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Ageing Europe – An Application of National Transfer Accounts for Explaining and Projecting Trends in Public Finances

PoINTA

National Transfer Accounts and National Time Transfer Account for Poland

LABOUR MARKET AND OLD-AGE TRANSFERS:
MEASURING THE COHORT EFFECTS OF PENSION REFORMS IN POLAND USING THE APC APPROACH

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Agnieszka Chłoń-Domińczak,
Wojciech Łątkowski
Paweł Strzelecki

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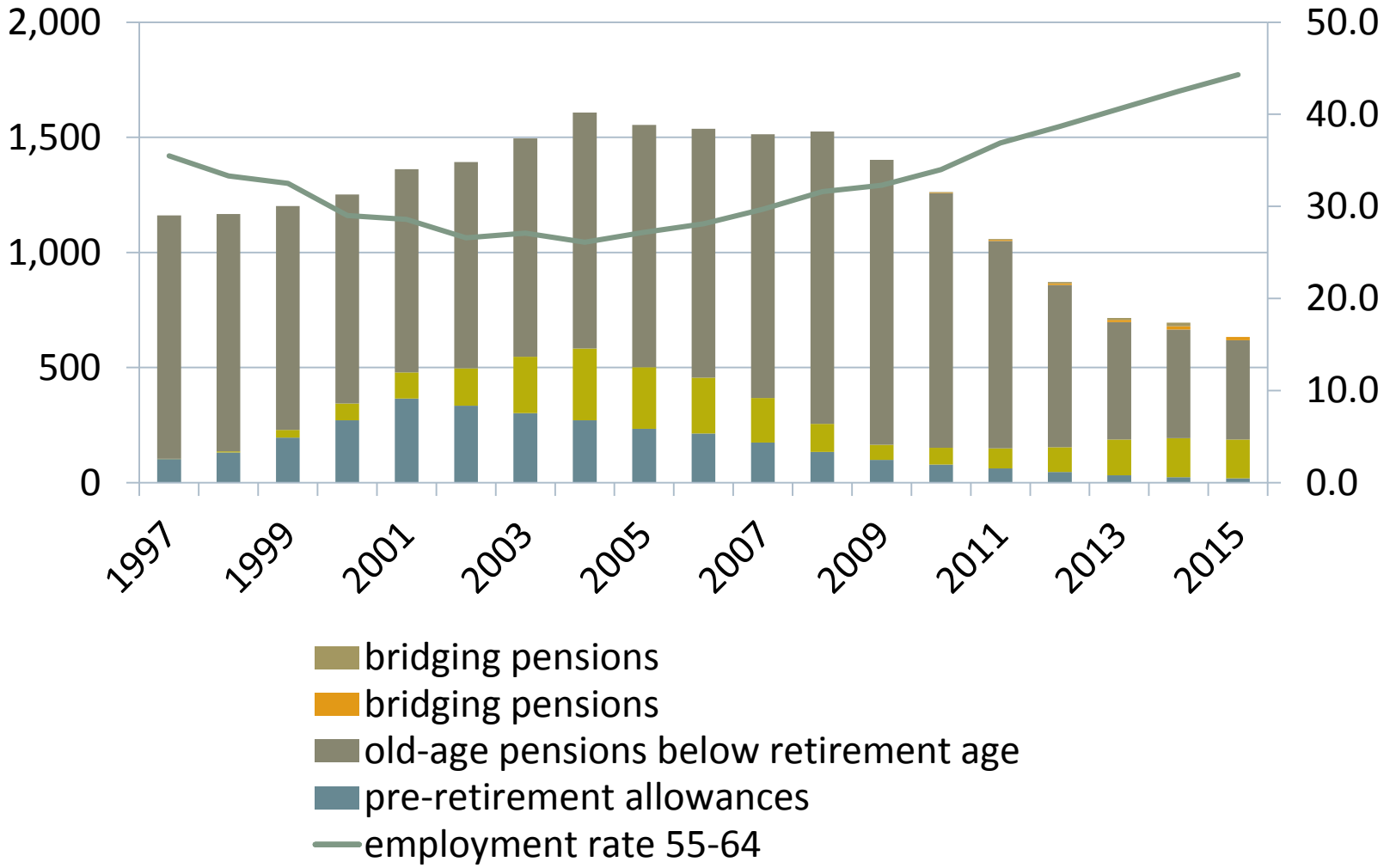
OBJECTIVES AND BACKGROUND

- To measure the impact of pension reforms in Poland on sources of income, labour-force participation, and retirement

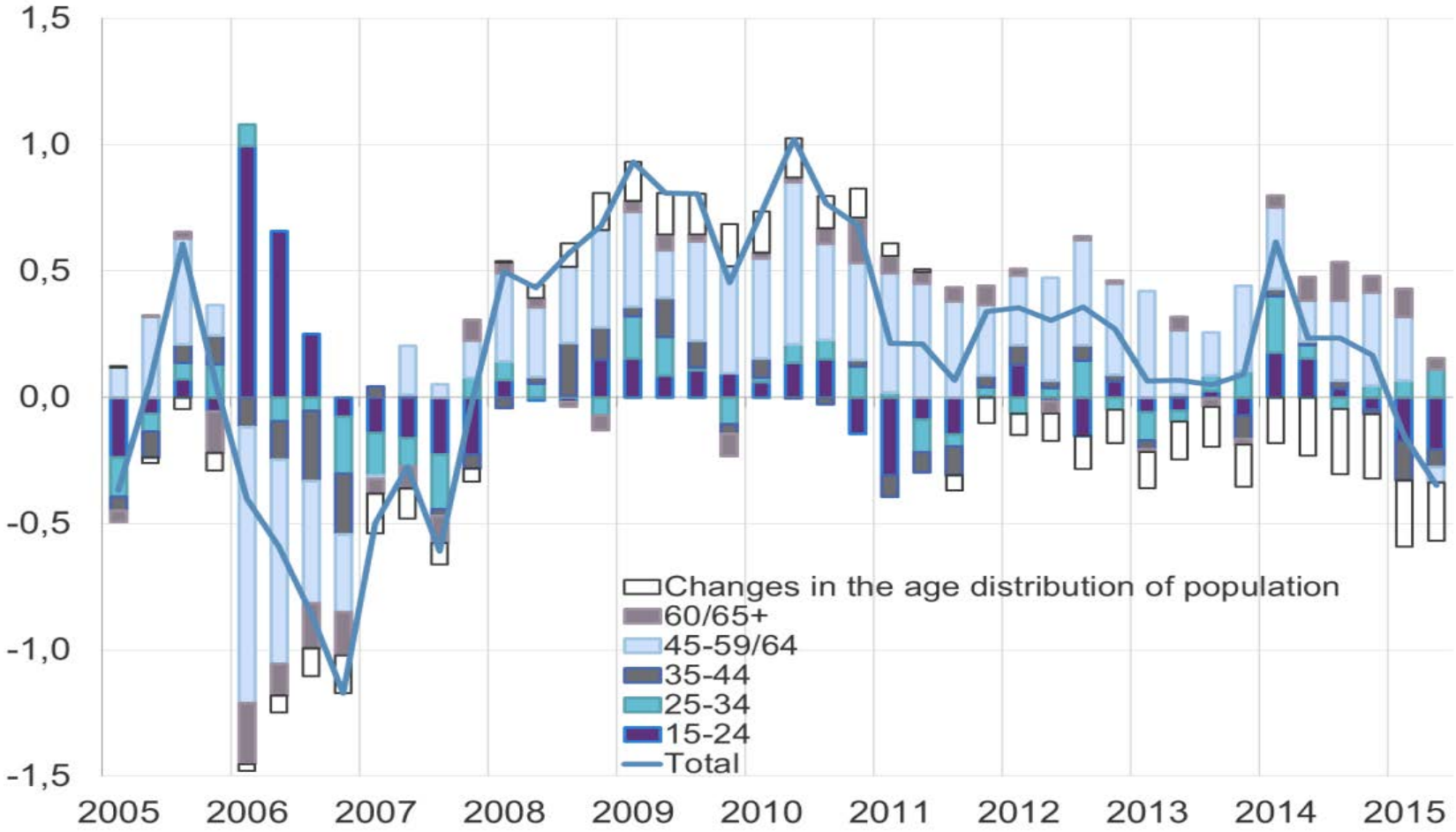
- Beginning in 2009, Poland introduced measures aimed at increasing retirement age and prolonging working lige
- The first reform, introduced in 2009, restricted access to early pensions to very few occupations
- The second reform, introduced in 2013, has been a gradual increase of the retirement age

FEWER PEOPLE ARE USING EARLY RETIREMENT TRANSFERS IN POLAND



… AND THE AVERAGE RETIREMENT AGE HAS INCREASED

DECOMPOSITION OF THE SOURCES OF GROWTH OF LABOUR-FORCE PARTICIPATION IN POLAND (BY AGE GROUPS)



METHOD

- We use the age-period-cohort (APC) model to investigate the change in retirement behaviour of men and women in Poland
- Data by age groups on:
  - The share of pensioners in each cohort (administrative data provided by Social Security Institution)
  - Labour-market status: Employment and unemployment rate by cohort (Labour Force Survey)
  - Wage income (Survey on Income and Living Conditions)
  - Pension income (Survey on Income and Living Conditions)

METHOD: APC APPROACH

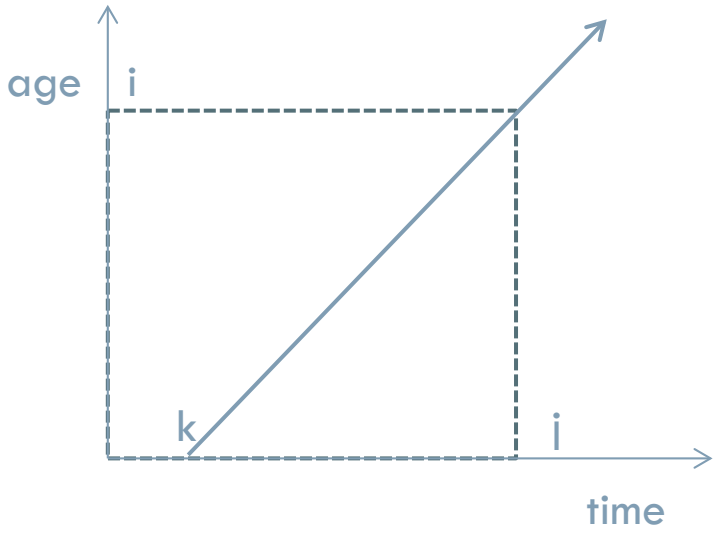
The problem of decomposition between AGE, PERIOD and COHORT:

$$f(r_{ijk}) = \mu + \alpha_i + \beta_j + \theta_k + \varepsilon_{ijk}$$

But the key problem:

Period = Cohort + Age

$$\hat{y}_{ijk} = \hat{\mu} + \hat{\alpha}_i + \hat{\beta}_j + \hat{\theta}_k$$

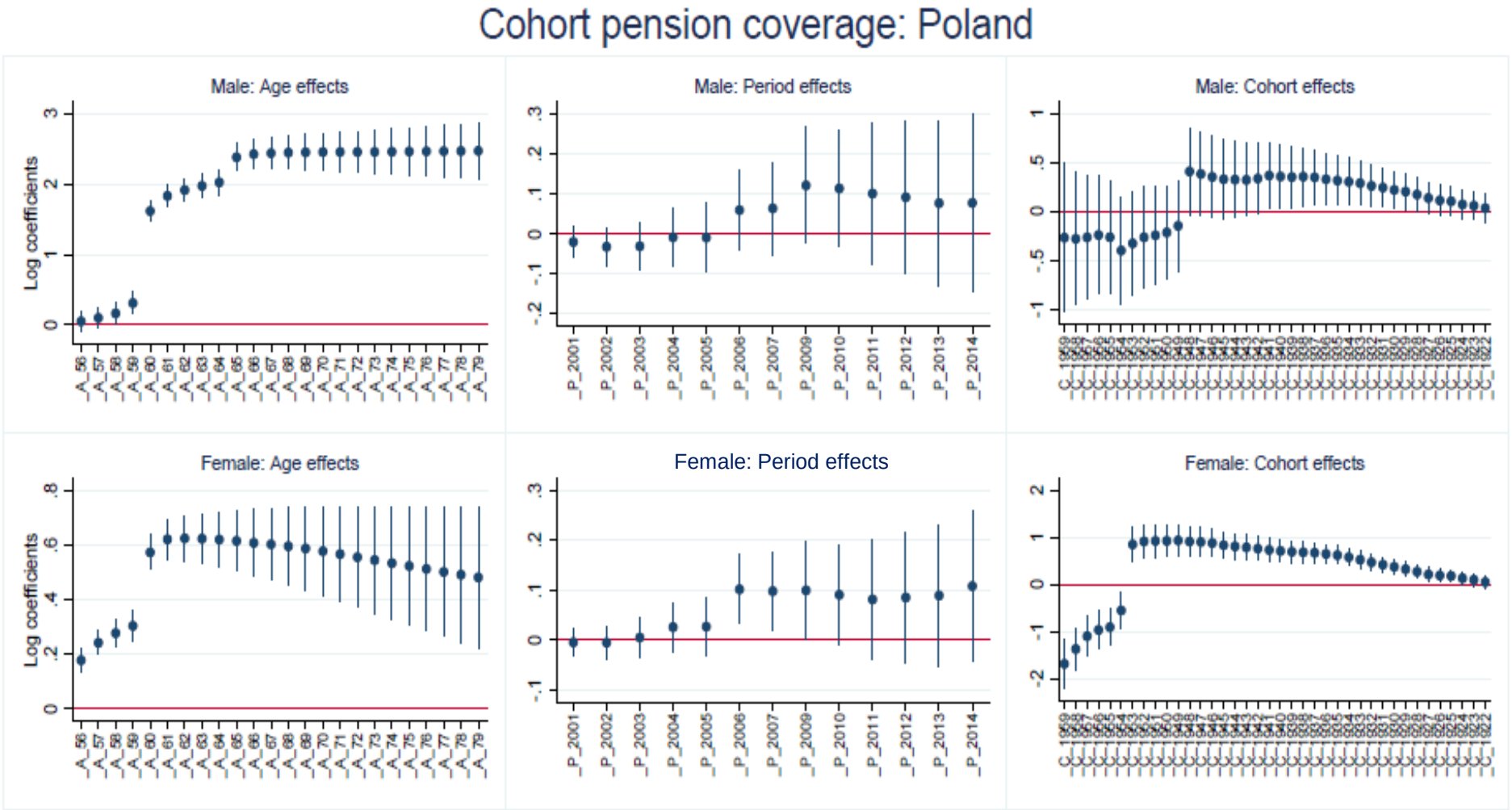


Source: Notation and figure Wilmoth (2006)

Different methods of estimation:

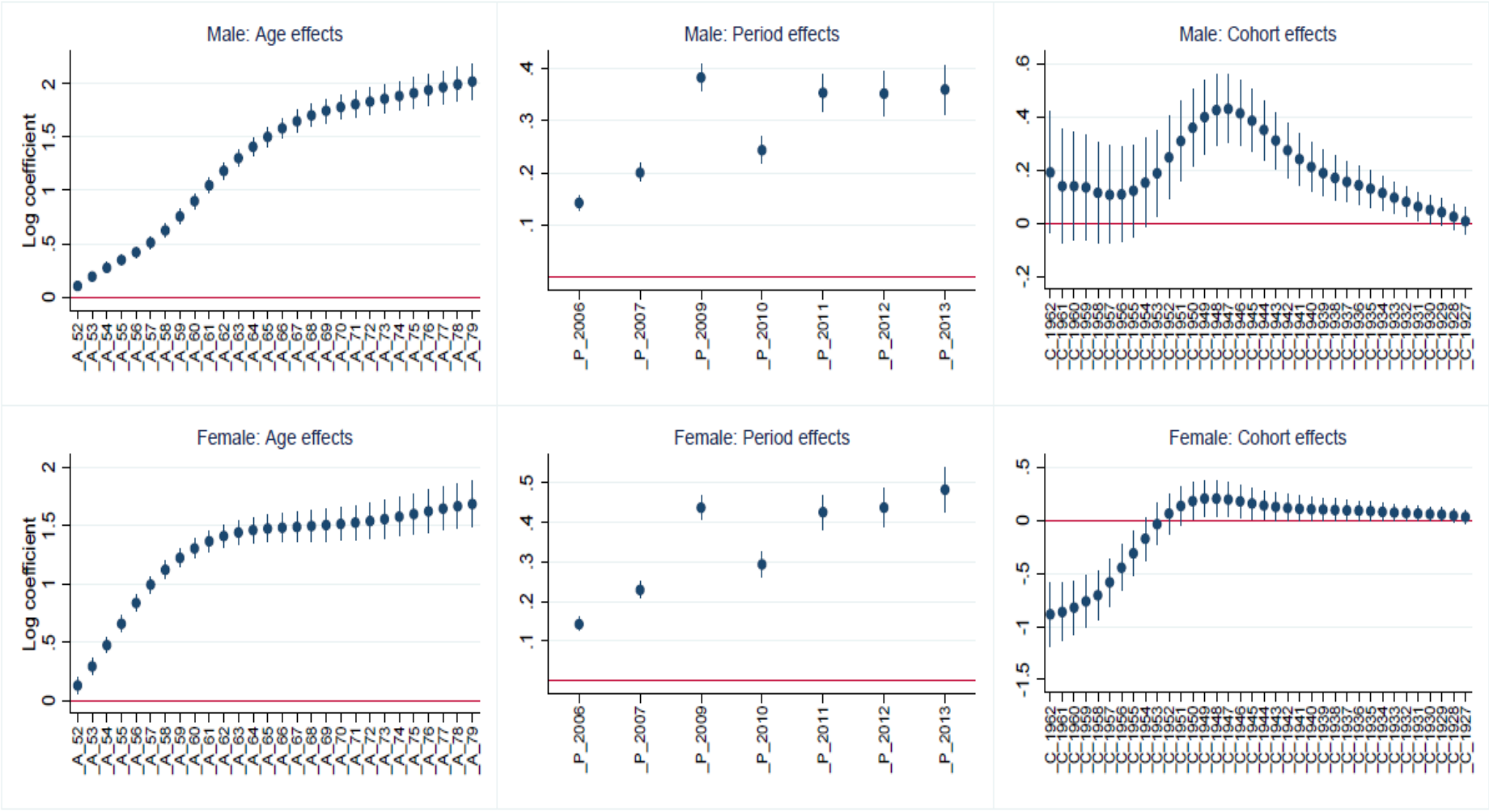
- Arbitrary assumptions
- Interaction terms
- Demographic translation and direct measurement

RETIREMENT PARTICIPATION

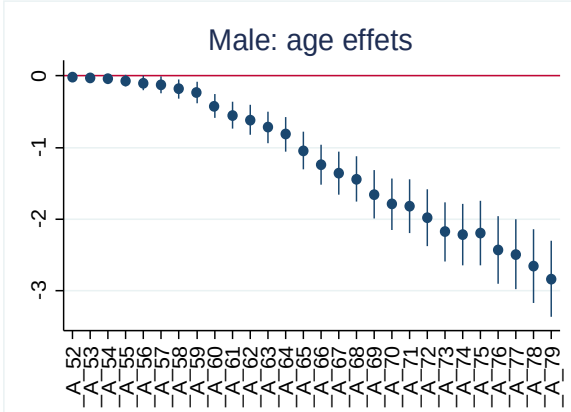


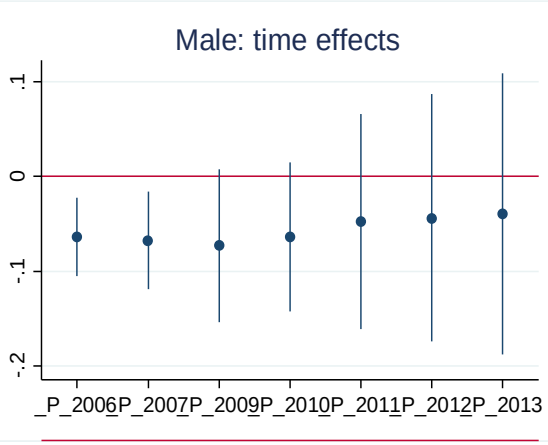
PENSION INCOME

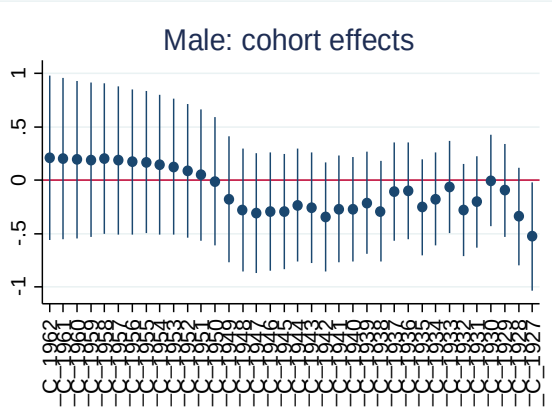
Pension income: Poland

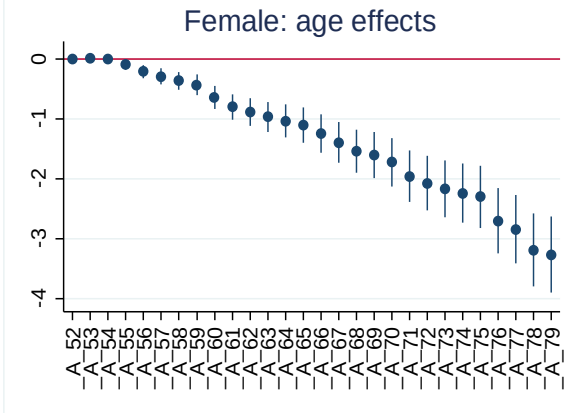


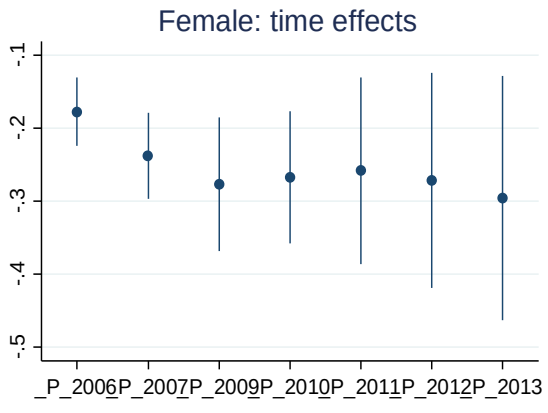
EMPLOYMENT RATE

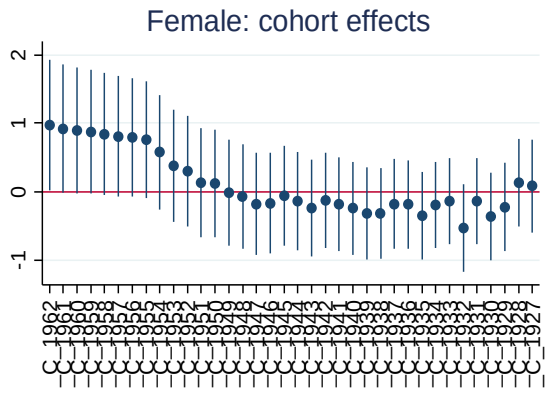




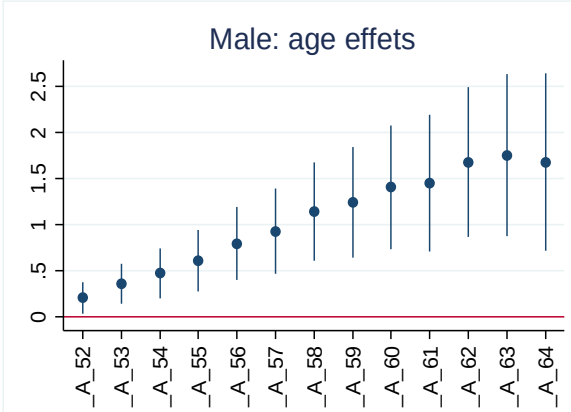


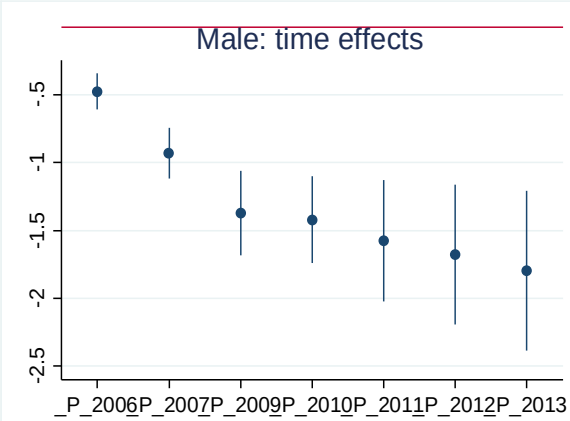


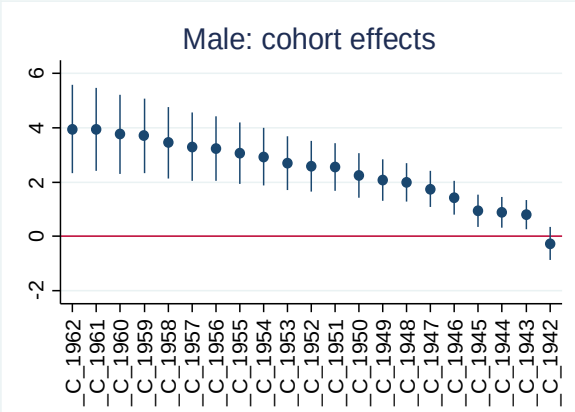


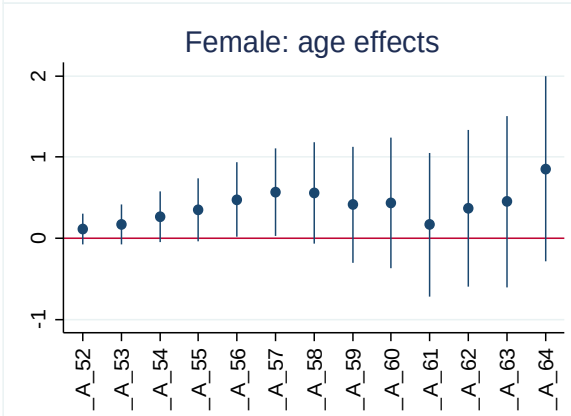


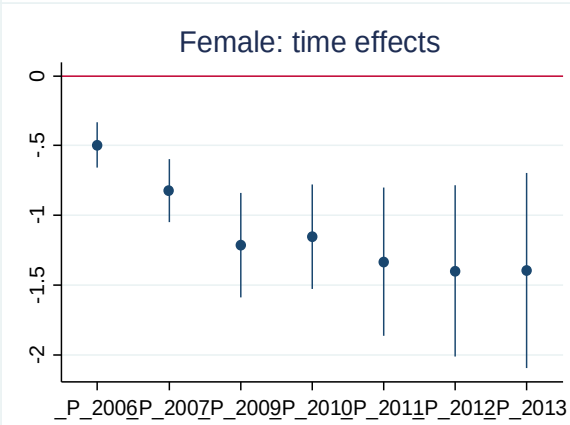
UNEMPLOYMENT RATE

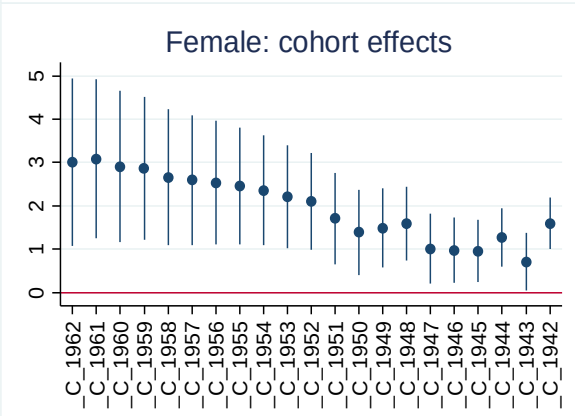




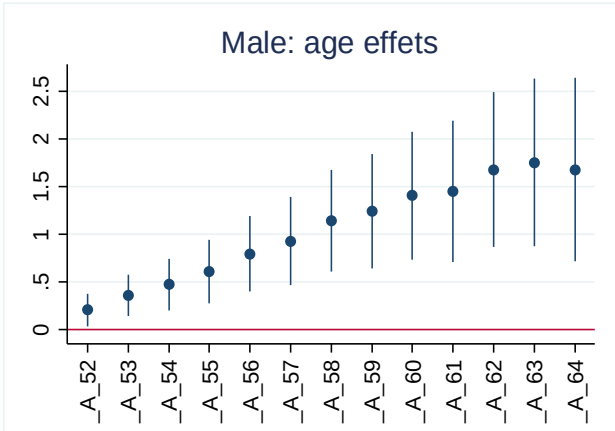


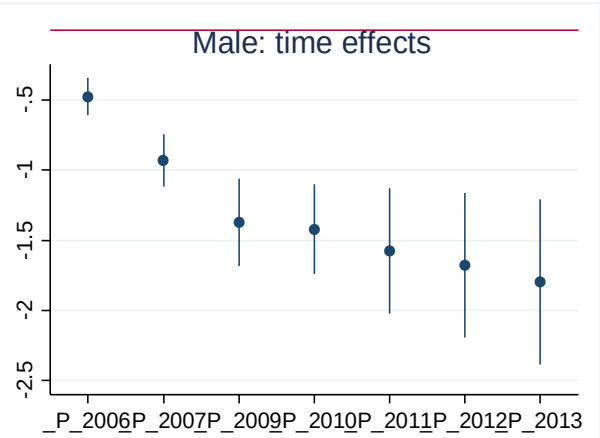


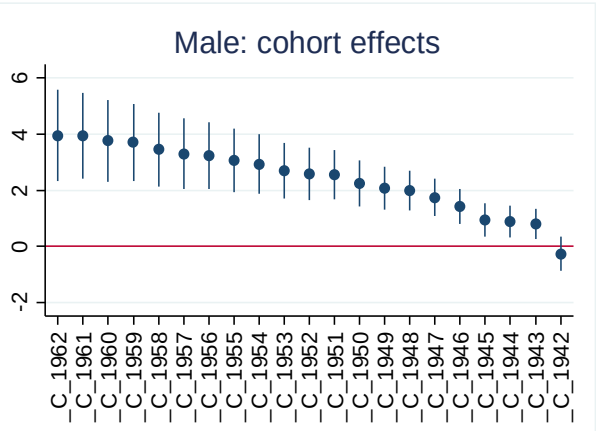


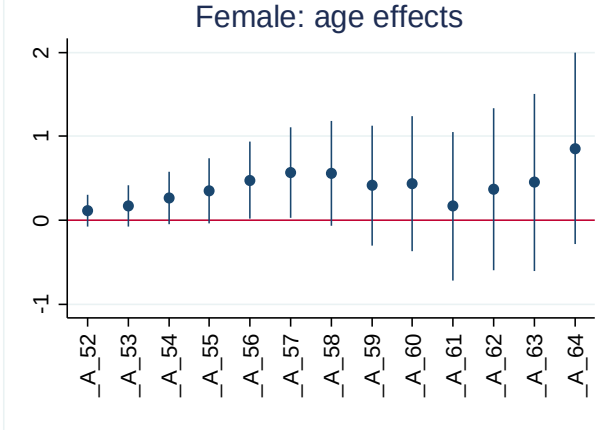


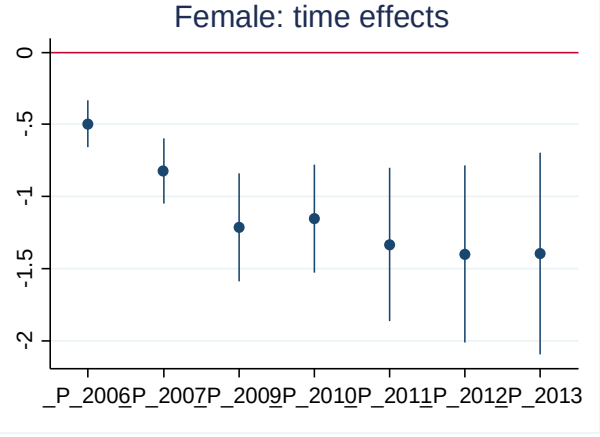
LABOUR INCOME

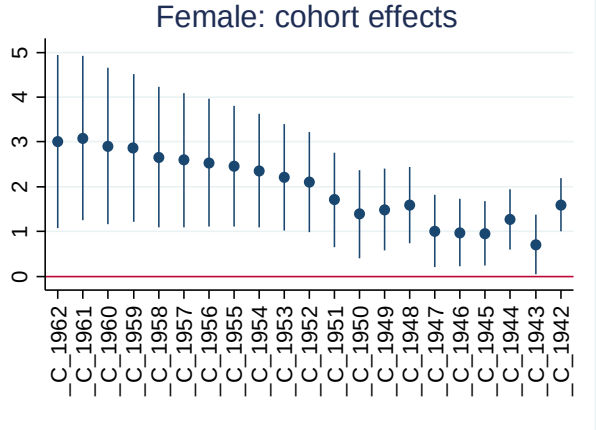












CONCLUSIONS

- Pension reform clearly influenced the age structure of pension participation
- The already observed regularities suggest that the early pension reform has already influenced the labour-force participation and to some extend the unemployment rate of the elderly
- Luckily, this influence was counterbalanced by improving labour-market conditions
- We also see cohort effects in the case of pension income, while age and period effects are more significant for labour income
- Pension reform outcomes are related not only to retirement behaviour, but also to changes in the level of pensions, resulting from changes in the pension formula

CONCLUSIONS

- Pension reforms in Poland has had a double impact on the situation of individuals
  - Evidence showing longer working lives
  - Evidence showing impact of change in pension formula on the level of pension income of cohorts covered by the reform

- This may indicate that the planned outcomes of the reform were achieved