NETHERLANDS INTERDISCIPLINARY DEMOGRAPHIC INSTITUTE

Integrating the ability to work in the measurement of population ageing

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New measures of age and ageing
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BACKGROUND

- With population ageing, the working age group shrinks (20–65) while the retirement age group expands (65+)
- In many European countries policies have been introduced to raise the age at retirement
- If more older people remain active, this affects the ratio between non-active people and working people
- However, people work only if their health allow them to do so
- Health deteriorates with age but improves over time

What implications for measuring population ageing?

PROBLEM DEFINITION

- Traditional old-age dependency ratio is static and does not cover well the actual working population
- New measures of ageing like S. & S.'s prospective and disability dependency ratios do not explicitly take the ability to work into account
- Economic dependency ratios do not take health into account, which makes projections hazardous

How can we quantify the flow of people who definitively stop working because of adverse health conditions?

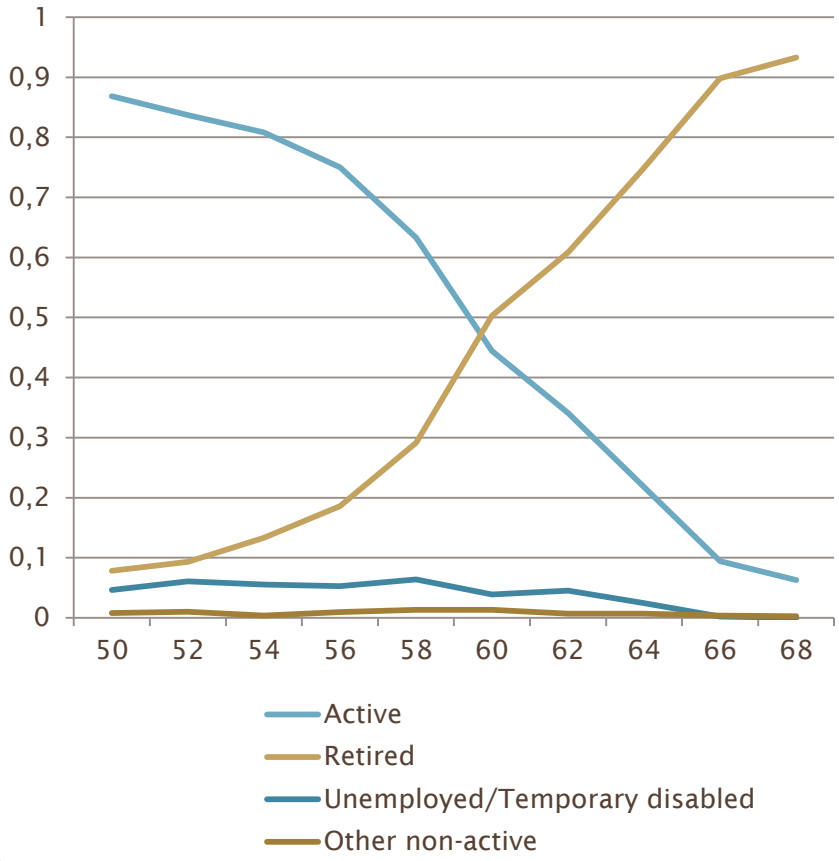
DATA

Survey of Health, Ageing and Retirement in Europe (SHARE)

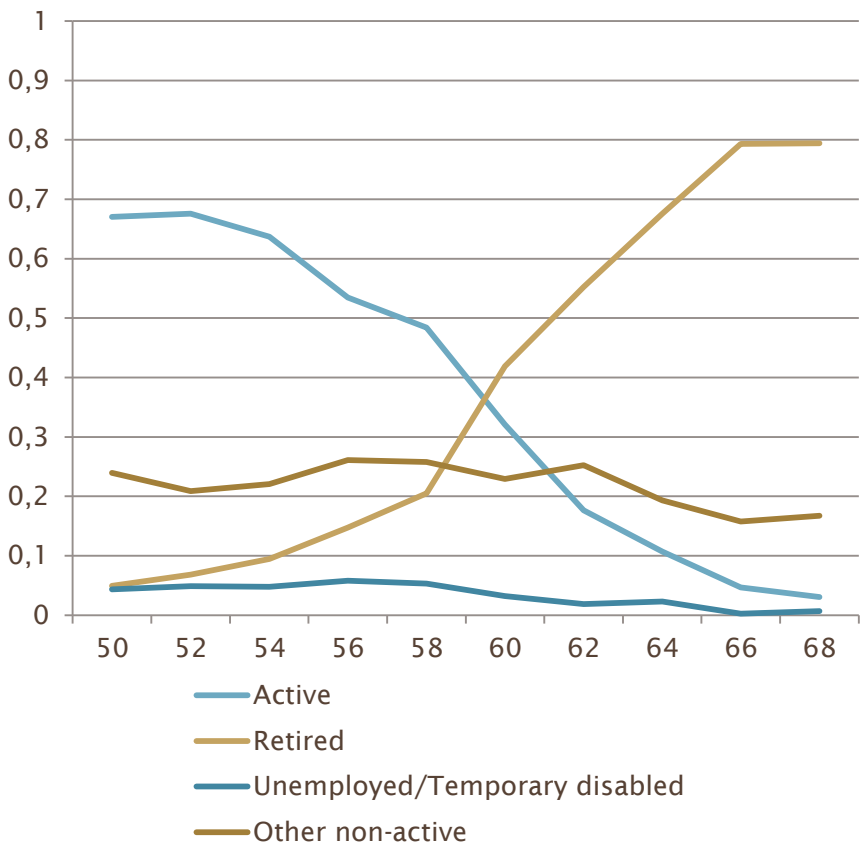
- Waves 1, 2 and 4
- 9 countries: Belgium, Denmark, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland.
- Cross-sectional weighted data
- Population aged 50-80
- Years covered comprise the 2004-2011 period

METHODS: LABOUR STATUS

Labour status by age, men (n = 31 434)



Labour status by age, women (n = 36 290)



METHODS: ADDING HEALTH TO THE ANALYSIS OF TIMING TO RETIREMENT

How do people in different health states differ regarding their timing to retirement?

How to measure health in this context?

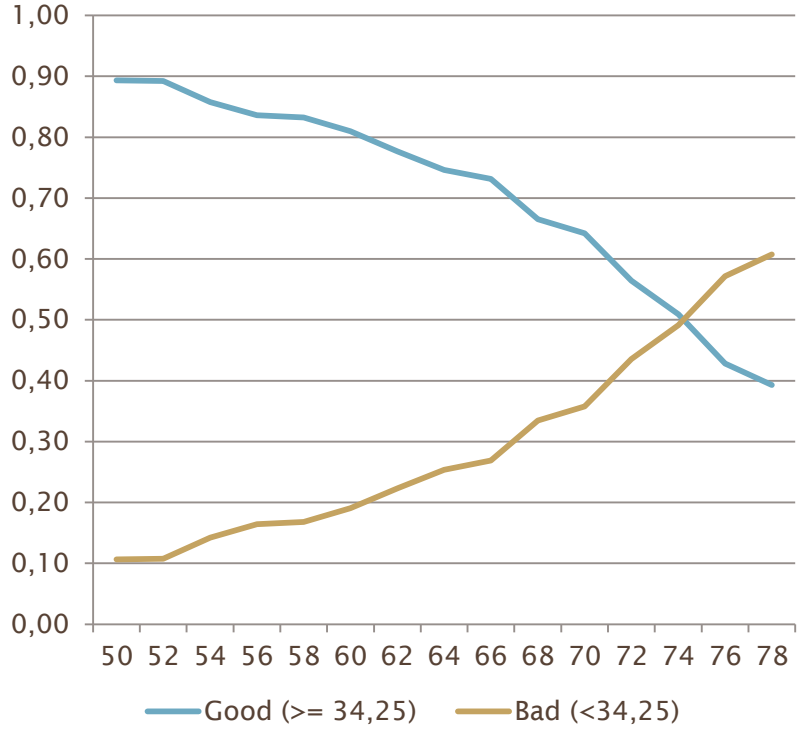
- **Self-assessed measures of health pose the problem of justification (Lindeboom & Kerkhofs, 2009)**
- **SHARE offers data on hand-grip strength**

METHODS: HAND-GRIP STRENGTH

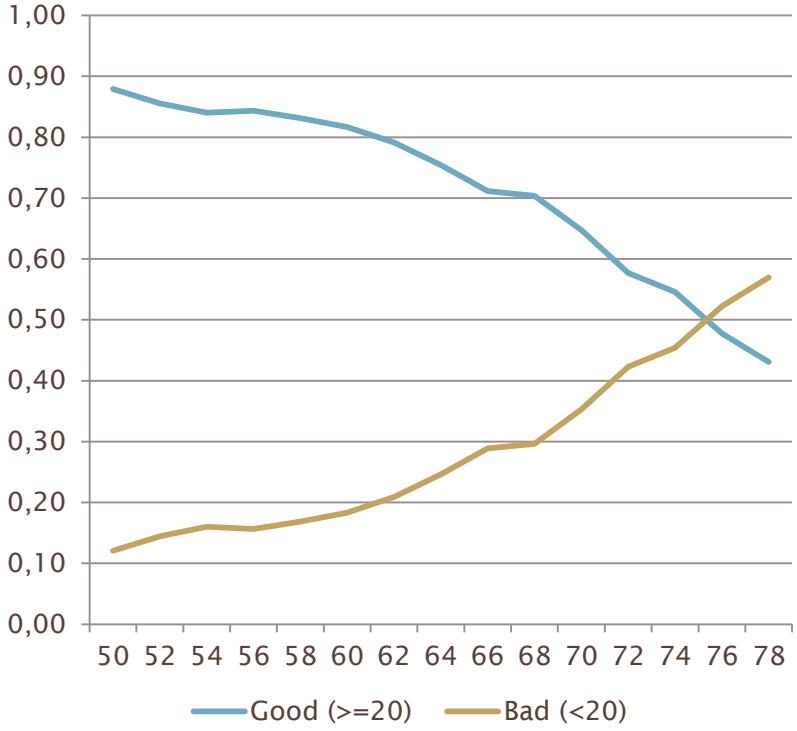
- Correlated with death (Cooper et al., 2010) and other health outcomes like ADL and disability (Frederiksen et al., 2002)
- Average of usually 4 measures
- We consider people who scored among each sex's lowest quartile as having a "bad" health; those who scored higher are considered as having a "good" one

METHODS: HAND-GRIP STRENGTH BY AGE

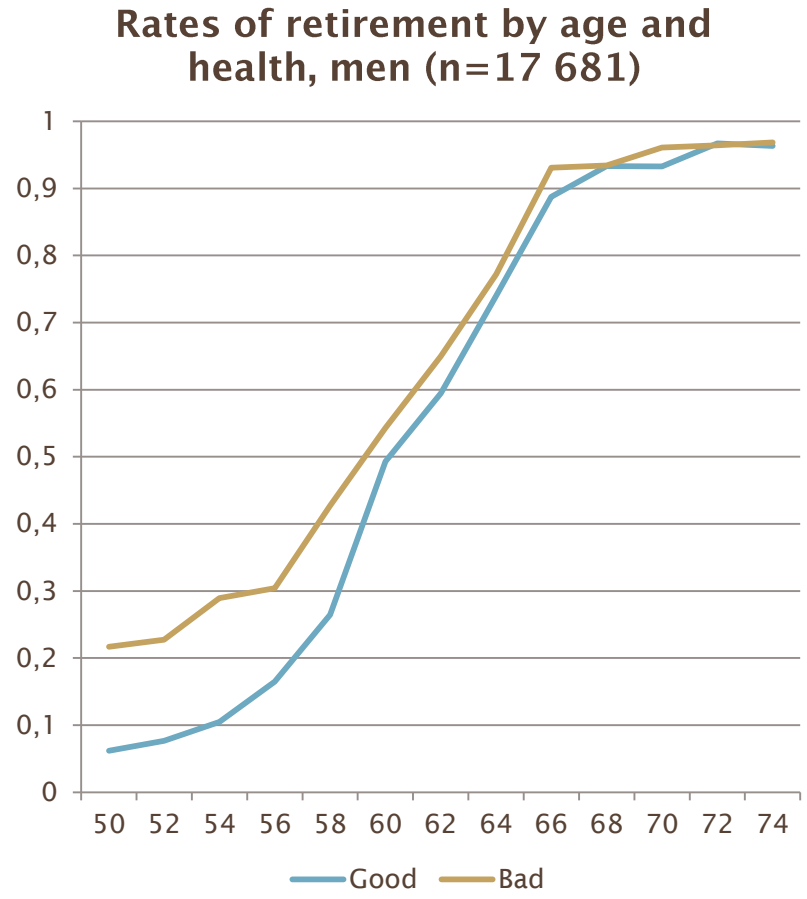
Health state as measured by hand-grip, by age, men (n=31 434)

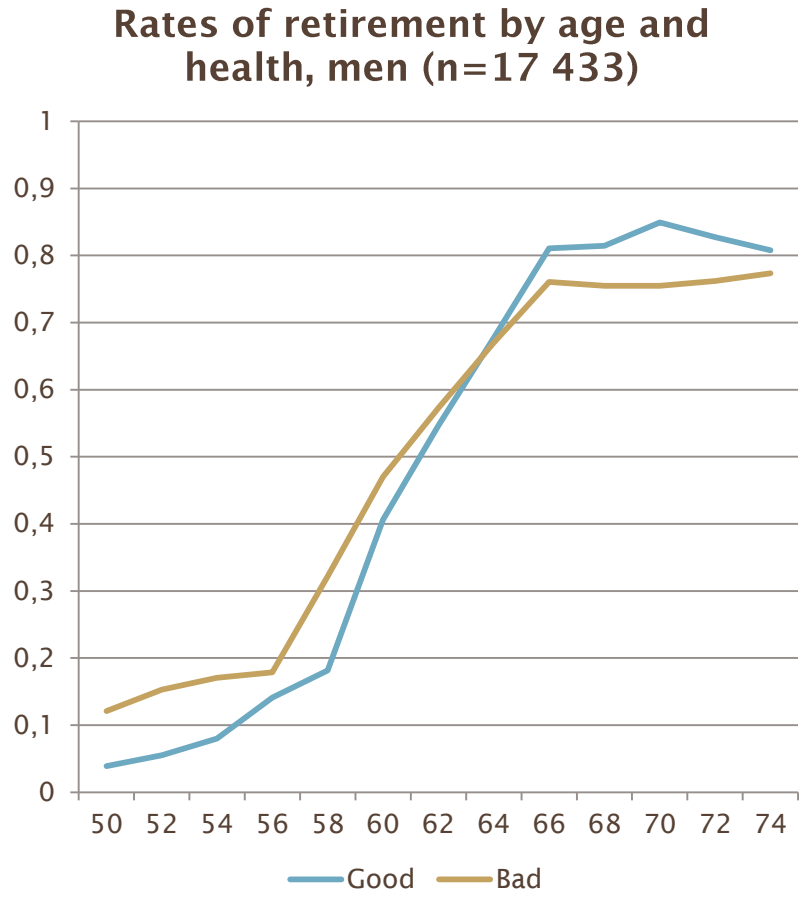


Health state as measured by hand-grip, by age, women (n=36 290)

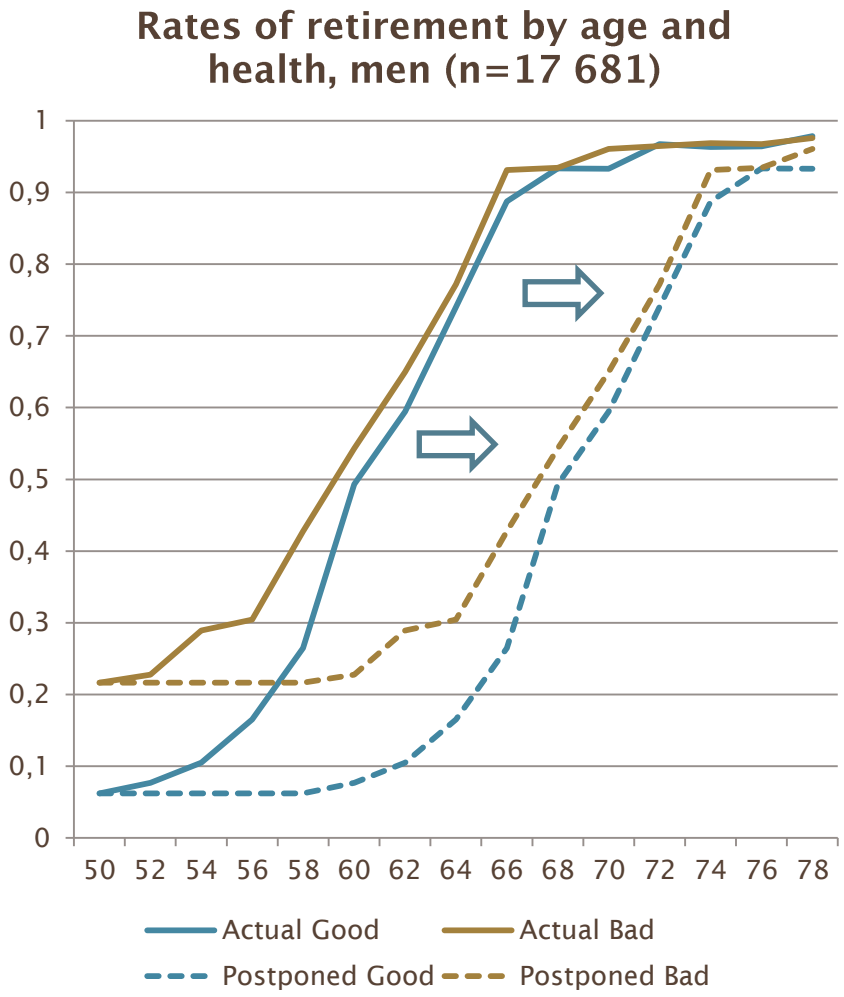


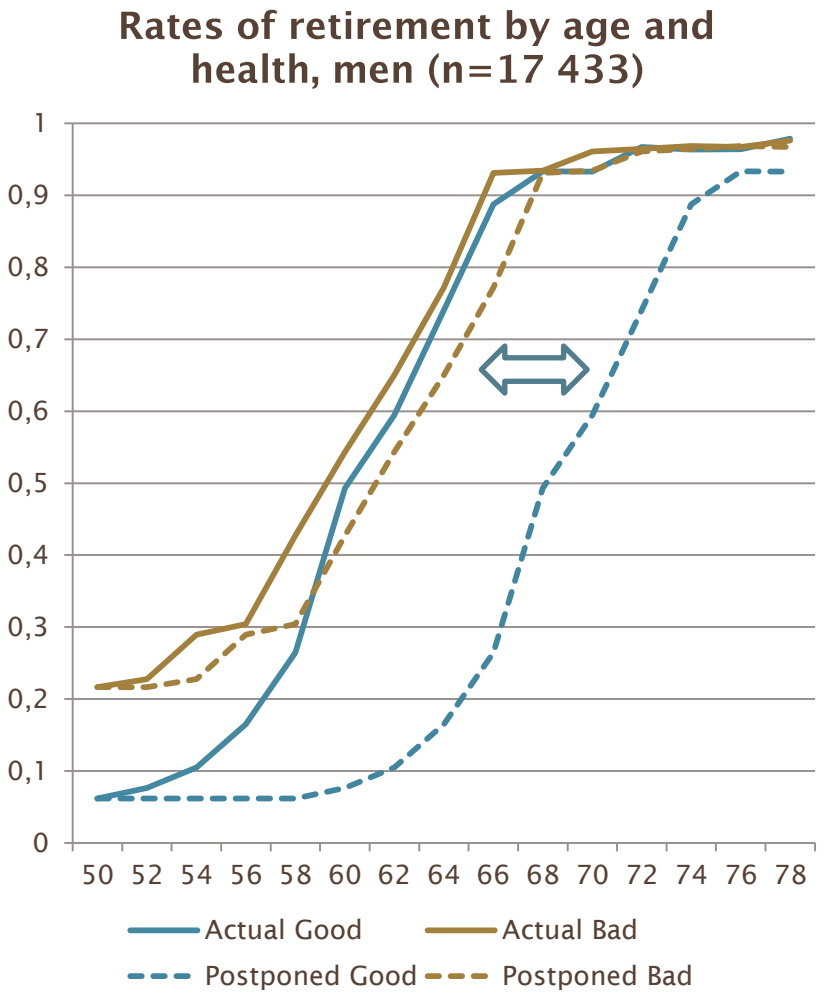
METHODS: AGE PROFILE OF RETIREMENT FOR DIFFERENT HEALTH STATES





METHODS: AGE PROFILE OF RETIREMENT FOR DIFFERENT HEALTH STATES SUPPOSING A POSTPONEMENT OF RETIREMENT





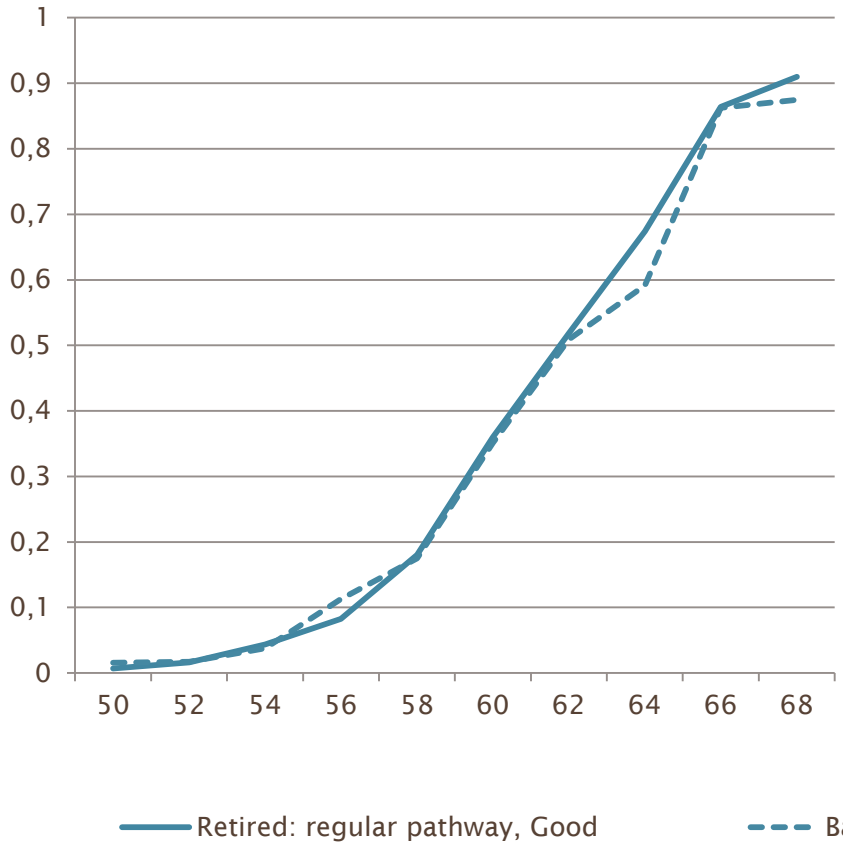
METHODS: PATHWAYS TO RETIREMENT

What pathway did people take when retiring?

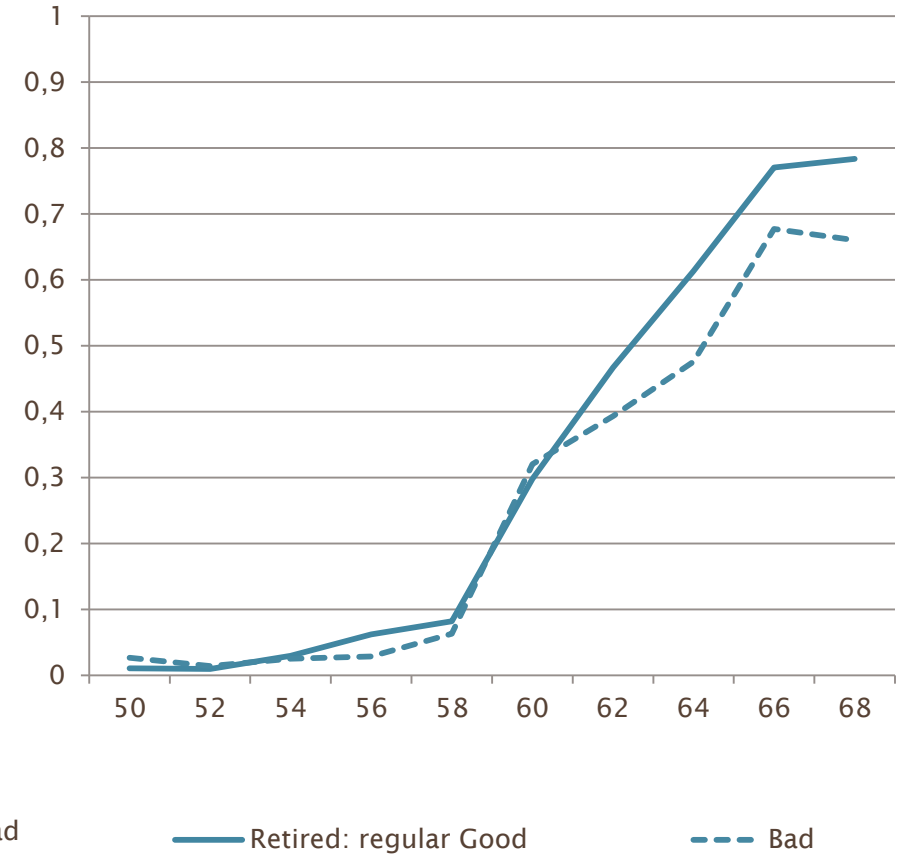
- **We take the kind of benefits people received in previous year:**
  - Early retirement benefits and old age pension: (1) Regular pathway
  - Unemployment benefits: (2) Unemployment pathway
  - Disability benefits: (3) Disability pathway
  - Survivor benefits, war pension, others: (4) Other pathways

METHODS: LABOUR STATUS, PATHWAY TO RETIREMENT AND HEALTH

Regular pathways to retirement by health state, men

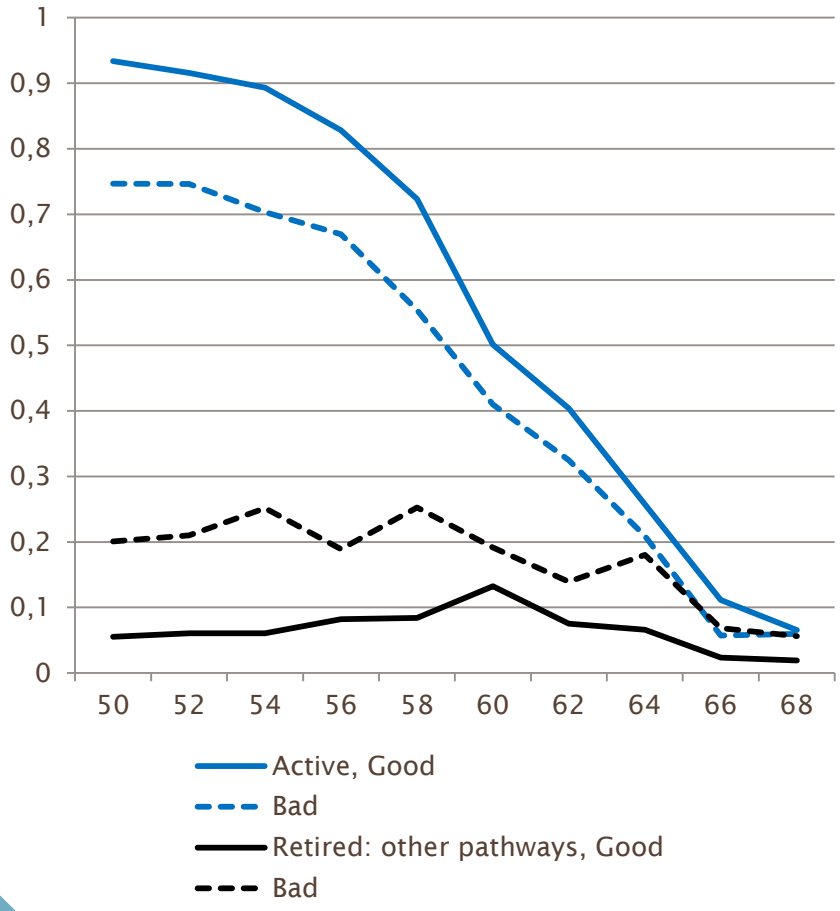


Regular pathways to retirement by health state, women

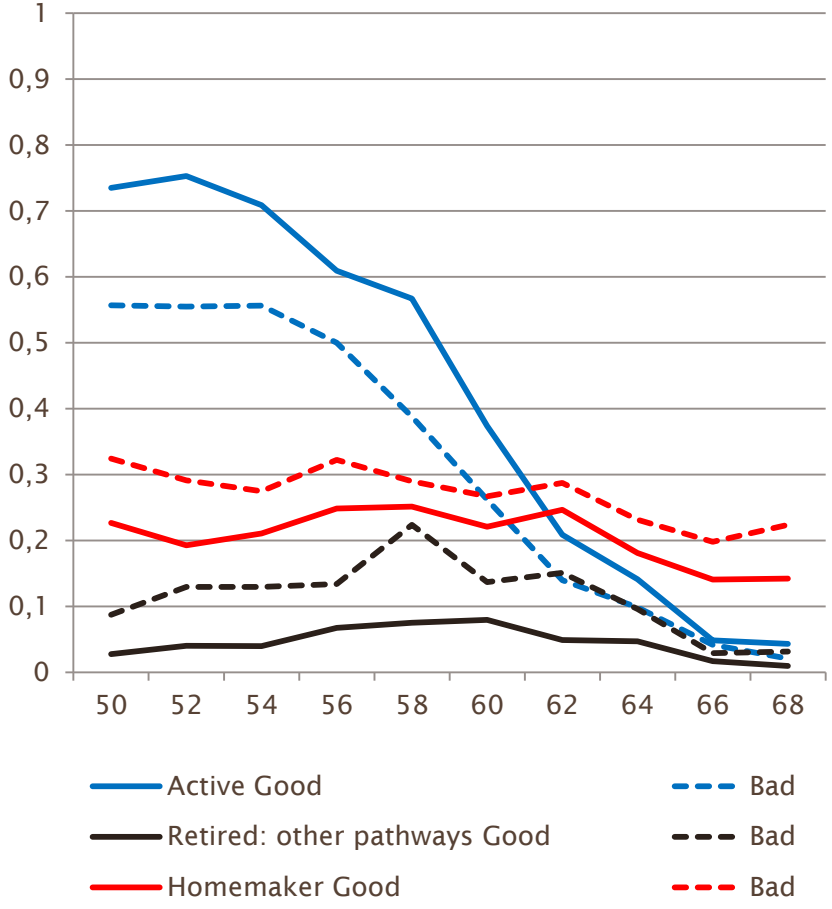


METHODS: LABOUR STATUS, PATHWAY TO RETIREMENT AND HEALTH

Labour status & other pathway to retirement by health state, men

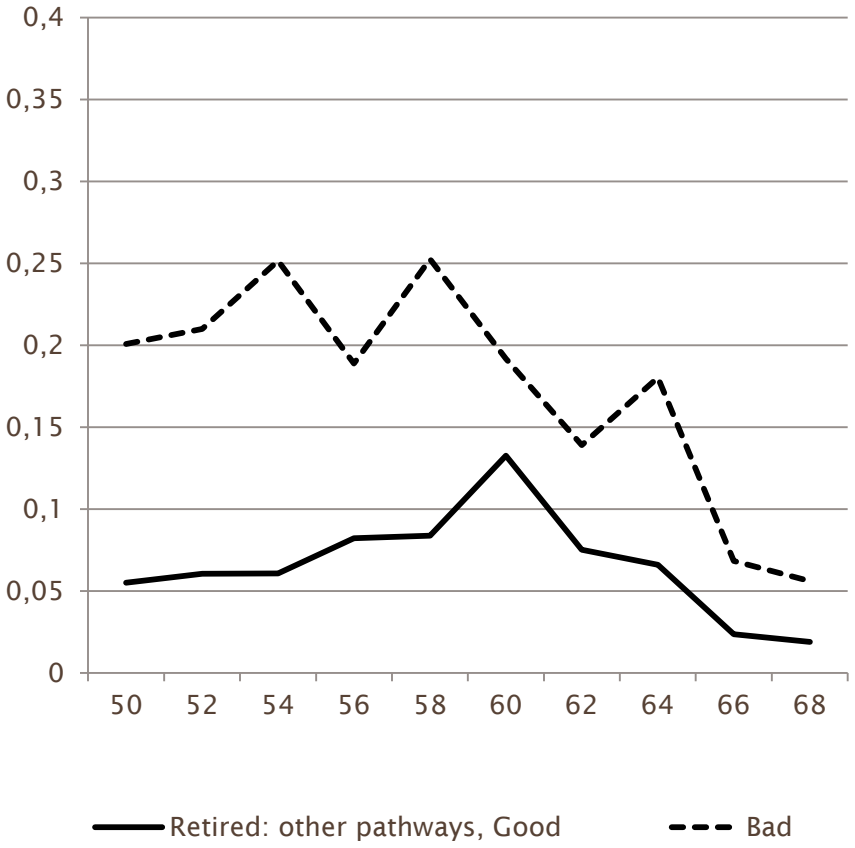


Labour status & other pathway to retirement by health state, women

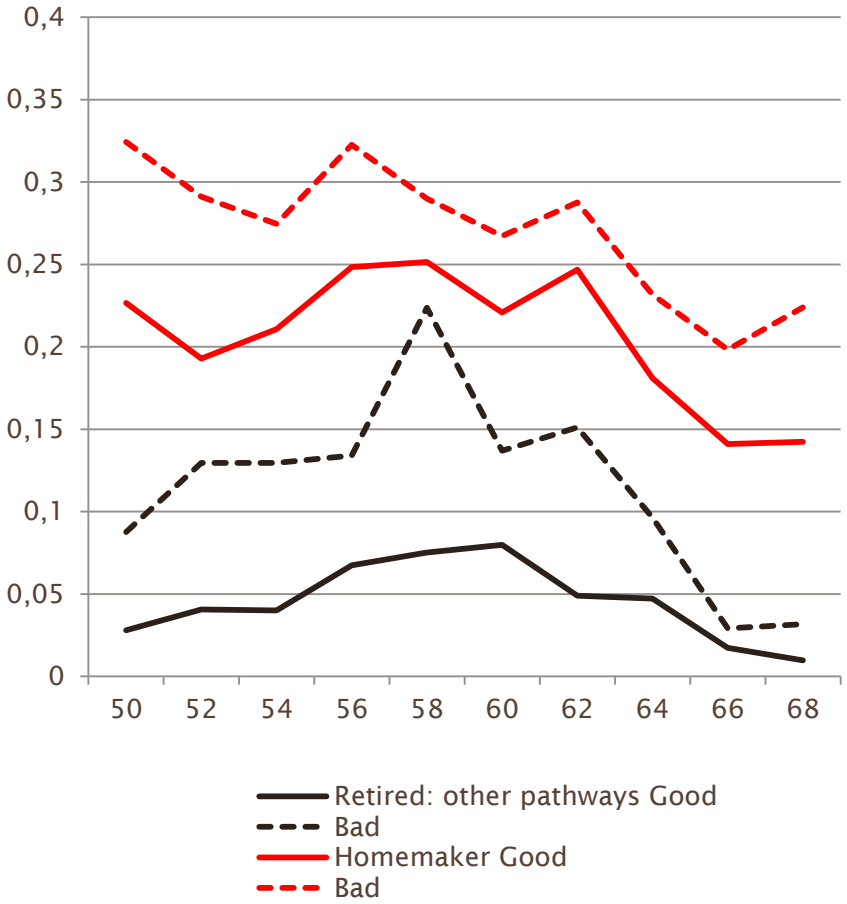


METHODS: LABOUR STATUS, PATHWAY TO RETIREMENT AND HEALTH

Labour status & pathway to retirement inside different health states, men



Labour status & pathway to retirement inside different health states, women



METHODS: WHAT DO THE PRELIMINARY ANALYSES TELL US?

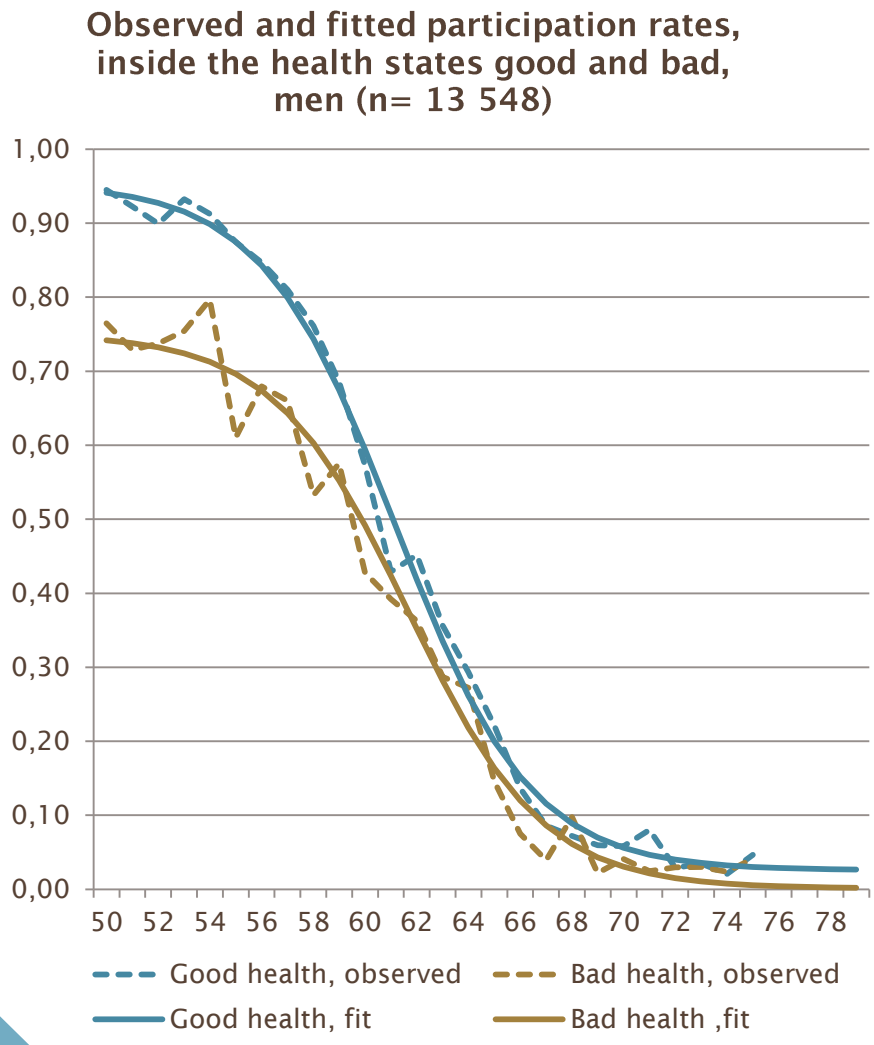
- Institutional factors play the biggest role in determining the age at retirement
- However, there does exist some health effect on the decision to retire as shown by the difference in levels of participation between people with good and bad health
- It is unclear whether work disability gains in importance inside each health group as people age
- We suppose that work disability is a function health and not of age

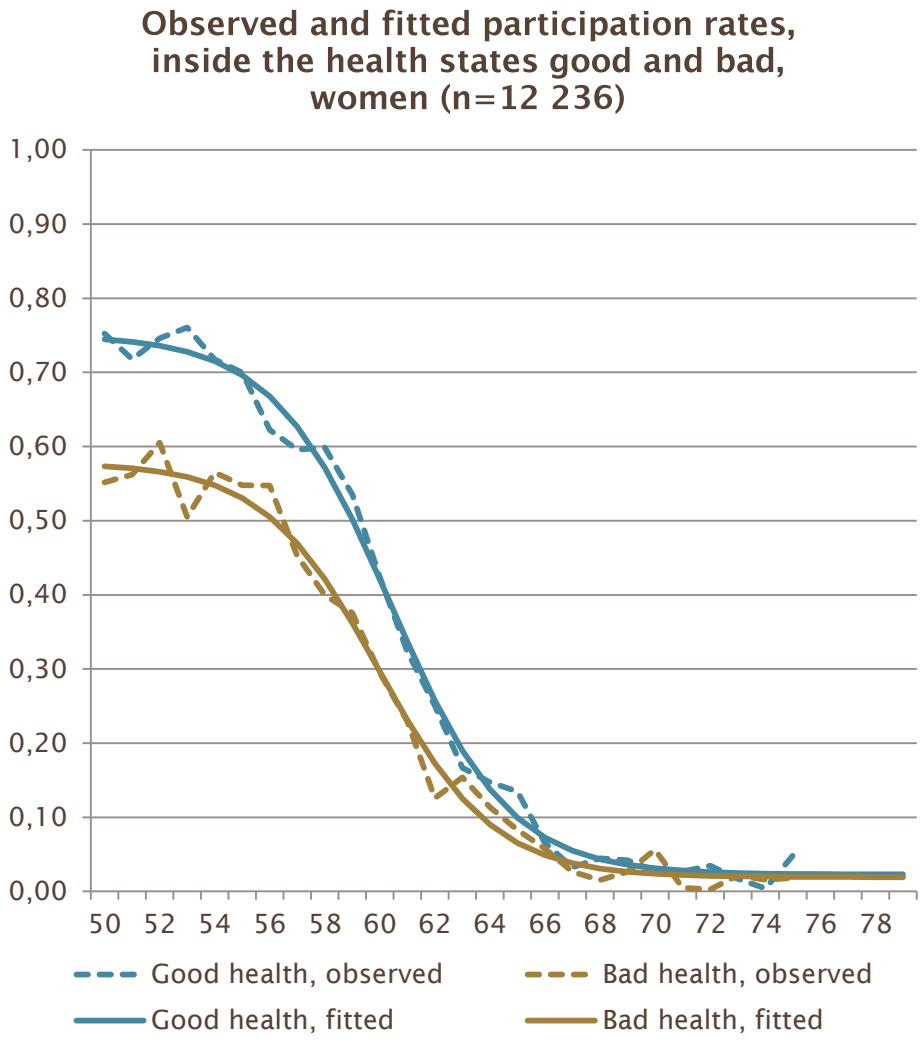
Participation rates are health specific

METHODS: PROJECTION OF PARTICIPATION RATES TAKING HEALTH INTO ACCOUNT

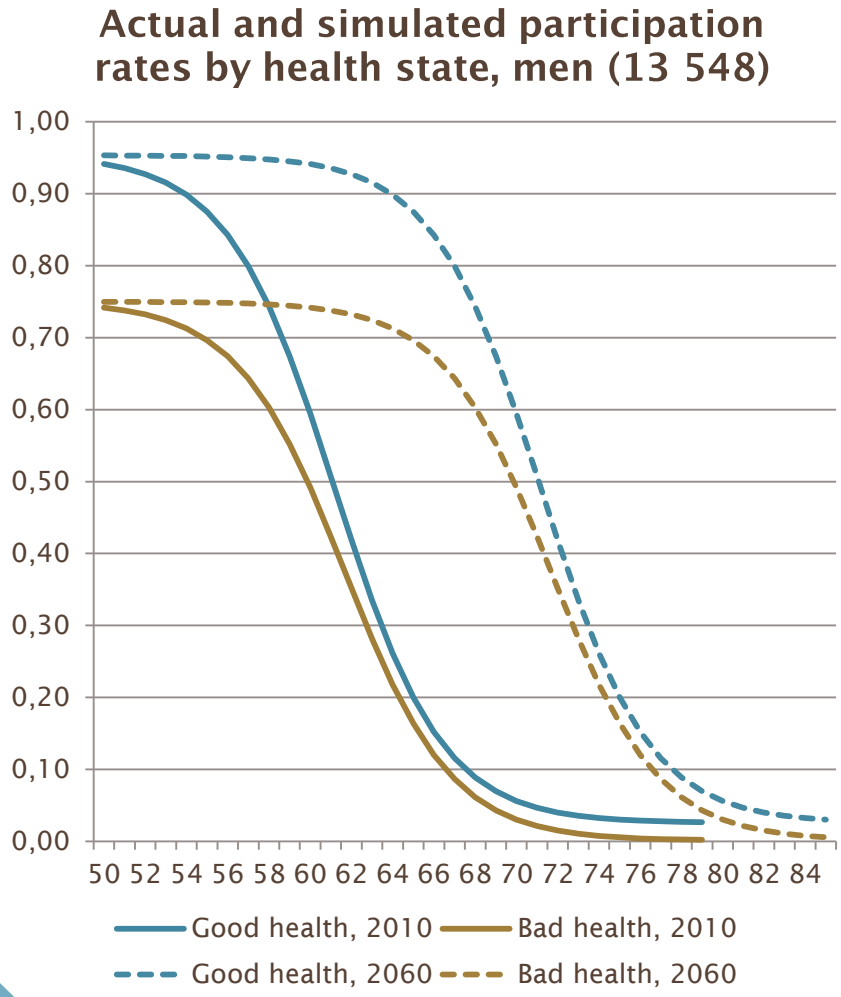
- We model the age pattern of participation by a logistic model including a parameter which equals the modal age at retirement.
- By changing the value of this parameter we can simulate the effect of postponement of the official age at retirement
- By estimating separate models for people with good and bad health we take into account the fact that more people have bad health at older age.
- We simulate a 10 year postponement and apply the results to the 2060 eurostat projections (corresponds to a 2 years postponement for each period of 10 years)

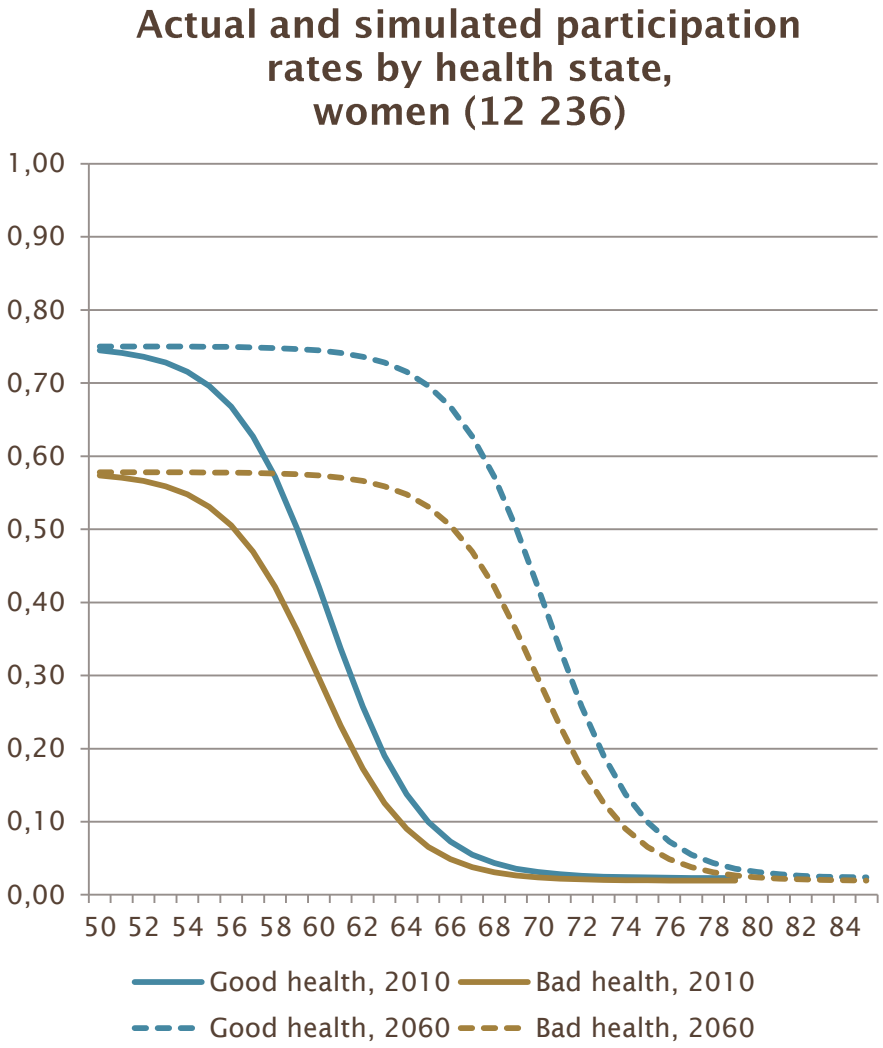
METHODS: OBSERVED AND FITTED PARTICIPATION RATES





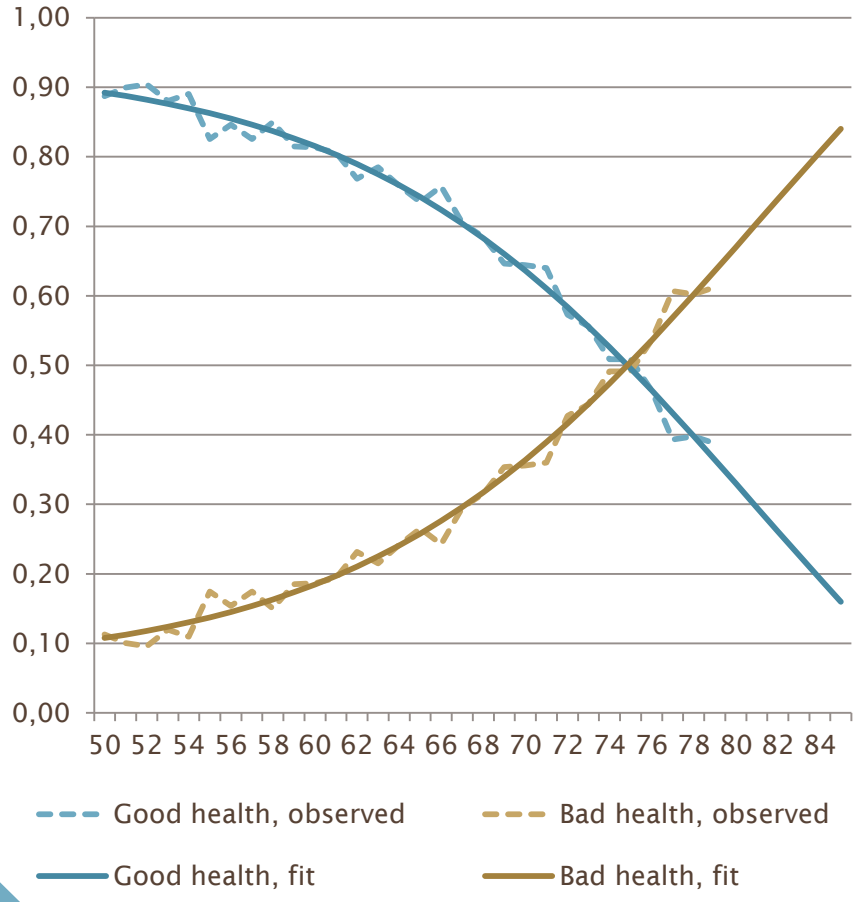
METHODS: SIMULATION OF A RAISE OF AGE AT RETIREMENT



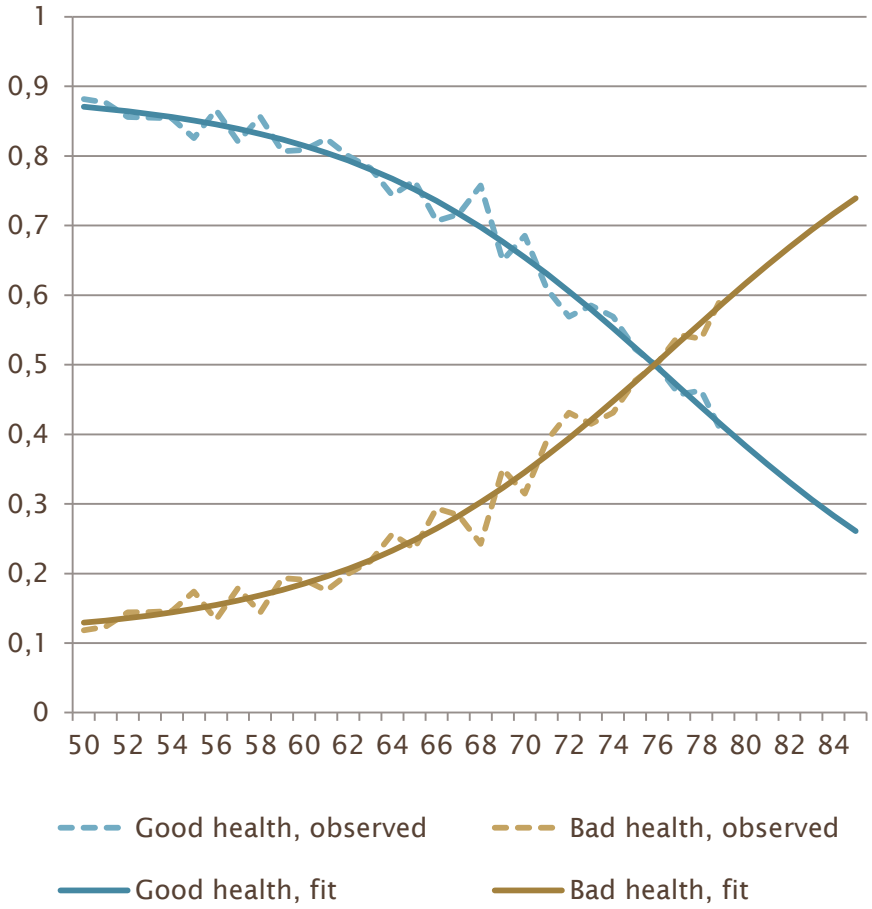


RESULTS: AGE PROFILES OF HEALTH

Proportion of men with good and bad health, by age

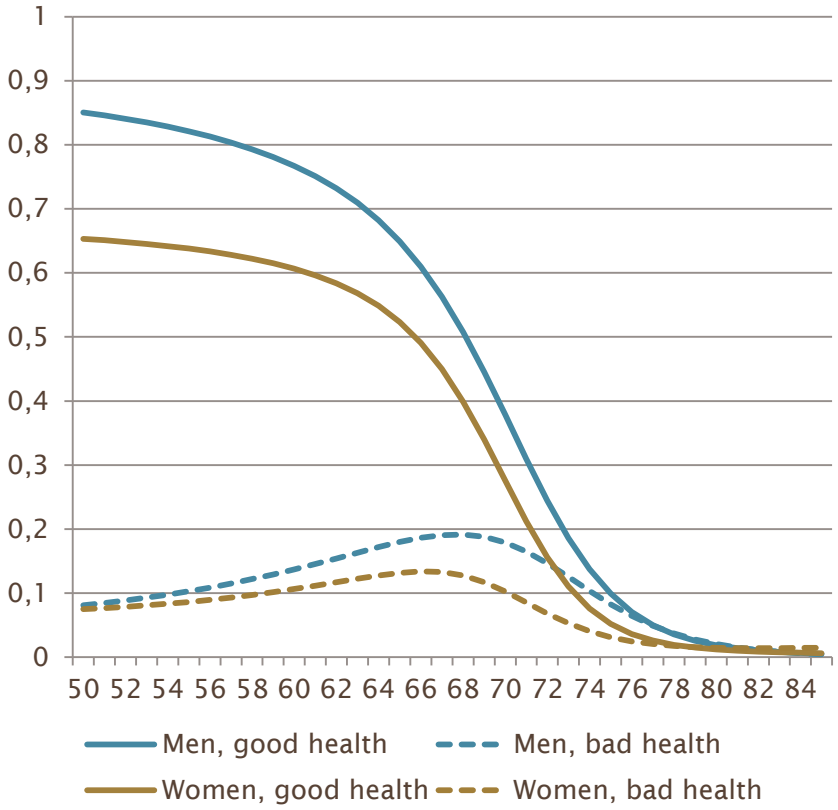


Proportion of women with good and bad health, by age

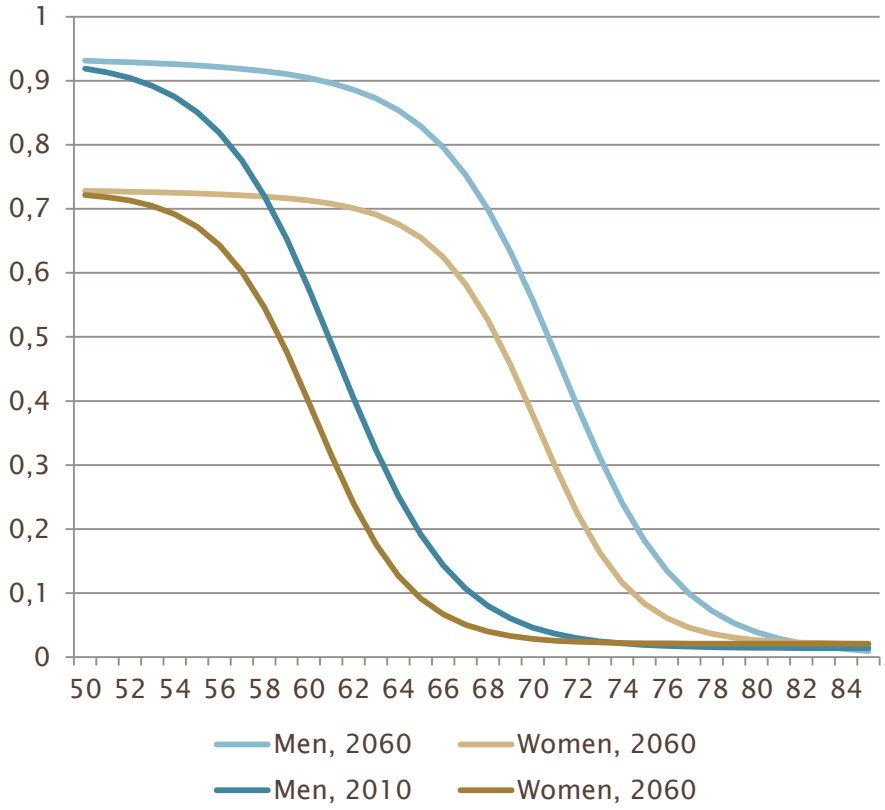


RESULTS: COMBINATION OF HEALTH AND LABOUR PARTICIPATION PROFILES

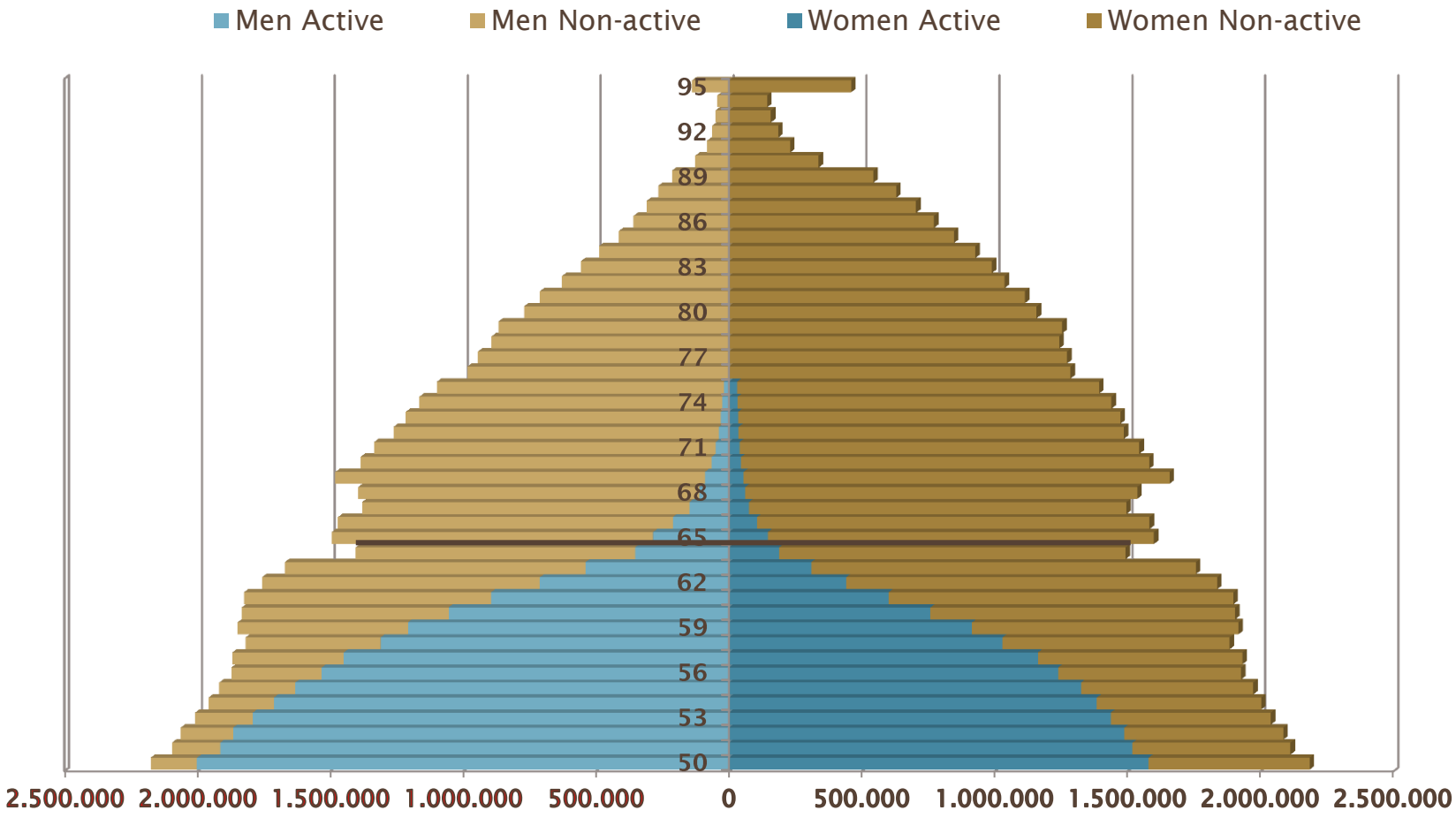
Contribution to total workforce from people with different health states, men and women



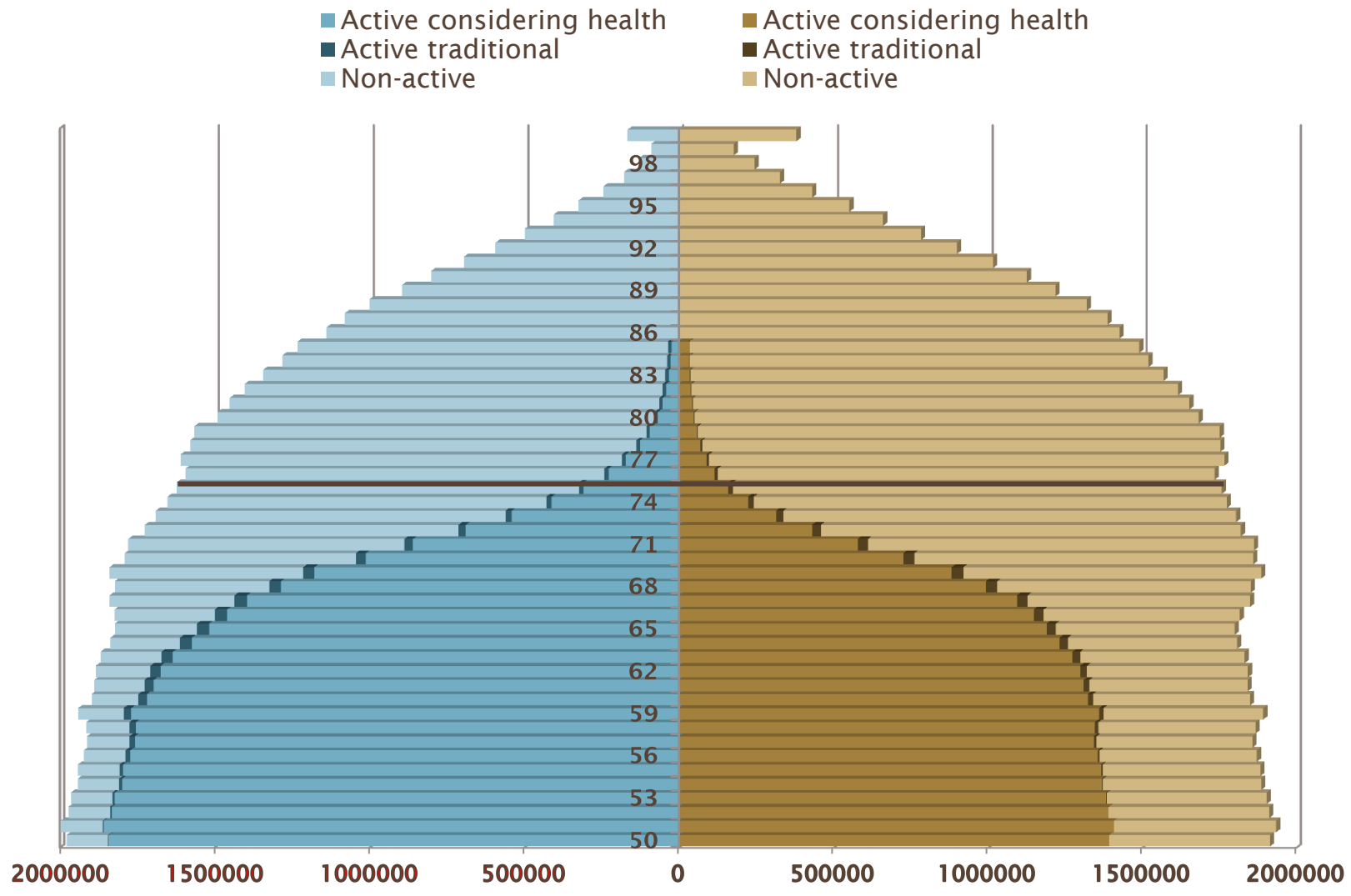
Total estimated and projected labour force participation by age, men and women



LABOUR FORCE PARTICIPATION 50+, 2010 ESTIMATE, (DIFFERENT EUROPEAN COUNTRIES)



LABOUR FORCE PARTICIPATION 50+, 2060 PROJECTION (10 YEARS POSTPONEMENT)



ECONOMIC DEPENDENCY RATIOS FOR DIFFERENT SCENARIOS OF LABOUR FORCE PARTICIPATION AT OLDER AGES, POPULATION AGED 20 YEARS AND OLDER, DIFFERENT EUROPEAN COUNTRIES

	Number of non-workers for one worker aged 20 years or older	
Scenarios	Traditional	Considering health
2010 (estimate)	0,70	---
2060, no change	1,01	---
2060, 10 years raise	0,64	0,65

CONCLUDING REMARKS

- **We combined information on labour participation and an objective measure of health to produce rates of participation for different groups characterized by their health**
- **We simulated how those rates could be affected supposing that the age at retirement is raised**
- **We find a weak additional effect of health on retirement when considering higer retirement ages;**
- **And even though we see a small increase of work-disability:**
  - The gains in labour participation are much bigger
  - This increase can be offset by improvements in health or improved work arrangements for the disabled

In sum, we are not close to reaching the age where a significant share of people who retire do it on grounds of poor health.

thank you

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LABOUR FORCE PARTICIPATION 50+, 2060 PROJECTION (20 YEARS POSTPONEMENT)