Education-Specific Labor Force Projections: Painting the Global Picture

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Session "Beyond projections by age and sex"

Outline

- Motivation: Why education as additional labor force dimension?

- Data situation: past and present

- Projection methods

- Issues with open-ended age-groups

- Conclusion

Motivation

- Global picture: population growth and population aging

- Both developments are directly connected to developments of labor supply

- Labor force projections by age and sex common

- Presented education-specific labor force projections for Europe at last workshop in Rome (2013)

- Why education?
    - Differentials in labor force participation (LFP) by education
    - Populations' changing education composition
    - Cohort aspect (educational expansion)
    - Productivtiy and education
    - Role of education in explaining past changes in participation rates

# Status quo: past and present LF data

- ILO: most comprehensive data bases (ILOSTAT, KILM). Several labor market indicators include education information

- Caveat: simultaneous disaggregation by age, sex AND education
    - ILOSTAT: LFP by sex and age; LFP by sex and education (rates)
    - ILOSTAT: LF and working-age population by age, sex and education (abs. numbers) -> calculation of LFP rate by age, sex and education for ca. 80 countries

- Issues with global data on education-specific LFP
    - Microdata available for large number of countries
    - Coverage (census, survey,…)
    - National and harmonized education levels
    - Age-groups: not consistent

# Example profiles of LFP by age, sex and highest level of educational attainment
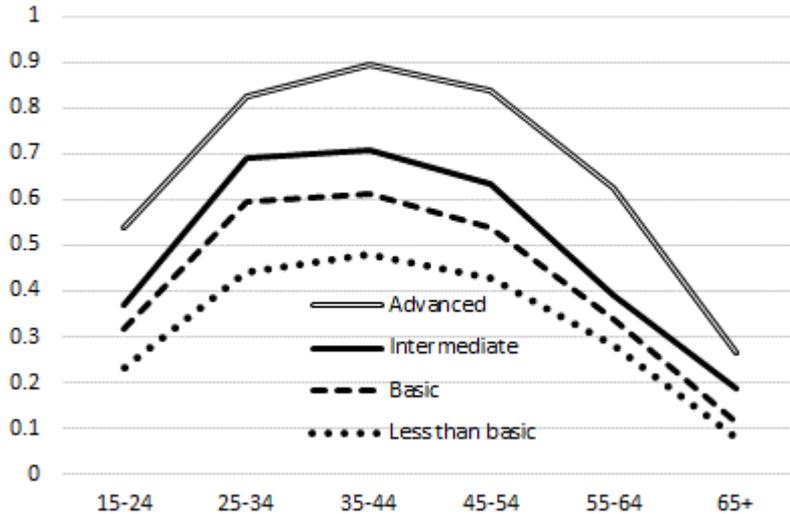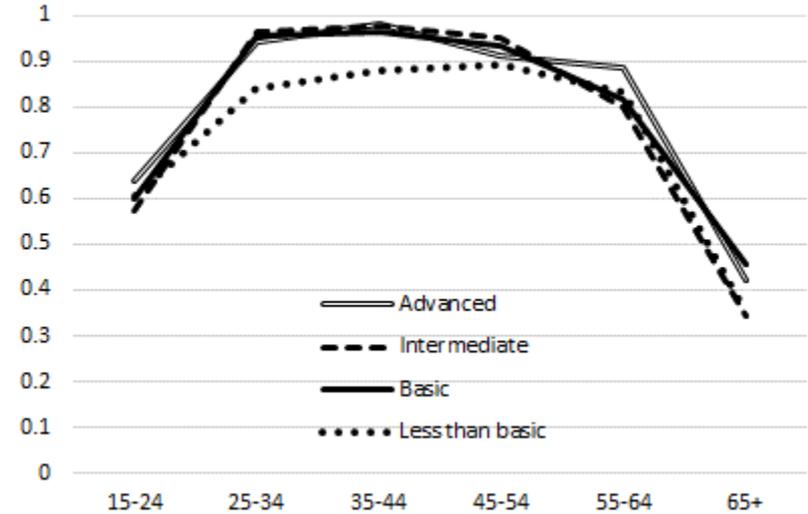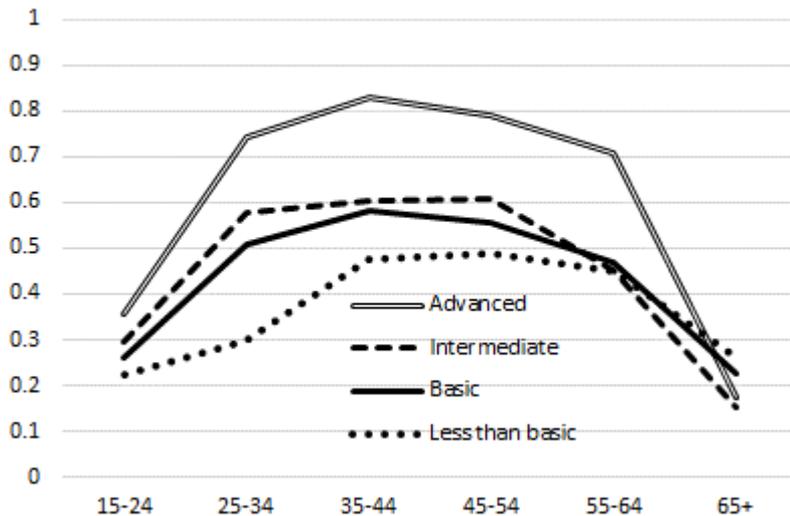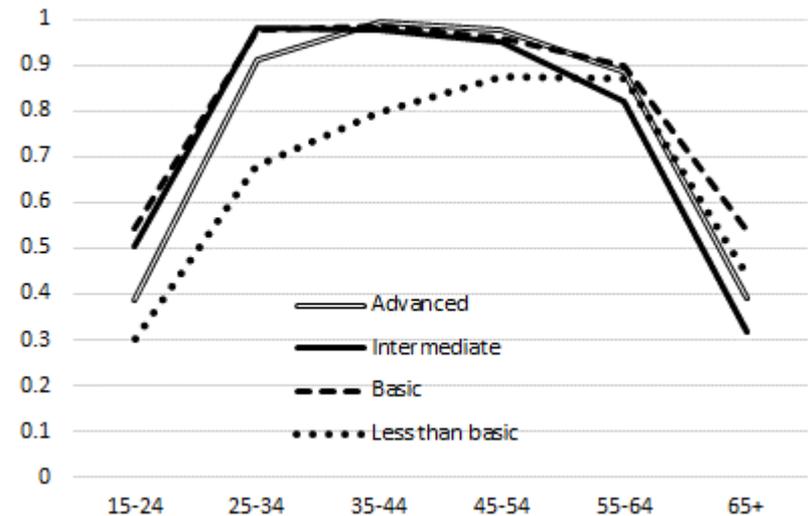
# Example profiles of LFP by age, sex and highest level of educational attainment
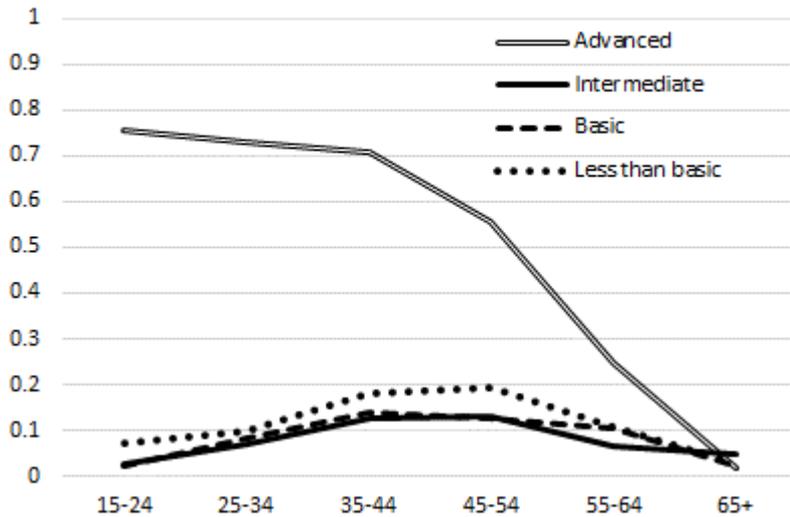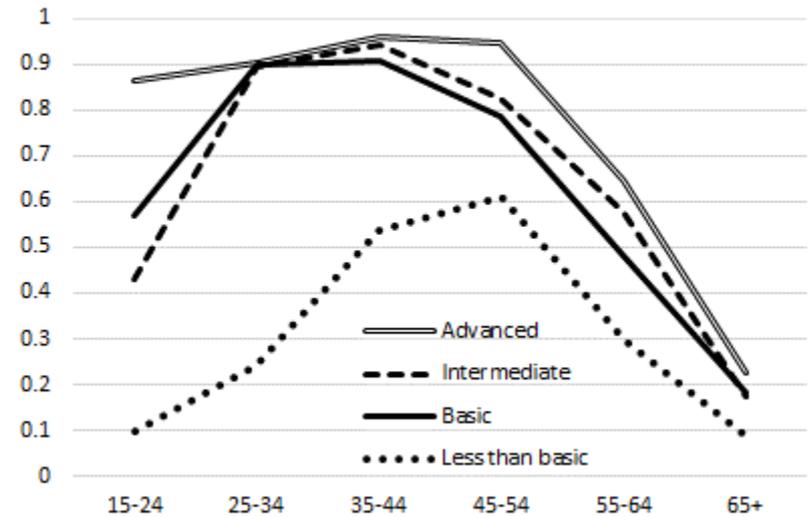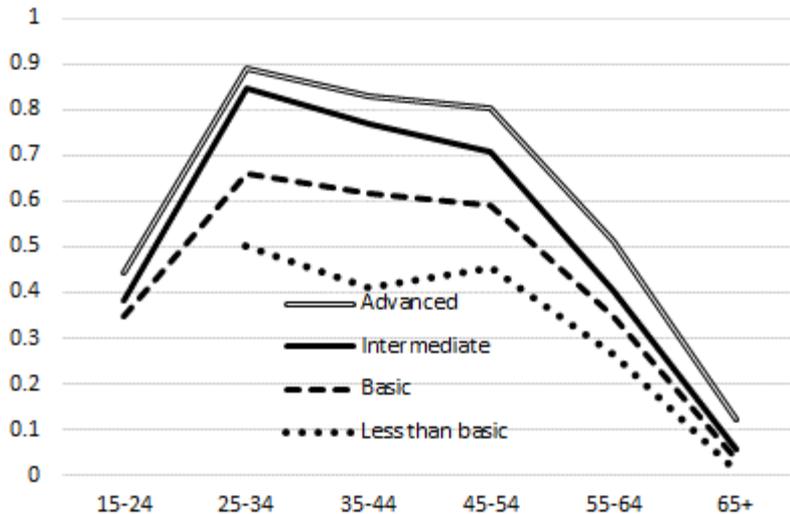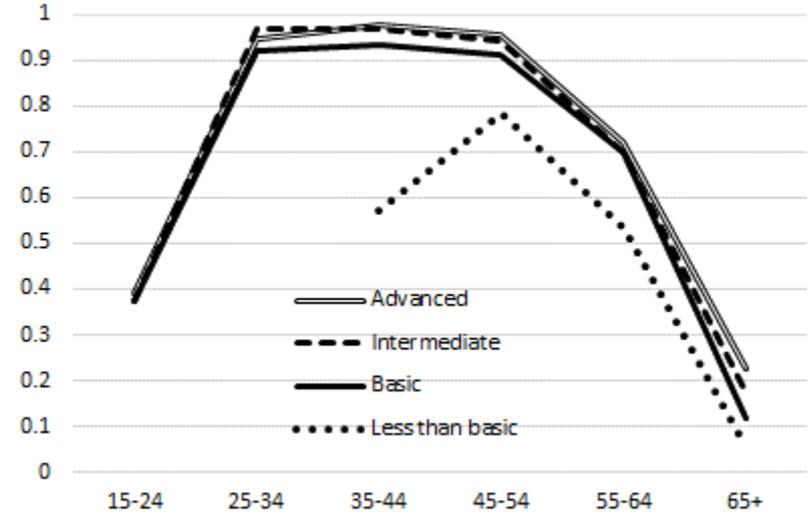
Status quo: projection methods

- In general, same methods can be applied that have been used for projections by age and sex (Houriet-Segard and Pasteels 2011; ILO 2013)

  - Time-series extrapolation

  - Regression analyses

  - Qualitative/target approach

  - Cohort analysis

- Potential issues
  - Choice of education categories constrained by country-specific education distributions
  - Additional breaks in series
  - Fewer data points than for LFP rates by age and sex

- Population projections by age, sex and highest level of educational attainment for 195 countries, 1970 to 2100 (Wittgenstein Centre for Demography and Global Human Capital; Lutz, Butz and KC, 2014)

Issue with open-ended age-groups

- Sometimes vague usage of „(total) labor force participation rate"

- This is a particular issue when the population composition is shifting towards higher age-groups

- Changes in age-specific participation rates are confounded with changes in populations' age-composition

- Change in total LFP rate over time (% of population 15+):

  - Interpretation as share of adult population that is economically active is no problem
  - Problem: interpretation of decline in total LFP as decline in underlying (age-specific) participation rates

# Open-ended age-groups: the case of Japan

LFP rates men
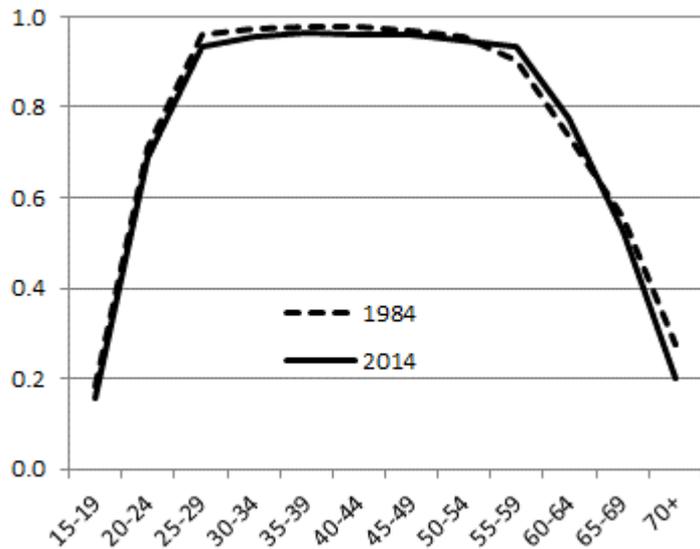
LFP rates women
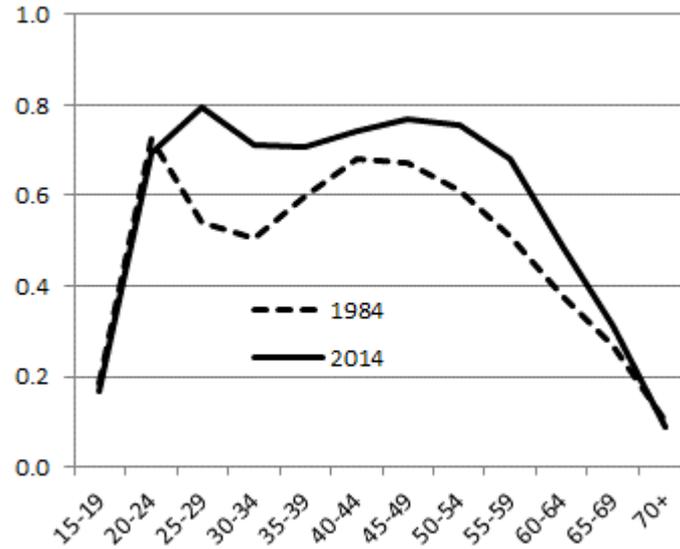
Changes in participation rates

age-groups	men		women	
	1984	**2014**	**1984**	**2014**
15+	0.79	0.70	0.49	0.49
25+	0.87	0.74	0.50	0.50

Changes in age-composition
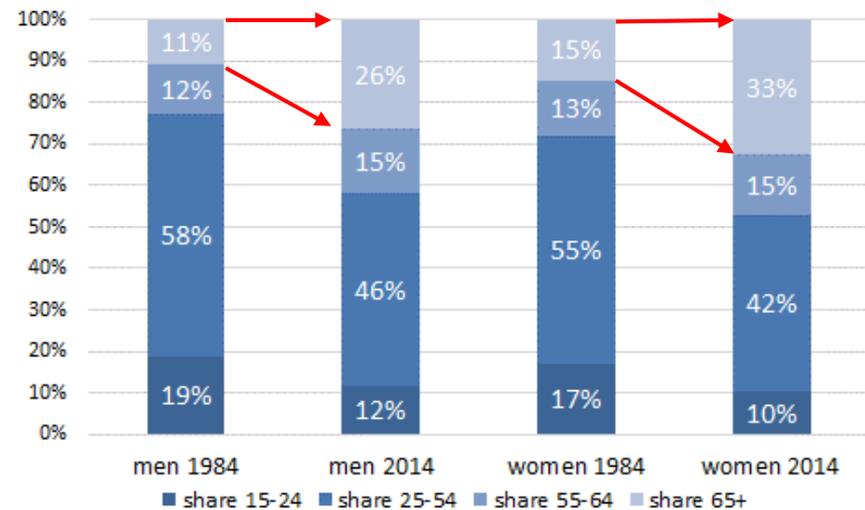
Conclusion

- Adding education to projections of labor supply is a promising endeavor

- Challenges and caveats in compilation of past and baseline data

- Having a solid database about past and present LFP by age, sex and education would also be useful for detailed labor force analyses

- Interpretation of LFP rates for open-ended age-groups pose a particular problem in aging populations

- For labor force projections, having closed-ended data for as high ages as possible is crucial

Thank you!

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