Not all transitions are equal:

The effect of differences between men and women in educational expansion on educational inequality in the Netherlands between 1912 and 1988

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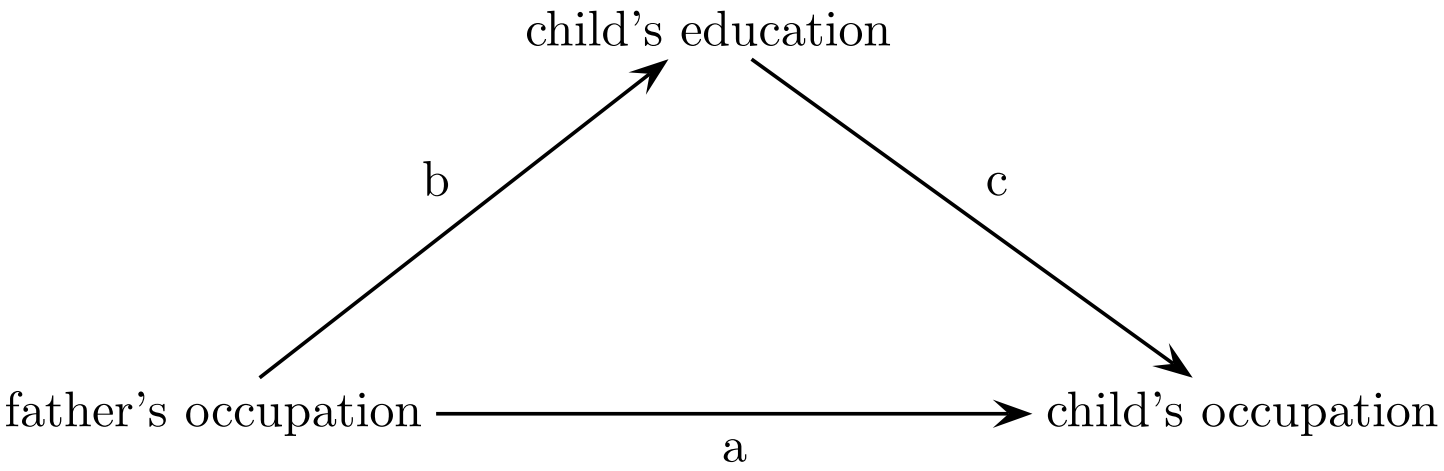
Outline

- Introduction
- Dutch educational system, Educational expansion, and the data
- The effect of the distribution of education on inequality of educational opportunity
- The interpretation of the effect of the distribution of education on inequality of educational opportunity
- Conclusion

Social Stratification Research

- Centered around a biannual conference organized by the RC28.
- Consists mainly of extension of the Blau Duncan (1967) status attainment model.
- this presentation focusses on arrow b: Inequality of Educational Opportunity

simplified Blau Duncan Model



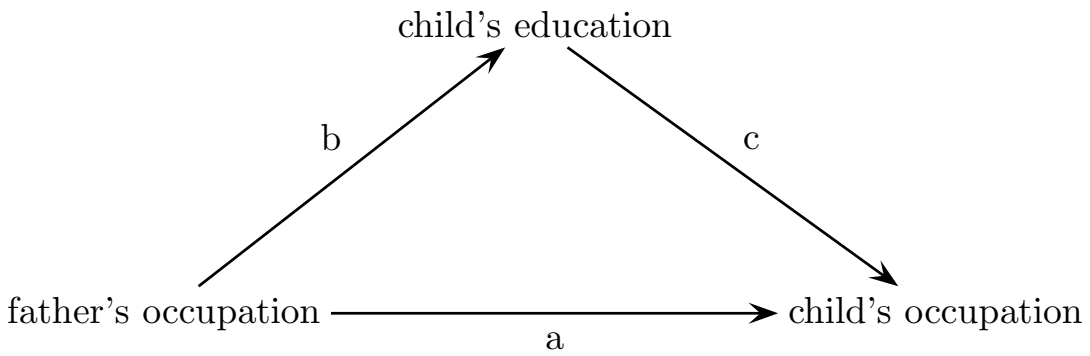
measuring effects on education

- Family background influences the probabilities of moving from one level of education to the next (arrow b).

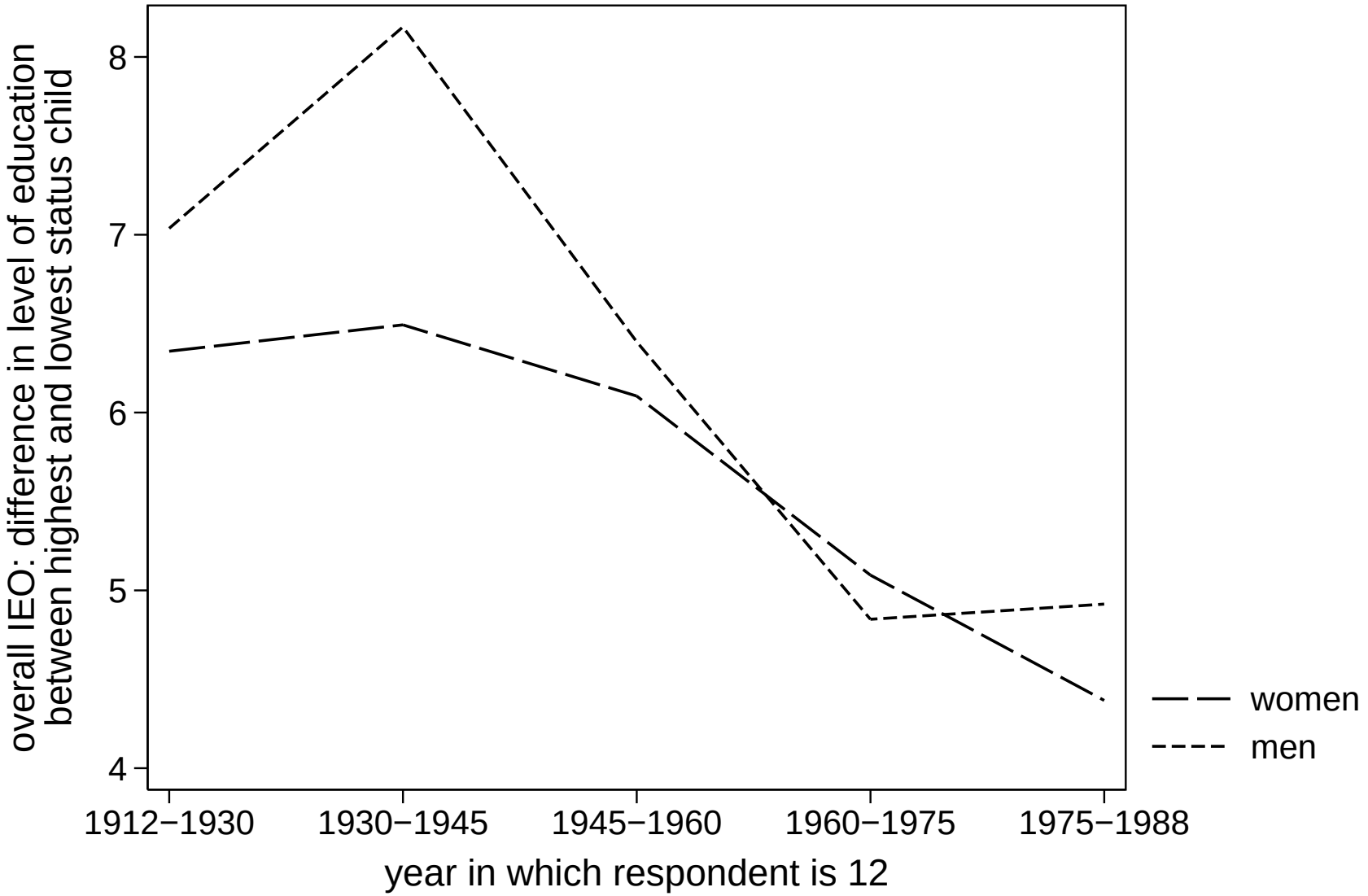
  partial IEOs: Effects family background on probabilities of passing transitions.

- The highest achieved level of education influences later life chances (arrow c).

  overall IEO: Effect family background on highest achieved level of education.



Overall IEO for men and women across cohorts



partial and overall IEO

- the differences between men and women can be explained at looking which transitions were important for men and women.
- The partial IEOs (effects on making transitions) add up to the total IEO (effect on highest achieved level of education),
- *but* not every partial IEO is equally important.
  - the proportion of people at risk of passing that transition,
  - how universal passing (or failing) that transition is, and
  - the difference in expected level of education between those who pass the transition and those who fail to do so.

Research question

- Can the differences in trend in overall IEO between men and women be explained by differences in the distribution of education?
  - On average women from older cohorts get less education then men from the same cohort, this difference has disappeared in recent cohorts.
  - On average people from more recent cohorts get more education.

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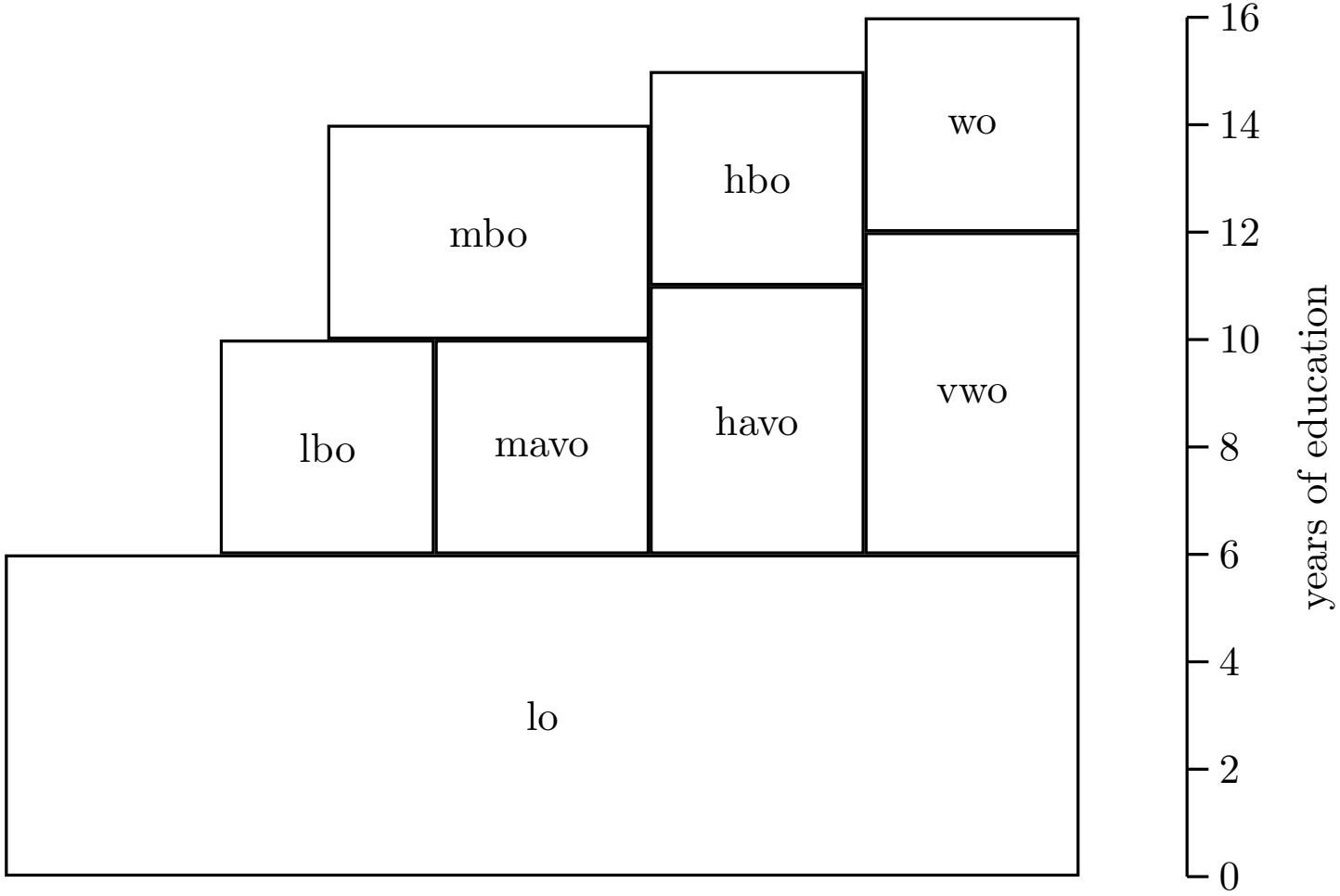
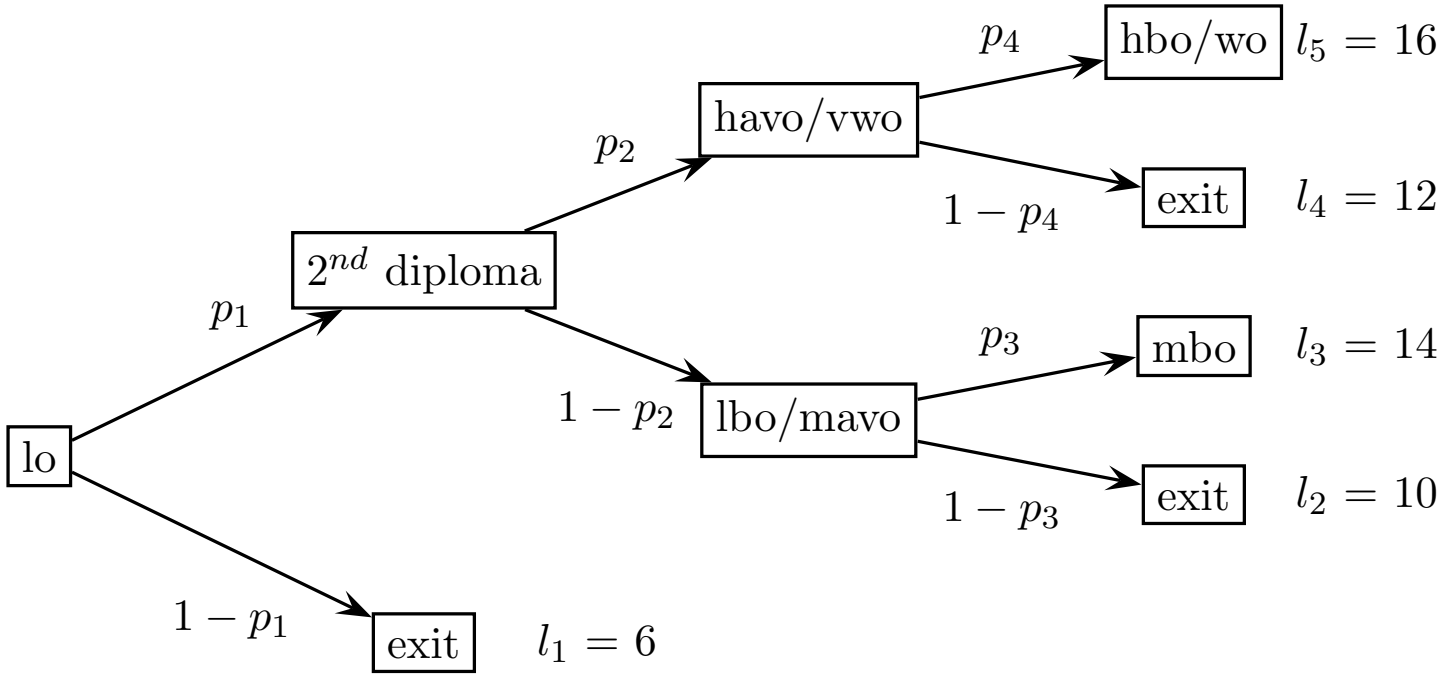
Dutch schooling system



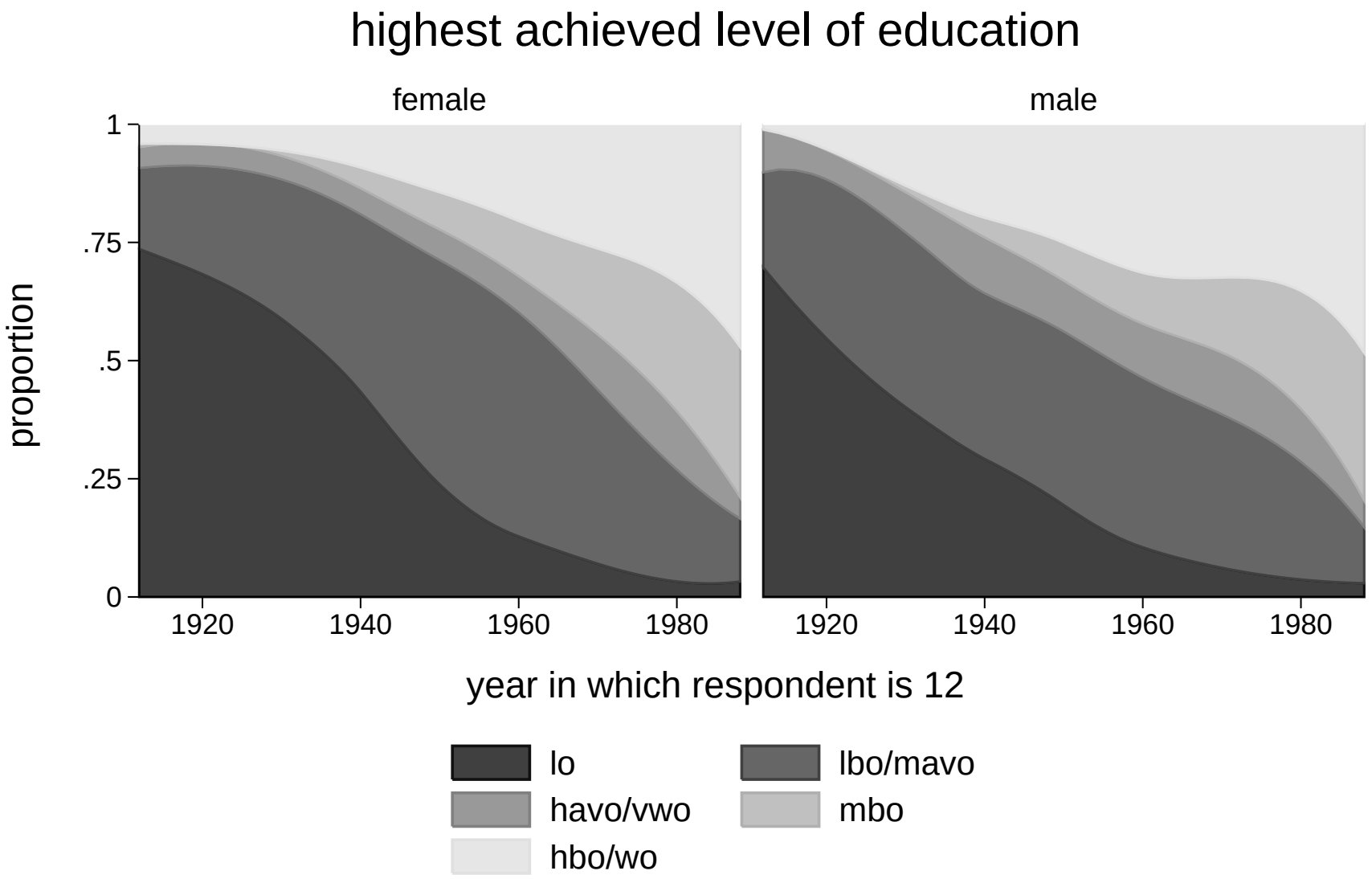
Model of Dutch schooling system



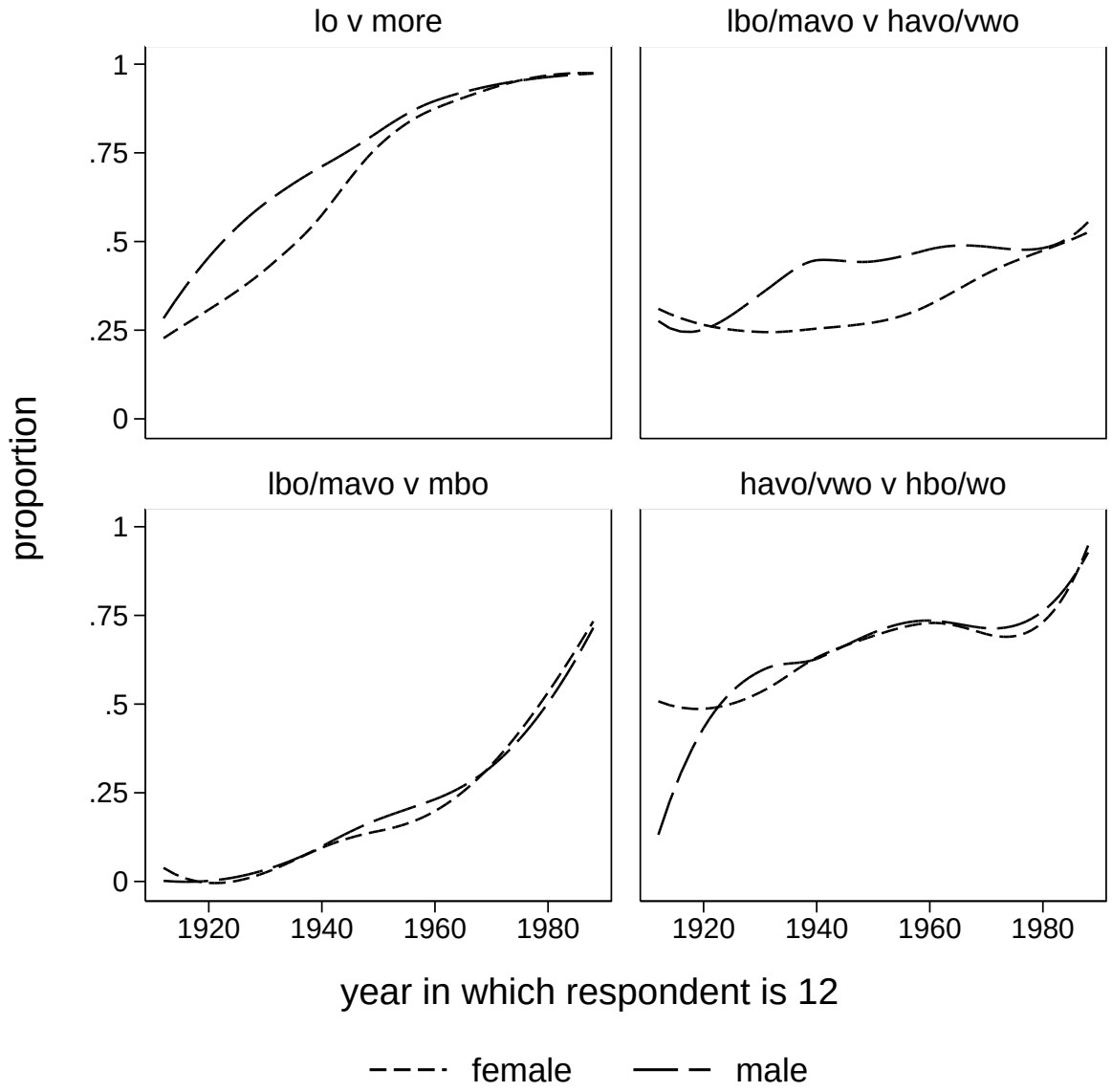
Data

- International Stratification and Mobility File (ISMF) on the Netherlands.
- 50 surveys held between 1958 and 2003 with information on cohorts 1912-1988.
- 67,000 respondents aged between 24 and 65 have complete information on father's occupation, child's education, year of birth, and gender.
- Number of cases are unequally distributed over cohorts.

highest achieved level of education



Proportions passing transitions



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Partial and Overall IEO

- The aim is to explain differences in the trend in overall IEO between men and women
- These differences could be caused by the fact that inequalities at some transitions may be more important for men then for women.
- Overall IEO is a weighted sum of the partial IEOs.
- Inequality at a transition can become more important if
  - more people are at risk
  - passing or failing that transition is not universal
  - difference in expected level of education between those who pass and those who fail gets larger

Partial and Overall IEO

- overall IEO is the difference in average level of education between children from high status and low status children
- partial IEOs are the differences in probabilities of passing transitions between levels of education between children of high status and low status parents.
- If you know the probabilities of passing transitions you can calculate the average level of education

Average level of education

Overall IEO

- The effect of family SES on highest achieved level of education.
- Difference in average level of education if family SES changed by one unit.
- These are the slopes of the curves in the previous slide.

Overall IEO

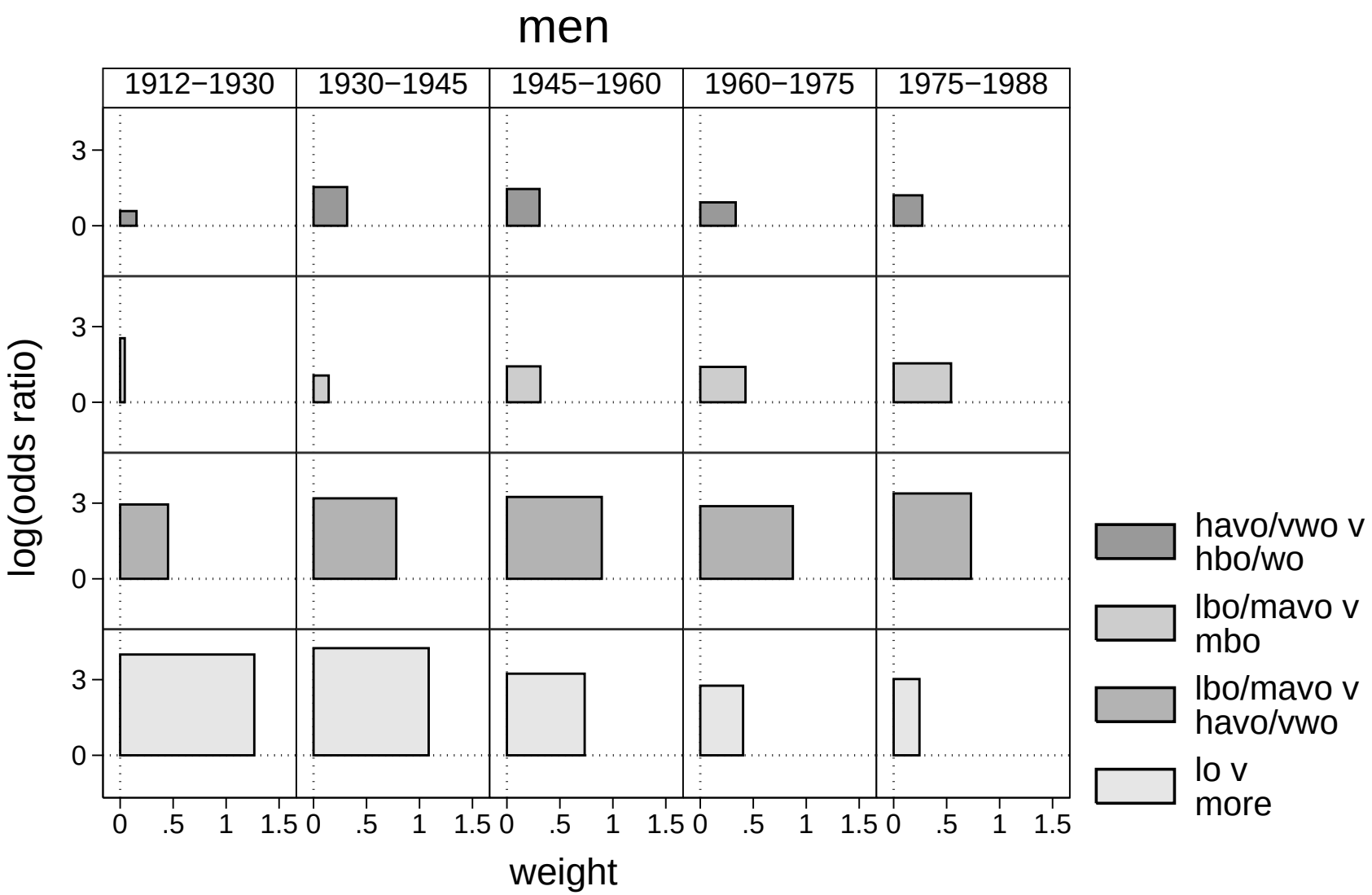
- These slopes can be calculated
- They turn out to be a weighted sum of partial IEOs:

$$\begin{aligned} OverallIEO &= w_1 \times partialIEO_1 + w_2 \times partialIEO_2 + \\ & \quad w_3 \times partialIEO_3 + w_4 \times partialIEO_4 \end{aligned}$$

- The weights are:

proportion at risk $\times$
universalness of passing or failing $\times$
gain from passing

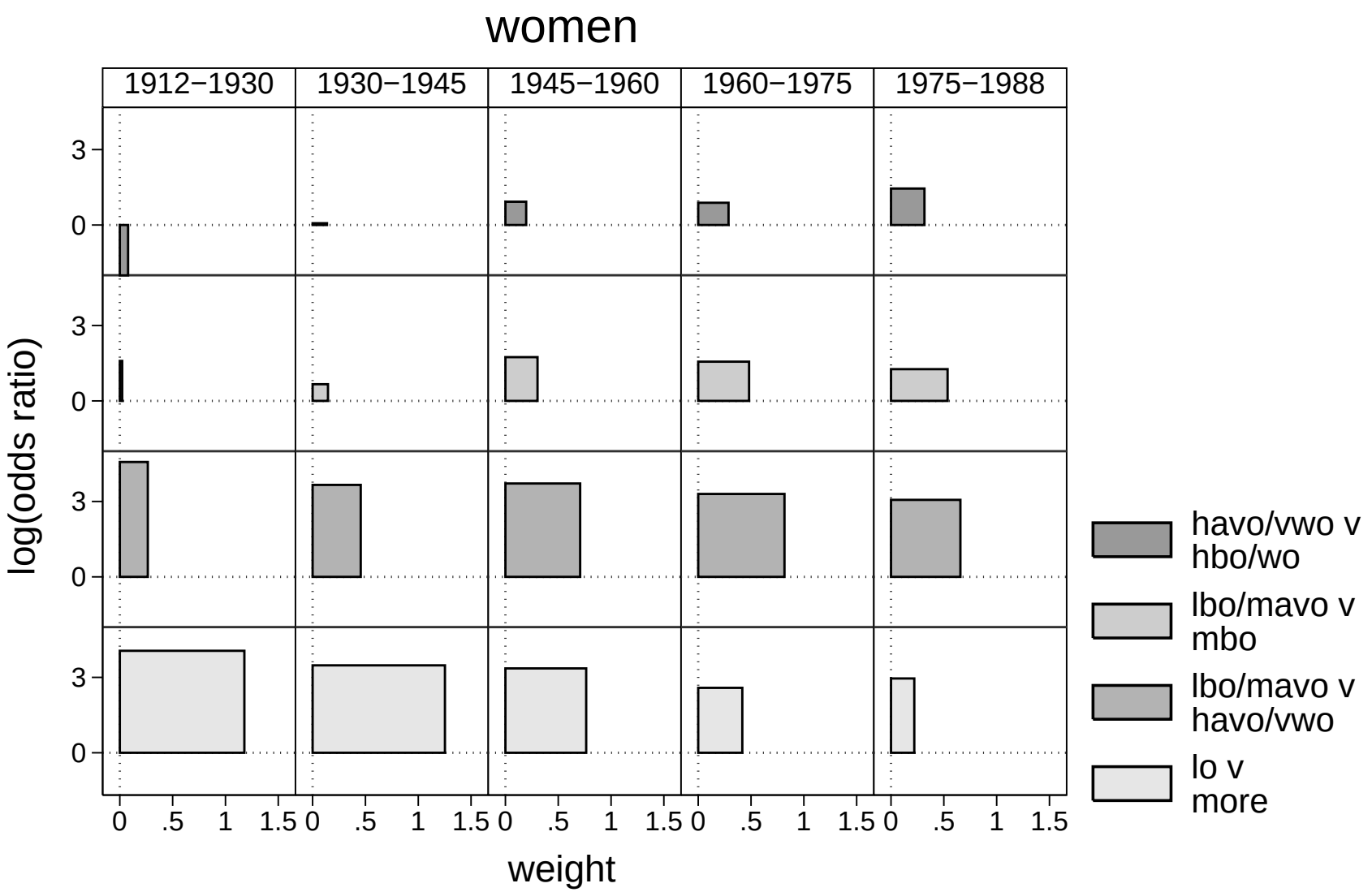
Effect distribution on overall IEO for men across cohorts



Effect distribution on overall IEO for men

- main changes in overall IEO due to first two transitions: continue or not after primary education and entering the high or the low track.
- initial increase in overall IEO caused by the second transition becoming more important
- later decrease in overall IEO caused by the first transition becoming less important

Effect distribution on overall IEO for women



Effect distribution on overall IEO for women

- main changes in overall IEO also due to first two transitions.
- initially there was no increase in overall IEO because the second transition becoming more important.
- During 1945-1960 the increase in importance of the second transition canceled out the decrease in importance of the first transition.
- Only after 1960 did overall IEO decrease due to the first transition becoming less important

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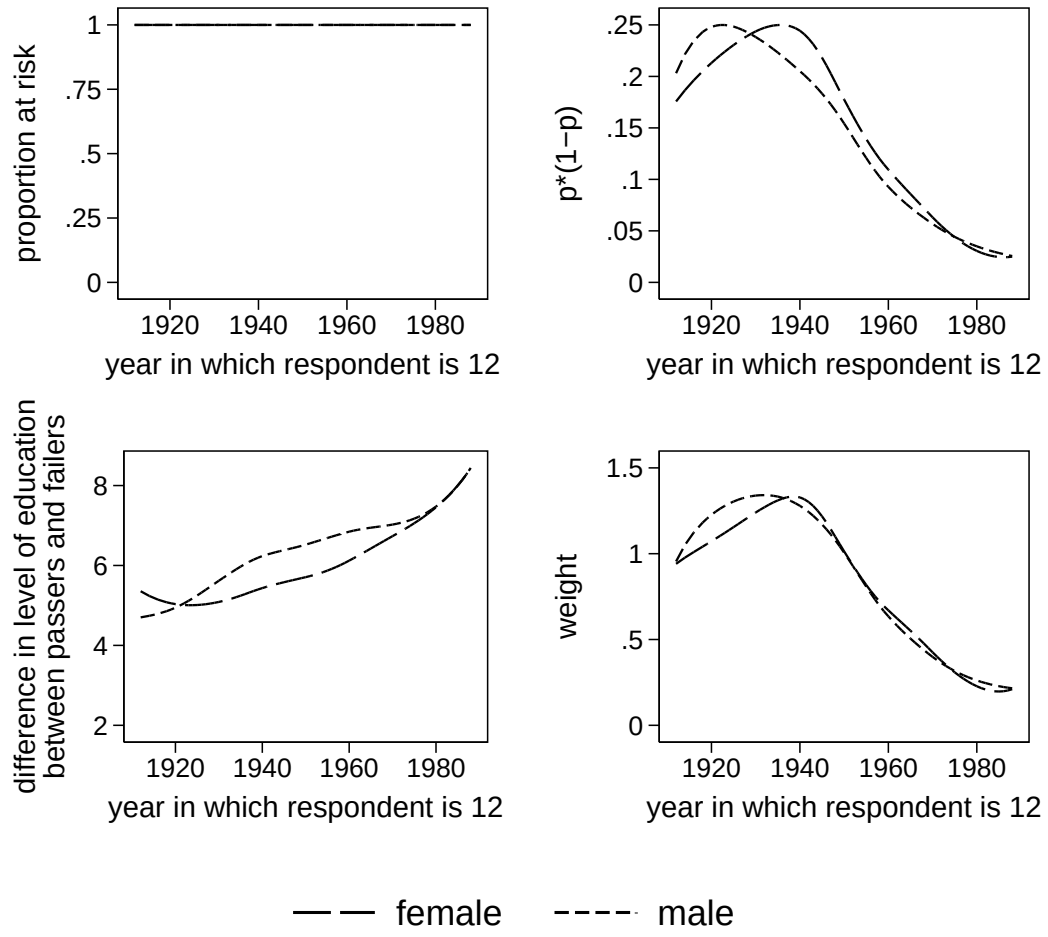
Weights

The weights are:
proportion at risk $\times$
universalness of passing or failing $\times$
gain from passing

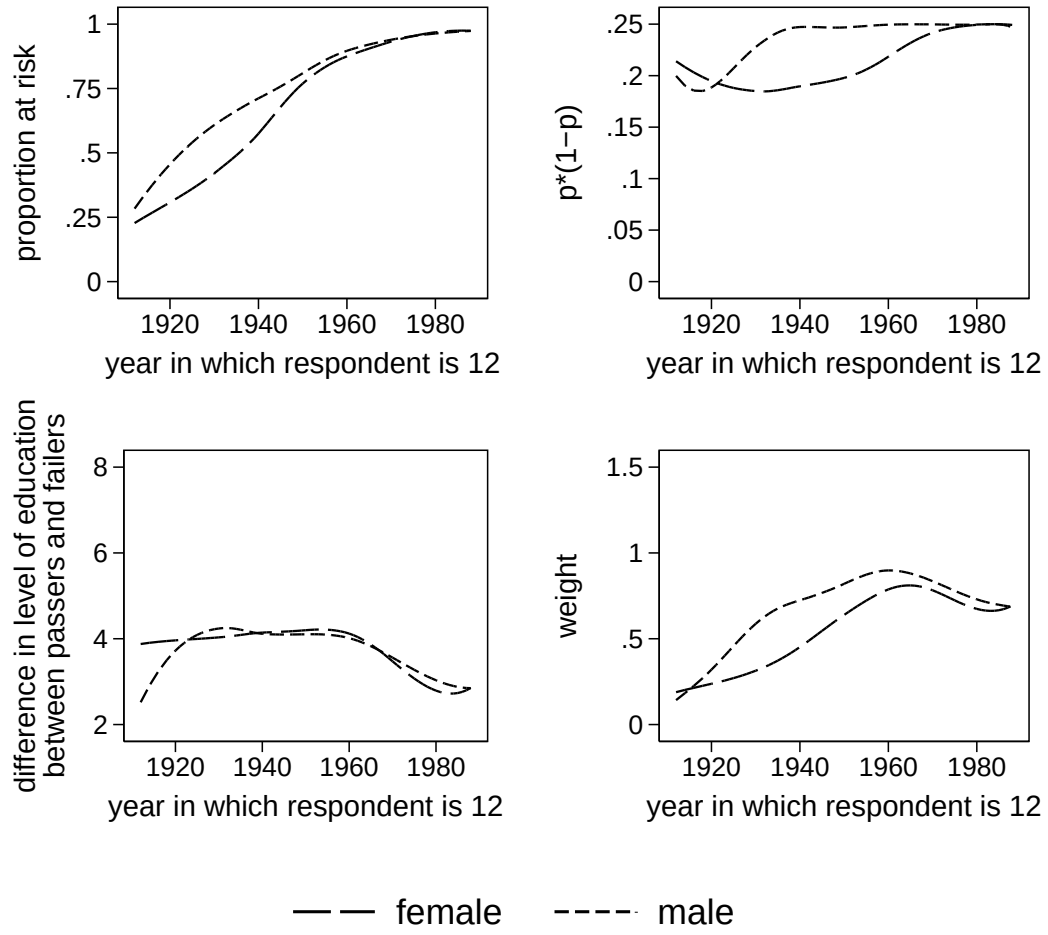
The distribution of education and weights

The transition between lo and more.



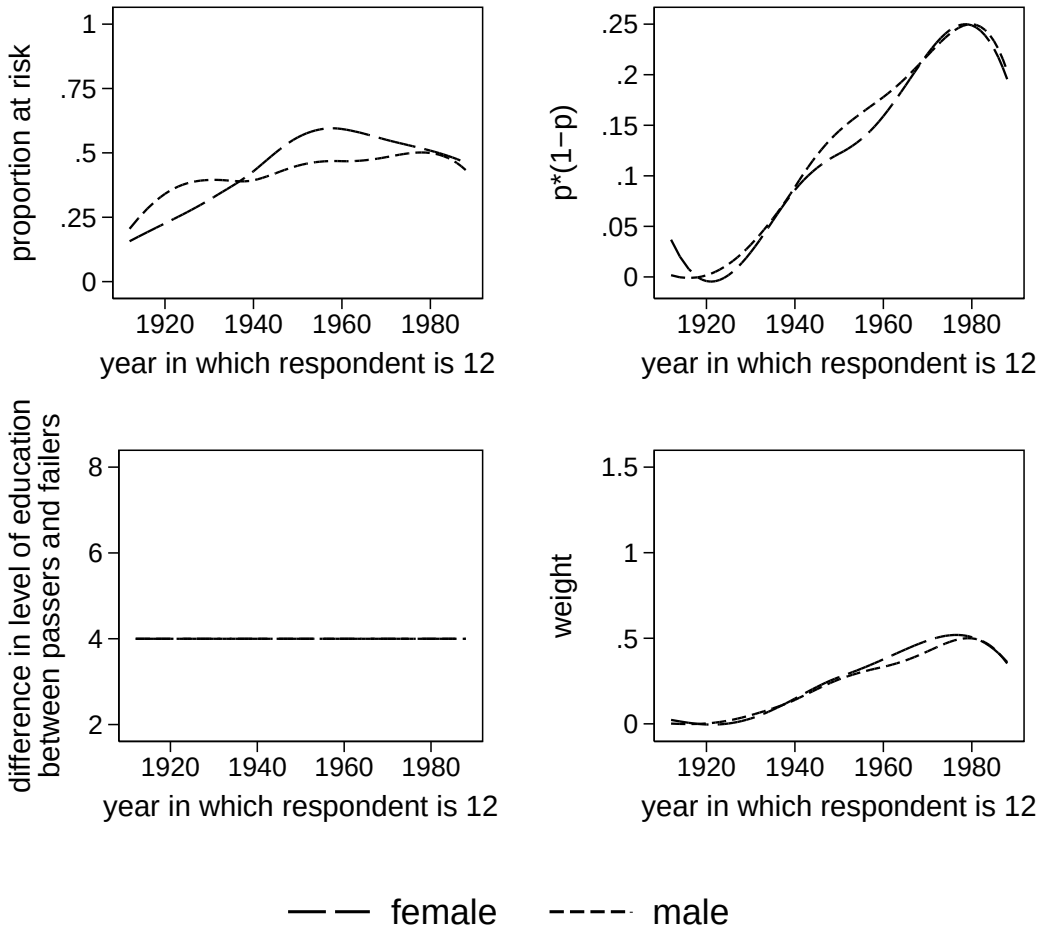
The distribution of education and weights

The transition between lbo/mavo and have/vwo



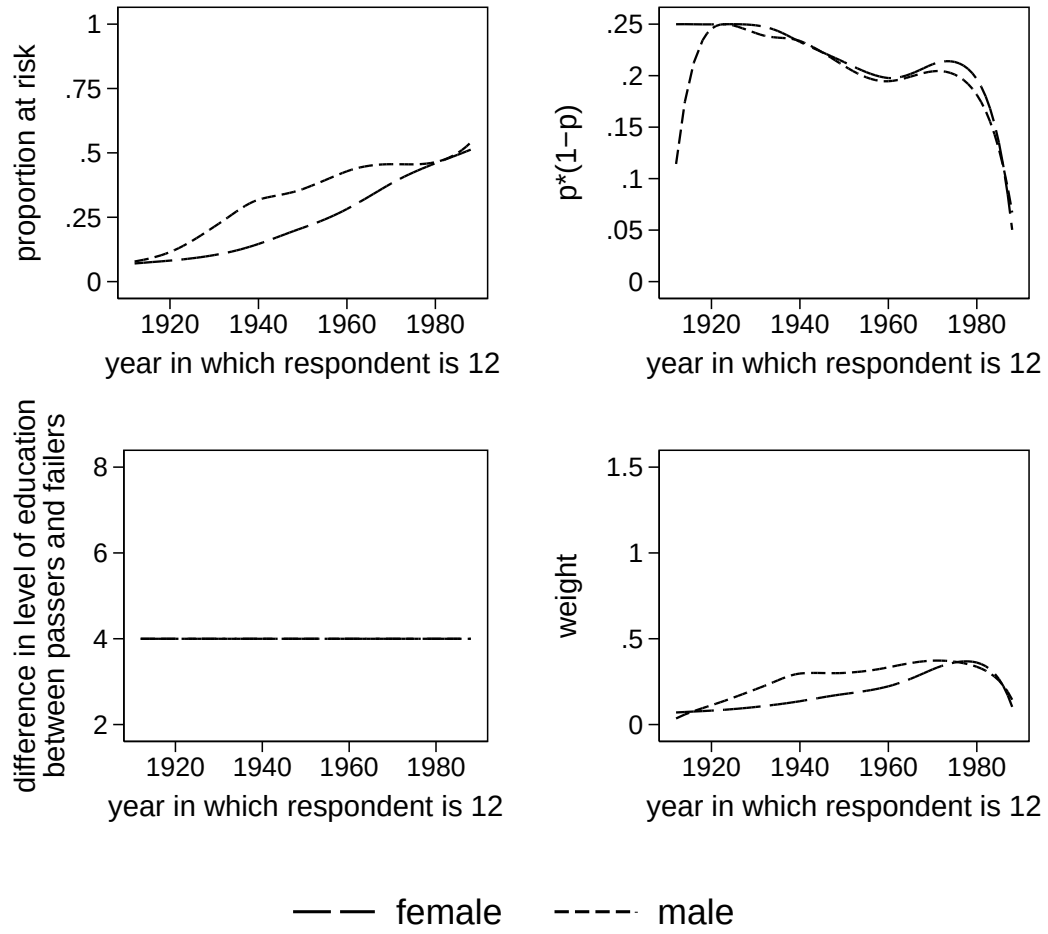
The distribution of education and weights

The transition between lbo/mavo and mbo



The distribution of education and weights

The transition between have/vwo and hbo/wo



Conclusions (1)

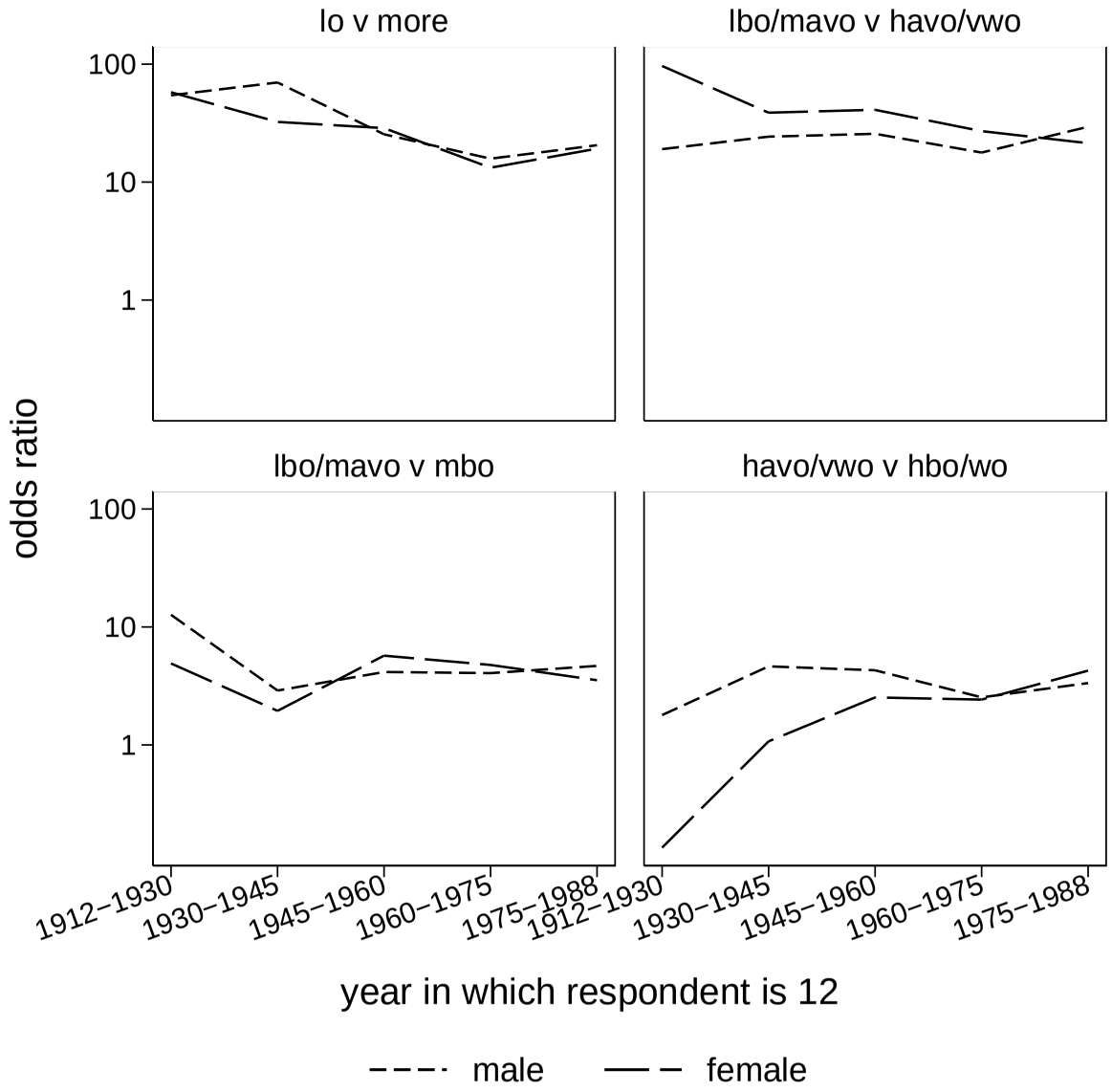
- Men saw a rapid increase in overall IEO followed by a rapid decrease, while women did not experience an increase in overall IEO and the decrease happened later.
- Both trends are the results of the same two processes:
  1. The partial IEO associated with the choice to continue after primary education has become ever less important as passing this transition has become ever more universal.
  2. The partial IEO associated with the choice to go after primary education to either the low or the high track has become ever more important as ever more people become at risk of making this decision, and as the proportion choosing to go to the high track increases to close to 50%.

Conclusions (2)

- process 2 was much more gradual for women then for men, because women continued, till the 1960s, to be unlikely to enter the high track.
- The rapid increase and later decrease of overall IEO for men is explained by process 2 and 1 happening consecutively.
- The initial absence of trend and later declining trend for women is explained by process 2 and 1 initially canceling each other out, and later process 1 getting the overhand.

extra sheets

Partial IEO for men and women across cohorts



Overall and partial IEO

Two steps:

1. The relationship between probabilities of passing transitions and average level of education.
2. The relationship between average level of education and overall IEO.

continuation probability and average level of education

- What if:
  - there are only two levels of education: low (6 years) and high (12 years)
  - the probability of achieving high is 25%, and
  - the probability of achieving the low level of education is 75%
- the average level of education is $.75 \times 6 + .25 \times 12 = 7.5$
- or $p_{low} \times l_{low} + p_{high} \times l_{high}$
- this can be generalized to more levels.

continuation probability and average level of education

$$
\begin{aligned}
E(ed) \quad = \quad & (1 - p_{1i})l_1 + \\
& p_{1i}(1 - p_{2i})(1 - p_{3i})l_2 + p_{1i}(1 - p_{2i})p_{3i}l_3 + \\
& p_{1i}p_{2i}(1 - p_{4i})l_4 + p_{1i}p_{2i}p_{4i}l_5
\end{aligned}
$$