

Exploring long-term changes in fertility differentials by level of education

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EURREP
FERTILITY AND REPRODUCTION
IN 21ST CENTURY EUROPE



IDEAS, MOTIVATION

Achieved level of education increasingly recognised as a key stratifying covariate of demographic behaviour

- Health, life expectancy, fertility and family patterns. Projections

Increasing attention to education-fertility relationship and its interpretation in low-fertility settings (Kravdal and Rindfuss 2008, Martín Garcia 2008)

- Long-term gradient in education-fertility differentials documented among women (e.g. Skirbekk 2008), less clear relation among men
- Also key role of education expansion in stimulating fertility postponement (Blossfeld & Huinink 1991, Ní Bhrolcháin and Beaujouan 2012)
- Education also affects fertility via differential marriage behaviour and union formation, sex-specific partnership & marriage preferences (van Bavel 2012)

EDUCATION-FERTILITY RELATIONSHIP: gaps in current research

Contemporary research on low-fertility settings often

- focuses on individual countries, lacks broader comparative perspective (Andersson et al 2009 among main exceptions)
- uses period data that are often affected by *tempo effects* and suffers data mismatch between occurrences (birth data) and exposures (population data)
- applies a short-term perspective
- uses regression analysis, frequently with a focus on partnered women & single-parity transition

Debates on causality

→ *The “complete picture” is often lost*

EDUCATION-FERTILITY RELATIONSHIP: a broad view

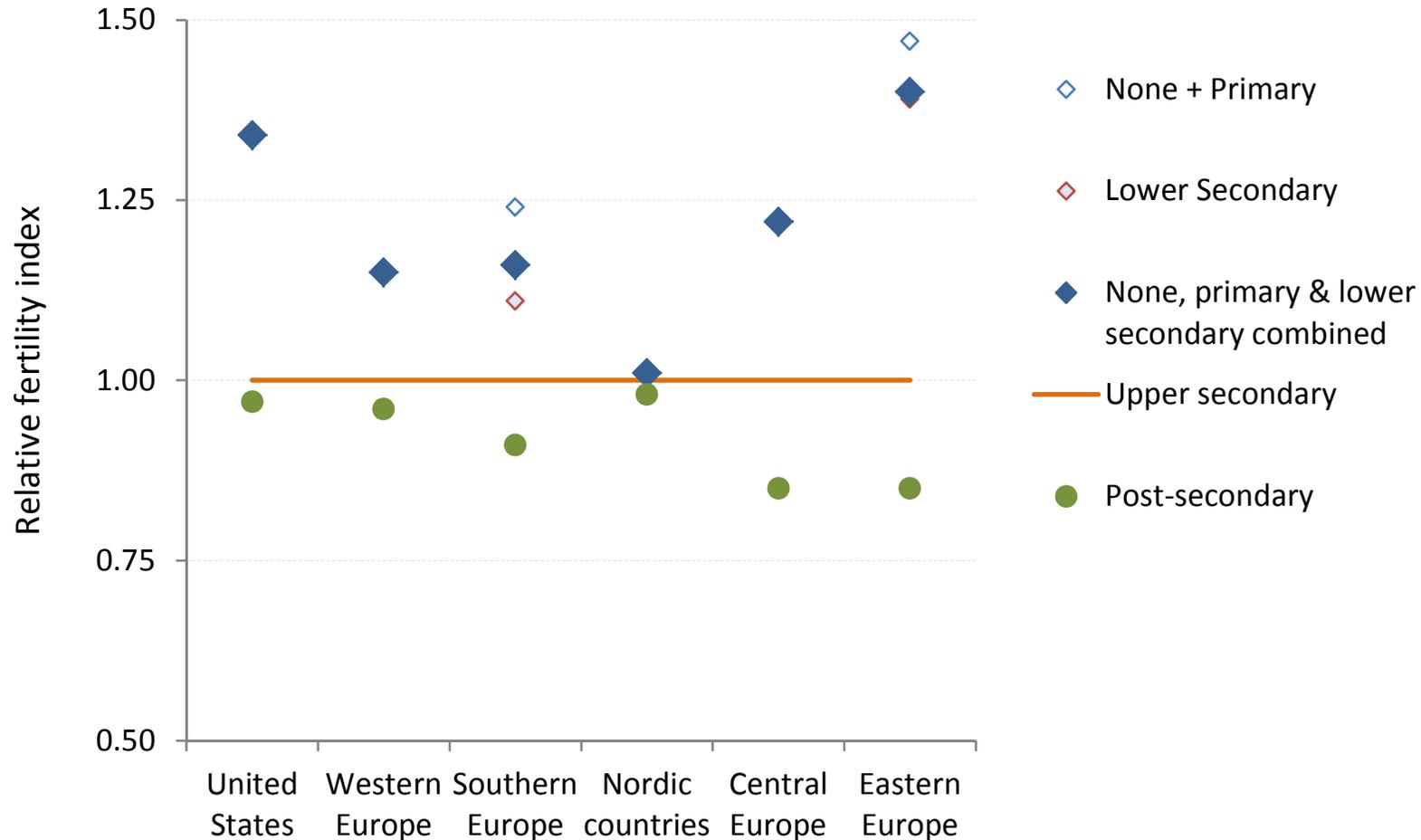
Long-term transitions, trends and inter-country variation insufficiently mapped and analysed

→ also lacking attention to cross-country variability in parity-specific patterns of family building (different pathways to low fertility, exceptions include Ekert-Jaffé et al. 2002)

Examples of research questions

- How education-fertility relationship evolving in the late stage of demographic transition and in post-transitional settings?
- Are fertility differentials declining across cohorts?
- Are there persistent gender differences?
- Who was at the vanguard of the spread of the two-child family 'norm'?
- How cross-country variation linked to institutional settings?

CURRENT DIFFERENTIALS AMONG WOMEN: low-fertility countries, F cohorts born ca. 1960



Data based on Basten, Sobotka and Zeman 2013;
some of the data provided by Michaela Potančoková (VID / Wittgenstein Centre)

DATA & METHODS

DATA, INDICATORS, ANALYSES: Specific aims

Cohort analysis of childlessness, completed fertility, family size distribution and parity progression ratios

- Elaborating links between theories, hypotheses and empirical data
- Focus: low-fertility countries & countries in the last stage of the DT
- Female & male birth cohorts from ca. 1900 to ca. 1970
- Data over age 40 (45 for men) when both fertility and level of education essentially “completed”
- Complementary research on differentials in intended family size

Key variables: completed level of education, birth cohort, country (region), country of birth (when available), sex (when available)

Facilitating research & data exchange: Creating open-access database

DATA, INDICATORS, ANALYSES: Specific aims

Data sources

- **Census data**: retrospective information on CEB from recent and historical censuses
- **Large-scale surveys** (France, UK, Germany, US), considering also smaller data sets (GGS, FFS?)
- **Register-based data**

Main data limitations (census & surveys)

- No *tempo* information in most data
- *Selectivity* ignored: mortality, migration, changing meaning of education categories
- Possible *response biases*, handling of unknown and unreported cases

DATA used in this presentation

France: BC 1920-70; *Survey of Family History* 1990, (1999), 2011; 3-year moving averages (courtesy of Laurent Toulemon)

Switzerland: BC 1920-59, Census 2011 (courtesy of SFSO and Marion Burkimsher)

Czech Republic: BC 1900-1960, Census 1980 and 2001 (published tabulations and additional data provided by the Czech Statistical Office)

Austria: BC 1926-60 (5-yr cohorts), Census 2001, published data by Statistics Austria (2006)

Norway: BC 1940-64 (5-yr cohorts), register-based data in Kravdal and Rindfuss (2008)

Croatia: BC 1916-60 (5-yr cohorts), published tabulations, Croatian Bureau of Statistics

Korea: BC 1925-70, Korean Census 1% sample data 1970, 1975, 1985, 1990, 2000, 2005 and 2010 (courtesy of Sam Hyun Yoo)

SELECTED IDEAS AND HYPOTHESES

(see the paper for more!)

QUESTIONS, SELECTED HYPOTHESES (1):

Long-term patterns of cohort fertility change and variation:

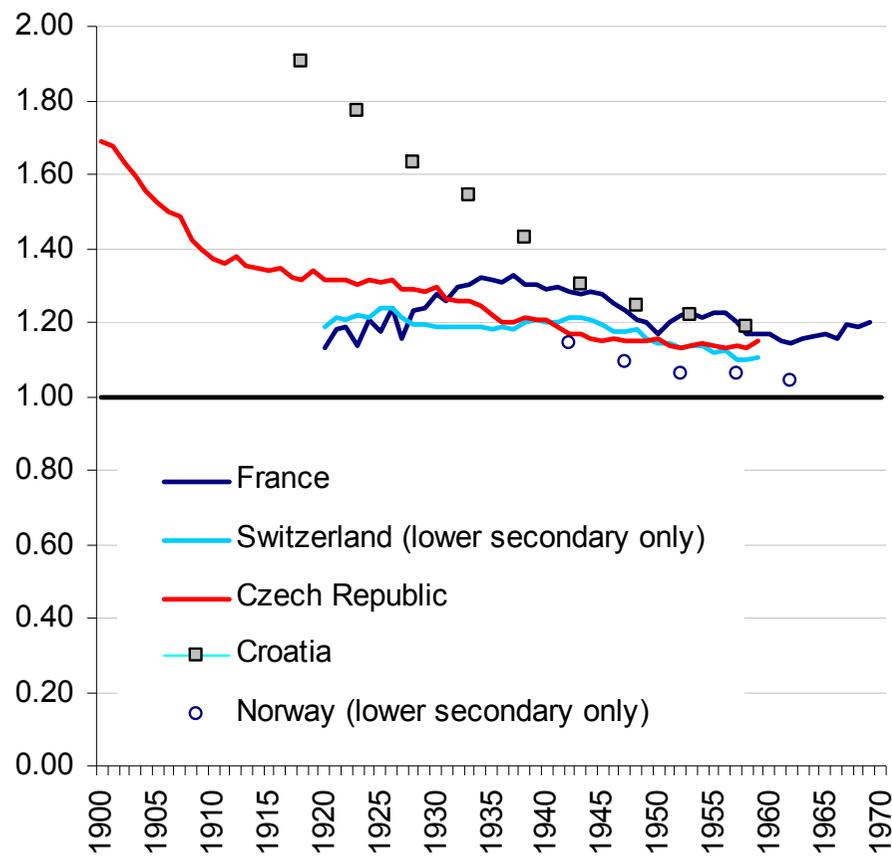
- The role of education expansion in driving fertility decline to sub-replacement levels
- Gradual convergence in fertility by level of education, especially childlessness?
- Understanding baby booms and busts (*also research by Jan van Bavel, David Reher, Glenn Sandström et al.*)

Convergence expected especially in countries where women can achieve a good balance between career and family life

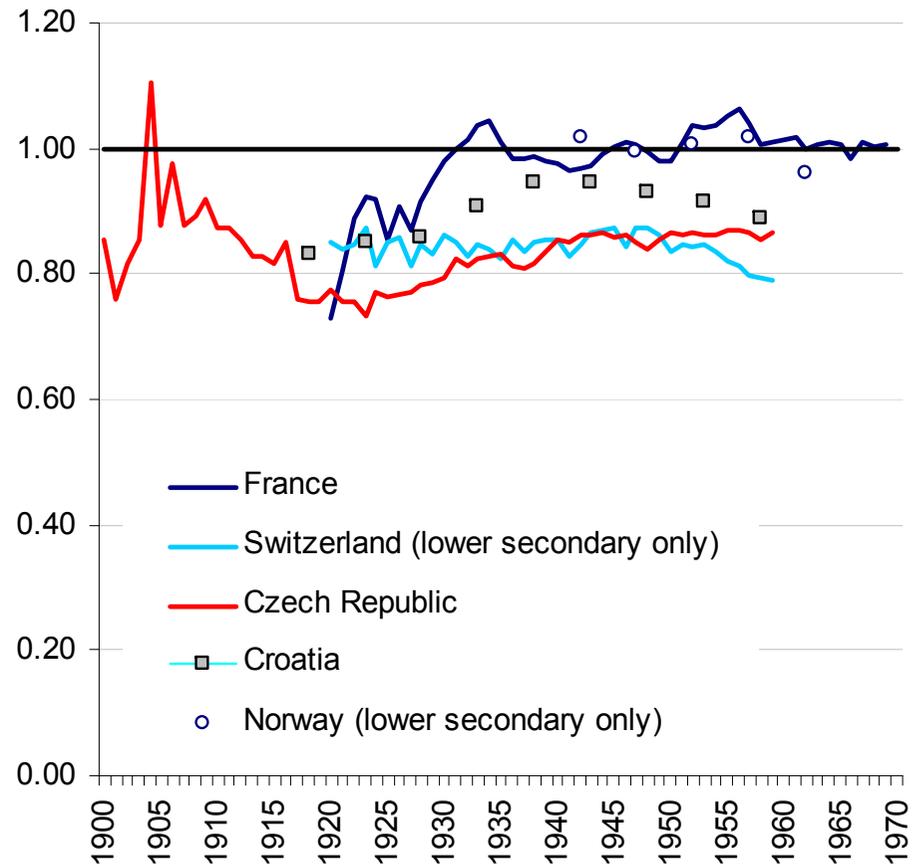
(Kravdal and Rindfuss (2008): Norway; Neels and de Wachter (2009): Belgium; Andersson et al. (2008, 2009): Nordic countries)

Relative fertility differentials in 5 countries

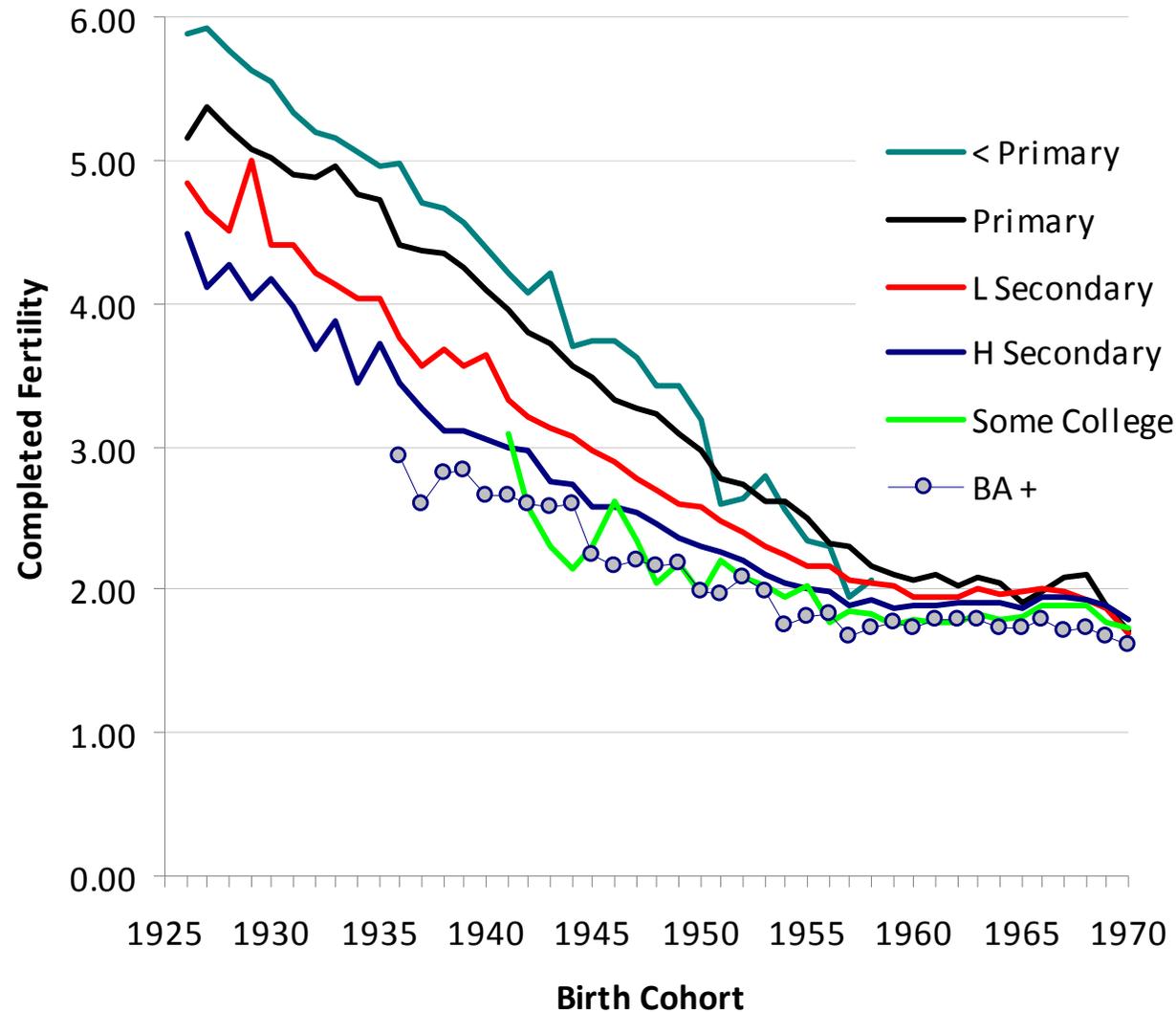
F with lower secondary + primary education vs. upper secondary



F with postsecondary vs. upper secondary education



Convergence to low fertility in Korea



Source:

Sam Hyun Yoo
(2013)

*Was Fertility
Decline in Korea
Driven by
Educational
Expansion? A
Cohort Analysis*

PAA 2013

QUESTIONS, SELECTED HYPOTHESES (2):

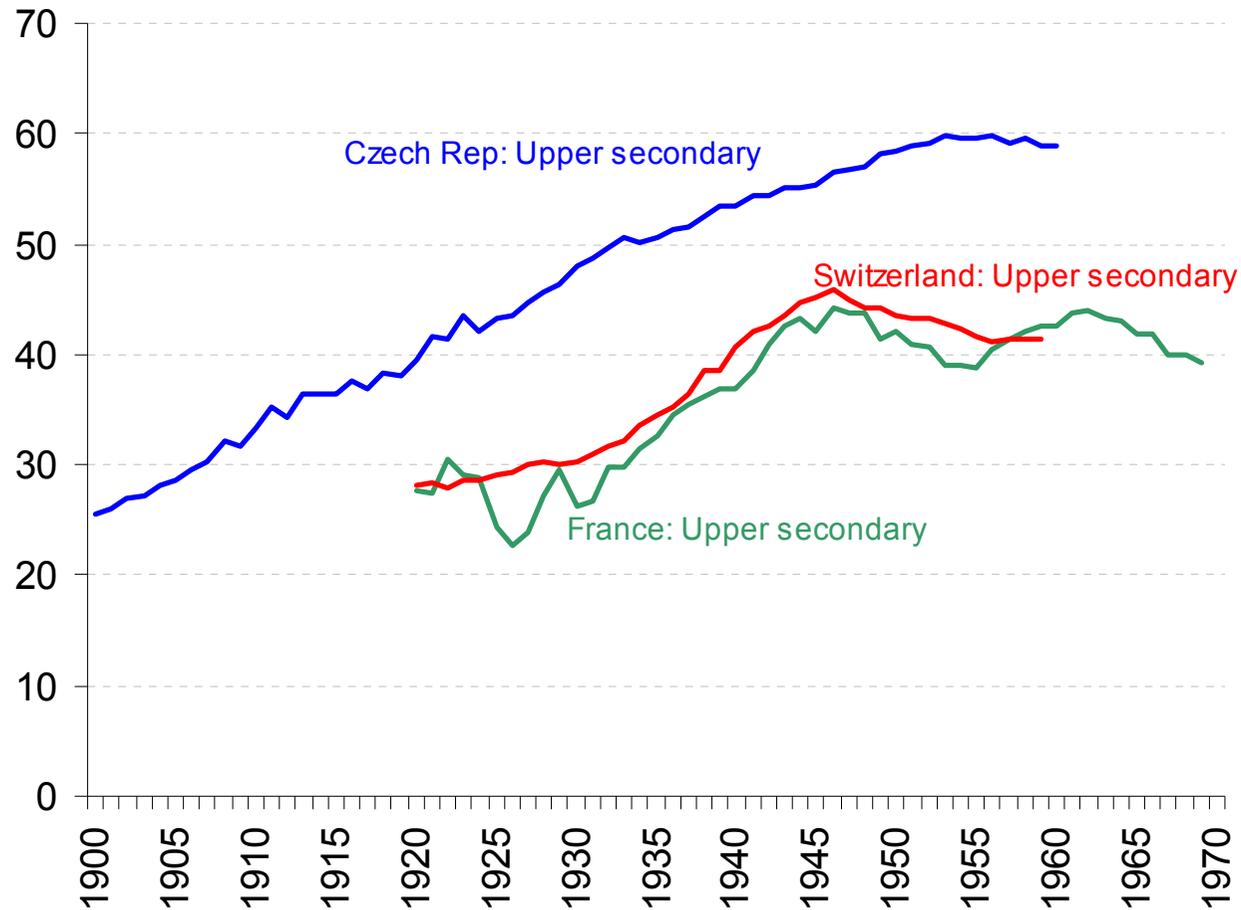
Parity-specific patterns:

- Huge educational differentials in childlessness expected to decline across cohorts as higher education becomes more common
- Childlessness explains most of the observed differences in completed fertility by level of education
- In most countries, two-child family most common among all education groups in the cohorts born > 1945

Two-child family orientation emerged first among the highly educated women (with post-secondary education)

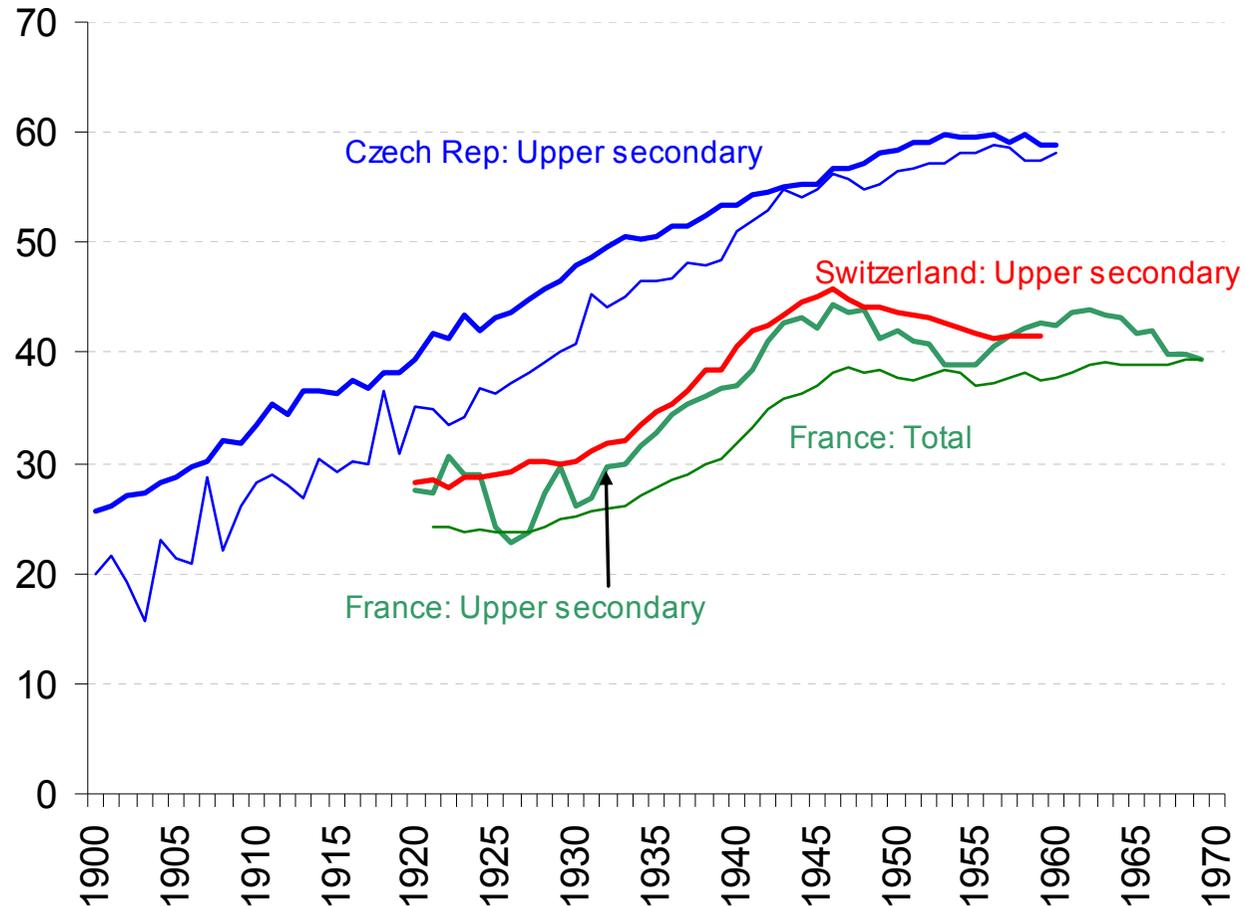
Progression to second birth remains most stable and least differentiated across cohorts and education groups

Share of women with two children (%) (education category with the highest share in the cohorts born around 1930)



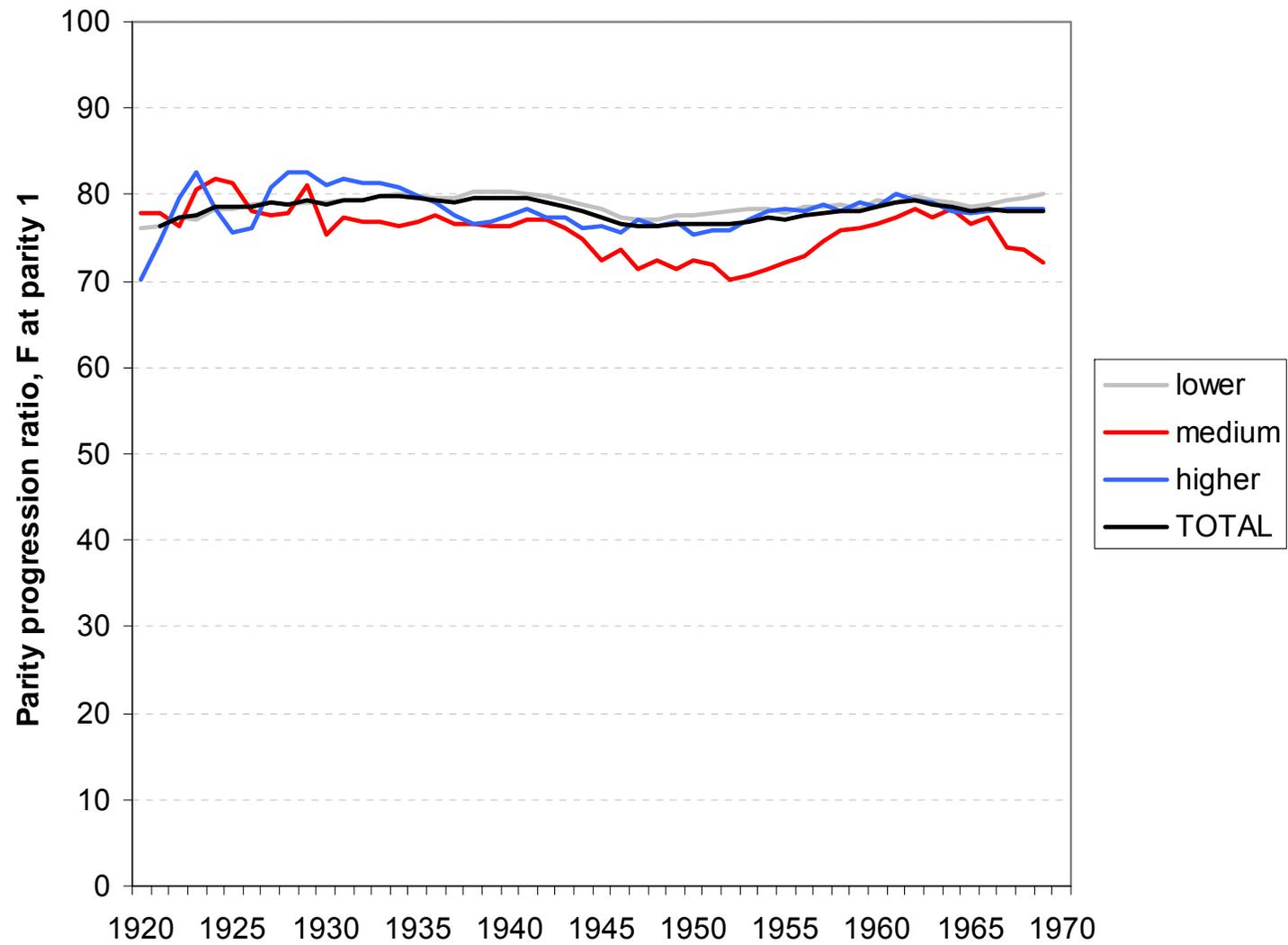
Croatia: Lower secondary (small differences); Austria: lower and upper secondary almost equal

Share of women with two children (%) (education category with the highest share in the cohorts born around 1930)



Croatia: Lower secondary (small differences); Austria: lower and upper secondary almost equal

Progression rate to second birth in France (PPR_{12})



DISCUSSION

DISCUSSION

Comparative analysis: Usefulness of taking a long view at changes in cohort fertility and family size by education

- Continuities across cohorts
- Convergence vs. polarization
- Decomposition of fertility change across cohorts
- Looking at the role of institutional factors, gender differentials, regional transitions (post-communist Europe, East Asia), intended family size

DATA & RESEARCH EXCHANGE NETWORK

Future plans

- Establishing informal research collaboration on education differentials in cohort fertility; facilitating data and research exchange; link to the EURREP project

Workshop in Vienna in December 2014???

- Creating open-access database on completed fertility.
 - At present, zero trial version with datasets for two countries (Czech and Polish census data)

Acknowledgments

This research was supported by the European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013) / ERC Grant agreement n° 284238 (EURREP)

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