

# Union Instability as an Engine of Fertility? A Micro-simulation Model for France

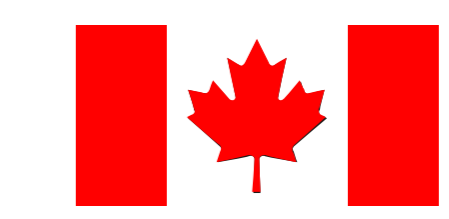


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## Abstract

Micro-level relationships between union formation or dissolution and childbearing may constitute the 'engine' of variation and change around replacement level fertility. Where unions and childbearing occur relatively late in the childbearing years and stability is relatively high, couples may settle for one child together and not be exposed to the risk of 'extra' children with a new partner. When unions and childbearing occur at moderate ages and unions frequently dissolve, however, many parents may produce a second (or third) child with a new partner. In this paper, we estimate the parameters of these micro-level relationships for female respondents to the 1999 French 'Etude de l'Histoire Familiale'. We present a micro-simulation of the implications of union dissolution for the intensities of second, third, and fourth births in France.

## Motivation

### Opposing processes

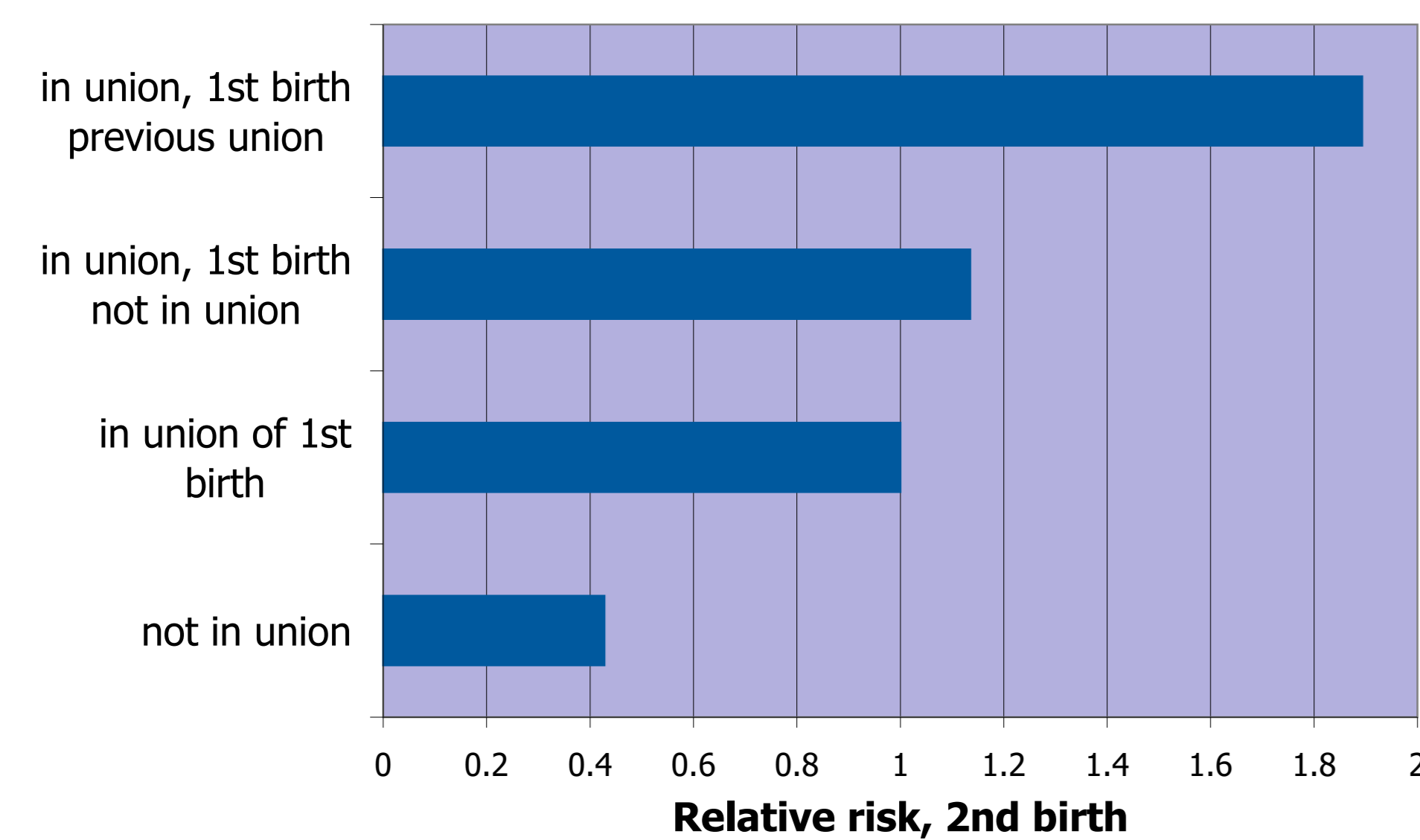
#### Union instability lowers fertility

- Avoid lone parenthood
- Reduced exposure

#### Repartnering increases fertility

- Value of shared child
- Two full siblings

Relative risk of second birth by union status of previous birth for French women born 1940-1979



- Second birth intensity is higher if first birth occurred in previous union
- Similar result for higher-order birth intensities

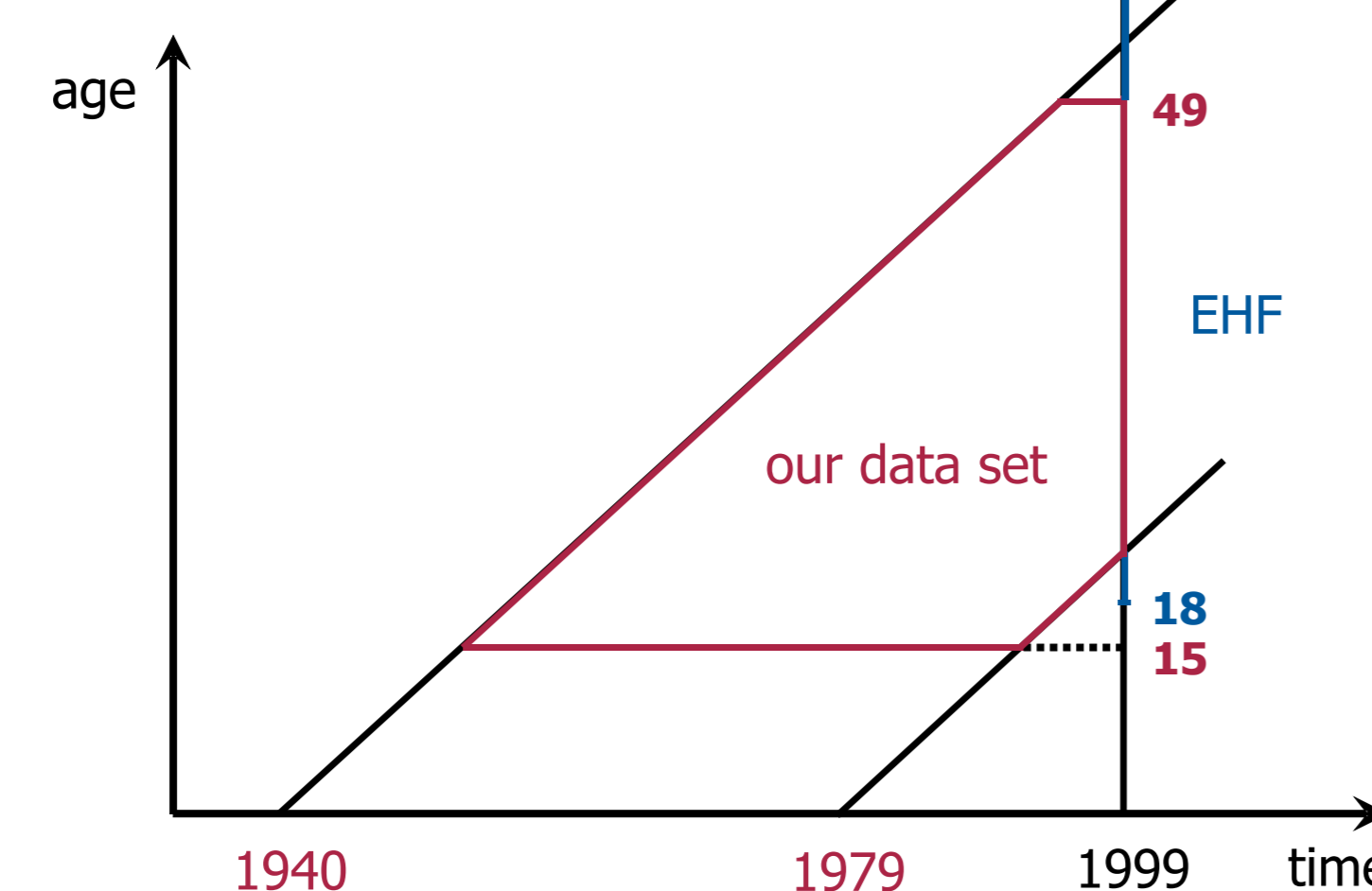
### Fertility outcome depends on...

- Timing of first birth
- Timing and prevalence of separation
- Timing and prevalence of repartnering
- Earlier, higher enhances the "engine's" performance

## Data

### Etude de l'Histoire Familiale (EHF):

- 146,000 French women
- Born 1940-1979
- Resided in France by age 15
- Interviewed in 1999
- Complete birth histories
- First and most recent union



## Modeling and Methods

### Birth & union processes

- Births (1st, 2nd, 3rd, 4th)
  - ▶ Union status of prior births
  - ▶ Age and birth cohort of ego
- Union (re)formation
  - ▶ Parity
  - ▶ Union status of prior births
  - ▶ Age of youngest child
  - ▶ Age and birth cohort of ego
- Union dissolution
  - ▶ Parity
  - ▶ Union status of births
  - ▶ Age of common youngest child
  - ▶ Age and birth cohort of ego

### Microsimulation

- Competing risk cohort micro-simulation model
- Parameters estimated by hazard regression
- Programmed in Modgen (Statistics Canada)
- 4 birth cohorts of women (n=1,000,000) representing women born in
  - ▶ 1940-1949
  - ▶ 1950-1959
  - ▶ 1960-1969
  - ▶ 1970-1979

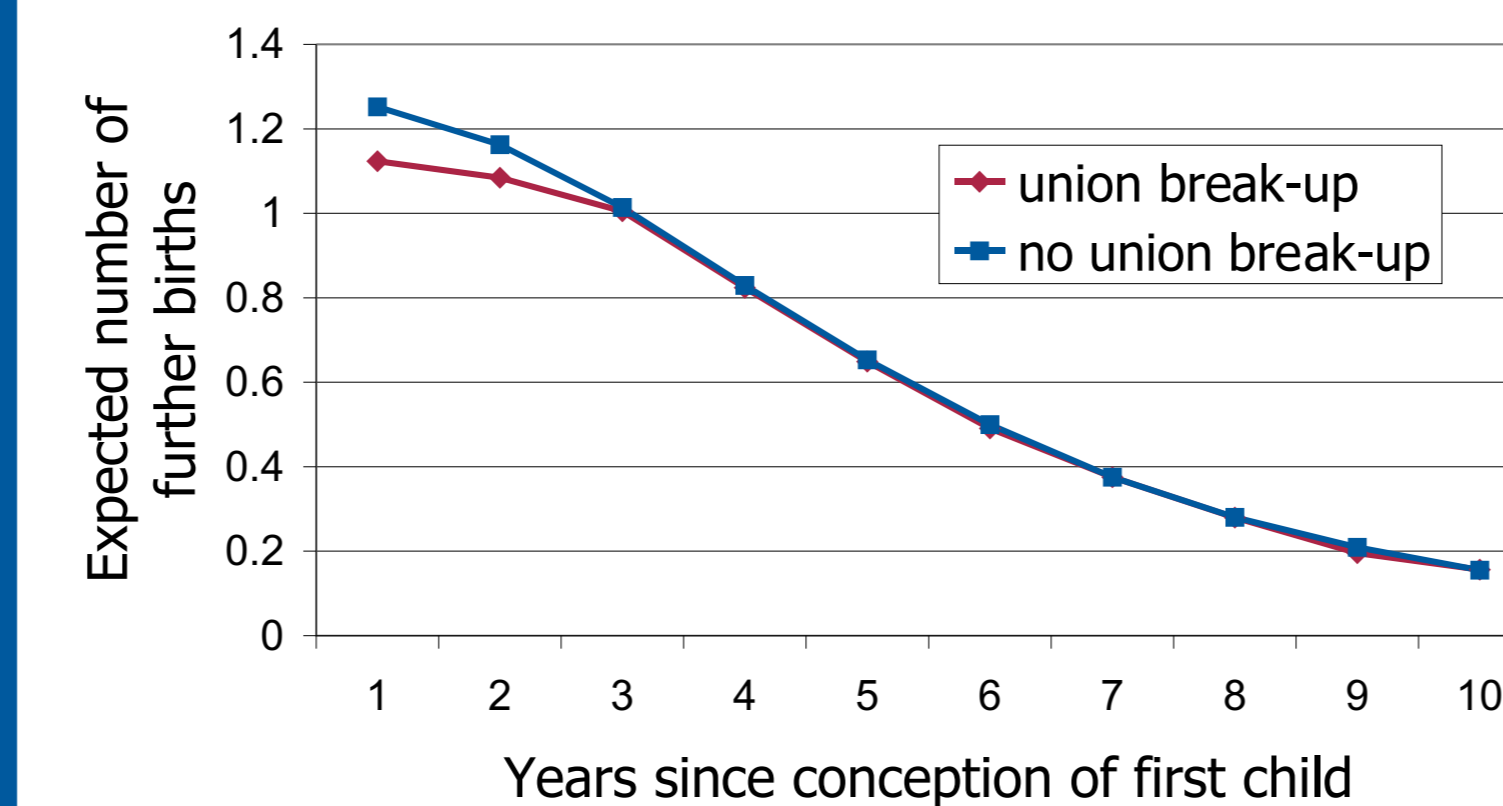
## Results: Hazard Regression

- Pre-union children increase birth intensity
- Children not a barrier to first union
- Children lower re-partnering intensity until pregnancy
- Risk of dissolution increases
  - ▶ the more children are born outside of union
  - ▶ the older the youngest common child

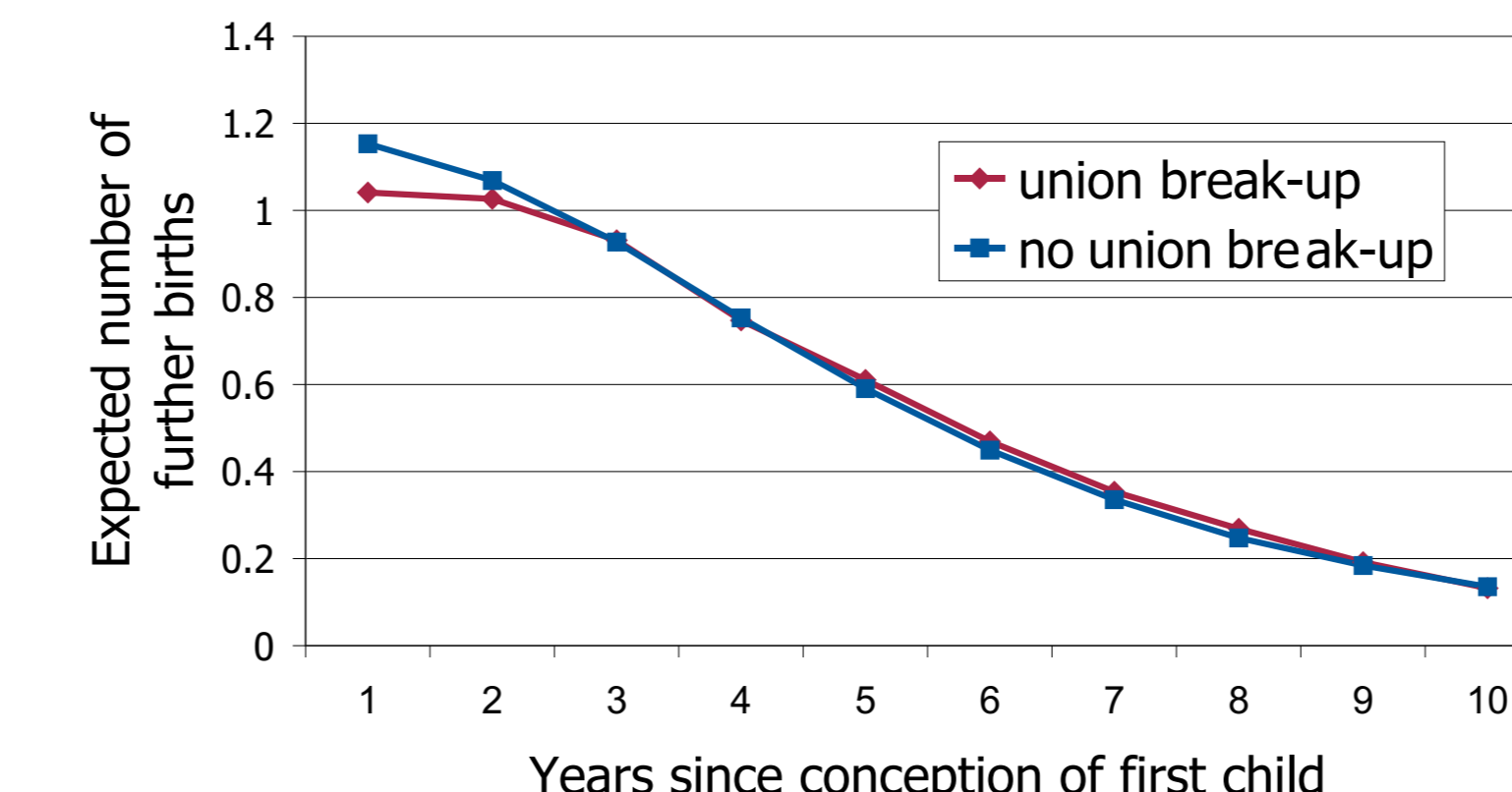
## Results: Microsimulation

Union break-up does not decrease fertility of women with one child if union dissolution occurs three years after conception of first child.

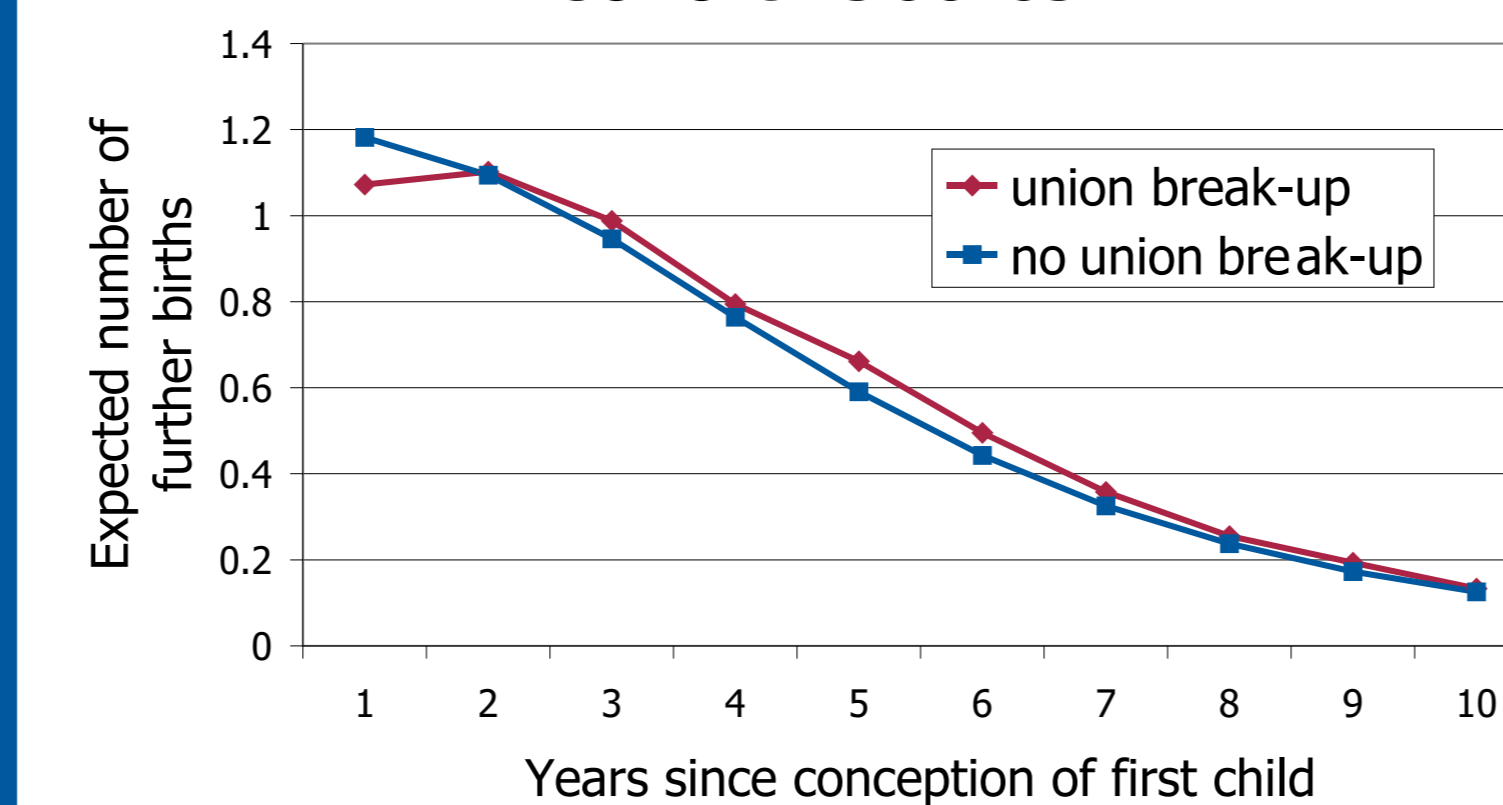
### Cohort 1940-49



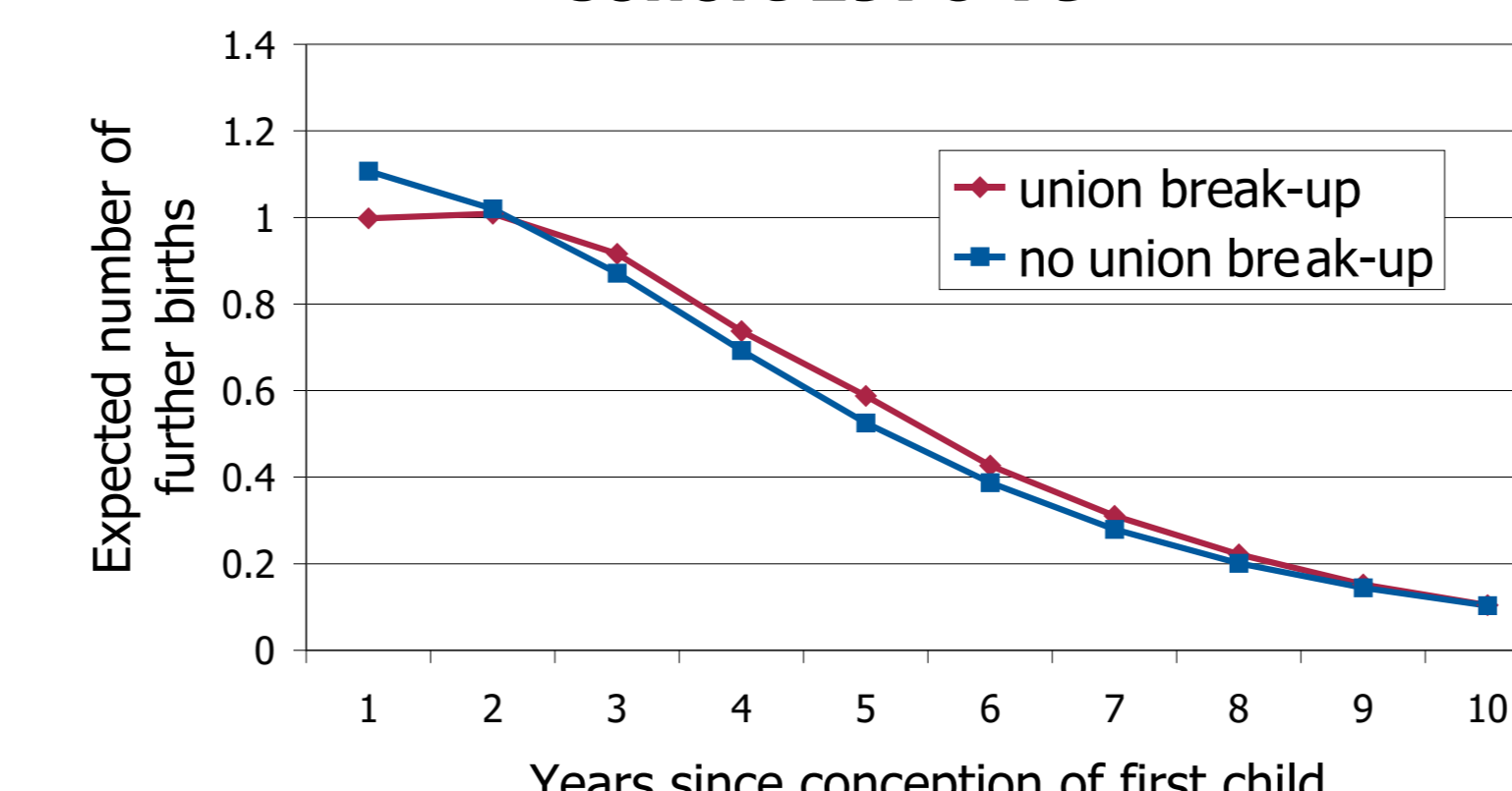
### Cohort 1950-59



### Cohort 1960-69



### Cohort 1970-79

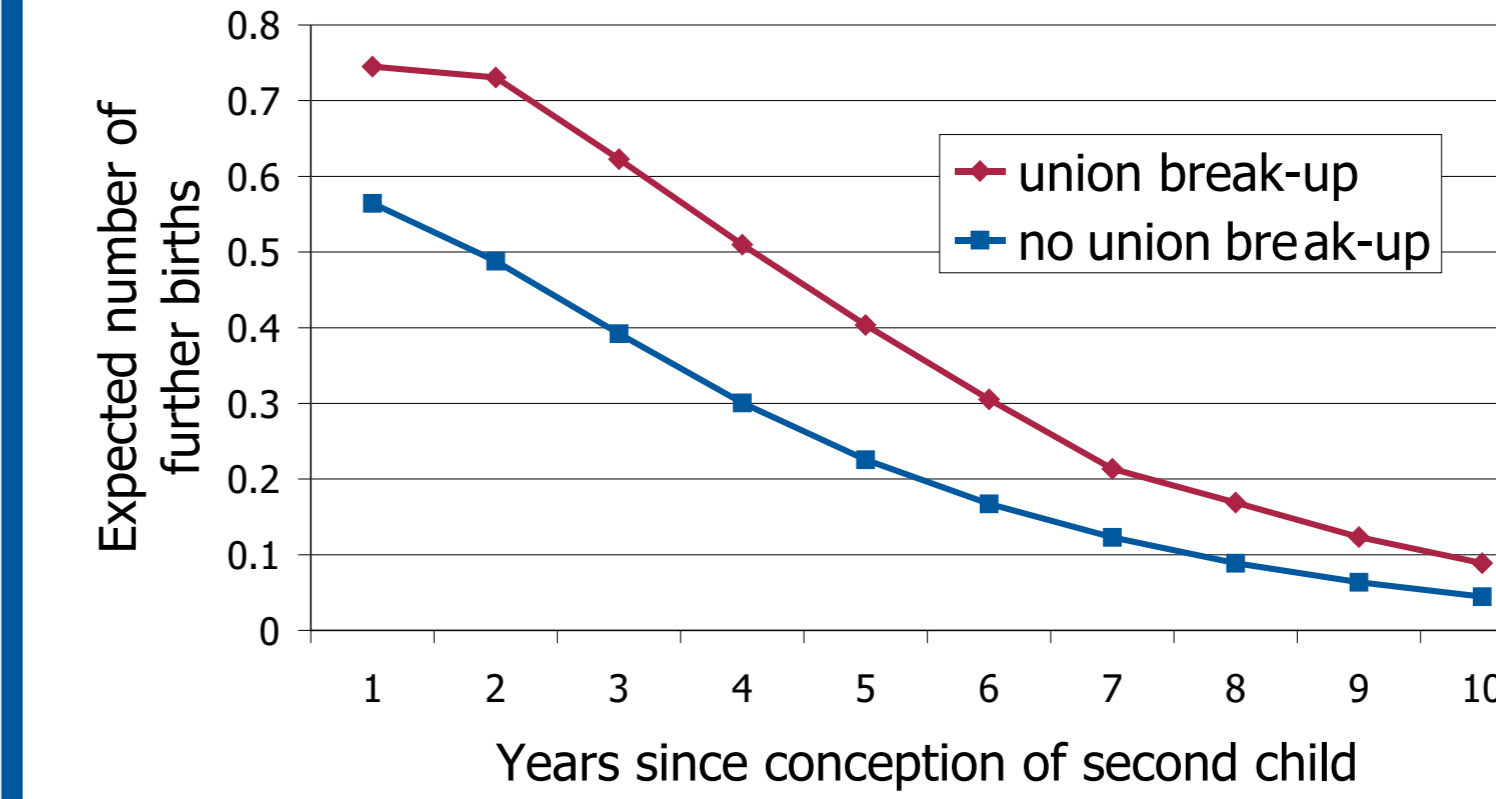


For the younger birth cohorts of women at parity 1 there is even a slight positive effect on the expected number of further births if the union is dissolved 3 to 9 years after the conception of the first child.

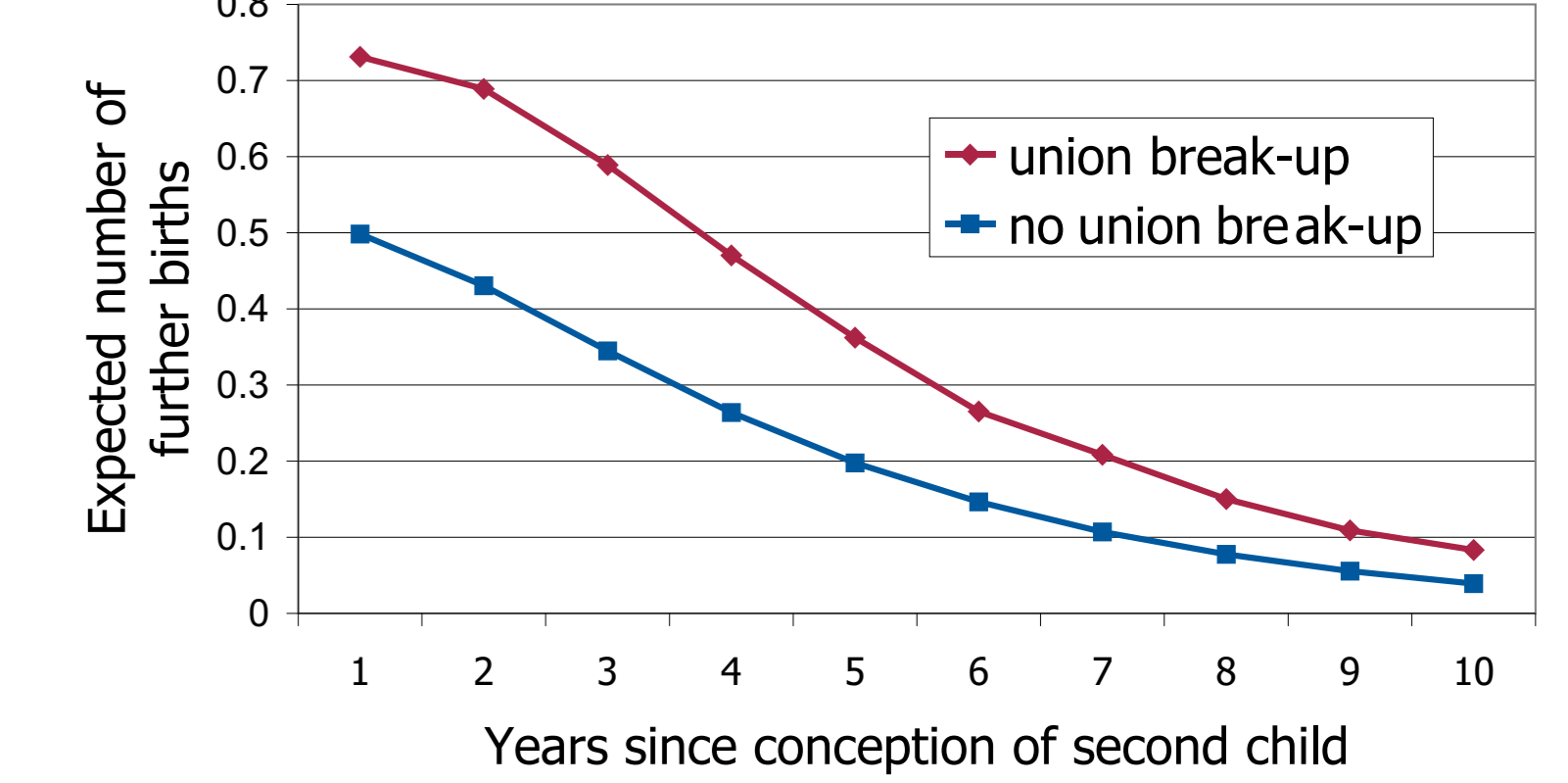
## Results continued: Microsimulation

Union break-up increases fertility of women with two children.

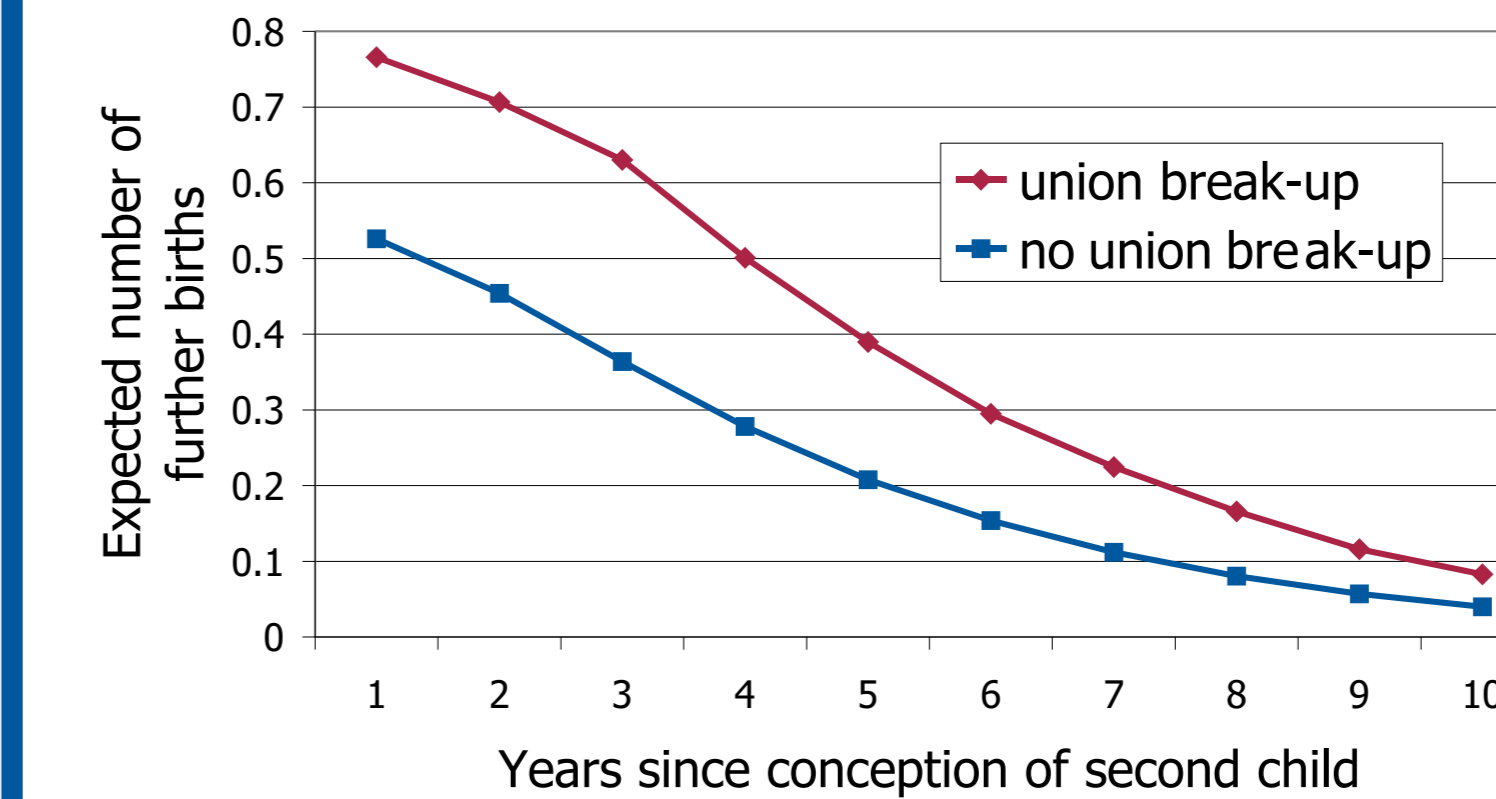
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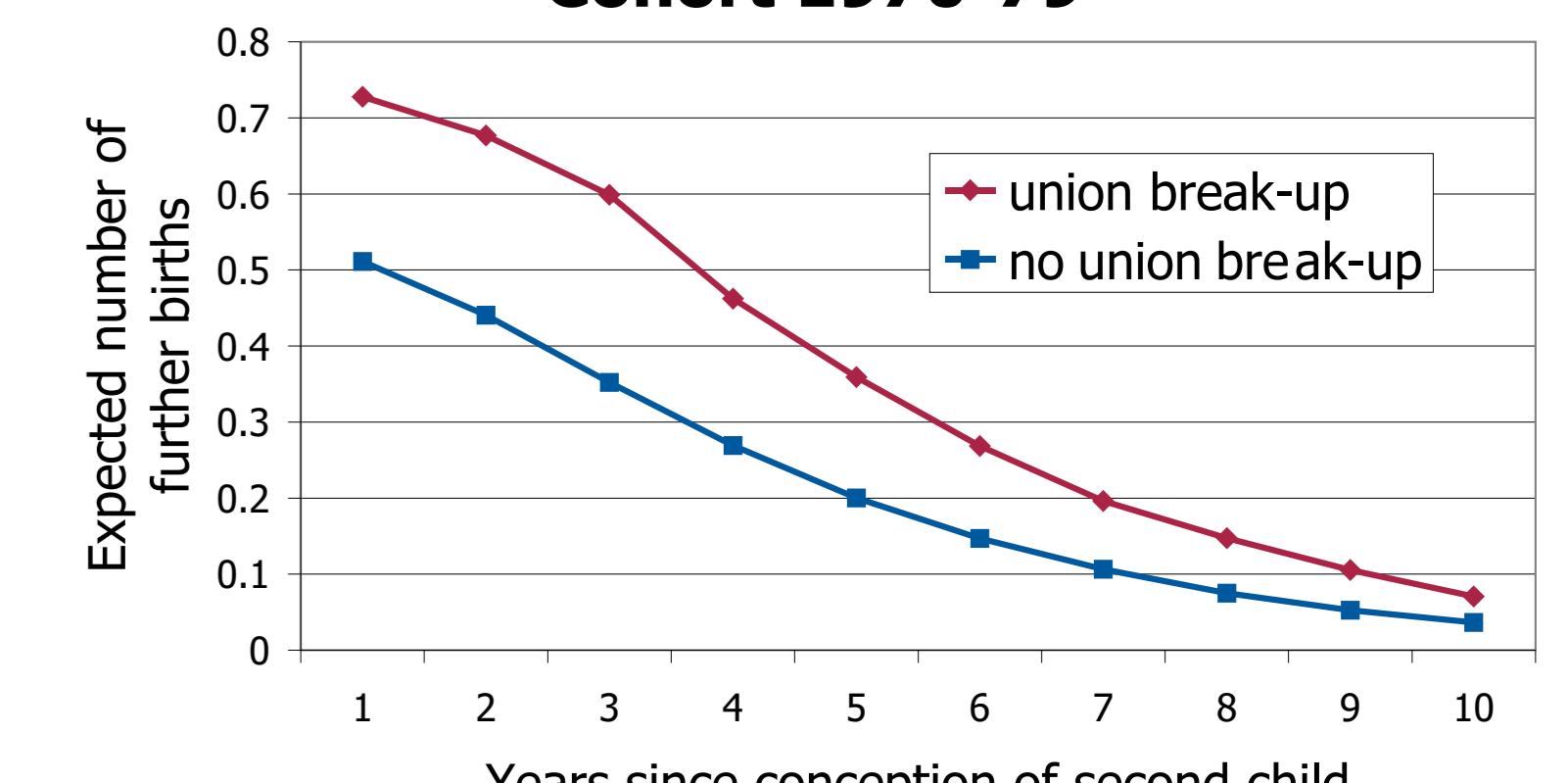
### Cohort 1950-59



### Cohort 1960-69



### Cohort 1970-79



## Conclusions

Union instability and fertility are not necessarily negatively correlated:

- For women at parity 1: Union instability is almost neutral to fertility.
- For women at parity 2: Union instability increases fertility.

➔ Union instability can be an engine of fertility

## Further Steps

- Simulate fertility consequences of shifts in union or birth parameters
- Investigate processes in other contexts (time and place)
- Determine extent to which patterns of union formation and dissolution contribute to fertility decline and variation across countries and social groups
- Modeling births and union processes simultaneously

## Acknowledgements and Contact

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