Why is fertility falling in Norway?
A descriptive analysis of parity transitions during the last decade

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UNECE projection workshop 2016

In collaboration with R.K. Hart & M. Rønsen
> 2009, steady decline in Norwegian TFR
Background & Aim

• Norway will present new population projections June 2016
• Future fertility levels are set based on expert opinions – informed by
  – Socio-demographic patterns in fertility 2004-2014 (age, educational level/enrollment, labor force participation & imm. background)
  – The contribution of compositional changes to the fertility decline
• Women who differ on these characteristics are likely to vary in their time and monetary constraints
• Pinpointing subgroups with concentrated fertility falls may shed light on social mechanisms behind recent developments
• Knowledge of the patterns of change is also vital for policy makers and community planners, and perhaps relevant for countries attempting to counteract falling fertility levels
TFR 1993-2025 – Obs. & projected (M)
TFR 1996-2017 – Obs. & projecteerd (LMH)
Norway

• The economic downturn in Norway has been very modest
• TFR in Norway still fairly high compared to other countries in Europe (Population Reference Bureau 2015)
• Part of the ‘Nordic fertility regime’
  – High TFR since few childless and one-child families rare
  – Near replacement or ‘highest-low’ fertility in combination with high female labor force participation (Frejka & Sobotka 2008)
• Comprehensive family policies facilitate childbearing
  – Eases the combo of paid work/parenthood to ensure high labor supply of mothers
  – But also policies to reduce the monetary cost of children
  – Evading low fertility a ‘covert’ political aim (Vollset 2011)
Existing studies

• Fertility decline >2009 mirrored in several Western countries
  – Linked to increasing unemployment and economic uncertainty (Goldstein et al. 2013)
• Higher education and enrollment associated with smaller families
  – E.g. Berrington et al. 2015
  – But less so in the Nordic countries (Kravdal & Rindfuss 2008)
• Labor market attachment facilitates childbearing in the Nordic context
• Kindergarten availability found to increase fertility
  – E.g. Rindfuss et al. 2010, Bauernschwester 2013
• Increased gender equality in care for small children may increase fertility
  – E.g. McDonald 2000, Goldscheider et al. 2015
• Fertility is higher (but declining) in general among immigrants
  – E.g. Sobotka 2008
  – This is also the case in Norway (Tønnessen 2014)
Theoretical framework

Easterlin and Crimmins (1985)

• Supply
  – Refers to the ability to conceive and bear a child
  – One must be sexually active & physically able to have children
  – Fecundity declines with age, but medical treatment improved

• Demand
  – Refers to desire to have children: Economic & non-economic
  – Economic: Income effects and effects of costs of children (Becker 1991)
  – Non-economic: Preferences, norms & ideals (Lestaeghe 2010; Sobotka & Beajoulan 2014)

• Regulation costs
  – Refer to the access to and the acceptance of use of regular and emergency contraceptives (including elective abortion)
Data and methods

• Linked administrative population data (in-house)
• All women age 16-45 in 2004-2014 (N=1.8 million)
• Transitions to a first, second and third birth were analyzed separately using discrete time hazard regression models, presented as predicted probabilities
  – 307 493 1st births, 908 182 women, 6.8 pyrs
  – 249 129 2nd births, 461 342 women, 4.4 pyrs
  – 98 570 3rd births, 468 189 women, 5.7 pyrs
• Fully adjusted models include age, education (level & activity) & immigrant background
• Focus is also directed towards labor market attachment
Overall results: Absolute & relative change in predicted probabilities for 2004-09 & 2009-14

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<tbody>
<tr>
<td></td>
<td>Abs. change $^a$</td>
<td>Rel. change $^b$</td>
<td>Abs. change</td>
<td>Rel. change</td>
</tr>
<tr>
<td>First births</td>
<td>0.30*</td>
<td>6.0</td>
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<tr>
<td>Second births</td>
<td>0.93*</td>
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<tr>
<td>Third births</td>
<td>0.12</td>
<td>3.2</td>
<td>-0.47*</td>
<td>-12.3</td>
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Note: Results from fully adjusted models, i.e. age group, educational level and activity & immigrant background
Fertility probabilities by age group I
Fertility probabilities by age group II

Age 31-33

Age 34-36

Age 37-39

Age 40-42

Age 43-45

Legend:
- Blue: 1st birth
- Red: 2nd birth
- Green: 3rd birth
### Absolute and relative change in predicted probabilities for 2004-09 and 2009-14

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<tr>
<td><strong>First births</strong></td>
<td></td>
<td></td>
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<tr>
<td>Basic schooling</td>
<td>0.31*</td>
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<tr>
<td>High school</td>
<td>0.07</td>
<td>1.4</td>
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<tr>
<td>Some college ed.</td>
<td>0.35*</td>
<td>4.2</td>
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<tr>
<td>Higher college ed.</td>
<td>0.97*</td>
<td>10.8</td>
</tr>
<tr>
<td>Enrolled in ed.</td>
<td>0.12</td>
<td>5.4</td>
</tr>
<tr>
<td>Not enrolled in ed.</td>
<td>0.43*</td>
<td>6.7</td>
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<tr>
<td>In labor market</td>
<td>0.08</td>
<td>0.9</td>
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<tr>
<td>Not in labor market</td>
<td>0.21*</td>
<td>10.0</td>
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<tr>
<td>Immigrant</td>
<td>0.77*</td>
<td>18.4</td>
</tr>
<tr>
<td>Norwegian-born</td>
<td>0.07</td>
<td>1.4</td>
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**Note:** Results from fully adjusted models, i.e. age group, educational level and activity & immigrant background (excluding the stratifying variable itself)
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<tr>
<td>Basic schooling</td>
<td>0.50</td>
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<td>0.95(^*)</td>
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<td>0.39</td>
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<td>0.17*</td>
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Changes in educational level over time
Proportion of women in the respective groups
Summary

• Birth ages rose consistently from 2004 to 2014
  – Robustness analyses showed that the spacing between children remained fairly constant

• >2009, slight fertility decrease for all transitions
  – 10, 5 and 12% for 1\textsuperscript{st}, 2\textsuperscript{nd} and 3\textsuperscript{rd} births, respectively
  – True regardless of educational level and activity
  – The consistent increase in education thus plays a minor role

• For all transitions, fertility decreased for women in the labor market, but remained relatively stable for outsiders
  – The latter group comprises a decreasing share of women from 2004-14

• Fertility fell for all transitions for Norwegian-born women >2009
  – 1\textsuperscript{st} birth probability rose for immigrant women
  – Only minor changes were seen for 2\textsuperscript{nd} and 3\textsuperscript{rd} births
  – Immigrant women comprise a decreasing share of childless women, but an increasing share of mothers in Norway
Implications for this year’s projections

• Compositional changes – likely to continue!
  – We see no evidence that women will reverse their educational efforts (level & activity) or retreat from the labor market
  – Immigration is projected to continue to increase

• Fertility patterns within groups – likely to continue?
  – It is less clear to which degree the fertility patterns within the various groups of women will remain stable or change
  – If a change is to be expected, the direction is also unclear

• Continue current level (1.7)?
• Project the current average (1.86)?
• Incorporate the declining trend from 2009 (1.98-1.73)?
• Feedback is appreciated!
Conclusion

• Significant fertility declines are mainly found for younger women – and for 3rd births in particular

• Many of the other fertility declines are surprisingly consistent across different female groups
  – Compositional changes thus contribute relatively little to the overall fertility decline

• The preference for one or two children does not appear to have weakened markedly over time
  – A shift to 3-ch families will have a lasting impact on Norwegian TFR

• It is difficult to predict whether younger women actually prefer fewer children – or merely postpone family addition(s) to a later point in time
Thank you for your attention!

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