



Wittgenstein Centre

FOR DEMOGRAPHY AND
GLOBAL HUMAN CAPITAL



Childlessness and infertility in Europe

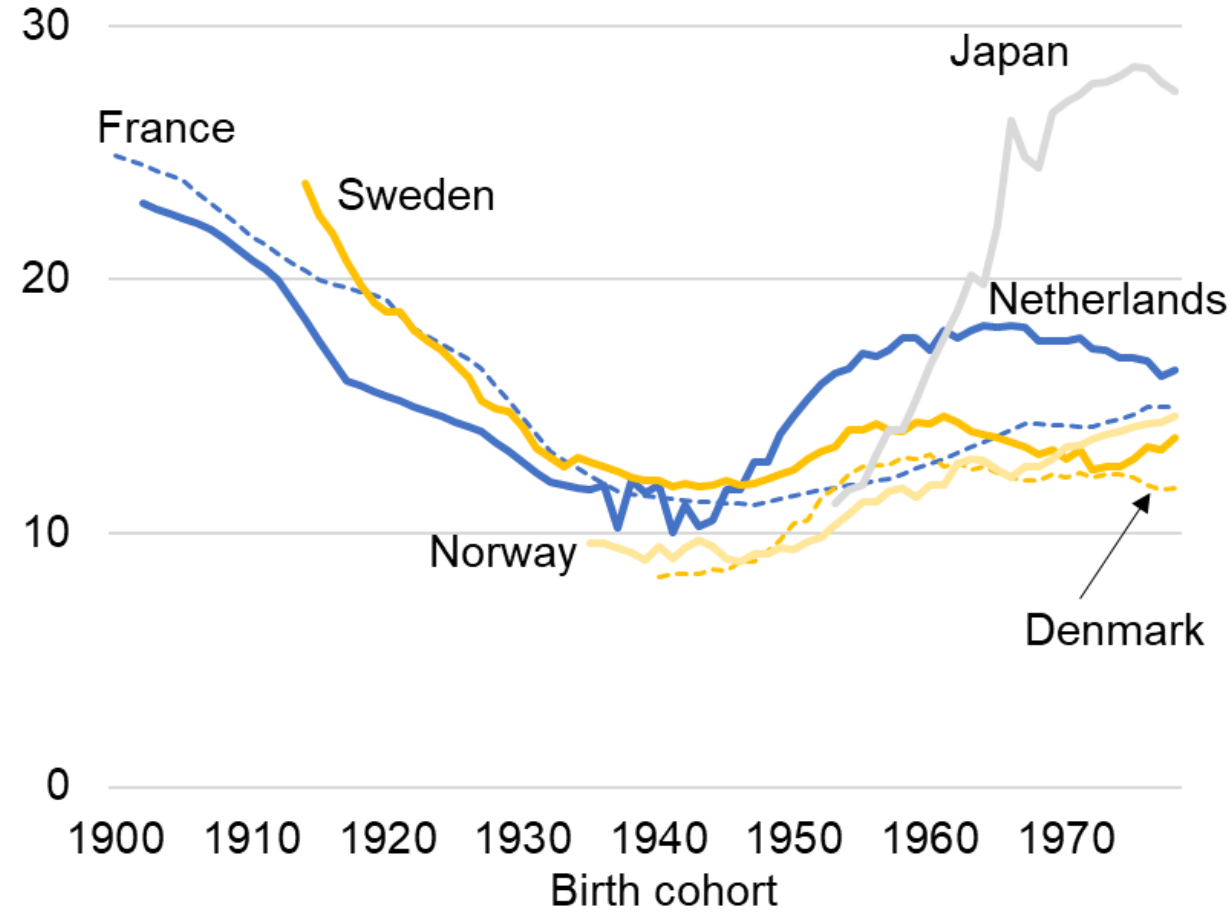
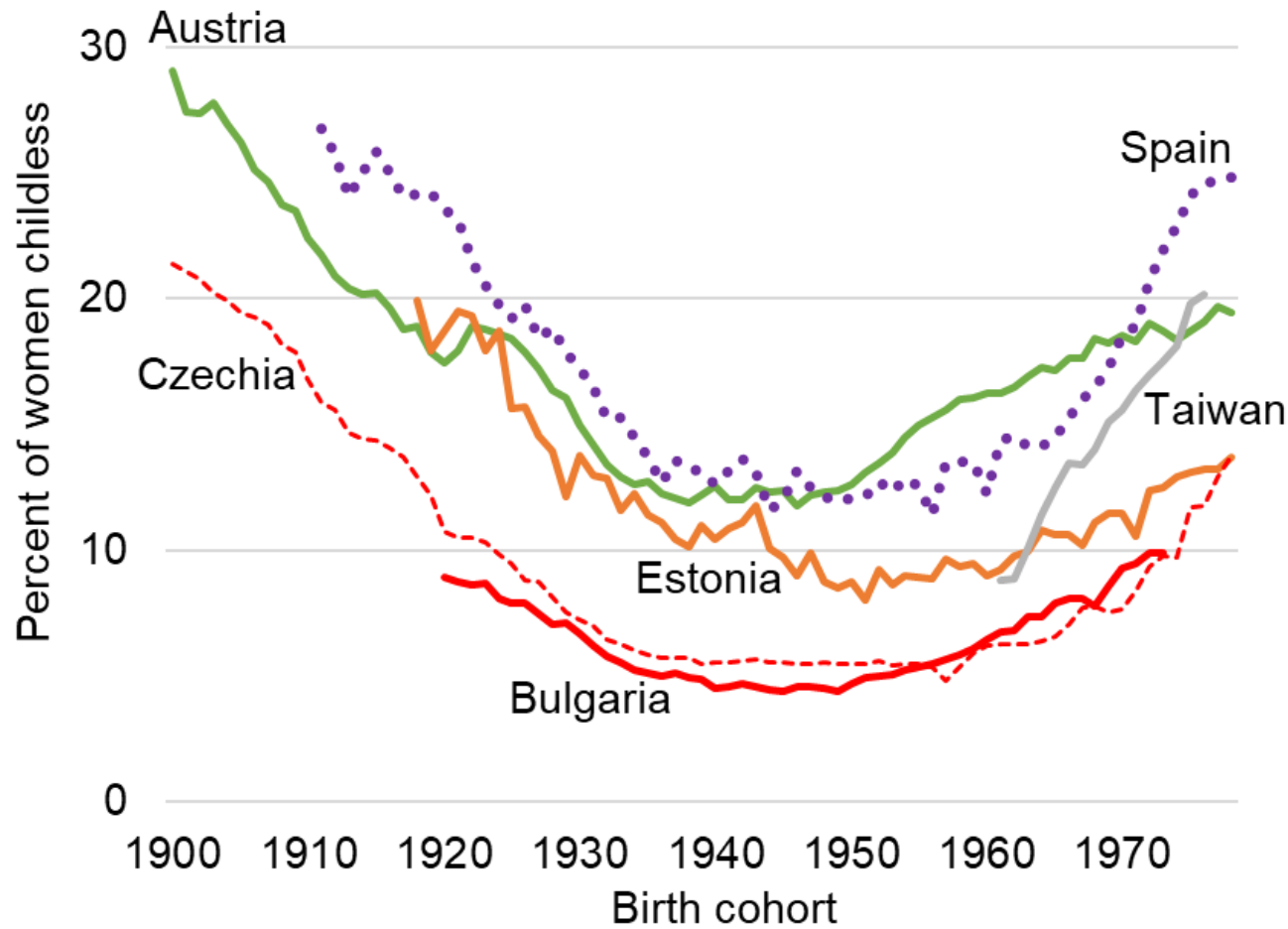
Eva Beaujouan and the BIC.LATE team

University of Vienna (Wittgenstein Centre)

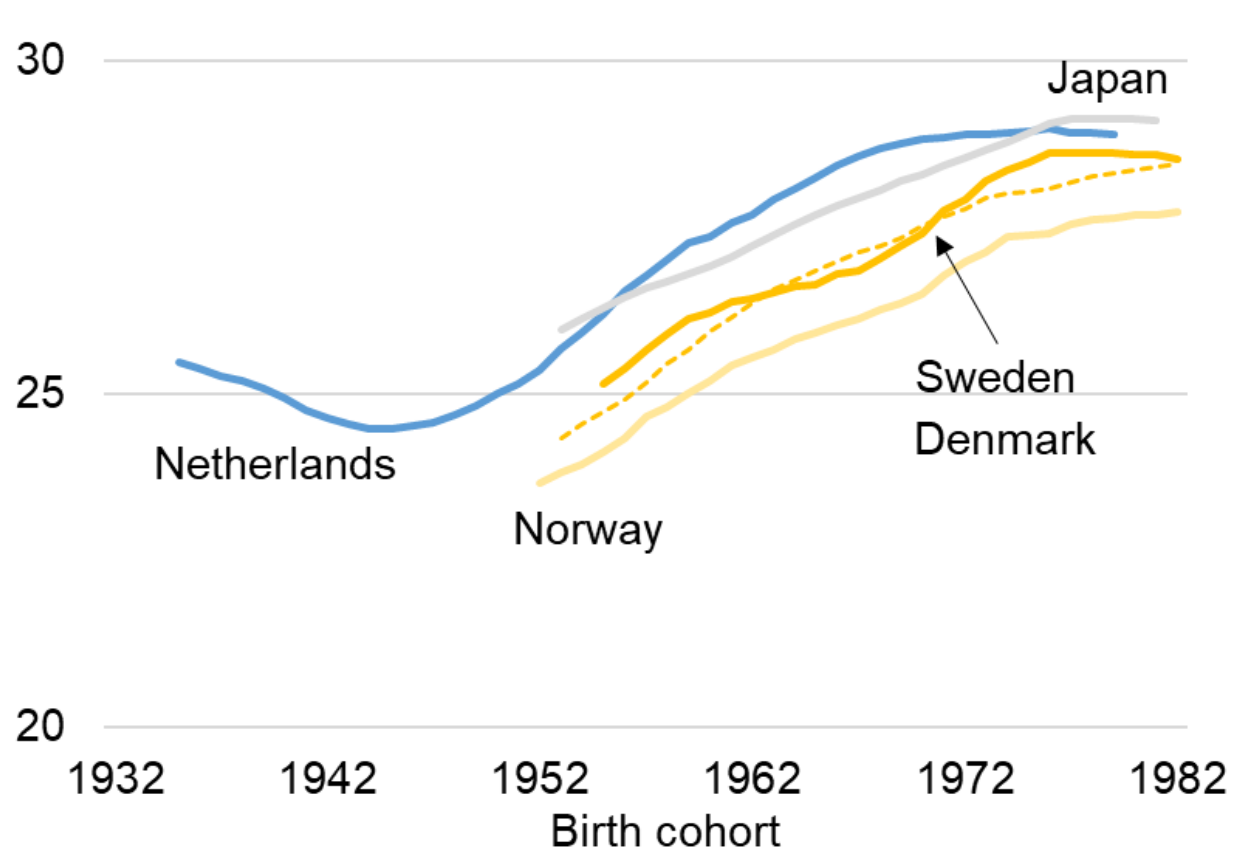
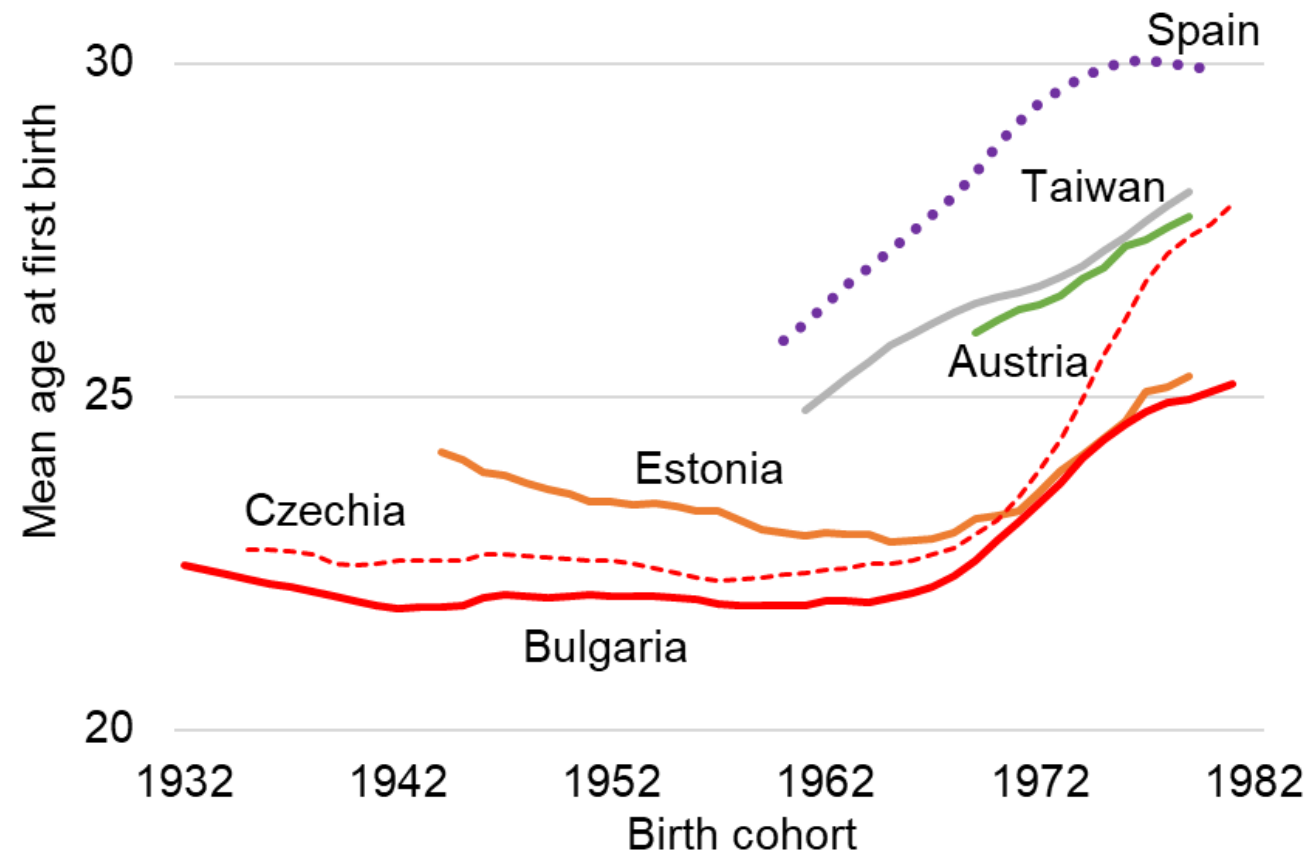
BIB colloquium
Wiesbaden, 20 Sept 2023



Trends in share of (permanently) childless women, 1900-1980 birth cohorts



Trends in mean age at first birth, 1932-1982 birth cohorts



Structure of the presentation

- Linking later fertility and permanent childlessness across countries
 - permanent childlessness = not having a child by the end of the reproductive life
- The missing link (so far): biological childlessness
- May biological childlessness be becoming more frequent (due to the rising age at first birth)?
- The other components of childlessness: childfree and childless by circumstance

Linking later fertility and childlessness



Linking later fertility and permanent childlessness?

- At the individual level, women who start trying to have a child late are more likely to not have children by the end of their reproductive life
 - Because of the decrease with age in capacity to have a live child
- However, across countries, fertility delay and change in childlessness levels are not related

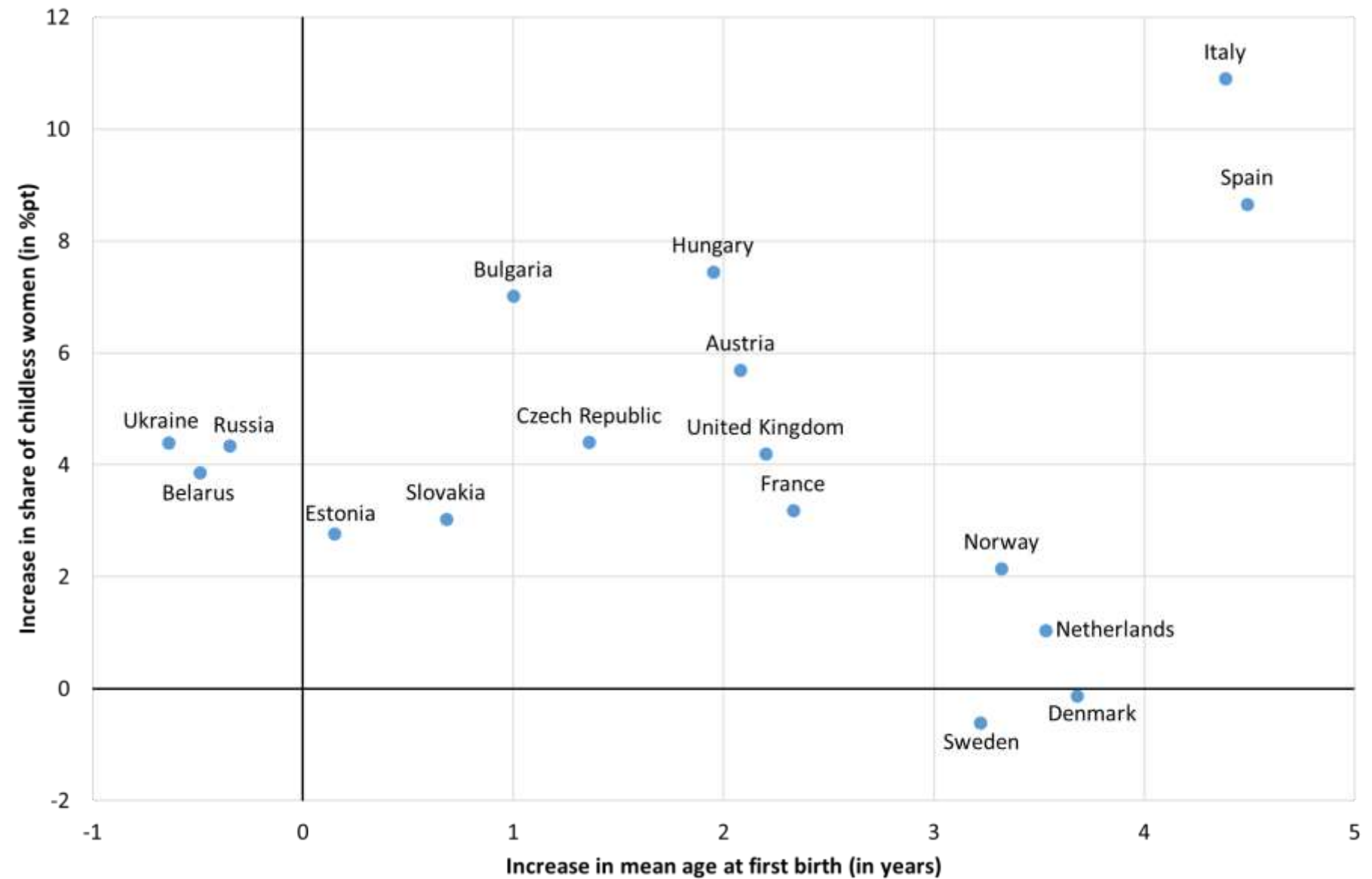
(e.g., Leridon 2004)

(Beaujouan and Toulemon 2021)



Except in Italy and Spain, childlessness did not increase more in countries with more first birth delay

Figure. Changes in the average maternal age at first birth and the proportion of childless women among the 1952 and 1972 cohorts of women



Data. HFD-Eurostat-Sobotka
Source. Beaujouan and Toulemon 2021

Linking later fertility and childlessness?

- At the individual level, women who start trying to have a child late are more likely to remain childless
 - Because of the decrease with age in capacity to have a live child
- However, across countries, fertility delay and change in childlessness levels are not related
- The share of late births and childless women are not related either

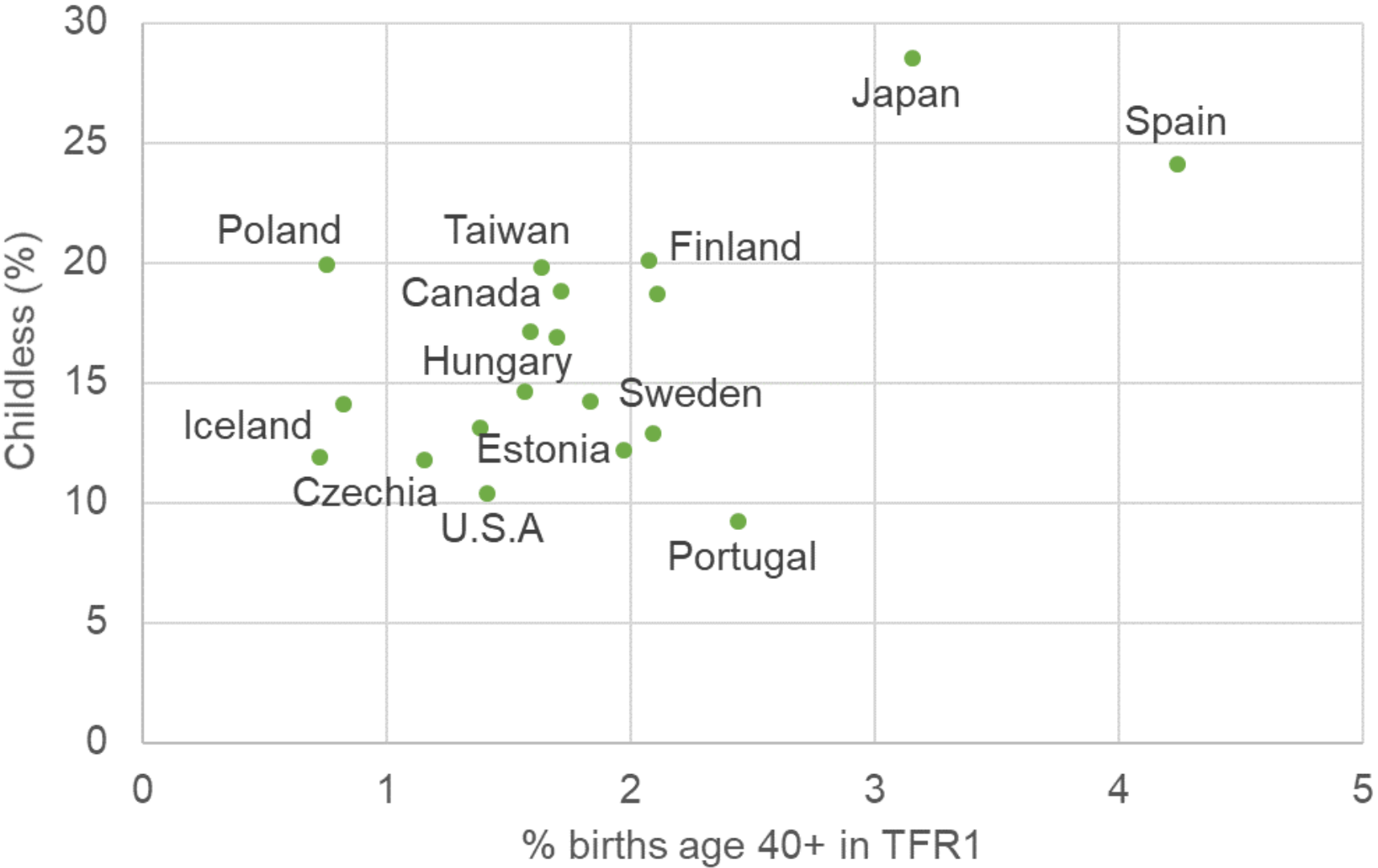
(e.g., Leridon 2004)

(Beaujouan and Toulemon 2021)



With exceptions, childlessness is not larger where late births are more numerous

Figure. Proportion of childless women in the 1975 birth cohort *versus* contribution of births at age 40+ to first birth rate



Data. HFD-stat reports

Linking later fertility and childlessness?

- There is no direct link between birth timing and childlessness at the country level
- Hence, context appears still more important than age-related infertility to define childlessness at the country level
 - Cultural expectation towards men and women to have children
 - Cost of childbearing in a context of “intensive parenting”
 - in conjunction with organisation in terms of gender roles and work-family balance

(Beaujouan and Toulemon
2021)



Research question

- Despite this, it is possible that more people are experiencing biological childlessness in countries with later fertility, linked to a later age at trying to have a child
 - Which is not visible when looking at all childlessness types together because biologically childless are a relatively small group
 - So far, no systematic cross-country study
- How does biological childlessness vary across countries?

Evidence on biological childlessness?

- Around 3% of all women, idem for men
 - have encountered infertility problems that prevented them from having a child
 - Decrease in capacity to have a child from age 35 (w)/40 (m)
- Women more likely to declare biological childlessness than men
 - Less decrease in capacity to have a child for men than women + age difference with partner
 - Less awareness among men/ lower declaration
- May be linked to how late people have their children in the country

(Beaujouan 2020; Slama 2012; Van Roode et al. 2015; Poston and Cruz 2010; Toulemon 1996)

(La Rochebrochard et al. 2006; Sartorius and Nieschlag 2010)

(Greil 1997; Lazzari et al. 2022)



Data



Data sources for biologically childless

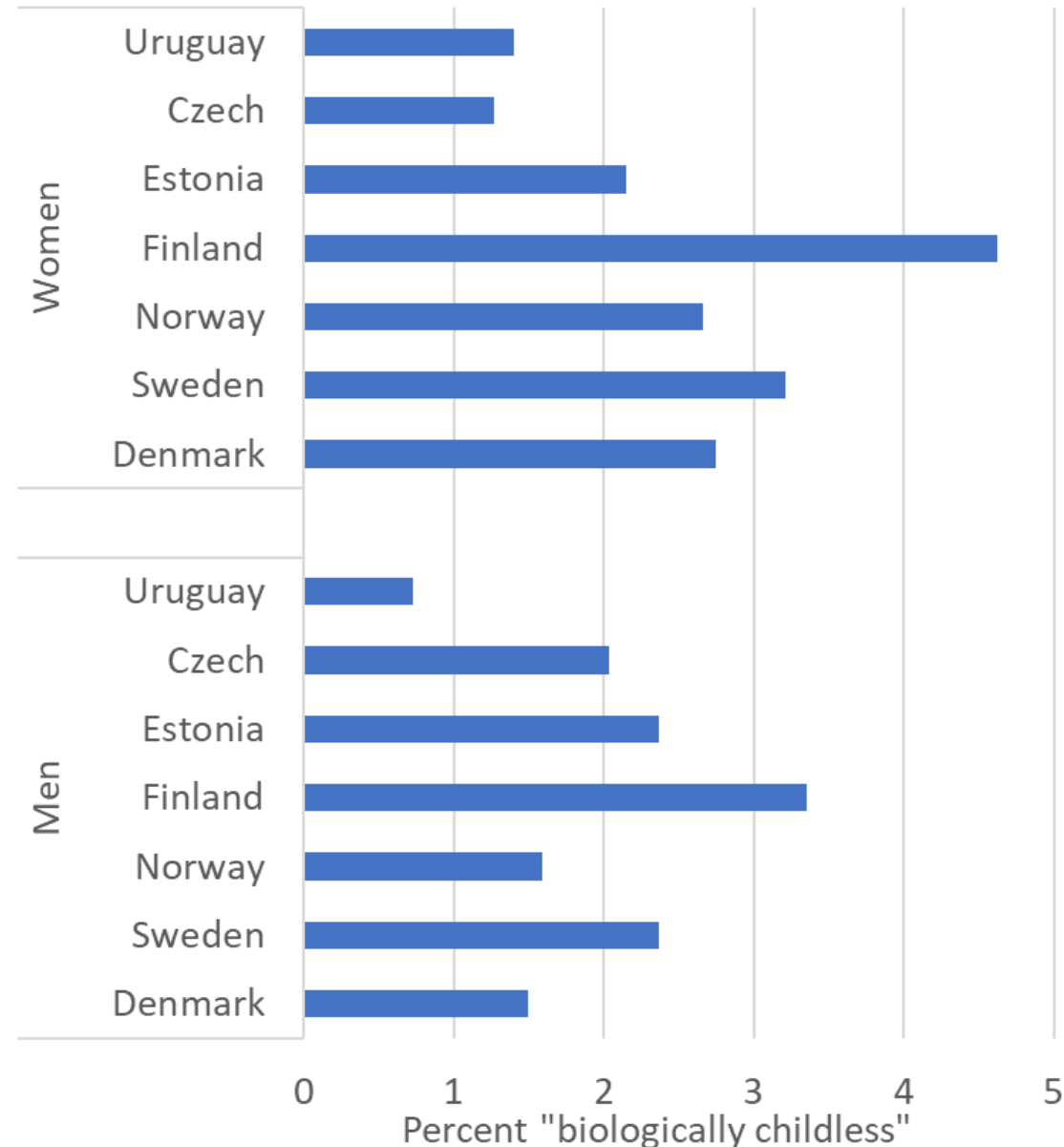
- Generation and Gender Surveys II
 - Seven countries so far (checked by Leocádio et al. 2023)
 - Question on experience of infertility asked up to age 59
 - Was there ever a time when you and a partner were trying to get pregnant but did not conceive within at least 12 months?
 - Allows to identify infertility experience and “biological childlessness”
 - Parity at age 40-59 (0 child = childless)
- Spanish fertility survey 2018; pairfam (Germany); Fecond (France) – Thank you Shalini Singh and MC Compans

Biological childlessness across countries



Estimating the share of “biologically childless” men and women

Figure. Share of women and men without child and who experienced infertility; age 40-59 at survey, by country, 2020s



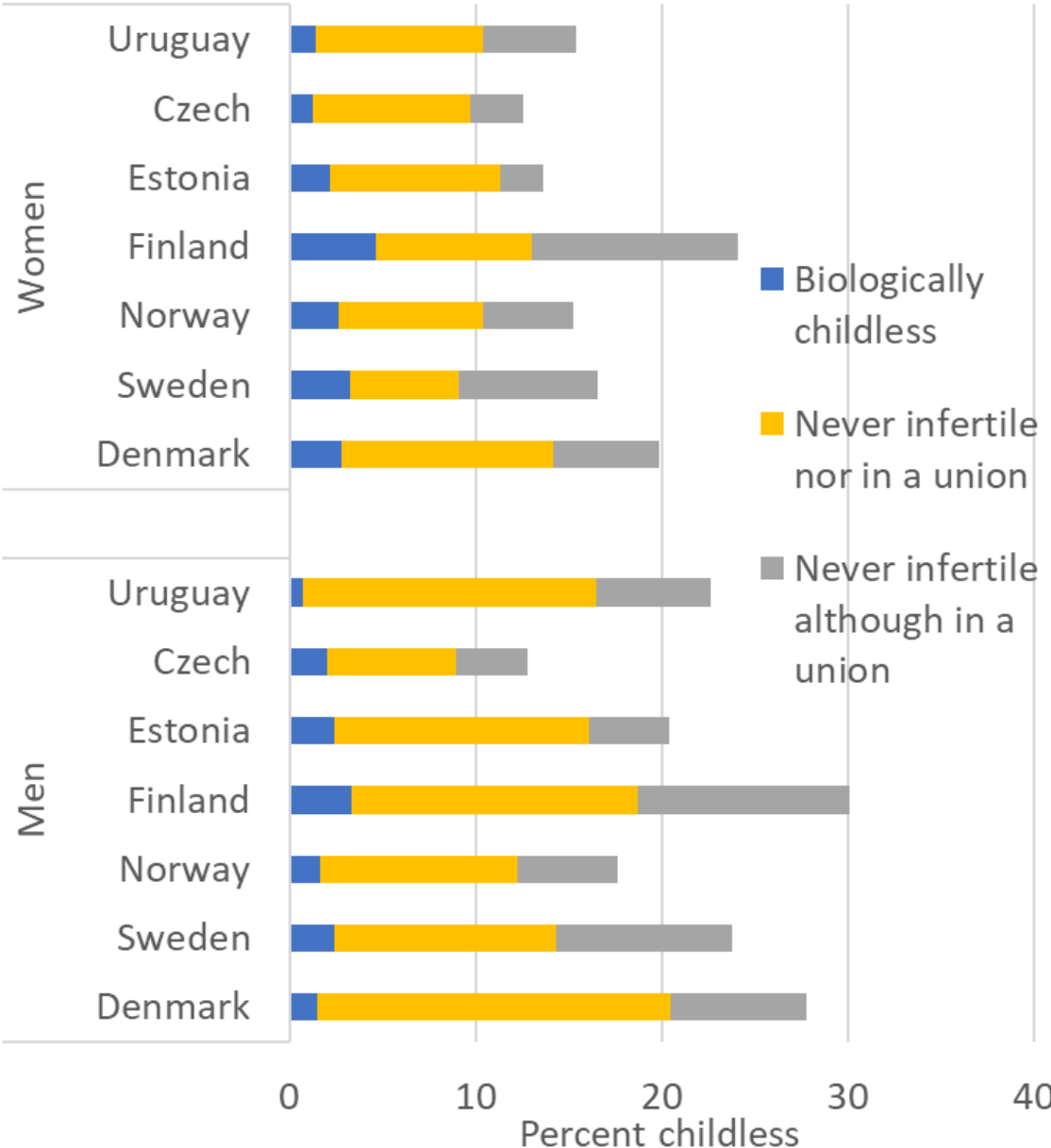
- Between 1.3 and 4.6% of women are childless and declare infertility issues
- Between 0.7 and 3.4% of men

Data. GGP II, 2020s.

Field. All respondents, weighted

Identifying biologically childless people

Figure. Share of women and men without child; age 40-59 at survey, by country, 2020s

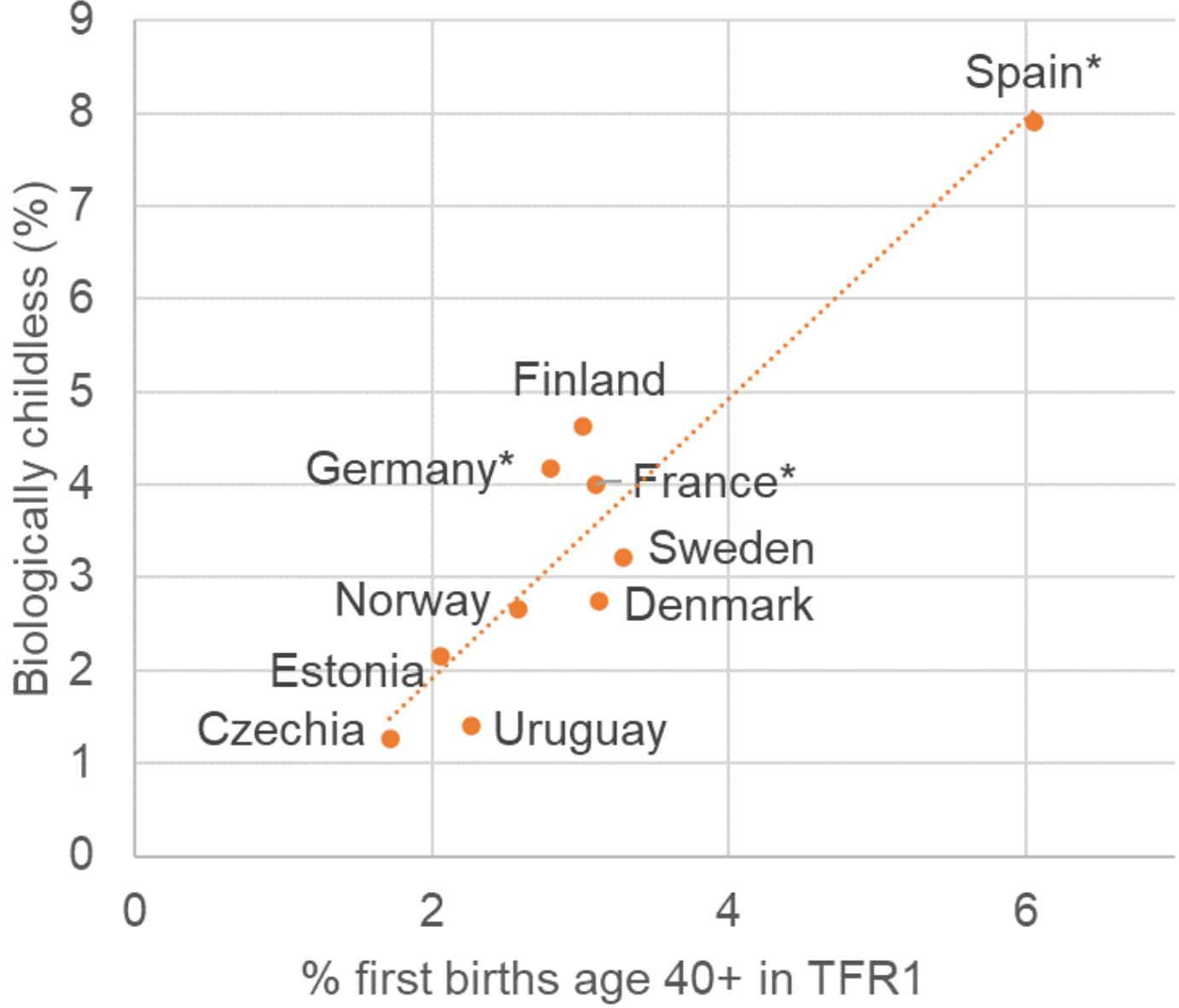


- Some “biologically childless” individuals may have had a child if they had continued to try
- Others may not know (never tried)

Data. GGP II.
Field. All respondents, weighted

Cross-country correlation between share of biologically childless and share having a first child after age 40

Figure. Share of women biologically childless at age 40-59 vs. contribution of ASFR1 at age 40+ to TFR1, across countries, 2020s



Data. GGP II, * Spanish fert survey, pairfam, Fecond. HFD, Cabella et al. 2023
Field. All respondents, weighted
Ackn. Shalini Singh, MC Compan

Which (individual) factors may explain cross-country differences in biological childlessness?

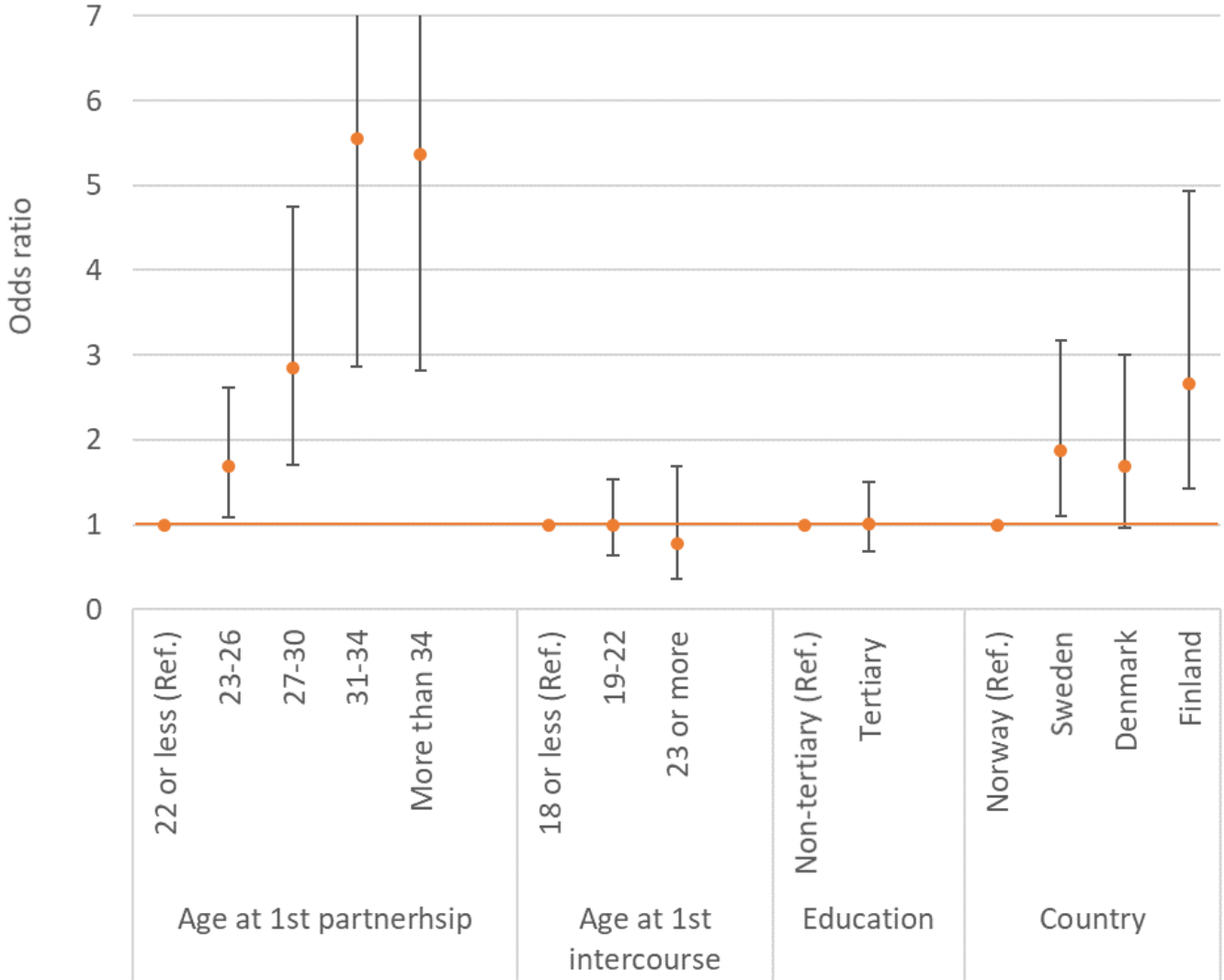
- People who started a union later possibly more limited in their capacity to reproduce
 - Reconstruction of age at first partnership
- Age at first sexual intercourse
 - As a marker of earlier start of family?
 - How old were you when you first had sexual intercourse? If you have not had sexual intercourse, select not applicable
- Highly educated people start trying to have children later, so probably more often experience issues to have children
 - But so far evidence rather shows that they are less likely to be limited at equal age

(Compans and Beaujouan 2022)

(Goisis et al. 2020; Choi et al. 2023)

In the Nordic countries, contrast in biological childlessness between countries persists after controls

Figure. Logistic regression Odds ratio to be biologically childless at age 40-59, among women ever in a union Nordic countries, 2020s



Data. GGP II.
Field. All respondents, weighted

A stylized illustration of a landscape. A light-colored path winds through a field of green grass. In the foreground, there are several bright yellow flowers with dark centers. The background is a soft, hazy blue and green, suggesting a distant horizon or sky. The overall style is painterly and serene.

Intermediary conclusion on biological childlessness

A correlation between age at first birth and biological childlessness across countries

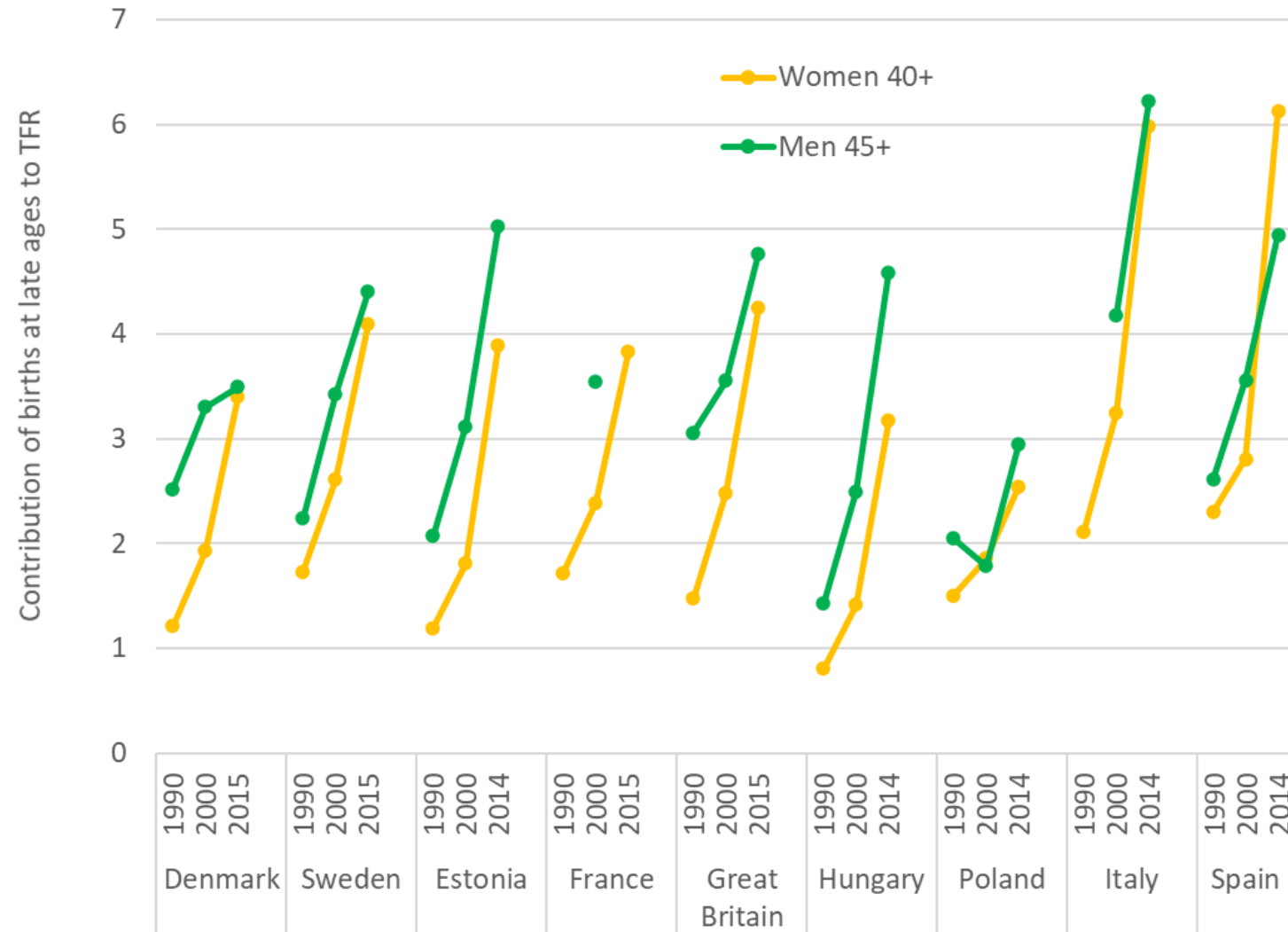
- Despite the absence of relationship between childlessness and first birth timing across countries
- There is a relationship when focusing on biological childlessness
- The factors related to timing we could control for were however not sufficient to explain the cross-country variation in biological childlessness
- Men declared less often infertility issues



**Discussion 1:
May biological
childlessness be
becoming more
frequent?**

Increase in very late fertility for both men and women

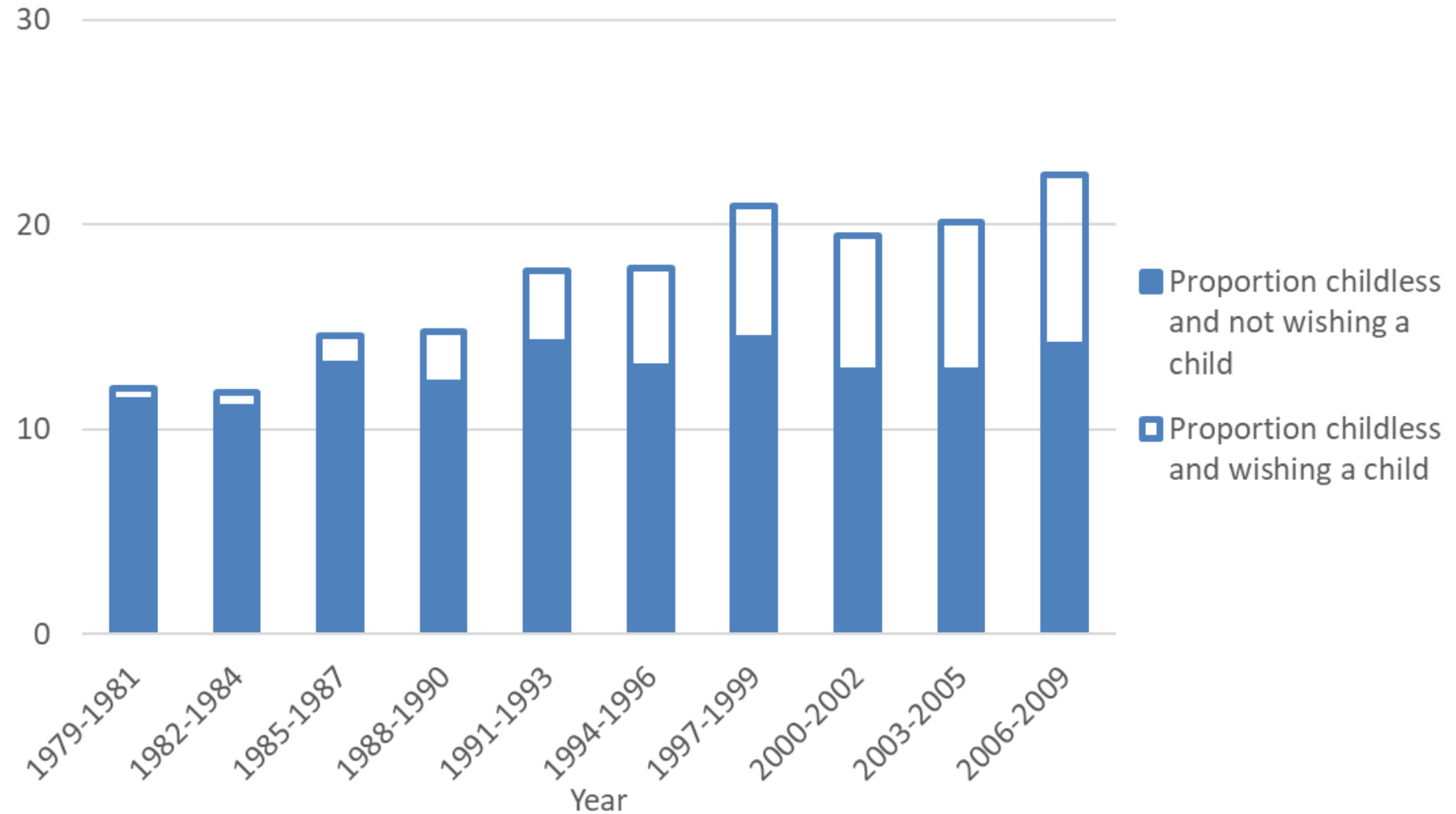
Figure. Contribution of births at age 40+/45+ to TFR; selected European countries, 1990 to 2015, women and men



Data. Human Fertility Database (HFD, HFC, special collection on men)

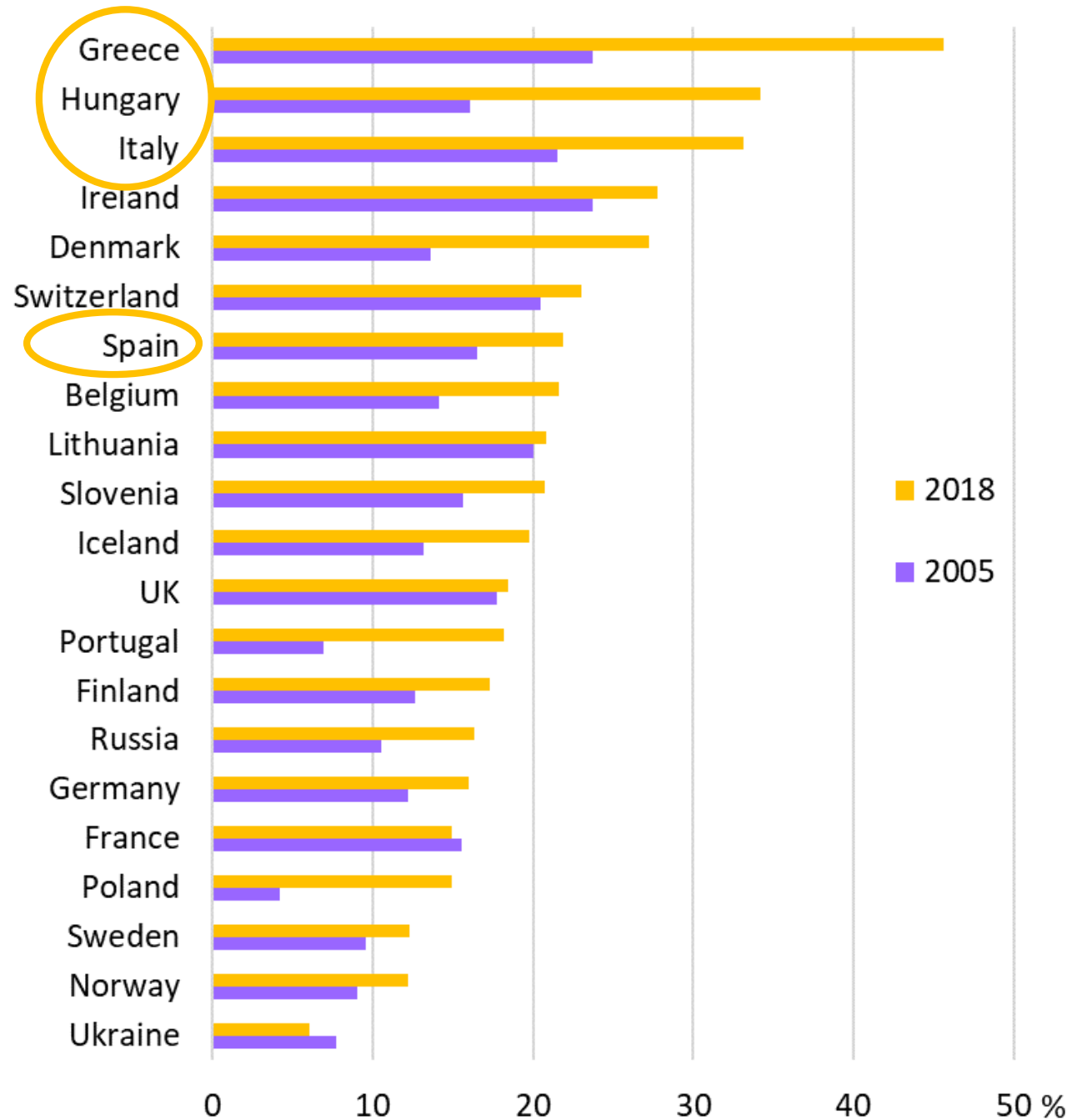
An increasing proportion of women are childless at age 35-39 and still want a child (UK example)

Figure. Share of women aged 35-39 in the United Kingdom (1979-2009) who are childless, decomposed between those who want a child and those who do not



Across Europe, about 15% of IVF/ICSI treatments to women 40+ in 2005, 22% in 2018

Figure. Share of IVF/ICSI treatments at ages 40+; selected European countries, 2005 and 2018



Note. Cross-borders ART frequent in Belgium, Spain, Czech Republic, Denmark...

Data. Assisted reproductive technology in Europe, results generated from European registers by ESHRE

Discussion 2: the other components of childlessness



'Voluntary' vs. 'involuntary' childlessness?

- Childfree
 - "Childless by choice" (estimated to around 3-6% of all women, idem for men)
 - But ambiguity/instability of answers to questions on fertility desires
 - Childless by circumstance
 - Ambivalent
 - May not think about it, unsure
 - "Perpetual postponers"
 - Want a child at some point, but end up without a child at the end of their reproductive life
 - Biologically childless (1.5 to 8% across countries)
 - Encounter infertility problems that prevent them from having a child
- A more nuanced approach of childlessness

(Debest et al. 2014; Waren and Pals 2013; Abma and Martinez 2006; Tanturri)

(Letherby 2002; Berrington 2004; Albertini and Brini 2021; Mynarska and Rytel 2018; Chauhan 2020; Carmichael and Whittaker 2007)



Identifying the “childfree”?

Figure. Percentage of women and men “childfree”, by country, 2020s

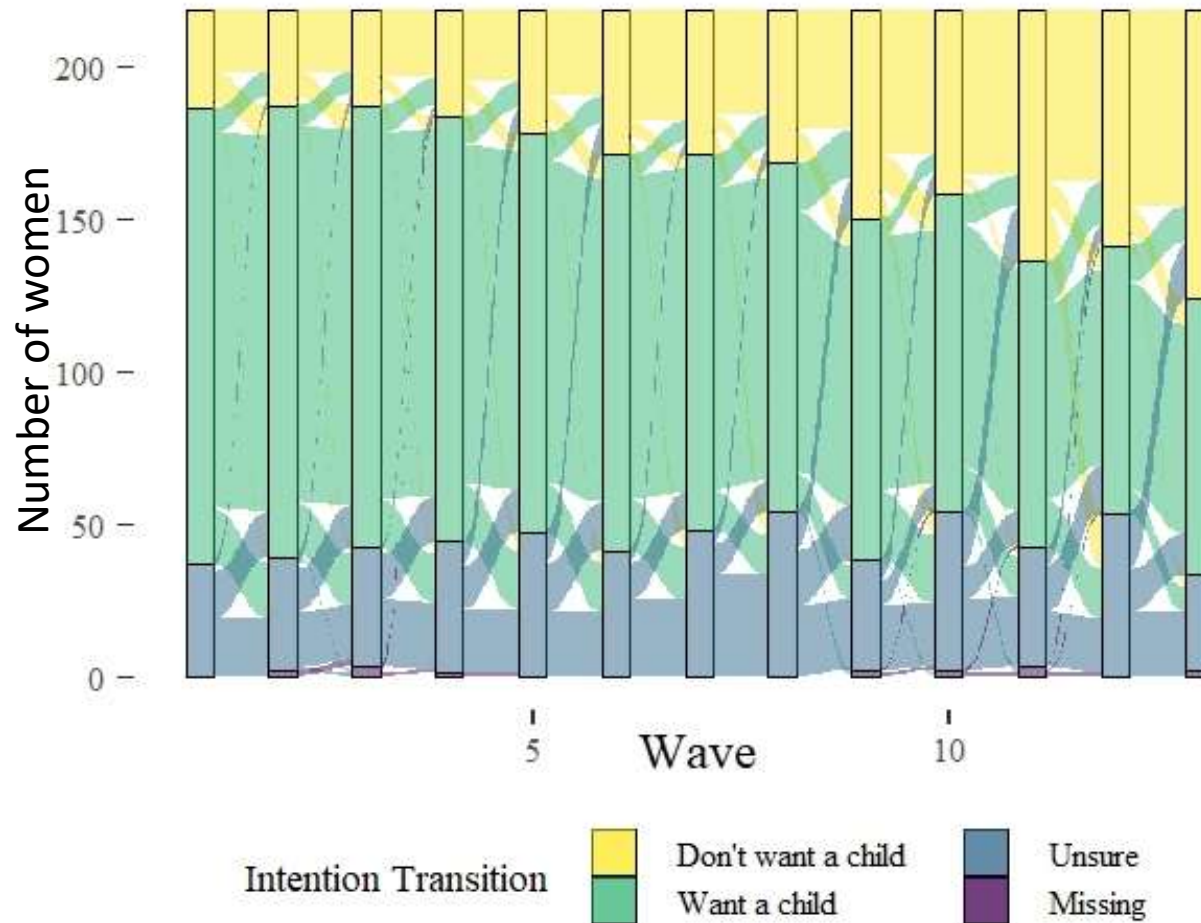
	(%)	Among all women	Among all men		Age
Spain	4.1			self-defined	40-54
Nordic countries	2.9		3.2	retrosp. ideal	40-49
France	1.4			reconstructed	37-49
Germany	1.2		6.4	longitudinal	37-39

➤ Mietenen (2010) included fertility intentions and personal ideals questions and also found 3% of childfree among women and men at age 40-44

Data. GGP II, Spanish fert survey, pairfam, Fecond
 Field. All respondents, weighted
 Ackn. Shalini Singh, MC Compans, Ester Lazzari

Intention transitions among those who remain eventually childless

Figure. Change in intentions to have a child across survey waves, women eventually childless; Germany



- At age 37-39, 10,5% of all women are childless and do not want a child
- But only 1,2% never wanted a child in their life

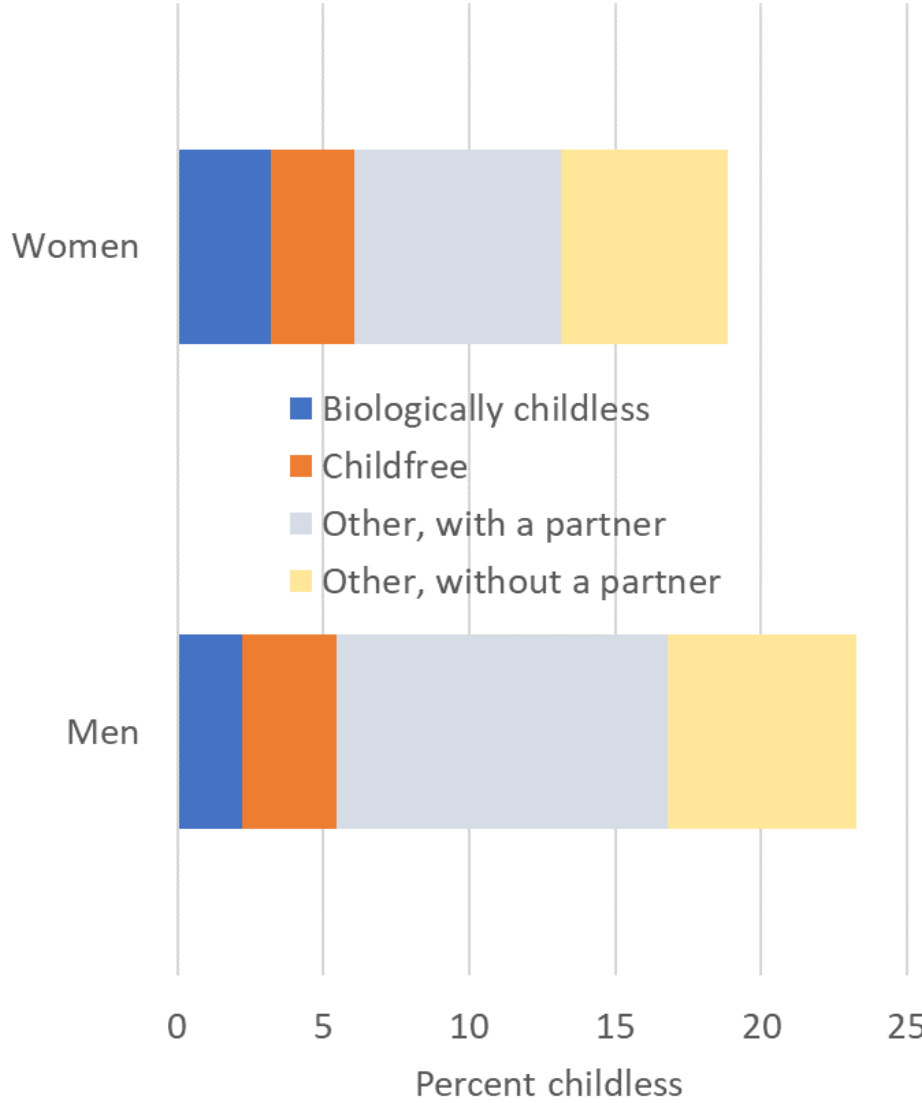
Data. pairfam, 2010s.

Field. Respondents childless at age 37-39, weighted

Ackn. Shalini Singh

A vast majority of childless people would be so “by circumstance”

Figure. Share of women and men without child; age 40-49 at survey, Nordic country, 2020s



- Question: For you personally, what would be the ideal number of children you would like to have or would have liked to have had?
- If 0, then childfree
- Many who are childless by circumstance did have a partner
- Mietenen: Many people have “relinquished parenthood”

Data. GGP II.
Field. All respondents, weighted
Ackn. Ester Lazzari

Conclusion



A nuanced approach of childlessness

- Biological childlessness remains a small component of childlessness, except in some countries
 - Extremely delayed fertility may be driving higher proportions of childless women in Spain, Italy or Japan
- The share of women and men childfree is also a very small component of childlessness
 - 1.2-4% of all people
 - Complex to measure
- Most permanently childless people gave up on parenthood at some point
 - Lack of partner not the only reason for this



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