



Studying fertility differentials by religious affiliation in Vienna

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Motivation

Religion, including *affiliation, church attendance* and self-assessed *religiosity* important factor influencing family & reproductive behaviour and attitudes

- **Mechanisms:** Pro-natalist and traditional family values, earlier family formation, minority status, negative attitudes to contraception, abortion, homosexuality; but also spurious correlation (e.g. via differential education)
- **Past research:** Influences of religion on marriage & cohabitation, divorce, family-related attitudes, fertility intentions, sexual & contraceptive behaviour, fertility level and timing

Religion and fertility in low-fertility settings

Newman & Hugo (2006): link between church attendance in childhood, affiliation, and higher preferred and achieved fertility

- *Religiosity can support higher fertility in low-fertility settings*

Adsera (2006): religiosity linked to ideal family size

Younger generations: *reported church attendance influences the ideal number of children.*

Hayford & Morgan (2008): Those claiming religion “very important”: traditional gender and family views, higher intended and actual fertility

Berghammer (2008): Church attendance and religious socialisation strongly influence progression to 3rd birth

McQuilan (2004): The importance of religion for supporting higher fertility may rapidly decline: diminishing “coercive” power and declining attachment of people

Religiosity and fertility in a modern urban context

Distinct demographics of Vienna, within Austria & international:

diversity, immigration, rapid compositional changes, rapid ageing (in the past), very low fertility & high childlessness (especially in the past)

“Stadt ohne Nachwuchs?” (Weigel 2003)

Progressive secularisation

Do affiliation and religiosity in a contemporary urban and largely secular environment influence fertility and intended family size?

Issues & topics

How fertility rates differentiated by religious affiliation?

Diminishing role?

Does religiosity matter for intended family size?

- Level and Tempo (timing)
- Period and cohort analysis
- Convergence between religious groups over time?
- The role of education, affiliation, country of birth (Census data)
 - *Does affiliation makes a difference when controlling for education and country of birth?*
 - *Pronatalist role of (some) religions, anti-natalist role or selectivity of being non-affiliated?*

Agenda

1. Past cohort fertility differentials

An intersection of religion, education, and country of birth (F born up until 1960)

2. More recent period trends

Reconstructing fertility by affiliation: Quantum & tempo, 1984-2011
(with A. Goujon)

3. Looking into the future?

Intended family size of women & men in reproductive age
(2012)

4. Conclusions, discussion

1. Cohort fertility of women born 1921-60:
An intersection of religion, education, and
country of birth

Background

2001 Census data; focus on completed family size, esp. at age 45-54

- “Big data” advantage; >300 thousand F aged 40-69
- High level of detail & precision
- Records on education, country of birth, affiliation

Some drawbacks

- Only cohort indicators, no timing, no fertility histories
- No data after the 2001 Census; surveys not large enough or not including indicators of religious affiliation or practice
- 2001 Census contains relatively few women of migrant origin & born in AT

Background

Analyses: Simple descriptive & logistic regression model

Categories of interest:

Cohort/age: Most data analysed for women aged 45-54 in 2001 born around 1950

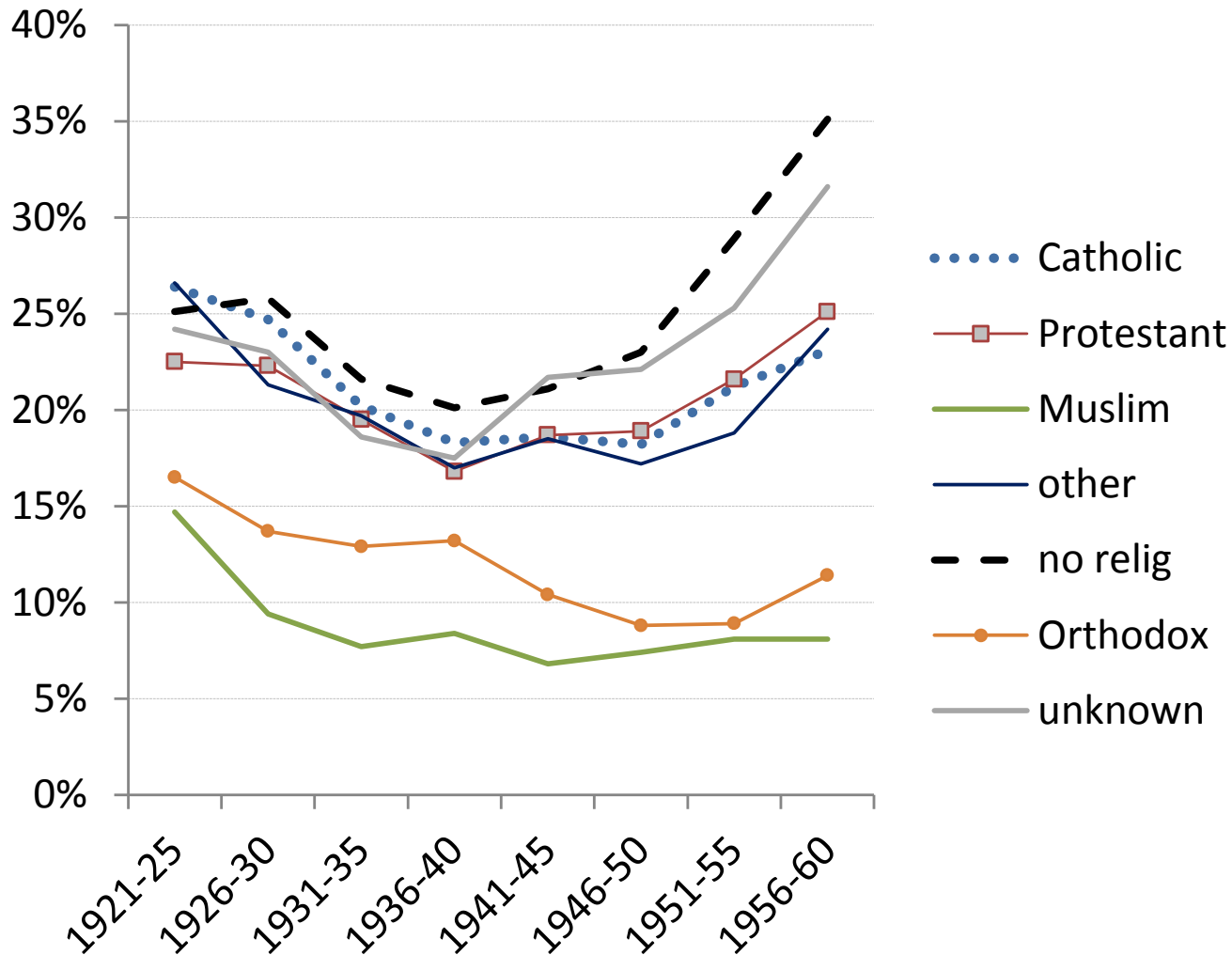
- Additional trend analyses for F born 1921-60

Religious affiliation: 6 categories (Catholic, Protestant, Muslim, Christian Orthodox, other, non affiliated) and unknown

Education: ISCED, 3 categories: Low (ISCED 012), Medium (ISCED 3), High (ISCED 456)

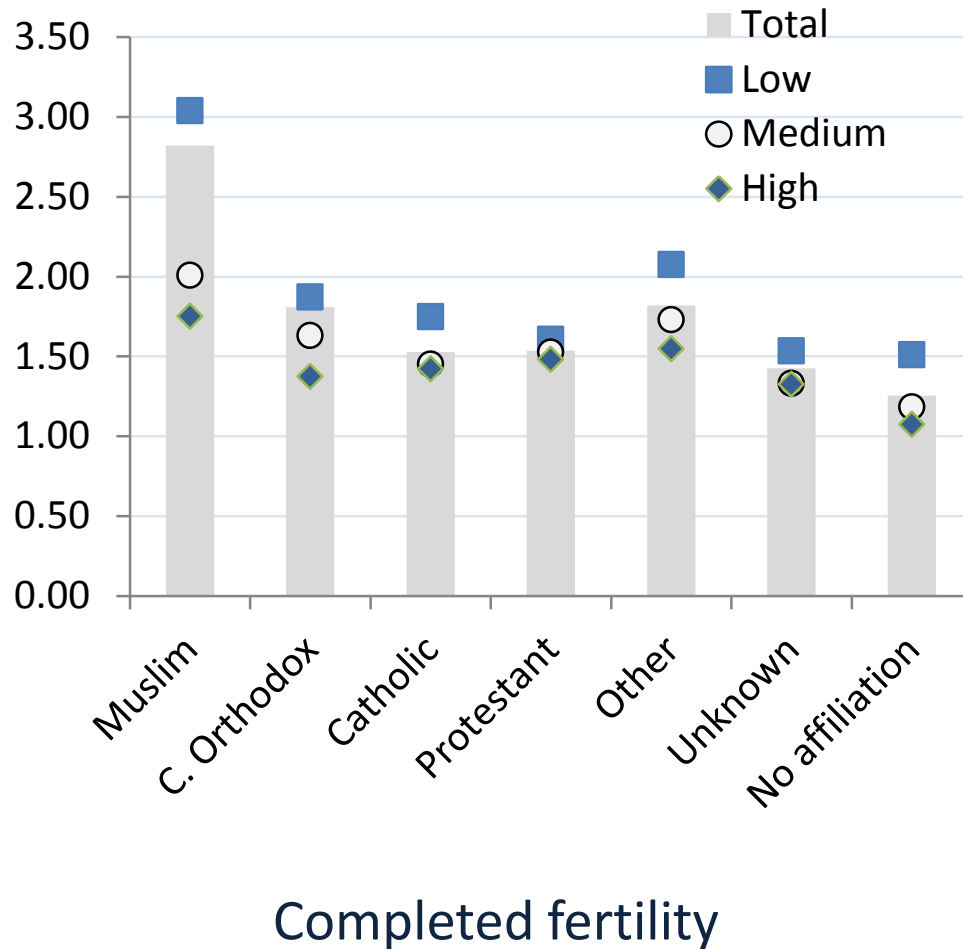
Country of birth: Born in Austria vs. Born abroad

Long-term trends: Huge contrasts in childlessness by affiliation

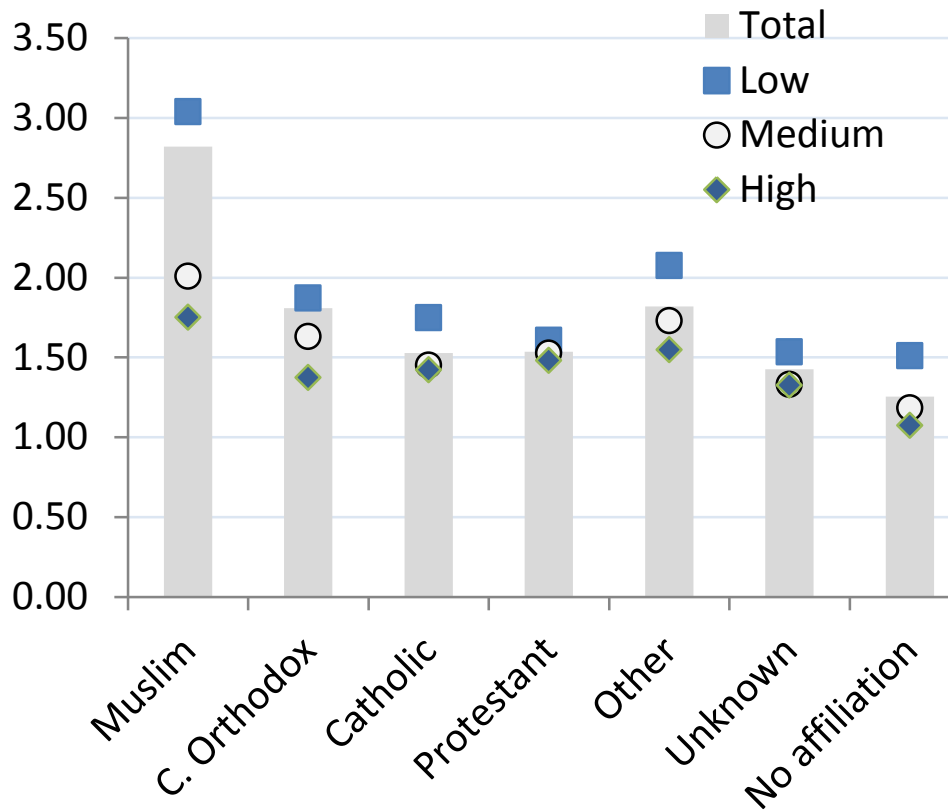


Source: Census 2001 (Statistics Austria 2006)

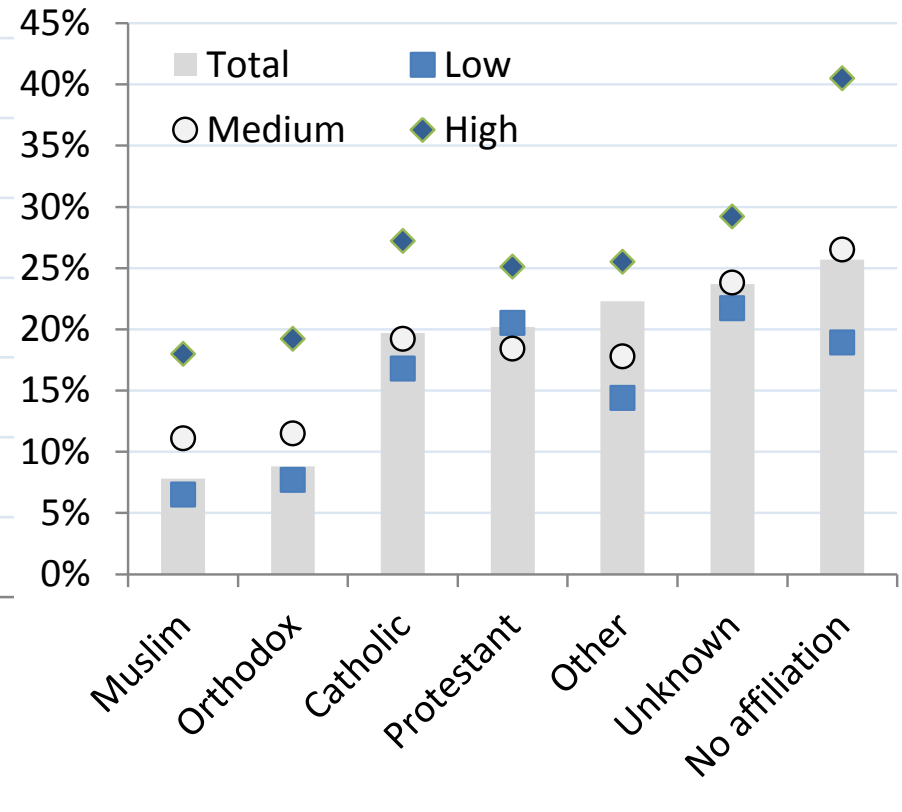
F aged 45-55 in 2001: education gradient in completed family size and childlessness



F aged 45-55 in 2001: education gradient in completed family size and childlessness

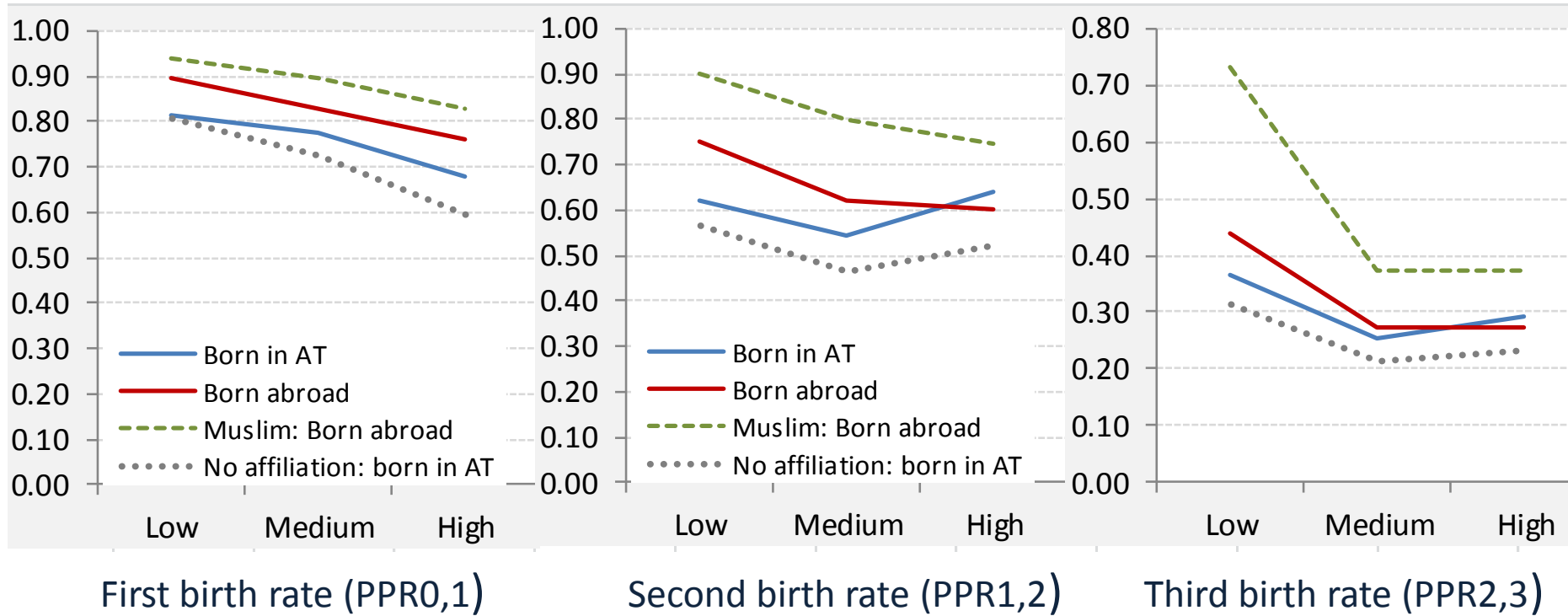


Completed fertility



Childlessness

Both education and country of birth matter



Logistic regression model of parity progression ratios

- Based on 2001 Census, Vienna
- Completed fertility of women aged 45-54
- Parity progression ratios to first, second, third births
- Binomial logistic regression model

First births (PPR0,1)

	LM1	LM2	LM3
Intercept	0.80	0.84	0.83
Catholic	1	1	1
Muslim	1.15***	1.11***	1.06*
No religion	0.92***	0.92***	0.92***
Orthodox	1.13***	1.10***	1.05*
Other	1.02	1.02	1.00
Protestant	0.99	1.00	1.00
Unknown	0.95*	0.94*	0.93**
Low Education		1	1
Medium education		0.95***	0.96***
High education		0.85***	0.85***
Mother born in Austria			1
Born outside Austria			1.06***

Controlling for education & country of birth reduces the positive effect

Strong effect education, country of birth

Summary: education, country of birth (based on M3)

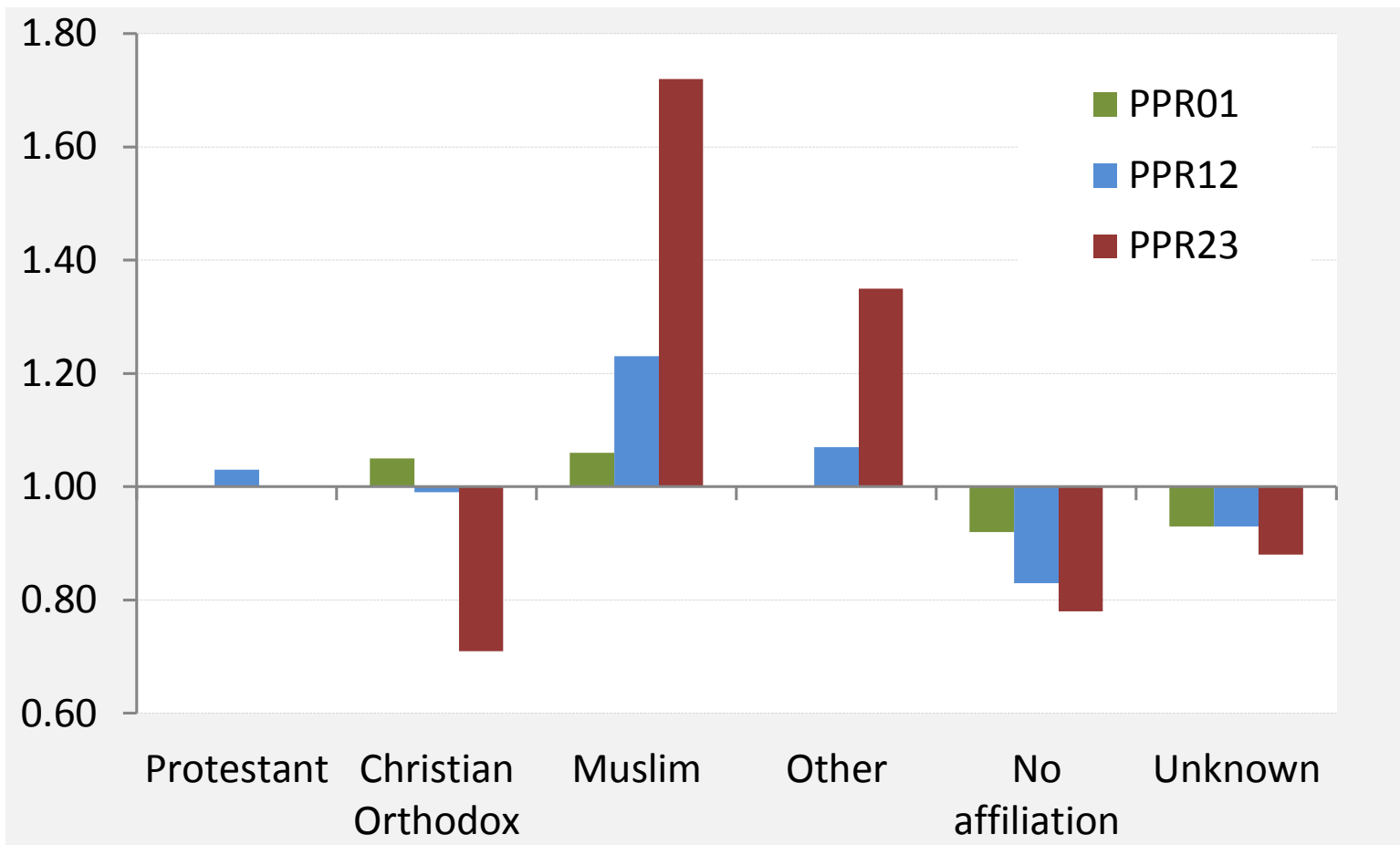
	PPR01	PPR12	PPR23
Country of birth			
Born in Austria = 1			
<i>Born abroad</i>	1.06***	1.09***	1.03
Education			
Low education = 1			
Medium education	0.96***	0.87***	0.68***
High education	0.85***	0.96*	0.74***

Inverted J
pattern



Summary: religious affiliation (based on M3)

Parity progression ratios (first, second and third birth) by religion, relative to Catholics; controlling for education & country of birth



2. Reconstructing period fertility by religious affiliation, Vienna 1984-2011

with contribution by A. Goujon

Background

Reconstructing period fertility by affiliation, age of mother & birth order of the child, 1984-2011

- Based on vital statistics records on births (individual data specifying birth order, age of mother)
- Using estimated population by year, age & affiliation (A. Goujon / WIREL)
- Analysing both quantum and tempo (here focusing on the key indicators of age-specific fertility rates, period TFRs)
- Limited number of affiliation categories: 6 groups
Roman Catholics, Protestants, Jews, Muslims, “Other” (incl. Christian Orthodox) and without affiliation

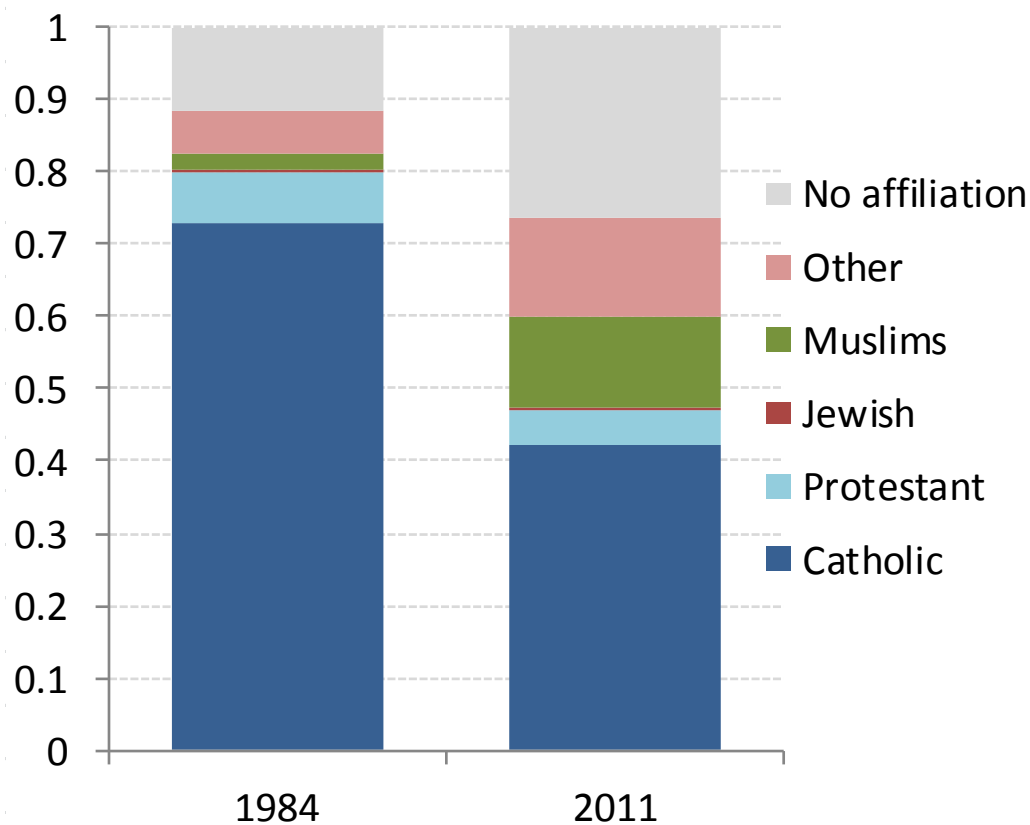
Background

Possible drawbacks & data issues

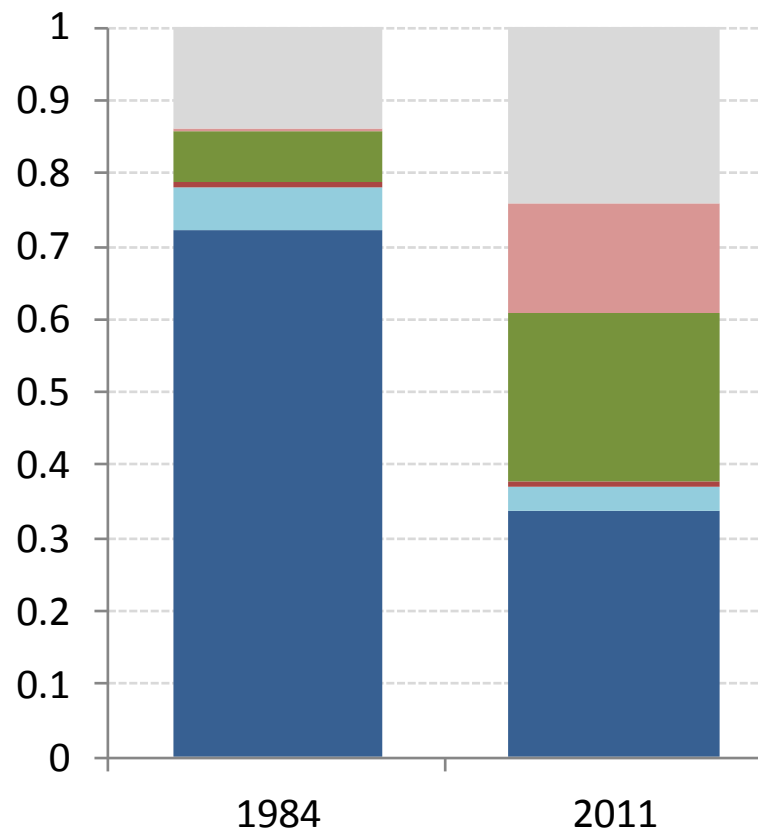
- Possible mismatch between two datasets used to derive rates: Reconstructed female population by affiliation vs. (self-)reporting of mother's affiliation in birth records
- Uncertainty in population estimates by affiliation; subject to revisions
 - Some estimates unstable, too high or low (esp. in the 1980s); data appear solid for the period >2000 (except for non-affiliated)
- Missing data for some important categories (Christian Orthodox, but also Buddhist, Hindu)
- Data do not allow cross-combination with education, country of birth and other characteristics

Changes in religious affiliation, 1984-2011: female population of reproductive age and mothers giving birth

Share of women of reproductive age, 15-49

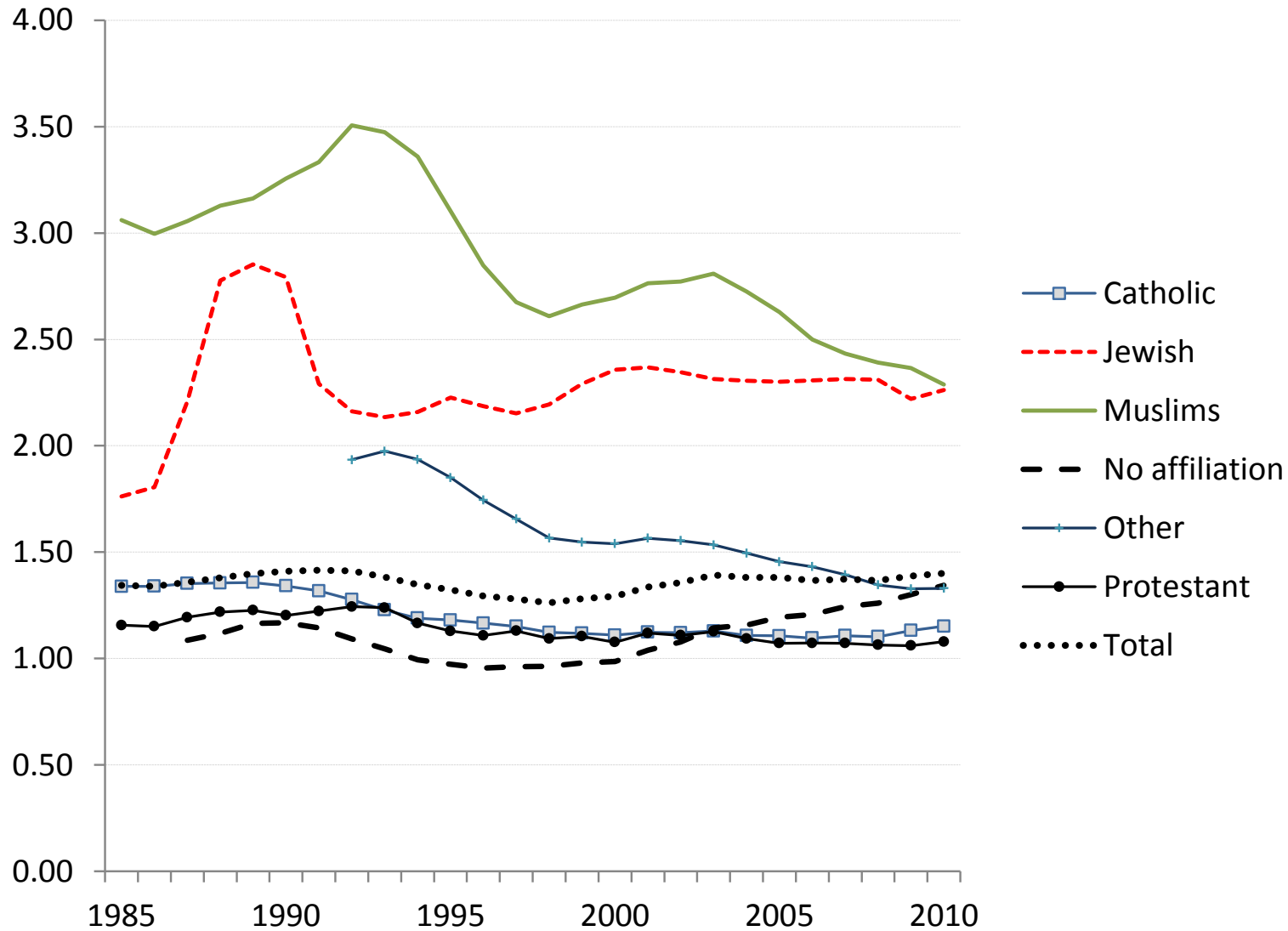


Share of live births by mother's affiliation

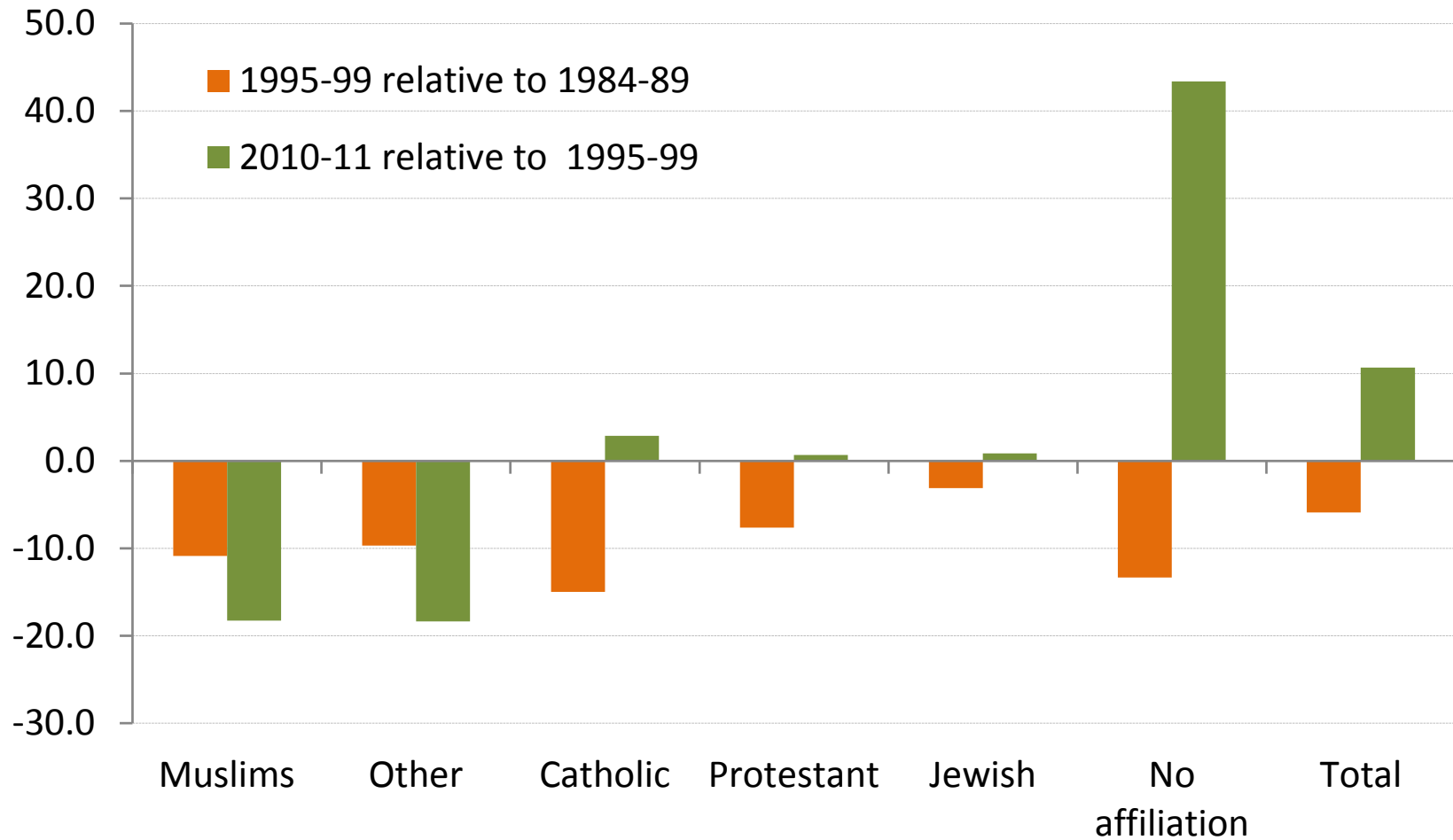


Period TFR 1985-2010

(3-yr moving averages)

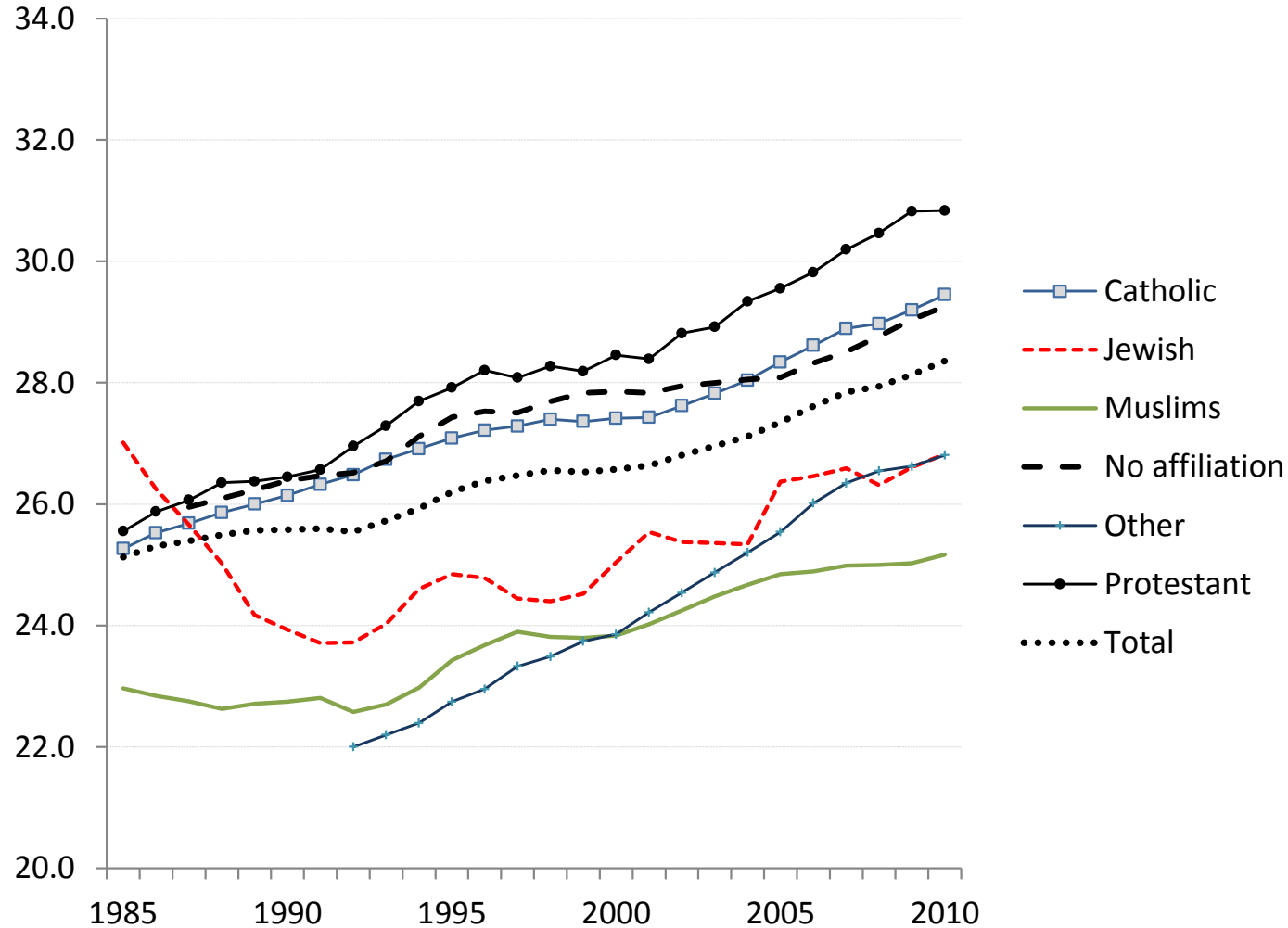


Relative TFR changes in two periods

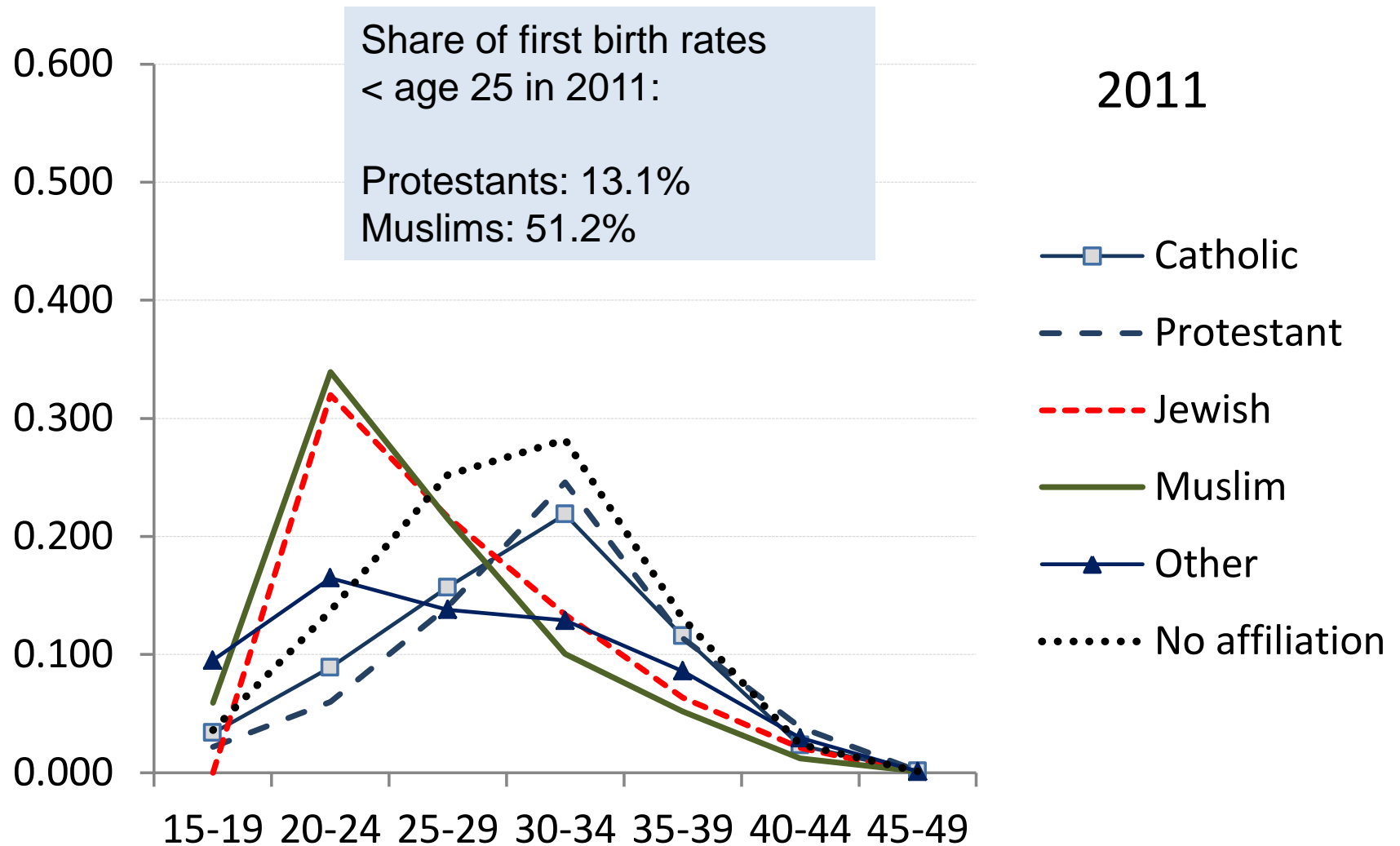


Age at family formation: Persistent contrasts

Mean age at first birth, 1985-2010 (3-yr moving averages)



Age-specific fertility rates: first births, 2011



3. Intended family size of women & men in reproductive age

Background

2012 SoWi II survey (*Sozialwissenschaftliche Grundlagenforschung II*) // Conducted by Institut für empirische Sozialforschung

- Quality of life in Vienna
- Additional modules / questions
- Included questions on actual and additionally intended number of children
- Additional variables & dimensions of interest: age, sex, level of education (4 categories), country of origin, religious affiliation, degree of religiosity (self-assessed, scaled 1-10)
- N (age 15-44, responses to intentions): 887 F, 787 M

Background

Possible drawbacks & data issues

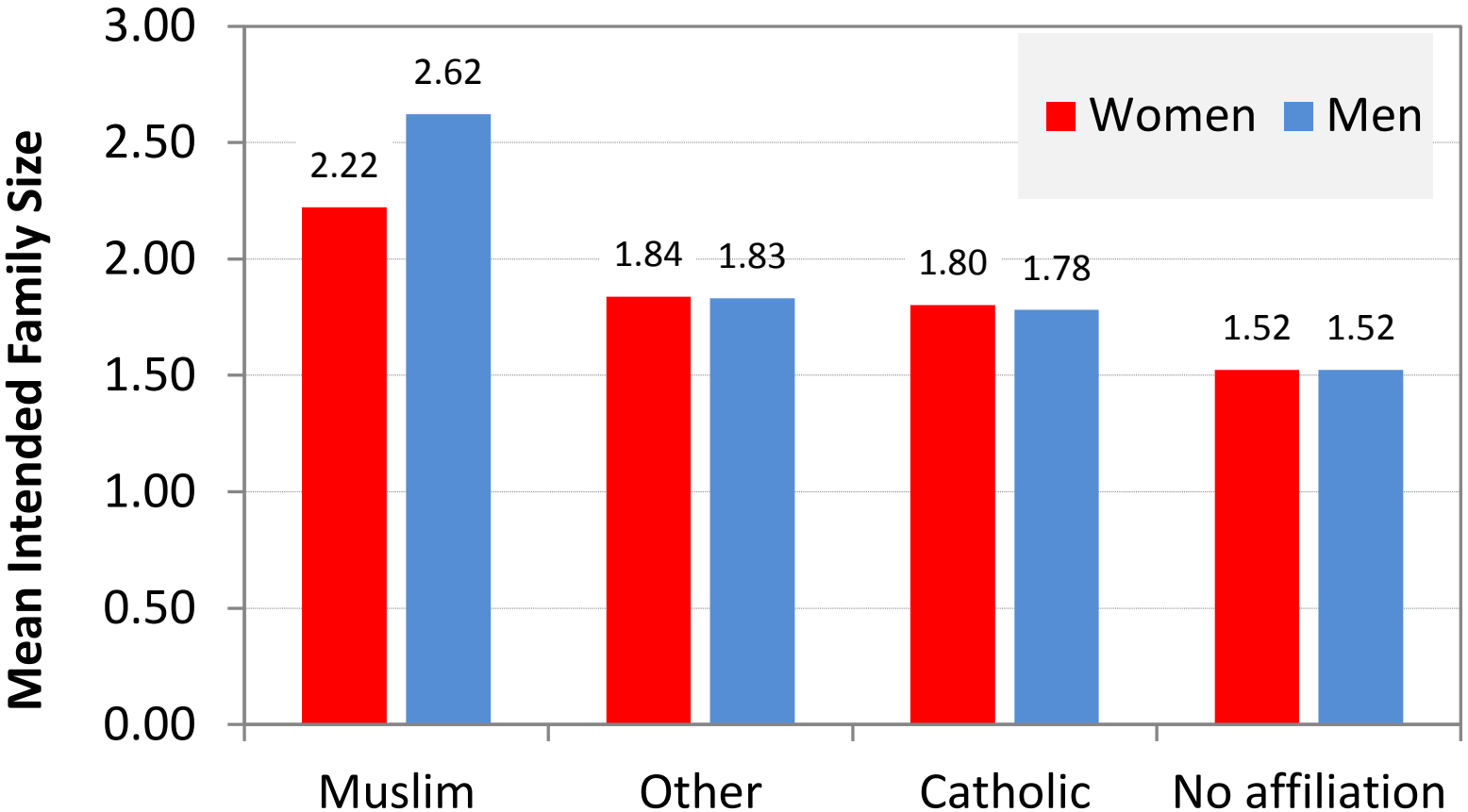
Small sample size limits our ability of a deeper analyses with several dimensions

Solutions: combining the data for broader categories

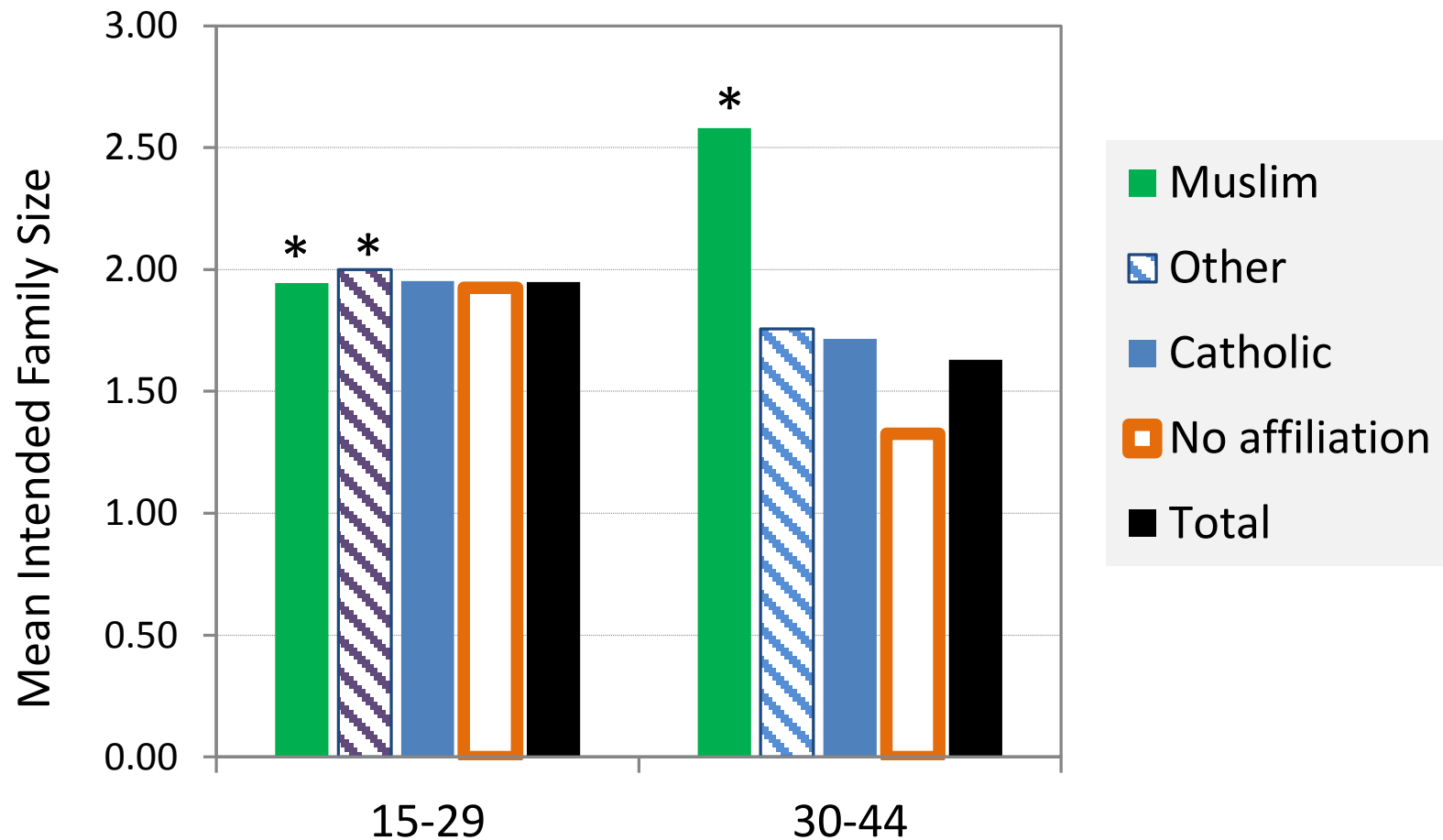
- using broader age group (15-44 for more detailed analyses)
- merging education categories (3: 1. Lower secondary up to apprenticeship, 2. Upper secondary (*Matura*, practical training), 3.Tertiary),
- looking at the main religion categories only (Catholic, Muslim, no religion + n.s., other)
- merging religiosity scale into three broader ranges (Low: 0+1, Medium: 2-5, High: 6-10)

To be done in the future: computing confidence intervals around the results / indicators of interest

Intended family size by affiliation (age 15-44): identical gradient for M and F



..but a possible levelling-off in the intended family size among younger women?



* denotes cases with $N < 50$

Affiliation, religiosity, country of birth, education

Affiliation, Religiosity and Fertility: Religiosity mostly positively associated, but not a uniform relationship (non-affiliated F, Muslim M “counterintuitive”)

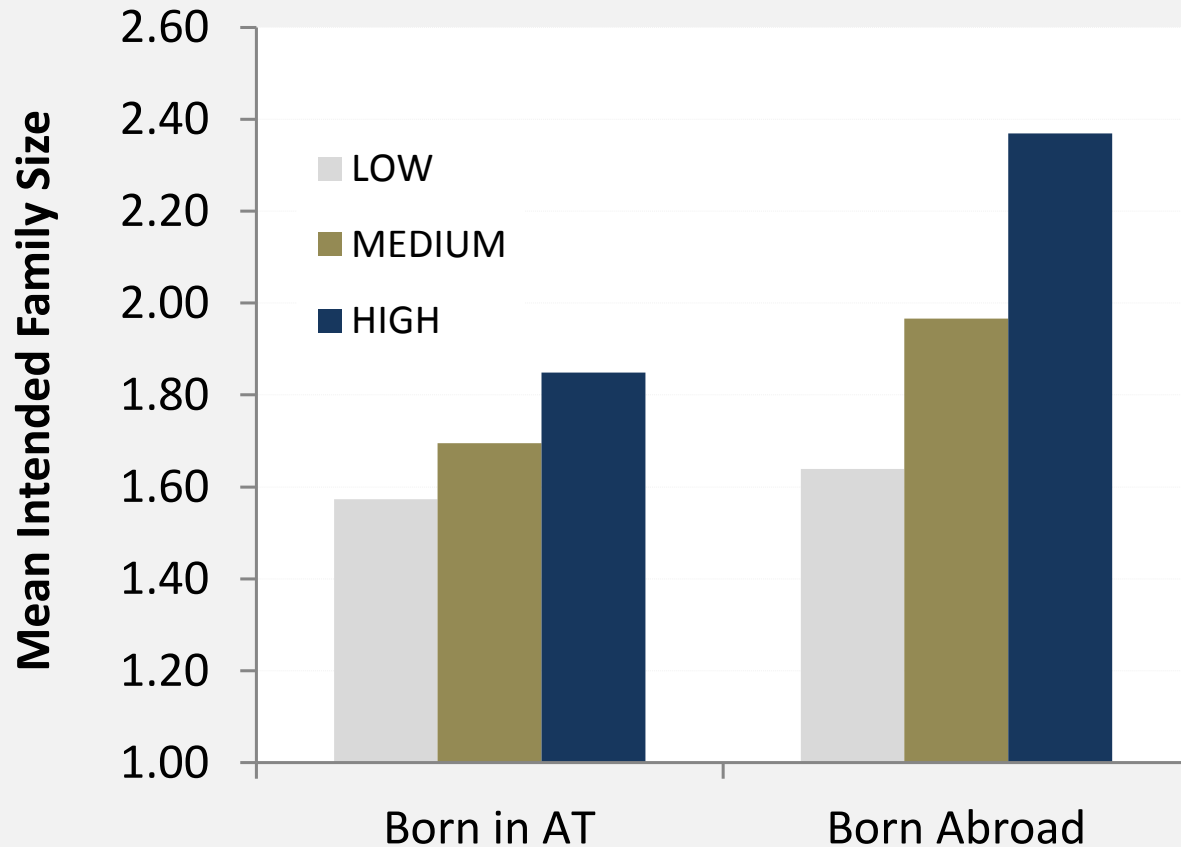
Born abroad: Higher intentions for F for most affiliations (except “other”), but mostly opposite for men!

Education: No consistent patterning of intentions, especially when combined with affiliation

(Degree of) Religiosity: Clearly emerging as important factor, stronger and more consistent than affiliation

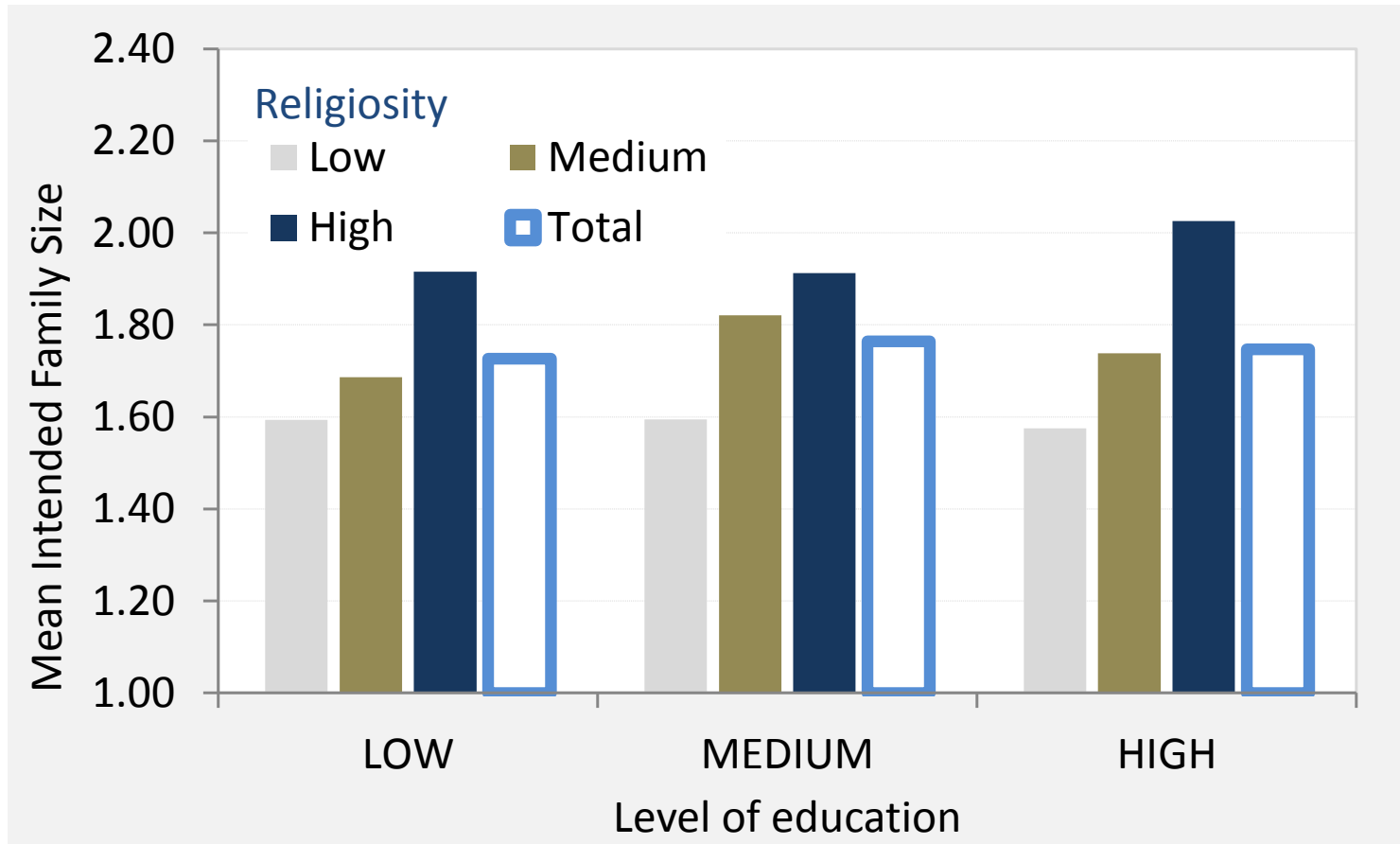
- Especially in combination with country of birth or level of education
- Both M and F, but more clear-cut gradient among women

Mean Intended Family Size by religiosity and country of birth (women aged 15-44)



Religiosity: self-assessed, scale from 1=lowest to 10=highest
LOW: 1-2; MEDIUM: 2-5; HIGH: 6-10

Mean Intended Family Size by Religiosity and achieved level of Education (women aged 15-44)



Completed education: LOW: Primary, apprenticeship, lower secondary, MEDIUM: Higher secondary, completed with the *matura* exam; HIGH: University, technical college, postsecondary training

4. Conclusions

Key findings

Affiliation seems to matter: independent strong effect on fertility for some groups

- Differences especially for first and third birth rates
- Most distinct groups (also in timing): Muslims (especially lower-educated and immigrant), Jews (small minority) vs. non-affiliated
- Over time, some convergence in quantum, persistent contrasts in timing of first births
- Stabilization or increase in fertility in the least-fertile groups > 2000
- Unclear trends among non-affiliated: *an upturn?*

Intended family size clearly patterned by self-assessed religiosity, both for M and F:

- Consistent gradient by country of origin and by education level
- More important than education, country of birth, affiliation

Future research directions

SoWi II survey:

Further elaboration on the role of affiliation vs. religiosity

Additional data work, confidence intervals

Analyses of childlessness and intended family size

Period data & computations:

Further refinements in population estimates; revisions