The Effect of Birth Control on Women's Career Paths and Wages

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Throughout the last 50 years, women have experienced increased human capital attainment and earnings. In addition to these increases, birth control utilization has also risen. The purpose of this issue brief is to explore the impact of the birth control pill on women's career paths and wages. To do so, I analyze existing literature to illustrate the direct effects of early legal access to the pill and its relationship to human capital attainment and future career choices. After evaluating the literature, I examine trends in women's wages and birth control pill utilization from 1962-2002, utilizing data from the U.S. Census Bureau and the Centers for Disease Control and Prevention. The results indicate that birth control has contributed to an increase in human capital attainment and wages, due to the notion that delayed contraception provides certainty that lowers the cost of long-term career investment decisions. Thus, it is imperative that we consider the vast social and political implications of these results as the U.S. continues to evolve.

INTRODUCTION

Over the past several decades, birth control utilization and earnings have increased for women in the United States. According to the Centers for Disease Control and Prevention, birth control is one of the top 10 public health achievements of the century. In the past 50 years, the pill has altered women's life-cycle wages and ultimately contributed to the gender wage gap convergence more than other contraceptive methods. Most importantly, birth control is one of the main contributors to women's economic stability and future career choices, as it has allowed women to invest in long-term careers and increased their earnings.

After the FDA approved the first birth control pill in 1960, oral contraceptive use dramatically increased. By 1962, 1.2 million women were taking the pill. By 1965, 6.5 million women were taking the pill, making it the most popular form of birth control in the U.S.[1] According to the CDC, the pill was the first medication approved for long-term use by healthy people and the first 99% effective way to prevent conception. By preventing conception, the pill delayed motherhood and consequently affected women's human capital investments and earnings.

The *brief* discusses the following topics as outlined here. The first section describes the effects of early access to the pill, specifically delayed motherhood, which is the foundation for understanding the economic trends to follow. The second section explains increased human capital attainment as a result of delayed motherhood, namely lowering the costs of long-term career investment and educational opportunities. Lastly, the third section illustrates the trend in women's wages and birth control pill utilization from 1962-2002, which resulted in both higher wages and utilization rates. Additionally, the third section discusses women's earnings as a percentage of men's earnings, resulting in a converging gender wage gap. The final section concludes that birth control, among other factors, results in increased wages and increased certainty regarding the future of women in the United States.

EARLY ACCESS TO THE PILL

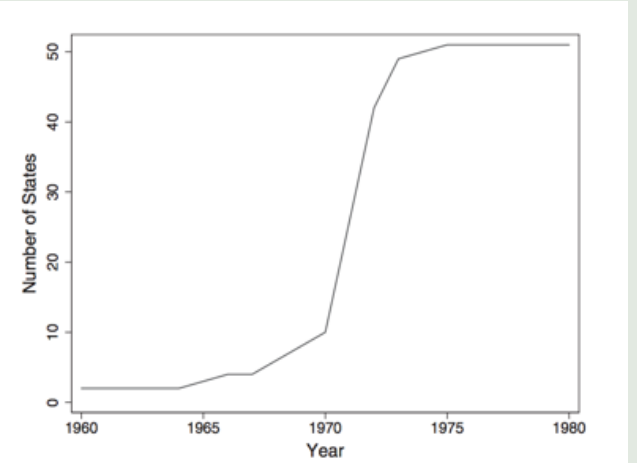
The FDA approved the first legal birth control pill, *Envoid*, in 1960. However, this prescription was not immediately available to all young women because some state laws prohibited access to birth control and also banned minors from receiving medical care without the consent of their parents. The Comstock Act of 1873 prohibited the sale of contraceptives, declaring them "obscene and illicit."[2] Some states removed these laws as a result of the Supreme Court's decision in *Griswold v. Connecticut*, which overturned the Connecticut law that prohibited the use of contraceptives by married females. Even though some states removed state laws that banned the pill, others did not and access continued to be a problem.

Despite variation in state laws concerning access to the pill, the age at which women had independent legal access to medical care also varied by state. In 1960, the legal age of most states was 21, which limited access to the pill for young single women. However, some states instituted mature minor doctrines that expanded legal rights for minors and allowed doctors to provide medical care to minors without parental consent.[3] As a result, young women below age 21 were able to access birth control in these states. In the states that did not expand legal medical rights, they changed the legal age to 18 for various political and economic reasons. Consequently, young women were able to obtain access to birth control at age 18 in these states. Evident in Figure 1, all women in the United States had legal access to birth control by age 18.[4] Figure 1 explains adopted ELA (early legal access)

to oral contraceptives for women by age 18 from 1960 to 1980. By definition, ELA allowed unmarried women age 20 and younger to legally purchase birth control in their state, without the consent of their parents.

Early access to birth control directly affected women by reducing the probability of conception

Figure 1: *States with Early Access to Birth Control, by Year*



Source: The Effects of Contraception on Female Poverty, Browne (2014)

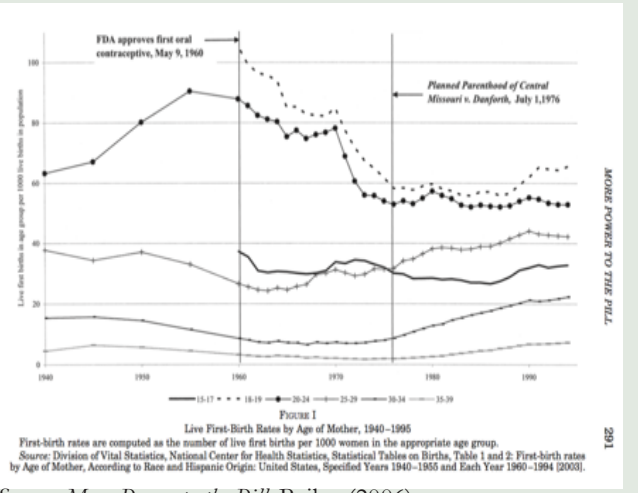
at a young age. Access to the pill before age 21 resulted in a 1.0 to 1.2 percentage point reduction in the probability that a woman gives birth between 18 and 21, and decreased the likelihood of becoming a mother before age 22 by 14% to 18%.[5] Furthermore, between 1970 and 1980, ELA reduced birthrates among white women ages 15 to 21 by 8.5%.[6]

Adapted from *More Power to the Pill*,[7] Figure 2 explains trends in first birth rates by specific age category from 1940-1995. After the FDA approved the pill in 1960, first birth rates decreased for all categories until 1976, the year when *Planned Parenthood of Central Missouri v. Danforth* granted all unmarried minors access to contraceptives.

Additionally, Figure 3 illustrates that fertility rates have been declining, on average, since 1980. As defined by the National Vital Statistics Report, fertility rates are births per 100,000 women. These specific data points are births per 100,000 women ages 15-44, all races.

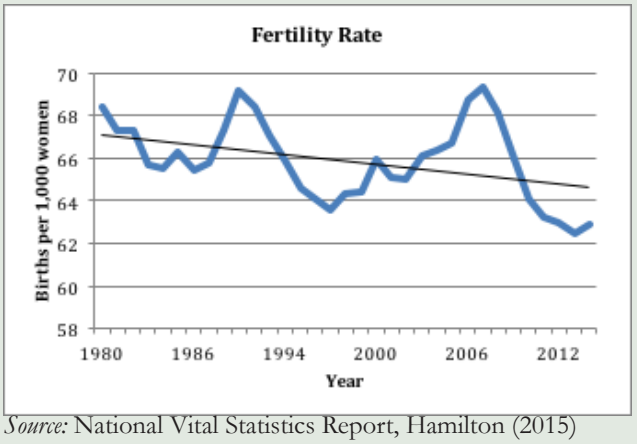
Delayed motherhood influences a woman's career choices, because it alters the timing of her decisions. When women have children, they typically take time off to care for their children and remove themselves from the workforce for a given period of time. These interruptions depreciate human capital and thus, women are less likely to obtain the necessary human capital investments to pursue long-term careers. However, the pill allows women to have control over these interruptions. The analysis proceeds to describe the long-run positive economic effects of the pill's ability to delay motherhood, such as decreasing the costs of long-term career investment and increasing women's wages as a result.

Figure 2: *Trends in First Birth Rates*



Source: More Power to the Pill, Bailey (2006)

Figure 3: *Trends in Fertility Rates, 1980-2014, all women ages 15-44*



Source: National Vital Statistics Report, Hamilton (2015)

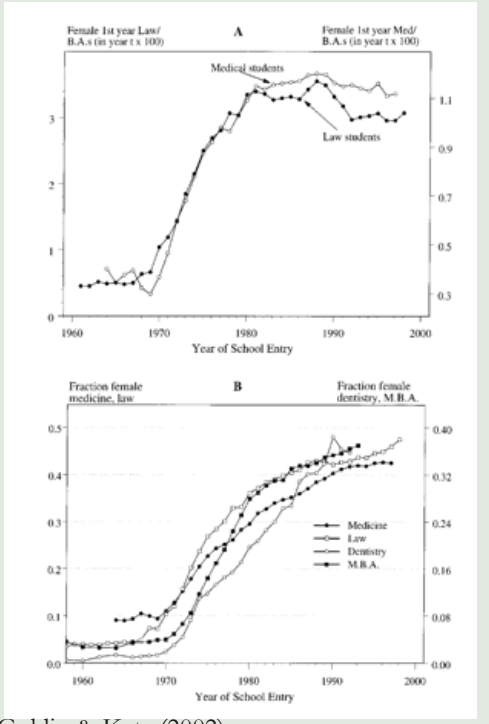
HUMAN CAPITAL INVESTMENT

The advent of the birth control pill increased women's human capital attainment, as it decreased the costs of long-term career investment and increased the age of first marriage.[8] In their study, Goldin and Katz followed a cohort of female college graduates born around 1950. Due to the fact that the pill gave women greater certainty concerning the pregnancy consequences of sex, more women were able to obtain professional or managerial degrees.[9] Before the pill, women were not able to pursue intensive careers because of childcare responsibilities that interrupted them from acquiring the education level necessary to pursue a high wage growth career opportunity. Thus, the pill lowered long-term career investment costs by effectively eliminating the risk of pregnancy.

Additionally, the pill indirectly reduced marriage market costs for those women who delayed marriage to pursue additional human capital investment. Before the pill, women who delayed marriage were typically met with less qualified matches and thus, faced much larger costs to delayed marriage. With the advent of the pill, women were able to obtain better careers and become more attractive marriage partners as a result.[10]

Adapted from *The Power of the Pill*, Figure 4 (A) explains professional school enrollments of women as a portion of women receiving a bachelor of arts in the same year. Figure 4 (B) explains professional school enrollments of women as a portion of total first-year enrollments in professional schools. Both graphs illustrate a sharp increase in enrollment beginning in 1970 for medical and law students, but graph B shows an increase in the fraction of women in medical, law, dentistry, and business professional schools. It is interesting to note that the increase in professional career investments was not a result of admitting more women, but rather an increase in female applications.[11]

Figure 4: *Women in Professional Degree Programs*



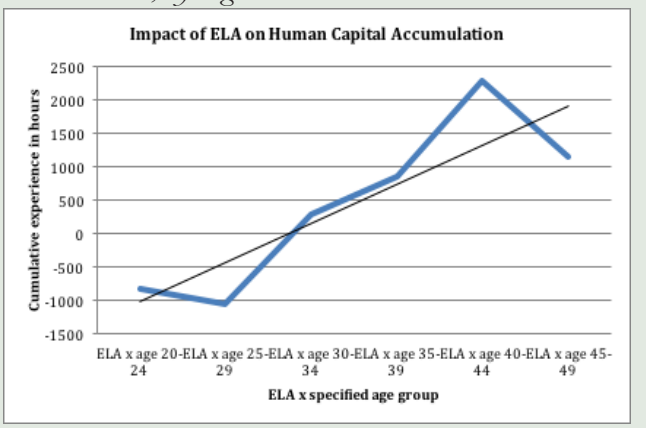
Source: Goldin & Katz (2002)

Similar to Goldin and Katz, Bailey also found that early access to the pill reduced the costs and increased the returns to pursuing careers. According to Bailey, "Young women could stay in the labor market, invest in careers (through formal schooling or training or on-the-job experience), *and* be sexually active (or marry) without the risk of pregnancy."[12] This is due to the previously mentioned career interruptions that women face when deciding whether or not to have children. Expected career interruptions reduce pre-interruption career investments.[13] Therefore, when women have certainty over the pregnancy consequences of sex and they can adequately prepare for conception, they are less likely to interrupt long-term career investments.

Figure 5 describes the effect of early legal access on women's labor force participation. Using data from Bailey (2012), the results indicate that women with early access to contraception participated less in the workforce in their early twenties and more in their thirties and early forties than women without early access. The y-axis, cumulative experience in hours, is defined as weeks worked multiplied by usual weekly hours and summed across survey wages.[14] Evident in Figure 5, women worked 846 less hours than their counterparts without early access by their late twenties, but worked 2,282 more hours by their forties. This is consistent with the pill's ability to decrease long-term career investment costs, as described above. Women are working less in their early twenties, as they are obtaining the necessary education and experience to benefit them in their thirties and forties. Thus, women are reaping the benefits of human capital accumulation later in their lives.

Due to the fact that women are able to obtain greater human capital investment with regards to education and professional opportunities, the pill increases women's wages and lifetime earnings, as discussed in the following section.

Figure 5: *Impact of ELA on Human Capital Accumulation, by Age*



Source: Bailey (2012)

INCREASE IN WOMEN'S EARNINGS

As more women began to change their career paths and invest in high wage growth jobs, labor-force participation increased by 8% among women ages 26-30, as these women worked roughly 68 more annual hours than those without access to the pill. This translates to a 15% increase in annual hours worked for those women.[15]

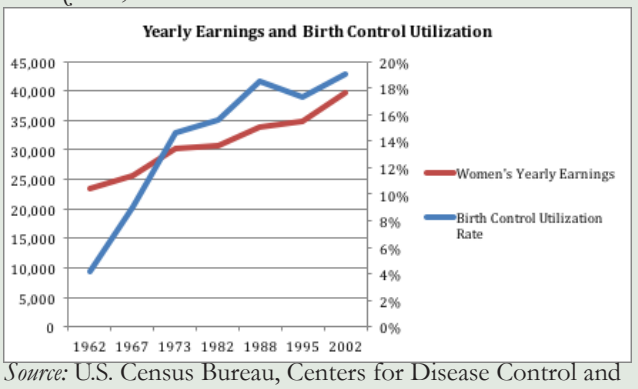
This section uses data from the U.S. Census Bureau and the Centers for Disease Control and Prevention to illustrate the relationship between pill utilization and women's earnings.

Figure 6 illustrates that both women's earnings and birth control utilization have increased over the past 50 years. Women's earnings are defined as yearly earnings in 2014 CPI-adjusted dollars, for full-time workers. As women's earnings have steadily increased, so has birth control utilization. Birth control utilization has increased from 4% in 1962 to 19% in 2002 for women ages 15-44. Birth control utilization is defined by the percentage of people who used the pill during the month of the National Survey of Family Growth interview. Even

though there are other forms of contraceptives, the data in this issue brief focuses solely on pill usage.

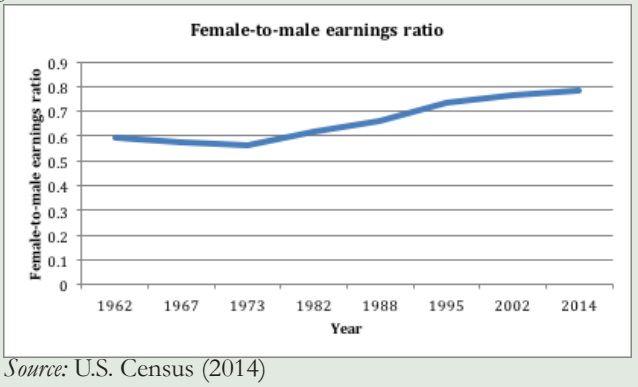
Additionally, Figure 7 explains women's earnings relative to men's from 1962-2014. As women's earnings and labor-force participation began to increase in the 1960s, the gender wage gap began to narrow. This is consistent with the idea that the pill has allowed women to invest in long-term careers with high wage growth potential, such as managerial or professional occupations.

Figure 6: *Trends in Yearly Earnings and Birth Control Utilization, 1962-2002*



Source: U.S. Census Bureau, Centers for Disease Control and Prevention, National Survey of Family Growth

Figure 7: *Female-to-male earnings ratio, 1962-2014, full-time workers*



Source: U.S. Census (2014)

From the data above, it is evident that birth control utilization (defined by the pill) and earnings both increased from 1962 to 2002. How much of the increase in earnings can be attributed to the pill? Bailey (2012) uses a counterfactual hourly wage distribution from the population census by removing age-specific estimates of early legal access to the pill from the earnings of cohorts born after 1940 and computes the actual hourly wage distribution for both genders. The results indicate that both the actual gender gap and the simulated gender gap closed and thus, 10% of the converging gap in the 1980s is due to the pill compared to 31% in the 1990s.[16] Bailey concludes that the pill most noticeably affected women in the middle IQ distribution with some college education; these women experienced the most wage gains in their lifetimes. Furthermore, one third of the total wage gains can be attributed to the pill, whereas educational attainment and increasing labor market experience accounts for the other two thirds of the wage increase.

Moreover, early access laws doubled the percentage of women ages 18 to 20 using the pill in states with these laws. These women who had early access to the pill at age 18 earned approximately 8% more each year by the 1980s than those in states without access to the pill.[17] According to Miller, early access to the pill accounts for roughly 27-37% of annual wage gains among women born in the late 1940s, while 33-46% of the hourly wage gains can be attributed to early access.[18]

Lastly, early legal access to the pill has reduced female poverty by 0.5 percentage points.[19] Even though this effect may not seem large, it is important because of the pill's feasibility and efficiency. Unlike other methods to reduce poverty, the pill is extremely easy to distribute to large numbers without adverse side effects or high cost.

CONCLUSION

This issue brief discusses the effect of the birth control pill in two major ways: an increase in human capital attainment with regards to long-term career investment decisions and an increase in earnings. Due to the pill's ability to effectively delay conception, the pill transformed women's certainty regarding their futures and contributed to the convergence of the gender wage gap.

In terms of future research, it is interesting to think about this issue in the context of policy. According to the findings in this brief, it is clear that access to the pill increases women's economic stability and narrows the gender wage gap. When thinking about policy concerning ease of accessibility to the pill, it is important to remember its positive continued effects on women's futures. The pill has arguably reduced inequality in outcomes by allowing women greater certainty over both their career and life paths.

Endnotes

1 "Contraceptive Use." Centers for Disease Control and Prevention. U.S. Department of Health & Human Services, 15 July 2016. Web.

2 "Comstock Act." Encyclopedia Britannica Online. Encyclopedia Britannica, 1 Dec. 1999. Web.

3 Browne, Stephanie P., & LaLumia, Sara (2014). The Effects of Contraception on Female Poverty Journal of Policy Analysis and Management, Vol. 33, No. 3, 602-622.

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5 Bailey, M. J. (2006). More Power to the Pill: The impact of contraceptive freedom on women's life cycle labor supply. Quarterly Journal of Economics.

6 Guldi, M. (2008). Fertility effects of abortion and birth control pill access for minors. Demography.

7 Bailey, M. J. (2006). More Power to the Pill: The impact of contraceptive freedom on women's life cycle labor supply. Quarterly Journal of Economics.

8 Goldin, C., & Katz, L. F. (2002). The power of the Pill: Oral contraceptives and women's career and marriage decisions. Journal of Political Economy.

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12 Bailey, M. J. (2006). More Power to the Pill: The impact of contraceptive freedom on women's life cycle labor supply. Quarterly Journal of Economics.

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14 Bailey, M. J, Hershbein, B., & Miller, A. R. (2012). The opt-in revolution? Contraception and the gender gap in wages. American Economic Journal: Applied Economics.

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16 Bailey, M. J, Hershbein, B., & Miller, A. R. (2012). The opt-in revolution? Contraception and the gender gap in wages. American Economic Journal: Applied Economics.

17 Bailey, M. J. (2006). More Power to the Pill: The impact of contraceptive freedom on women's life cycle labor supply. Quarterly Journal of Economics.

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19 Browne, Stephanie P., & LaLumia, Sara (2014). The Effects of Contraception on Female Poverty Journal of Policy Analysis and Management, Vol. 33, No. 3, 602-622.