

Partners' relative resources and the transition to second birth in Austria

Alessandra Trimarchi¹, Nadia Steiber¹, Rudolf Winter-Ebmer², Caroline Berghammer^{1,3}

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Education and Social Inequality across the Life Course

¹Department of Sociology, University of Vienna

²Johannes Kepler University Linz

³Wittgenstein Centre for Demography and Global Human Capital

Motivation

- The majority of births occurs within couples:
 - Disagreement between partners is among the main reasons for low fertility rates in Europe (Doepke and Kindermann 2019).
 - To understand determinants of fertility dynamics it becomes necessary to look at both partners' characteristics.
 - In some European countries, highly educated couples have been found to have higher transition rates to second births (Dribe & Stanfors 2010; Nitsche et al. 2018; Trimarchi & Van Bavel 2020);
 - Mainly survey data;
 - Fewer studies with register data (mainly Nordic countries);
 - No differentiation between quantum and timing of second births.
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The Austrian context

- Compared to other Western and Nordic European countries:
 - Higher levels of childlessness;
 - Stronger gendered division of labor;

Previous findings (based on survey data) showed that:

- Couples in which the woman has a tertiary education are more likely to remain childless relative to other pairings (Osiewalska 2017);
- Once they have a first child, highly educated couples have higher transition rates to the second child relative to couples with less education (Trimarchi & Van Bavel 2020).

Background

- These findings would support the pooling of resources argument (Oppenheimer 1994) versus the specialization thesis (Becker 1991);
- Pooling of resources argument: The higher the socioeconomic resources of the couple the higher the demand for children.
- Specialization thesis: The demand for children increases when one partner specializes in household activities, whereas the other in labor market activities.
- Common view to both arguments: Costs of children are not fixed for every couple but depend on the “quality” of the child that parents wish.

Background

- Findings on the positive educational gradient in second birth transition rates would also support economic perspectives of the timing of births.
 - Couples' with highly educated women have faster tempo (i.e., shorter intervals between births) because couples aim to reduce costs of career interruptions for the highly educated mothers.

Can partners' economic resources in Austria explain the positive effect of partners' education on second birth quantum and timing?

Research hypotheses

Couples' education and likelihood of second birth (quantum)

H1 (pooling of resources):

- a. The higher the level of education within the couple the higher the likelihood of second birth.
- b. Once we account for partners' income, the positive gradient would disappear or flatten.

Research hypotheses

Couples' education and likelihood of second birth (quantum)

H2 (differences between hypergamous and hypogamous):

- a. Hypergamous couples, due to more resources, have higher probability of a second birth than hypogamous couples.
- b. If the pooling of resources would drive the effect, then once we account for partners' income, differences between hypergamous and hypogamous couples would disappear or flatten.

Research hypotheses

Couples' education and timing of second birth

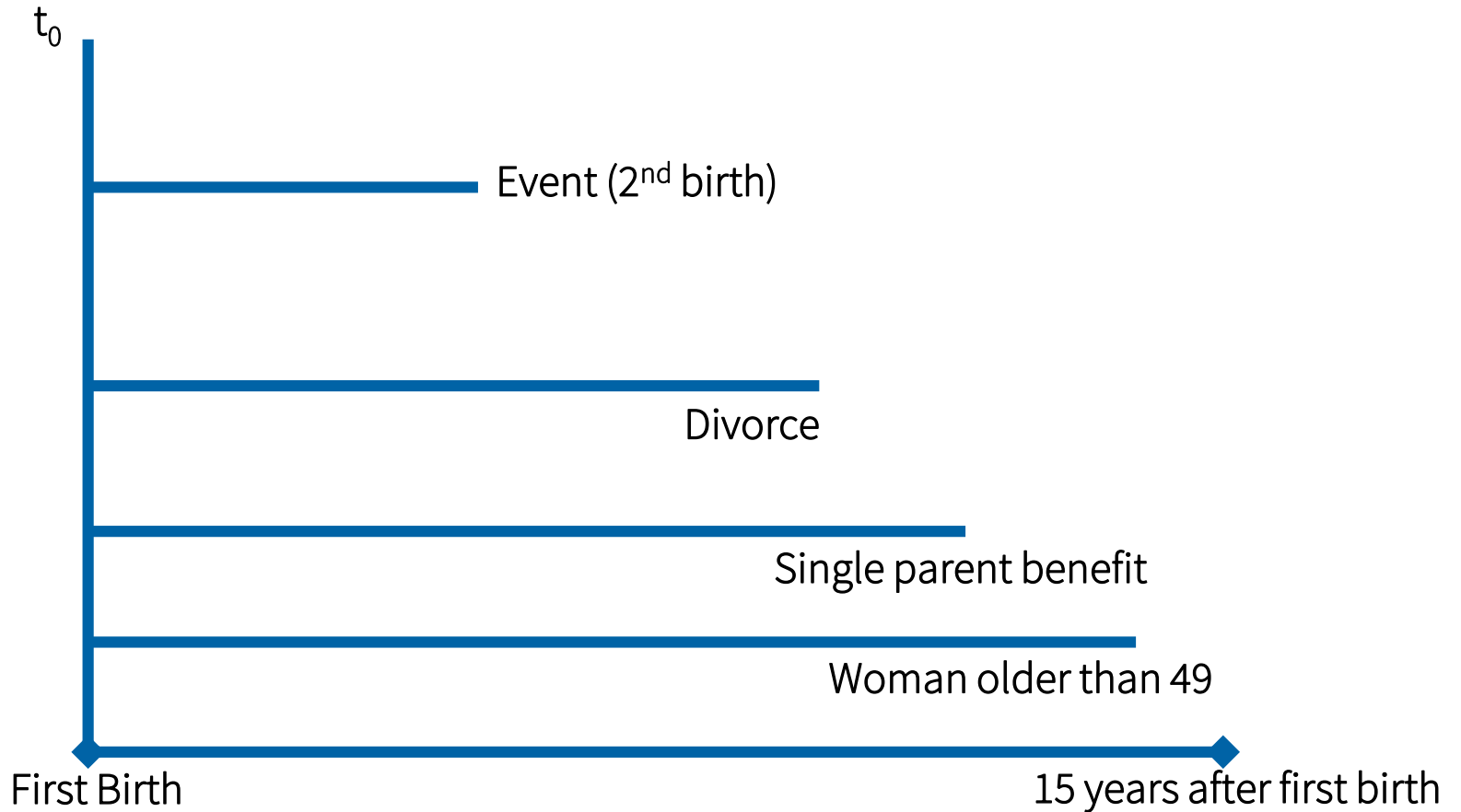
H3 (timing and woman's earnings):

- a. Couples with a tertiary educated woman would have faster transition to second birth relatively to other pairings, to reduce the costs of children and career interruptions.
- b. If H3a holds, once controlling for partners' income, we would observe a convergence in the timing of second births across educational pairings.

Data and methods

- Administrative data from several sources:
 - Birth register 1990-2007;
 - Divorce/marriage register till 2007;
 - Employment trajectories, wage, income data, from social securities agencies and public employment service.
- 5% sample of all first births born to couples in Austria between 1990-2007 but we cannot model the transition to first birth
- Sample selection: Married and unmarried couples (births to single mothers not considered), with complete information about both partners' education and annual income.
- Method: Survival Analysis

Follow-up period



Variables

Main independent variables:

- Educational pairings at 1st birth (4 levels: Basic; Medium/Vocational; High School Degree; Tertiary Degree), overall 16 categories;
- Partners' joint annual income two years before 1st birth (t_{-2}) in quartiles;
- Woman's share of annual income at t_{-2} : Hypergamy (share < 0.4); Homogamy (share between 0.4 and 0.6); Hypogamy (share > 0.6)
- **Control variables:** Mother's cohort, age difference between partners, partners' nationality, marital status at 1st birth, age at 1st birth relative to the average among mothers with the same education (Hoem et al. 2001), self-employment indicator, region of residence.

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Parametric mixture cure model (Buxton 2004)

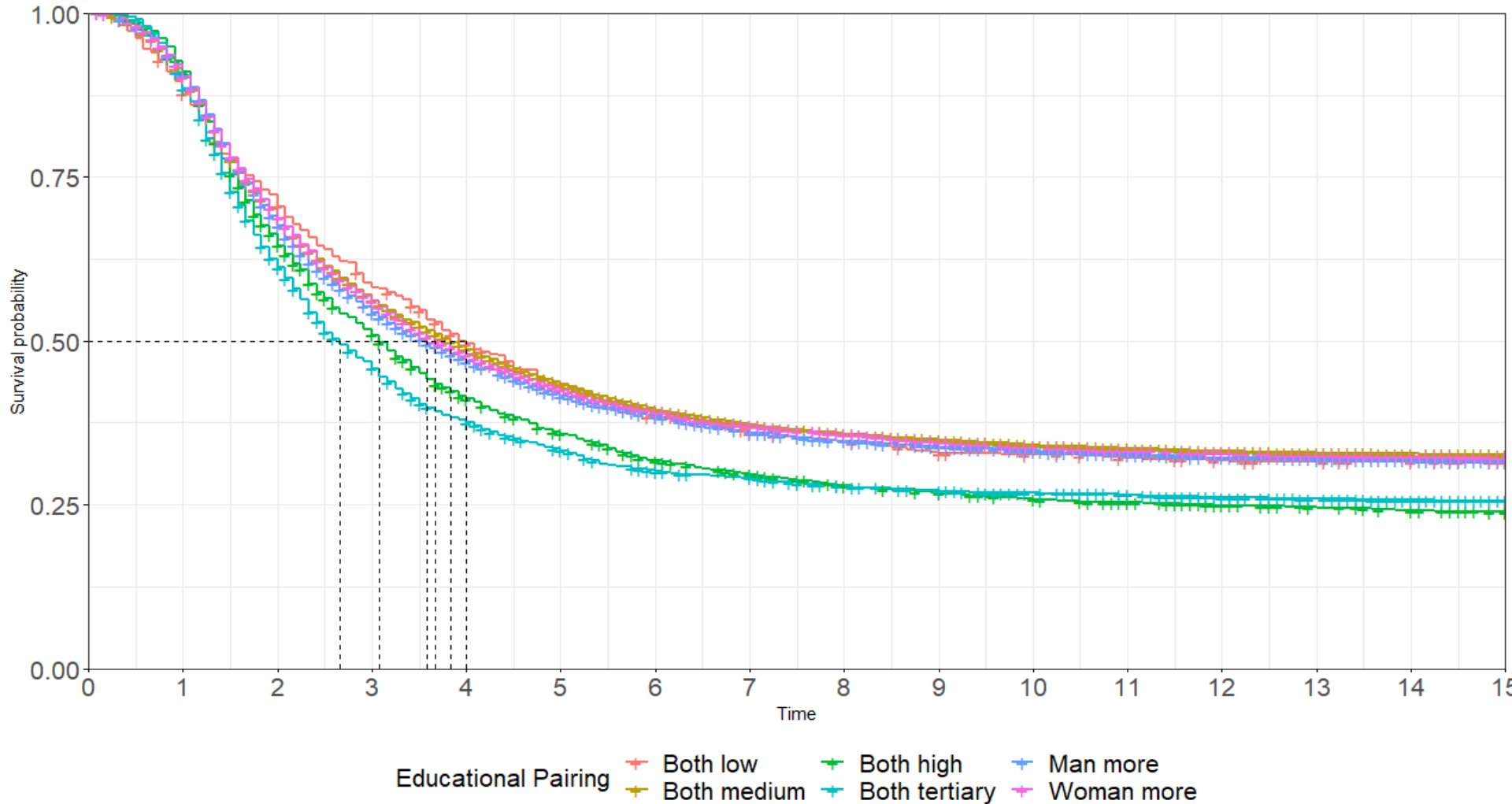
$$S(t) = \pi S_u(t) + 1 - \pi;$$

π is the probability of having the second child, and $S_u(t)$ the survival function of the couples who got the 2nd child.

The model distinguishes two parts:

- 1) Incidence part (quantum), describing the probability of *not* conceiving the second child (to link covariates to the proportion of people who did not make the transition we use the logistic link function);
- 2) Latency part (timing), describing the survival time of couples who had a second child, parametrized by a lognormal distribution for the function of the at-risk population, in an accelerated failure time (AFT) setting.

Kaplan-Meier estimator by educational pairings



Probability of *not* conceiving the second child

Testing H1a and H1b (ref. both partners tertiary educated)

	M1	M2	M3
	Odds Ratio (OR)	OR	OR
Low-low	1.90 ^{***}	1.75 ^{***}	1.65 ^{***}
Med-med	1.83 ^{***}	1.76 ^{***}	1.69 ^{***}
High-high	1.06	1.05	1.03
Man more	1.46 ^{***}	1.40 ^{***}	1.35 ^{***}
Woman more	1.78 ^{***}	1.73 ^{***}	1.73 ^{***}

M1: Model with educational pairings and control variables (mother's cohort, age difference between partners, partners' nationality, marital status at 1st birth, relative age at 1st birth, self-employment indicator, region of residence)

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M2: M1+ joint income in quartiles

M3: M2 + relative income

Probability of *not* conceiving the second child Differences across heterogamous (H2)

Ref. Man high & woman medium	M1	M2	M3
Woman high & man medium	1.21 ^{**}	1.21 ^{**}	1.25 ^{**}

Ref. Man tertiary & woman high	M1	M2	M3
Woman tertiary & man high	1.47 ^{**}	1.53 ^{**}	1.5 ^{**}

Hypogamous couples remain more often without a 2nd child relatively to the hypergamous counterpart.

Probability of *not* conceiving the second child

Joint income (ref. 2 nd quartile)	M2	M3
Lowest quartile	1.14 ^{***}	1.23 ^{***}
3 rd quartile	0.94	0.87 ^{**}
Upper quartile	0.81 ^{***}	0.72 ^{***}
Relative income (ref. Hypergamy)		
Homogamy		0.87 ^{***}
Hypogamy		0.60 ^{***}

Richer couples are less likely to remain without 2nd child. Hypergamous couples (in terms of income) remain more often without 2nd child relatively to other pairings.

Timing to second birth (H3)

- No major differences regarding the timing of second births across educational pairings.
- We do observe that couples with a tertiary educated woman, especially tertiary educated homogamous couples, tend to have a faster tempo, but the magnitude of the effect is small.
- Including joint and relative income does not change much.
- No income differentials observed in the timing of second births.

Summary

- The parametric cure model allows to distinguish the effects on timing and probability of second births.
 - Findings:
 - Quantum: Couples with at least high school are more likely to have a 2nd child
 - Timing: Tertiary educated couples have a faster tempo, but no major differences with lower educated
 - Support for H1a: More educated couples are more likely to have the 2nd child;
 - Weak support for H1b: Richer couples less often remain without 2nd child, BUT the inclusion of income variables changes little.
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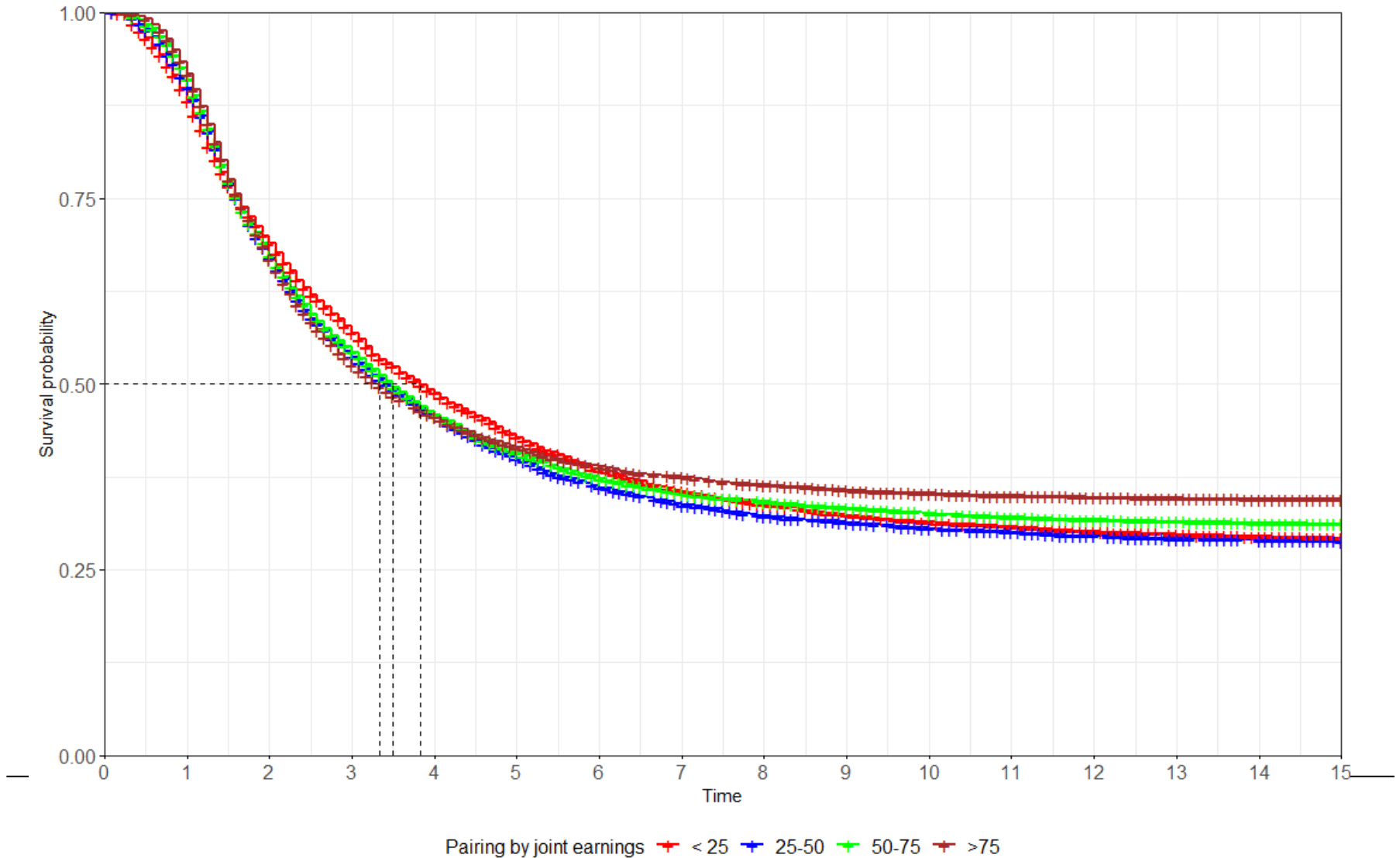
Conclusion and discussion

- It is relevant to distinguish between probability and timing;
- Educational and income differentials are stronger for the quantum and minor for the timing;
- Relative income effects in the quantum are different than educational pairings effects, which was not observed for the timing.
- The *pooling of resources* argument cannot yet completely explain the positive educational gradient in second births.
- We need to find ways to account for gender norms, attitudes, and selection into certain types of couple.

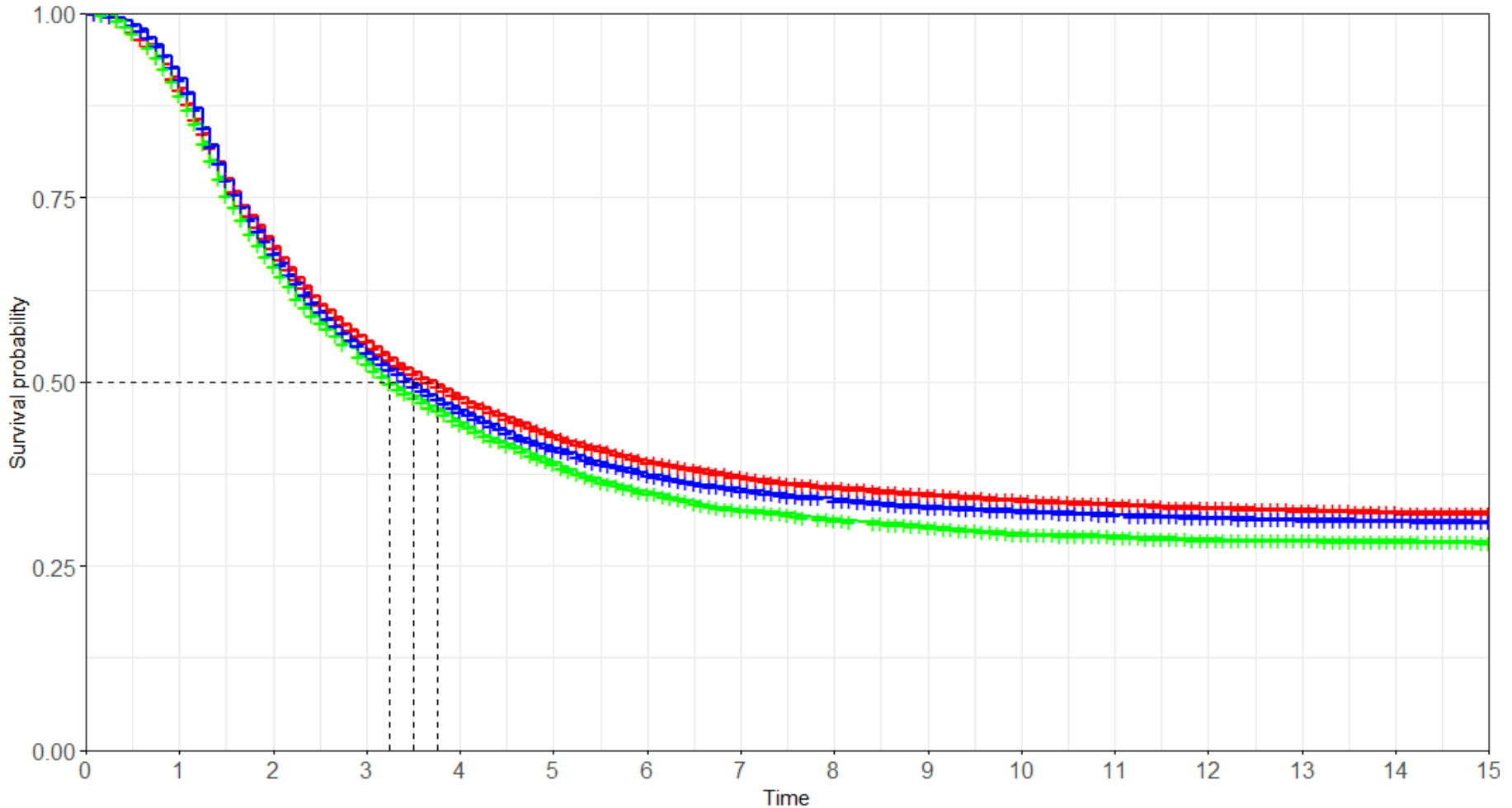
Thank you for your attention

Alessandra Trimarchi alessandra.trimarchi@univie.ac.at ;

Kaplan-Meier estimator by joint income quartiles

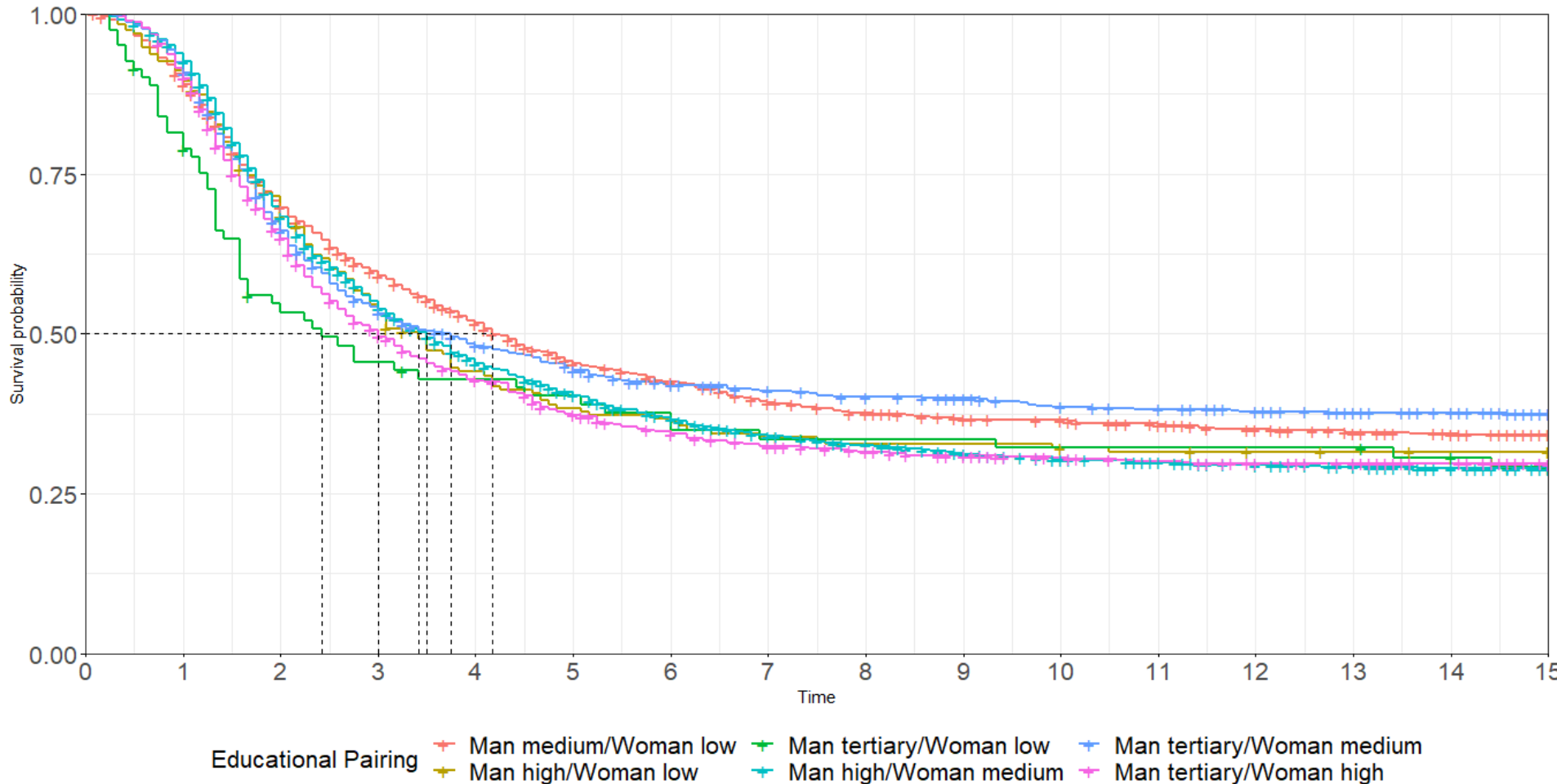


Kaplan-Meier estimator by relative income

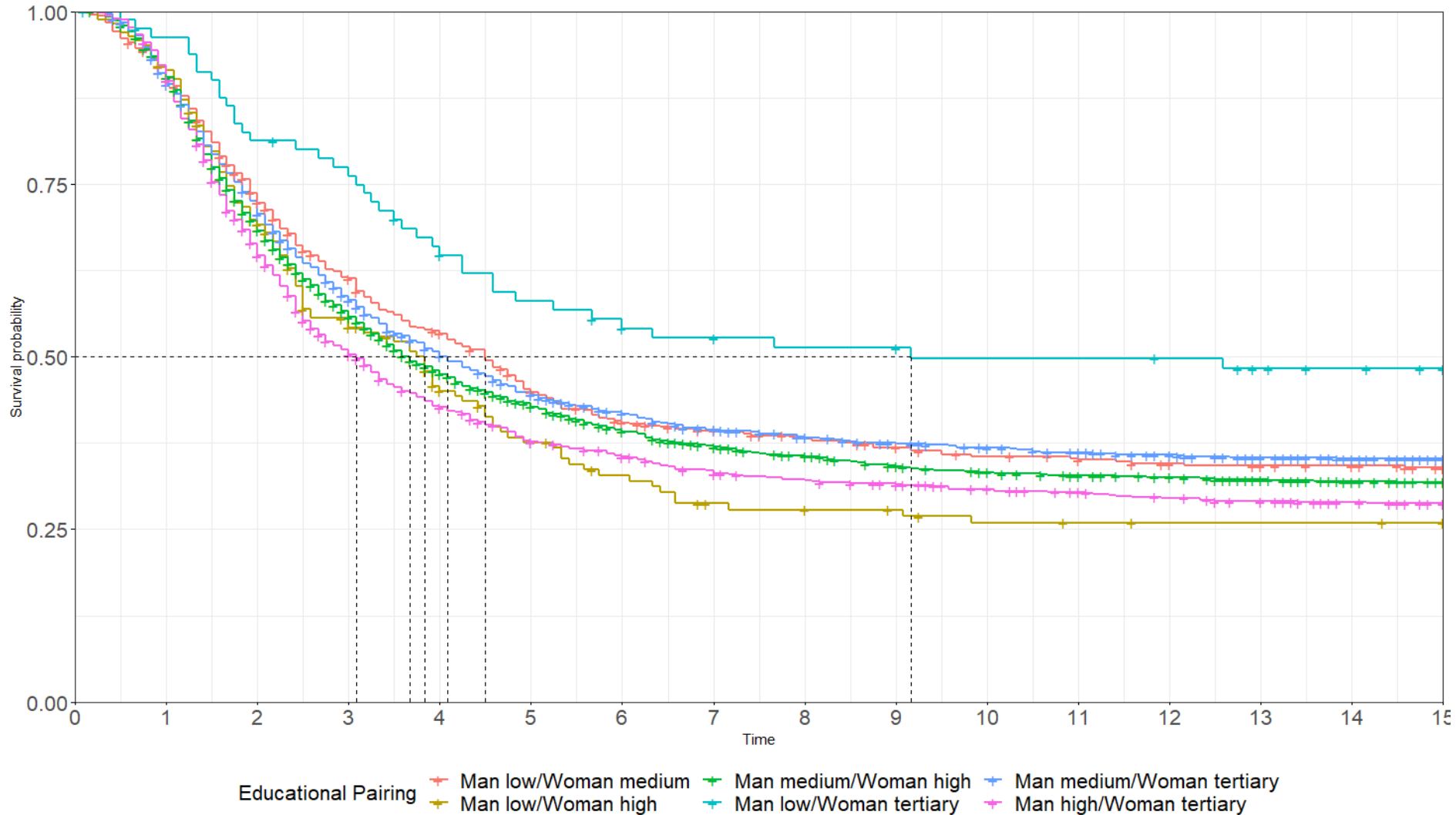


Woman's share of income + Hypergamous (< 0.4) + Homogamous (0.4-0.59) + Hypogamous (>=0.6)

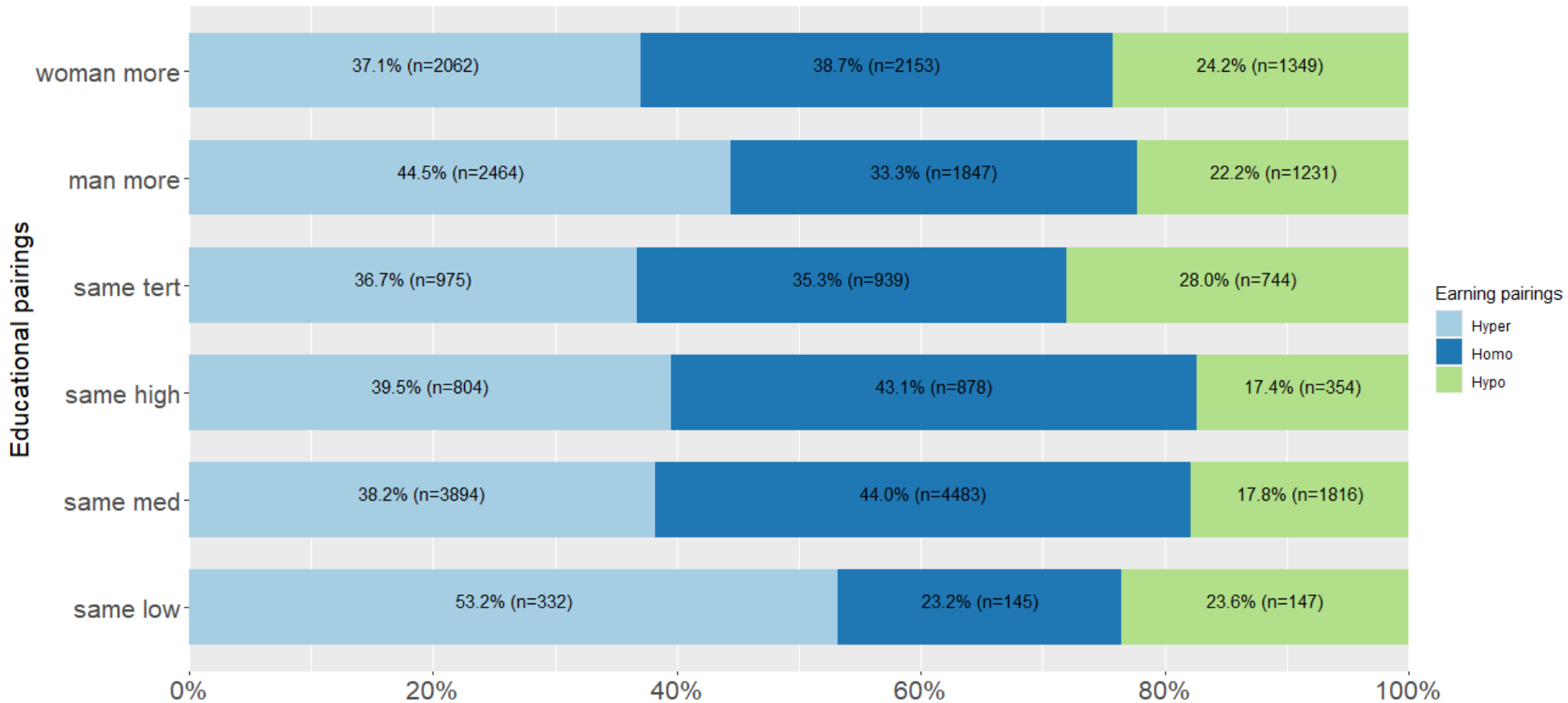
Kaplan-Meier estimator by educational pairings (hypergamous)



Kaplan-Meier estimator by educational pairings (hypogamous)



Descriptive statistics



Descriptive statistics

