Sex, contraception, and abortion: Some thoughts on the potential mechanical causes of declining fertility

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Consensus

The total fertility rate has fallen substantially since 2007, driven in large part by reductions in births to women aged 15-24.

Whether this trend will continue depends on the underlying cause.

Sources: Caitlin Myers’ calculations using data from Human Fertility Database.
Two questions among many

What do we know about the mechanical causes of the decline in fertility?

Is there a potential for another “abortion policy shock” to the TFR?
Homo Economicus in the bedroom

The “Fertility Decision Tree”

Trends in sex and contraception choices for women aged 15-44

Trends in predicted risk of pregnancy, by age group

How do we reconcile little change in pregnancy risk with large increases in LARC use?

Sources: Caitlin Myers’ calculations using the 2006-2015 National Survey of Family Growth. This graph replicates and extends Figure 6c in Martha Bailey and Jason Lindo. 2017. “Access and use of contraception and its effects on women’s outcomes in the U.S.” Manuscript prepared for Oxford Handbook of Women and the Economy.
Older women seem to be substituting LARC for sterilization

Sources: Caitlin Myers’ calculations using the 2006-2015 National Survey of Family Growth.
Trends for teens suggest declining pregnancy risk due to increased use of contraception (Lindbergh et al, 2017)

What do we know about the mechanical causes of the decline in fertility?

Based on trends observed in the NSFG,

- Increased use of contraception is a (the?) major contributing factor to declining teen birth rates.
- But among older women, it seems like it might not just be about sexual activity and contraception use, at least as measured in this analysis.

What else could be happening?
Additional direct mechanisms to consider

Decreased frequency of sex?

• Between 2000-2004 and 2010-2014, the annual frequency of sex estimated using the GSS declined from 86.6 to 78.5 among adults aged 18-29

Additional direct mechanisms to consider

More consistent use of contraception?

Decreased fecundity?

- One meta-analysis estimates a 54% decrease in sperm counts in western countries since 1973, and a similar rate is observed since 1995.
- A recent study of 124,000 sperm donor samples from donors aged 19-38 in United States found substantial declines over an 11 year period.

Looking forward

Is there a potential for another “abortion policy shock” to the TFR?
Intentions don’t always match behavior

• 88% of unmarried women aged 15-29 say it is important to avoid pregnancy in their lives right now

But among those who are at risk of unintended pregnancy,

• 19% use no contraception at all
• 24% use contraception inconsistently
• 17% say it is “quite likely” they will have unprotected sex in the next three months

Intentions don’t always match behavior

About half of pregnancies are unintended

About one-fifth of pregnancies end in abortion

At current rates, roughly 1 in 4 U.S. women of childbearing age will have an abortion by age 44

Total Fertility Rates plus Total Reported Abortion Rate, 1933-2017

Sources: Caitlin Myers’ calculations using data from Human Fertility Database and unpublished estimates of abortion rates by age provided to her by Isaac Maddow and Rachel Jones at The Guttmacher Institute.
Age-specific Fertility Rates

Sources: Caitlin Myers’ calculations using data from Human Fertility Database. Max Planck Institute for Demographic Research (Germany) and Vienna Institute of Demography (Austria). Available at www.humanfertility.org (data downloaded on July 18, 2019).
Age-specific Fertility Rates and Age Specific Reported Abortion Rates, 1960, 1970 and 1980

Sources: Caitlin Myers’ calculations using data from Human Fertility Database and unpublished estimates of abortion rates by age provided to her by Isaac Maddow and Rachel Jones at the Guttmacher Institute.
The liberalization of abortion policy likely played a major causal role in reductions in births in the early 70s

Joyce et al., 2013: Abortion policy explained about 82% of decline in births between 1969 and 1972.

Myers, 2017: Explained 80% of the decline in first births before age 19 between the 1940 and 1958 birth cohorts.

A lot is happening right now
What would happen to abortion rates if Roe were overturned? Estimates from Myers et al. (2019)

• Step 1: Identify all abortion facilities in the United States and calculate county-level travel distance to nearest facility in ANSIRH database.

• Step 2: Identify those states that are high risk of banning abortion if Roe is overturned based on legal analysis conducted by Center for Reproductive Rights.

• Step 3: Re-calculate travel distances in a hypothetical post-Roe world.

• Step 4: Use estimated effects of travel distances on abortion rates from Lindo et al. (2019) to calculate changes in abortion rates.

Predicted changes in abortion rates if Roe is overturned

Nationwide, predict a 12.8% (±2.7) decline in abortion rate.

Effects vary spatially.

Adjusted Age-specific fertility rate if 12.8% of abortions are prevented and all result in birth

TFR increases from 1.85 to 1.90.

Sources: Caitlin Myers’ calculations using data from Human Fertility Database, unpublished estimates of abortion rates by age provided to author by The Guttmacher Institute, and estimates of abortion rate reduction based on Myers et al., 2019.
Q: What do we know about the mechanical causes of the decline in fertility?

A: The estimated risk of pregnancy using data from the NSFG is remarkably stable over the 2006-2017 period. Abortion rates are falling. This presents something of mystery. Potential explanations include declines in the frequency of sex or fecundity.

Q: Is there a potential for another “abortion policy shock” to the TFR?

A: Based on state policy environments and credible estimates of the causal effects of travel distance, I forecast a reversal of Roe would increase in TFR by 0 to 0.05. Around 0.02 seems reasonable.