Determinants of Teenage Fertility

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1918: 49
1921: 49
1924: 50.6
1927: 96.3
1930: 62.1
1933: 20.3
1936: 20.3
1939: 20.3
1942: 20.3
1945: 20.3
1948: 20.3
1951: 20.3
1954: 20.3
1957: 20.3
1960: 20.3
1963: 20.3
1966: 20.3
1969: 20.3
1972: 20.3
1975: 20.3
1978: 20.3
1981: 20.3
1984: 20.3
1987: 20.3
1990: 20.3
1993: 20.3
1996: 20.3
1999: 20.3
2002: 20.3
2005: 20.3
2008: 20.3
2011: 20.3
2014: 20.3
Decline since 1990, why?

• Decisions surrounding teen birth are influenced by

  • Supply factors, like availability of technology to control reproduction (Pill, LARC, abortion) or laws/policy regulating access as discussed by Dr. Lindo

  • Demand factors, which we can think of as affecting how “much” a teen wants a child, including expectations, which might be shaped by broad social trends

  • Information, specifically access to more OR better information, through formal education or other sources
Demand and Information Factors

- Economic Opportunity
- New Media (TV, Internet, Social Media)
- Education & Sex Education
Economic Opportunity

• Is it “worth” waiting to have a child later?

• If individual *expects* to gain a lot (higher wages, better partner match) by waiting to have a child, then individual will be more likely to engage in behavior consistent with delaying childbearing
Expected economic opportunity: Earnings

• Teens observe older peers’ earnings (income) and base own earnings expectations in part on these observations
  • When wages are low and there is not much wage growth over the lifetime, there is lower opportunity cost to having a child today versus waiting

• Teen births are higher in areas with greater poverty and with a lower lifetime earnings profile
  • Echoes work from other disciplines describing the feelings of despair or hopelessness experienced by individuals living in poverty (Wilson, 1987, and Edin and Kefalas, 2005).
Expected economic opportunity: Income Inequality

- Kearney & Levine (2014) examine the relationship between teen birth rates and income inequality across the US.
- They find areas with greater income inequality exhibit higher rates of teen births, and that this explains a good deal of the variation in teen birth rates by state, and offers some support to the idea that teen childbearing choices are sensitive to local economic conditions.
Yet, Change in Teen Birth Rate over last decade
Possible Causes of the Drop: Info/New Media

• Recent work in economics has explored the possible effects of changes in New media on teen fertility

  • Internet

  • Social Media X Television
Internet Access

• Access to the internet could affect teen births in several ways, which may be expected to increase or decrease behavior leading to births:

  • Information availability

  • Time Use
    • Fewer face-to-face, more online interactions

  • Expand social network

  • Income (If parental income changes with Internet access, it may influence teen expectations about future own earnings)
Did Teen Birth Rates fall with Broadband Internet Expansions?

Yes,

Explains about 7% of decline 1999-2007

Was this causal?

Compare trends for early vs late adopters

Guldi & Herbst (2017)
Old Media with a New Media Twist: MTV’s 16 & Pregnant

• Watching the lived experience of teen mothers could affect teen births:
  • Change in understanding of teen birth, it’s “hard” to be a teen mom
  • Increase in information available: In addition to the videos, the show provided links to Internet sources on teen birth, intimate partner violence, etc.
  • Expand social networks: the show offer ways to connect via social media (Facebook, Twitter, etc.)
Did 16 & Pregnant Reduce Teen Births?

• Authors find Teen births declined about 4.5% due to the show, explaining about 25% of the drop in teen births!!

• Recently, causal interpretation has been called into question ➔

• Difficult to measure national changes; they may have over-estimated the effect

Kearney & Levine (2015)  
& similar findings by Trudeau (2016)  
Jaeger, Joyce, Kaestner (2018)
Sex Education

• Sex Education should increase the information available to teens, enabling them to make better informed decisions

  • Teens already sexually active may receive this information and it may enable them to better avert teen births

  • Teens not sexually active may become interested and it may lead to an increase in teen births for this group

• The *quality* of the sex education provided may influence the outcome we observe
What have we learned about effects of sex ed on teen births?

• It is difficult to determine whether the sex ed leads to changes in birth. (If implemented in schools with higher rates of teen births, simple comparison of adopters vs not will lead to biased estimates.)

• Best evidence comes from experiments:

• Chong et al (2013): Perform a randomized evaluation in Colombia, providing online sex ed. Find that it:
  • Changes knowledge and attitudes and,
  • Lowers STIs among those sexually active,
  • Evidence of that when friends are both treated, the impact is larger
What have we learned about effects of sex ed on teen births?

• Other ways to identify the effect: Natural Experiment

• Buckles and Hungerman (2018): Use variation across schools and over time to examine condom distribution, sometimes combined with sex ed ("counseling" required by some schools when condoms distributed), find:
  • Distribution of condoms increase teen births, but
  • Increases are driven by schools without counseling; in schools with mandated counseling, the fertility effect goes away or becomes negative
Education

• Hypothesize: ↑ Education → → ↓ Teen Births

• Empirically, it is difficult to disentangle whether increases in education affect teen fertility or if individuals who have higher education are simply less likely to experience a teen birth

• To study this, economists have looked for exogenous shifters of education (really hard to find this!)
What do we know about increases in education and teen births?

• Best evidence from study of compulsory schooling laws

• Using this variation, robust finding: ↑ Education → → ↓ Teen Births

  • Black, Devereaux, & Salvanes (2008) Norway and US
  • Geruso, & Royer (2014) UK
  • Cygan-Rehm & Maeder (2013) Germany
Recent changes in US Women’s Education

• Since 1991, US women have been more likely to continue their education than men, the “gender education gap”

• Among minority and low income families, this crossover is even more striking

• Simple trends suggest changes in educational choices of women may be part of the ↓ teen birth rate in the US
  • Perhaps improved economic opportunities for women → → ↑ Education → → ↓ Teen Births

• No “causal” evidence on this point (to date)

Broad Social Patterns

• Last, the drop in teen births may be a part of a broader social trend of less risky behavior

• According to data collected by the CDC, in the last decade, in addition to being less likely to give birth, teens have also become less likely to engage in other risky behaviors such as:
  • Smoke cigarettes, Drink alcohol, or Use marijuana

• And they are also less likely to drive as teens
  • In 2007, 16-20 year olds made up 6.3% of drivers while in 2015, this had fallen to 5.4%, perhaps due to Graduated Drivers License Laws which have also been associated with declines in teen births (Deza, 2017 working paper)
Summary

• Dramatic decreases in teen births in the last decade
• Proposed factors outside of changes in or access to reproductive technology include:
  • Access to information via media or the Internet;
  • Increasing educational attainment;
  • Improved economic opportunities for women
• Some other, as yet to be identified, factors may also be leading to the drops we observe