Perspectives on U.S. Fertility Trends

Hans-Peter Kohler

Social Security Administration — TAPM
15 February 2019
The U.S. fertility rate just hit a historic low. Why some demographers are freaking out.

Will The Fertility Rate Recover? Probably Not, A New Study Says

Elizabeth Bauer Contributor

Retirement
I write about retirement policy from an actuary’s perspective.
Commentary: Afraid you won't be able to retire? There are good reasons to worry

Source: Chicago Tribune, January 23, 2019
US Fertility Distinct among High-Income Countries?

Report by the 2007 Technical Panel on Assumptions and Methods:

▶ While the Panel believes that lower levels of fertility are likely, [...] factors that have led to a fertility level in the U.S. that is substantially above the experience of most other high-income nations.

▶ The high fertility rate of U.S. women may be the result of a greater ability to combine work and childbearing. Flexible work hours, access to a range of public and private child support services, and the relative ease of leaving and re-entering the work force make this a more viable lifestyle option.

▶ One might argue that the U.S. simply trails behind Europe and Japan, and that fertility will fall to historically low levels in future years...
Forecasts of U.S. Cohort Fertility

Individual Behaviors, Cohort- and Period Fertility

Cohort born 1979

Calendar year


Age

15 16 17 18 19 20 21 22
Mean Age at First Birth in High Income Countries

- Netherlands
- Italy
- Japan
- Canada
- Sweden
- USA


Mean Age at First Birth:
- Netherlands
- Italy
- Japan
- Canada
- Sweden
- USA

2008

Reasons for Concern?
Reversal of “Fortunes”?
Life-course, Period and Cohort Fertility
Postponement Transition
Implications for Forecasting
Fertility Recuperation
Conclusions
Mean Age at First Birth, by Race and Hispanic Origin

Source: NCHS Data Brief No. 232, January 2016: Mean Age of Mothers is on the Rise
Change in Mean Age at First Birth, 2000–14, by State

Source: NCHS Data Brief No. 232, January 2016: Mean Age of Mothers is on the Rise
Postponement Transition in Fertility

Change in Mean Age at First Birth since Onset

Days since Onset of Postponement Transition

USA, Netherlands, Italy, Japan, Canada, Sweden

Postponement Transition
Implications for Forecasting
Fertility Recuperation
Conclusions
Characteristics of Postponement Transitions

Postponement Transition: Fundamental shift from relatively early to relatively late patterns of childbearing related to transformation of the life-course

- Various “trigger events,” ranging from uncertainty in early adulthood to high-returns to human capital
- Occurs across a wide range of socioeconomic conditions
- Once initiated, populations experience rapid, large and persistent delays in childbearing
- Continues even if “initiating conditions” reverse

Conceptual implication: investigate, theorize about, and empirically model/forecast both tempo and quantum of fertility!

Source: Kohler et al. (2002). The Emergence of Lowest-Low Fertility in Europe During the 1990s. Population and Development Review
**Characteristics of Postponement Transitions**

**Postponement Transition:** Fundamental shift from relatively early to relatively late patterns of childbearing related to transformation of the life-course

- Various “trigger events,” ranging from uncertainty in early adulthood to high-returns to human capital
- Occurs across a wide range of socioeconomic conditions
- Once initiated, populations experience rapid, large and persistent delays in childbearing
- Continues even if “initiating conditions” reverse

**Conceptual implication:** investigate, theorize about, and empirically model/forecast both tempo and quantum of fertility!

*Source:* Kohler et al. (2002). The Emergence of Lowest-Low Fertility in Europe During the 1990s. *Population and Development Review*
Demographic Implications of Postponement Transitions

Our model, though stylized, allows us to distill the... in Panel A using the differential equation in endnote 11. Panel D assumes constant completed cohort fertility of 1.6.

NOTES: Pace of postponement is annual change (in years) in mean age at first birth. Quadratic curve fitted to the data points in Panel A using the differential equation in endnote 11. Panel D assumes constant completed cohort fertility of 1.6.

Conclusions

Reasons for Concern?

Reversal of “Fortunes”?

Life-course, Period and Cohort Fertility

Postponement Transition

Implications for Forecasting

Fertility Recuperation

Conclusions

Demographic Implications of Postponement Transitions

Implications for Fertility Forecasting

- Integrated methods including both quantum and tempo of fertility (e.g., Kohler-Ortega and variants thereof)
- Emphasis on cohort fertility, and period-cohort fertility relationship
Global Fertility Transition: TFR and HDI

- Reasons for Concern?
- Reversal of “Fortunes”?
- Life-course, Period and Cohort Fertility
- Postponement Transition
- Implications for Forecasting
- Fertility Recuperation
- Conclusions
Recuperation of Fertility at Older Ages

- Source: NVSR 67-8: Births: Final Data for 2017
Recuperation of Fertility: Potential Challenges Ahead

Norway: TFR and MAFB 2000–17

Year
TFR
1.6 1.7 1.8 1.9 2.0 2.1
Mean age at first births
23 24 25 26 27 28 29
Recuperation of Fertility: Potential Challenges Ahead

USA: TFR and MAFB 2000–16

Mean age at first births
U.S. Fertility at a Crossroads—Cautious Conclusions

- Ongoing postponement transition, potential to continue for considerable time
- Indication for recent decline in quantum of fertility
- Potential for further TFR decline and prolonged period of significantly below-replacement fertility
- Cohort fertility likely to remain substantially higher than period fertility
- Methodological Considerations:
  - Forecasting requires new approaches based on life-course changes
  - Investigate, theorize about, and empirically model/forecast both tempo and quantum of fertility
  - Potentially consider implications of quality-quantity trade-off in fertility

Contact: Hans-Peter Kohler, hpkohler@pop.upenn.edu
Ongoing postponement transition, potential to continue for considerable time

Indication for recent decline in quantum of fertility

Potential for further TFR decline and prolonged period of significantly below-replacement fertility

Cohort fertility likely to remain substantially higher than period fertility

Methodological Considerations:

- Forecasting requires new approaches based on life-course changes
- Investigate, theorize about, and empirically model forecast both tempo and quantum of fertility
- Potentially consider implications of quality-quantity tradeoff in fertility

Contact: Hans-Peter Kohler, hpkohler@pop.upenn.edu
U.S. Fertility at a Crossroads—Cautious Conclusions

- Ongoing postponement transition, potential to continue for considerable time
- Indication for recent decline in quantum of fertility
- Potential for further TFR decline and prolonged period of significantly below-replacement fertility
- Cohort fertility likely to remain substantially higher than period fertility
- Methodological Considerations:
  - Forecasting requires new approaches based on life-course changes
  - Investigate, theorize about, and empirically model/forecast both tempo and quantum of fertility
  - Potentially consider implications of quality-quantity trade-off in fertility

Contact: Hans-Peter Kohler, hpkohler@pop.upenn.edu
U.S. Fertility at a Crossroads—Cautious Conclusions

- Ongoing postponement transition, potential to continue for considerable time
- Indication for recent decline in quantum of fertility
- Potential for further TFR decline and prolonged period of significantly below-replacement fertility
- Cohort fertility likely to remain substantially higher than period fertility

Methodological Considerations:
- Forecasting requires new approaches based on life-course changes
- Investigate, theorize about, and empirically model/forecast both tempo and quantum of fertility
- Potentially consider implications of quality-quantity trade-off in fertility

Contact: Hans-Peter Kohler, hpkohler@pop.upenn.edu
Ongoing postponement transition, potential to continue for considerable time

Indication for recent decline in quantum of fertility

Potential for further TFR decline and prolonged period of significantly below-replacement fertility

Cohort fertility likely to remain substantially higher than period fertility

Methodological Considerations:
- Forecasting requires new approaches based on life-course changes
- Investigate, theorize about, and empirically model/forecast both tempo and quantum of fertility
- Potentially consider implications of quality-quantity trade-off in fertility

Contact: Hans-Peter Kohler, hpkohler@pop.upenn.edu