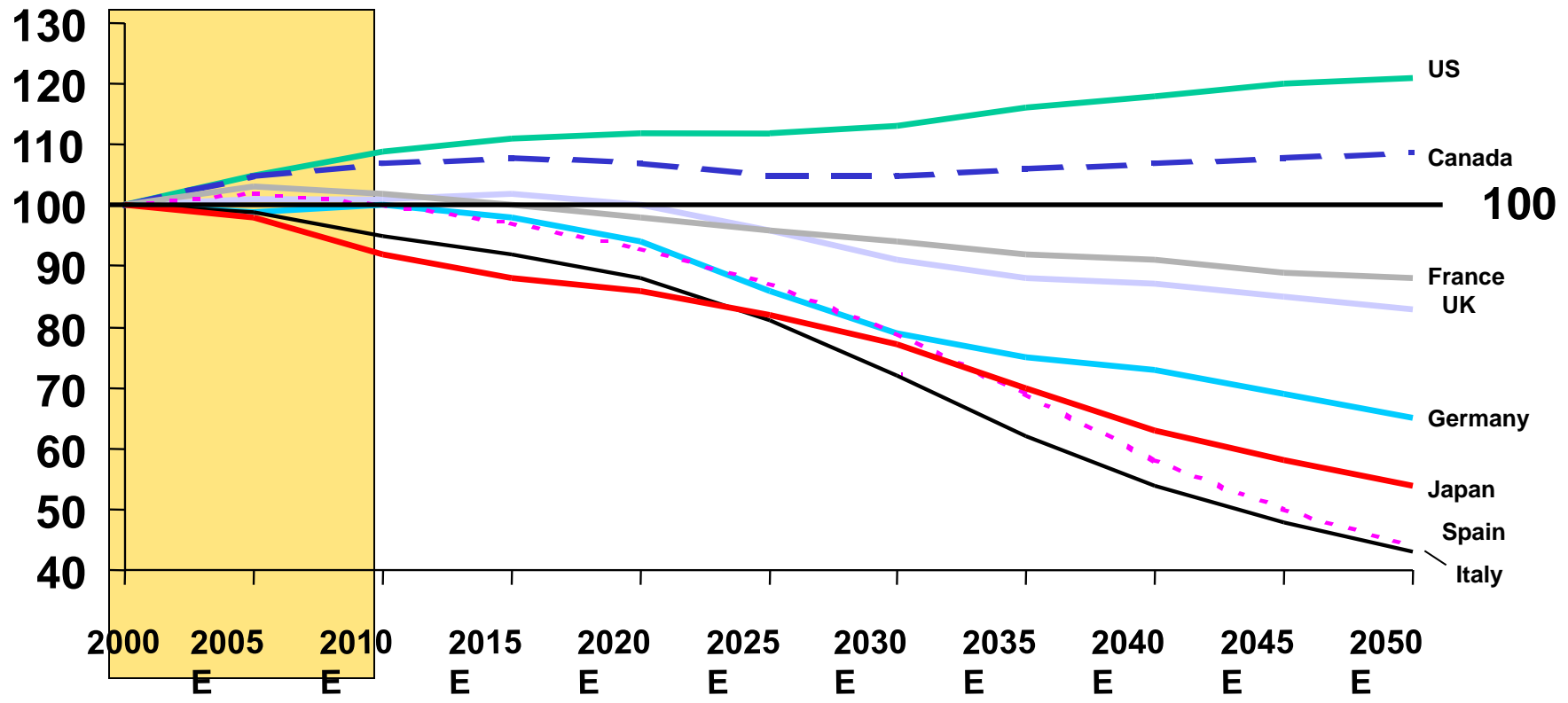
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Increase of Real Total Earnings



Working Age Population (ages 20-60) (indexed 2000=100)



Source: UN World Population Prospects



Asset Mix and Real Rate of Return

- Expected asset mix of CPP Investment Board by 2006
 - 65% Variable Income Securities
 - 35% Fixed Income Securities
- Expected asset mix by 2025
 - 55% Variable Income Securities
 - 45% Fixed Income Securities

Average Real Rate of Return: 4.1% (2011+)

Panel's views: reasonable but they would have chosen higher real rate of return.

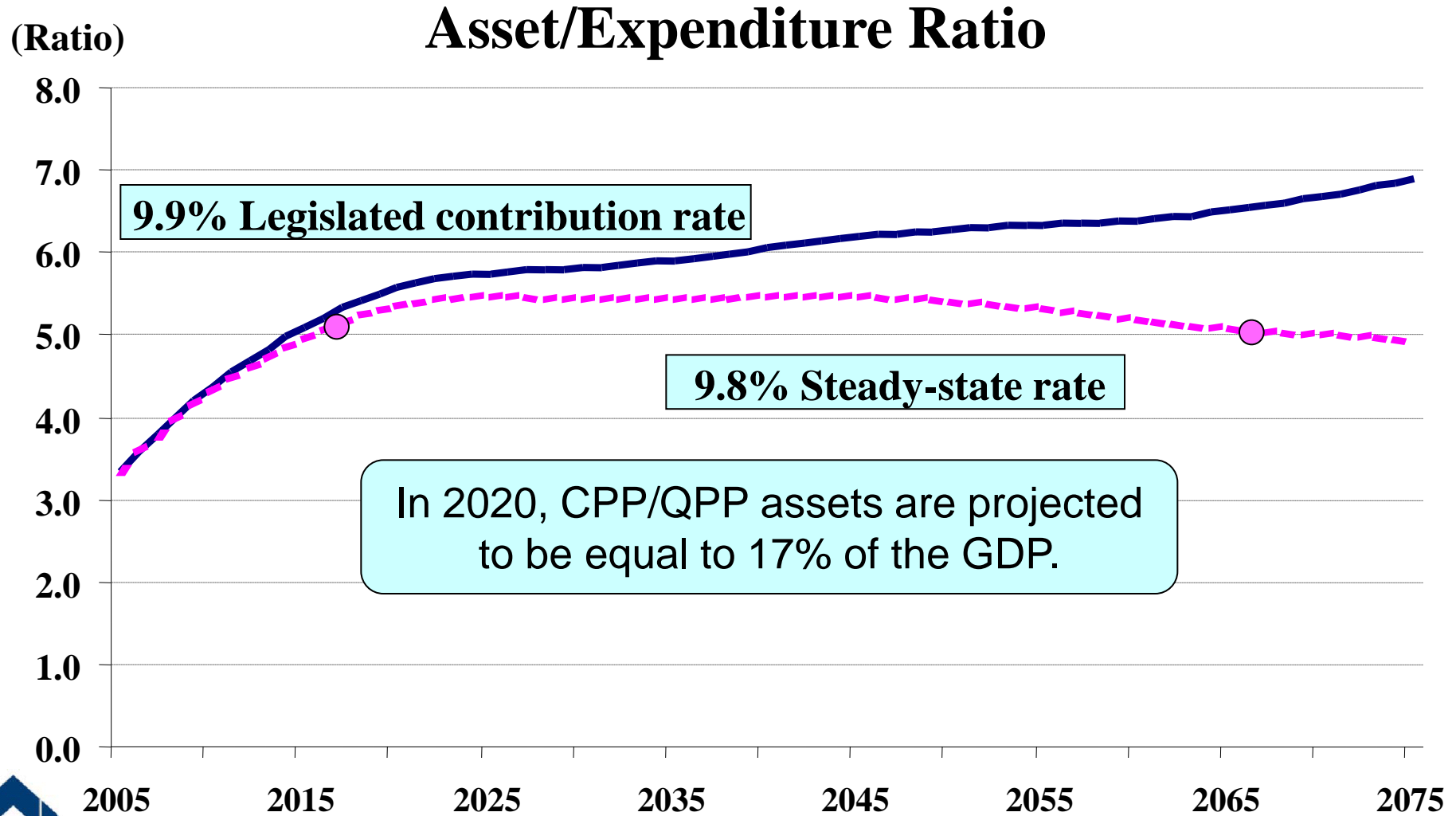
CPP Steady-State Funding

Effect of the 1998 Amendments



- Increase the contribution rate by 65% over 6 years (1997-2003) and keep the same rate thereafter
- Moderate the future growth of benefits by 10% on a long-term basis (in 2050).
- Creation of the CPP Investment Board (www.cppib.ca)

CPP Steady-State Funding



CPP Steady-State Funding

- The current legislated contribution rate is 9.9%.
- The steady-state contribution rate is 9.8%.
- If the legislated contribution rate is higher than the steady-state rate, the funding status of the plan will increase over time.
- The higher this rate is set above the steady-state rate, the faster the plan will become more funded.

CPP Steady-State Funding

- If the steady-state rate is higher than the legislated contribution rate AND if finance ministers cannot reach agreement on a solution, then:
 - Contribution rate increased by $\frac{1}{2}$ of excess over three years, subject to maximum increase of 0.2% per year
 - Benefits frozen
 - At end of three years, next review performed to determine financial status of Plan.

Strengthening the Accountability

- **Federal and provincial governments took meaningful steps to strengthen the transparency and accountability of actuarial reporting. They endorsed :**
 - an increase in the frequency of actuarial reporting from every five years to every three years.
 - regular consultations by the Chief Actuary with experts on assumptions to be used in actuarial reports;
 - regular peer reviews of future actuarial reports on the CPP.

Peer Review Process

2005 Peer Review

- Auditor General and Selection Process of Independent Panel
- Overseeing of the Peer Review by GAD
- Terms of Reference

Peer Review Report

- The panel found that each of the major assumptions is reasonable.
- In their view,
 - five of the nine major assumptions are near the centre of the reasonable range, and
 - four assumptions are lower or higher within the range than what they would have chosen.

Peer Review Report

- The independent peer review report confirms:
 - actuarial work complies with the relevant professional standards of practice;
 - Statutory requirements are met;
 - chief actuary had access to the data required;
 - data are sufficient and reliable;
 - assumptions are, in the aggregate, reasonable;
 - the report fairly communicates the result;
- and resulted in twelve recommendations.

April 2005