

# THE ECONOMIC EFFECTS OF ABORTION ACCESS:

## A Review of the Evidence



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## About this report

This report reviews the available evidence of the economic effects of abortion access. By synthesizing high-quality research that estimates causal effects, this review highlights the relationship between abortion access and a number of economic outcomes, including women's educational attainment, labor force participation, and other socioeconomic indicators for the next generation of men and women. This report focuses on U.S.-based evidence, most of which relies on policy changes in the 1970s, but also includes a brief review of international evidence and an examination of the fertility effects of more recent changes to abortion access. The report closes with a discussion on policy implications, conclusions, and areas for future research, given the evidence on the causal relationship between abortion access and economic outcomes.

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# **The Economic Effects of Abortion Access: A Review of the Evidence**

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## Highlights

A large body of research has examined the effects of abortion access on fertility and health outcomes. A number of studies have also established associations between abortion access and economic outcomes. This paper summarizes a smaller body of literature that identifies the *causal* impacts of abortion access on economic outcomes, indicating how women's economic security is directly affected by access to abortion.

- **Educational attainment:**
  - Abortion access reduced teen fertility, particularly for Black women who had lower levels of access to contraception. This allowed Black women greater opportunity to pursue further education.
  - Abortion legalization in the 1970s increased Black women's rates of high school graduation and college attendance.
  - Among White women, abortion access lowered teen fertility but did not improve educational outcomes.
- **Labor force participation:**
  - Abortion access increased women's participation in the workforce overall.
  - Effects were stronger for Black women, increasing participation by 6.9 percentage points, compared with 2 percentage points among all women.
- **Other effects:** Abortion access reduced unintended births. Cohorts of children were more likely to be planned, and, as a result, had improved educational and economic outcomes, both during childhood and later in life.
- **International evidence:**
  - A limited number of studies have used rigorous econometric methods to find causal effects of abortion access in other countries.
  - Many findings from other country contexts are similar to those from the United States: abortion access increased educational attainment among women and improved outcomes for children. Decreased fertility increased women's labor market participation.
- **Evidence from policy changes in the 1970s has relevance for today's policy decisions:**
  - Unintended pregnancies were higher in 2015-2017 than in 1973. Research examining the effects of more recent restrictions on abortion access and funding shows significant impacts on abortion use, birth rates, and teen births.
  - While high school education is nearly universal, lack of access to abortion would likely continue to impact college completion, especially for Black women, who have lower completion rates, compared with other groups of women.
  - Women's labor force participation continues to be affected by childbearing. The relationship between female labor force participation and changes to abortion access today would likely be similar to estimates based on earlier policy changes.
- Although the most important implication of abortion access is individuals' ability to make and execute decisions about their reproductive life, changes to abortion access also affect one's economic outcomes, including educational and labor market indicators.

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## Introduction

Deciding whether and when to have a child is central to a woman's economic well-being. It has implications for continuing education and joining the workforce, which can affect other long-term economic outcomes, as has been supported by existing literature (Sonfield et al. 2013). Often omitted from this research, however, is the role of access to induced abortion—one means available to women to control their fertility. In 2011, 45 percent of all pregnancies in the United States were unintended and four in 10 unintended pregnancies ended in abortion (Finer and Zolna 2016).

The legalization of abortion has been linked to a decrease in birth rates, particularly among teen, unwed, and non-White women, as well as women over 35 (Levine et al. 1999). Evidence suggests that the decrease in fertility rates caused by abortion legalization has been permanent, with women having fewer children over their lifetime (Ananat, Gruber, and Levine 2007).

In the years since nationwide legalization, access to abortion still depends largely on state policies. This results both from restrictions on the use of federal Medicaid funds for abortion, as well as the latitude the courts have given states to set abortion regulations. State-specific regulations have often disproportionately restricted access for low-income women, younger women and girls, and women of color. These groups of women face structural barriers accessing different aspects of reproductive health care and are also overrepresented among abortion patients (Jones and Jerman 2017b). This is likely due to a number of complex and interrelated factors, including lack of access to contraceptive care and mistrust of provider-controlled methods.

Although the impacts of abortion legalization and restrictive policies on abortion and birth rates have been fairly well-studied, there is less research available examining the other effects of these policies. Beyond the proximate health effects of being able to access abortion care, there are also important economic consequences. As such, financial and socioeconomic factors are among the most common reasons cited for seeking an abortion (Biggs, Gould, and Foster 2013; Kirkman et al. 2009).

A number of studies have demonstrated associations between abortion use and economic outcomes, such as educational attainment and employment status (Zabin, Hirsch, and Emerson 1989; Fergusson, Boden, and Horwood 2007). But it is difficult to ascertain from these studies whether the improved outcomes are a direct result of abortion access, or whether they stem from the characteristics of women who choose to seek and are able to obtain access to abortion. Even when controlling for observable characteristics such as race, education, and even income, there are myriad unobserved characteristics that could be driving both abortion use and later life outcomes. For this reason, ascertaining the causal

impact of abortion access on economic outcomes requires more than an analysis of associations.

This report synthesizes the highest quality evidence available regarding the economic effects of abortion access. A number of studies have found causal links between abortion and the economic well-being of women and their children. By isolating the effects of access to abortion on education, employment, wages, and poverty, these studies demonstrate the economic value of access. This review will introduce the theoretical framework guiding these studies and then discuss the most important findings of each and potential limitations to be acknowledged when considering the results. In addition to a discussion and synthesis of overall conclusions, this paper offers potential areas of future research and relevant policy implications.

## Pathways for Impacting Economic Outcomes

### Women's Outcomes

There are multiple potential pathways through which abortion access may affect women's economic outcomes. The first is through lowering fertility, which has several direct economic implications. Having fewer children increases a woman's ability to participate in the labor market. Holding household income constant, an additional child reduces the resources available for other family members and can push a household closer to or below the poverty line. Further, both delayed childbearing and reduced fertility allow women to invest more heavily in their human capital, including increased schooling and job training, which can lead to higher-paying jobs and greater economic security.

The effects of abortion access on fertility are well-documented. Greater access to abortion led to higher abortion rates and lower birth rates, whereas major restrictions on access and funding decreased abortion rates (Ananat, Gruber, and Levine 2007; Guldi 2008; Gober 1997; Haas-Wilson 1996; Levine 2003). One study estimated a four percent reduction in the fertility rate as a result of abortion legalization in the 1970s, and that estimated reduction would have been even larger—11 percent—if women had not been traveling out-of-state to obtain legal abortions before legalization in their state of residence (Levine et al. 1999). Notably, rather than simply delaying fertility, abortion legalization resulted in a permanent reduction in lifetime fertility for women exposed to reform (Ananat, Gruber, and Levine 2007).

Abortion access may also affect economic factors through pathways other than fertility, including changing women's expectations about their ability to control their fertility. In



response to these changes in expectations, women may make different decisions about their education, the timing of marriage and family formation, and their careers. Additionally, increases in women’s control over their reproductive outcomes may empower women within their households, changing their access to resources and ability to control their own economic paths.<sup>1</sup> These shifts may lead to a broader impact on women at the population level, even for those who never experience an unintended pregnancy.

## Children’s Outcomes

Due to the demonstrated effects of abortion access on fertility outcomes, the cohorts of children born after these policy changes may have different outcomes than earlier cohorts. For instance, children’s outcomes on average may have improved because of an increased likelihood of being planned or because of a decrease in births into adverse circumstances. Alternatively, the composition of births may have a higher proportion from poor socioeconomic backgrounds if the most disadvantaged women are unable to access abortion services. Given the time at which the earliest policy changes occurred, we can now study both the child *and* adult characteristics of cohorts born during those changes, including poverty, employment, and education outcomes.

## Methods for Identifying Causal Impacts

### Changes in Access in the 1970s

In order to identify causal impacts of access to abortion, the majority of the available research takes advantage of the variation of abortion legalization in the United States in the early 1970s. Five states (California, New York, Washington, Alaska, and Hawaii) had legalized abortion prior to *Roe v. Wade* in 1973; these are often referred to as “repeal” states, as four of the five legalized abortion by repealing anti-abortion laws.<sup>2</sup> In the remaining 45 states, abortion became widely available only after the 1973 decision. This variation provides two natural experiments: a “treatment” of legalization in those five initial states, and then a subsequent treatment when the remaining states changed their legality of abortion after *Roe* (Levine et al. 1999).

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<sup>1</sup> Oreffice (2007) offers evidence that abortion access changes women’s bargaining power, as observed through increases in men’s labor supply in married and cohabitating couples. She isolates this pathway from fertility, holding constant number of children and the presence of infants and young children in the household. She also predicts that the increased bargaining power would decrease women’s labor supply, though this is unconvincing given the complications introduced by unobserved levels of housework.

<sup>2</sup> An additional 10-13 other states are often dubbed “reform” states as they made more modest changes to existing abortion bans prior to *Roe*. Some states only allowed abortion in restrictive circumstances, such as rape and threat to the life of the mother. Other states included physical and mental harm to the pregnant woman as exceptions; some states with these reform laws had abortion ratios even higher than some “repeal” states.

Importantly, this strategy relies on variation in women’s legal access by state, and that legality is only one marker of access. Some women in non-repeal states may have had de facto access prior to *Roe*, as they were able to cross state lines to access care and evidence suggests that inter-state abortion seeking is significant.<sup>3</sup> Cost is also a major barrier to access, as most states do not allow their state Medicaid funds to cover abortion (other than in a few limited circumstances). Many states go further by placing restrictions on coverage of abortion by private insurance plans. This is particularly relevant for studies of more recent changes, as state laws restricting funding of abortion began after *Roe*. These policies place the burden of cost on the patient, unlike other medical procedures, and disproportionately impact those with low incomes. Beyond legality and cost, actual access to a provider determines whether women are able to obtain abortions; this is highly dependent on area of residence, density of providers, and access to affordable transportation. Again, more vulnerable groups, such as younger and lower-income women, are less likely to be able to overcome barriers in physical access. Restrictions that cause clinics to close increase travel distance to the nearest provider, and those that require multiple visits increase transportation and related costs. Due to this lack of perfect correlation between legal and actual access, effects estimated in these studies are almost certainly underestimated.

The studies reviewed here take one of two general approaches. Some studies estimate the direct impact of abortion availability on economic outcomes of interest, including the impact through all pathways, fertility and otherwise (typically referred to as “reduced form estimation”). Other studies focus on the impact that is operating through the fertility pathway only, essentially estimating the impact of *fertility* on economic outcomes. In this method, the researchers recognize that many factors affect both fertility and economic outcomes, which may confound an estimation of causal impact. Therefore, they rely on an instrumental variables strategy, which estimates the economic outcome of interest as a function of predicted (rather than actual) fertility. In this case, fertility is predicted by factors out of the woman’s control (i.e. abortion legalization) and by observable characteristics for which we can control in the estimation. In this way, one estimates the impact of fertility on the outcome of interest, absent the role of unobservable confounding factors. This method estimates the impacts of abortion on economic outcomes that are specific to the fertility pathway, which may underestimate the full population effects.

How can we be sure that these studies are identifying the impact of abortion access? The 1970s were a time of rapid social changes, many of which affected women’s desires and abilities to control their fertility, obtain education, and invest in their careers. These changes included, for example, increased contraceptive access, Title IX of the Education

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<sup>3</sup> Forty-two percent of legal abortions that occurred in 1972 were obtained by women outside of their state of residence (Ted Joyce, Tan, and Zhang 2013).

Amendments of 1972 (which prohibits sex discrimination in federally-funded educational programs, including on the basis of pregnancy and parenting status), and improved workplace protections. In the work highlighted here, researchers are careful to isolate the changes in outcomes that are arising as a result of abortion access, rather than these other social changes of the times.

Two key econometric techniques are employed to ensure that the estimates represent causal impacts. First, controlling for time trends (and/or year-fixed effects<sup>4</sup>) captures other social changes of the time that would affect these outcomes and ensures that only changes occurring with the exact state-specific timing of changes in abortion access are considered. In this way, changes occurring over time are not conflated with changes that occur as a result of abortion legalization. Researchers typically allow such trends to vary by state, controlling for state-specific time trends. Second, researchers account for the fact that states choosing to repeal abortion restrictions prior to *Roe v. Wade* (a major source of variation in these studies) are different from other states in many ways that may also affect women's outcomes. Therefore, researchers also use state-fixed effects to compare women only to other women from the same state, before vs. after the policy change. Given these techniques, any other factor that may affect these outcomes of interest would need to align with changes in abortion access (in both timing and location) in order to be driving the results presented here. None of the key confounding factors (contraceptive access, Title IX, etc.) have a perfect alignment; nonetheless, these indicators are often also included as controls to reduce noise in the estimation.

## **Changes in Access in the Post-*Roe* Period**

Although abortion reforms in the 1970s provide useful natural experiments of the effects of abortion access, they occurred in an environment that was different socially, politically, and economically than today. Thus, there are natural limitations to what these findings imply for policy today. In section 9, we fully discuss how evidence from 40-year-old policy changes can have relevance today.

Another body of research examines the effects of changes to abortion access that have occurred in more recent decades. Such changes include parental involvement laws, mandatory waiting periods, restrictions on state Medicaid funding for abortion, and targeted regulation of abortion providers (or TRAP laws). Perhaps the most well-known, and well-studied, of these laws is Texas House Bill 2 (HB2), which was signed into law in 2013 and led to the subsequent closing of half of the state's abortion clinics; two of the three

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<sup>4</sup> Year-fixed effects indicate the use of dummy variables for individual years so that one effectively estimates "within-year," ensuring that other changes occurring over time are not conflated with changes that occur as a result of abortion legalization.

provisions of the law were struck down by the U.S. Supreme Court in 2016. Methods of estimation vary, but are generally similar to those described above, using econometric techniques to isolate the impacts of the policy of interest, despite the possibility of concurrent confounding factors.

This body of work does not yet directly evaluate economic outcomes, but looks at impacts on births, pregnancies, abortion timing, and other factors which are on the pathway to affecting economic indicators.

## Evidence from U.S. Policies in the 1970s

### Educational Attainment

#### Key Findings: What are the effects of abortion access on educational attainment?

The reduced teen fertility offered by abortion access allowed women to pursue further education, particularly Black women. Black women exposed to abortion reform had higher rates of high school graduation and college attendance than unexposed Black women.

Conversely, reductions in teen fertility for White women exposed to reforms were smaller and did not translate into improved educational outcomes.

**Angrist and Evans** (2000) use the legality of abortion by state to estimate the effects of teen childbearing and births to unmarried women on schooling and labor market outcomes. They employ a fifteen-state classification that includes ten “reform” states where abortion laws were relaxed in addition to the five “repeal” states (Sklar and Berkov 1974).

Angrist and Evans use 1980 and 1990 Census data to examine characteristics of cohorts who were born 1949-1954 to capture women exposed to state reforms as teenagers, or born 1955-1959 to capture the effects of nationwide access following the *Roe* ruling during their teenage years. The authors focus primarily on the earlier cohort, which was exposed to the earlier state-based abortion reforms, as they find little effect of national abortion legalization. They conclude that the larger change in abortion access actually came from the repeals and reforms that occurred in 1970 and earlier. This may be due in part to the fact that the authors used the fifteen-state classification scheme rather than the five-state coding

model, as other studies included in this review found the 1973 ruling to have a significant effect on various outcomes.

Overall, this study finds notable effects of births to teens and unmarried women on the educational outcomes of Black women exposed to the earlier state reforms. The first-stage results demonstrate changes in teen fertility due to abortion reform: three years of adolescent exposure to abortion access appear to have caused a five percent reduction in teen births to White teenagers and a nearly 10 percent reduction in the number of births to Black teenagers. These changes in teen childbearing led to statistically significant increases in education for Black women. Instrumental variable estimates suggest that unmarried Black women who had a teen birth reduced their chances of high school graduation by 17 to 35 percentage points, and college entrance by 52 percentage points.<sup>5</sup>

What is driving the race gap in these impacts? In 1973, 59 percent of Black women had unmet contraceptive needs (compared with 32 percent of White women). Similarly, 59 percent of Black women's recent pregnancies had been unintended (compared with 34 percent for White women). This indicates that changes in abortion access had a bigger effect for women who lacked access to a broad array of reproductive health services, including Black women. Race gaps in unmet need and unintended pregnancy persist today, as discussed in greater detail in section 9.

## Labor Market Outcomes

### Key Findings: What are the effects of abortion access on labor market outcomes?

Existing research suggests that greater access to abortion increased women's future participation in the workforce—the probability of working 40 weeks or more per year increased almost 2 percentage points (from 29 percent) after the legalization of abortion.

Workforce and employment effects were particularly strong for Black women, who were 8 percentage points more likely than White women to be working before abortion reform; after reform, labor force participation among Black women increased 6.9 percentage points.

In addition to Angrist and Evans' results pertaining to education, their study also finds effects on labor market outcomes. Their reduced form equation estimates that for Black

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<sup>5</sup> Two-stage least square (2SLS) estimates from Table 7, panel C. 2SLS estimates for college graduation are not provided.



women as a whole, exposure to abortion reforms in adolescence increased employment at ages 26-40 by 1.6% (1.2 percentage points, from a base of 75 percent). When using the instrumental variable approach, they find that a birth to an unmarried Black teen reduces her probability of future employment by 47-58 percent (or 34 to 42 percentage points on a basis of 72 percent). The reforms, however, were not associated with an increase in Black women's earnings. The authors contend that any earnings effect might have been too far downstream from these abortion reforms and therefore too small to be detected in this study. An earnings effect may also be obscured by the fact that Black women have been and are disproportionately represented in occupations with the lowest pay. Many of these low-wage occupations also have limited opportunities and pathways for career advancement and workers in these jobs often need additional training or education to move to higher-paying jobs (Shaw et al. 2016).

**Kalist** (2004) uses a similar approach to that of Angrist and Evans (AE) to further examine the effect of abortion on female labor force participation, with the outcome of interest being the probability of a woman working 40 or more weeks a year. He examines women aged 15 to 44 and considers immediate labor market outcomes during the 1968-1972 period.

Kalist's analysis differs from AE in a few key ways. He uses data from the March Current Population Survey (CPS) rather than the decennial Census. Kalist also uses the classification of five repeal states, with the addition of the District of Columbia. He treats only the smaller group of states as having legal abortion because earlier research showed that it was the early repeals in those five states, and not the modestly relaxed laws in the ten "reform" states, that decreased birth rates (Levine et al. 1999). Consistent with these findings, Kalist adds a dummy variable for these more modest reforms to his equation and does not find any effect on labor force participation from them.

Instead of an instrumental variable approach, Kalist uses a reduced form approach to estimate the effects of repeals before *Roe*.<sup>6</sup> Results suggest that among the full population of Black women, labor force participation increased by nearly six percentage points as a result of abortion restriction repeals (on a basis of 29 percent for all women in the sample), with little effect on the participation of White women. This suggests either extremely large impacts of unwanted births among the women who had them, or significant non-fertility pathways of impact, such as a change to expectations and human capital investment—in their education and training, for instance—due to abortion access (or some combination of both).

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<sup>6</sup> This work also features an analysis of the impacts of *Roe*, employing a triple difference specification that relies on comparisons of before vs. after *Roe*, repeal vs. non-repeal status prior to *Roe*, and Black vs. White. These results are not included here as the author's interpretation of the coefficients is not correct, giving rise to concerns that the analysis for this section may also be incorrect.

## The Next Generation

### Key Findings: What are the effects of abortion access on the next generation?

Based on the literature reviewed here, abortion access not only had economic effects for women exposed to reforms, but also for the subsequent generation. As abortion reduced unintended births, cohorts of births were more likely to be planned. This improved educational and economic outcomes, both during childhood and later in life.

Children born to women exposed to abortion reform had lower rates of poverty and receipt of public assistance during childhood, primarily due to a reduction in living with single parents. They were also more likely to graduate from college, and less likely to be single parents or receive public assistance as adults. Increases in high school graduation were only found for Black men, who were among the most disadvantaged groups in terms of graduation.

The Turnaway Study was a prospective, longitudinal study that followed women who sought abortion care at various facilities in the United States over a five-year period (ANSIRH 2019). This study is the only one included in this review that deviates from the methodology described in section 3. Rather than relying on policy changes, this study followed the outcomes of women over time—all of the women studied sought an abortion, but some did not receive one due to missing the term-limit cutoff, which varies across state and provider. While this study was conducted from 2008 to 2016, it is presented in this section as it contributes to our understanding of the economic impacts of abortion on the next generation, as do the other studies in this section. These studies on the next generation build on earlier Turnaway findings that found that women denied a wanted abortion were more likely than those who received an abortion to experience economic hardship and insecurity, even years out from the denial of abortion (Foster, Biggs, Ralph, et al. 2018).

An analysis by **Foster, Raifman, Gipson, Rocca, and Biggs** (2018) found that existing children in the households of women who were denied abortions were more likely to be living below the federal poverty level (FPL) several years later than existing children of women who received abortions. While this may reflect the economic burden of additional children, a second analysis by **Foster, Biggs, Raifman, Gipson, Kimport, and Rocca** (2018) holds constant this pathway: the children born as a result of denied abortions were more likely to live below the FPL and to live in households unable to afford basic living expenses, compared with *subsequent children* born to women who received abortions. This indicates that, beyond the number of children in the household, denied abortions resulted in additional economic hardship that continued for several years and signals that control over timing of childbearing is as economically important as total childbearing.

The remainder of studies in this section rely on population-level data and policy changes as discussed in section 3 (“Methods for Identifying Causal Impacts”). These studies primarily focus on the selection pathway. That is, when abortion is legalized, the composition of births may change to include fewer births to economically-disadvantaged and/or unintentional parents. A number of studies have examined the effects of this selection on fetal outcomes, as well as the effects on birthrates. In this review we discuss only the studies that examine the impacts on economic well-being for cohorts of living children.

**Gruber, Levine, and Staiger (1999)** use a difference-in-differences strategy to compare childhood poverty rate trends in the five repeal states relative to other states. The authors use 1980 Census data, which allow for the creation of cohorts based on state of birth while also offering the advantage of having a large enough sample size to detect modest changes in the average living circumstances of a cohort (approximately 2.4 million observations, aggregated into 750 observations of 50 states and 15 birth year cohorts). They compare how poverty status changed between cohorts born just after a repeal in “repeal” states to those born just before. To account for how poverty may have been changing over time in the absence of abortion legislation, they then difference this from how poverty changes across those two cohorts in non-repeal states.

Although estimates are imprecise, the authors find evidence of selection effects on the average living child in terms of poverty status. Results show that abortion legalization reduced the percentage of the cohort living in poverty by 0.54 percentage points (from a base of 18.7 percent). Findings are similar for receipt of welfare: abortion legalization lowered the rates of welfare receipt by 0.41 percentage points from an average of 10.6 percent. The authors also find reductions in the share of children living in single-parent households (by 0.87 percentage points, from a base of 18.6 percent), which have greater odds of being below the poverty level. The authors conduct additional analyses while stratifying by family structure and found that the changes in poverty found were driven entirely by corresponding changes in family structure distribution. This means that fewer children were living in poverty due to a reduction in the odds of living in a single-parent household rather than a change to the average parental income.

Estimates are also provided for the child that would have been born in the absence of abortion legalization. Compared with the average child born into that cohort, the estimates suggest that the averted child would have been 48 percent more likely to live in poverty, with their poverty rates 9.3 percentage points higher (from a base of 18.8 percent). The averted child would have also been 44 percent more likely to use public assistance, with rates 4.8 percentage points higher (from a base of 10.6 percent).

The time that has passed since abortion legalization in the United States offers the opportunity to study the impact of abortion availability on the later life outcomes of the next generation as well. **Ananat, Gruber, Levine, and Staiger** (2009) (AGLS) examine those cohorts' outcomes during adulthood. Building on Gruber, Levine, and Staiger (1999) (GLS), the authors extend the set of instrumental variables to include travel distance to the nearest state where abortion is legal, and "latent cost" of abortion in that state, which takes into account many factors, such as high levels of social stigma against abortion. Places with high latent costs are those where you would expect lower rates of abortion even when it is legal. This is determined using a measure of states' political attitudes combined with a measure of illegal abortion rates by state before 1970.

This paper uses Census data (from 2000) to capture adult characteristics of cohorts born between 1965 and 1979. Their estimates suggest that abortion legalization shifted the distribution of education upward, with the odds of graduating college increasing among cohorts after legalization. Similar effects are found for receipt of public assistance and odds of being a single parent. A child that would have been born in the absence of abortion access would have been 12 to 31 percent less likely to graduate college and 73 to 194 percent more likely to receive public assistance, as compared with existing cohorts. These results support the findings of GLS that cohort outcomes improved with abortion legalization. AGLS did not find significant results for high school graduation rates, a topic further explored by Stephan Whitaker.

**Whitaker** (2011) uses a research design similar to AGLS to examine effects of abortion access on high school graduation rates of the next generation. Whitaker uses individual-level data and ethnicity controls, however, rather than an estimation of the percentage of the cohort that is non-White. In contrast to AGLS, Whitaker finds improvements only for Black men, whose high school graduation rates increased. His results indicate insignificant change in high school graduation rates for other groups and on the aggregate (in a fully controlled model). This likely reflects the smaller room for improvement among other groups.

These studies, taken together, provide evidence that abortion legalization increased the economic status of later generations during childhood and potentially increased certain educational outcomes (such as high school and college graduation) later in life. These impacts operated both through improving the economic status of parents, as well as changing the composition of births so that a higher proportion are born to more-advantaged parents.

## International Evidence

### Key Findings: What is the evidence from other countries?

A limited number of studies use similar methods to find causal effects of abortion access in other countries. Many findings from other country contexts are similar to those from the United States: higher educational attainment among women with increased abortion access, worse outcomes for children as a result of restricted abortion access, and lower women's labor market participation with increased fertility.

In the case of Romania, an extreme natural experiment occurred when family planning and abortion were banned in 1966, where abortion had previously been the primary means through which women controlled their fertility. **Pop-Eleches (2006)** examines the impact of this abortion ban on the socioeconomic outcomes of the children of the next generation. In contrast to the expanded access studied in the United States, this analysis finds favorable economic and educational outcomes as a result of restricting access. The probability of finishing high school increased by four percentage points from a base of 46 percent and the probability of attending college increased 0.6 percentage points from an average of 9.1 percent. This resulted from the fact that, prior to the ban, highly educated women were more likely to have an abortion (unlike in the United States). As such, the ban resulted in an increase in births to more educated households. When controlling for those compositional changes, however, children born after the ban actually had worse schooling and labor market outcomes. The probability of finishing high school then decreased 1.7 percentage points from an average of 51.2 percent, and the probability of graduating from college decreased by 1.5 percentage points from a base of 13.2 percent. Pop-Eleches finds this is largely due to increased crowding in schools as cohort sizes grew. Of course, this analysis not only used a natural experiment far more drastic than any policy changes experienced in the United States, but also took place in an environment that is different socially, politically, and culturally.

In Norway, **Mølland (2016)** studies the impact of teen access to abortion on women's outcomes, relying on the fact that Oslo granted access to teens before the rest of the country. Using a differences-in-differences approach, this study examines effects on fertility, education, and labor market outcomes, as well as selected outcomes of those women's first-born children. Mølland finds an increased probability of 1.8 percentage points, from a base of 24 percent, of college completion, as well as a smaller (but still significant) effect on obtaining an advanced degree. Abortion access also led to higher labor force participation, particularly for women in their 20s and early 30s. Women with access also had improved



welfare outcome for their children, including higher employment and lower poverty as adults.

**Bloom, Canning, and Fink** (2009) use abortion legalization as an instrument to evaluate the effects of fertility on women's labor force participation across a panel of 97 countries, over 1960-2000. This analysis studies the effect of the total fertility rate and also looks at various other explanatory variables including urbanization, physical capital, infant mortality, and average years of schooling (of women and men). The authors find that each additional birth reduced total labor supply during the fertile years by 7.5 percentage points for each child born. Added up over the 25 years from ages 20 to 44, this translated to a loss of 1.9 years of work for each child born. This indicates that abortion access, shown to have reduced birth rates by 4 to 11 percent in the United States, would have significant impacts on women's labor force participation as well. A potential drawback of this study is the inability to capture differences among subgroups. As seen in the U.S. evidence, there are substantial differences across groups of women in the effects of abortion access. This study is unable to account for such differences and may mask those differential impacts.

**Clarke and Mühlrad** (2016) examine both abortion reforms and regressive abortion policies in Mexico to estimate impacts on both fertility and women's empowerment, as measured by their role in household decision-making. The study takes advantage of a legal environment in 2007 in which Mexico City made first trimester abortions legal and free of charge. In response to this reform, 18 other Mexican states modified their penal code to create harsher punishments for suspected abortion. Using a differences-in-differences approach, the authors find fertility declined by 3.7 percent for women in Mexico City and 6.9 percent for adolescents as a result of the reform. They also found that progressive abortion reform made women 10 percent more likely to report being involved in important decisions in the household. Conversely, the more punitive treatment of abortion in other states did not affect birth rates or rates of empowerment, indicating that legality and cost play a larger role than the severity of penalties in women's decisions to use abortion. This paper provides evidence that women's position in the household may be a pathway through which increased abortion access improves economic outcomes.

## Related Evidence from Recent U.S. Policies

As noted above, research findings based on policy changes in the 1970s may have limited implications for policies today. In this section, we review the evidence regarding impacts of policy changes from the 1980s to today. Most of these studies are treated with brevity as

they study such outcomes as abortion usage and fertility outcomes; only one estimates impact of post-*Roe* policies on economic outcomes.

## Parental Notification & Consent

Parental involvement laws are restrictions on abortion that require minors to either notify parents of an abortion or receive their consent to obtain the procedure. **Borelli** (2011) examines the impact of exposure to these laws during adolescence in the 1980s and 1990s on educational outcomes measured at ages 21 to 32. Although this analysis is limited by the lack of information on state of residence during teenage years, she includes fixed effects for state-of-birth, year-of-age, and five-year birth cohort. Although effects were small and insignificant for White women, exposure to a restrictive environment was associated with a lower probability of completing high school for Black women. In line with those results, small (but statistically significant) effects were found for completion of some college among White women, but larger effects are again found for Black women. Black women were five to seven percent less likely to complete some college in a restrictive environment, while the White women's probability of completing some college decreased by less than two percent.

Other studies have examined the impact of more recent changes in parental notification laws on fertility outcomes. **Joyce, Kaestner, and Colman** (2006) find that a Texas parental notification law passed in 2000 was associated with a decline in abortions among 15 to 17 year olds. Some studies have also found parental notification and mandatory waiting periods to be associated with an increase in minors' out-of-state travel for abortion (Dennis et al. 2009).

**Myers and Ladd** (2017) sought to update the body of evidence on parental notification and consent laws by looking at policies from 1992 to 2017. The year 1992 has significance in this context because it was the year of the Supreme Court's decision in *Planned Parenthood v. Casey*, which—while reaffirming *Roe*—allowed states to regulate abortion as long as those restrictions do not constitute an “undue burden” on the woman seeking an abortion. This marked the beginning of an upward trend in increasingly restrictive state policies. Using a difference-in-difference research design, the authors conclude that these laws increased births to teens by three percent and resulted in a half million additional teen births between 1992 and 2017. These effects varied greatly by avoidance distance, or how far a minor would have to travel to obtain a confidential abortion.

## Medicaid Funding

Federal Medicaid funding was only available for abortion until the late 1970s, when the Hyde Amendment was first passed to prohibit its use. For the first several years after *Roe*, more low-income women may have actually been able to access abortion than today, before

funding restrictions were tightened. In contrast, the availability of *state* Medicaid funds for abortions has always been determined by individual states.

Evidence on the impacts of Medicaid funding restrictions primarily examines changes in the 1980s. Some studies find that restrictions decreased the abortion rate among the Medicaid-eligible population by 17 to 68 percent (Cook et al. 1999; Meier and McFarlane 1994; Morgan and Parnell 2002). Others have found no significant national impact on abortions or births (Matthews, Ribar, and Wilhelm 1997). Impacts of more recent restrictions on Medicaid funding (for family planning funding generally) have been examined only in combination with other restrictions, as described below.

### **Targeted Regulation of Abortion Providers (TRAP) Laws**

From 2013 to 2014, over half of the abortion facilities in Texas closed due to implementation of a Targeted Regulation of Abortion Provider (TRAP) law known as HB2. The notable change in abortion access greatly increased the burden placed on women seeking abortions and contributed to a decrease in the abortion rate during that time (Gerdtts et al. 2016; Grossman et al. 2017; Fuentes et al. 2016). **Fischer, Royer, and White** (2018) examine changes due to HB2, as well as a 67 percent cut in funding for Texas family planning clinics and the elimination of state Medicaid reimbursement for family planning services at Planned Parenthood clinics in the state. They find that, in counties that no longer had an abortion provider within 50 miles, the abortion rate fell 16.7 percent and the birth rate rose 1.3 percent. **Lindo, Meyers, Schlosser, and Cunningham** (2017) find that the clinic closures caused by HB2, and the increased distance women had to travel to reach a clinic, decreased the abortion rate by 10 percent for a 25 mile increase (when increased from a zero mile distance). This effect occurred primarily through congestion (measured by women served per clinic), as remaining clinics were forced to serve more women. In addition to contributing to increased travel distance, this delayed abortions to later gestations.

Although the main provisions of HB2 were eventually ruled unconstitutional, it is clear that abortion restrictions continue to be implemented, resulting in substantial impacts. Clinic access continues to fall at significant rates: in 1973, there were 1,558 abortion-providing facilities in the United States; this count reached a high of 2,908 in 1982, but has since fallen to 1,671 in 2014 (Jones and Jerman 2017a; Gius 2007).

## **Research Methods and Avenues for Further Research**

To complete this review, we first focused only on studies that used methods that can convincingly estimate causal impacts of abortion access on economic outcomes (as

described in section 3). To do this, we conducted searches using PubMed, EconLit, JSTOR, and Google Scholar, with terms including an array of economic outcomes and terms to capture abortion access and restrictions. Citations of articles were used to identify additional papers for inclusion, and several studies were included after being suggested by external reviewers. We later expanded to include research on more recent legal changes, which examines the impacts on fertility outcomes. We also included a select number of rigorous studies from within the public health literature (i.e., analyses from the Turnaway study) that did not use causal econometric methods. We did not place limits on time of publication. We limited the studies to peer-reviewed literature other than a small number of working papers that were evaluated for their quality of methods.

## Limitations

One of the difficulties in using the early reform and legalization states to examine effects of abortion is that access to abortion does not necessarily match legality of abortion. In the case of this body of literature, there has been an active debate about how best to categorize the different states based on the legal status of abortion *pre-Roe*. The most recent classification, suggested by Myers in 2017, identifies three categories of states: the repeal states, consisting of the five states and DC with legalized abortion; the reform states, consisting of 13 states with somewhat liberalized abortion laws; and the restrictive states, where abortion was not available under any circumstances (C. K. Myers 2017). Myers notes that reform states with increased access to—but not fully legalized—abortion had notable rates of abortion; in some cases those rates were higher than those of states where the procedure was legal. Records suggest that general concerns, such as “mental health,” were the medical indication for a substantial number of abortions in “reform” states. The quality of data and requirements for abortion reporting varied by states, making comparisons of abortion rates more challenging. These variations in actual access to abortion have implications for the findings of studies that use the five-state classification scheme. If the majority of misclassification is due to higher than expected access in non-legalized states, then findings from these papers may be biased towards the null—meaning the true effects are greater than estimated.

Additionally, as noted earlier in this paper, interstate travel was common when abortion legality differed by state. Wealthier (and White) women likely had more mobility in traveling out-of-state to obtain a legal abortion. More advantaged women also had greater access to abortion services prior to legalization, which may partially explain why the effects of legality are stronger among Black women. Effects would be diminished for women who were able to access abortion care before it was reformed or legalized in their state of residence.

One potential limitation for studies examining teenagers, like the study by Angrist and Evans, is codifying the availability of abortion for teens in these reform states. Myers writes that "...in a given state in a given year between 1960 and 1976, a minor seeking reproductive services might be legally able to consent [without parental involvement] to neither contraception nor abortion, to both, or to one and not the other"(C. K. Myers 2017). Yet Angrist and Evans do not mention the legality of abortion for minors specifically. This is particularly relevant as they are examining women who were teenagers during the reforms. Age of consent was just transitioning from 21 to 18 over the late 1960s and early 1970s; even in states with an age of consent of 18, this misses the exposed years of 14-17 that are included in their sample.

Given that this and other studies do find impacts of these reforms on teen fertility, it seems likely that these are lower bound estimates arising from teens' access via their parents' consent. Accurately coding reforms to reflect the difference between confidential vs. parental involvement access would likely result in higher estimated impacts on fertility and other outcomes.

## **Future Research**

The literature described in this review has laid a foundation and identified methods for isolating the economic effects of abortion. Future research should expand on this knowledge base by using recent updates in legal coding to examine effects beyond fertility, including education and employment outcomes. In addition, the substantial rise in abortion restrictions passed since most of this research was completed suggests that newer studies may find economic effects of state-level policies. As demonstrated by Ananat et al., selection effects may occur even when birth rates are unchanged. As access becomes more dependent on state of residence, future studies can explore the economic effects of laws such as parental notification policies.

As demonstrated in the findings, state laws such as Texas's HB2 had substantial effects on women's ability to access abortion. As TRAP laws, gestational restrictions, and other restrictive policies continue to be proposed and implemented, researchers should examine the economic impacts of limiting access by state. Because both the landscape of abortion access and the demographics of abortion patients have changed since the abortion reforms of the 1960s and 1970s, it is important to update the literature with how more contemporary changes to abortion access affect economic outcomes across race and other previously unexamined demographic differences, such as ethnicity and other factors.



## Discussion

The studies presented here demonstrate the range of economic effects of abortion access. The availability of abortion affects not only immediate economic indicators, but education, employment, and wages across the span of a woman's life. In addition, these effects extend to the next generation, improving economic conditions during childhood and adulthood. This research uses rigorous econometric methods to provide causal links between abortion access and economic outcomes. By utilizing a quasi-experimental approach, the effects of abortion availability are isolated from other potential confounding factors. Many of these studies have the advantage of using large population-level datasets that not only have substantial sample sizes, but also do not suffer from the potential bias of underreported abortions. Of course, policies' economic effects that are found on the population level have important implications for the welfare of all Americans, even if they do not represent the experience of each individual.

### Differential Impacts by Race

The evidence suggests that the economic effects of abortion are not uniform across all demographic groups. When broken down by race, research suggests that abortion access has greater economic impacts for Black women than White women (due to data restrictions, no other racial/ethnic backgrounds are considered in the studies). Abortion legalization led to significant increases in high school graduation, college entrance, and labor force participation—among Black women. Increases for White women were not statistically significant, meaning we cannot reject that there was no change. It is important to note, however, that Black women have historically worked outside of the home at much higher rates than White women, both before and after abortion legalization (DuMonthier and Childers 2017).

Why does research find greater economic benefits of abortion access among Black women? Statistics presented in Table 1 indicate that Black women have higher rates of unmet need for contraception, higher rates of unintended pregnancy, and report higher use of abortion. This was true in 1973 during the time of policy changes examined in many studies summarized here, and remains true today. Less access to contraception is likely to increase the potential impact of access to abortion. Black women are more likely to be living in poverty than White women and so generally face greater barriers to accessing reproductive health care, and are less able to overcome restrictions on abortion access.

These disparities stem from the broader environment of structural racism and oppression facing Black women in the United States. Throughout the history of the country, there have been efforts to control the fertility of women of color and low-income women, including through involuntary sterilization and financial incentives proposed in the 1990s for long-

acting contraception for public assistance recipients—and this legacy of reproductive coercion affects present-day interactions with health care providers (Rocca and Harper 2012; Thorburn and Bogart 2005; Gold 2014). Research has shown that providers are more likely to recommend intrauterine contraceptive devices to low-income women of color than low-income White women (Dehlendorf et al. 2010). These biases perpetuate mistrust of the health care system, and may deter women from seeking care.

## **Policy Implications: Are Effects from the 1970s Relevant Today?**

Much of the evidence regarding economic outcomes relies on policy changes in the 1970s, raising the question of what these findings can tell us about the impact of abortion restrictions today. Table 1 presents a comparison of key statistics from 1973 and 2015-2017. We find that rates of unmet need for contraception have fallen, but nonetheless reports of unintended pregnancies have increased, and the race gap in this regard has remained constant, indicating that women’s need for abortion services remains as high today as it was in the 1970s. Supporting this assertion are the studies that have examined impacts of major, modern-day restrictions on abortion access, finding significant impacts on birth rates and teen births.

In contrast, women’s education has changed remarkably. High school completion rates are dramatically higher, reaching near universal rates and nearly closing the race gap. In addition, due to Title IX and its protections against sex discrimination along with other social changes, women with an unexpected birth during high school are more likely today than in the 1970s to continue to completion. Together, these suggest that abortion restrictions are unlikely to significantly affect high school completion rates today the way that legalization did in the 1970s. However, abortion policy today may still have a significant impact on college completion.

While college completion rates are significantly higher today than in the 1970s, they remain well below 50 percent and disparities by race and parent status persist. According to a report by IWPR, only 8 percent of single mothers graduate within six years, compared with 49 percent of women who are not single mothers (Gault, Milli, and Reichlin Cruse 2018). While Title IX also applies to college, there are fewer efforts to help pregnant students complete college (as compared to high school). Pregnancy may also stop women from enrolling in college. All of these factors suggest that an unexpected birth would act as a barrier to college completion, and evidence suggests that major, modern-day abortion restrictions are increasing unexpected births.

The relationship between childbearing and labor force participation has certainly evolved since the 1970s as well. As working mothers have become more socially acceptable and child care options have expanded, women’s labor force participation rates have increased

since the 1970s. With rates hovering around 60 percent, however, childbearing is clearly still a factor in women's choices regarding paid work. In this regard, it seems likely that the impacts of abortion access on women's labor market activities would be comparable today to what was estimated based on policies in the 1970s.

As discussed in this review, despite legality, abortion access varies greatly by state. Since 2011, states have passed over 400 abortion restrictions (Nash et al. 2018). These restrictive policies, particularly parental involvement laws and bans on state Medicaid funding for abortion, inherently target lower-income and younger women. Considering that restrictive policies often disproportionately harm people experiencing economic insecurity, and because low-income women are over-represented among abortion patients, these laws are intrinsically tied to women's economic well-being (Jones and Jerman 2017b).

Nonetheless, the scale of changes in abortion access that occurred in the 1970s—from no legal access to full legal access nationwide in less than five years—are unlikely to be replicated again in the United States. Even if *Roe* were overturned, abortion would remain legal in some states, and other factors, such as improvements in information access (via the internet) and reduced transportation costs, would mean that intra-state abortion access would be higher than it was in the 1970s. In addition, expanded availability of self-induced abortion with medication means that illegal abortion would be safer and easier than in the pre-*Roe* environment. Overall, access nationwide is unlikely to return to the broadly low levels of the 1960s, but would instead be more restricted among specific groups of women.

For women in states with the most restrictive policies, especially women without the means to access abortion out-of-state, modern day restrictions can effectively eliminate access completely. As in the 1970s, women with low incomes will be disproportionately affected. In addition, given the demographics in the states where abortion access is most threatened, Black women are likely to be overrepresented among those losing abortion access. These restrictions will exacerbate poverty, as recent studies show that 40 to 50 percent of women who seek abortion do so for financial reasons (Biggs, Gould, and Foster 2013; Kirkman et al. 2009). Even the possible availability of self-induced abortion brings its own risks, with the potential criminalization of women who are suspected of self-induction; since *Roe*, various state laws have been used to prosecute women for self-management of abortion (Donovan 2018). These threats are likely greatest for women of color and poor women, who are already disproportionately criminalized.

Taken together, the evidence from 1970s policy changes has significant implications for today's policymaking. Abortion access will likely continue to impact women's education and labor market outcomes (and therefore the welfare of their children). While modern restrictions may impact fewer women than the illegality of abortion in the 1960s, the

impacts will be the greatest among women who are the most disadvantaged, acting to further increase inequality in the United States.

The findings from these papers, identifying causal relationships, provide even stronger evidence of the link between abortion access and economic outcomes. More equitable access to abortion care allows women to exercise greater agency over their body and their childbearing. This, in turn, enhances their ability to invest in their own human capital and improve their economic well-being. Conversely, restrictions on abortion access have the potential to harm women—and later generations—rather than help them. In particular, policies that restrict access based on economic status, such as bans on federal and state Medicaid funding for abortion (e.g., the Hyde Amendment), not only limit women’s reproductive autonomy, but also further threaten their economic well-being. By passing policies that strengthen abortion access and allow funding for low-income women, states can reverse these effects and encourage economic stability for women and families.

Ultimately, the most significant consequence of policies affecting abortion is the ability for women to access the full range of reproductive health care and control their reproductive lives. The findings summarized here, however, indicate that policies that expand access to abortion not only enhance women’s reproductive autonomy, but have economic benefits as well.

**Table 1. Comparison of Fertility and Economic Outcomes Over Time, by Race and Ethnicity**

		Women, by race and ethnicity				Difference, Black women relative to White women	
		White	Black	Hispanic	Asian	Percentage points	Percent
Rate of unmet need for contraception (i)	1973	32%	59%			27	84.00%
	2015-2017	16%	21%	20%		5	28.80%
	% change	-50%	-65%				
Share of pregnancies unintended (ii) (in previous 5 years)	1973	34%	59%			25	74.30%
	2015-2017	40%	61%	42%		21	52.20%
	% change	19%	4%				
Share of unintended pregnancies not resulting in live birth (iii) (in previous 5 years)	1973	10%	11%			0.3	2.90%
	2015-2017	40%	42%	26%		2	6.00%
Share of unintended pregnancies resulting in abortion (iv) (in previous 5 years)	2015-2017	12%	23%	9%		11	95.10%
Share of population living in poverty (v)	1973	8%	31%			23	287.50%
	2017	11%	21%	18%	10%	11	98.10%
	% change	34%	-32%				
Share of women aged 25-29 with 4yrs+ of high school (vi)	1973	82%	65%			-17	-20.50%
	2017	94%	92%	85%	96%	-1.3	-1.40%
	% change	15%	42%				
Share of women aged 25-29 with 4yrs+ of college (vi) (as above)	1973	17%	9%			-8	-48.20%
	2017	41%	24%	22%	66%	-17	-41.30%
	% change	139%	172%				
Women's labor force participation rate (vii) all women aged 20+	1973	44%	52%	41%		8	18.60%
	2017	58%	63%	59%		5	8.50%
	% change	32%	21%	43%			

**Table Notes:** With the exception of labor force data, data from 1973 only classify women as Black or White in term of race. Fertility data from 2015-17 NSFG combine Asians with "all other races" besides Black, White, and Hispanic. Labor force participation rates for Asians are not disaggregated by gender. (i) Women not using any modern method as a share of women in need of contraception. Excluded categories include those pregnant, seeking pregnancy, infecund, and not sexually active. Source: National Survey of Family Growth data. (ii) Pregnancies are counted as unintended in 1973 if any of the following are reported: Pregnancy was wanted but respondent came to feel that way after pregnancy began; Pregnancy was unwanted and respondent felt that way before pregnancy began; Don't know, didn't care but probably not wanted; Pregnancy occurred sooner than wanted; Did not want another baby before became pregnant; Probably did not want another baby. In 2015-17 pregnancies are counted as unintended if any of the following are reported: right before pregnancy, did not want to have a baby at any time in the future; became pregnant sooner than wanted; right before pregnancy probably or definitely did not want to have a baby with that partner. Source: National Survey of Family Growth data. (iii) Fetal loss explicitly includes miscarriage, stillbirth, and induced abortion. Levels are not comparable across time periods as increases in early pregnancy detection make it likely that reporting of miscarriage has significantly increased over time. Race gaps are comparable over time. Source: National Survey of Family Growth data. (iv) Abortion is self-reported and known to be underreported. This was not asked in 1973. Source: National Survey of Family Growth data. (v) Source: Census.gov Historical Poverty Tables (Table 2) ([link](#)) (vi) Source: CPS Annual Social and Economic Supplement -- "CPS Historical Time Series Tables' Table A-2 ([link](#)) (vii) Source: Labor Force Statistics from the Current Population Survey" Bureau of Labor Statistics ([link](#))

## Appendix. Articles Reviewed

Study	Years of exposure	Exposure(s)	Outcome(s)	Key findings
<b>Ananat, Gruber, Levine, and Staiger (2009)</b>	1970s	Abortion legalization	Characteristics of next generation as adults, including socioeconomic and labor market indicators, educational attainment, and incarceration	Changes in cohort composition for the subsequent generation after abortion legalization led to improved cohort outcomes, including higher rates of college graduation, lower rates of single parenthood, and lower rates of receipt of public assistance.
<b>Angrist and Evans (2000)</b>	1970s	1970 state abortion reforms	Fertility, marriage, schooling, and labor market outcomes of women	State abortion reforms reduced rates of teen marriage, teen fertility, and unmarried teen childbearing. Modest fertility changes did not translate into improved educational or labor market outcomes for White women, but Black women saw increased schooling and employment outcomes as a result.
<b>Bloom, Canning, Fink, and Finlay (2009)</b>	1970-2000	Fertility (using abortion legalization as an instrument)	Female labor force participation (country-level)	Removing legal restrictions on abortion reduced fertility, and on average, each birth to a woman reduces her labor supply by 2 years.
<b>Borelli (2011)</b>	1980s-1990s	Abortion legalization and parental involvement laws	Long-term indicators for minors, including fertility, educational attainment, and labor market outcomes	Higher fertility (particularly for Black women) is found when parental involvement laws are in effect, even more so when laws are also in effect in surrounding states. There was a larger effect on decreased educational attainment for Black women, and some small effects found for labor market outcomes.
<b>Clarke and Mühlrad (2016)</b>	2007	Abortion legalization in Mexico City, and increased sanctions on abortion in 18 other Mexican states	Fertility, sexual behavior, and female empowerment (a self-reported measure of being involved in important decisions in the household)	Abortion legalization reduced fertility, with a larger reduction among adolescents, and increased women's role in household decision-making. The reverse was not found to be true for the increase in punitive measures in other states. These changes were found to be driven by increased utilization of abortion rather than changes to sexual behavior or contraceptive use or knowledge.
<b>Fischer, Royer, and White (2018)</b>	2011-2014	Texas HB2 and family planning funding cuts in Texas	Abortion use, births, and purchases of emergency contraception and condoms	Birth rates increased in counties that no longer had an abortion provider within 50 miles, as well as in counties that no longer had family planning clinics within 25 miles. Abortions to Texas residents fell over this period.

Study	Years of exposure	Exposure(s)	Outcome(s)	Key findings
<b>Foster, Biggs, Raifman, Gipson, and Rocca (2018)</b>	2008-2010	Being born after denial of abortion (turned away due to clinic term limits) vs subsequent to an abortion	Perinatal outcomes and child health, child development, maternal bonding, socioeconomics, and household structure	Index children (those born to women who were denied an abortion), compared to children born to a new pregnancy subsequent to a received abortion, were more likely to live in lower-income households and to live in households without enough money for basic expenses. Children born after denial of abortion were more likely to have poor maternal bonding.
<b>Foster, Raifman, Gipson, Rocca, and Biggs (2018)</b>	2008-2010	Existing children of: women who were denied an abortion (turned away due to clinic term limits) vs those who received an abortion	Child development, health, socioeconomic well-being, and caregiving outcomes of women's youngest living child (five years of age and younger at the time of recruitment)	Existing children of women who were denied an abortion were more likely to live below the FPL and had lower mean child development scores than the existing children of women who received a wanted abortion.
<b>Gruber, Levine, and Staiger (1999)</b>	1970-1973	Abortion legalization	Characteristics of next generation as children, including living circumstances of cohorts (living in a single-parent household, poverty, collecting welfare, infant mortality) and effects for the "marginal child"—the child that would have been born if not for legalization of abortion	Due to changing birth compositions, cohorts born after legalized abortion were less likely to live in single-parent households, and as a result less likely to live in poverty and less likely to receive public assistance. The marginal child not born due to abortion access would have had much higher odds of living in a single-parent household, living in poverty, and receiving public assistance.
<b>Joyce, Kaestner, and Colman (2006)</b>	2000	Parental involvement laws in Texas	Abortion rate and birth rate	The Texas parental notification law was associated with a decrease in the rates of abortion for 15 to 17 year olds. For a subgroup of individuals who were older minors at the time of conception, birth rates and odds of a second-trimester abortion also increased.
<b>Kalist (2004)</b>	1970s	Abortion legalization	Female labor force participation	Abortion legalization reduced fertility rates, and as a result, increased female labor force participation rates—particularly for Black women.



Study	Years of exposure	Exposure(s)	Outcome(s)	Key findings
<b>Lindo, Myers, Schlosser, and Cunningham (2017)</b>	2013-2016	Texas HB2	Abortion rates, clinic access, and births	For women who initially lived with 200 miles of a clinic, there were substantial decreases in abortion rates. Congestion at remaining clinics also contributed to reduced access, and to a shift to later gestational age for abortions that did occur.
<b>Mølland (2014)</b>	1969-1972	Abortion legalization in Oslo	Teen childbearing, fertility at older ages, educational attainment, and labor market outcomes for women affected by abortion legalization. Similar outcomes are examined for the subsequent generation.	Abortion legalization led to lower rates of teen fertility and higher age at first birth. Teen abortion access led to increased labor market attachment at younger ages but decreased attachment later in life. In the next generation, access led to lower rates of teen pregnancy and receipt of public assistance, with some improved educational outcomes.
<b>Myers (2017)</b>	1970s	Abortion legalization and parental involvement laws (and re-examination of contraception policies)	First birth before age 19, first marriage before age 19, and shotgun marriage (marriage with a birth occurring less than 8 months later). Myers also replicates earlier models of fertility and marriage effects.	Abortion legalization substantially reduced probability of birth, marriage, and shotgun marriage before age 19. Using her revised legal coding, Myers finds little effect of the pill for these outcomes but significant effects from abortion on marriage outcomes when replicating analyses from Goldin and Katz (2002). Similar results are found for fertility outcomes when replicating analyses originally conducted by Bailey (2006, 2009) and Bailey et al. (2013).
<b>Myers and Ladd (2017)</b>	1992-2017	Parental involvement laws	Abortion use, teen births, distance to confidential abortion	Post-Casey (1992) parental involvement laws have increased teen birth rates and avoidance distance to a confidential abortion.
<b>Pop-Eleches (2006)</b>	1966	Abortion ban in Romania	Educational and labor outcomes of children born after the implementation of the ban	As a result of Romania's abortion ban, birth rates doubled and the composition of births changed. This led to improved educational and labor market outcomes for the subsequent generations. However, when controlling for various background characteristics, generations born after the ban actually had poorer educational and labor market outcomes as adults.
<b>Whitaker</b>	1970s	Abortion legalization	High school graduation among the next generation	Higher abortion ratios were associated with higher high school graduation rates for Black men, but not other demographic groups. On the aggregate, abortion had a negative effect on graduation rates, but this effect disappears when controlling for ethnicity.

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