

The Effects of Access to Family Planning Facilities on Female Labor Market Outcomes

Marcus Dean Sander

December 2020

Department of Economics
University of California, Berkeley

Undergraduate Honors Thesis
Advised by Professor Christopher Walters

***Abstract:** The gender gap and status of women in the US labor market has been an important and intensively studied topic in Labor Economics. This paper adds to the existing literature by using U.S. state-level labor market data and family planning facility records from 1970 to 2012 in an attempt to establish causality between female labor market outcomes and access to family planning. A robust panel data analysis is run on multiple labor market outcomes with both state and year fixed effects. The states are clustered to control for errors associated with a given time period carrying over into future time periods. The results are statistically significant for important labor market outcomes, and the results retain significance through multiple robustness checks. These results were not heterogeneous, and only white women had significant gains in income and labor market participation. Regressions show that an increase in 1 more facility per 100,000 people (5 for Wyoming, 80 for Virginia etc.) can raise white women's wages by over \$2000, and labor force participation by 2 percentage points. The paper then looks at the Hyde Amendment as a case study in abortion access and finds that states that allow public insurance to be used for abortion have increases in female income by over \$4800. These effects are again only significant for white women.*

Acknowledgements

I would like to thank Professor Christopher Walters, Jakob Brounstein, Matthew Tauzer and John Wieselthier for their contributions and support. All errors are mine.

1. Introduction

In 1973 the United States Supreme Court ruled, in *Roe v. Wade*, that it is a woman's constitutional right to have an abortion without excessive interference from the government (*Roe v. Wade*, 410 U.S. 113 (1973) Library of Congress). Prior to this ruling, abortion was illegal in 45 of the 50 states and most women were not able to access the reproductive resources they needed in order to secure the medical outcomes that they desired. The subsequent decade saw an extensive increase in the number of abortion clinics opened in all states, and access was in reach for more and more American women. This did not last long, and the backlash was quick and severe. Just three years after the *Roe v. Wade* decision the Hyde amendment was passed in congress, which banned any federal funding for abortion (Hyde 1976). Anti-abortion laws were not restricted to the federal government, as many states began to impose restrictions that lead to the closure of many planning facilities. Other states followed the opposite path and expanded access to reproductive services. These discrepancies in access became so extreme that some states have over 600 facilities while others have just one (American Civil Liberties Union).

These legal battles over abortion and differing state approaches to reproductive justice coincided with a monumental shift in the United States labor market. Women began to enter the workforce in higher and higher numbers and become more accepted in high ranking and high paying positions. The percentage of women in the workforce nearly doubled between 1960 and 1990 (Goldin 2006). In this transformative era, states in the US had both radically different degrees of access to family planning for their female residents and severe differences in the labor market performance of their female residents. In the decades after the *Roe v. Wade* decision in 1973, both the wages and labor force participation of women greatly increased, but this improvement was far from homogenous, with the betterment of female labor force outcomes being extremely localized to certain states (US Department of Labor). The main question that arises due to these facts is "Did access to family planning facilities have an impact on the labor market outcomes of women with respects to their wages and labor force participation?"

This study investigates the link between access to family planning and economic gains of women during the following decades after *Roe v. Wade*. The argument centers on how, when women are given autonomy over their bodies, they are able to choose better labor market outcomes for themselves. When a woman is in the workforce or education and has an unplanned pregnancy, the option to terminate such pregnancy is vital to their future labor market outcomes. Women who have children are less likely to work and less likely to go to college (Lee 2010). Additionally, new mothers usually take time off, putting them off track for promotions, and once mothers, are less likely to be promoted (Michelle J. Budig and Paula England 2001). However, the ability to terminate unwanted pregnancies through the vicinity of family planning facilities, defined as any place legally allowed to perform abortions (Guttmacher 2011), help women exercise their reproductive rights. The number one reason for women to choose to work fewer hours or for jobs with less pay was temporal flexibility, or ability to choose what hours of the day to work. And the number one reason for this demand was having children (Goldin 2015). Having children, however, is a choice not every woman in every state had the same control over. Closure of facilities leads to intense and often insurmountable barriers to reproductive access and leads to fewer women achieving their desired health outcomes (Slusky 2016). The fewer family

planning facilities that a state has, the less women are able to gain access to the necessary resources to enjoy reproductive justice, and reach the career goals that they desire.

These sudden closures in the 1970s, 1980s, and 1990s happened in a time before the internet and smartphones, and many women who thought that they could receive an abortion came to a closed clinic. This extra wait time led many women unable to procure an abortion before the gestational limit, leading to lower employment, higher poverty rates and higher welfare usage compared to women who were able to receive an abortion (Foster 2020). Family planning facilities do not affect the lifetime fertility rate of women who have planned pregnancies, and even help women have children at the age and time that they desire (Melinda Mills Ronald R. Rindfuss Peter McDonald Egbert te Velde 2011). Thus, in areas with greater access to and higher numbers of family planning facilities, one would expect to see better labor market outcomes for the female residents, by both allowing them to plan for the best time to be pregnant and terminating unwanted or unplanned pregnancies.

Utilizing a panel data set of all states in the United States from 1970 to 2000, I implement a fixed effects research design that compares changes in female labor market outcomes in states with increasing and decreasing access to family planning. Family planning access is measured as the ratio of abortion facilities to population. My study assesses the impacts of this “treatment” on labor force participation rates and incomes. The results reveal that increased access to family planning generates a statistically significant rise in female wages and labor force participation for white women, with insignificant results for black women, white men, and black men. These results are robust to alternative specifications and the alternative treatment measurement of the Hyde amendment. An increase in one clinic per 100,000 residents is associated with a rise in the average income of white women by over \$2050, and an increase in their labor participation rate of 2 percentage points. This effect is unique to the year that the income and clinics are measured, suggesting fast and immediate results of their existence for the incomes and labor market status of its residents.

This investigation adds to a large literature studying how policies can impact labor market outcomes for women. One of the main causes for women to have different labor outcomes is their having children, and how this action, whether voluntary or involuntary affects their earnings and ability to work. My study attempts to fill the gap of a large country wide assessment by specifically studying the impacts of state level family planning facilities on the same types of labor market outcomes studied by other papers on a smaller scale. One of the largest shifts in the United States labor force was during the latter half of the 20th century when civilian female labor force participation doubled. This transition was not frictionless, and problems that women face in the labor market continue today (Goldin 2015). Many economists have studied why this problem exists and what policies are effective at eliminating it. Direct methods, such as quotas of women in high paying managerial positions have been shown to work best when coupled with structural changes to companies (Yvonne Benschop & Marieke van den Brink 2014). Not all policies are successful and some designed to help women, such as extra parental leave of associate professors, actually lead to more men than women receiving tenure, increasing the gender gap (Stearns 2018). Many studies have shown that one of the main causes for women to have different labor outcomes than men can be traced to their having children, and the social norms and expectations surrounding mothers and their children (Goldin 2015). The

main way for women to be able to have bodily and reproductive autonomy regarding reproduction is access to family planning. Without access, or limited access, the choice to have children can be stripped from women, thus forcing them into undesirable situations that constrain them into different career choices than they would otherwise make (Slusky 2016). Thus, the relationship between family planning access should be very closely related to female labor market outcomes, a question that has not been thoroughly tested.

Some studies have looked at how access to family planning has impacted labor market outcomes for women. A large study conducted by The Center for American Progress produced the report, “The Pillars of Equity: A Vision for Economic Security and Reproductive Justice,” which laid out many reasons how limiting access to family planning can have adverse effects on female labor market outcomes. In the study they followed multiple women during the years of 2014 to 2016 to see if past access to family planning had any effect on their current professional positions, and found that higher access led to higher paying and ranking positions. Another study, by Anna Bernstein, M.P.H., and Kelly Jones, Ph.D in 2019 looked at the effects of the birth control pill and found that women who had access to the pill were more likely to enter highly paying professional jobs such as lawyers and doctors. These studies have shown that women who had access to family planning services were much more likely to be in the labor force, have more education, and be in a higher position and better paying jobs, and that policy decisions can impact the availability of those resources.

However, none of these studies have looked at how the rolling back of access to family planning has reversed or halted the slow trend of gender equality in the labor market. After *Roe v. Wade* in 1973, many states began to build and maintain family planning facilities to provide access to resources to comply with the new law. However, after the conservative movement that started in the 1980s and the Hyde amendment, many states rolled back access and funding, causing the closure of almost all family planning facilities within their borders, while others expanded access and allowed more women to exercise their constitutional right to an abortion. At the same time as this divergence of family planning access by state, women were entering the workforce at historic levels, and getting jobs in positions in numbers unseen before in history. Family planning was crucial for these women. Access to over the counter oral contraception had significant impacts on fertility, labor market participation, and hours worked of women (Bailey 2006). However, the outcomes for these women, much like access to family planning, was incredibly different between states. This substantial variance between the states, allows for the study of how these policies affected the female market outcomes in each state. These questions have not been approached, as many studies have been surveys of women in top positions asking their history rather than a large study of the entire labor force. There exists a gap in the study of large labor markets and how differences in access to family planning change states labor market outcomes. My study aims to fill this void with a comprehensive analysis on how the state difference in family planning access affects its labor market gender equality.

The remainder of this paper is organized as follows: Section 2 contains a description and a summary of the data used; Section 3 shows the empirical methodology used and its reasoning and identifying assumptions; Section 4 goes over the results of the findings and the Hyde Amendment case study. Section 5 contains the robustness checks and caveats of the methodology. Section 6 concludes the paper.

2. Data and Descriptive Statistics

See Table A

My analysis utilizes a state-by-year panel data set constructed from public sources for the year 1970 to 2000. The number of family planning facilities is gathered from the non-profit charitable organization, The Guttmacher Institute, an organization that keeps and records data on reproductive health and access in the United States. This organization was established in 1968 as a branch of Planned Parenthood and became an independent organization in 2007. When it was first founded, its funding came solely from the Planned Parenthood budget, but since its independence, its funding consists of grants from the World Bank, The World Health Organization, and other private funding. It keeps tracks of the number of abortion clinics by sending out periodic surveys to each doctors office and hospital that asks a myriad of questions about the clinic's and doctor's capabilities and practices. One such question identifies a place as family planning clinic and is defined as "any hospital, clinic, or doctors office that can perform an abortion" (Guttmacher 2020). The organization also performs surveys on many other countries around the world in order to create a global database of reproductive health information.

The microdata for generating labor market outcomes is downloaded from Integrated Public Use Microdata Series Current Population Survey (IPUMS CPS). IPUMS is a research database that hosts US Census data dating back to 1790. The Current Population survey is an aggregate of the Bureau of Labor Statistics monthly U.S. Labor force survey. All data is subsequently aggregated to averages by state, year, race, and sex. Wage is defined as "respondent's total pre-tax wage and salary income--that is, money received as an employee" Labor force is defined as someone "were at work; held a job but were temporarily absent from work due to factors like vacation or illness; were seeking work; or were temporarily laid off from a job during the reference period." All money values are real and described in 1999 dollars using the CPI multiplier on the IPUMS CPS data center.

The Hyde Amendment, drafted in 1976 and enacted in 1980 restricts abortion coverage for federally-funded health care recipients, such as Medicare or Medicaid, except to save the life of the woman (United State Congress 1973). In the decades since, many states have written legislation or had state supreme court decisions that repeal the Hyde Amendments effect in their state. This allows women in those states to use federal funds and insurance to cover abortion procedures and medication. Each state law is sourced directly from each state's official government website, court history, or state congress. The variable is a dichotomous state year variable that takes the value of 1 if that state in that year has the Hyde Amendment repealed, and 0 otherwise.

3. Empirical Framework

3.1 Model

I estimate the impacts of family planning clinics on labor market outcomes using the OLS regression specification:

$$Y_{st} = \alpha + \beta_1 \frac{\text{facilities}}{\text{population}}_{st} + \beta_2 (\text{Hyde Amendment Dummy})_{s,t} + \beta_3 (\text{controls}) + \tau_s + \gamma_t + \varepsilon_{st}$$

where Y denotes the dependent variable (labor market outcomes) for state s at time t , $\frac{\text{facilities}}{\text{population}}$ is a state and time specific variable measuring the number of facilities in a state divided by its population at the same time., τ_s represents a state fixed effect, and, γ_t is a year effect. The error term ε_{st} represents unexplained variation in outcomes. The coefficient estimates generated are robust to heteroscedasticity. The robust standard errors are clustered at the state level for all regressions, making them robust to intra-state serial correlation. State fixed effects capture year-invariant state level features and state policies as well as any other unaccounted differences between states. The time fixed effects capture any time-specific characteristics, including any federal or time sensitive changes in the outcome variables. (Baltagi, 2005)

My empirical strategy is motivated by the fact that states had numerous increases and decreases in the number of family planning clinics and multiple times of following and not following the Hyde Amendment. Women are also unable to choose the state they are born into, as well as the number of family planning clinics within their state. This allows me to compare states within themselves with year fixed effects in order to tease out the effect of access to family planning clinics.

The identifying assumption for a difference in differences framework is that the treated and untreated units have parallel pre-trends, and therefore all variation after the treatment is due to the treatment and not other characteristics of the unit of observation. As a check for this I consider not only the simultaneous year of the treatment, as that is not the only thing that affects labor market outcomes for the women in a state. The number of facilities of the last few years also play a role in female labor market outcomes. Another possibility is that the female income is predictive of the future number of family planning clinics. To address this, I run regressions with both future and past number of family planning clinics. Shown by table 7 I find no significance for either regression for white women. I further run regressions that include all three terms, past, present, and future number of family planning clinics, and still find significance only for the present year of family planning clinics for wages for white women. Running the same regression for labor force participation in table 8, the past and future measures of clinics per capita have no significant impact on any gender or race's labor force participation. These results

help show that the clinics of the current year have a unique effect on the labor market outcomes of white women, and that the past and future amounts have no significant impact.

4. Main Results

4.1 Main results

The main results are in tables 1-2 and visualized in figures 1-3, where the hypothesis is found to be in fact true, though only for white women, and the more family planning facilities that a state had, the better its labor market outcomes for white women were. This fact remains after multiple controls and robustness checks.

Fig.1 shows the variation in the number of family planning facilities by state while Fig.2 and Fig.3 show the variation of female wages and labor force participation. These figures, with Fig. 1 looking almost as a “photo negative” of Figs 2 & 3, illustrate how that the states with the highest amount of variation with regards to family planning facilities (those who closed the most during the 1980’s and 1990’s) saw the lowest variation in the female labor market outcomes (increases in female wages and labor force participation). These results are further supported by the regressions shown in tables 1-5.

Table 1 shows the effect of the number of family planning clinics per capita on wages, stratified by race and sex. Living in a state with more access to family planning is shown to significantly increase incomes and labor force participation of white women. Increasing the number of family planning clinics by 1 per 100,000 residents is associated with a \$2,059 increase in the average white woman’s wage. The same increase in the number of family planning clinics had a much smaller magnitude effect of black women wages, a decrease of \$377 with a t statistic of less than 0.5. The effect is similar for white men, insignificant decrease of \$848, and black men, an insignificant increase of \$267. Not only is this effect significant for white women, but the effect is significantly greater than all other sexes and races, with an effect of up to over 5.9 times greater.

Table 2 shows the effect of clinics per capita on labor participation rate, stratified again by sex and race. Increasing the number of family planning clinics in a state by 1 per 100,000 residents is associated with a significant increase in white women’s labor force participation by 2 percentage points. The same increase in clinics show no significant effects for any other group. The effect for black women is positive and 1 percentage point, although this effect is insignificant. The effect for men is 3 times smaller than women, with an insignificant increase for white men of 0.3 percentage points and an insignificant decrease of 0.6 percentage points for black men. The effect for white women was significantly greater than the effect for men, and the only significant increase among women.

The median income and labor force participation for a white woman is about \$33,000 and 57% respectively (Borough of Labor Statistics). These effects are not insignificant, and states in the latter half of the 20th century potentially had increases of up to 10% of white women's income and a 2 percentage point increase of white women's labor force participation by comparatively small increases in the number of family planning clinics per capita.

4.2 Hyde Amendment Case Study

Access to family planning, much like any other service or good, does not guarantee that potential consumers are able to afford it. The cost of abortion has stayed relatively constant since *Roe v. Wade* when abortion was made legal in the United States, hovering around \$520 (2020 dollars) for an early term abortion and \$1200 (2020 dollars) for abortions at 20 weeks (Kaiser Family Foundation, National Health Institute). This is not an inexpensive procedure, especially for the 6 in 10 Americans who have less than \$500 in savings and the 7 in 10 who have less than \$1000 dollars in savings (BankRate). The ability to afford the medical reproduction procedures are just as important as being able to access them. This fact, combined with the lack of a national health care system in the United States indicates that many women are that would have otherwise got an abortion may be unable to afford one. The United States does have federally funded insurance, which primarily covers low income people, families, and people with disabilities. 1 in 5 people in the United States is on publicly funded insurance (US Census Bureau), and their ability to use this insurance for family planning procedures is crucial for them to be able to achieve the labor market outcomes that they desire.

Nevertheless, in 1976 the Hyde Amendment passed the US Congress, which banned any federally funded health insurance to be used in abortion procedures or medicine. This cut off millions of women from being able to use their insurance in order to pay for abortion, and as many as 1 in 3 women on Medicaid who would have wanted an abortion, were unable to afford one and carried the pregnancy to term (Roberts 2019). Over the last 30 years, in response to this law, many states either passed legislation that repealed the Hyde Amendment or had the new law challenged and overturned in their state courts. This means, that in certain states, women on public insurance could use their insurance to pay for abortion, while women in other states could not. This heterogeneity in public funding of abortion occurred at the same time as the tremendous entrance of women in the labor force and higher paying positions in US labor market. Exploiting this variation, I use a panel data set of all states in the United States from 1970 to 2010. I implement a fixed effects research design that compares changes in female labor market outcomes in states that either follow or repealed the Hyde Amendment. The Hyde Amendment itself was out of the control of individual states, and was passed in the United States Senate suddenly, and is less likely to be correlated with local state factors that influence income and the number of clinics.

4.2.1 Model

With the data on the states over the years, I run a fixed effects OLS using panel data across time and states to see how strong, if any, the relationship is between my repealing the Hyde Amendment and labor market outcomes. The use of Panel Data is best for this study in order to control for specific time and state fixed effects that would otherwise contaminate a simple normal OLS regression. It also helps control for unobserved effects.

The analyzing equation is:

$$Y_{st} = a + \beta_1(\text{Hyde Amendment Dummy})_{st} + \beta_2(\text{Clinic Controls})_{s,t} + \beta_3(\text{controls}) \dots + \tau_s + \gamma_t + \varepsilon_{st}$$

Where Y denotes the dependent variable (labor market outcomes) for state s at time t. (Hyde Amendment Dummy) is a state and time specific variable measuring the 1 if the state allows public insurance to be used for abortion procedures and zero otherwise. All independent variables are specific for a state at a certain time, τ_s state fixed effects calculator, γ_t is the term that captures time fixed-effects. ε_{st} is the error term. Standard errors are clustered at the state level.

4.2.2 Results

The results of this study closely match the main study, where having access to family planning significantly increases white women's income, while having no impact on black women's or black men's income. As shown in table 6, repealing the Hyde Amendment for a state is associated with an increase of \$4800 of wages for white women. There are again no significant effects for white and black men, as well as black women. There is no impact on labor force participation. This makes sense. This impact is primarily happening through people on government funded health insurance plans who are more likely to be under the poverty line. Studies have shown that poor women, after having a child are almost always returning to work, while those in higher paying jobs are more likely to take multiple months and time off (Berger 2004). This implies that access through more clinics affects all women in a state, thus impacting both income and labor force participation, while repealing the Hyde Amendment has an impact on poorer women, thus impacting income and not labor force participation. The reasons for the specific effect on white women is similar to the main results. Studies have shown that black women are not in positions that allow for promotion into higher paying occupancies. Access to family planning highlights this discrepancy, but does nothing to address it. Structural racial issues in the labor market affect the impact of access to family planning the same as any other policy.

5. Robustness Checks and Caveats of the Model

I also look at alternative ways of measuring the number of family planning clinics in order to check for alternative measuring techniques. I run regressions on wages using the natural log of clinics per capita, and log of one plus clinics per capita to account for the multiple observations of zero family planning clinics, and still find significance for white women's wages.

Table 3 shows an alternative way of measuring clinics per capita by taking the natural log of clinics per capita. Clinics may have a decreasing effect, with the 101st clinic being less impactful than the 1st clinic. This regression shows similar results and indicates that a 1% increase in the amount of clinics per capita raises the average wage of white women by \$40. This indicates that if a state that doubled its number of family planning clinics, (more than half the states in the US had less than 13 clinics in 2000) it would have increased white women's wages by over \$4000. Similar to the levels tests, the effect is only significant for white women, and the effect for white women is significantly greater than the effect for black women (decrease of \$8.55) and white men (decrease of 10.94). The effect for black men is similarly small (\$8.44), but its large standard error (\$24) does not allow us to conclude that it is significantly different than the effect for white women. However, the effect is still only significant for white women and has 4 times the impact of the next highest effect.

There are many states that have zero clinics during the time frame that is tested. To account for this, I re-ran the test by using the natural log of $(1 + \text{clinics}/\text{capita})$. Table 4 shows that this regression again shows similar results as the original test, and the number of family planning clinics only significantly affects white women's wages, and this effect is 4 times the impact as the next highest effect. Table 5 shows this measurement method used on the labor force participation and shows, again, significant effect for white women only.

Because the results are constructed with both time and state fixed effects, any differences between states or time that could influence our study is controlled for. Some may say that women who show any signs of promise may entice their parents to move to a state with more access to family planning, but this seems very unlikely. The model may suffer from omitted variable bias with some endogenous variable that influences my study, such as states having certain other actions that coincide with the opening and closing of family planning facilities.

Another explanation suggests an alternative reason for the relationship between women's income and the number of family planning clinics. As women get more money, the personal economic cost of getting an abortion lessens, and the opportunity cost of not getting one increases. Thus these high earning women will demand more abortion services leading to more clinics. This idea is refuted from the overwhelmingly universal decline in the number of clinics

as female wages have risen, but similarly to the main analysis, this decline may be smallest for states with the highest earning women. This reversal of the causation would lead to a different conclusion than the actual clinics themselves allowing women to earn more money and participate more in the labor force.

Women do not stay in the state they are born in their entire lives. Only 6 in 10 Americans live in the same state that they were born in. The number one reason for moving has consistently been better economic opportunities (Molly Wozniack Smith 2011). Moving is also not cheap, with the average cost of moving out of state being consistently in the low thousands of dollars. Women may be attracted to states with very high job opportunities, which are consistently the heavily democratic, urban, coastal states, which also happen to have large numbers of family planning clinics. This influx of women may interact with both the previously discussed demand explanation as well as raising the average female wage.

The closure of family planning clinics, by introduction of restrictive laws and standards are a feature of the Republican party in modern United States Politics. Democratic state administrations adopt and pass legislation aimed at lessening the gender pay gap much more than Republican state administrations. These policies include diversity boards, more and paid maternal leave, and anti-discrimination laws aimed at protecting female workers. This correlation could mean that the relationship between the number of clinics and income is primarily driven by the state governing administration practices rather than the clinics themselves.

The types of jobs available in states with higher numbers of family planning clinics also differ greatly from those in states with lower numbers. States with higher numbers are coastal, more urban, and less rural than states with low number of family planning clinics. Jobs in these rural states are overwhelmingly more “blue collar” jobs which are much more male dominated and service jobs which are female dominated. The service jobs are much more likely to not be unionized, work part time, and pay at the minimum wage than the blue collar jobs. Conversely, in states with the higher numbers of family planning clinics, the type of jobs are much more professional and white collar in which women are much more represented both in number and in higher positions. This disparity grew most rapidly at the same time as the divergence in the number of family planning clinics was diverging between the states. This disparity in the types of jobs available in the different kinds of states may heavily contribute to the findings that states with higher numbers of clinics have higher female wages.

This study counts every woman's wage only if they are working. This means that we are only comparing the women who choose to work in each state. This could suggest that any differences in the types of women employed in each state may be directly related to the number of family planning clinics. There were 7 recession in the years of this study (National Bureau of

Economic Research). These recessions were not felt equally between states or occupations. The way that these recession systematically affected the rural and urban states differently, combined with the difference in these types of state's access to family planning clinics, may be the cause for much of the relationship between the number of family planning clinics and female wages. Removing all 7 of these years, and their large effects accounts for a substantial amount of the years that this study looks at.

Outlawing an action does not stop it from happening. Abortion is no exception. Clinics that provided abortion before *Roe v. Wade* may not tell the Guttmacher survey that they are abortion providers. If the only change in these states were that abortion providers did not change the services they offered, and only changed their answer to the survey, the treatment of the number of abortion clinics may be drastically different than the true amount. This would mean that most of the relationship between the number of clinics and women's wages would be mostly driven by the attitudes of the state that allow the clinic to answer yes to the question and not the number of clinics themselves.

6. Conclusion

This study provides some indication that access to family planning may well have positive impacts on labor market outcomes for white women. It also indicates that black women are not able to take advantage of the benefits that family planning access provides, or in other ways talked about in this paper, are not in the employment positions where they could get promoted in the first place (Deborah Anderson and David Shapiro 1996). Black women also have a much higher birthing mortality rate and, on average, have children at a younger age than white women (Roeder, 2019). There are many avenues to explain the phenomena, but are outside the scope of this paper. Further research is encouraged and needed to explain this fact. For white women, living in a state that had more access to family planning regardless of the time or state, significantly raised their labor force participation and wages, a result not enjoyed by black women.

These results take into account for both time and state fixed effects, and still find statistical significance when the standard errors are clustered at the state level. The inclusion of robustness checks and uses of alternative identification strategies do not change the results.

Due to these results, I argue that states should expand access to family planning facilities, with extra urgency placed upon the states that have facilities that number in the single digits. These changes could potentially allow women to enter into the workforce and once in the workforce, time their pregnancies to best allow themselves to achieve their desired labor market goals. I would also advise that the states that have extremely restrictive laws that forbid the opening of new facilities, or public funding of the facilities repeal these laws and instead increase

the number, access to, and funding of family planning facilities. This is especially true regarding overturning the Hyde Amendment. As shown in this paper the Hyde Amendment's federal abolishment could substantially increase wages of white women throughout the United States.

Future research is encouraged. Black women have, on average, more abortions than white women (Guttmacher 2018), so the fact that only white women tended to benefit from the number of family planning clinics demands further investigation. A possible explanation is the compressed wage range of black women, and the fact that black women hold jobs in which there is little room to be promoted or progress in (Pitts 2002). Abortion pills are now readily accessible online, women can look up where the nearest abortion clinic is, all but eliminating any information barriers, and the abortion rate across the United States is decreasing. The effects of the increased availability of private abortions to people might also yield important results. It might also be beneficial to include the effects of sexual education in the school system, and the rise of good sexual education on the internet as another explanation for the drop in teen pregnancy rates and unprotected sex. Studies have shown that removing legal restrictions on abortion decrease fertility and increase total years worked (Bloom 2009), but more rigorous research into the effect of family planning access on developing countries is encouraged. Results from this paper indicate that countries can immediately and substantially increase both the labor force participation rate and income of their female residents by increasing access to family planning facilities. Many developing countries whose women currently have the same information hurdles that American women faced in the latter half of the twentieth century are trying to grow and having debates about access to abortion services. Studies in these countries similar to this paper may be able to help them choose policies to best fit their economic and demographic goals.

References

1973. 93rd Congress, bill Hyde Amendment.

Anderson, Deborah, and David Shapiro. "Racial Differences in Access to High-Paying Jobs and the Wage Gap between Black and White Women." *Industrial and Labor Relations Review*, vol. 49, no. 2, 1996, p. 273., doi:10.2307/2524943.

Antecol, Heather, et al. "Equal but Inequitable: Who Benefits from Gender-Neutral Tenure Clock Stopping Policies?" *American Economic Review*, vol. 108, no. 9, 2018, pp. 2420–2441., doi:10.1257/aer.20160613.

- Arons, Jessica. "The Last Clinics Standing." *American Civil Liberties Union*, American Civil Liberties Union,
www.aclu.org/issues/reproductive-freedom/abortion/last-clinics-standing.
- Bailey, Martha J. "More Power to the Pill: The Impact of Contraceptive Freedom on Women's Labor-Force Participation." *SSRN Electronic Journal*, 2005, doi:10.2139/ssrn.652521.
- Baltagi, Badi H. "Panel Data (Update)." *Encyclopedia of Statistical Sciences*, 2004,
doi:10.1002/0471667196.ess0702.
- Berger, Lawrence M., and Jane Waldfogel. "Maternity Leave and the Employment of New Mothers in the United States." *Journal of Population Economics*, vol. 17, no. 2, 2004, pp. 331–349., doi:10.1007/s00148-003-0159-9.
- Bloom, David E., et al. "Fertility, Female Labor Force Participation, and the Demographic Dividend." *Journal of Economic Growth*, vol. 14, no. 2, 2009, pp. 79–101.,
doi:10.1007/s10887-009-9039-9.
- Brink, Marieke Van Den, and Yvonne Benschop. "Gender in Academic Networking: The Role of Gatekeepers in Professorial Recruitment." *Journal of Management Studies*, vol. 51, no. 3, 2013, pp. 460–492., doi:10.1111/joms.12060.
- Budig, Michelle J., and Paula England. "The Wage Penalty for Motherhood." *American Sociological Review*, vol. 66, no. 2, 2001, p. 204., doi:10.2307/2657415.
- "Current Population Survey." *Integrated Public Use Microdata Series*.
- Dixon. "A Growing Percentage of Americans Have No Emergency Savings Whatsoever." *BankRate*.
- Goldin, Claudia. "How to Achieve Gender Equality." *The Milken Institute Review*, 2011.

- Goldin, Claudia. "The Quiet Revolution That Transformed Women's Employment, Education, and Family." 2006, doi:10.3386/w11953.
- "Health Insurance Coverage in the United States." *US Census Bureau*.
- Jones, Rachel K., and Jenna Jerman. "Abortion Incidence and Service Availability In the United States, 2011." *Perspectives on Sexual and Reproductive Health*, vol. 46, no. 1, 2014, pp. 3–14., doi:10.1363/46e0414.
- "Labor Force Statistics from the Current Population Survey." *US Bureau of Labor Statistics*.
- Lee, Dohoon. "The Early Socioeconomic Effects of Teenage Childbearing." *Demographic Research*, vol. 23, 2010, pp. 697–736., doi:10.4054/demres.2010.23.25.
- Lu, Yao, and David J. G. Slusky. "The Impact of Women's Health Clinic Closures on Preventive Care." *American Economic Journal: Applied Economics*, vol. 8, no. 3, 2016, pp. 100–124., doi:10.1257/app.20140405.
- Miller, Sarah, et al. "What Happens after an Abortion Denial? A Review of Results from the Turnaway Study." *American Economic Association*, vol. 110, May 2020, pp. 226–230., doi:10.1257/pandp.20201107.
- Mills, Melinda, et al. "Why Do People Postpone Parenthood? Reasons and Social Policy Incentives." *Human Reproduction Update*, vol. 17, no. 6, 2011, pp. 848–860., doi:10.1093/humupd/dmr026.
- Molloy, Raven, et al. "Internal Migration in the United States." *Journal of Economic Perspectives*, vol. 25, no. 3, 2011, pp. 173–196., doi:10.1257/jep.25.3.173.
- Pitts, M.melinda. "Why Choose Women'S Work If It Pays Less? A Structural Model Of Occupational Choice." *Worker Well-Being and Public Policy Research in Labor Economics*, pp. 415–445., doi:10.1016/s0147-9121(03)22013-6.

Roberts, Sarah C. M., et al. "Estimating the Proportion of Medicaid-Eligible Pregnant Women in Louisiana Who Do Not Get Abortions When Medicaid Does Not Cover Abortion." *BMC Women's Health*, vol. 19, no. 1, 2019, doi:10.1186/s12905-019-0775-5.

Roeder, Amy. "AMERICA IS FAILING ITS BLACK MOTHERS." *MAGAZINE OF THE HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH*, 2019.

Supreme Court of the United States. *Roe v Wade*. 1973.

"Women's Health and the Cost of Family Planning." *National Health Institute*.

Appendix

Table A: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Year	8666	1987.783	7.487	1970	2000
Population	8666	5408537.8	5633983.4	401851	33499204
Number of Clinics	5343	55.422	92.116	0	608
Clinics per Capita	5343	1.102	.873	.124	5.682
Log Clinics per Capita	5343	-.188	.772	-2.084	1.737
Adj. Log Clinics per Capita	5343	.674	.358	0	1.899
Repealed Hyde	8666	.347	.476	0	1
Income	8666	10806.149	7813.033	7.334	69854.59
Labor Force Participation Rate	8571	.657	.178	.049	1

Table 1: Effect of Clinics per Capita on Income

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Clinics Per Capita	2059.233** (1027.148)	-377.215 (760.788)	-848.351 (791.193)	267.165 (2018.171)
Observations	813	782	808	794
R-squared	.438	.427	.359	.344
Clustered by state	YES	YES	YES	YES
Clinic Controls	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of the number of clinics per capita on the income “OLS” results measure the (clinics/100k) in states in each year from 1970 to 2000. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects. Robust standard errors clustered by state in parentheses. A clinic is defined as a hospital, clinic, or physician’s office where abortions are performed. Income is defined as the total pre-tax wage and salary income.

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 2: Effect of Clinics Per Capita on Labor Force Participation

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Clinics Per Capita	.02*** (.007)	.01 (.017)	.003 (.004)	-.006 (.008)
Observations	1021	979	1021	986
R-squared	.914	.639	.772	.429
Clustered by state	YES	YES	YES	YES
Hyde Controls	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of the number of clinics per capita on the labor force participation. “OLS” results measure the (clinics/100k) in states in each year from 1970 to 2000. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects. Robust standard errors clustered by state in parentheses. A clinic is defined as a hospital, clinic, or physician’s office where abortions are performed. Labor Force Participation is a dichotomous variable with 1 indicating the individual is in the labor force.

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 3: Effect of Log Clinics Per Capita on Wages

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Log(Clinics Per Capita)	4170.793***	-855.171	-1094.274	844.261
	(1210.938)	(897.086)	(888)	(2394.116)
Observations	813	782	808	794
R-squared	.444	.427	.359	.344
Clustered by state	YES	YES	YES	YES
Clinic Controls	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of the number of clinics per capita on the income. "OLS" results measure the natural log (clinics/100k) in states in each year from 1970 to 2000. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects. Robust standard errors clustered by state in parentheses. A clinic is defined as a hospital, clinic, or physician's office where abortions are performed. Income is defined as the total pre-tax wage and salary income.

Standard errors are in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4: Effect of Clinics per Capita on Income

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Adj. Log(Clinics/Capita)	9525.697***	-1670.370	-2113.198	1534.810
	(3315.444)	(1969.021)	(2085.686)	(5595.564)
Obs.	813	782	808	794
R-squared	0.417	0.427	0.355	0.343
Clustered by state	YES	YES	YES	YES
State Fixed effects	YES	YES	YES	YES
Year Fixed effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of the number of clinics per capita on the income. "OLS" results measure the log (1+clinics/capita) in states in each year from 1970 to 2000. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects. Robust standard errors clustered by state in parentheses. A clinic is defined as a hospital, clinic, or physician's office where abortions are performed. Income is defined as the total pre-tax wage and salary income.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5: Effect of Clinics per Capita on Labor Force Participation

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Adj. Log(Clinics/Capita)	0.034** (0.015)	-0.045 (0.043)	-0.000 (0.014)	-0.031 (0.026)
Obs.	817	779	817	783
R-squared	0.918	0.626	0.763	0.409
Clustered by state	YES	YES	YES	YES
State Fixed effects	YES	YES	YES	YES
Year Fixed effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of the number of clinics per capita on the labor force participation. "OLS" results measure the log (1+clinics/capita) in states in each year from 1970 to 2000. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects. Robust standard errors clustered by state in parentheses. A clinic is defined as a hospital, clinic, or physician's office where abortions are performed. Labor Force Participation is a dichotomous variable with 1 indicating the individual is in the labor force.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 6: Effect of Repealing the Hyde Amendment on Income

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Repeal Hyde	4826.198*** (944.567)	42.225 (1819.601)	3998.001* (2303.616)	-331.096 (1502.608)
Observations	1001	969	1001	977
R-squared	.366	.362	.327	.412
Clustered by state	YES	YES	YES	YES
Clinic per Capita Controls	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of repealing the Hyde Amendment, which banned use of federal funding through Medicaid to be used to pay for abortions on the income. "OLS" results measure the status of the Hyde Amendment in states in each year from 1970 to 2012. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects and the number of clinics in the state where the federal funds are spent. Robust standard errors clustered by state in parentheses. Repeal Hyde is a dichotomous variable that is 1 if a state repealed or annulled the Hyde Amendment in their state in each year and 0 otherwise. Income is defined as the total pre-tax wage and salary income.

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 7: Effect of Clinics per Capita on Income with lags and leads

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Clinics per Capita	2158.657** (990.785)	-227.515 (860.288)	-782.325 (818.569)	450.196 (1962.379)
Future Clinics per Capita	-950.962* (555.778)	1393.432* (749.142)	-691.324* (372.273)	-1536.451*** (554.969)
Past Clinics per Capita	1158.635* (644.17)	-274.26 (808.126)	6.022 (329.479)	-278.184 (498.176)
Observations	805	774	798	791
R-squared	.445	.432	.359	.347
Clustered by state	YES	YES	YES	YES
Clinic Controls	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of the number of clinics per capita on the income. "OLS" results measure the (clinics/100k) in states in each year from 1970 to 2000. Future clinics refers to the clinics and population measured in the survey after the current year. Past clinics per capita refers to the clinics and population measured in the previous survey. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects. Robust standard errors clustered by state in parentheses. A clinic is defined as a hospital, clinic, or physician's office where abortions are performed. Income is defined as the total pre-tax wage and salary income.

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 8: Effect of Clinics per Capita on Labor Force Participation with Lags and Leads

	(1)	(2)	(3)	(4)
	White Women	Black Women	White Men	Black Men
Clinics per Capita	.01 (.008)	-.017 (.032)	.01 (.012)	.017 (.027)
Future Clinics per Capita	.001 (.004)	0 (.016)	-.006 (.004)	-.007 (.016)
Past Clinics Per Capita	-.007 (.006)	.025* (.014)	.003 (.005)	.007 (.016)
Observations	158	133	138	146
R-squared	.944	.754	.857	.709
Clustered by state	YES	YES	YES	YES
Clinic Controls	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES

Note: This table reports the difference-in-differences estimates of the effect of the number of clinics per capita on the labor force participation. "OLS" results measure the (clinics/100k) in states in each year from 1970 to 2000. Future clinics refers to the clinics and population measured in the survey after the current year. Past clinics per capita refers to the clinics and population measured in the previous survey. Column 1 shows estimate for white women, column 2 shows estimate for black women, column 3 shows estimate for white men, and column 4 shows estimate for black men. Controls include year and state fixed effects. Robust standard errors clustered by state in parentheses. A clinic is defined as a hospital, clinic, or physician's office where abortions are performed. Labor Force Participation is a dichotomous variable with 1 indicating the individual is in the labor force.

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

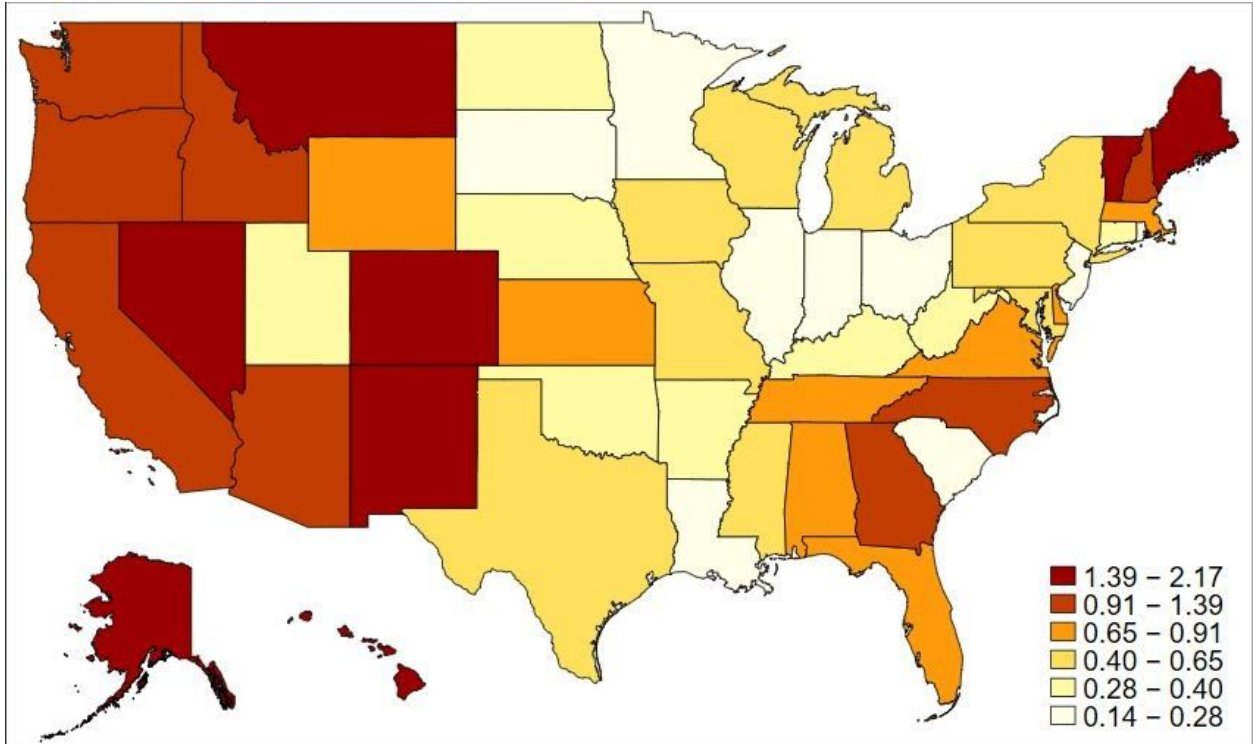


Fig1. Variation In number of Family Planning Facilities per Population by State 1970-2000

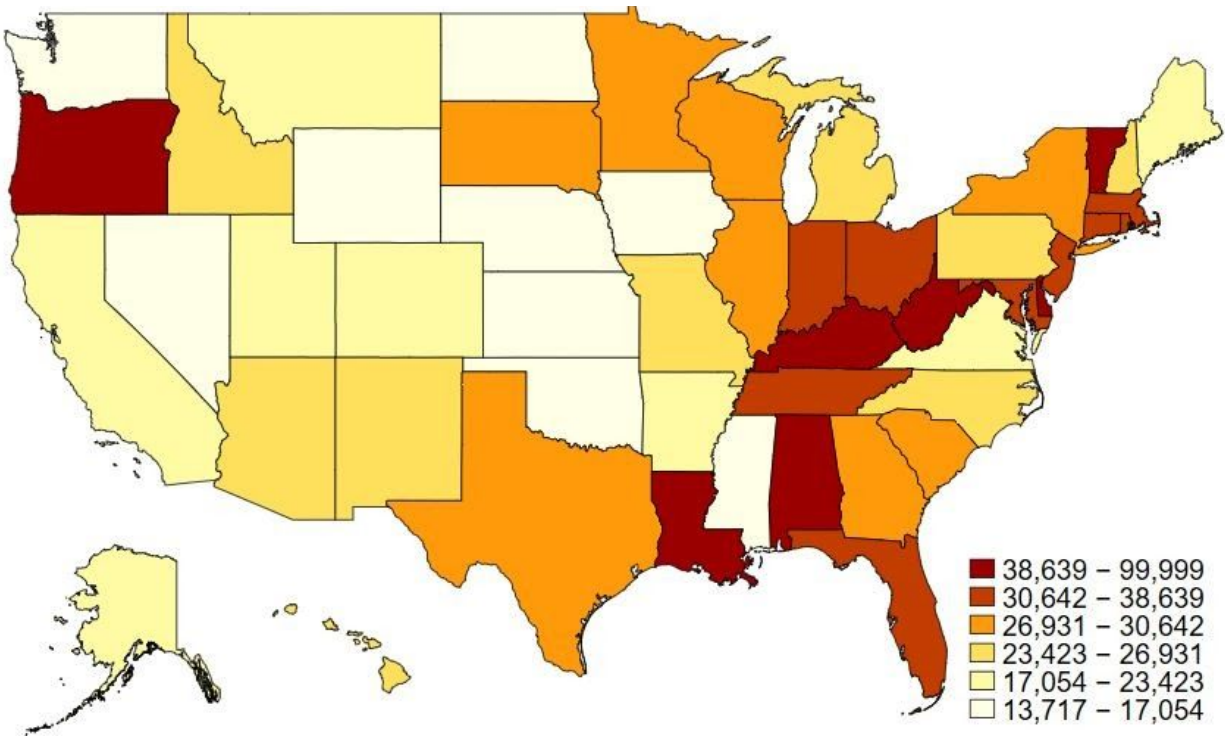


Fig2. Variation In white female wages by State 1970-2000

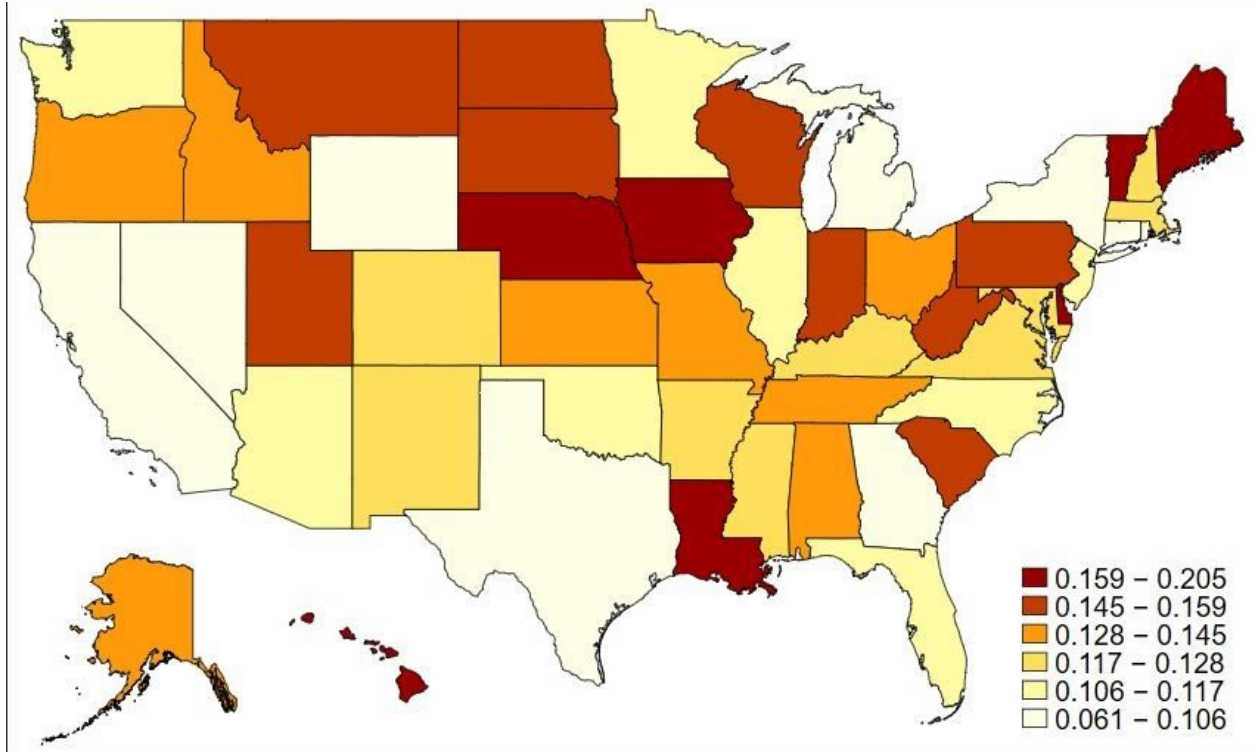


Fig3. Variation In white female labor market participation by State 1970-2000