Prospects of Aging and Health in Thailand

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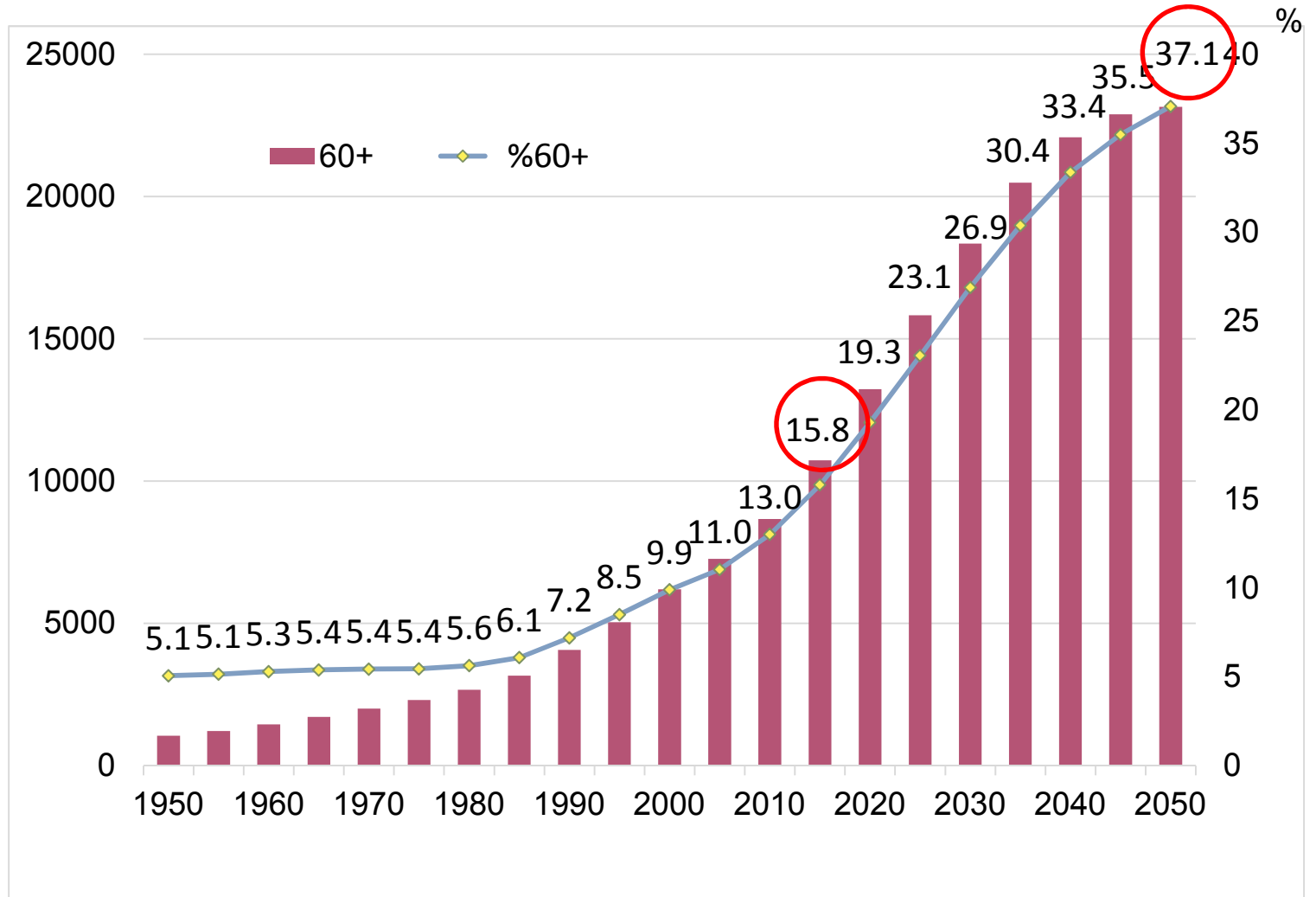The 28th REVES Meeting, 8-10 June 2016, Vienna, Austria

What we will cover

- Background and objectives

- Education and health

- Data and methods

- Results

- Discussion and conclusion

Number and share of older persons in Thailand, 1950-2050

In thousands

Legend: 60+ ; %60+

Percentage values shown: 5.1, 5.1, 5.3, 5.4, 5.4, 5.4, 5.6, 6.1, 7.2, 8.5, 9.9, 11.0, 13.0, 15.8, 19.3, 23.1, 26.9, 30.4, 33.4, 35.5, 37.14

Source: UN World Population Prospects 2015

Socio-economic indicators

	Thailand	Myanmar	Singapore	Vietnam
Total population, 2015 (in thousands)	67,959	53,897	5,604	93,448
Total fertility rate, 2010-15	1.53	2.25	1.23	1.96
Life expectancy at birth (e_0), 2010-15	74.1	65.6	82.6	75.6
Life expectancy at age 60 (e_{60}), 2010-15	21.4	16.7	25.1	22.4
% aged 60+, 2015	15.8	8.9	17.9	10.3
% aged 60+, 2050 (medium projection)	37.1	18.8	40.4	29.7
% in urban areas, 2014	49.2	33.6	100.0	33.0
% Adult literacy rate[c]	96.4 (2010)	92.7 (2013)	96.5 (2013)	93.5 (2009)
Gross domestic product per capita (PPP), 2015	13,931.8	1,221.4 (est)	76,236.8	5,124.6
Human development index rank (out of 186 countries), 2015	93	148	11	116

Sources: International agencies (UN, IMF, WB)

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Health and education

- Health is an important component of active aging

- Evidence for causal relationship between education and health

- Majority of studies from Western societies

- Increasing number of articles in Asian context, several on Thailand (Zimmer and Amornsiribomboon 2001; Porapakkham et al. 2008; Muangpaisan et al. 2011; Thanakwang et al. 2012; Zimmer and Prachuabmoh 2012)

- Projections of persons with ill-health: simple demographic extrapolation invariably leads to increasing numbers

- However, inclusion of educational attainment shows less severe increases (Lagergren and Thorslund 2009 for Sweden; KC and Lentzner 2010 for 70 countries) or an even more pronounced increase (Ansah et al. 2015 for Singapore)

Objectives of our study

- To analyze prevalences of ill health among the population 50+ in Thailand with three different definitions of health limitations

- To estimate potential future health benefits obtained from past investments in education

Data

- Four waves of nationally representative Surveys of Older Persons in Thailand:

  - 2002
  - 2007
  - 2011
  - 2014

- Population projections for Thailand (WIC population projections by age, sex, and highest level of educational attainment, 2013)

Sample characteristics

	2002	2007	2011	2014
% Female	55.2	55.9	56.5	55.0
Age distribution				
50-59	42.8	45.7	45.6	45.6
60-69	32.5	28.8	29.5	30.8
70+	24.6	25.5	24.9	24.5
Education distribution				
No educ/some primary	20.6	11.6	12.0	13.9
Primary education	63.4	67.3	69.0	67.1
Secondary or higher	16.1	16.3	19.0	19.0
% Urban	57.1	58.6	58.8	54.4
No. of observations	43,447	56,002	62,840	69,894

Differences to 100% due to rounding. Exception: in 2007, 4.8% of respondents fell into "other" education category, hence difference to 100%.

3 Health impairment measures

- Self-rated health status

- Difficulty with activities of daily living (ADLs)

- Functional difficulties

Self-rated health (self)

- A subjective measure

- All 4 surveys have identical question: "In the past 7 days prior to the interview, how do you feel about your physical health?"

- Possible answers: 'very good', 'good', 'fair', 'bad', and 'very bad'

- Construction of dichotomous variable:
  - 'bad' or 'very bad'   -> bad self-rated health
  - 'fair', 'good' or 'very good'   -> fair/good self-rated health

Functional difficulties, ADLs & IADLs

Variables	2002	2007	2011	2014
Functional difficulties				
Lifting 5 kilograms	x	x	x	x
Squatting	x	x	x	x
Walking 200-300 meters	(1 km)	x	x	x
Climbing 2 or 3 stairs	x	x	x	x
ADL difficulties				
Get up from lying down				x
Using toilet	x	x	x	x
Bathing			x	x
Dressing	x	x	x	x
Wash face/brush teeth		x	x	x
Putting on shoes			x	x
Grooming self			x	x
Eating	x	x	x	x
IADL difficulties				
Take bus or boat on own	x	x	x	x
Counting change		x	x	x
Taking medicines			x	x

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ADLs & Functional difficulties

- Question: "Can you perform the following activities by yourself?"

- Possible answers:
  - 'No', 'Yes' (2002)
  - 'No', 'Yes, with aid', and 'Yes, without aid' (2007/2011/2014)

- Construction of dichotomous variable:
  - 'no' or 'with aid'   -> difficulty/functional limitation
  - 'yes'   -> no difficulty/functional limitation

- Those who reported having difficulty in at least one of the activities are regarded as having ADL or functional limitations, respectively

Calculations of prevalences of health limitations

- Observed prevalences by age and sex (simple weighted means)

- Estimated prevalences by age, sex and education (binary logistic regression)

  - Age (in 5-year age-groups, from 50 to 70+)

  - Highest level of educational attainment (no education and some primary; completed primary; lower secondary and higher)

ADL, SRH and functional limitations over time, by sex

Observed distributions, weighted
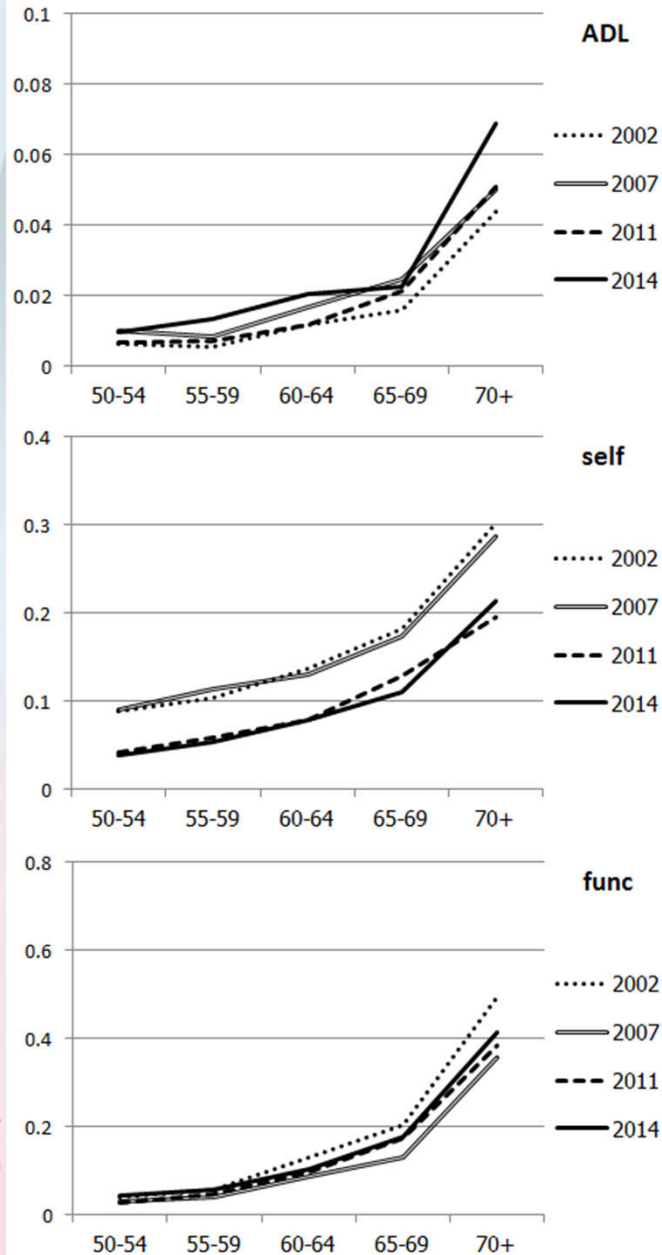
ADL, SRH and functional limitations, by sex and education

2014

men

women

Estimated distributions
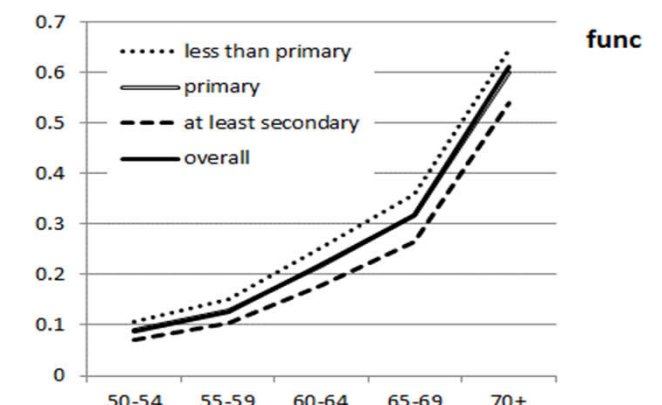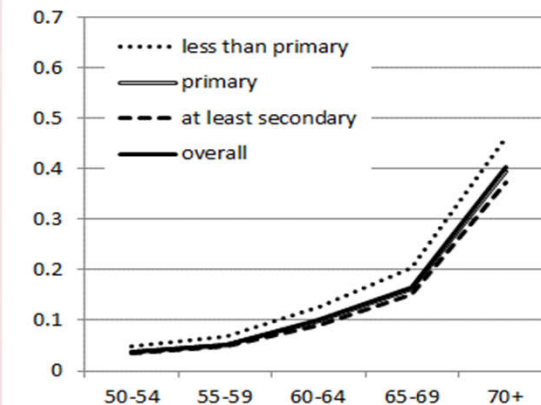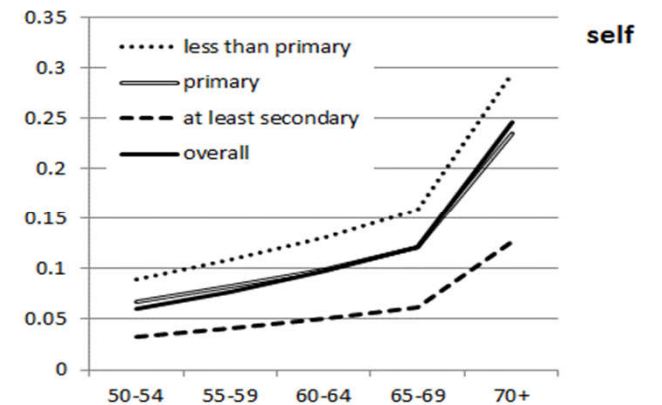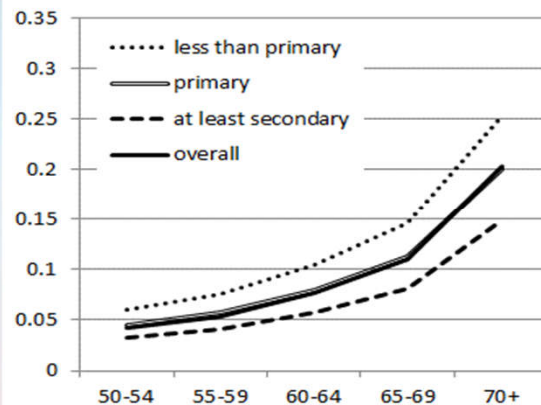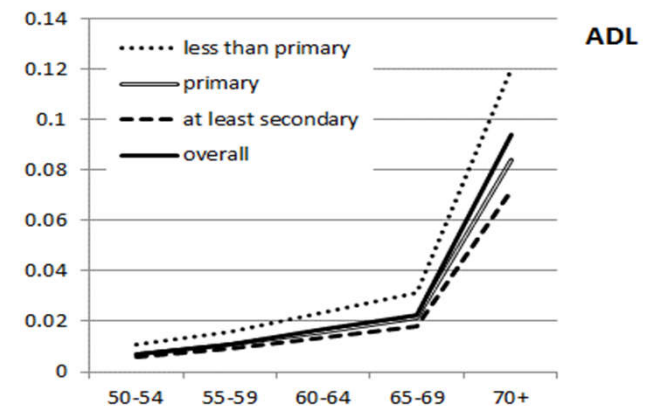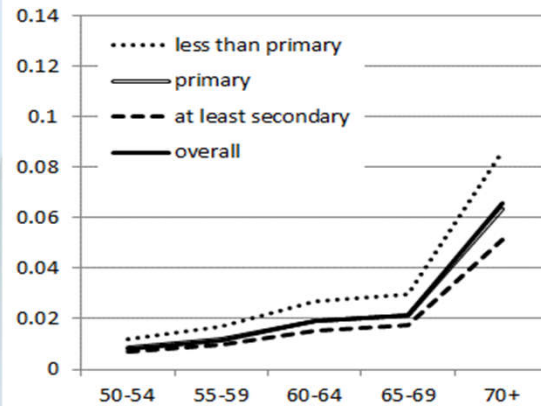
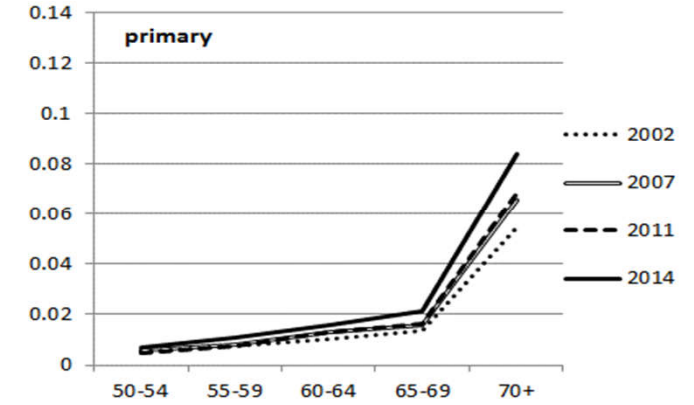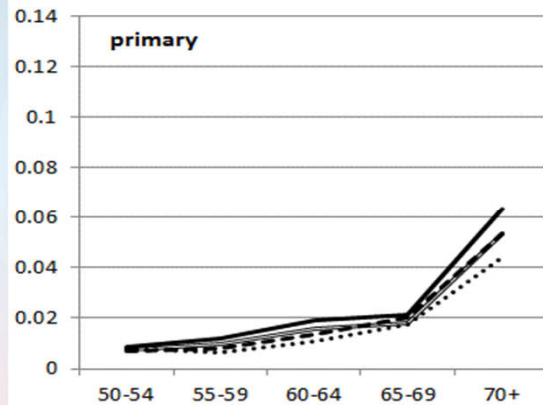# ADL, SRH and functional limitations, by sex and education

2002

men

women

Estimated distributions
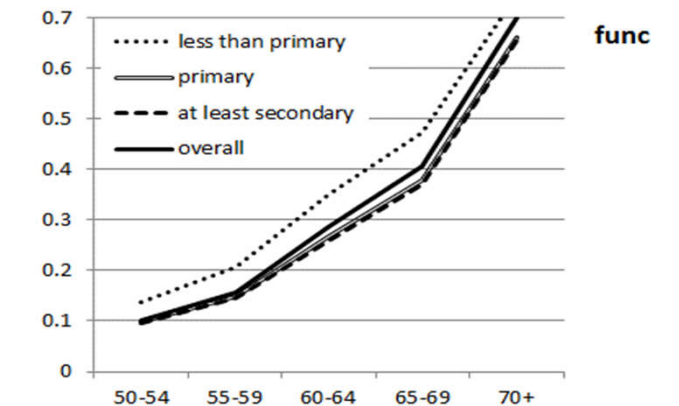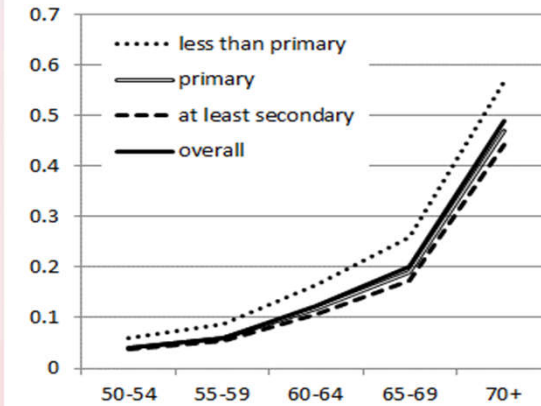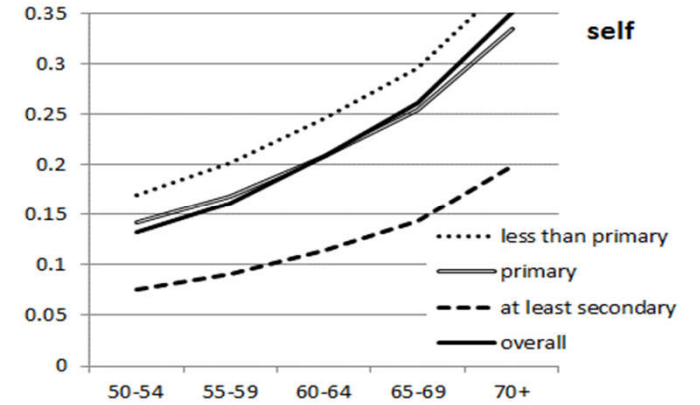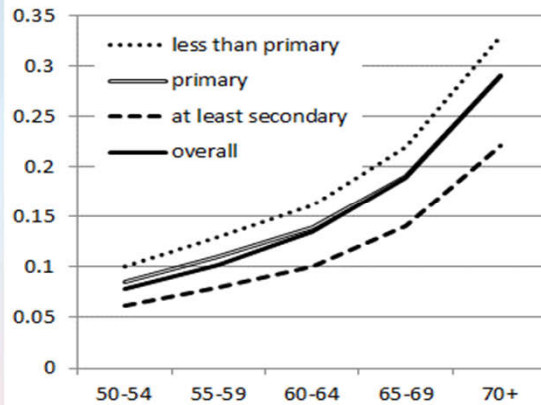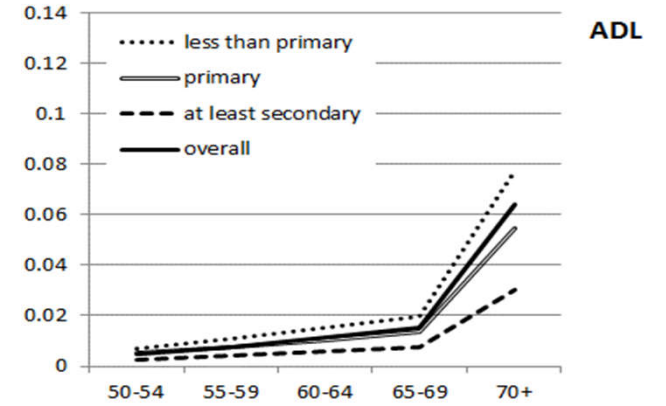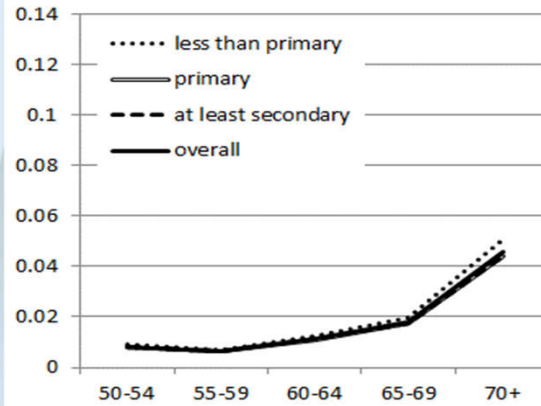
ADL by education over time, by sex

men

women

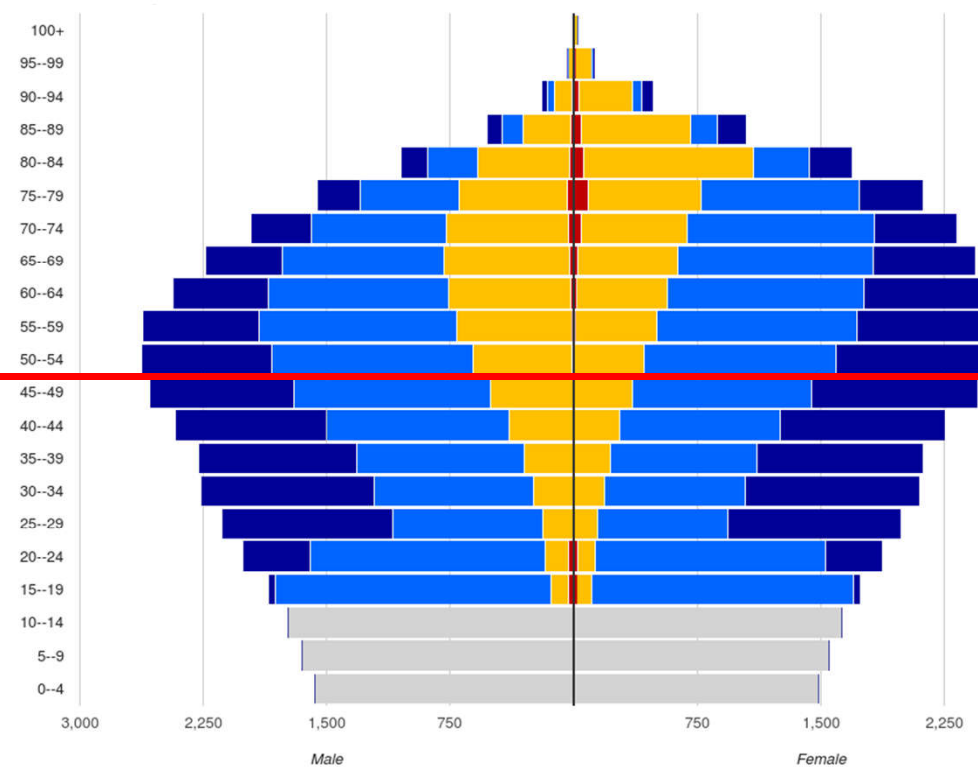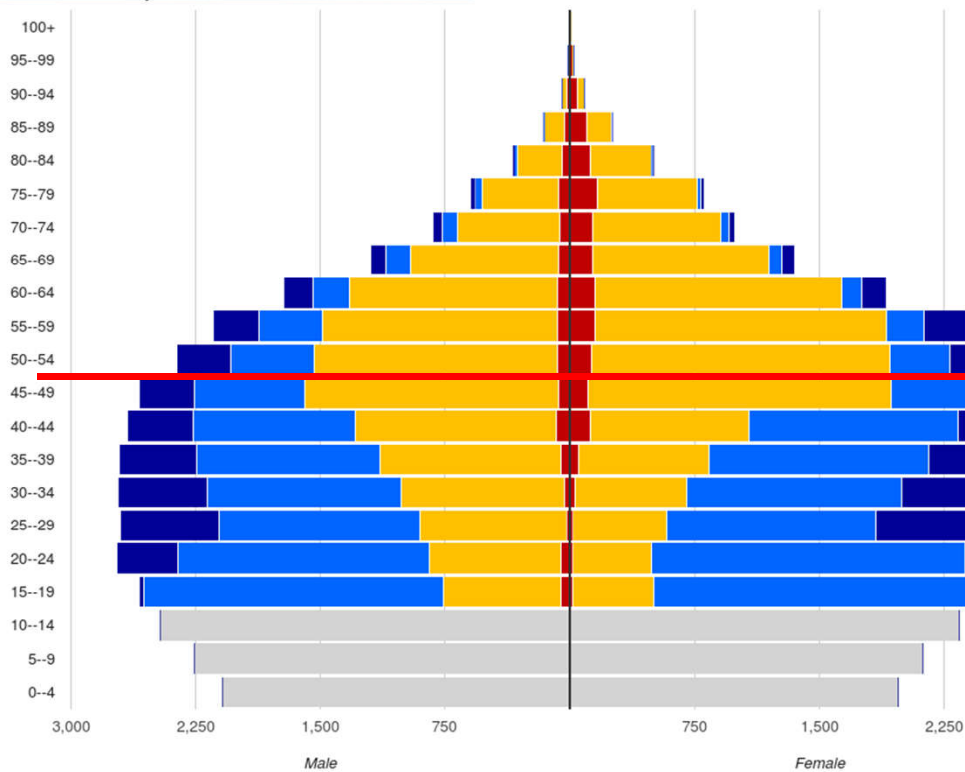
Estimated distributions
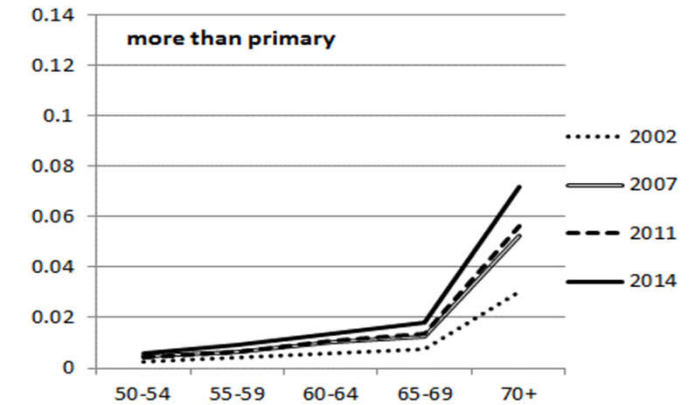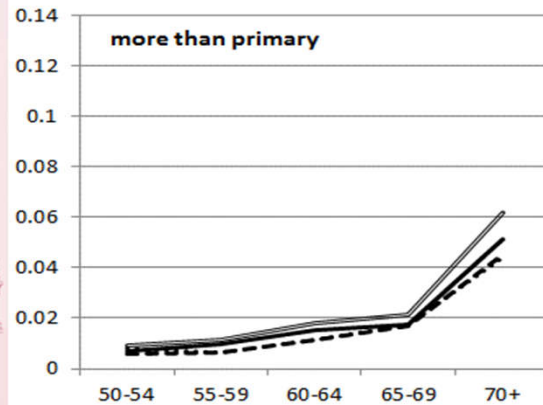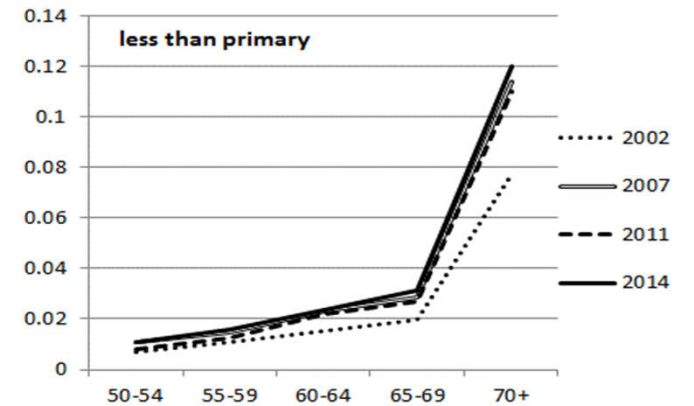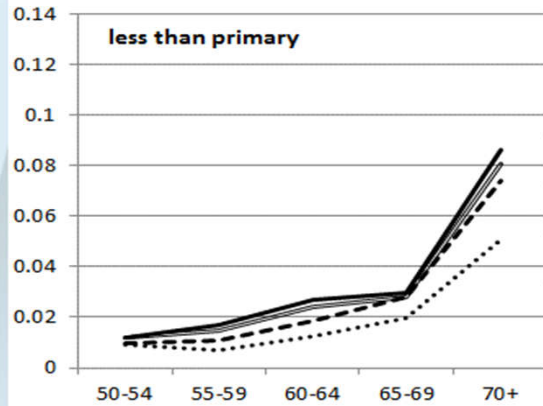
Population composition

Less than primary: 8% -> 1%
Primary: 72% -> 33%
More than primary: 20% -> 66%

2015

2050

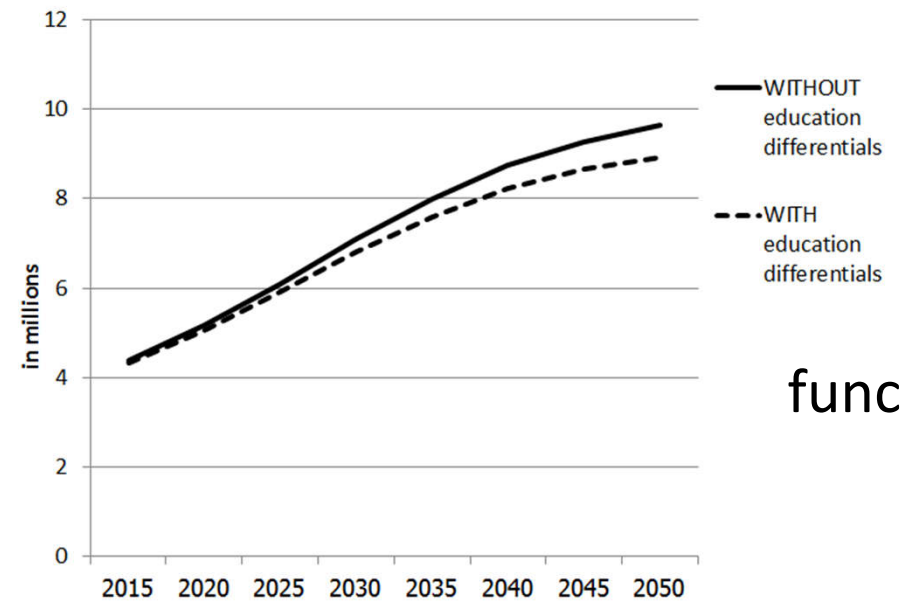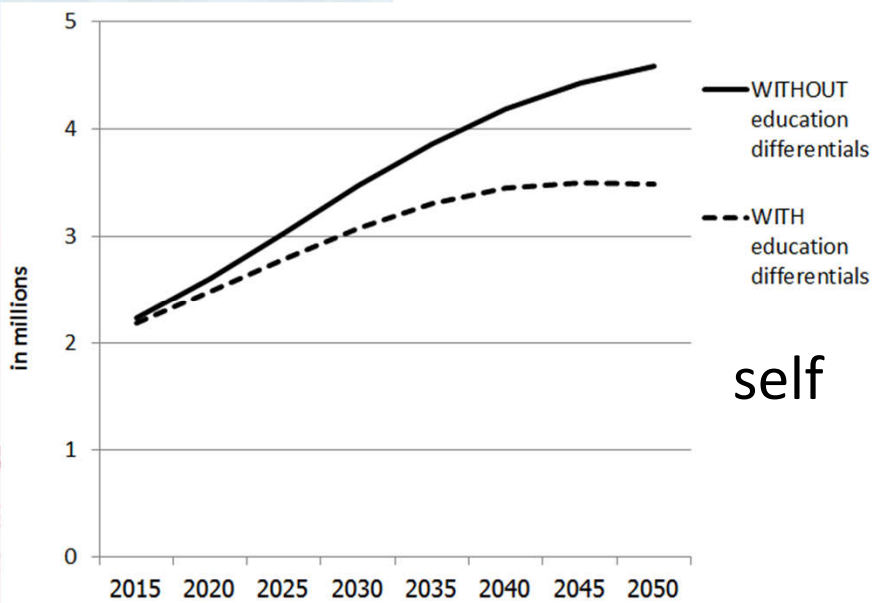Under 15 | No Education | Primary | Secondary | Post Secondary

Projections of persons with ADL, SRH and functional limitations, 2015 to 2050
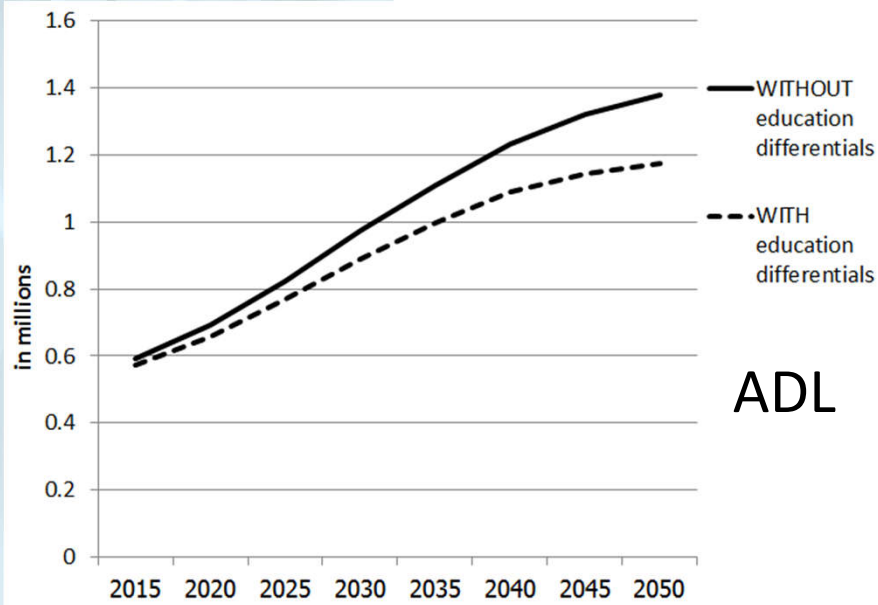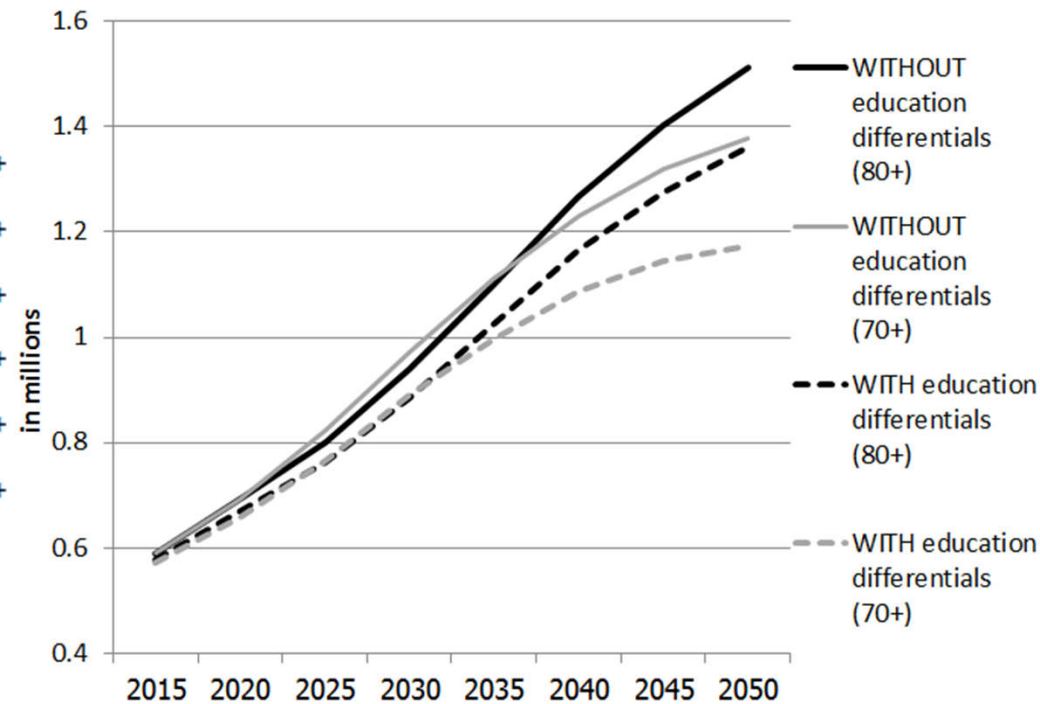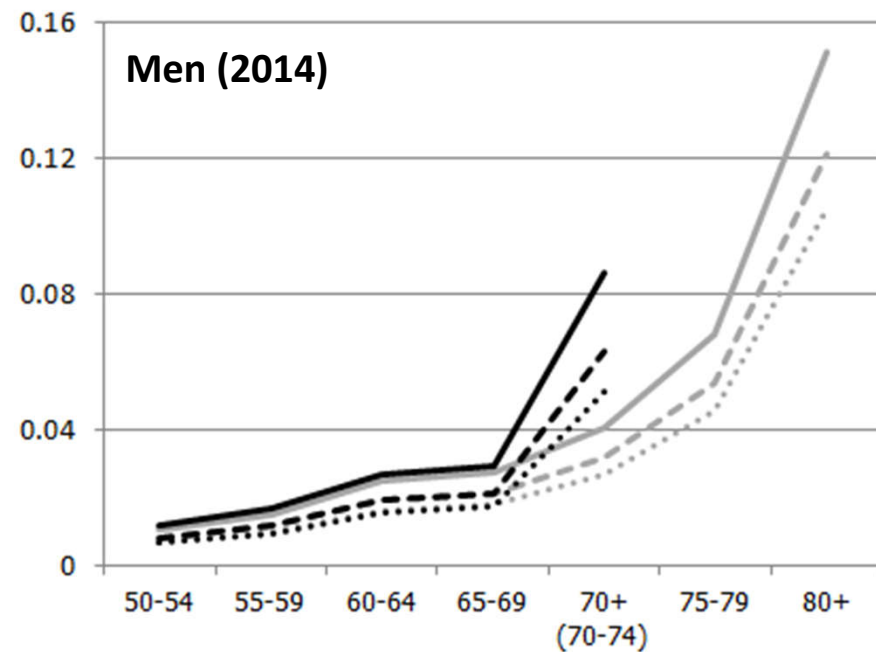

ADL

func

self

Constant education gradients -> changes in education composition reduce number of persons with ADL (15%), functional limitations (7%) and poor self-rated health (24%)

Projections of persons with ADL, 2015 to 2050: Effect of selection of last open-ended age-group (70+ vs. 80+)

Men (2014)

E1_80+
E2_80+
E3_80+
E1_70+
E2_70+
E3_70+

WITHOUT education differentials (80+)
WITHOUT education differentials (70+)
WITH education differentials (80+)
WITH education differentials (70+)

in millions

E1: less than primary education
E2: primary education
E3: more than primary education

Estimated distributions

Discussion and conclusion

- Development over time of age-specific prevalences
  - Self-rated health: lower prevalence of bad health
  - ADL difficulties: increase in shares with any ADL difficulty
  - Functional limitation: mixed picture
- Education-specific prevalences
  - Education gradient in expected direction
  - Most pronounced gradient for self-rated health
- Keeping education gradients constant -> fewer people with bad health/limilations than when education is not considered

- Small variation in educational attainment of elderly
- Meaning of each education category in the future? (relative distributions)
- What is „stronger", effect of education on life-expectancy (mortality) or on health status (morbidity)?

- Next steps:
  - Inclusion of urban/rural dimension
  - Consideration of time-trends, where possible
  - Scenarios with changing education gradient

Thank you!

Comments and questions are welcome

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