



Declining Birth Rates in the US: It's Not Only about Preferences

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Summary:

Using the National Survey of Family Growth (NSFG), this paper explores reasons behind the falling birth rate in the United States. The analysis confirms that newer generations of women are less likely to have any children than generations that came before. Comparing outcomes among women at the same age, we identify two reasons for this decline: (1) a dramatic decrease in the desire to have children, but only among the youngest generation in the sample (Gen Z), and (2) an increase in the medical difficulty of having children among all women since the Boomer generation. We discuss potential contributing factors both influencing preferences and biological constraints contributing to the decline in birth rates.

JEL classification: J13, I19, Q58

Key words: birth rates, total fertility rates, infertility, impaired fecundity, microplastic, IVF, family formation, Baby Boom, Gen X, Millennials, Gen Z, cohorts

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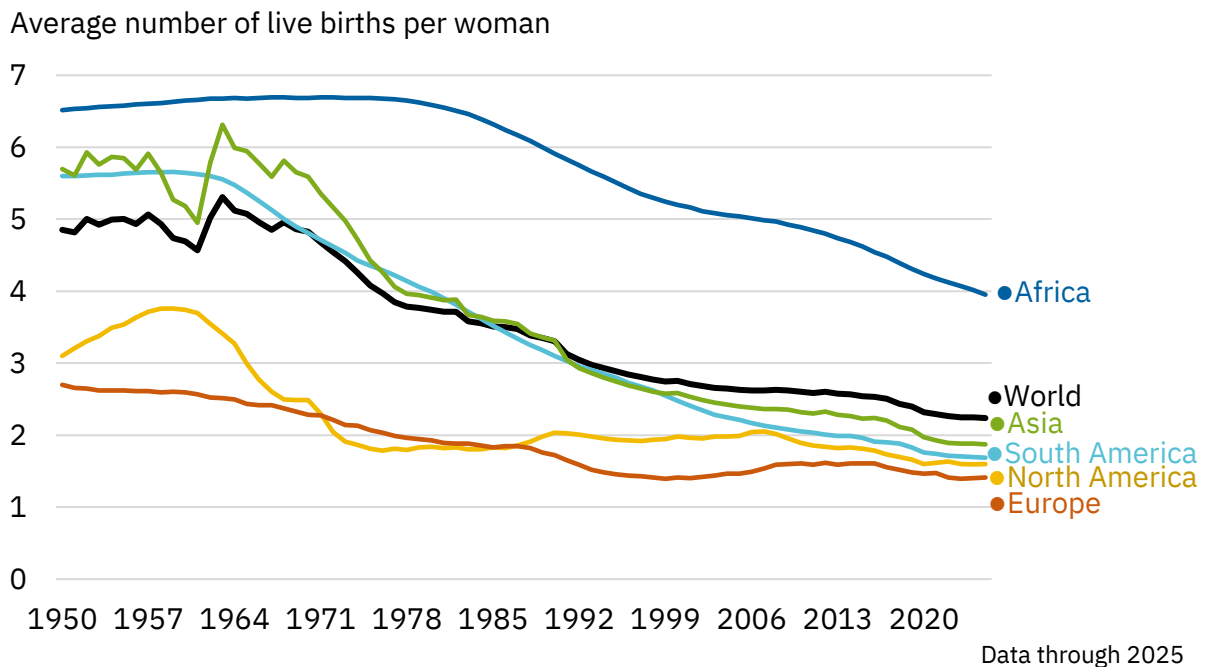
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1 Introduction

In 2024, the US total fertility rate hit a record low of 1.6 births per woman (Walsh 2026).¹ This rate is in contrast with the accepted replacement rate of 2.1 births per woman (Craig 1994) and is the culmination of the most recent downward fertility trend in the United States that began in the mid-2000s.² Below-replacement fertility does not mean the US population is necessarily shrinking, but it does mean population is at least growing more slowly. Although the implications of slower population growth are topics of debate in the literature, the latest conclusion is that long-term economic growth is significantly and negatively affected by lower fertility rates (for example, see Jones 2022; W. Huang et al. 2025). Weil (2026) estimates that a one-child decline per woman in total fertility, over several decades, would lower per capita consumption by 8.7 percent.

The United States is not alone in fertility rate declines. Figure 1 illustrates the trend in fertility rates for different regions of the world. Europe has had a fertility rate below 2.1 since the mid-1970s; North America fell below this level in the late 2000s and Asia most recently in 2019. South Korea is reported to have the lowest fertility rate in the world at 0.65 (see J.K. Kim 2024; S. Kim et al. 2024).

Figure 1: Total Fertility Rates, Regions of the World, 1950–2025



Note: Data are through 2025. Source: United Nations, Department of Economic and Social Affairs, Population Division <population.un.org/wpp/>

¹ Total fertility is roughly defined as the average number of live births a hypothetical cohort of women would have at the end of their reproductive period and expressed as the number of live births per woman.

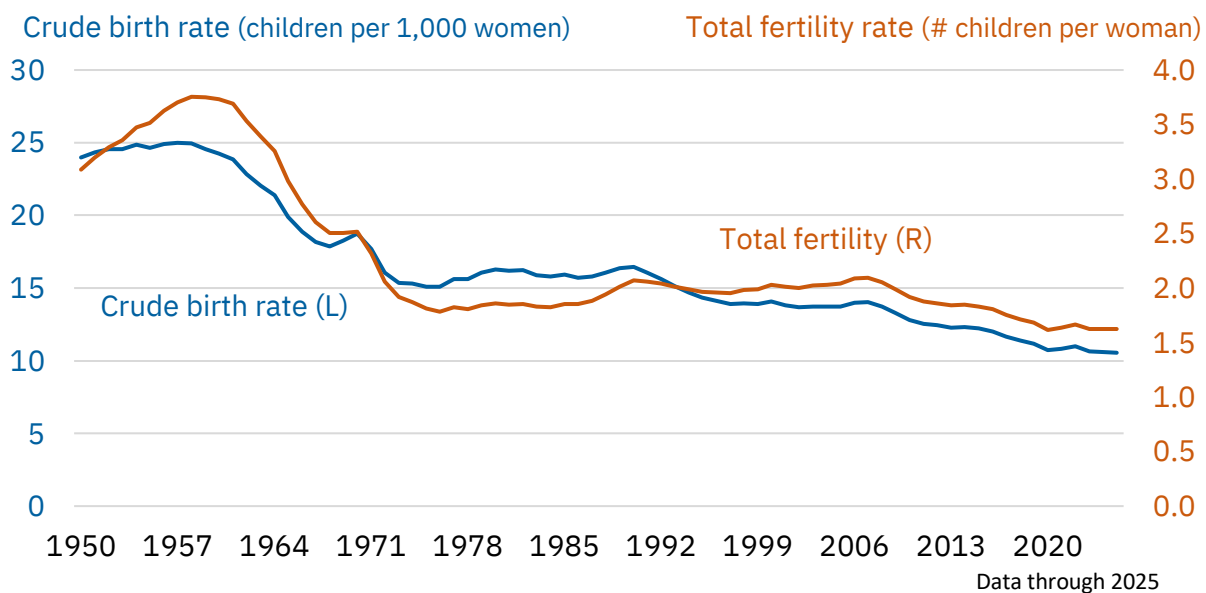
² In countries with higher infant mortality, full replacement fertility rates will be above this level.

This paper explores how birth rates in the United States differ across cohorts of women and investigates the roles of two sources contributing to the trends.³ We introduce biological constraints into the discussion of declining birth rates that has largely emphasized shifting preferences as an explanation. We find that both changing desires *and* rising impaired fecundity are associated with declines in childbearing and that reasons differ across generations. The paper also discusses potential explanations for both preference-driven and medically driven sources of declining fertility.

2 Total Fertility versus Birth Rates

Considering a country's mortality rate, its replacement population rate is based on the average number of children that need to be born, over a woman's lifetime, merely to "replace" the number of people expected to die over the same period. This measure is referred to as "total fertility." Another measure often used to capture trends in reproduction is the (crude) "birth rate." Although the total fertility rate measures how many live births a woman is expected to have in her lifetime, the birth rate is typically measured by the number of births per 1,000 women at a given point in time (United Nations 2024). These two statistics are, of course, very closely related. Figure 2 plots the US crude birth rate and total fertility rate for 1950–2025.

Figure 2: Crude Birth and Total Fertility Rates, United States, 1950–2025



Notes: Crude birth rate is defined as the number of births in a given period divided by the person-years lived by the population over that period, expressed as number of births per 1,000 population. Total fertility is defined as the average number of live births a hypothetical cohort of women would have at the end of their reproductive period and is expressed as live births per woman. Source: United Nations, Department of Economic and Social Affairs, Population Division <population.un.org/wpp/>

³ In this paper, we use "cohort" and "generation" more or less interchangeably.

Unsurprisingly, both total fertility and birth rates have followed the same declining trend in the United States since 1950. The most dramatic rate of decline was seen between 1960 and 1980, following the availability of the first oral contraceptive in 1960 (Bailey 2006) and liberalized access to abortion (Myers 2017). After a period of plateau, rates again continued on their downward trajectory since the mid-2000s. Kearney, Levine, and Pardue (2022) confirm that declining birth rates is a phenomenon that crosses many demographic and socioeconomic classifications. As there appears to be a significant societal adjustment across cohorts of young women, they conclude that the most likely explanation for recent declines in birthrates is shifting priorities/preferences of newer cohorts of women (also see Kearney and Levine 2025). Additionally, Buckles et al. (2022) find that the decline in birth rates following the 2007 recession is explained primarily by declining unintended births, driven importantly by the changing age distribution of mothers (also see Myers and Hooper 2026).⁴ They conclude that these declines are not merely a shift of family formation to later ages, suggesting these declining birth rates will translate into lower total fertility.

3 Evidence of Declining Birth Rates by Cohort

Using data from the National Survey of Family Growth (NSFG) conducted by the Centers for Disease Control and Prevention (CDC) National Center for Health Statistics (NCHS), we conduct a statistical analysis to jointly assess the probabilities of having a child, wanting a child, and having medical difficulties having a child. Details of that analysis can be found in a working paper (Bradley et al. 2026). But briefly, the analysis considers how these outcomes are connected, controls for observed characteristics of women, and compares trends in the outcomes across four cohorts of women at every age between 20 and 40 years old between the years 1988 and 2023.

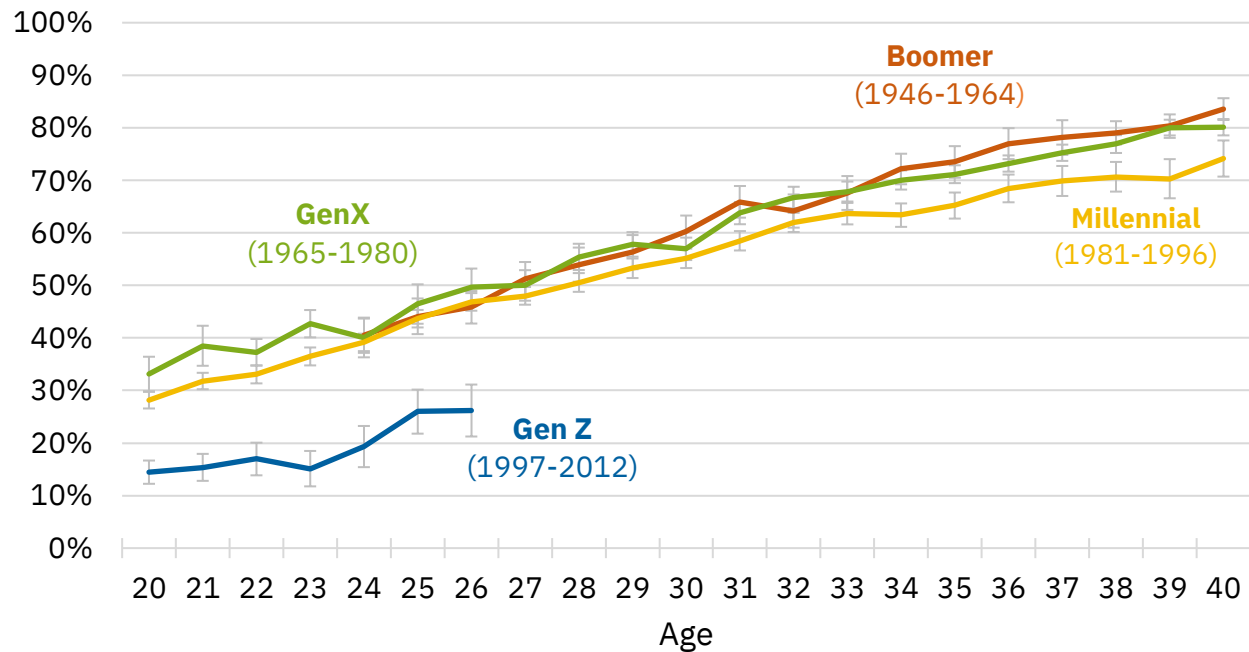
Cohorts of women are based on their birth year. Briefly, the four cohorts captured by the years and age constraints of the data are the Boomer Generation (born 1946–1964), Generation X (born 1965–1980), Millennial (born 1981–1996), and Generation Z (born 1997–2012). Figure 3 illustrates how the probability of having a child (roughly, the average birth rate) has changed across cohorts at each age. Since the probability of having had a child increases as a woman ages (as figure 3 makes clear), it’s important to compare women in different cohorts at the same age.

The overwhelming conclusion from figure 3 is that the average probability of having had a child at each age is lower for Millennials than for Gen Xers and Boomers—and it’s dramatically lower for Gen Z women than any of the previous cohorts. This graph brings the declining US birth rate into stark relief. Additionally, the downturn of birthrates that started in 2007 in figure

⁴ Of course, many other explanations have been offered, such as introduction of the smart phone (Myers and Hooper 2026).

2 began with Millennials (who we see at older ages were significantly less likely to have had any children than the previous cohorts) and accelerated with Gen Z.⁵

Figure 3: Average Probability of Having at Least One Child by Age and Cohort



Note: Authors' estimates of the predicted probability of having had a child from a trivariate probit model with three outcomes (having a child, wanting a child, and having medical difficulties bearing children); using data from the NSFG, 1988–2023; women ages 20–40; and including usual demographic, health, and time controls. Birth years of each cohort are in parentheses, and gray lines depict 95 percent confidence intervals Source: Bradley et al. (2026).

4 Leading Theory Behind Declining Birth Rates: Changing Preferences

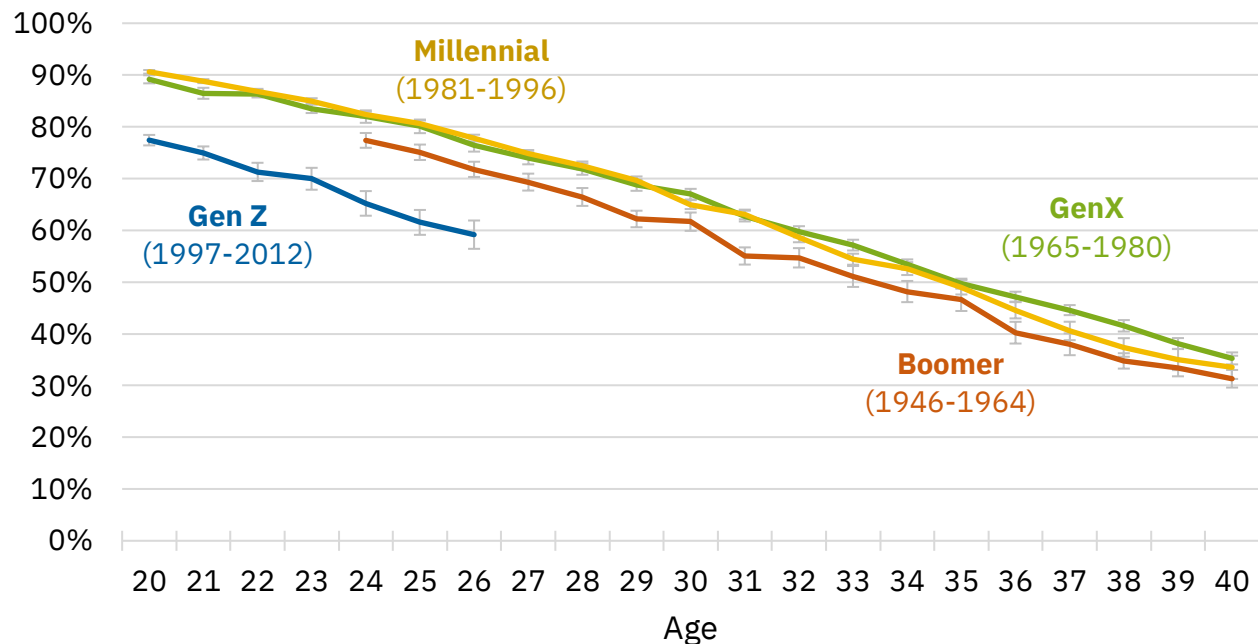
Both in academic and popular press arenas, changing preferences and priorities of younger generations receive blame for falling birth rates (see Kearney and Levine 2025). Additionally, Geruso and Spears (2025) find that lower birth rates are a combination of fewer women having children (that is, childlessness) and women overall having fewer children. They find that childlessness accounts for 38 percent of the decline in cohort fertility in developed economies; younger generations of women are opting to have no children at all, as figure 3 shows.

From the same statistical analysis that produced figure 3, we also get an idea about how the probability that women in each generation (at the same age) want children—our measure of their preferences for children. Figure 4 illustrates how those preferences compare. As one would expect, older women are less likely to want a(nother) child than younger women. It is

⁵ The measure of previous births is a cumulative measure and is clearly not the same as a contemporaneous birth rate. Since it is cumulative, it reflects behaviors of women in each cohort at earlier ages and thus will underestimate the actual contemporaneous birth rate.

perhaps surprising, however, given that we saw members of Gen X (and young Millennials) are just as likely to have children as Boomers, that Gen Xers and Millennials are *more* likely to want children than their Boomer mothers. In other words, even though Gen X and Millennial women are more likely to want children at each age than Boomer women (figure 4), they are not any more likely to do so (figure 3).

Figure 4: Average Probability of Wanting a(nother) Child by Age and Cohort



Source and notes: See source and notes accompanying figure 3.

Gen Z women are another story—they are dramatically less likely to want children than all three of the previous generations. The results from this graph lend credence to claims about lower birth rates being driven by a decrease in desire to have children, at least among the most recent generation of childbearing women.⁶ Several factors have been identified as contributing to this lower desire to have children, such as increased labor market opportunities and agency among women, rising financial costs, changing priorities, and maternal mortality. These contributing factors will be discussed in more detail below.

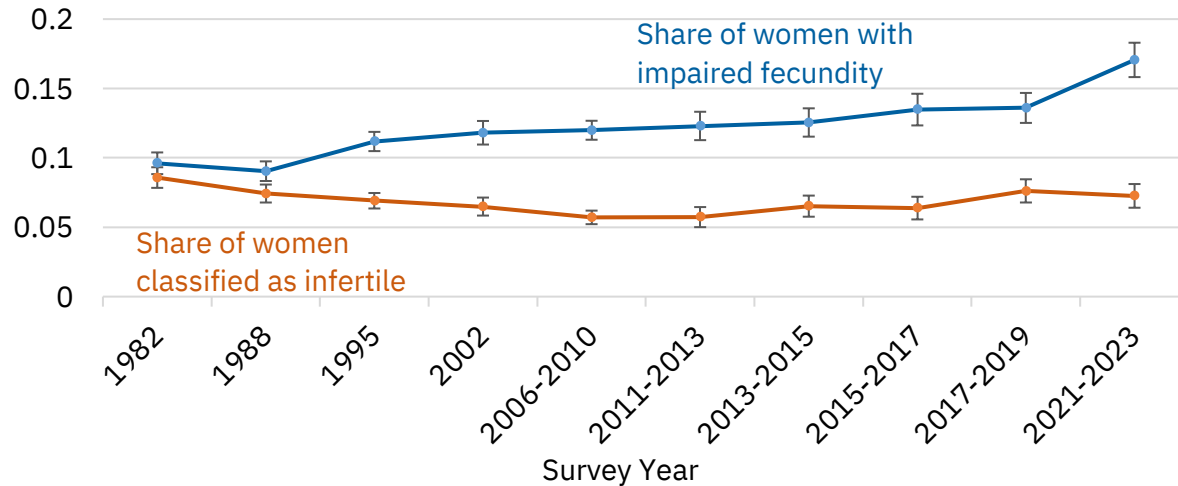
5 Another Culprit: Biological Constraints

Another, rarely considered, potential source of declines in birth rates are the medical conditions of infertility and impaired fecundity. This paper’s appendix contains more detailed definitions of these terms, but briefly, a woman is considered “infertile” if she and her partner had been sexually active, had not used contraception, and did not become pregnant during the

⁶ Since the desire to have children is highly correlated with partner status, documented lower marriage rates among Gen Z women might be driving their lower desire to have children. A robustness analysis finds the same pattern among both partnered and nonpartnered women.

previous 12 months. “Impaired fecundity” describes a condition where a woman is either physically unable to conceive or is physically unable to have a pregnancy that results in a live birth.

Figure 5: Infertility (Partnered Women) and Impaired Fecundity (All Women)

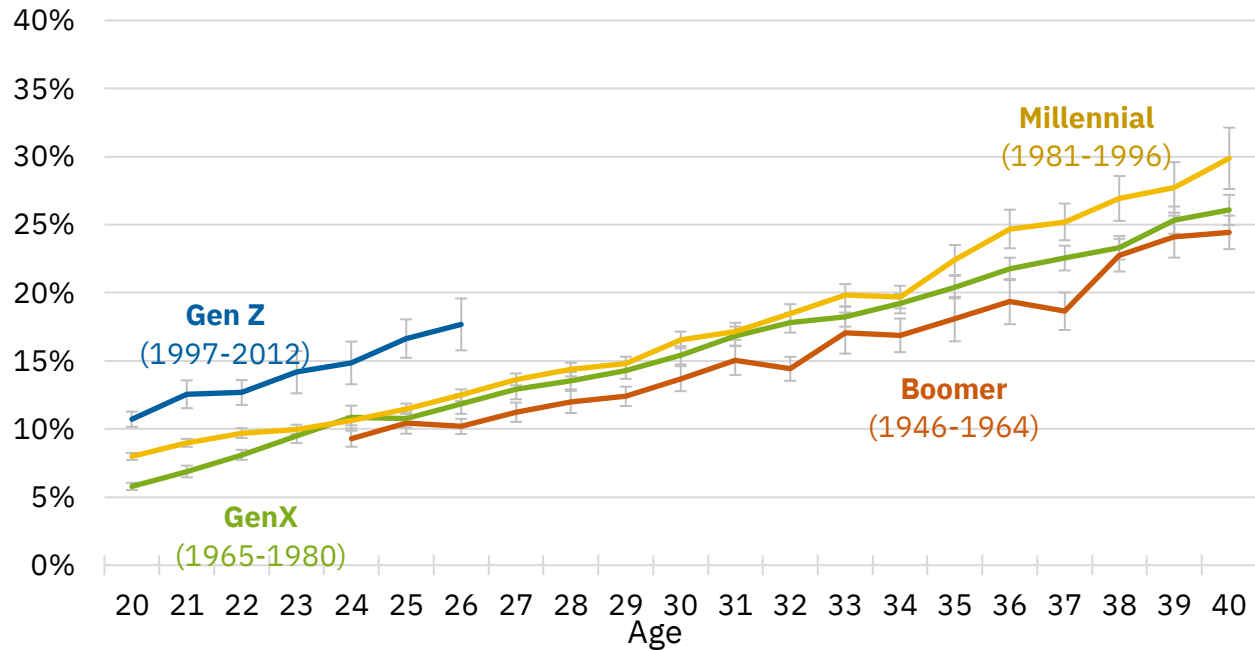


Notes: Data depict weighted percent of women ages 20–40. Infertility corresponds only to partnered women. Further detailed definitions are in the appendix. Source: National Survey of Family Growth, 1982–2023, and authors’ calculations.

Increasing infertility and/or impaired fecundity will, necessarily, all else equal, also contribute to lower fertility and birth rates. Figure 5 illustrates the trends over time in these two conditions for our NSFG sample of women. Although infertility is roughly at the level seen in 1982, impaired fecundity has been on an upward trend since 1982. Even if women’s preferences for children hadn’t changed across generations, this increasing impaired fecundity would necessarily exert downward pressure on birth rates.

The third outcome to consider from the statistical model, then, is the probability that a woman is classified as having impaired fecundity. Figure 6 reports the results for that outcome across cohorts by age. As we would expect, impaired fecundity increases as a woman ages. We also note that the average probability of impaired fecundity is relatively small, averaging between 5 and 10 percent among 20-year-olds and rising to an average of about 28 percent by age 40. Nonetheless, the rise in impaired fecundity across cohorts is clear. Cohorts after the Boomers have higher rates of impaired fecundity at every age, with the most dramatic jump seen with Gen Z. Much of the rise in impaired fecundity among Millennials might be attributable to delayed family formation decisions (Guzzo 2022), although as the higher impaired fecundity rates at younger ages indicate, delayed family formation is not the full story.⁷

⁷ To the extent that long-term nonconception or pregnancy difficulties are underdetected among Gen Z (because of their lower rates of being partnered), the estimated rise in impaired fecundity might understate the true gap relative to earlier cohorts.

Figure 6: Average Probability of Impaired Fecundity by Age and Cohort

Source and notes: See source and notes accompanying figure 3.

Taken together, figures 4 and 6 indicate both a decrease in wanting children as well as increased biological difficulties drive birth decisions for Gen Z women, but they also show that biological difficulty is the dominant explanation for any drop in birth rates among Gen X and Millennials. Though only speculative, the next section briefly discusses policies that could target these sources of declining birth rates.

6 Potential Contributing Factors

The results of the analysis indicate that factors influencing both preferences and biological constraints contribute to the current decline in birth rates. The analysis does not directly uncover sources for those contributing factors, but they are discussed at length in a companion Working Paper (see Bradley et al. 2026). Very broadly, factors likely to be contributing to changes in preferences fall under the categories of social support and societal norms, financial costs, and safety and health concerns. Factors likely contributing to changes in biological constraints include environmental conditions and reproductive regulations.

In the face of growing biological constraints, Assistive Reproductive Technology (ART) (for example, IVF) can help families overcome medical difficulties. In spite of limited insurance coverage and costly procedures, the share of live births in the U.S. resulting from some form of ART increased roughly 85% between 2013 and 2022 (CDC 2024).

7 Conclusion

While most of the discussion surrounding declining birth rates in the U.S. centers on changing preferences of newer generations of women, this policy hub illustrates that there is an

additional source. Policy makers who are interested in arresting falling birth rates would be well-advised to consider policies that target not only changing preferences but also factors that could be contributing to rising impaired fecundity.

Appendix: Data and Definitions

A. National Survey of Family Growth

The National Survey of Family Growth (NSFG) is a nationally representative US survey on reproductive health. It covers pregnancy, births, marriage, infertility, contraception, and family life. The survey began in 1973, expanded in 1982 to include all women ages 15–44, and added men in 2002. In 2015, the upper age limit was raised to 49. Each cycle surveys 6,000 to 10,000 participants.

B. Definitions

Infertility (short-term infertility). According to the NSFG, infertility is defined for partnered heterosexual women as follows: If neither partner is surgically sterile, and over the past 12 months they lived together, were sexually active monthly, used no contraception, and did not become pregnant, the woman is classified as infertile.⁸ After 36 months of infertility, the condition is considered impaired fecundity.

Impaired Fecundity. Impaired fecundity, regardless of partnership status, means a woman cannot get pregnant or have a live birth. It includes being surgically sterile, for medical or contraceptive reasons (self or partner); being “subfecund” if neither is surgically sterile but she has difficulty conceiving or carrying a pregnancy, her partner has difficulty fathering a child, or a doctor advised against pregnancy; and long-term infertility (not conceiving for 36 months or more). If a woman is surgically sterile, her fecundity without surgery is treated as unknown. More details are in Bradley et al. (2026).

Previous Births. The NSFG asks women whether they have any children at the time of the survey. This provides a snapshot of average birth rates by year or cohort. Although this measure reflects birth rates rather than total fertility rates, the two closely correlate over time.

Want Children. All women, regardless of whether they have children, are asked if they want any (more) children. This variable reflects women’s preference for having children, measured at a single point in time, and applies across all age, parity, and cohort groups.

⁸ NSFG defines surgically sterile (noncontraceptive) as hysterectomy or tubal ligation for medical reasons. Surgically sterile (contraceptive) refers to a partner’s vasectomy or tubal ligation for non-medical reasons.

Cohort. This analysis compares women’s survey responses at the same age across birth cohorts. For clarity, four cohorts are defined: Boomers (born 1946–1964), Gen X (born 1965–1980), Millennials (born 1981–1996), and Gen Z (born 1997–2012). Although other generational names exist, only these four are represented in the sample.

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