

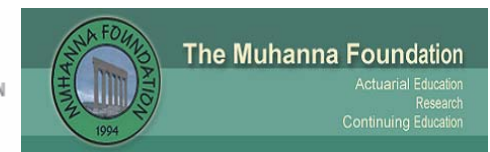


**Technical Seminar of the ISSA Technical Commission of  
Statistical, Actuarial and Financial Studies  
Limassol, Cyprus. – 30-31 October 2008**

***Optimal financing of social security pension schemes***

**To fund or not to fund?  
Is there risk involved in funding?**

Jean-Claude Ménard, Chief Actuary,  
Office of the Superintendent of Financial Institutions, Canada



# Financing Public Pensions

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- Primary objective : stabilizing the contribution rate
  - Strengthen the contribution-benefit connection
  - Ensure intergenerational fairness
  - Strengthen fiscal discipline
  - Maintain public confidence
- Secondary objective: minimizing the contribution rate
  - Optimize the funding of a retirement scheme by considering the relation between the rate of return on investments and the rate of increase in wages (implicit rate of return on PayGo schemes).

# Risk Retention and Hedging

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- **Second Tier of the Canadian System: CPP/QPP**
  - Partial funding through employee/employer contributions.
  - Steady-state financing goal: stabilize and minimize the contribution rate.
  - Steady-state contribution rate: lowest rate that can be charged that is sufficient to sustain the Plan without further increase
    - A funding level of 25% is sufficient to meet that condition for the CPP
  - All risks faced by the CPP are partially hedged through steady-state financing.
  - Investment and market risks are also hedged through investment diversification.

# Financing Public Pensions

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- Pure pay-as-you-go basis
  - Contributions equal benefit each year.
  - Cost heavily dependent on the ratio of pensioners to contributors.
  - Aging population will increase cost for future generations.
  - Favourable in high wage growth and low interest environment.
  - Gradual variations in the contribution rate.

# Financing Public Pensions

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- Full funding basis
  - Contributions pay for future benefits.
  - Favourable in low wage growth and high interest environment.
  - Fully funded schemes are less affected by the age structure of the population.
  - Rates of return volatility result in more short-term variations in the contribution rate.

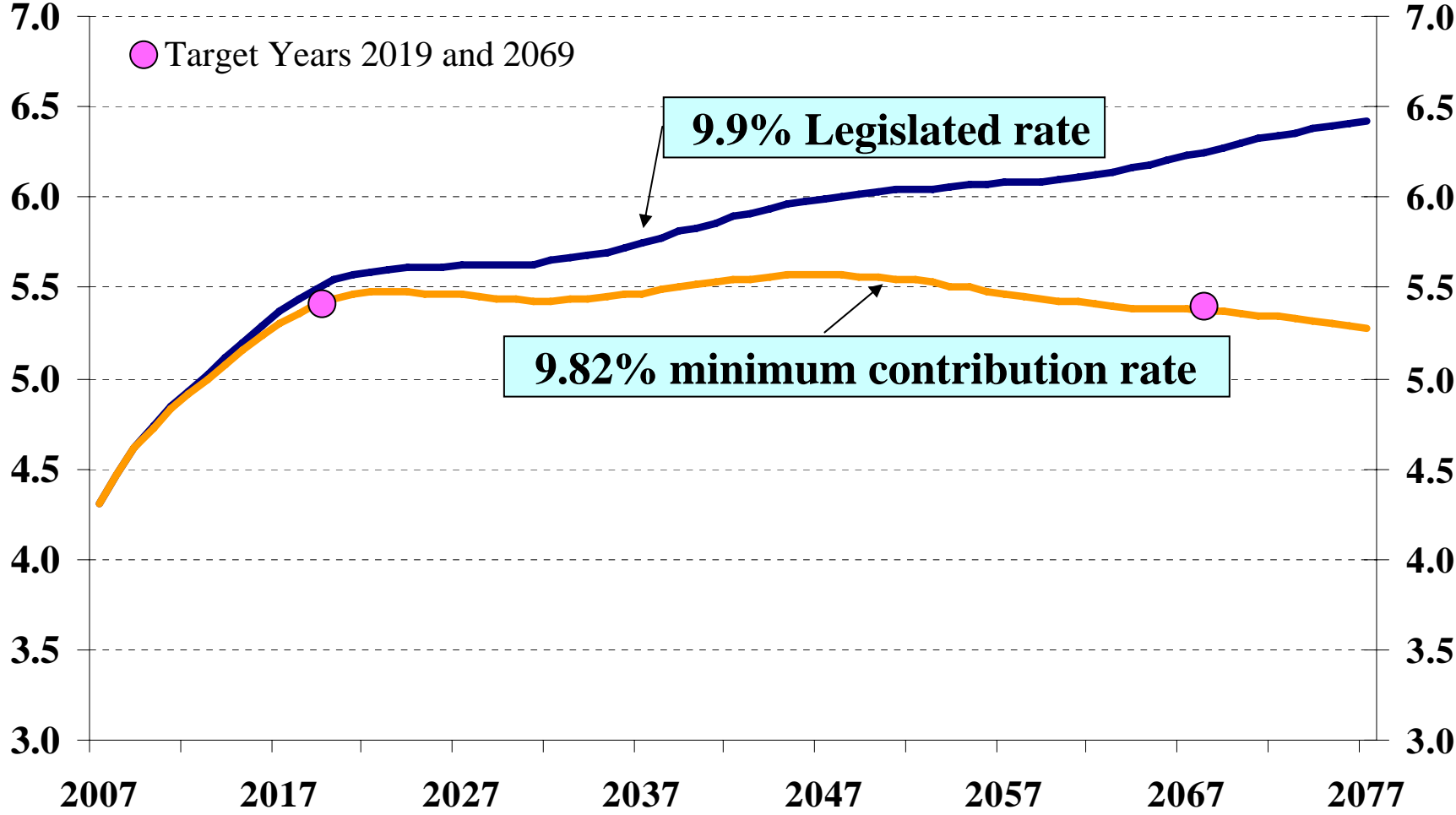
# Financing Public Pensions

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- Partial funding basis
  - Workers pre-fund a portion of their benefits.
  - Favourable in declining wage growth and rising interest rate environment.
  - Aim is to stabilize contribution rate in light of aging population, volatile wage growth and investment returns.
  - Contribution rate falls below PayGo rate.

# Financing the Canada Pension Plan

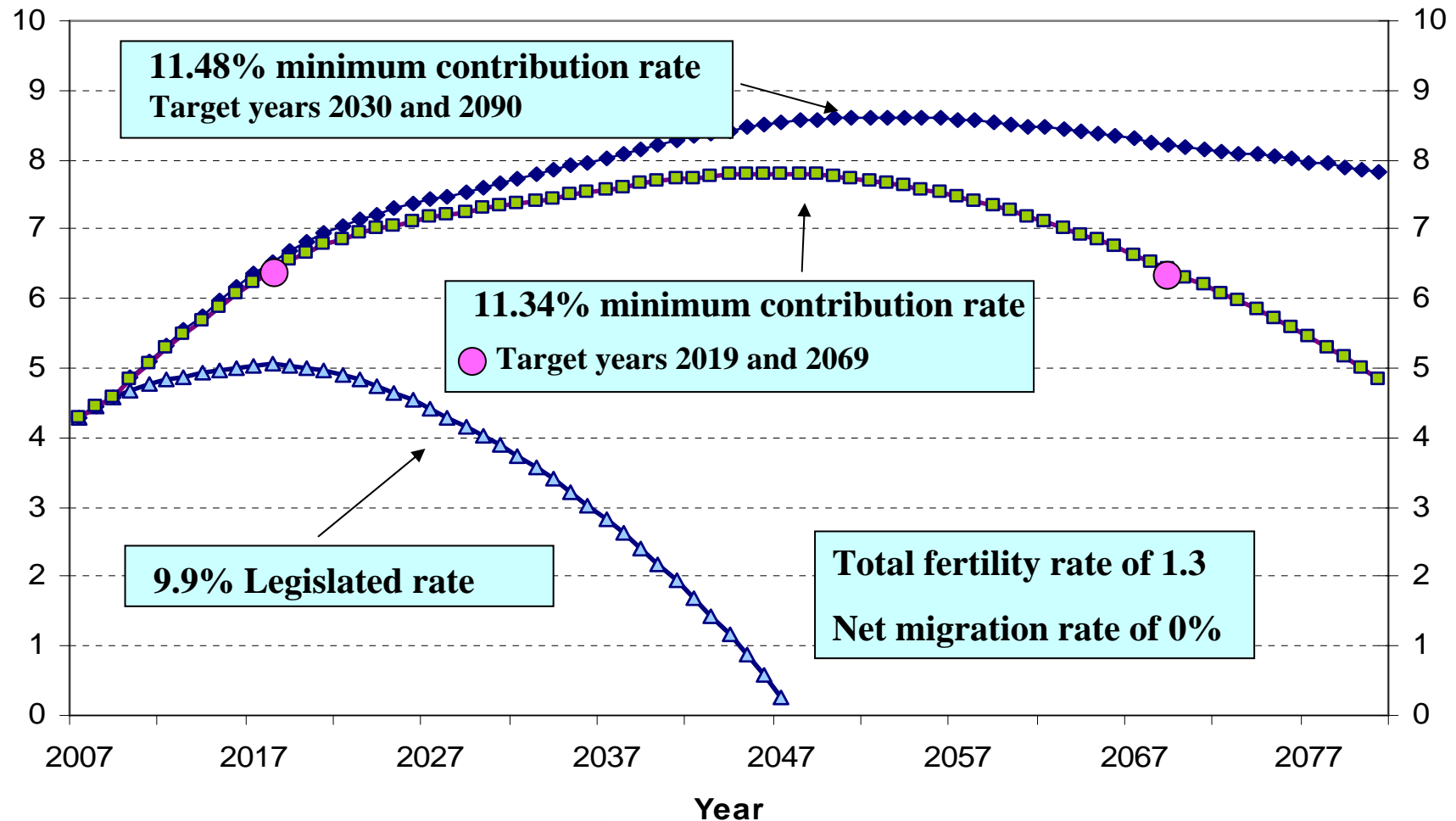
## Evolution of the Asset/Expenditure Ratio



# Financing the Canada Pension Plan

(assuming South Korea's Current Demography)

## Evolution of the Asset/Expenditure Ratio





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**βέλτιστη χρηματοδότηση των συνταξιοδοτικών συστημάτων**  
Optimal financing of social security pension schemes

**Σας ευχαριστώ**  
**Thank you**

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