

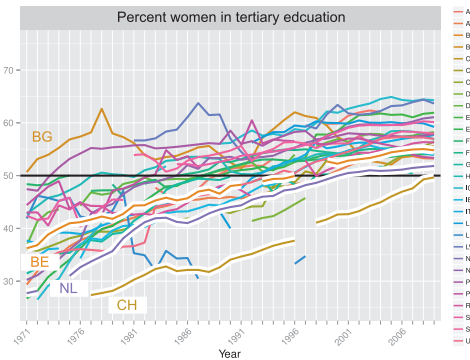
# Past Trends and Future Scenarios in Educational Assortative Mating: An Agent-Based Modelling Approach

## 1 The inequality in educational attainment has changed to the advantage of women

Until the 1970s, the vast majority of students in higher education were men.

In recent years, more women than men successfully complete higher education.

As a result, there are more highly educated women than men on the marriage market.

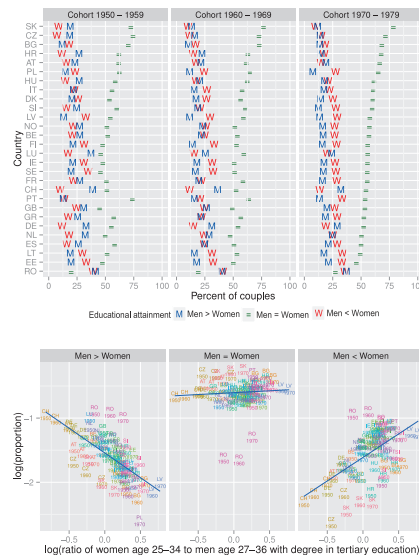


## 2 First evidence that the new mating squeeze affects educational assortative mating

Since many decades, educational homogamy has been dominant. If partners differed in their educational attainment, his education was typically higher than her education.

The larger the number of highly educated women became, relatively to the number of highly educated men, the less feasible traditional mating patterns became.

Today, partners still tend to be similarly educated. However, if there is a difference in their educational attainment, her education now tends to be higher than his education.

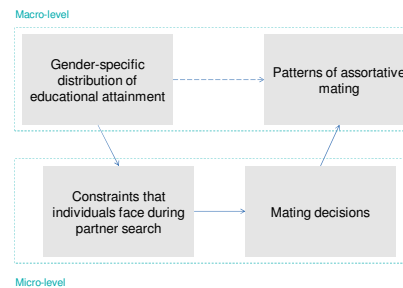


## 3 Hypotheses about future developments need to consider complex macro-micro interactions

We first build a theoretical model of mate choice on the micro-level.

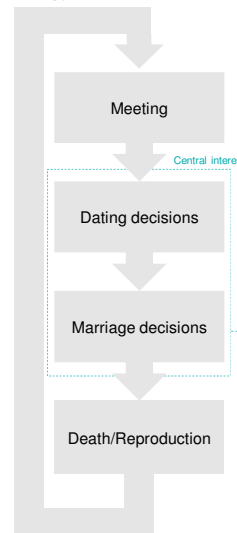
We use computational simulations to see whether our theoretical model is able to replicate observed macro-level patterns.

After calibrating the model, we use it as a virtual laboratory to explore potential future scenarios.



## 4 An agent-based computational model of European marriage markets

Modelling process



With agent-based computational modelling, we can specify theoretically motivated rules for partner search and study their implications in large populations.

Male and female agents prefer partners with high earnings prospects

Male and female agents look for partners with high subjective mate value

Importance of each dimension can differ between male and female agents

Male and female agents prefer partners with similar educational attainment

Male agents prefer partners who are in their mid-twenties; female agents prefer partners who are slightly older than themselves

$$V_{ij} = \left( \frac{S_{\max} - |s_i - s_j|}{S_{\max}} \right)^{w_s} \left( \frac{y_i}{y_{\max}} \right)^{w_y} \left( \frac{A_{\max} - |a_j - \alpha_i|}{A_{\max}} \right)^{w_a}$$

## 5 First results suggest that the model approximates actual partner search processes well

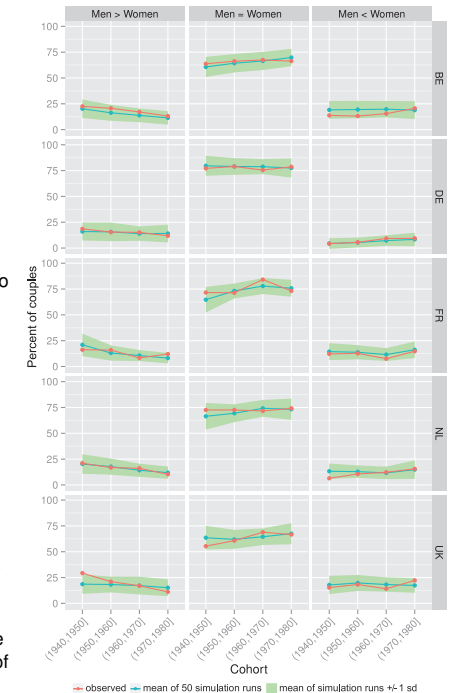
The calibrated model generates patterns of assortative mating that are similar to observed patterns.

The model can capture variation both across countries and across time.

The next step is to extend the simulation period and to explore the implications of potential future scenarios.

Potential scenarios encompass developments in the structure of the marriage market and changes in partner preferences.

For example, educational expansion might continue at its current pace or might slow down. Similarly, women and men might converge in the importance they attach to the income of partners.



### Data sources

- Reconstruction of populations by age, sex, and level of educational attainment for 120 countries for 1970-2000 by the International Institute for Applied Systems Analysis/Vienna Institute of Demography.
- European Social Survey Rounds 5 and 6.
- European Community Household Panel Waves 1 to 8.

### Acknowledgements

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