

# The impact of pension reforms on intergenerational equity in France

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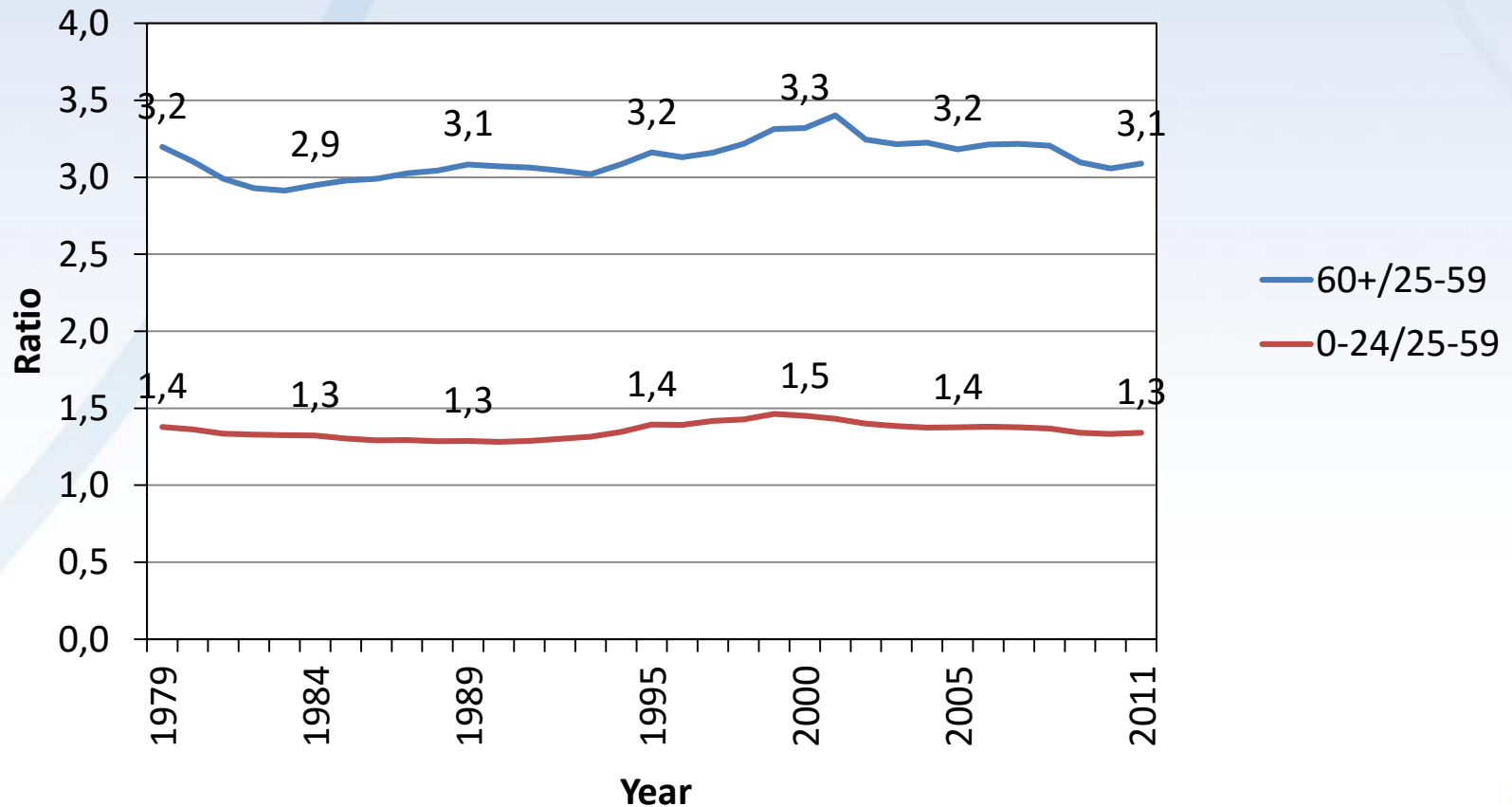
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# Public transfer inflows

Ratios of public transfers inflows 60+/25-59 and 0-24/25-59  
Per capita - France 1979-2011



Source: d'Albis & Navaux, 2016

# Issue

## Share of public transfers received by each age group France 1979-2011

	1979	1989	2000	2011
0-24 yo	35.5%	31.1%	28.8%	26.1%
25-59 yo	28.8%	30.4%	29.4%	29.0%
60 yo +	<b>35.7%</b>	38.5%	41.8%	<b>44.9%</b>



**+ 9 pts**

# Issues

- Pension reforms of the PAYG system in France:



↘ replacement rate

↗ retirement age

↗ contribution rate

# Issues

Two issues:

- What will be the allocation of public transfer inflows among age groups up to 2060 ?
- What are the impacts of previous pension reforms on intergenerational equity?

# Outline

- MELETE : An OLG model
- Calibrations
- 4 scenarios
- Intergenerational equity indicators
- Results
- Conclusion

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# MELETE : An OLG model

- **General equilibrium** in a closed economy (Auerbach & Kotlikoff, 1987)
- **OLG**: includes the age structure of the population and the effects of reforms on intergenerational redistribution
- **Intertemporal**: Includes intertemporal choices over the life cycle (savings, education...)
- **Computable**: quantify the effects of population ageing and consider several scenarios of reforms



# MELETE : An OLG model

- **Socio-demographic unit:**
  - four young cohorts and sixteen adult cohorts: 0-4 yo up to 95 yo +
  - three skill levels: low-skill (LS), medium-skill (MS) and high-skill (HS)
- **Labor supply:**
  - Participation rate by age and by skill level (INSEE)
  - Imperfect substitution between workers: wages depend the amount of work, experience & education
  - The age of entry on the labor market is endogenous: individuals choose their skill level by a cost-benefit analyses
  - Retirement depend on the participation rate by age and by skill level and on the retirement age
- **Pensions** are calculated on average annual wages of the 25 best years

# Outline

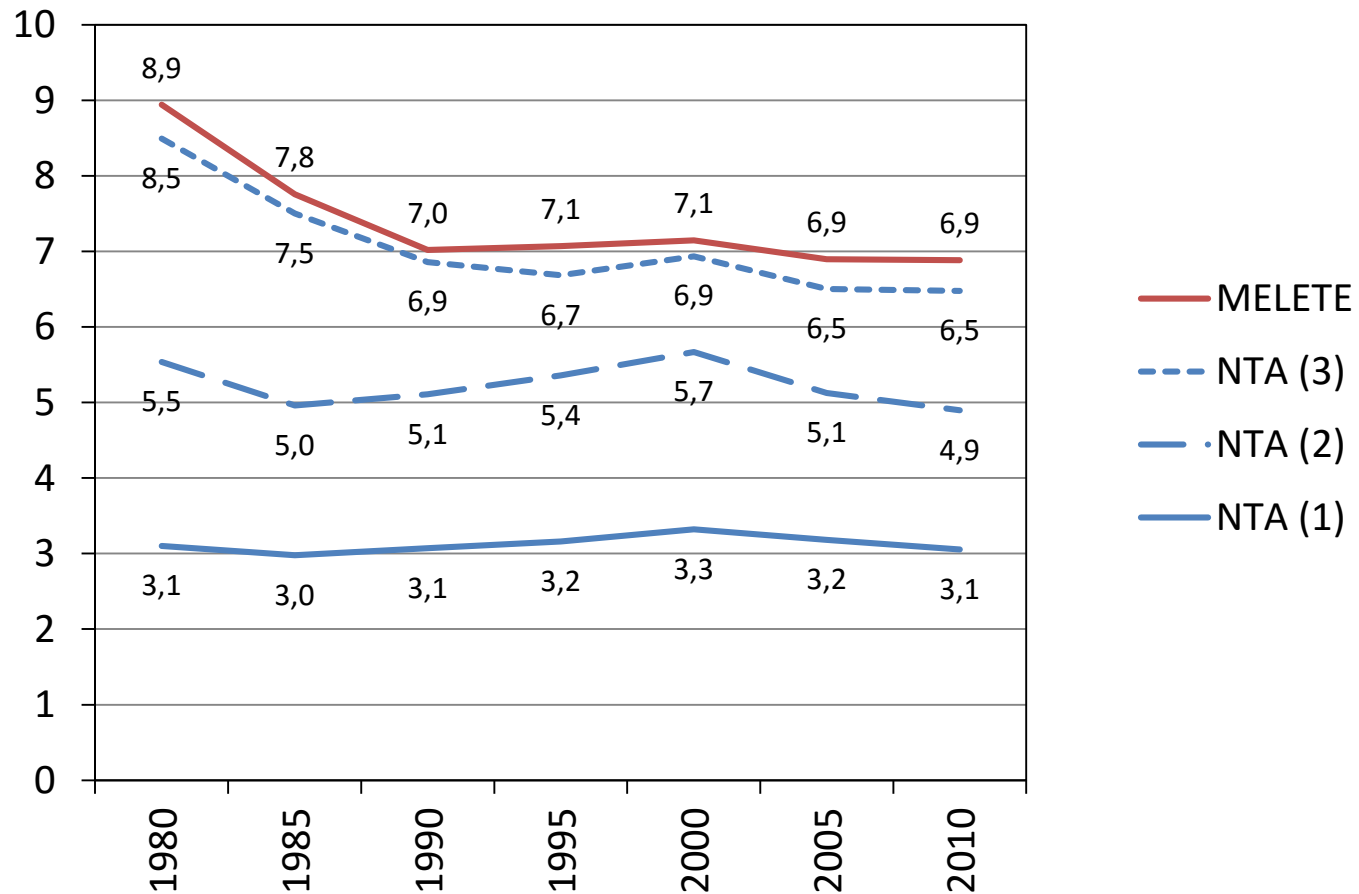
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# Calibrations

- **Population:** INSEE (Blanpain et Chardon, 2010)
  - Fertility rate: 1.95%
  - Net migration: 100,000 people
  - Share of people aged 60+: 26% in 2010 / 45% in 2060
- **Growth and productivity:** Scenario C of the COR (COR, 2015)
  - GDP: 1.3%, 2011-2020 / 1.6%, 2020-2030 / 1.1%, 2030-
- **NTA age profiles by skill level:**
  - Public transfer inflows: pensions, public health consumption, public education consumption, family benefits, Unemployment benefits, Solidarity incomes (RSA), housing benefits
  - Public transfer outflows: VAT, IRPP, social security contributions
  - Inheritances

# Calibrations

## Ratios of public transfers inflows 60+/25-59



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# 4 scenarios

- A central scenario, based on the reforms implemented
- 3 scenarios: what happens if the cost of population ageing is only based on:
  - Replacement rate ?
  - Retirement age ?
  - Contribution rate ?

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# Intergenerational equity indicators

3 most common indicators (Blanchet, 1998, 2010 ; Bonnet, 2014) + choose a criterion for each indicator

- Indicator 1: Compare age groups
  - Criterion: Stability of the relative situation of each age group
- Indicator 2: Compare the standard of living of several generations at the same age
  - Criterion: Each generation improves its position with respect to the previous generation at the same age
- **Indicator 3: Compare the balance sheet of several generations over the entire life cycle**
  - **Criterion: Each generation must receive more than its contribution**

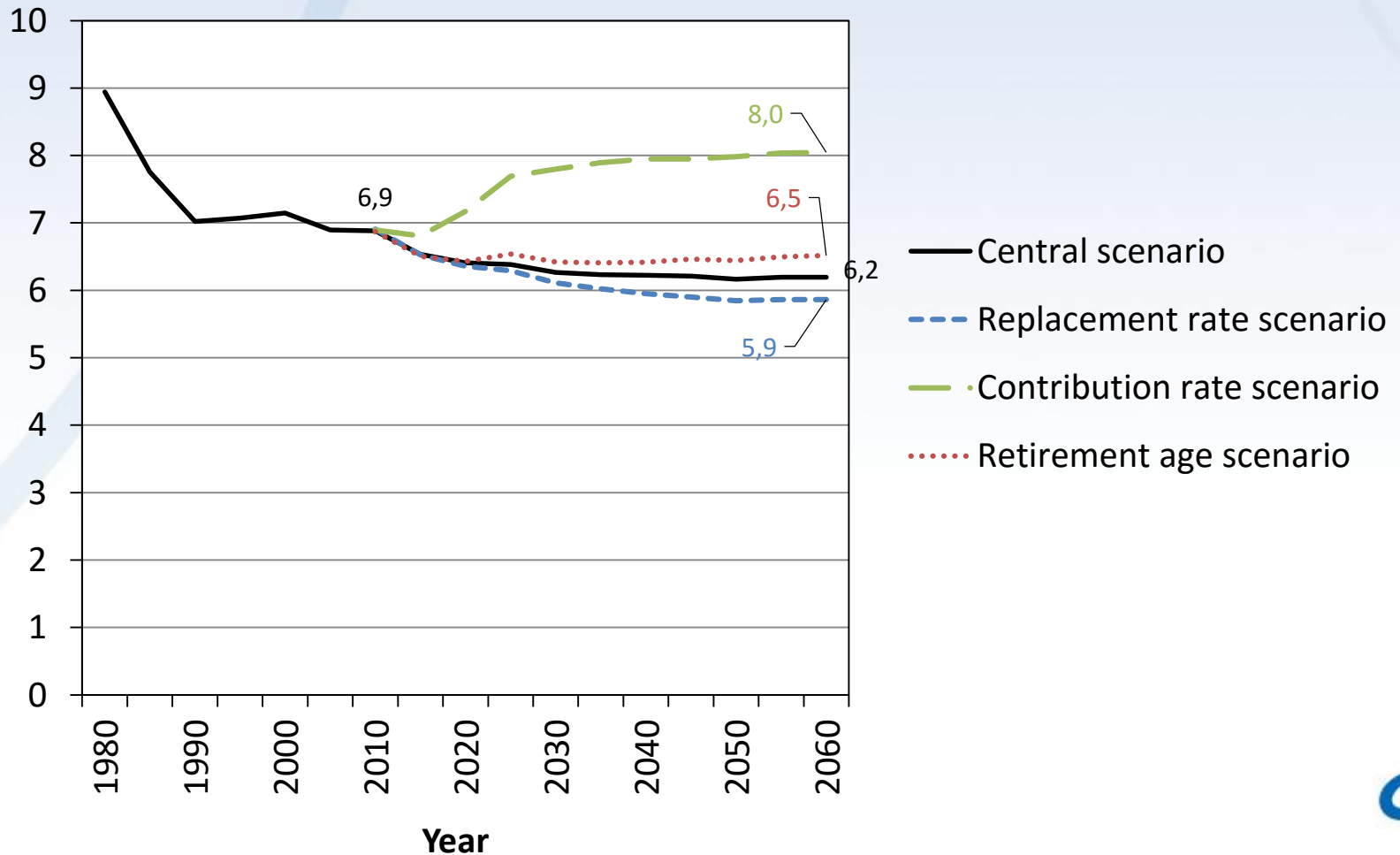


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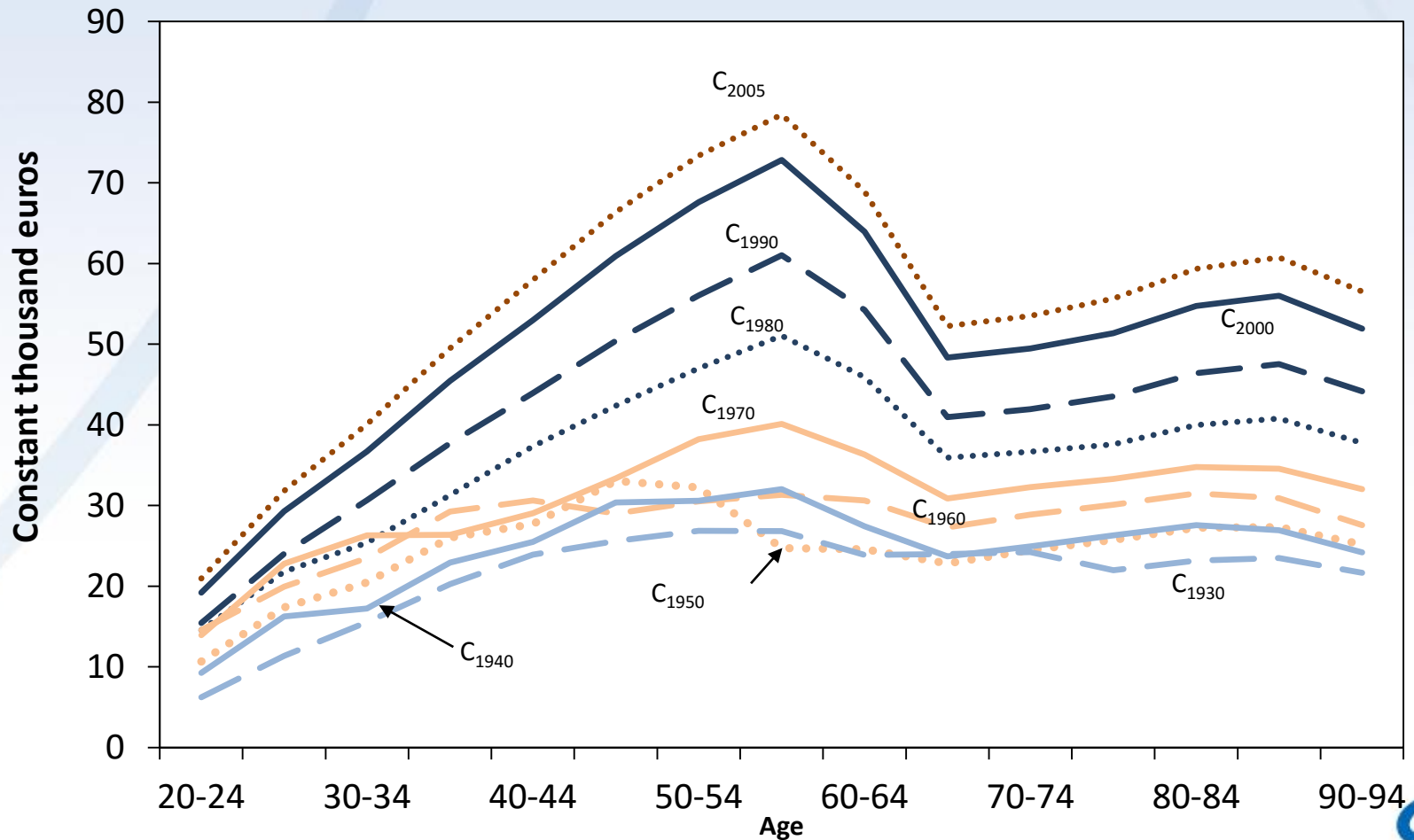
# Results

Indicator 1: Ratios of public transfers inflows 60+ / 25-59 - Per capita



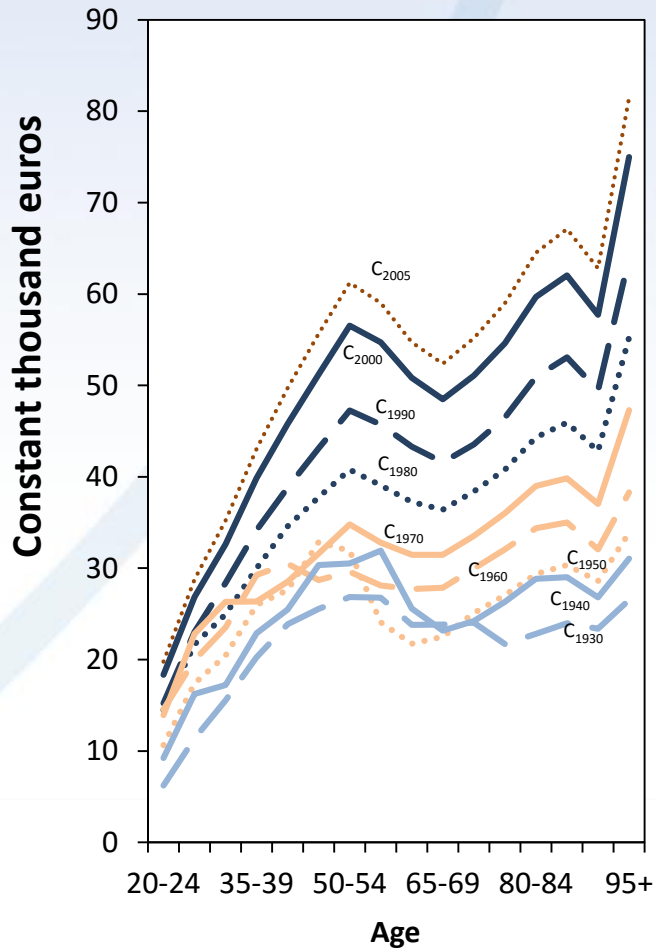
# Results

Indicator 2: Cohort profiles - disposable income – Central scenario

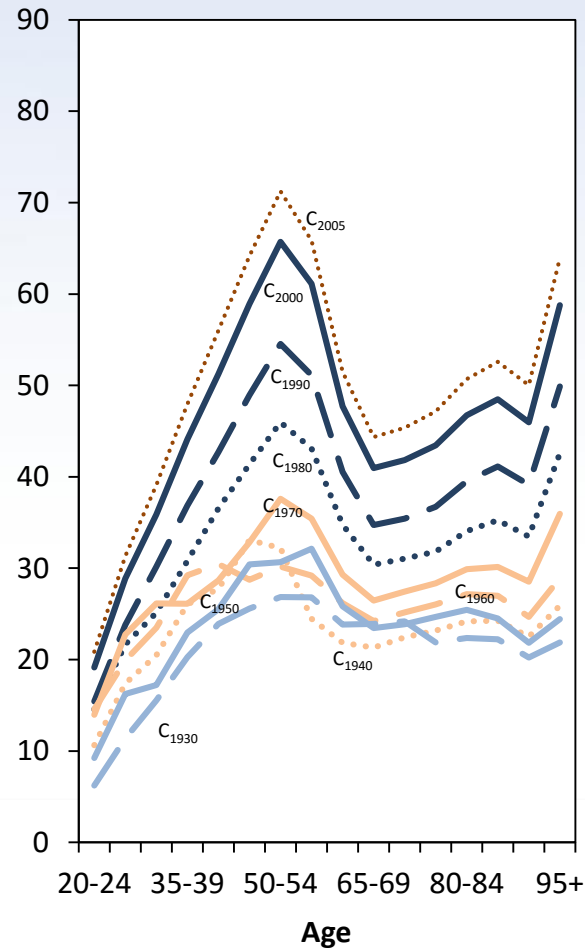


# Results

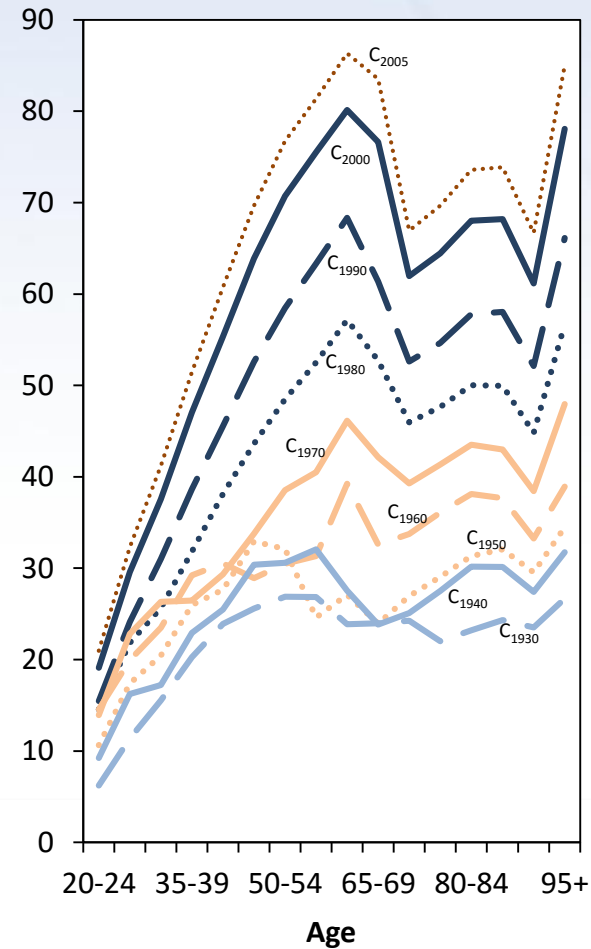
## Contribution rate scenario



## Replacement rate scenario

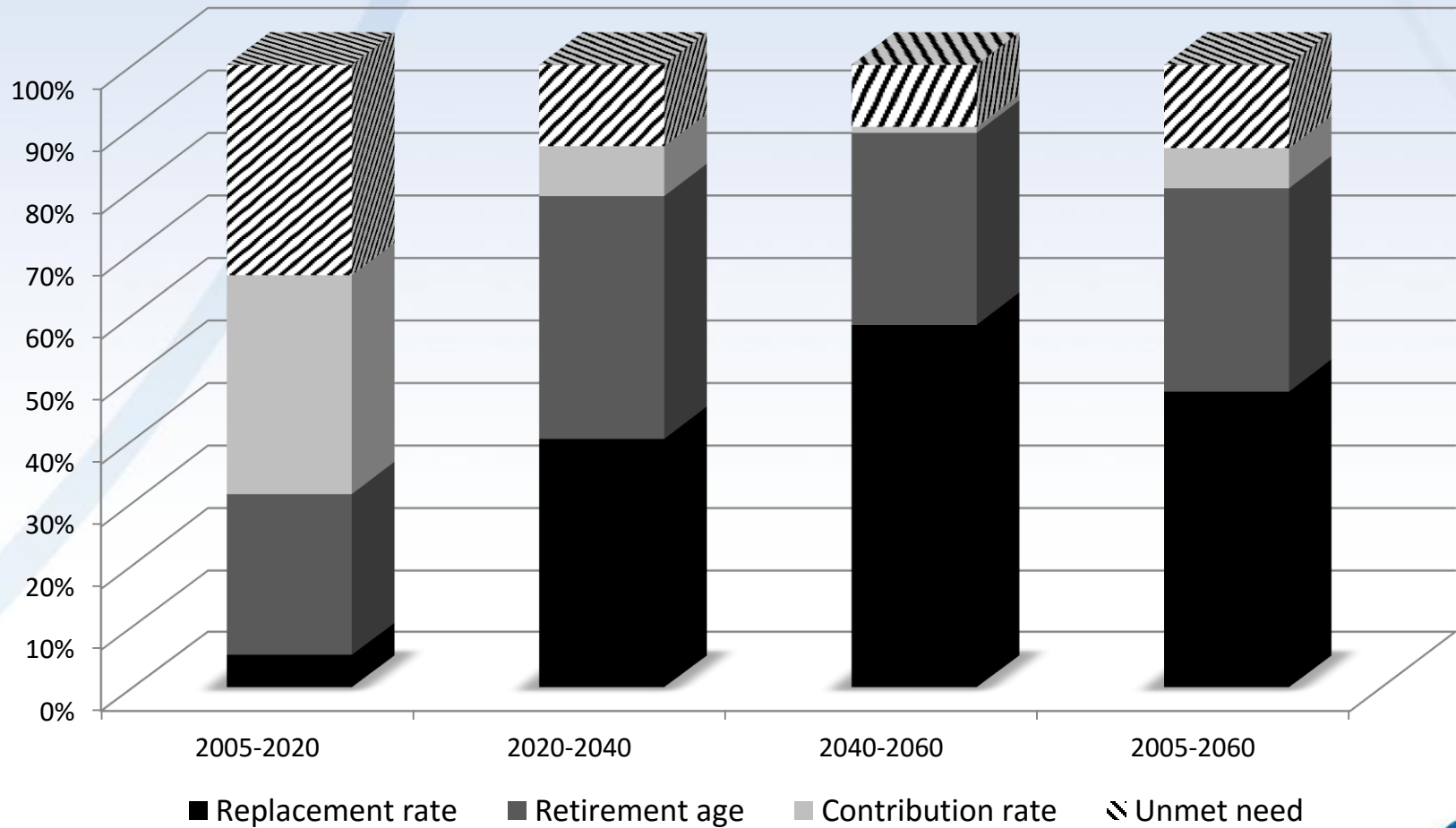


## Retirement age scenario



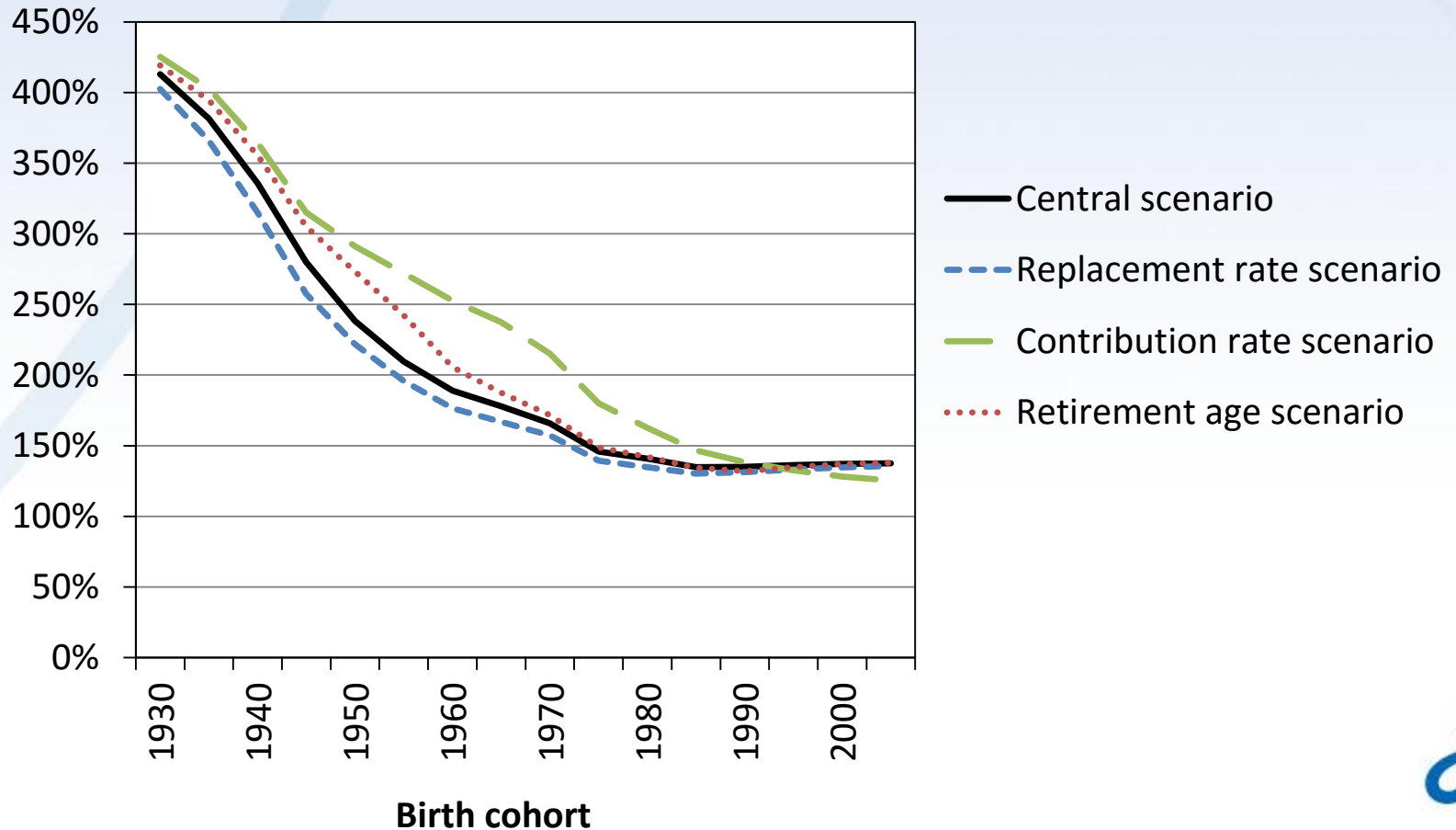
# Results

## Cover needs related to ageing



# Results

## Indicator 3: Recovery rate



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# Conclusion

- Academic contribution: Bridge between NTA and OLG models
  - US: Lee et al., 2015
  - Spain: Paxtot et al., 2016
  - Canada: Georges et al., 2011, 2015
  - Nigeria: Olaniyan et al., 2015
  - France: Our contribution
- Empirical contribution:
  - *Free lunch* inherent to the PAYG system
  - Public transfer inflows: ratio 60+/25-59 decreases slightly
  - Disposable income:
    - ↗ from one generation to another
    - ↘ for the young generations between working life and retirement