# ECONSTOR 

A Service of

# Working Paper <br> How the 1963 Equal Pay Act and 1964 Civil Rights Act Shaped the Gender Gap in Pay 

IZA Discussion Papers, No. 16700

## Provided in Cooperation with:

IZA - Institute of Labor Economics

Suggested Citation: Bailey, Martha J.; Helgerman, Thomas; Stuart, Bryan Andrew (2023) : How the 1963 Equal Pay Act and 1964 Civil Rights Act Shaped the Gender Gap in Pay, IZA Discussion Papers, No. 16700, Institute of Labor Economics (IZA), Bonn

This Version is available at: https://hdl.handle.net/10419/282827

## Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

## Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

I Z A Institute of Labor Economics

Initiated by Deutsche Post Foundation

## DISCUSSION PAPER SERIES

IZA DP No. 16700

# How the 1963 Equal Pay Act and 1964 <br> Civil Rights Act Shaped the Gender Gap in Pay 

Martha J. Bailey
Thomas Helgerman
Bryan A. Stuart

## DISCUSSION PAPER SERIES

IZA DP No. 16700

# How the 1963 Equal Pay Act and 1964 Civil Rights Act Shaped the Gender Gap in Pay 

Martha J. Bailey<br>University of California-Los Angeles and IZA<br>Thomas Helgerman<br>University of Minnesota

Bryan A. Stuart
Federal Reserve Bank of Philadelphia and IZA

DECEMBER 2023


#### Abstract

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity. The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society. IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.


## ABSTRACT

# How the 1963 Equal Pay Act and 1964 Civil Rights Act Shaped the Gender Gap in Pay* 


#### Abstract

In the 1960s, two landmark statutes-the Equal Pay and Civil Rights Acts-targeted the long-standing practice of employment discrimination against U.S. women. For the next 15 years, the gender gap in median earnings among full-time, full-year workers changed little, leading many scholars to conclude the legislation was ineffectual. This paper revisits this conclusion using two research designs, which leverage (1) cross-state variation in preexisting state equal pay laws and (2) variation in the 1960 gender gap across occupation-industry-state-group cells to capture differences in the legislation's incidence. Both designs suggest that federal anti-discrimination legislation led to striking gains in women's relative wages, which were concentrated among below-median wage earners. These wage gains offset pre-existing labor-market forces which worked to depress women's relative pay growth, resulting in the apparent stability of the gender gap at the median and mean in the 1960s and 1970s. The data show little evidence of short-term changes in women's employment but suggest that firms reduced their hiring and promotion of women in the medium to long term. The historical record points to the key role of the Equal Pay Act in driving these changes.


JEL Classification: J16, J71, N32<br>Keywords:<br>gender gap, Equal Pay Act, Civil Rights Act

## Corresponding author:

Martha J. Bailey
Department of Economics
University of California-Los Angeles
315 Portola Plaza, Los Angeles
California 90095
USA
E-mail: marthabailey@ucla.edu

[^0]In the 1960s, two landmark pieces of legislation targeted the long-standing practice of employment discrimination against U.S. women. The Equal Pay Act of 1963 became the first piece of federal legislation to mandate equal pay for equal work through an amendment to the Fair Labor Standards Act (FLSA) (P.L. 8838). The following year, Title VII of the Civil Rights Act of 1964 went further to ban sex-based discrimination in hiring, firing, and promotion (P.L. 8-352). In the context of the 1960s, these Acts were nothing short of revolutionary: according to the 1963 Occupational Wage Survey (OWS), women earned around 19 percent less than men working in the same jobs (U.S. Department of Labor 1963).

Today, few histories conclude that the legislation succeeded, at least in its early years. Annual estimates reported by the Census Bureau show that-among full-time, full-year workers-women's median annual wage earnings hovered around 60 percent of men's for 15 years after the legislation passed (Figure 1A). ${ }^{1}$ Goldin (1990) argues that "equal pay for equal work has been $\ldots$ a rather weak doctrine to combat discrimination" (p.201) and that "Title VII of the 1964 Civil Rights Act has also been weak in counteracting pay inequities that arise from differences in jobs and promotion" (p. 209). Given high rates of occupational segregation (Blau 1977, Groshen 1991), the legal standard of "equal work" meant that firms could segregate workers across occupations or establishments to comply with the letter of the law while maintaining discriminatory pay practices. Gunderson (1989) notes that, "Because differences in pay across establishments and industries account for a substantial portion of the gap, this severely restricts the scope of policies like equal pay and comparable worth, both of which are limited to comparisons within the same establishment" (p. 68). In addition, there is little evidence of enforcement of Title VII for sex discrimination until the 1970s (Simchak 1971), which has led research on the law's consequences to focus on this later period (Beller 1979, Beller 1982a,b). Blau and Kahn's (2017) article in the Journal of Economic Literature summarizes the professional consensus: "We see no indication of a notable improvement in women's relative earnings in the immediate post-1964 period that might be attributable to the effects of the

[^1]government's antidiscrimination effort; the gender pay ratio remained basically flat through the late 1970s or early 1980s, after which it began to increase" (p. 848).

Yet a closer examination of long-term trends for a broader set of wage earners hints that federal anti-discrimination legislation mattered more than previously believed. Figure 1B reports the evolution of the gender gap in weekly wage earnings after broadening the Census Bureau's sample to include full-time women working at least 27 weeks-a sample more similar to modern analyses (Bailey, Helgerman and Stuart 2021, Blau and Beller 1988). ${ }^{2}$ Trends predating the 1960s show that the gender gap was growing rapidly in the aftermath of World War II, which makes the stability of the gap after 1964 a notable departure from pre-existing trends. In addition, the $10^{\text {th }}$ and $25^{\text {th }}$ percentiles saw sizable reductions in the gender gap after the mid-1960s, even though these gains are less evident at the median-the Census Bureau's standard metric. The historical record supports this conclusion as well. The Department of Labor reported great success with the Equal Pay Act's enforcement (Moran 1970), and the Wall Street Journal celebrated ten years of the legislation, headlining that $\$ 475$ million (2022 dollars) had been awarded to 140,000 workers in the legislation's first decade (Hyatt 1973). Although few contemporaries claimed that Title VII affected sex discrimination before 1971, the law's timing and potential role in strengthening and broadening the Equal Pay Act make its effects difficult to rule out.

Motivated by this evidence, this paper reexamines the combined effects of the Equal Pay Act and Title VII on women's labor market outcomes in the 1960s. We develop two research designs that leverage variation in the incidence of anti-discrimination legislation across state labor markets and industryoccupation cells. Our first design builds on the analysis of Neumark and Stock (2006), who examine the wage and employment effects of state-level anti-discrimination laws passed prior to federal legislation. If state equal pay laws were effective in reducing pay discrimination, the Equal Pay Act and Title VII should have larger effects on women's relative pay in the 28 states without such laws after 1964. Drawing on the 1950-1960 Decennial Census and 1962-1975 Annual Social and Economic Supplement (ASEC) of the

[^2]Current Population Survey (CPS), we find that women's weekly wages rose by around 9 percent ( $8.7 \log$ points) more in states without pre-existing equal pay laws after the federal legislation took effect. These estimates are robust to controlling for state-by-birth-cohort fixed effects, which flexibly account for cohortlevel shifts in women's aspirations and skills (Goldin 2006a,b, Goldin, Katz and Kuziemko 2006), as well as industry-by-year and occupation-by-year fixed effects, which flexibly account for national changes in the economy and help focus the analysis on the narrowly defined types of discrimination targeted by Equal Pay legislation. While this research design has the advantage of characterizing broad changes in the labor market, its internal validity is limited to the extent that unobserved forces may have differentially affected labor markets in states without pre-existing equal pay laws.

Our second design addresses this concern by examining within-state changes in women's weekly wages following the passage of the legislation. This approach follows Card's (1992) influential work on the minimum wage, which exploits the fact that a national policy varies in incidence across labor markets. Although we do not observe sex discrimination in the data, this paper hypothesizes that the gender gap in pay within industry-occupation-state-group cells is correlated with this latent variable. If this logic holds and federal anti-discrimination legislation was somewhat effective, we expect women's wages to rise more quickly after 1964 in job cells with larger pre-existing gender gaps. An advantage of this research design is that it permits the inclusion of state-by-year fixed effects to absorb potentially confounding time-varying state-level factors that could compromise the internal validity of the first research design.

Consistent with federal legislation narrowing gender gaps, we find that women's weekly wages grew more quickly after 1964 in job cells with larger pre-existing gender gaps-an effect equivalent to 11 percent (10 log points) at the mean gender gap. Noteworthy is that effect sizes do not differ for White and Black women, which suggests that the estimates are not driven by the Civil Rights Act's effects on racial discrimination. In addition, the research design recovers no effects of the legislation on men's wages, which ameliorates concerns that alternative labor-market shocks or policies drive these findings.

Heterogeneity tests underscore the complementarity and validity of the two empirical approaches. In states without pre-existing equal pay laws-where federal anti-discrimination legislation should have
been more effective-women's weekly wages grew by 18 percent at the mean after 1964, whereas women's wages grew by one-third that amount ( 6 percent) in states with pre-existing equal pay laws. In addition, recentered-influence-function (RIF) regressions show that the largest effects of the legislation accrued to women in the lowest percentiles of the wage distribution, which connects these findings to the large wage growth after 1964 among women earning below median weekly wages in Figure 1B. These patterns are consistent with pay equalization being greater in jobs where the "equality of work" was more easily judged and where the Wage and Hour Division (WHD) - the agency tasked with enforcing the Equal Pay Actfocused its investigations of compliance with the minimum wage.

A final analysis investigates how federal anti-discrimination legislation affected women's employment. Consistent with firms having some monopsonistic power to set wages, the data provide little evidence that women's employment or annual hours fell in response to wage increases in the short runfindings that align closely with Manning's (1996) study of the Equal Pay Act in the United Kingdom. In the long run, however, we find some evidence that women's employment grew more slowly in more affected job cells, which is consistent with Neumark and Stock's (2006) study of state-level antidiscrimination legislation before 1960. Contemporary accounts provide direct evidence as to why this might have been the case. After the passage of the Equal Pay Act but prior to the Civil Rights Act (which made the practice illegal), employers told journalists that they planned to "segregate male and female job classifications" and "downgrade job classifications for women and assign higher-paying duties to men" in response to the Equal Pay Act (Washington Post 1964).

In summary, these results imply an important role for the Equal Pay Act and Title VII in reducing pay discrimination against U.S. women in the 1960s. The magnitudes of our findings are large enough to imply that federal anti-discrimination legislation reduced the within-job gender gap in pay by around 58 percent between 1964 and 1968. Some empirical evidence and the historical narrative suggest that this legislation slowed the integration of women into higher paying, historically male jobs in the longer term. Both sets of findings are consistent with occupational segregation being a key driver of the gender pay gap by the late 1970s (Blau 1977). At first glance, these findings appear inconsistent with the stability of the
gender gap at the mean and median in the 1960s and 1970s in Figure 1. However, the results suggest that anti-discrimination legislation offset trends tending to widen the gender gap prior to the 1960s. Our findings imply that the Equal Pay Act and potentially Title VII increased women's wages and halted the growth in the gender gap that would have occurred with the increasing supply and changing composition of women workers during the 1960s and 1970s (see also Blau and Kahn 2017).

These findings contribute to a long but mixed literature on the role of anti-discrimination legislation in reducing the gender gap in the U.S., which has focused on the effects of affirmative action after 1967 or the later expansion or enforcement of Title VII after 1970 (Beller 1979, Beller 1982a,b, Leonard 1984, Carrington, McCue and Pierce 2000, Holzer and Neumark 2006, Kurtulus 2012, Helgerman 2023). Little evidence exists regarding the effects of the 1963 Equal Pay Act, and studies of equal pay initiatives in other countries suffer from a dearth of data, limited internal validity, and differences in policies and implementation (Gunderson 1989). This paper develops two new empirical strategies to show that the Equal Pay Act of 1963, which was potentially strengthened by Title VII, reduced the gender gap in pay in the mid-1960s.

## I. A History of the Equal Pay Act and Title VII of the Civil Rights Act

Before the 1960s, sex discrimination was not only widely accepted in the U.S., it was legislated and institutionalized. State laws mandated different minimum wage, break, and rest requirements for men and women and placed different restrictions on the jobs men and women could hold (Marchingiglio and Poyker 2021, Moran 1970). Union contracts delineated different pay schedules by sex for the same job (Eaton 1965). Newspapers posted help-wanted advertisements for male and female jobs (Pedriana and Abraham 2006), along with explicitly different pay scales for what appear to be the same jobs. ${ }^{3}$ Although marriage bars had largely disappeared by the 1950s, women tended to leave (or be pressured out of) jobs when they got married (Goldin 1991) or became pregnant (Gruber 1994).

[^3]Although World War II opened many jobs to women and women's labor-force participation rates surged from 26 to 35 percent between 1940 and 1960, women tended to work in certain jobs - a pattern reinforced by the post-war rise of scheduled part-time work (Goldin 1990, Goldin 2006a). In the 1960 Census, approximately 83 percent of male workers were employed in occupations in which no more than 20 percent of the workers were female (Blau 1977, p. 12); 58 percent of women worked in occupations where they comprised more than 80 percent of the workers, with the other 42 percent working in more integrated occupations (Ibid). For example, many women worked as secretaries, teachers, nurses, librarians, and social workers.

These changes in women's work were accompanied by an expansion of the gender gap. Between 1950 and 1960 , men's weekly wages grew by 32 log points, whereas women's weekly wages only grew by around half that figure, increasing the gap in pay by around 16 log points (Appendix Table 1A). Our investigation of the source of men's greater earnings growth over the 1950s reveals that their gains exceeded women's in almost every industry-occupation cell. A Blinder-Oaxaca-Kitagawa decomposition shows that around 90 percent of the change in the gender gap between 1950 and 1960 is explained by faster wage growth in jobs dominated by men but also faster wage growth for men who were working in the same industries and occupations as women. The remainder is accounted for by differential changes in men's representation in higher earning job cells (see Appendix Figures 2-3 and Appendix Table 2 for details).

## A. State and Federal Equal Pay Acts

Within this broader context of a rising gender pay gap, the 1963 Equal Pay Act represented a watershed moment following decades of advocacy. Federal equal pay legislation was first introduced to Congress in 1945 after wage studies showed pervasive differences between women and men in wartime industries. The Women's Bureau in the Department of Labor documented multiple examples of sex-based pay discrimination, including discrepancies in entry wages and pay for more experienced workers in identical jobs (Fisher 1948). ${ }^{4}$ Although federal legislation failed to pass for two decades, 22 states passed

[^4]equal pay laws before 1963 (U.S. Congress 1963). State equal pay laws were primarily in the Northeast, Midwest, and West (Figure 2), where their aim was often to keep women from undercutting men's wages rather than raising women's earnings. Arkansas was the sole state in the South to pass equal pay legislation.

State equal pay laws varied in their language and enforcement. Michigan and Montana, the two states that passed the first equal pay laws in 1919, illustrate these differences well. While Montana's law applied to nearly any enterprise employing men and women, Michigan's law applied only to employees in manufacturing. A common thread across these two states is that neither one went beyond making a "general declaration of law," which made these laws difficult to enforce (Fisher 1948, p. 54). In making the case for a national Equal Pay Act to Congress, the Women's Bureau noted that state laws "leave large groups of workers out, and often have inadequate provisions for administration and enforcement" (U.S. Congress 1963, p. 20).

The momentum to pass federal anti-discrimination legislation in the 1960s grew out of President John F. Kennedy's Commission on the Status of Women. The Equal Pay Act was first introduced to Congress in August of 1961 and managed to pass in both houses, but the business lobby undermined the bill during the reconciliation process (Harrison 1989). Esther Peterson, the Assistant Secretary of Labor and Director of the U.S. Women's Bureau under Kennedy, redoubled her efforts and revived the Equal Pay Act as an amendment to the FLSA (P.L. 75-718). In addition to producing detailed reports to document pay differences (U.S. Congress 1962), Peterson used her Congressional testimony to describe pervasive sex discrimination in employment. Analyzing pay differences among similarly experienced bank tellers working comparable hours, the Department of Labor found that women had lower weekly earnings in every city studied (U.S. Congress 1963, p. 31). Furthermore, surveys found that men outearned women with the same title in nearly all establishments (p. 30, 37). ${ }^{5}$

To quantify the gender gap in pay within narrowly defined jobs just before the Equal Pay Act

[^5]passed, we digitized the 1963 Occupational Wage Survey (OWS), which contains weekly or hourly wage observations by sex from 82 cities and 58 narrowly defined job classifications (U.S. Department of Labor 1963). The OWS shows a 32 -log-point gap in pay across all cities and jobs in 1963 (Appendix Table 4), which is similar to the gap in weekly wages in the Census and ASEC. When including fixed effects for detailed job classifications and cities, the within-job gap in weekly pay is $17 \log$ points-a sizable wage gap within jobs that could be targeted by the Equal Pay Act. Jobs with hourly pay show a larger total gender gap in pay of 44 log points but a similar within-job difference in pay of $18 \log$ points. The Labor Department noted that differences in pay occurred mostly in "large department stores, banks, airline reservation offices, chain stores, and other firms where men and women customarily perform similar work" (Eaton 1965).

Peterson's report also cited a National Office Management Association survey of employers in the U.S. and Canada, which asked, "Do you have a double standard pay scale for male and female office workers?" (U.S. Congress 1963, p. 27), where one third of employers answered, "Yes." In discussions with members of Congress, Peterson often cited a personal anecdote as well, noting that a manager told her, "We pay them less because we can get them for less" (quoted in Harrison 1989, p. 95).

Under Peterson's stewardship, the revised equal pay bill was introduced on February 14, 1963, and-after replacing the phrase "comparable work" with "equal work"-passed into law on June 10, 1963. The Equal Pay Act prohibited sex-based wage discrimination between men and women in the same establishment who perform jobs that require substantially equal skill, effort, and responsibility under similar working conditions. Sex discrimination can take many different forms, including women being paid less than their productivity solely due to their sex, being hired less, receiving different job assignments, and receiving different promotion opportunities. However, the Equal Pay Act only addresses sex discrimination to the extent that it manifests as unequal pay for equal work. For workers not covered under collective bargaining agreements, the Equal Pay Act took effect on June 10, 1964. For the 13 percent of women who were unionized in the early 1960s (LeGrande 1978), the Act took effect the following year on June 10,
1965. As an amendment to the FLSA, the Equal Pay Act only applied to workers covered under the FLSA. ${ }^{6}$

## B. Title VII of the Civil Rights Act

Just one year after the Equal Pay Act passed, Congress enacted the 1964 Civil Rights Act. Title VII of the Civil Rights Act overlapped with the Equal Pay Act in its coverage of pay discrimination but also extended its provisions by (1) expanding coverage to many workers not covered under the FLSA and (2) prohibiting sex-based discrimination in employment, including hiring, firing, and promotions. Coverage was not universal: Title VII did not apply to public sector employees until 1972 (Posner 1989), and the legislation covered only employers with at least 100 employees as of July 1965, a threshold that was gradually reduced to 25 employees by 1968 .

The goal of the Civil Rights Act had little to do with gender equality, and the initial legislation did not include sex among the protected classes of race, color, religion, and national origin. "Sex" was added to Title VII's protected classes just one day before the final vote by a segregationist, Representative Howard Smith (D-Virginia), who opposed the Act's passage. Many commentators believe Smith intended to make the bill unpassable (Harrison 1989). ${ }^{7}$ Thomas (2016) explains how Rep. Smith played his amendment for laughs, claiming a letter from his constituent had asked him to "protect our spinster friends." One of the twelve women House Representatives, Martha Griffiths (D-Michigan), silenced the laughter, saying, "if there had been any necessity to point out that women were a second-class sex, the laughter would have proved it" (p. 102). The next day the legislation passed, codifying prohibitions of sex-based employment discrimination into federal law.

[^6]
## C. The Effectiveness of Anti-Discrimination Legislation in the 1960 s

As an amendment to the FLSA, the enforcement of the Equal Pay Act fell to the WHD in the Department of Labor, which monitors and enforces compliance with the FLSA (P.L. 75-718). Based on the WHD's long reputation, firms knew that non-compliance could be punished by mandating the payment of back wages and criminal prosecution, and courts had already settled many points of interpretation. Following the Equal Pay Act's effective date in 1964, the WHD instructed its field staff to check for compliance with the new equal pay provisions as part of all investigations under the FLSA (U.S. Department of Labor 1965). In addition, the Labor Department filed suits signaling its intent to enforce the law. Wirtz v. Basic Incorporated (1966) challenged an employer's claim that a male analyst was entitled to more money because he had greater experience and responsibility. The court supported the Labor Department's claim of discrimination, noting that the work of three employees (one man and two women) was the same and that the man's greater experience was not a requirement of the job. The ruling emphasized that the statutory requirement of "differences in working conditions" could not be established by job title alone and that the burden of proof for any exceptions to equal pay lay with the employer.

The Department of Labor continued to enforce compliance with the Equal Pay Act, both reviewing labor union contracts and bringing multiple lawsuits. By the end of 1964, investigators had found $\$ 55,000$ in discriminatory wage payments owed to women, and one firm voluntarily paid \$227,000 (in 2022 dollars) in back pay when the WHD began checking for discrimination. By 1965, around 80 percent of sexdiscrimination complaints had led to back payments to workers. Likely due to the WHD's enforcement, Secretary Wirtz reported to Congress that "voluntary" compliance with the Equal Pay Act was high (U.S. Department of Labor 1966, p. 18). Many unions and employers made voluntary changes to eliminate contractual differences in wage rates, welfare and pension plans, sick leave, rest periods, and "marriage provisions" that dictated the loss of seniority and possible dismissal for women getting married. At the same time, the courts strengthened the law by issuing rulings to eliminate employer justifications for unequal pay. (See Online Appendix E for contemporary newspaper articles about these enforcement efforts.)

Building on the federal Equal Pay Act, many states extended existing fair employment practice laws to prohibit pay discrimination on the basis of sex, while others passed new equal pay legislation. These state measures supplemented the federal law by extending the equal pay principle to areas not covered by federal statutes (Simchak 1971). By the end of the 1960s, some contemporaries concluded that the Equal Pay Act had been successful in achieving its aims (Moran 1970). Hole and Levine (1971) argue that "the Equal Pay Act [is] the only law dealing with sex discrimination that is anywhere near properly enforced" (p. 29).

The enforcement of Title VII was a different story. The Equal Employment Opportunity Commission (EEOC) - the newly created agency tasked with the enforcement of the 1964 Civil Rights Act-had limited will and authority to enforce the law's sex-based provisions (Munts and Rice 1970). The EEOC regarded its primary mission as reducing racial discrimination, maintaining that "the addition of sex to the law had been illegitimate-merely a ploy to kill the bill" (Harrison 1989, p. 187). ${ }^{8}$ Another complication was that Title VII challenged decades of state protective legislation that explicitly set different standards by sex. Because the 1965 EEOC did not see "any clear Congressional intent to overturn all of these [state] laws" (Ibid), it created a task force to provide states with guidelines-a process that took years (Munts and Rice 1970). Unlike the Labor Department, the EEOC was initially unable to bring its own lawsuits and could only refer cases to the Department of Justice. Consequently, the EEOC had pursued very few sex discrimination cases by 1970. Simchak (1971) notes, "Of the total number of court cases filed by the Department of Justice to date (approximately fifty) under all the discrimination criteria in Title VII, only one has pertained to sex discrimination" (p. 555).

Ambivalence about sex discrimination outside the Labor Department is also evident in President Johnson's 1965 Executive Order 11246, an affirmative action mandate that omitted "sex" entirely (Johnson 1965). The order prohibited the federal government and federal contractors from employment

[^7]discrimination on the basis of race, color, religion, or national origin only. This inaction galvanized women's groups and advocacy efforts and eventually resulted in Executive Order 11375 in 1967, which amended Order 11246 to include "sex" (Harrison 1989, Johnson 1967). But the EEOC's active enforcement of Title VII's sex provisions did not increase in earnest until after the U.S. Supreme Court's first decision in Phillips v. Martin Marietta Corporation (1971), which ruled that an employer cannot hire men with young children while maintaining a policy to prohibit hiring women with young children. ${ }^{9}$ Title VII was strengthened further by the amendments in the Equal Employment Opportunity Act of 1972, which gave the EEOC the authority to pursue independent lawsuits and expanded the Act's coverage of individuals employed by the government and smaller firms (P.L. 2-261).

Overall, the historical record provides a mixed picture of the success of the Equal Pay Act and Title VII in addressing labor-market discrimination against women in the 1960s. While the Equal Pay Act's provisions were seriously enforced starting in 1964 and extended through state legislation, the law's effects were likely limited by "equal work" requirements, which failed to address pay discrimination arising from differential hiring, assignment, and promotion of men and women. Title VII's provisions were broader, but the EEOC's reluctance to enforce the law's sex provisions and the EEOC's limited enforcement authority likely curbed the statute's effectiveness until the 1970s. Consistent with this history, research on the implications of Title VII for sex discrimination focuses on this later period (Beller 1979, Beller 1982a,b).

## II. Data and Research Design 1: Variation in the Incidence of Anti-Discrimination Legislation due to Pre-Existing State Equal Pay Laws

Our analysis complements these historical accounts by quantifying the effects of the Equal Pay Act and Title VII on women's wages and employment. To do so, we combine the one-percent sample of the 1950 Decennial Census, the five-percent sample of the 1960 Decennial Census, and the 1962 to 1975 CPS ASEC to document labor-market outcomes in nationally representative data (Ruggles et al. 2021; Ruggles

[^8]et al. 2023). Some analyses also use the combined one-percent Form 1 and Form 2 state samples of the 1970 Decennial Census, as well as the full count 1940 Decennial Census (Ruggles et al. 2021).

## A. Data Processing and Sample Restrictions

Our sample includes non-agricultural workers ages 25 to 64 . We impose these age restrictions to limit the influence of school-going and retirement on our results. To increase consistency between the ASEC and censuses, we restrict the censuses to individuals not in the Armed Forces or institutionalized. We additionally require that observations have non-missing data for industry, occupation, and state group of residence, which are critical for our empirical approach. Our analysis uses nine industries ( $n$ ), eight occupations (o), and 21 state groups ( $s$ ). ${ }^{10}$ We exclude individuals working in agriculture by dropping individuals with the occupation of "farmer" or "farm laborer" or the industry of "agriculture, forestry, and fishing." We also exclude individuals if they report being self-employed in the survey reference week or if the ratio of their self-employment and farm income to labor income exceeds 10 percent in absolute value (Lemieux 2006).

We convert annual wage earnings into 2022 dollars using the CPI-U. The census and ASEC ask about annual earnings and weeks worked in the year before the survey, so we index wages and employment to the appropriate year (e.g., the 1965 ASEC provides information about wages and employment in 1964). Our preferred wage measure is log weekly wages, which we construct by subtracting from log annual wage earnings the mean $\log$ number of weeks worked within each reported interval. ${ }^{11}$ Because weekly wage earnings are measured with error due to (1) the aggregation of weeks worked into intervals and (2) misreporting by respondents about wage earnings and weeks worked, we evaluate the sensitivity of our

[^9]results to using annual earnings and hourly wage earnings (see Online Appendix A) and to winsorizing the lowest ten percentiles (see Online Appendix B). Our analysis sample for weekly wages and annual hours consists of individuals with positive annual earnings and weeks worked in the previous year and positive hours in the survey reference week. (Hours is used as a covariate in the weekly wage regressions and in the construction of the outcome in the case of annual hours.) Our analysis sample for employment is broader. To avoid missing potential disemployment effects among workers missing wages or hours, we count as employed all individuals with positive weeks worked (regardless of whether they also reported positive wage earnings or hours worked). Sample descriptions appear in the figure and table notes.

Figure 3 describes the evolution of mean log weekly wages in states with and without pre-existing equal pay laws for both women and men. Several features of these plots stand out. First, weekly wages show a dip in the early 1960s relative to the 1960 Census, which likely reflects changes in the CPS sampling frame between 1961 and $1963 .{ }^{12}$ The dip in weekly wages is slightly larger for women and in states without equal pay laws, which should be kept in mind when interpreting our estimates. Second, states without equal pay laws tended to have lower average weekly wage earnings, which is not surprising given that the standards of living were lower in the South and western Midwest, which were less likely to have equal pay laws (Figure 2). Third, women's wages in states without pre-existing equal pay laws converge on those of women in states with equal pay laws after the mid-1960s-a pattern less evident among men. Our first research design formalizes these comparisons within an event-study framework.

## B. Research Design 1: Pre-Existing State Equal Pay Laws

Our first research design posits that anti-discrimination legislation should have larger effects in areas with more sex discrimination. Motivated by Neumark and Stock (2006), we test whether women's wages grew more quickly after 1964 in the 28 states that did not have pre-existing equal pay laws. This would be the case if state equal pay laws had lowered sex discrimination somewhat before 1963, implying

[^10]that federal anti-discrimination legislation would have smaller effects in these states.
We focus on the legislation's effects on women's pay and employment as proxies for multiple types of labor-market sex discrimination. Changes in women's weekly wage earnings capture the extent to which the Equal Pay Act directly raised women's pay or put upward pressure on market wages, which would have directly affected women in the same jobs as men and indirectly affected those employed in sex-segregated jobs and firms. Changes in women's weekly wages also embed changes in discrimination through hiring and promotion - both the extent to which Title VII allowed women to transition to more lucrative positions or the lack of its enforcement which may have increased occupational segregation and downgrading, mitigating women's pay growth. To the extent that Title VII's lack of enforcement allowed firms to lay off women, this should be reflected in reduced employment. In sum, changes and women's relative wages and employment potentially capture a broad set of changes in labor-market discrimination, even though we do not observe discrimination directly.

## Event-Study Specification

We estimate the following event-study specification using ordinary least squares:

$$
\begin{equation*}
Y_{i t}=\sum_{\tau=1949, \tau \neq 1964}^{1974} \alpha_{\tau} D_{\tau} N o E P L_{s(i)}+X_{i t}^{\prime} \beta+\gamma_{n(i) o(i) s(i)}+\delta_{s(i) b(i)}+\delta_{n(i) t}+\delta_{o(i) t}+\varepsilon_{i t} . \tag{1}
\end{equation*}
$$

The outcome, $Y_{i t}$, is $\log$ weekly wage earnings of individual $i$ in calendar year $t=1949,1959$, 1961-1974. The independent variable of interest, $N o E P L_{S}$, is equal to 1 if a state group did not have an equal pay law as of January 1, 1963. In the three state groups containing states with and without equal pay laws, we use the share of workers in the state group residing in states without an equal pay law. ${ }^{13}$ We identify whether states had an equal pay law using statutory coding from U.S. Congress (1963), which agrees with Neumark

[^11]and Stock (2006, Table 2). Note that $\operatorname{NoEP} L_{s}$ does not vary across year-it is time invariant and captures a state's legal environment as of 1963.

We interact $N o E P L_{s}$ with a set of year indicator variables, $D_{\tau}$, omitting 1964-the year the Equal Pay Act took effect. Our parameter of interest, $\alpha_{\tau}$, captures the combined effects of the Equal Pay Act and Title VII on women's wages. If (1) sex discrimination in pay or employment was larger in 1963 in states without state-level equal pay legislation and (2) national anti-discrimination legislation reduced sex discrimination, we expect women's wages to grow after its passage such that that $\alpha_{\tau}>0$ for $\tau>1964$. If the parallel trends assumption holds-implying that states with and without equal pay laws were trending similarly before the Equal Pay Act and Title VII took effect, then we expect $\alpha_{\tau}=0$ for $\tau<1964$. To the extent that the federal legislation affected discrimination in states with pre-existing equal pay laws, this approach will understate the legislation's effects on states without equal pay laws-a point we revisit with the second research design. Changes in state laws after 1964 that targeted labor-market discrimination tended to bring states into accord with federal law, and we regard these changes as part of the treatment effect of the federal legislation.

We include additional covariates to account for changes in workforce composition and improve precision. The vector $X_{i t}$ includes $\log$ hours worked in the reference week, an indicator variable for nonwhite race, and a quadratic in the worker's age. ${ }^{14}$ Fixed effects for single-digit industry $n$ by single-digit occupation $o$ by state-group $s, \gamma_{\text {nos }}$, account for average differences in wages across nos job cells and labor markets. While these fixed effects focus the analysis on within industry-occupation-state-group wage changes, these cells are broader than the within-establishment, within-job pay gaps targeted by the Equal Pay Act. To the extent that men shifted to higher-paying jobs within industry-occupation-state-group cells, our results may understate the wage effects of the legislation within the same jobs. We view this as a feature of the research design: it recovers changes in women's pay net of these potentially offsetting shifts in

[^12]employment as long as they occur within a single-digit industry-occupation-state group cell. In addition, even sex-segregated jobs and firms would have to pay more to attract women workers, both because of legislation-induced general equilibrium increases in women's market wages and because Title VII made it harder to exclude them from jobs. Our design captures this upward wage pressure as well as direct compliance with the law.

Although this specification cannot include state-by-year fixed effects to account for time-varying, within-state changes in labor markets or policies (Almond, Chay, and Greenstone 2003; Bailey and Duquette 2014; Bailey and Goodman-Bacon 2015; Cascio et al. 2010; Chay 1998; Goodman-Bacon 2018), it accommodates other flexible controls. In some specifications we include state-group-by-birth-year (b) fixed effects, $\delta_{s b}$, which flexibly account for cohort-level shifts in women's aspirations and skills (Goldin 2006a,b) as well as differential state-level changes in labor-market skills (including educational quantity and quality, potential labor-market experience, and unobserved cohort characteristics). Industry-year and occupation-year fixed effects, $\delta_{n t}$ and $\delta_{o t}$, capture unobserved, national changes that affect all workers in these groups. ${ }^{15}$

A triple-differences specification (DDD) accounts for gender neutral labor-demand or supply shocks by using men as an additional comparison group. To the extent that the Equal Pay Act and Title VII reduced men's wages (either as a means for firms to comply with the law or in response to general increases in the cost of labor), this specification may overstate the resulting gains in women's wages. On the other hand, this specification could understate the effect on women's wages if the legislation caused firms to increase men's responsibilities (and pay) to maintain pre-existing wage hierarchies. Consequently, this exercise provides a complementary characterization of labor-market adjustments, rather than a falsification test. This specification interacts all variables in equation (1) with an indicator variable for sex, which allows the relationship of all covariates and fixed effects to differ between men and women.

[^13]
## Employment Outcomes

Equation (1) cannot be estimated using employment as an outcome because industry and occupation tend to be reported only for individuals who are employed. To test for the legislation's employment effects, we define the dependent variable as the $\log$ of the survey-weighted number of employees or annual hours worked in a sex-specific industry-occupation-state-group (nos) cell in year $t$, where annual hours worked is the survey-weighted sum of the number of weeks worked last year multiplied by the number of hours worked in the reference week. ${ }^{16}$ We estimate the following specification, which is similar to equation (1) with several modifications:

$$
\begin{equation*}
Y_{\text {nost }}=\sum_{\tau=1949, \tau \neq 1964}^{1974} \alpha_{\tau} D_{\tau} N o E P L_{s}+X_{\text {nost }}^{\prime} \beta+\gamma_{\text {nos }}+\delta_{n t}+\delta_{o t}+\varepsilon_{\text {nost }} . \tag{2}
\end{equation*}
$$

The first modification is that we replace the individual covariates with nos cell averages, including a quadratic in age and the share of workers that are nonwhite (we omit hours worked, which is a covariate in the earnings specifications). Second, we make two further adjustments to minimize the importance of small nos cells. We limit the employment regressions to nos cells that have at least one wage earner in each of our years of interest and weight by the product of each cell's share of observations in the 1960 Census and the total number of observations in each survey year. These two adjustments maintain the representation of different cells over time and account for year-to-year changes in census and ASEC sample sizes. This approach places higher weight on cells which have more observations in 1960 or come from survey years with larger total sample sizes, which reduces the influence of small, noisy cells (Solon, Haider and Wooldridge 2015). The weight does not depend on the number of industry-occupation-state-group observations in each survey year, as this would generate weights that reflect shifts in employment which might be driven by the legislation.

[^14]
## Spline Specification

Although the event-study specification provides a highly flexible and transparent description of the data, the estimates for individual years are often noisy. We, therefore, complement the event-study with a three-part spline specification with knots in 1964 and 1968, which summarizes the event-study estimates and improves precision. Using log weekly wage earnings as an outcome, the spline specification is,

$$
\begin{align*}
& Y_{i t}=\widetilde{\alpha_{0}} N o E P L_{s(i)}(t-1964)+\widetilde{\alpha_{1}} N o E P L_{s(i)} 1(t>1964)(t-1964)  \tag{3}\\
&+\widetilde{\alpha_{2}} N o E P L_{s(i)} 1(t>1968)(t-1968) \\
&+X_{i t}^{\prime} \tilde{\beta}+\tilde{\gamma}_{n(i) o(i) s(i)}+\tilde{\delta}_{s(i) b(i)}+\tilde{\delta}_{n(i) t}+\tilde{\delta}_{o(i) t}+\tilde{\varepsilon}_{i t} .
\end{align*}
$$

The first three terms interact linear time trends, $t$, with the $N o E P L_{s}$ variable as well as with indicator variables for the post-1964 and post-1968 period. ${ }^{17}$ Thus, the spline succinctly summarizes trends in the data without placing too much emphasis on one (potentially noisy) point estimate or year. The remaining covariates correspond to those defined in equation (1). The spline provides a parsimonious method to test and, if necessary, adjust for pre-trends, as captured in $\widetilde{\alpha_{0}}{ }^{18}$ The coefficient, $\widetilde{\alpha_{1}}$, and corresponding standard error also admit a formal test for a trend break in outcomes after 1964, when the federal legislation first took effect. The coefficient, $\widetilde{\alpha_{2}}$, allows the effects of the legislation to differ in the longer term (1969onwards) relative to the shorter term (1965-1968). We constrain the spline coefficients to ensure that the lines intersect at the knots. Specifications for employment outcomes are analogous but estimated at the aggregated nos level as previously described.

## Standard Error Calculations

In all regressions for research design 1, we cluster standard errors to correct for heteroskedasticity and account for an arbitrary covariance structure at the state-group level (Arellano 1987, Bertrand, Duflo and Mullainathan 2004, Huber 1967, White 1980). Because we only have 21 state groups, our tables also report $p$-values for tests of two null hypotheses, $\widetilde{\alpha_{0}}=0$ and $\widetilde{\alpha_{1}}=0$, from a wild cluster bootstrap procedure with 499 replications (Cameron, Gelbach and Miller 2008).

[^15]
## III. Results: Using Pre-Existing State Equal Pay Laws to Quantify the Effects of Federal Anti-Discrimination Legislation on Labor-Market Outcomes

Figure 4 presents event-study estimates for three different specifications: model 1 includes industry-occupation-state-group fixed effects, year fixed effects, and demographic controls, model 2 adds industry-year and occupation-year fixed effects to model 1, and model 3 adds state-group-by-year-of-birth fixed effects to model 2 . The estimates are highly robust to additional controls. The three models show that women's weekly wages grew more slowly in states without equal pay laws between 1949 and 1963 relative to states with equal pay laws, but this pattern reversed after 1964. The event-study coefficients in Figure 4A show that women's weekly wages in states without equal pay laws rose by $7.3 \log$ points (s.e. 1.9) more than in other states between 1964 to 1965 , followed by more gradual gains through the late 1960 s. ${ }^{19}$

The timing of effects helps alleviate concerns that our results are driven by several other factors, such as the differential effects of minimum wage legislation during this period. The 1961 FLSA raised the minimum wage for previously covered workers in September 1961 and September 1963. If our estimates capture the fact that women were disproportionately affected by these minimum wage hikes, we expect to see gains in their wages in 1962 and 1964. Instead, Figure 4A shows gains in 1965, which occurred in the aftermath of the Equal Pay Act's implementation. The 1961 FLSA also extended coverage to around 663,000 workers who were paid less than the minimum wage and worked primarily in large retail enterprises and construction (Martin 1967). For workers gaining FLSA coverage in 1961, a minimum wage was implemented in September 1961 and raised in September 1964 and September 1965. If our empirical strategy is capturing the effects of this coverage expansion, we expect to see gains in women's weekly wages in 1962, 1965, and 1966. Instead, Figure 4A shows only one large increase in women's weekly

[^16]wages in 1965. In addition, the estimated wage increases are nearly identical when excluding individuals employed in retail trade and construction (Appendix Figure 9), the industries which experienced the largest expansion in coverage under the 1961 FLSA (Martin 1967). We subsequently discuss how our analysis of men's wages also helps rule out the effects of the 1961 Amendments to the FLSA.

The timing of these effects also alleviates concerns that our results are driven by the adoption of Executive Order 11375, which prohibited sex-based discrimination by the federal government after November 1967 and federal contractors after October 1968; the 1966 Amendments to the FLSA (effective in 1967), which increased the minimum wage and expanded its coverage; or 1967 revisions to the ASEC sampling frame and definition of employment: our estimates show little change between 1966 and 1967, whereas Bailey, DiNardo and Stuart (2021) and Derenoncourt and Montialoux (2021) find effects of the 1966 FLSA in 1967 after it was implemented.

Our three-part linear spline specification averages across the small ASEC samples (and noisy estimates) in the early 1960s for our preferred model 2 (Table 1A, Figure 4). The event-study estimate for 1968 (8.0, s.e. 1.9, Appendix Table 6, column 2) is almost identical to the spline estimate of 8.7 log points (s.e. 2.1, Table 1A, column 1). The spline also admits a formal pre-trend test, which fails to reject parallel trends in women's weekly wages prior to the legislation's enactment (column 1). Finally, the spline estimates confirm a statistically significant, positive trend-break in women's wages after 1964 in states without equal pay laws (2.2 log points, s.e. 0.5).

These estimates do not include changes after 1968, which are also noteworthy although more difficult to attribute to the 1964 implementation of the Equal Pay Act and 1965 implementation of Title VII of the Civil Rights Act. The event-study estimates show a slight increase in women's wages around 1972, which corresponds to changes in the coverage and enforcement of anti-discrimination legislation. For example, Title IX of the 1972 Educational Amendments amended the Equal Pay Act to include executive, administrative, and professional workers (who were initially excluded from the federal law's coverage as an amendment to the FLSA). The EEOC's active enforcement of Title VII's sex provisions increased in earnest after the U.S. Supreme Court's first decision in Phillips v. Martin Marietta Corporation (1971).

The amendments to the Equal Employment Opportunity Act in 1972 also gave the EEOC the authority to pursue independent lawsuits and expanded Title VII coverage of individuals employed by the government and smaller firms (P.L. 92-261).

The absence of similar changes in men's wages helps rule out the hypothesis that broad changes in labor markets or policies-rather than federal anti-discrimination legislation-are driving these results. Using the same specification and men's weekly wages as the dependent variable, we find some evidence of gains in states without equal pay laws after the mid-1960s (consistent with Figure 3B). However, gains in men's weekly wages are entirely absent between 1964 and 1965 when the effects for women are largest. Figure 4B shows that men's weekly wages in states without equal pay laws rose slightly before the legislation took effect (in 1963), failed to grow between 1964-1965 after the anti-discrimination legislation was implemented, and increased slightly in 1967 following the implementation of the 1966 FLSA amendments. Highlighting the benefits of event-study analyses, these mistimed effects show up in the spline estimates as a positive trend-break for men after 1964 (Table 1A, column 2), but with a magnitude about half as large as for women. Finally, if the 1961 or 1966 Amendments to the FLSA are driving our findings, we would expect to find some increases for men's wages in the years of the minimum wage changes or coverage. Our analysis of the distributional effects of the legislation for men, however, show little evidence of a trend-break in men's weekly wages overall or below the median (Appendix Figure 10). For completeness, we report estimates from a triple-differences specification that uses men as an additional comparison group. However, the pre-treatment gains for men in the event-study suggest that this approach understates women's wage gains.

The lack of wage changes among men also helps to rule out that the Civil Rights Act's provisions to combat racial discrimination are driving these results (Donohue and Heckman 1991, Heckman and Payner 1989). Noteworthy is that the timing of women's gains in weekly wages, which occur between 1964 and 1965 (Figure 4A), largely pre-date the Civil Rights Act, which took effect in July of 1965, and are absent among men (Figure 4B), who show no gains in weekly wages between 1965 and 1966. It seems unlikely that the Civil Rights Act's race provisions would have such large effects between July and

December 1965 but smaller effects in the subsequent years, when the legislation was in place for the full 12 months covered in the ASEC earnings question. A third piece of evidence is that the estimates are not statistically different for White women (8.4, s.e. 2.0) and Black women (8.5, s.e. 5.1) (Appendix Table 7, columns 3 and 4).

Altogether, the results suggest that the Equal Pay Act and Title VII boosted wages of working women - a group accounting for roughly one third of the U.S. labor force in 1960. If labor markets were perfectly competitive and women were being paid their marginal product, differentials in pay would arise due to differences in men and women's skills. Consequently, mandating equal pay would encourage firms to lay women off, reduce their hours, and hire more men. However, if women's labor-supply to a firm were not perfectly elastic, firms might counterintuitively respond to the equal pay act by increasing the employment of women in response to higher mandated wages for them (Manning 1996).

To test this hypothesis, Figure 5 describes the evolution of the log of the number of employees and the $\log$ of annual hours worked by states' equal pay law status. The time series shows different pre-trends in both outcomes for both sexes, as employment in states without equal pay laws caught up with the rest of the country. The event-study estimates in Figure 6, which formalize these comparisons and also adjust for covariates, illustrate a violation of the parallel-trends assumption. (A differences-in-differences estimator would attribute the increase in the average difference in employment after 1964 to federal antidiscrimination policy, even though it is driven by a positive pre-trend, which is why we favor the spline in this context.) Consistent with the visual impression in Figure 6, we find no trend-break after 1964 in women's employment or hours worked, including when we compare to the same outcomes for men, suggesting the legislation had little effect on women's employment at the extensive or intensive margins (Table 1, panels B and C).

In summary, these findings suggest that the Equal Pay Act and Title VII increased women's wages rapidly. To put these effect sizes in perspective, our preferred estimate for women from column 1 of Table 1 (8.7 log points) is just over half of the average within-occupation weekly wage gap ( $17 \log$ points) in the 1963 OWS (Appendix Table 4, column 3). There is little evidence from this research design of a decline in
women's employment, which is consistent with Manning's (1996) findings of labor-market monopsony for women in the U.K. As state-level variation in pre-existing equal pay laws limits our ability to rule out alternative hypotheses, we use a second and complementary research design to narrow the scope for omitted variables.

## IV. Research Design 2: Variation in the Incidence of Anti-Discrimination Legislation based on the 1960 Gender Pay Gap

Our second research design also hypothesizes that the Equal Pay Act and Title VII—if effectiveshould have larger effects after 1964 in jobs with more pre-existing sex discrimination. Under the assumption that a larger 1960 gender gap in pay is correlated with more sex discrimination, we expect larger relative wage gains after 1964 for women in jobs with larger gender gaps. An additional benefit of this approach is that it allows us to account for state-level shifts in labor demand or supply, policies, and economic conditions, which could confound the state equal pay law design.

## A. The 1960 Gender Gap as a Proxy for Labor-Market Discrimination

We do not observe jobs or establishments in the censuses or ASEC, but we compute the gender gap in single-digit industry ( $n$ ), occupation ( $o$ ), and state group ( $s$ ) "job cells." We rely on the 1960 Census (rather than the 1964 ASEC) because the census offers a much larger sample size, which yields more reliable gender wage gap estimates for a larger number of industry-occupation-state-group cells and mitigates concerns about mean reversion..$^{20}$ Nine single-digit industries, eight single-digit occupations, and 21 state groups yield 1,512 potential job cells. We exclude from our analysis 562 cells that have fewer than ten women or ten men working at least 27 weeks and 35 hours per week in the 1960 Census and eight that have no observations in the ASEC during our period of interest. ${ }^{21}$ Our final sample consists of 942 industry-occupation-state-group job cells, which is slightly more restrictive than the wage earner sample used in our

[^17]state-level research design. For each job cell, we construct the unconditional gender wage gap in mean log hourly wages using the 1960 Census, $\widehat{G a p}{ }_{n o s}=\log W_{n o s}^{m}-\log W_{n o s}^{w}$, where $m$ denotes men and $w$ women, and the variable describes the extent to which men out-earn women. ${ }^{22}$

## B. Descriptive Evidence that Federal Legislation Was More Effective in Jobs with Larger 1960 Gender Gaps

A key assumption of our approach is that a larger gender gap in wages in 1960 is correlated with greater sex discrimination. Available data makes it almost impossible to validate this assumption directly. However, if this assumption does not hold or the federal legislation was ineffective, we should find no association between the 1960 gender gap and subsequent growth in women's wages. We begin by presenting descriptive evidence from the 1960 and 1970 Censuses regarding the association between the gender gap, $\widehat{G a p_{n o s}}$, and women's weekly wages. Figure 7 shows that the gender gap tends to be much larger in lower paying job cells, many of which were in services and retail sales (slope coefficient: -1.9, s.e. 0.2). Reassuringly, these findings hold when accounting for sampling variation using a split sample instrumental variables (IV) approach (slope coefficient: -1.9 , s.e. 0.2 ; Inoue and Solon 2010), or when accounting for transitory wage shocks using the 1940 gender wage gap as an IV (slope coefficient: -2.0, s.e. 0.2). ${ }^{23}$ Of course, this negative correlation is not causal and could reflect selection of women with more skill into certain jobs.

To motivate our research design, Figure 8A plots the change in women's relative wages over the 1960s against the 1960 gender gap in wages. Each point represents the difference in outcomes between women and men for an industry-occupation-state-group cell, and the size of each point represents the number of women working in the cell in 1960. Consistent with the Equal Pay Act and Title VII ameliorating

[^18]pay discrimination and increasing women's relative wages, we find that women's wages grew more than men's during the 1960s in job cells with larger gender gaps at the start of the decade. The similarity of the results when using the split sample IV (slope coefficient: 0.31, s.e. 0.04) or 1940 gender gap IV (slope coefficient: 0.42 , s.e. 0.04 ) provides reassurance that these patterns are not driven by mean reversion due to measurement error or real transitory shocks to the labor market. Moreover, Figure 8D shows that this relationship did not exist in the 1950s, before federal anti-discrimination legislation could have affected sex discrimination in pay. In the 1960s, women's employment and annual hours grew more slowly than men's in job cells where women's relative wages grew more quickly (Figures 8B-8C). As with wages, these patterns depart from the 1950s, where the gender gap was not predictive of changes in employment (Figures 8E-8F).

## C. Event-Study and Spline Specifications

We use the following event-study specification to test whether these changes align with the passage of the Equal Pay Act and Title VII:

$$
\begin{equation*}
Y_{i t}=\sum_{\tau=1949, \tau \neq 1964}^{1974} \theta_{\tau} D_{\tau} \widehat{G a} p_{n(i) o(i) s(i)}+X_{i t}^{\prime} \beta+\gamma_{n(i) o(i) s(i)}+\delta_{s(i) t}+\delta_{n(i) t}+\delta_{o(i) t}+\varepsilon_{i t} . \tag{4}
\end{equation*}
$$

The dependent variable, $Y_{i t}$, is $\log$ weekly wages of individual $i$ in calendar year $t=1949,1959,1961-1974$, and $\widehat{G a p} p_{n o s}$ is as defined previously. We interact $\widehat{G a p}{ }_{n o s}$ with a set of year indicator variables, $D_{\tau}$, and omit 1964, the year the Equal Pay Act became effective in June. Because $\widehat{G a p_{n o s ~}}$ varies within state groups, the addition of state-group-by-year fixed effects, $\delta_{s t}$, allows the analysis to account for unobserved state-level changes in labor markets and policies. The remaining notation remains as described previously. Specifications for employment outcomes are analogous to equation (2) but replace NoEPL $L_{s}$ with $\widehat{G a p}_{\text {nos }}$ on the right side in equation (4) and add state-group-by-year fixed effects. Standard errors are corrected for heteroskedasticity and arbitrary correlation within industry-occupation-state-group cells (Arellano 1987,

Huber 1967, White 1980). ${ }^{24}$
Our parameters of interest, $\theta_{\tau}$, capture changes across time in the correlation of women's weekly wages with the gender pay gap in 1960. If federal legislation reduced labor-market discrimination against women, we expect women's wages to increase more after 1964 in job cells with a larger gender gap (i.e., $\theta_{\tau}>0$ for $\left.\tau>1964\right)$. Testing for changes in this correlation before 1964 also helps to rule out potential confounders and assess the validity of the parallel-trends assumption. For instance, if women's productivity and work intensity were increasing differentially in jobs with larger gender gaps pre-dating the legislation, we would expect $\theta_{\tau}$ to increase in years prior to 1964 , leading us to reject the parallel trends assumption.

We summarize the event-study estimates using a three-part spline, or

$$
\begin{align*}
& Y_{i t}=\widetilde{\theta_{0}} \widehat{G a p} p_{n(i) o(i) s(i)}(t-1964)+\widetilde{\theta_{1}} \widehat{G a p} p_{n(i) o(i) s(i)} 1(t>1964)(t-1964)  \tag{5}\\
& +{\widetilde{\theta_{2}}}^{G_{\operatorname{Gap}}^{n(i) o(i) s(i)}}{ }^{1}(t>1968)(t-1968) \\
& +X_{i t}^{\prime} \tilde{\beta}+\tilde{\gamma}_{n(i) o(i) s(i)}+\tilde{\delta}_{s(i) t}+\tilde{\delta}_{n(i) t}+\tilde{\delta}_{o(i) t}+\tilde{\varepsilon}_{i t},
\end{align*}
$$

where notation remains as previously defined, and we restrict the spline parameters to intersect at the knots in 1964 and 1968.

## V. Results: Using the 1960 Gender Gap in Wages to Quantify the Effects of Federal AntiDiscrimination Legislation on Labor-Market Outcomes

Figure 9A presents the event-study results for women, and Table 2A summarizes the event-study estimates using the spline. Point estimates and confidence intervals are scaled by the mean gender gap in the 1960 Census (equal to 0.374 ). ${ }^{25}$ Model 1 includes demographic covariates and industry-occupation-state-group and year fixed effects. Model 2 adds state-group-by-year fixed effects to model 1, and model 3 adds industry-year and occupation-year fixed effects to model 2.

Consistent with the Equal Pay Act and Title VII reducing labor-market discrimination against women, the data show that women's weekly wages increased by $10 \log$ points (s.e. 2.3) between 1964 and 1968 in job cells with the average 1960 gender gap in pay (Table 2A, column 1). The magnitude of this

[^19]estimate is equivalent to 58 percent of the average within-occupation weekly wage gap in the 1963 OWS (Appendix Table 4, column 3). Wages rise almost immediately following the legislation and remain stable between 1967 and 1970. Although changes in women's wages are not correlated with the gender gap after the implementation of the 1966 FLSA in 1967, the correlation again increases between 1970 and 1973. This timing is reminiscent of similar patterns in our first research design and corresponds to the Education Amendments broadening the coverage of the Equal Pay Act and the Supreme Court's 1971 decision and the Equal Employment Opportunity Act of 1972 strengthening and expanding the enforcement of Title VII's sex provisions.

These estimates are not only robust across specifications, they are also robust to using annual or hourly wage earnings (Appendix Figure 12), winsorizing low wage levels (Appendix Figure 13), limiting the sample to more attached workers (Appendix Figure 14), controlling for education (Appendix Figure 15), accounting for measurement error or mean reversion following transitory labor-market changes in the 1950s or early 1960s (Appendix Figure 16), excluding industries that saw substantial increases in minimum wage coverage under the 1961 FLSA (Appendix Figure 17), and including state-by-birth-cohort fixed effects (Appendix Figure 18). In contrast, we find no evidence of wage gains for men (Figure 9B; Table 2 A , column 2), which narrows the scope for alternative labor-market or policy explanations. Recent work on differences-in-differences estimators highlights difficulties in interpreting the magnitudes of event-study regressions with a continuous treatment variable and treatment-effect heterogeneity, even in settings like ours without staggered treatment timing (Callaway, Goodman-Bacon and Sant'Anna 2021). Considering this issue, evidence of limited treatment effect heterogeneity for nos cells with average wages above and below the nos-cell median is reassuring (Appendix Figure 19).

We also explore the heterogeneity in women's wage gains to shed light on the mechanisms for these effects. Following Firpo, Fortin, and Lemieux (2009), we estimate RIF regressions to understand the effects of federal anti-discrimination legislation on the unconditional percentiles of women's log weekly wages. Figure 10A shows results, which are scaled by the mean gender gap in the 1960 Census. We find large increases in women's wages at the $10^{\text {th }}$ and $25^{\text {th }}$ percentiles after the legislation took effect (31 and 18
$\log$ points in 1968, respectively; Appendix Table 13), which is consistent with the legislation benefiting the lowest-earning women, for whom the gender gap in wages was largest (Figure 7) and for whom convergence in the gender gap was the most rapid in the 1960s (Figure 1B). RIF-regressions using only the 1950, 1960, and 1970 Decennial Censuses yield similar results (displayed as single points), which ameliorates concerns that the estimates are driven by revisions in the ASEC sampling frame. In contrast, percentiles above the median show little evidence of a trend break after 1964 or any change through the 1970s. The same specification for men's wages shows little change at any point in the distribution (Figure 10B), which mitigates concerns that the results are driven by broad labor-market trends or policies. These findings suggest that federal anti-discrimination legislation reduced the gender wage gap and also the wage gap in earnings between the highest and lowest paid women. ${ }^{26}$

As a final check on the validity of these results, we bring both research designs together. If state equal pay laws were somewhat effective in reducing sex discrimination, we expect women's wages to increase by more in job cells that had the same 1960 gender wage gap in states without pre-existing equal pay laws relative to states with equal pay laws. Said another way, effective prior legislation implies that the correlation of the same gender gap in pay in 1960 with sex discrimination should be weaker in states with pre-existing equal pay laws. Columns $4-5$ of Table 2 confirm this prediction. In the 22 states with pre-existing equal pay laws, we find women's relative wages grew by $6.0 \log$ points at the mean gender gap (s.e. 3.9, column 4). In states without equal pay laws, we find women's relative wages grew by much more after 1964 -an increase of 16.2 log points by 1968 (s.e. 3.4, column 5). Although the estimates are not statistically different from one another ( p -value on test of equality is 0.20 ), this evidence is consistent with anti-discrimination legislation-first at the state level and then at the federal level-reducing the gender gap in wages.

[^20]Considering these large wage gains for women, how did the legislation affect their employment?
Some direct evidence on this question comes from reports around the time the Equal Pay Act was passed.
On June 14, 1964, the Washington Post interviewed different employers and reported (see Online Appendix E):
...the head of a new Virginia manufacturing plant put it: "We had planned to employ women in some of our light manufacturing jobs, but we decided against it because of anticipated complications arising from the equal pay law." An Ohio manufacturer said his plant would downgrade some job classifications for women and reassign higher-level, higher-paying duties to men....

Many employers said they would hike women's wages to bring them into line with men's. Some firms said they would equalize salaries now, but in the future would segregate male and female job classifications.

Although Title VII would make this type of behavior illegal the following year, honest reporting before it passed provides important context. Notably, no employer said they would fire women in response to the Equal Pay Act-which is consistent with our findings when examining employment responses using state equal pay laws. However, employers indicated that they planned to change job classifications and hiring, which could show up as industry-occupation level changes in women's employment in the longer term.

Figure 11 tests this prediction using the event-study and spline specifications. ${ }^{27}$ In 1966, when women's wages soared in jobs with higher 1960 gender gaps, the number of female or male employees or annual hours worked changed little. Although Table 2 reveals a larger trend-break after 1964 for women than men, which translates into a reduction in employment of $11.8 \log$ points by 1968 at the mean (s.e. 4.7, column 1) for women versus a $6.2-\log$-point decline for men (s.e. 2.9 , column 2 ), the difference between the two groups is not statistically significant (column 3). The decline in women's employment in states without pre-existing equal pay laws is larger (where women's wages grew more quickly), but neither estimate is statistically significant at conventional levels. In these states, the number of female employees relative to male employees experienced a sizable and marginally statistically significant decline of $11.2 \log$

[^21]points (s.e. 6.9 , column 5), although their relative number of annual hours did not fall discernibly. ${ }^{28}$ In contrast, in states with pre-existing equal pay laws where wages grew by less than one-third the amount by 1968, the trend break in employment and annual hours worked was much smaller and statistically insignificant. ${ }^{29}$

In summary, this evidence shows that the Equal Pay Act and Title VII lifted the wages of working women and suggests that their employment may have fallen as a consequence in the longer term. Like what was reported in the Washington Post, different employers likely varied in their response to the legislation, which is difficult to detect with the limited data available in the 1960s on jobs and establishments.

## VI. How the Equal Pay Act and Title VII Shaped the Gender Gap in Wages

Almost 60 years after the Equal Pay Act and Title VII passed, little quantitative work suggests this legislation reduced labor-market discrimination against women in the 1960s. Studies have noted the roles of Title VII and federal affirmative action mandates under Executive Order 11375 in facilitating women's wage and employment gains and increasing their enrollment in colleges and professional schools in the 1970s and later (Beller 1979, Beller 1982a,b, Leonard 1984, Carrington, McCue and Pierce 2000, Kurtulus 2012, Blau and Kahn 2017, Helgerman 2023). This paper provides new evidence that federal antidiscrimination legislation-and especially the Equal Pay Act-had larger effects on sex discrimination in the 1960s than previously understood.

Using two complementary research designs, we find that federal legislation prohibiting sex-based pay and employment discrimination led to large increases in women's wages, especially in lower-paying jobs where the "equality of work" was more easily measured and federal investigations of compliance with the minimum wage were focused. After the legislation took effect, women's weekly wages grew by around

[^22]11 percent in jobs with the average gender gap, with most of these effects benefitting women in the lower half of the weekly wage distribution. Importantly, anti-discrimination legislation appears to have had a negligible effect on median wages among full-time, full-year workers, which has been the focal statistic released annually by the Census Bureau (Figure 1A). However, our estimates of larger gains among lowerwage workers in the mid-1960s correspond closely to the gains below the median in the timeseries during this period (Figure 1B) (Bailey, Helgerman, and Stuart 2021). Consistent with firms having some monopsony power, the Equal Pay Act and Title VII had little effect on women's employment in the short run. In the longer-term, however, historical accounts and suggestive evidence from our own analyses imply that some firms shifted their hiring away from women workers and reclassified them to lower-paying positions, which tracks with scholars' critiques of the legislation.

These findings are not at odds with stability of the gender earnings ratio at the mean and median during the 1960s, because this stability masks two opposing trends. First, economic forces pre-dating the legislation put downward pressure on women's relative pay increases. After World War II, strong economic growth drove up wages, but it raised wages for men faster than for women. Trends pre-dating the 1960s imply that the gender wage ratio would have fallen rather than stabilizing in the absence of federal legislation. Naively extrapolating from the 1950s using a linear trend, women's relative pay would have dropped by 1.8 log points had the path of the gender pay in the 1950s continued. We are not the first to point this out. Beller (1979) argues that Equal Employment Opportunity laws staved off a larger 7-point increase in the earnings gap in the 1970s, and others, notably Blau and Kahn (2017), suggest that the increase in female labor-force participation during the 1960s may have masked the effects of the legislation in the aggregate time series.

Second, our findings using the gender gap design reflect large changes in the within-job component of the gender gap, which is smaller than the overall gender gap. A Kitagawa-Blinder-Oaxaca decomposition shows that around 70 percent of the 1960 gender gap in wage earnings is attributable to differences within-
industry-occupation-state-group cells used in our analysis. ${ }^{30}$ Assuming the legislation had little effect on the allocation of workers across job cells, our estimate of a 10-log-point increase at the mean gender gap within job cells (Table 2) would translate into a 7.0 point gain in the aggregate gender gap in the absence of pre-trends slowing women's pay growth.

These two countervailing changes imply a net gain of $5.2 \log$ points at the mean ( 7.0 less $1.8 \log$ points due to the pre-trend). But this change is still larger than observed in the timeseries, likely because changes in firm hiring and promotion behavior, selection, and larger shifts in the economy worked to offset women's wage gains within jobs.

In conclusion, our findings claim an important role for the Equal Pay Act, strengthened by Title VII, in reducing pay discrimination against U.S. women in the 1960s. Yet they also provide a cautionary tale: targeting pay discrimination without sufficient protections against employment discrimination provided leeway for firms to shift how they discriminated, reshaping the gender gap-developments that led the economics literature to focus on occupational segregation and the legal community to focus on strengthening the breadth and enforcement Title VII over the next sixty years.

UNIVERSITY OF CALIFORNIA, LOS ANGELES AND NATIONAL BUREAU OF ECONOMIC RESEARCH, UNITED STATES

UNIVERSITY OF MINNESOTA, UNITED STATES
FEDERAL RESERVE BANK OF PHILADELPHIA, UNITED STATES

[^23]
## VII. References

"Fair Labor Standards Act of 1938," (U.S. Statutes at Large 52, 1938).
"Equal Pay Act of 1963," (1963).
"Civil Rights Act of 1964," (1964).
"Wirtz v. Basic Incorporated," (U.S. District Court D. Nevada, 1966).
"Phillips v. Martin Marietta Corp.," (400 U.S. 542, 1971).
"Equal Employment Opportunity Act of 1972," (1972).
"General Electric Co. v. Gilbert," (426 US 125, 1976).
Almond, Douglas, Kenneth Y. Chay, and Michael Greenstone, "Civil Rights, the War on Poverty, and Black-White Convergence in Infant Mortality in the Rural South and Mississippi," MIT Working Paper (2003).
Arellano, Manuel, "Computing Robust Standard Errors for Within-Groups Estimators," Oxford Bulletin of Economics and Statistics, 49 (1987), 431-434.
Bailey, Martha J., John E. DiNardo, and Bryan A. Stuart, "The Economic Impact of a High National Minimum Wage: Evidence from the 1966 Fair Labor Standards Act," Journal of Labor Economics, 39 (2021), S329-S367.
Bailey, Martha J., and Nicolas J. Duquette, "How Johnson Fought the War on Poverty: The Economics and Politics of Funding at the Office of Economic Opportunity," Journal of Economic History, 74 (2014), 351-388.
Bailey, Martha J., and Andrew J. Goodman-Bacon, "The War on Poverty's Experiment in Public Medicine: The Impact of Community Health Centers on the Mortality of Older Americans," American Economic Review, 105 (2015), 1067-1104.

Bailey, Martha J., Thomas Helgerman, and Bryan A. Stuart, "Changes in the US Gender Gap in Wages in the 1960s," American Economic Review Papers and Proceedings, 111 (2021), 143-148.
Beller, Andrea H., "The Impact of Equal Employment Opportunity Laws on the Male-Female Earnings Differential," in Women in the Labor Market, Cynthia B. Lloyd, Emily S. Andrews, and Curtis L. Gilroy, eds. (New York Chichester, West Sussex: Columbia University Press, 1979).
---, "The Impact of Equal Opportunity Policy on Sex Differentials in Earnings and Occupations," American Economic Review, 72 (1982a), 171-175.
---, "Occupational Segregation by Sex: Determinants and Changes," The Journal of Human Resources, 17 (1982b), 371-392.
Bertrand, Marianne, Esther Duflo, and Sendhil Mullainathan, "How Much Should We Trust Differences-inDifferences Estimates?," Quarterly Journal of Economics, 119 (2004), 249-275.
Blau, Francine D., Equal Pay in the Office (Lexington, Massachusetts: Lexington Books, 1977).
Blau, Francine D., and Andrea H. Beller, "Trends in Earnings Differentials by Gender, 1971-1981," Industrial and Labor Relations Review, 41 (1988), 513-529.
Blau, Francine D., and Lawrence M. Kahn, "Swimming Upstream: Trends in the Gender Wage Differential in 1980s," Journal of Labor Economics, 15 (1997), 1-42.
---, "The U.S. Gender Pay Gap in the 1990s: Slowing Convergence," Industrial and Labor Relations Review, 60 (2006), 45-66.
---, "The Gender Wage Gap: Extent, Trends, and Explanations," Journal of Economic Literature, 55 (2017), 789-865.
Callaway, Brantly, Andrew J. Goodman-Bacon, and Pedro H. C. Sant'Anna, "Difference-in-Differences with a Continuous Treatment," Vanderbilt University Working paper, https://psantanna.com/files/Callaway_Goodman-Bacon_SantAnna_2021.pdf, (2021).
Cameron, A. Colin, Jonah B. Gelbach, and Douglas L. Miller, "Bootstrap-Based Improvements for Inference with Clustered Errors," Review of Economics and Statistics, 90 (2008), 414-427.
Card, David, "Using Regional Variation in Wages to Measure the Effects of the Federal Minimum Wage," Industrial and Labor Relations Review, 46 (1992), 22-37.
Carrington, William J., Kristin McCue, and Brooks Pierce, "Using Establishment Size to Measure the Impact of Title

VII and Affirmative Action," The Journal of Human Resources, 35 (2000), 503-523.
Cascio, Elizabeth, Nora Gordon, Ethan Lewis, and Sarah J. Reber, "Paying for Progress: Conditional Grants and the Desegregation of Southern Schools," Quarterly Journal of Economics, 125 (2010), 445-482.
Chay, Kenneth Y., "The Impact of Federal Civil Rights Policy on Black Economic Progress: Evidence from the Equal Employment Opportunity Act of 1972," Industrial and Labor Relations Review, 51 (1998), 608-632.
DeNavas-Walt, Carmen, and Bernadette D. Proctor, "Income and Poverty in the United States: 2014," U.S. Census Bureau, ed. (Washington, D.C.: Government Printing Office, 2015).
Derenoncourt, Ellora, and Claire Montialoux, "Minimum Wages and Racial Inequality," Quarterly Journal of Economics, 107 (2021), 151-200.
Donohue, John, and James Heckman, "Continuous versus Episodic Change: The Impact of Civil Rights Policy on the Economic Status of Blacks," Journal of Economic Literature, 29 (1991), 1603-1643.
Eaton, William J, "Women Earning Equality," in The Washington Post, (1965).
Firpo, Sergio, Nicole M. Fortin, and Thomas Lemieux, "Unconditional Quantile Regressions," Econometrica, 77 (2009), 953-973.

Fisher, Marguerite J., "Equal Pay for Equal Work Legislation," Industrial and Labor Relations Review, 2 (1948), 5057.

Freyaldenhoven, Simon, Christian Hansen, and Jesse M. Shapiro, "Pre-event Trends in the Panel Event-Study Design," American Economic Review, 109 (2019), 3307-3338.
Goldin, Claudia, Understanding the Gender Gap: An Economic History of American Women (New York: Oxford University Press, 1990).
---, "Marriage Bars: Discrimination Against Married Women Workers from the 1920's to the 1950's," in Favorites of Fortune: Technology, Growth, and Economic Development Since the Industrial Revolution, Henry Rosovsky, David Landes, and Patrice Higgonet, eds. (Cambridge, MA: Harvard University Press, 1991).
---, "The Quiet Revolution That Transformed Women's Employment, Education, and Family," American Economic Review, 96 (2006a), 1-21.
---, "The Rising (and then Declining) Significance of Gender," in The Declining Significance of Gender?, Francine D. Blau, Mary C. Brinton, and David B. Grusky, eds. (New York, NY: The Russell Sage Press, 2006b).
---, "Why Women Won," NBER Working Paper 31762, (2023).
Goldin, Claudia, Lawrence Katz, and Ilyana Kuziemko, "The Homecoming of American College Women: The Reversal of the College Gender Gap " Journal of Economic Perspectives, 20 (2006), 133-156.
Goodman-Bacon, Andrew J., "Public Insurance and Mortality: Evidence From Medicaid Implementation," Journal of Political Economy, 126 (2018), 216-262.
Groshen, Erica L., "The Structure of the Female/Male Wage Differential: Is It Who You Are, What You Do, or Where You Work?," The Journal of Human Resources, 26 (1991), 457-472.
Gruber, Jonathan, "The Incidence of Mandated Maternity Benefits," American Economic Review, 84 (1994), 622641.

Gunderson, Morley, "Male-Female Wage Differentials and Policy Responses," Journal of Economic Literature, 27 (1989), 46-72.

Harrison, Cynthia, On Account of Sex: The Politics of Women's Issues, 1945-1968 (Berkeley and Los Angeles: University of California Press, 1989).
Heckman, James J., and Brook S. Payner, "Determining the Impact of Federal Antidiscrimination Policy on the Economic Status of Blacks: A Study of South Carolina," The American Economic Review, 79 (1989), 138177.

Helgerman, Thomas, "Health Womanpower: The Role of Federal Policy in Women's Entry into Medicine," University of Michigan Working Paper, (2023).
Hole, Judith, and Ellen Levine, Rebirth of Feminism (New York: Quadrangle Books, 1971).
Holzer, Harry J., and David Neumark, "Affirmative Action: What Do We Know?," Journal of Policy Analysis and Management, 25 (2006), 463-490.
Huber, P. J. , "The Behavior of Maximum Likelihood Estimates under Nonstandard Conditions," in Proceedings of
the Fifth Berkeley Symposium on Mathematical Statistics and Probability, (Berkeley, CA: University of California Press, 1967).
Hunt, Jennifer, and Caroline Moehling, "Do Female-Named Employment Agencies Expand Opportunity for Women?," Working paper, (2021).
Hyatt, James C, "Flexing a Muscle: Women, Government, Unions Increasingly Sue Under Equal-Pay Act," in The Wall Street Journal, (1973).
Inoue, Atsushi, and Gary Solon, "Two-Sample Instrumental Variables Estimators," Review of Economics and Statistics, 92 (2010), 557-561.
Johnson, Lyndon B., "Executive Order 11246," (Santa Barbara, California: The American Presidency Project, 1965).
---, "Executive Order 11375-Amending Executive Order No. 11246, Relating to Equal Employment Opportunity," (Santa Barbara, California: The American Presidency Project, 1967).
Katz, Lawrence F., and Kevin M. Murphy, "Changes in Relative Wages, 1963-1987: Supply and Demand Factors," Quarterly Journal of Economics, 107 (1992), 35-78.
Kurtulus, Fidan Ana, "Affirmative Action and the Occupational Advancement of Minorities and Women During 1973-2003," Industrial Relations: A Journal of Economy and Society, 51 (2012), 213-246.
LeGrande, Linda H., "Women in Labor Organizations: Their Ranks Are Increasing," Monthly Labor Review 101 (1978), 8-14.

Lemieux, Thomas, "Increasing Residual Wage Inequality: Composition Effects, Noisy Data, or Rising Demand for Skill," American Economic Review, 96 (2006), 461-498.
Leonard, Jonathan S., "The Impact of Affirmative Action on Employment," Journal of Labor Economics, 2 (1984), 439-463.
Manning, Alan, "The Equal Pay Act as an Experiment to Test Theories of the Labour Market," Economica, 63 (1996), 191-212.
Marchingiglio, Riccardo, and Michael Poyker, "The Economics of Gender-Specific Minimum-Wage Legislation," University of Nottingham Working Paper, (2021).
Martin, Edward C., "Extent of Coverage Under FLSA as Amended in 1966," Monthly Labor Review, 90 (1967), 2124.

Mellor, Earl F., "Investigating the Differences in Weekly Earnings of Women and Men," Monthly Labor Review, 107 (1984), 17-28.

Moran, Robert D., "Reducing Discrimination: Role of the Equal Pay Act," Monthly Labor Review, 93 (1970), 30-34.
Munts, Raymond, and David C. Rice, "Women Workers: Protection or Equality," Industrial and Labor Relations Review, 24 (1970), 3-13.
Neumark, David, and Wendy Stock, "The Labor Market Effects of Race and Sex Discrimination Laws," Economic Inquiry, (2006), 385-419.
Pedriana, Nicholas, and Amanda Abraham, "Now You See Them, Now You Don't: The Legal Field and Newspaper Desegregation of Sex-Segregated Help Wanted Ads 1965-75," Law and Social Inquiry, 31 (2006), 905-938.
Polachek, Solomon William, "Occupational segregation and the gender wage gap," Population Research and Policy Review, 6 (1987), 47-67.
Posner, Richard A., "An Economic Analysis of Sex Discrimination Laws," University of Chicago Law Review, 56 (1989), 1311-1335.

Rambachan, Ashesh, and Jonathan Roth, "A More Credible Approach to Parallel Trends," Review of Economic Studies, (2022), 1-37.
Ruggles, Steven, Catherine A. Fitch, Ronald Goeken, J. David Hacker, Matt A. Nelson, Evan Roberts, Megan Schouweiler, and Matthew Sobek, "IPUMS Ancestry Full Count Data: Version 3.0 [dataset]," IPUMS, ed. (Minneapolis, MN, 2021).
Ruggles, Steven, Sarah Flood, Matthew Sobek, Danika Brockman, Grace Cooper, Stephanie Richards, and Megan Schouweiler, "IPUMS USA: Version 13.0 [dataset]," (Minneapolis, MN: IPUMS, 2023).
Shrider, Emily A., Melissa A. Kollar, Frances Chen, and Jessica L. Semega, "Income and Poverty in the United States: 2020," in Current Population Reports P60-273, (U.S. Census Bureau, https://www.census.gov/library/publications/2021/demo/p60-273.html, 2021).

Simchak, Morag MacLeod, "Equal Pay in the United States," International Labor Review, 103 (1971), 541-558.
Solon, Gary, Steven J. Haider, and Jeffrey M. Wooldridge, "What are We Weighting For?," Journal of Human Resources, 50 (2015), 301-316.
Thomas, Gillian, Because of Sex: One Law, Ten Cases, and Fifty Years that Changed American Women's Lives at Work (New York: St. Martin's Press, 2016).
U.S. Census Bureau, Current Population Reports, P60-23, "Income of Families and Persons in the United States: 1955," (Washington, D.C.: Government Printing Office, 1956).
U.S. Census Bureau, Current Population Reports, P60-27, "Income of Families and Persons in the United States: 1956," (Washington, D.C.: Government Printing Office, 1958a).
U.S. Census Bureau, Current Population Reports, P60-30, "Income of Families and Persons in the United States: 1957," (Washington, D.C.: Government Printing Office, 1958b).
U.S. Census Bureau, Current Population Reports, P60-33, "Income of Families and Persons in the United States: 1958," (Washington, D.C.: Government Printing Office, 1960).
U.S. Census Bureau, Current Population Reports, P60-35, "Income of Families and Persons in the United States: 1959," (Washington, D.C.: Government Printing Office, 1961).
U.S. Census Bureau, Current Population Reports, P60-37, "Income of Families and Persons in the United States: 1960," (Washington, D.C.: Government Printing Office, 1962).
U.S. Congress, Senate Committee on Labor and Public Welfare. Subcommittee on Labor, "Hearing Before the Subcommittee on Labor of the Committee on Labor and Public Welfare on S. 2494 and H.R. 11677 to Provide Equal Pay for Equal Work Regardless of Sex. Eighty-seventh Congress, second session, August 1, 1962," (Washington, DC: Government Printing Office, 1962).
---, "Hearings Before the Subcommittee on Labor of the Committee on Labor and Public Welfare on S. 882 and S. 910 to Amend the Equal Pay Act of 1963. Eighty-eighth Congress, first session, April 2,3, and 16, 1963," (Washington, DC: Government Printing Office, 1963).
U.S. Department of Labor, "An Evaluation of the Minimum Wage and Maximum Hours Standards of the Fair Labor Standards Act, January 1965," Wage and Hour and Public Contracts Divisions, ed. (Washington: Government Publishing Office, 1965).
---, "Minimum Wage and Maximum Hours Standards under the Fair Labor Standards Act: An Evaluation and Appraisal," (Washington, D.C.: Government Printing Office, 1966).
---, "United States Department of Labor Annual Report, 1968," (Washington, D.C.: Government Printing Office, 1969).
U.S. Department of Labor, Bureau of Labor Statistics, "Occupational Wage Survey," (Washington, D.C.: U.S. Department of Labor, Bureau of Labor Statistics, 1963).
---, "Highlights of Women’s Earnings in 2014," (2015).
---, "Highlights of Women's Earnings in 2020. Report 1094," (https://www.bls.gov/opub/reports/womensearnings/2020/pdf/home.pdf, 2021).
U.S. Department of Labor, Bureau of Labor Statistics "Labor Force Statistics from the Current Population Survey, 2016 Annual Averages, Household Data, Tables from Employment and Earnings, Table 37," (2020).
U.S. Equal Employment Opportunity Commission, "First Annual Report," (Washington, D.C.: Government Printing Office, 1967).
---, "Second Annual Report," (Washington, D.C.: Government Printing Office, 1968).
---, "Third Annual Report," (Washington, D.C.: Government Printing Office, 1969).
---, "Fourth Annual Report," (Washington, D.C.: Government Printing Office, 1970).
---, "Fifth Annual Report," (Washington, D.C.: Government Printing Office, 1971).
---, "Sixth Annual Report," (Washington, D.C.: Government Printing Office, 1972).
---, "Seventh Annual Report," (Washington, D.C.: Government Printing Office, 1973).
Washington Post, Times Herald, "Pay is Up: Will Jobs Go Down?," (1964).
White, H., "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," Econometrica, 48 (1980), 817-830.

# Figure 1. Estimates of the U.S. Gender Wage Earnings Ratio in Annual and Weekly Wage Earnings 

## A. Census Bureau Estimates for Full-Time, Full-Year Workers at the Median


B. Authors' Estimates for Weekly Wages among Full-Time Workers with at least 27 Weeks of Work, by Percentile


Notes: Panel A plots data on the ratio of median annual and weekly wage and salary earnings of full-time, full-year workers for women relative to men from the following sources: the Census Bureau's Consumer Income (P60) series for 1955 through 1960 (U.S. Census Bureau 1956, 1958a, b, 1960, 1961, 1962); the female-to-male annual earnings ratio for full-time, full-year workers from DeNavas-Walt and Proctor (2015) for 1961 through 2014; and Shrider et al. (2021) for 2015 through 2019. Data on the female-to-male ratio of usual weekly earnings for full-time wage and salary workers come from Mellor (1984) for 1967 through 1978, the U.S. Department of Labor (2015) for 1979 through 2014; and Proctor, Semega, and Kollar (2016) and U.S. Bureau of Labor Statistics (2021) for 2015 through 2019. Panel B uses a sample of 25 - to 64 -year-old, full-time workers working at least 27 weeks in the previous year. We plot the gender earnings ratio for weekly wages at the $p$ th percentile/mean by taking the ratio of the $p$ th percentile/mean of the weekly wage distribution for women over the pth percentile/mean of the weekly wage distribution for men. Panel B sources include the 1950 and 1960 Decennial Censuses and the 1962 to 2020 ASEC (Flood et al. 2022, Ruggles et al. 2023). We linearly extrapolate values for earnings years 19501958 and 1960, when Census and CPS data are not available. We smooth the series using a local linear regression with a bandwidth of 2 years. See Appendix Figure 1 for unsmoothed estimates.

Figure 2. Map of State Equal Pay Laws as of 1963


Notes: The figure plots the 22 states with equal pay laws in the U.S. as of 1963 (dark blue) and those without such a law (U.S. Congress 1963). The states with equal pay laws in 1963 are Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Hawaii, Illinois, Maine, Massachusetts, Michigan, Montana, New Jersey, New Hampshire, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Washington, Wisconsin, and Wyoming. The year listed next to each state indicates the year when the state enacted its equal pay law. See also Neumark and Stock (2006).

Figure 3. The Evolution of Women's and Men's Weekly Wages in States with and without Pre-Existing Equal Pay Laws


Notes: The figure plots the mean of $\log$ of weekly wages for women and men in state groups that did not have an equal pay law as of January 1,1963 , and state groups where at least one state did have such a law.
Sample: Individuals ages 25 to 64 with positive annual wage and salary earnings and positive weeks worked in the prior year (restrictions necessary to construct real weekly wages) who are not in the Armed Forces, institutionalized, employed in agriculture, or self-employed. Because our primary analysis conditions on having positive hours in the survey reference week, we make this additional sample restriction for this figure.
Sources: Authors' calculations using the $1 \%$ sample of the 1950 Decennial Census, $5 \%$ sample of the 1960 Decennial Census, and the 1962 to 1975 CPS ASEC (Flood et al. 2022, Ruggles et al. 2023).

Figure 4. The Effect of the Equal Pay Act and Title VII on Weekly Wages using Pre-Existing State Equal Pay Laws


Notes: The figure plots the event-study coefficients from equation (1) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and an arbitrary correlation within state group (Huber 1967, White 1980, Arellano 1987). The spline specification is based on model 2 of equation (3). See Appendix Table 6 for the individual point estimates and standard errors. Sample and Sources: See Figure 3 notes.

Figure 5. The Evolution of Women's and Men's Employment and Annual Hours in States with and without Pre-Existing Equal Pay Laws


Notes: Panels A and B plot the mean of log sum of employees (total employment) within an industry-occupation-state-group job cell for women and men in state groups that did not have an equal pay law as of January 1, 1963, and state groups where at least one state did have such a law. Because the total counts are depressed in 1961-1962 and, to a lesser extent, in 1963-1964, due to issues around whether variables were included in the February CPS, we inflate employment by the inverse of the fraction of observations in each year coded as a FebruaryMarch match. Panels C and D show analogous results for the mean of log annual hours worked, which are adjusted using the same inflation factor.
Sample: Panels A and B include individuals ages 25 to 64 with positive weeks worked in the prior year who are not in the Armed Forces, institutionalized, employed in agriculture, or self-employed. In order to provide a broad characterization of employment, this sample is deliberately less restrictive than the sample in Figure 3. It includes $2 \%$ of individuals with positive weeks worked who do not report positive wage earnings in the previous year. In addition, the sample includes individuals who do not have positive hours in the survey reference week. Panels C and D additionally restrict the sample to individuals with positive hours worked in the survey reference week in order to construct annual hours worked (equal to the product of weeks and hours).
Sources: See Figure 3 notes.

# Figure 6. The Effect of the Equal Pay Act and Title VII on Employment using Pre-Existing State Equal Pay Laws 



Notes: The figure plots the event-study coefficients from model 2 of equation (2). Dependent variables are indicated in subtitles. Dashed lines are 95 -percent, pointwise confidence intervals for women, where standard errors have been corrected for heteroskedasticity and an arbitrary correlation within state group (Huber 1967, White 1980, Arellano 1987). See Appendix Table 8 for the individual point estimates and standard errors.
Sample and Sources: See Figure 5 notes.

Figure 7. The Correlation of Women's Weekly Wages in 1960 with the 1960 Gender Wage Gap, by Industry, Occupation, and State-Group Cell


Notes: Each marker represents an industry-occupation-state-group job cell. The size of the marker represents the number of women working in the cell in 1960. The color of each marker captures the industry, and the marker shape captures the occupation as shown in the legend. The x -axis plots the gender wage ratio ( Gap), which is calculated as the difference in average log hourly wages between men and women working full time (at least 27 weeks and at least 35 hours per week) in 1960. The y-axis plots the average log weekly wages for women in the 1960 Census. Figure is limited to cells within the x -axis and y -axis ranges, which omits several outliers.
Sample: The sample is the same as in Figure 3, but we additionally restrict the sample to individuals working in industry-occupation-stategroup cells for which we estimate a gender wage gap variable.
Source: 5\% sample of the 1960 Decennial Census.

Figure 8. Correlation of Changes in Relative Wages and Employment and the Gender Gap in Wages, by Industry, Occupation, and State-Group Cell


Notes: Each marker represents the difference in outcomes between women and men for an industry-occupation-state-group cell. The dependent variable in Panels A-C is ( $Y_{\text {nos }, 70}^{f}-Y_{\text {nos,60 }}^{f}$ ) $\left(Y_{\text {nos }, 70}^{m}-Y_{\text {nos }, 60}^{m}\right)$, where $Y_{\text {nos }, t}^{g}$ is the outcome (average log weekly wages, $\log$ number of employees, log sum of annual hours worked) for sex $g$ in year $t$, where $g$ is either female ( $f$ ) or male ( $m$ ). The dependent variable in Panels D-F is constructed similarly but uses the change between 1950 and 1960. The size of each marker represents the number of women working in the cell in 1960 (panels A-C) or 1950 (panels D-F). Figures are limited to cells with variables in the indicated ranges, but regressions are estimated on all observations. The slope coefficient and heteroskedasticity-robust standard error are calculated using a bivariate regression of the outcome on the y-axis against the gender wage gap with weights equal to the number of women in each cell in 1960 (panels A-C) or 1950 (panels D-F). As described in the text, we use a split sample instrumental variable procedure or use the 1940 gender wage gap as an instrument for the 1960 gender wage gap.
Sample: See Figure 3 and 5 notes for details on variations in the samples by outcome. We additionally restrict the sample to individuals working in industry-occupation-state-group cells for whom we estimate the gender wage gap.
Sources: Authors' calculations using the $1 \%$ sample of the 1950 Decennial Census, $5 \%$ sample of the 1960 Decennial Census, and the combined $1 \%$ Form 1 and Form 2 state samples of the 1970 Decennial Census (Ruggles et al. 2023).

Figure 9. The Effect of the Equal Pay Act and Title VII on Weekly Wages using the 1960 Gender Wage Gap


Notes: The figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals based on standard errors corrected for heteroskedasticity and an arbitrary correlation within industry-occupation-state-group (Huber 1967, White 1980, Arellano 1987). Dependent variables are indicated in subtitles. The solid thin lines correspond to model 3 spline estimates of equation (5). Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for the relevant sample of women (equal to 0.374). See Appendix Table 11 for the individual point estimates and standard errors.
Sample: See Figure 7 notes.
Sources: See Figure 3 notes.

Figure 10. The Effect of the Equal Pay Act and Title VII on the Distribution of Wages using the 1960 Gender Wage Gap


Notes: The figure plots estimates from model 3 of equation (4) where the dependent variable is the RIF for weekly log wages for women (panel A) and men (panel B). Because sample sizes are much smaller in the early ASEC years and because this is a demanding specification, we pool 1959 and 1962-1964 into a single event-study coefficient (plotted in 1959). Coefficients are scaled by the average gender wage gap (equal to 0.374). Estimates for the 1970 Census are shown for the $10^{\text {th }}$ and $25^{\text {th }}$ percentiles, from a regression estimated using only the 1950,1960 , and 1970 Censuses. See Appendix Table 13 for the estimates and standard errors.
Sample: See Figure 7 notes.
Sources: See Figure 3 notes and the combined 1\% Form 1 and Form 2 state samples of the 1970 Decennial Census.

Figure 11. The Effect of the Equal Pay Act and Title VII on Female Employment using the 1960 Gender Wage Gap
A. Log Number of Employees

B. Log Annual Hours Worked


Notes: These figures plot the event-study coefficients from model 3 of equation (4) run on data aggregated at the industry-occupation-state-group-level. Dependent variables are indicated in subtitles. Point estimates and confidence intervals are multiplied by the average gender wage gap (equal to 0.374 ). Dashed lines are 95 -percent, pointwise confidence intervals for women and based on standard errors corrected for heteroskedasticity and an arbitrary correlation within industry-occupation-state-group (Huber 1967, White 1980, Arellano 1987). See Appendix Table 15 for the individual point estimates and standard errors.
Sample: See Figure 8 notes.
Sources: See Figure 3 notes.

Table 1. The Effects of the Equal Pay Act and Title VII on Wages and Employment using Pre-Existing State Equal Pay Laws

|  | $(1)$ | $(2)$ | $(3)$ |
| :--- | :---: | :---: | :---: |
|  |  |  | Women |
|  | Men | Women - |  |
| Men |  |  |  |
| A. Log weekly wage |  |  |  |
| Spline estimate in 1968 | 0.087 | 0.054 | 0.033 |
|  | $(0.021)$ | $(0.018)$ | $(0.010)$ |
| p-value, wild cluster bootstrap | $[0.000]$ | $[0.006]$ | $[0.006]$ |
| Trend-break in 1964 | 0.022 | 0.014 | 0.008 |
|  | $(0.005)$ | $(0.004)$ | $(0.003)$ |
| Pre-trend slope, 1949-1964 | -0.001 | -0.002 | 0.001 |
|  | $(0.001)$ | $(0.001)$ | $(0.001)$ |
| p-value, wild cluster bootstrap | $[0.168]$ | $[0.074]$ | $[0.449]$ |
| R-squared | 0.398 | 0.331 | 0.501 |
| Mean log wage in 1960, 2022 dollars | 6.16 | 6.86 | -- |
| Mean wage in 1960, 2022 dollars | $\$ 595$ | $\$ 1,089$ | -- |
| B. Log number of employees |  |  |  |
| Spline estimate in 1968 | 0.020 | -0.018 | 0.038 |
| p-value, wild cluster bootstrap | $(0.068)$ | $(0.057)$ | $(0.027)$ |
| Trend-break in 1964 | $[0.784]$ | $[0.796]$ | $[0.166]$ |
|  | 0.005 | -0.005 | 0.010 |
| Pre-trend slope, 1949-1964 | $(0.017)$ | $(0.014)$ | $(0.007)$ |
|  | 0.009 | 0.009 | -0.000 |
| p-value, wild cluster bootstrap | $(0.005)$ | $(0.006)$ | $(0.003)$ |
| R-squared | $[0.116]$ | $[0.172]$ | $[0.900]$ |
| Mean nos cell log number of employees in 1960 | 0.982 | 0.987 | 0.986 |
| Mean nos cell number of employees in 1960 | 11.06 | 10.97 | -- |
| C. Log number of annual hours worked | 90,282 | 103,153 | -- |
| Spline estimate in 1968 |  |  |  |
| p-value, wild cluster bootstrap | 0.026 | 0.003 | 0.023 |
| Trend-break in 1964 | $(0.069)$ | $(0.059)$ | $(0.025)$ |
| Pre-trend slope, 1949-1964 | $[0.739]$ | $[0.962]$ | $[0.319]$ |
|  | 0.006 | 0.001 | 0.006 |
| p-value, wild cluster bootstrap | $(0.017)$ | $(0.015)$ | $(0.006)$ |
| R-squared | 0.010 | 0.007 | 0.003 |
| Mean nos cell log number of annual hours in 1960 | $(0.006)$ | $(0.006)$ | $(0.003)$ |
| Mean nos cell number of annual hours in 1960 | $[0.178]$ | $[0.347]$ | $[0.307]$ |
| Observations | 0.977 | 0.985 | 0.983 |
| Sex-Industry-Occupation-State-Year Cells | 132 M | 18.59 | -- |
|  | 800,345 | $1,562 \mathrm{M}$ | -- |
|  | 5,264 | 10,633 | $2,361,978$ |
|  |  |  | 15,904 |

Notes: Table presents the spline estimates for model 2 as described in the text. Dependent variables are indicated in panel subtitles. In column 3 , demographic controls and fixed effects are allowed to vary by sex. Standard errors in parentheses are corrected for heteroskedasticity and arbitrary correlation within state-group (Huber 1967, White 1980, Arellano 1987). Wild cluster bootstrap p-values using 499 replications are in brackets.
Sample: See Figure 7 notes (Panel A) and Figure 8 notes (Panels B \& C).
Sources: See Figure 3 notes.

## Table 2. The Effects of the Equal Pay Act and Title VII on Wages and Employment using 1960 Gender Wage Gaps

|  | (1) | (2) | (3) | Equal Pay Law |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | State Law | No State Law |
|  | Women | Men | Women Men | Women Men | Women Men |
| A. Log weekly wage |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | $\begin{gathered} 0.100 \\ (0.023) \end{gathered}$ | $\begin{gathered} -0.007 \\ (0.011) \end{gathered}$ | $\begin{gathered} 0.107 \\ (0.025) \end{gathered}$ | $\begin{gathered} 0.060 \\ (0.039) \end{gathered}$ | $\begin{gathered} 0.162 \\ (0.034) \end{gathered}$ |
| Trend-break in 1964 | $\begin{gathered} 0.067 \\ (0.015) \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.071 \\ (0.017) \end{gathered}$ | $\begin{gathered} 0.041 \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.103 \\ (0.022) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{gathered} -0.001 \\ (0.004) \end{gathered}$ | $\begin{aligned} & -0.000 \\ & (0.002) \end{aligned}$ | $\begin{gathered} -0.001 \\ (0.004) \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.006) \end{gathered}$ | $\begin{gathered} -0.012 \\ (0.006) \end{gathered}$ |
| R-squared | 0.399 | 0.327 | 0.511 | 0.476 | 0.538 |
| Mean log wage in 1960, 2022 dollars | 6.17 | 6.89 | -- | -- | -- |
| Mean wage in 1960, 2022 dollars | \$599 | \$1,114 | -- | -- | -- |
| B. Log number of employees |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | $\begin{gathered} -0.118 \\ (0.047) \end{gathered}$ | $\begin{aligned} & -0.062 \\ & (0.029) \end{aligned}$ | $\begin{gathered} -0.056 \\ (0.049) \end{gathered}$ | $\begin{gathered} -0.009 \\ (0.077) \end{gathered}$ | $\begin{aligned} & -0.112 \\ & (0.069) \end{aligned}$ |
| Trend-break in 1964 | $\begin{gathered} -0.079 \\ (0.031) \end{gathered}$ | $\begin{gathered} -0.041 \\ (0.019) \end{gathered}$ | $\begin{gathered} -0.038 \\ (0.032) \end{gathered}$ | $\begin{gathered} -0.006 \\ (0.053) \end{gathered}$ | $\begin{aligned} & -0.072 \\ & (0.044) \end{aligned}$ |
| Pre-trend slope, 1949-1964 | $\begin{gathered} -0.005 \\ (0.011) \end{gathered}$ | $\begin{gathered} 0.015 \\ (0.005) \end{gathered}$ | $\begin{gathered} -0.020 \\ (0.011) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.014) \end{gathered}$ | $\begin{aligned} & -0.033 \\ & (0.020) \end{aligned}$ |
| R-squared | 0.989 | 0.991 | 0.990 | 0.991 | 0.989 |
| Mean nos cell log number of employees in 1960 | 11.06 | 10.97 | -- | -- | -- |
| Mean nos cell number of employees in 1960 | 90,345 | 103,153 | -- | -- | -- |
| C. Log number of annual hours worked |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | $\begin{gathered} -0.087 \\ (0.052) \end{gathered}$ | $\begin{aligned} & -0.047 \\ & (0.030) \end{aligned}$ | $\begin{gathered} -0.039 \\ (0.054) \end{gathered}$ | $\begin{gathered} -0.060 \\ (0.095) \end{gathered}$ | $\begin{gathered} -0.046 \\ (0.081) \end{gathered}$ |
| Trend-break in 1964 | $\begin{gathered} -0.058 \\ (0.034) \end{gathered}$ | $\begin{aligned} & -0.032 \\ & (0.020) \end{aligned}$ | $\begin{gathered} -0.026 \\ (0.036) \end{gathered}$ | $\begin{gathered} -0.041 \\ (0.065) \end{gathered}$ | $\begin{gathered} -0.030 \\ (0.052) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{gathered} -0.019 \\ (0.013) \end{gathered}$ | $\begin{gathered} 0.008 \\ (0.005) \end{gathered}$ | $\begin{aligned} & -0.026 \\ & (0.012) \end{aligned}$ | $\begin{gathered} -0.003 \\ (0.016) \end{gathered}$ | $\begin{gathered} -0.047 \\ (0.021) \end{gathered}$ |
| R-squared | 0.984 | 0.989 | 0.987 | 0.989 | 0.985 |
| Mean nos cell log annual hours in 1960 | 18.38 | 18.59 | -- | -- | -- |
| Mean nos cell number of annual hours in 1960 | 132 M | 202 M | -- | -- | -- |
| Observations | 797,272 | 1,362,199 | 2,159,471 | 1,435,264 | 724,204 |
| Sex-Industry-Occupation-State-Year Cells | 5,264 | 10,640 | 15,904 | 9,904 | 5,968 |

[^24]
## Online Appendix for

# How the 1963 Equal Pay Act and 1964 Civil Rights Act Shaped the Gender Gap in Pay 

Martha J. Bailey, Thomas Helgerman, and Bryan A. Stuart

December 22, 2023

## Table of Contents

A. Comparison of Impacts on Hourly, Weekly, and Annual Earnings .....  3
B. Sensitivity to Low Earnings Amounts in the CPS .....  3
C. Adjusting Standard Errors for Estimates of the Gender Wage Gap .....  4
D. Appendix Tables and Figures .....  .6
E. Selected Newspaper Articles ..... 44

## A. Comparison of Effects on Hourly, Weekly, and Annual Earnings

Our preferred measure of earnings is the log weekly wage, which equals log annual earnings last year divided by weeks worked in the last year. This variable has the advantage of not relying on reports of the number of hours worked during the week before the survey, which is measured for a different time period than annual earnings and the number of weeks worked.

To account for intensive margin labor supply adjustments, we include log hours worked per week as a covariate when the dependent variable is log weekly wages; we include as a covariate log hours worked per week and $\log$ weeks worked per year when the dependent variable is $\log$ annual wage earnings.

This appendix shows that our results are similar when estimating impacts on hourly, weekly, or annual earnings. Appendix Figure 4 shows results for the state-level equal pay law research design (research design 1) for our preferred specification (model 2). Appendix Figure 12 shows results for the industry-occupation-state-group gender wage gap design (research design 2) for our preferred specification (model 3). For each of the three dependent variables and both research designs, our estimates are not only very similar but statistically indistinguishable.

## B. Sensitivity to Low Earnings Amounts in the CPS

During the 1960s, the CPS changed its sampling design, which resulted in a large number of low hourly earnings observations. In addition, many workers were not covered by the federal minimum wage law. As a result, it is difficult to know whether some of the reported wages below the statutory minimum wage are real or due to measurement error in reports of annual earnings, weeks worked, or hours worked. We explore the robustness of our results to winsorizing hourly, weekly, and annual earnings for both men and women at the lowest 10 percentiles of the earnings distribution for women from 1960 to 1964. The real wage level used for winsorization is fixed across years to avoid introducing changes over time that reflect changes in the CPS sampling frame.

Appendix Table 16 lists the dollar values, in 1964 and 2022 dollars, of the first 10 percentiles of women's hourly, weekly, and annual wages. The first percentile of the hourly wage distribution is $\$ 0.17$ in 1964 dollars, which amounts to 14 percent of the minimum wage in January 1964 for workers who had FLSA coverage before the 1961 amendments. The tenth percentile is $\$ 0.65$, which is 52 percent of this minimum wage. Winsorizing up to the $10^{\text {th }}$ percentile is in line with the literature, especially given the fact that our analysis is focused on a period with less extensive coverage of the minimum wage and a much higher real minimum wage. For comparison, Derenoncourt
and Montialoux (2021) study the effects of the FLSA expansions on the Black-White wage gap in the 1960s and winsorize the annual wage earnings data at the 5 -percent level. Blau and Kahn (2017) study the gender gap in earnings and identify wages as being "too low" if they are lower than $\$ 2$ per hour in 2010 dollars, which amounts to $\$ 0.29$ in January 1964 dollars, or between the $2^{\text {nd }}$ and $3^{\text {rd }}$ percentile in 1964. Katz and Murphy (1992) and Autor, Katz, and Kearney (2008) identify wages as being "too low" if they are below one-half of the 1982 minimum wage level for full-time workers, which is equivalent to $\$ 3.35 \times 0.50 \times 40$ hours $=\$ 67$ in 1982 dollars. Their use of a weekly minimum arises from their focus on full-time workers. Because our sample includes women working less than fulltime, the hourly wage provides a more natural benchmark, and half of the $\$ 3.35$ minimum wage in 1982 amounts to $\$ 0.55$ in 1964 dollars, which falls just above the $7^{\text {th }}$ percentile for our sample.

Appendix Figure 5 displays event-study estimates for hourly, weekly, and annual earnings for the state equal pay law research design when winsorizing low wage levels. The post-1964 wage increases are smaller when winsorizing, but the winsorized point estimates fall within the 95 -percent confidence interval of our main results. The spline estimate in 1968 for women's weekly wages is $0.087(0.021)$ when not winsorizing and $0.070(0.017)$ when winsorizing at the $7^{\text {th }}$ percentile ( p -value on the test of the difference $=0.004$ ). Appendix Figure 13 shows comparable results for the 1960 gender wage gap research design. The spline estimate at the mean in 1968 for women's weekly wages is $0.100(0.023)$ when not winsorizing and $0.065(0.018)$ when winsorizing at the $7^{\text {th }}$ percentile ( p -value on the test of the difference $=0.001$ ). In summary, the appendix shows that the paper's main results are smaller but survive winsorization of very low wages.

## C. Adjusting Standard Errors for Estimates of the Gender Wage Gap

For our second research design, the key explanatory variable is a generated regressor: the estimated gender wage gap between men and women in 1960. It is possible that our standard errors are too small because they do not account for uncertainty in this estimate.

A common approach to accounting for generated regressors is to use a pairs bootstrap. In our setting, this would amount to re-sampling industry-occupation-state-group cells with replacement, keeping all observations within an industry-occupation-state cell together. However, because our gender gap variable is defined at the industry-occupation-state-level, the gender gap variable would be identical for each resampled cell. As a result, the pairs bootstrap cannot address the generated regressor issue in this setting.

Instead, we use an approach that combines the parametric bootstrap and the Bayesian bootstrap (Rubin 1981).
First, we estimate the heteroskedasticity-robust standard error on each industry-occupation-state cell's gender wage gap by regressing log hourly wages on an indicator for being a man among observations in a given cell in 1960. The point estimate from this regression is identical to the gender wage gap used in our main analysis, and the standard error reflects uncertainty in the gender wage gap estimate due to a finite sample size. Second, we implement a clustered version of the Bayesian bootstrap by drawing industry-occupation-state-group-cell-specific weights following the procedure described in the appendix to Angrist et al. (2017). In isolation, the Bayesian bootstrap produces similar results as clustering standard errors by industry-occupation-state-group. However, we can combine the Bayesian bootstrap with the parametric bootstrap by generating a normally-distributed gender wage gap variable with mean and standard deviation given by the first-step regression estimate. By generating a new gender wage gap variable in each bootstrap sample, this "parametric clustered Bayesian bootstrap" procedure accounts for uncertainty in the generated regressor.

Appendix Table 17 reports our main estimates from Table 2, with cluster-robust standard errors based on asymptotic approximations in parentheses, alongside standard errors from the parametric clustered Bayesian bootstrap in brackets. Likely owing to the fact that our generated regressor is calculated using a fairly large sample (the $5 \%$ sample of the 1960 Census), the two sets of standard errors are very similar. This provides some reassurance that our conclusions are not materially affected by sampling variability in the gender wage gap variable.

## Additional References

Angrist, Joshua D., Peter D. Hull, Parag A. Pathak, and Christopher Walters. 2017. "Leveraging Lotteries for School Value-Added: Testing and Estimation." Quarterly Journal of Economics 132 (2):871-919.
Autor, David H., Lawrence F. Katz, and Melissa S. Kearney. 2008. "Trends in U.S. Wage Inequality: Revising the Revisionists." Review of Economics and Statistics 90 (2):300-323.
Blau, Francine D., and Lawrence M. Kahn. 2017. "The Gender Wage Gap: Extent, Trends, and Explanations." Journal of Economic Literature 55 (3):789-865.
Derenoncourt, Ellora, and Claire Montialoux. 2021. "Minimum Wages and Racial Inequality." Quarterly Journal of Economics 107 (1):151-200.
Katz, Lawrence F., and Kevin M. Murphy. 1992. "Changes in Relative Wages, 1963-1987: Supply and Demand Factors." Quarterly Journal of Economics 107 (1):35-78.
Rubin, Donald B. 1981. "The Bayesian Bootstrap." The Annals of Statistics 9 (1):130-34.
D. Appendix Tables and Figures

## Appendix Table 1. Kitagawa-Blinder-Oaxaca Decomposition of Changes in the Gender Gap in Weekly Wages, 1949 to 1959

|  | (1) | (2) | (3) |
| :---: | :---: | :---: | :---: |
| Year | 1949 | 1959 | 1949 to 1959 |
| A. Selected characteristics (mean) |  |  |  |
| Log weekly wages |  |  |  |
| Men | 6.549 | 6.872 | 0.323 |
| Women | 6.012 | 6.170 | 0.159 |
| Gender gap (men minus women) | 0.537 | 0.701 | 0.164 |
| Log hours worked in week before survey |  |  |  |
| Men | 3.735 | 3.732 | -0.002 |
| Women | 3.607 | 3.511 | -0.096 |
| Gender gap (men minus women) | 0.127 | 0.221 | 0.094 |
| Years of education |  |  |  |
| Men | 9.684 | 10.516 | 0.832 |
| Women | 10.326 | 10.819 | 0.493 |
| Gender gap (men minus women) | -0.642 | -0.303 | 0.339 |
| B. Decomposition 1: Without occupation or industry |  |  |  |
| Explained gender wage gap | 0.067 | 0.089 | 0.022 |
| Unexplained gender wage gap | 0.470 | 0.613 | 0.142 |
| Components of explained gap (differences in characteristics) |  |  |  |
| Log hours worked | 0.011 | 0.037 | 0.027 |
| Education | -0.028 | -0.018 | 0.010 |
| Potential experience | 0.007 | -0.005 | -0.012 |
| Married | 0.064 | 0.061 | -0.003 |
| Nonwhite | 0.014 | 0.014 | -0.000 |
| Components of unexplained gap (differences in coefficients) |  |  |  |
| Log hours worked | -0.907 | -1.104 | -0.196 |
| Education | -0.079 | -0.197 | -0.118 |
| Potential experience | 0.155 | 0.084 | -0.070 |
| Married | 0.111 | 0.199 | 0.088 |
| Nonwhite | 0.015 | 0.009 | -0.007 |
| Constant | 1.176 | 1.622 | 0.446 |
| C. Decomposition 2: With occupation and industry |  |  |  |
| Explained gender wage gap | 0.171 | 0.270 | 0.099 |
| Unexplained gender wage gap | 0.366 | 0.431 | 0.065 |
| Components of explained gap (differences in characteristics) |  |  |  |
| Log hours worked | 0.015 | 0.041 | 0.025 |
| Education | -0.021 | -0.013 | 0.008 |
| Potential experience | 0.006 | -0.005 | -0.011 |
| Married | 0.047 | 0.045 | -0.002 |
| Nonwhite | 0.009 | 0.009 | -0.000 |
| Occupation | 0.033 | 0.056 | 0.024 |
| Industry | 0.081 | 0.138 | 0.056 |
| Components of unexplained gap (differences in coefficients) |  |  |  |
| Log hours worked | -0.616 | -0.597 | 0.019 |
| Education | 0.068 | 0.092 | 0.024 |
| Potential experience | 0.084 | 0.022 | -0.062 |
| Married | 0.090 | 0.165 | 0.074 |
| Nonwhite | -0.009 | -0.018 | -0.009 |
| Occupation | -0.175 | 0.388 | 0.563 |
| Industry | -0.026 | -0.049 | -0.023 |
| Constant | 0.950 | 0.429 | -0.521 |

Notes: Panel A reports averages of the indicated variables using the paper's sample restrictions. Panels B and C report Kitagawa-BlinderOaxaca decompositions of the difference in mean log weekly wages between men and women. We weight the difference in observed characteristics by the coefficients for men. For each panel, the decomposition is estimated separately for each year in columns 1 and 2 , and column 3 reports the difference between each term from 1949 to 1959 . Sources: $1 \%$ sample of the 1950 Decennial Census, $5 \%$ sample of the 1960 Decennial Census (Ruggles et al. 2023). See text for details on sample selection and exclusion criteria.

Appendix Table 2. Decomposing Changes in the Gender Gap in Log Weekly Wages, 1950-1960
Occupation/industry aggregation used for
decomposition

|  | decomposition |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Eight occupations | Eight occupations x nine industries | 22 occupations $\times 20$ industries | 263 occupations |
| Change in gender gap in log weekly wages, $\Delta w^{m}-\Delta w^{f}$ | 0.164 | 0.164 | 0.164 | 0.164 |
| Changes in wage structure $\%$ of total change | $\begin{aligned} & 0.151 \\ & 0.921 \end{aligned}$ | $\begin{aligned} & 0.146 \\ & 0.890 \end{aligned}$ | $\begin{aligned} & 0.156 \\ & 0.951 \end{aligned}$ | $\begin{aligned} & 0.155 \\ & 0.945 \end{aligned}$ |
| Changes in representation $\%$ of total change | $\begin{aligned} & 0.014 \\ & 0.085 \end{aligned}$ | $\begin{aligned} & 0.018 \\ & 0.110 \end{aligned}$ | $\begin{aligned} & 0.004 \\ & 0.024 \end{aligned}$ | $\begin{aligned} & 0.000 \\ & 0.000 \end{aligned}$ |
| Changes in wage structure, detail $\sum_{k}\left(s_{k}^{m}-s_{k}^{f}\right) \Delta w_{k}^{m}$ | 0.012 | 0.029 | 0.069 | 0.061 |
| $\%$ of total change $\sum_{k} s_{k}^{f}\left(\Delta w_{k}^{m}-\Delta w_{k}^{f}\right)$ | $\begin{aligned} & 0.073 \\ & 0.139 \end{aligned}$ | 0.177 0.117 | 0.421 0.087 | $\begin{aligned} & 0.372 \\ & 0.094 \end{aligned}$ |
| \% of total change | 0.848 | 0.713 | 0.530 | 0.573 |
| Changes in representation, detail $\sum_{k} \Delta s_{k}^{f}\left(w_{k}^{m}-w_{k}^{f}\right)$ | -0.003 | -0.004 | -0.007 | -0.002 |
| \% of total change | -0.018 | -0.024 | -0.043 | -0.012 |
| $\sum_{k}\left(\Delta s_{k}^{m}-\Delta s_{k}^{f}\right) w_{k}^{m}$ | 0.017 | 0.022 | 0.011 | 0.002 |
| $\%$ of total change | 0.104 | 0.134 | 0.067 | 0.012 |

Notes: The table decomposes the change in the gender gap in log weekly wages from 1950-1960 using the following equation:

$$
\Delta w^{m}-\Delta w^{f}=\sum_{k}\left(s_{k}^{m}-s_{k}^{f}\right) \Delta w_{k}^{m}+s_{k}^{f}\left(\Delta w_{k}^{m}-\Delta w_{k}^{f}\right)+\Delta s_{k}^{f}\left(w_{k}^{m}-w_{k}^{f}\right)+\left(\Delta s_{k}^{m}-\Delta s_{k}^{f}\right) w_{k}^{m}
$$

The starting point for this decomposition is that $w_{t}^{g}=\sum_{k} s_{k t}^{g} w_{k t}^{g}$ is the mean log wage for gender $g$ in year $t, s_{k t}^{g}$ is the share of gender $g$ workers employed in industry-occupation cell $k$ at time $t, w_{k t}^{g}$ is the mean $\log$ wage in cell $k$ at time $t$. The terms $s_{k}^{g}=$ $\frac{1}{2}\left(s_{k t}^{g}+s_{k t}^{g}\right)$ and $w_{k}^{g}=\frac{1}{2}\left(w_{k t}^{g}+w_{k t}^{g}\right)$ are equally-weighted averages across years, and the symbol $\Delta$ is used to indicate the change over time. The table presents the values of different terms in this equation as well as the share of the total change in the gender gap explained by these terms in italics. Changes due to the wage structure/representation summarizes the sum of the components from the bottom of the table. The components in columns 3 and 4 add up to slightly less than the total change in the gender wage gap of 0.164 because the change in women's wages is not defined for some cells that have no women workers in the 1950 Census.
Sample: Individuals ages 25 to 64 with positive annual wage and salary earnings and positive weeks worked in the prior year (restrictions necessary to construct real weekly wages) who are not in the Armed Forces, institutionalized, employed in agriculture, or self-employed. Because our primary analysis conditions on having positive hours in the survey reference week, we make this additional sample restriction here.
Sources: $1 \%$ sample of the 1950 Decennial Census and $5 \%$ sample of the 1960 Decennial Census (Ruggles et al. 2023).

## Appendix Table 3. Evidence Presented at 1963 Equal Pay Senate Hearings

|  | Difference in Average Hourly <br> Earnings (Women - Men) <br> (2022\$) |
| :--- | ---: |
| City, Industry, and Occupation |  |
| A. Chicago |  |
| Furniture Manufacturing | -2.25 |
| Assemblers, case goods | 0 |
| Off-bearers, machine | -1.69 |
| Packers, furniture | -2.91 |
| Sanders, furniture, hand | -0.75 |
| Power Laundries | -5.57 |
| Assemblers | -2.17 |
| Clerks, retail, receiving | -2.83 |
| Identifiers | -2.26 |
| Pressers, machine (dry cleaning) | -2.55 |
| Tumbler operators (laundry) |  |
| Wrappers, bundle |  |
| B. Winston-Salem | -1.03 |
| Furniture Manufacturing | -1.12 |
| Assemblers, case goods | -0.09 |
| Packers, furniture | -0.37 |
| Rubbers, furniture, hand | -0.84 |
| Rubbers, furniture, machine | -1.22 |
| Sanders, furniture, hand |  |
| Sprayers |  |
| C. Philadelphia |  |
| Eating and Drinking Places | 1.32 |
| Bus girls and boys | -1.23 |
| Counter attendants | 0 |
| Pantry workers |  |
| Power Laundries | 2.83 |
| Assemblers | 0 |
| Identifiers | -0.75 |
| Tumbler operators (laundry) | -0.66 |
| Wrappers, bundle |  |

Notes: Table reports the difference in average hourly earnings (women minus men) from the Hearings on the Equal Pay Act in April of 1963, inflated to January 2022 dollars using the CPI-U.
Sources: Hearings on the Equal Pay Act in April of 1963. Data on Furniture Manufacturing taken from Table 15 p. 38; Data on Power Laundries taken from Table 9 p. 33. Data on Eating and Drinking Places Taken from Table 12 p. 36 (U.S. Congress 1963).

## Appendix Table 4. Estimates of the Gender Gap using the 1963 Occupational Wage Survey

|  | $(1)$ <br> Dependent variable: Log weekly wage |  |  |
| :--- | :---: | :---: | :---: |
| A. All jobs |  | $(2)$ |  |
| Women | -0.321 | -0.314 | -0.172 |
|  | $(0.022)$ | $(0.021)$ | $(0.010)$ |
|  |  |  |  |
| Observations | 4,337 | 4,337 | 4,337 |
| R-squared | 0.273 | 0.416 | 0.927 |
| B. Jobs reporting hourly wages |  |  |  |
| Women | -0.440 | -0.433 | -0.183 |
|  | $(0.024)$ | $(0.025)$ | $(0.016)$ |
|  |  |  |  |
| Observations | 1,843 | 1,843 | 1,843 |
| R-squared | 0.174 | 0.412 | 0.929 |
| Covariates |  |  |  |
| City FE |  | X | X |
| Narrow job classification FE |  | X |  |

Notes: Coefficient on women captures the difference in log weekly wages earned by women relative to men (omitted). In panel A, we combine jobs reporting weekly wages and hourly wages by converting hourly wages into weekly equivalents (multiplying the hourly wage by 40 hours). In all regressions in panel A, we include a dummy variable equal to 1 for these jobs. In panel B, we examine the pay differential in log hourly wages in hourly wage jobs only and omit this covariate. Column 2 includes city fixed effects, and column 3 adds fixed effects for detailed occupational classes. Regressions are weighted by the number of employees in each sex-city-job observation. Heteroskedasticity robust standard errors are reported in parentheses.
Sources: Data were typed in by the authors from the Bureau of Labor Statistics' Occupational Wage Survey (U.S. Bureau of Labor Statistics 1963).

## Appendix Table 5. Summary Statistics, by State Pre-Existing Equal Pay Law Status

|  | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Women |  | Men |  |
|  | No EPL | EPL | No EPL | EPL |
| Mean weekly wage in 1959 (2022 dollars) | 525 | 634 | 975 | 1145 |
| Mean weekly wage in 1964 (2022 dollars) | 569 | 679 | 1087 | 1275 |
| Mean nos cell number of employees in 1959 | 84,172 | 93,630 | 69,395 | 118,204 |
| Mean nos cell number of employees in 1964 | 91,828 | 103,820 | 74,739 | 116,922 |
| Mean nos cell number of annual hours in 1959 | 125 M | 136 M | 139 M | 229 M |
| Mean nos cell number of annual hours in 1964 | 141 M | 156 M | 158 M | 239 M |
| Mean nos cell gender wage gap in 1960 | 0.394 | 0.367 | 0.403 | 0.403 |

Notes: Table reports summary statistics for the main dependent and independent variables of interest for state groups that did not have an equal pay law (EPL) as of January 1, 1963 (columns 1 and 3) and state groups where at least one state did have such a law (columns 2 and 4). Gender wage gap in 1960 is calculated by industry-occupation-state-group cell.
Sample: See Figure 3 and Figure 5 notes.
Sources: 5\% sample of the 1960 Decennial Census and the 1965 CPS ASEC (Flood et al. 2022, Ruggles et al. 2023).

## Appendix Table 6. The Effect of the Equal Pay Act and Title VII on Weekly Wages using PreExisting State Equal Pay Laws, Event-Study Estimates

| Year | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Women |  |  | Men |
|  | Model 1 | Model 2 | Model 3 | Model 2 |
| 1949 | 0.043 | 0.035 | 0.041 | 0.006 |
|  | (0.019) | (0.019) | (0.019) | (0.018) |
| 1959 | 0.015 | 0.014 | 0.018 | -0.021 |
|  | (0.019) | (0.019) | (0.019) | (0.016) |
| 1961 | 0.022 | 0.023 | 0.027 | -0.032 |
|  | (0.021) | (0.022) | (0.022) | (0.017) |
| 1962 | 0.008 | 0.013 | 0.015 | -0.032 |
|  | (0.030) | (0.031) | (0.030) | (0.011) |
| 1963 | -0.009 | -0.011 | -0.011 | -0.040 |
|  | (0.014) | (0.014) | (0.014) | (0.010) |
| 1964 (omitted) |  |  |  |  |
| 1965 | 0.076 | 0.073 | 0.074 | -0.004 |
|  | (0.019) | (0.019) | (0.019) | (0.008) |
| 1966 | 0.073 | 0.067 | 0.069 | -0.011 |
|  | (0.020) | (0.021) | (0.021) | (0.008) |
| 1967 | 0.089 | 0.082 | 0.080 | 0.012 |
|  | (0.019) | (0.019) | (0.019) | (0.011) |
| 1968 | 0.091 | 0.080 | 0.079 | 0.020 |
|  | (0.019) | (0.019) | (0.019) | (0.014) |
| 1969 | 0.101 | 0.090 | 0.087 | 0.003 |
|  | (0.017) | (0.017) | (0.017) | (0.014) |
| 1970 | 0.093 | 0.084 | 0.081 | 0.012 |
|  | (0.016) | (0.017) | (0.017) | (0.015) |
| 1971 | 0.090 | 0.082 | 0.078 | 0.013 |
|  | (0.017) | (0.017) | (0.017) | (0.016) |
| 1972 | 0.097 | 0.085 | 0.083 | 0.015 |
|  | (0.021) | (0.020) | (0.019) | (0.016) |
| 1973 | 0.110 | 0.100 | 0.098 | 0.025 |
|  | (0.024) | (0.022) | (0.023) | (0.018) |
| 1974 | 0.116 | 0.107 | 0.100 | 0.035 |
|  | (0.029) | (0.027) | (0.026) | (0.027) |
| Observations | 800,345 | 800,345 | 800,344 | 1,561,633 |

Notes: Table presents the event-study coefficients and standard errors from equation (1) presented in Figure 4. The standard errors have been corrected for heteroskedasticity and an arbitrary correlation within state group. Sample and Sources: See Figure 4 notes.

Appendix Table 7. Heterogeneity in the Effects of the Equal Pay Act and Title VII on Wages and Employment of Women using Pre-Existing State Equal Pay Laws

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All wage earners | Full-time wage earners | White | Black | Less than 12 years education | At least 12 years education | $\begin{gathered} \text { Age } \\ 25-44 \end{gathered}$ | $\begin{gathered} \text { Age } \\ 45-64 \end{gathered}$ | Married | Unmarried |
| A. Log weekly wage, mean 1960 level: | \$595 | \$646 | \$625 | \$387 | \$482 | \$700 | \$586 | \$607 | \$575 | \$631 |
| Spline estimate in 1968 | $\begin{gathered} 0.087 \\ (0.021) \end{gathered}$ | $\begin{gathered} 0.079 \\ (0.019) \end{gathered}$ | $\begin{gathered} 0.084 \\ (0.020) \end{gathered}$ | $\begin{gathered} 0.085 \\ (0.051) \end{gathered}$ | $\begin{gathered} 0.112 \\ (0.029) \end{gathered}$ | $\begin{gathered} 0.074 \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.072 \\ (0.026) \end{gathered}$ | $\begin{gathered} 0.101 \\ (0.023) \end{gathered}$ | $\begin{gathered} 0.092 \\ (0.024) \end{gathered}$ | $\begin{gathered} 0.066 \\ (0.025) \end{gathered}$ |
| p-value, wild cluster bootstrap | [0.000] | [0.000] | [0.000] | [0.188] | [0.000] | [0.002] | [0.018] | [0.002] | [0.002] | [0.034] |
| Trend-break in 1964 | $\begin{gathered} 0.022 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.020 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.007) \end{gathered}$ | $\begin{aligned} & -0.005 \\ & (0.013) \end{aligned}$ | $\begin{gathered} -0.004 \\ (0.010) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.006) \end{gathered}$ | $\begin{aligned} & -0.002 \\ & (0.008) \end{aligned}$ | $\begin{gathered} 0.005 \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.008) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.006) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{array}{r} -0.001 \\ (0.001) \\ \hline \end{array}$ | $\begin{array}{r} -0.003 \\ (0.001) \\ \hline \end{array}$ | $\begin{gathered} 0.005 \\ (0.001) \\ \hline \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.002) \\ \hline \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.002) \\ \hline \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.001) \\ \hline \end{gathered}$ | $\begin{gathered} 0.006 \\ (0.001) \\ \hline \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.002) \\ \hline \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.001) \\ \hline \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.001) \\ \hline \end{gathered}$ |
| B. Log employees, mean 1960 level: | 90,282 | 55,710 | 77,544 | 63,140 | 85,057 | 47,738 | 51,055 | 47,123 | 60,355 | 38,588 |
| Spline estimate in 1968 | $\begin{gathered} 0.020 \\ (0.068) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.068) \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.073) \end{gathered}$ | $\begin{gathered} 0.046 \\ (0.085) \end{gathered}$ | $\begin{gathered} 0.143 \\ (0.080) \end{gathered}$ | $\begin{gathered} -0.094 \\ (0.067) \end{gathered}$ | $\begin{aligned} & -0.017 \\ & (0.065) \end{aligned}$ | $\begin{gathered} 0.002 \\ (0.068) \end{gathered}$ | $\begin{gathered} 0.034 \\ (0.064) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.045) \end{gathered}$ |
| p-value, wild cluster bootstrap | [0.784] | [0.992] | [0.912] | [0.635] | [0.120] | [0.160] | [0.790] | [0.988] | [0.637] | [0.984] |
| Trend-break in 1964 | $\begin{gathered} 0.005 \\ (0.017) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.017) \end{gathered}$ | $\begin{aligned} & -0.017 \\ & (0.018) \end{aligned}$ | $\begin{aligned} & -0.020 \\ & (0.017) \end{aligned}$ | $\begin{gathered} -0.019 \\ (0.022) \end{gathered}$ | $\begin{gathered} -0.009 \\ (0.018) \end{gathered}$ | $\begin{gathered} -0.015 \\ (0.015) \end{gathered}$ | $\begin{gathered} -0.014 \\ (0.016) \end{gathered}$ | $\begin{gathered} -0.011 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.016 \\ (0.010) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{gathered} 0.009 \\ (0.005) \\ \hline \end{gathered}$ | $\begin{gathered} 0.012 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.021 \\ (0.005) \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.005) \end{aligned}$ | $\begin{gathered} 0.020 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.011 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.018 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.014 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.010 \\ (0.004) \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.006) \end{gathered}$ |
| C. Log annual hours worked, mean 1960 level: | 132 M | 111 M | 115 M | 83 M | 119 M | 73 M | 73 M | 70 M | 83 M | 62 M |
| Spline estimate in 1968 | $\begin{gathered} 0.026 \\ (0.069) \end{gathered}$ | $\begin{gathered} 0.006 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.010 \\ (0.073) \end{gathered}$ | $\begin{gathered} 0.060 \\ (0.107) \end{gathered}$ | $\begin{gathered} 0.153 \\ (0.085) \end{gathered}$ | $\begin{gathered} -0.098 \\ (0.073) \end{gathered}$ | $\begin{gathered} -0.015 \\ (0.071) \end{gathered}$ | $\begin{gathered} 0.008 \\ (0.067) \end{gathered}$ | $\begin{gathered} 0.027 \\ (0.065) \end{gathered}$ | $\begin{gathered} 0.016 \\ (0.051) \end{gathered}$ |
| p-value, wild cluster bootstrap | [0.739] | [0.938] | [0.888] | [0.663] | [0.126] | [0.176] | [0.858] | [0.926] | [0.697] | [0.780] |
| Trend-break in 1964 | $\begin{gathered} 0.006 \\ (0.017) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.017) \end{gathered}$ | $\begin{gathered} -0.025 \\ (0.017) \end{gathered}$ | $\begin{aligned} & -0.024 \\ & (0.020) \end{aligned}$ | $\begin{gathered} -0.025 \\ (0.022) \end{gathered}$ | $\begin{gathered} -0.019 \\ (0.019) \end{gathered}$ | $\begin{gathered} -0.023 \\ (0.016) \end{gathered}$ | $\begin{gathered} -0.024 \\ (0.016) \end{gathered}$ | $\begin{gathered} -0.016 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.015 \\ (0.012) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{gathered} 0.010 \\ (0.006) \\ \hline \end{gathered}$ | $\begin{gathered} 0.012 \\ (0.007) \\ \hline \end{gathered}$ | $\begin{gathered} 0.024 \\ (0.007) \\ \hline \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.005) \\ \hline \end{gathered}$ | $\begin{gathered} 0.024 \\ (0.007) \\ \hline \end{gathered}$ | $\begin{gathered} 0.016 \\ (0.008) \\ \hline \end{gathered}$ | $\begin{gathered} 0.023 \\ (0.008) \\ \hline \end{gathered}$ | $\begin{gathered} 0.018 \\ (0.007) \\ \hline \end{gathered}$ | $\begin{gathered} 0.013 \\ (0.005) \\ \hline \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.007) \\ \hline \end{gathered}$ |
| Observations | 800,345 | 550,813 | 695,541 | 98,485 | 354,690 | 441,614 | 443,988 | 356,230 | 514,032 | 286,184 |
| Industry-Occupation-State-Year Cells | 5,264 | 4,640 | 4,992 | 863 | 2,460 | 4,395 | 3,888 | 3,584 | 4,319 | 3,008 |



 Individual observations are reported for Panel A, and the number of job cells are reported for Panels B and C.
Sample and Sources: See Table 1 notes.

Appendix Table 8. The Effect of the Equal Pay Act and Title VII on Employment using Pre-Existing State Equal Pay Laws, Event-Study Estimates

| Year | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Log Number of Employees |  | Log Annual Hours Worked |  |
|  | Women | Men | Women | Men |
| 1949 | $-0.088$ <br> (0.081) | -0.088 <br> (0.098) | $\begin{aligned} & \hline-0.105 \\ & (0.084) \end{aligned}$ | $\begin{gathered} \hline-0.072 \\ (0.104) \end{gathered}$ |
| 1959 | $\begin{gathered} 0.026 \\ (0.047) \end{gathered}$ | $\begin{gathered} 0.030 \\ (0.057) \end{gathered}$ | $\begin{gathered} 0.023 \\ (0.042) \end{gathered}$ | $\begin{gathered} 0.017 \\ (0.063) \end{gathered}$ |
| 1961 | $\begin{aligned} & -0.106 \\ & (0.047) \end{aligned}$ | $\begin{aligned} & -0.109 \\ & (0.048) \end{aligned}$ | $\begin{aligned} & -0.078 \\ & (0.058) \end{aligned}$ | $\begin{aligned} & -0.113 \\ & (0.049) \end{aligned}$ |
| 1962 | $\begin{gathered} 0.015 \\ (0.061) \end{gathered}$ | $\begin{gathered} 0.039 \\ (0.052) \end{gathered}$ | $\begin{aligned} & -0.010 \\ & (0.058) \end{aligned}$ | $\begin{gathered} 0.016 \\ (0.059) \end{gathered}$ |
| 1963 | $\begin{gathered} 0.049 \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.041 \\ (0.034) \end{gathered}$ | $\begin{gathered} 0.059 \\ (0.044) \end{gathered}$ | $\begin{gathered} 0.027 \\ (0.042) \end{gathered}$ |
| 1964 (omitted) |  |  |  |  |
| 1965 | $\begin{gathered} 0.056 \\ (0.062) \end{gathered}$ | $\begin{gathered} 0.037 \\ (0.044) \end{gathered}$ | $\begin{gathered} 0.058 \\ (0.071) \end{gathered}$ | $\begin{gathered} 0.028 \\ (0.048) \end{gathered}$ |
| 1966 | $\begin{gathered} 0.118 \\ (0.035) \end{gathered}$ | $\begin{gathered} 0.091 \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.113 \\ (0.028) \end{gathered}$ | $\begin{gathered} 0.065 \\ (0.027) \end{gathered}$ |
| 1967 | $\begin{gathered} 0.103 \\ (0.058) \end{gathered}$ | $\begin{gathered} 0.076 \\ (0.047) \end{gathered}$ | $\begin{gathered} 0.112 \\ (0.066) \end{gathered}$ | $\begin{gathered} 0.050 \\ (0.050) \end{gathered}$ |
| 1968 | $\begin{gathered} 0.128 \\ (0.064) \end{gathered}$ | $\begin{gathered} 0.089 \\ (0.052) \end{gathered}$ | $\begin{gathered} 0.125 \\ (0.069) \end{gathered}$ | $\begin{gathered} 0.068 \\ (0.055) \end{gathered}$ |
| 1969 | $\begin{gathered} 0.131 \\ (0.062) \end{gathered}$ | $\begin{gathered} 0.139 \\ (0.051) \end{gathered}$ | $\begin{gathered} 0.154 \\ (0.065) \end{gathered}$ | $\begin{gathered} 0.119 \\ (0.050) \end{gathered}$ |
| 1970 | $\begin{gathered} 0.116 \\ (0.062) \end{gathered}$ | $\begin{gathered} 0.108 \\ (0.047) \end{gathered}$ | $\begin{gathered} 0.130 \\ (0.069) \end{gathered}$ | $\begin{gathered} 0.122 \\ (0.047) \end{gathered}$ |
| 1971 | $\begin{gathered} 0.143 \\ (0.066) \end{gathered}$ | $\begin{gathered} 0.135 \\ (0.057) \end{gathered}$ | $\begin{gathered} 0.158 \\ (0.073) \end{gathered}$ | $\begin{gathered} 0.140 \\ (0.057) \end{gathered}$ |
| 1972 | $\begin{gathered} 0.166 \\ (0.066) \end{gathered}$ | $\begin{gathered} 0.158 \\ (0.050) \end{gathered}$ | $\begin{gathered} 0.166 \\ (0.072) \end{gathered}$ | $\begin{gathered} 0.158 \\ (0.052) \end{gathered}$ |
| 1973 | $\begin{gathered} 0.169 \\ (0.070) \end{gathered}$ | $\begin{gathered} 0.168 \\ (0.060) \end{gathered}$ | $\begin{gathered} 0.173 \\ (0.079) \end{gathered}$ | $\begin{gathered} 0.172 \\ (0.059) \end{gathered}$ |
| 1974 | $\begin{gathered} 0.149 \\ (0.070) \\ \hline \end{gathered}$ | $\begin{array}{r} 0.178 \\ (0.064) \\ \hline \end{array}$ | $\begin{gathered} 0.120 \\ (0.079) \\ \hline \end{gathered}$ | $\begin{array}{r} 0.155 \\ (0.071) \\ \hline \end{array}$ |
| Observations | 5,264 | 10,640 | 5,264 | 10,640 |

Notes: Table presents the event-study coefficients and standard errors from model 2 of equation (2) presented in Figure 6. The standard errors have been corrected for heteroskedasticity and an arbitrary correlation within state group.
Sample and Sources: See notes to Figure 6.

## Appendix Table 9. Cells Included in the 1960 Gender Wage Gap Analysis, by Occupation and Industry

| Occupation | Industry | Number of State Groups |
| :---: | :---: | :---: |
| Professional, Technical | Mining | 2 |
|  | Construction | 6 |
|  | Manufacturing | 21 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 19 |
|  | Wholesale Trade | 5 |
|  | Retail Trade | 19 |
|  | Finance, Insurance \& Real Estate | 19 |
|  | Services | 21 |
|  | Public Administration | 21 |
| Managers, Officials and Proprietors | Mining | 1 |
|  | Construction | 10 |
|  | Manufacturing | 21 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 18 |
|  | Wholesale Trade | 19 |
|  | Retail Trade | 21 |
|  | Finance, Insurance \& Real Estate | 21 |
|  | Services | 21 |
|  | Public Administration | 21 |
| Clerical | Mining | 13 |
|  | Construction | 21 |
|  | Manufacturing | 21 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 21 |
|  | Wholesale Trade | 21 |
|  | Retail Trade | 21 |
|  | Finance, Insurance \& Real Estate | 21 |
|  | Services | 21 |
|  | Public Administration | 21 |
| Sales | Manufacturing | 20 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 3 |
|  | Wholesale Trade | 17 |
|  | Retail Trade | 21 |
|  | Finance, Insurance \& Real Estate | 21 |
|  | Services | 18 |
| Craftsmen | Construction | 2 |
|  | Manufacturing | 21 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 15 |
|  | Wholesale Trade | 4 |
|  | Retail Trade | 20 |
|  | Finance, Insurance \& Real Estate | 1 |
|  | Services | 19 |
|  | Public Administration | 5 |
| Operatives | Manufacturing | 21 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 18 |
|  | Wholesale Trade | 20 |
|  | Retail Trade | 21 |
|  | Finance, Insurance \& Real Estate | 2 |
|  | Services | 21 |
|  | Public Administration | 14 |
| Service Workers | Manufacturing | 20 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 19 |
|  | Wholesale Trade | 1 |
|  | Retail Trade | 21 |
|  | Finance, Insurance \& Real Estate | 20 |
|  | Services | 21 |
|  | Public Administration | 20 |

(table is continued on next page)

|  | Manufacturing | 20 |
| :--- | :--- | ---: |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 6 |
|  | Wholesale Trade | 2 |
|  | Retail Trade | 9 |
|  | Services | 10 |
|  | Public Administration | 2 |
| Total |  | $\mathbf{9 4 2}$ |

Notes: Table reports the number of industry-occupation-state-group cells included in the analysis. The final column reports the number of state-groups within each occupation-industry pair.
Sources: 5\% sample of the 1960 Decennial Census (Ruggles et al. 2023).

## Appendix Table 10. Cells Excluded from the 1960 Gender Wage Gap Analysis, by Occupation and Industry

| Occupation | Industry | Number of State Groups |
| :---: | :---: | :---: |
| Professional, Technical | Mining | 19 |
|  | Construction | 15 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 2 |
|  | Wholesale Trade | 16 |
|  | Retail Trade | 2 |
|  | Finance, Insurance \& Real Estate | 2 |
| Managers, Officials and Proprietors | Mining | 20 |
|  | Construction | 11 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 3 |
|  | Wholesale Trade | 2 |
| Clerical | Mining | 8 |
| Sales | Mining | 21 |
|  | Construction | 21 |
|  | Manufacturing | 1 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 18 |
|  | Wholesale Trade | 4 |
|  | Services | 3 |
|  | Public Administration | 21 |
| Craftsmen | Mining | 21 |
|  | Construction | 19 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 6 |
|  | Wholesale Trade | 17 |
|  | Retail Trade | 1 |
|  | Finance, Insurance \& Real Estate | 20 |
|  | Services | 2 |
|  | Public Administration | 16 |
| Operatives | Mining | 21 |
|  | Construction | 21 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 3 |
|  | Wholesale Trade | 1 |
|  | Finance, Insurance \& Real Estate | 19 |
|  | Public Administration | 7 |
| Service Workers | Mining | 21 |
|  | Construction | 21 |
|  | Manufacturing | 1 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 2 |
|  | Wholesale Trade | 20 |
|  | Finance, Insurance \& Real Estate | 1 |
|  | Public Administration | 1 |
| Non-farm Laborers | Mining | 21 |
|  | Construction | 21 |
|  | Manufacturing | 1 |
|  | Transportation, Communications, Electric, Gas \& Sanitary Services | 15 |
|  | Wholesale Trade | 19 |
|  | Retail Trade | 12 |
|  | Finance, Insurance \& Real Estate | 21 |
|  | Services | 11 |
|  | Public Administration | 19 |
| Total |  | 570 |

Notes: Table reports the number of industry-occupation-state-group cells excluded from the analysis. The final column reports the number of state-groups within each occupation-industry pair that are dropped from the analysis because fewer than 10 men and women wage earners are observed in 1960 or there are no observations in the ASEC during our period of interest. We also drop cells in the agriculture industry or farmer and farm-laborer occupations.
Sources: 5\% sample of the 1960 Decennial Census (Ruggles et al. 2023).

## Appendix Table 11. Observation Counts by Sex for Year, Industry, and Occupation

| Year, Industry, and Occupation | Observations |  |
| :---: | :---: | :---: |
|  | Men | Women |
| A. Year (of wage or weeks observation, or survey year - 1) |  |  |
| 1949 | 68,888 | 28,639 |
| 1959 | 1,329,790 | 674,676 |
| 1961 | 11,078 | 5,819 |
| 1962 | 7,811 | 4,249 |
| 1963 | 11,373 | 6,109 |
| 1964 | 11,331 | 6,215 |
| 1965 | 24,093 | 13,234 |
| 1966 | 15,408 | 8,493 |
| 1967 | 23,981 | 14,149 |
| 1968 | 24,300 | 14,393 |
| 1969 | 23,437 | 14,146 |
| 1970 | 23,322 | 14,305 |
| 1971 | 22,354 | 13,900 |
| 1972 | 21,740 | 13,734 |
| 1973 | 21,334 | 13,778 |
| 1974 | 20,935 | 13,948 |
| B. Industry |  |  |
| Mining | 32,695 | 1,424 |
| Construction | 160,298 | 6,432 |
| Manufacturing | 649,683 | 223,953 |
| Transportation, Communications, Electric, Gas \& Sanitary Services | 185,461 | 31,865 |
| Wholesale Trade | 76,048 | 20,241 |
| Retail Trade | 171,370 | 154,370 |
| Finance, Insurance \& Real Estate | 59,935 | 47,009 |
| Services | 204,015 | 330,382 |
| Public Administration | 121,670 | 44,111 |
| C. Occupation |  |  |
| Professional, technical | 198,752 | 125,208 |
| Managers, Officials and Proprietors | 160,075 | 26,786 |
| Clerical | 132,717 | 265,676 |
| Sales | 107,363 | 64,267 |
| Craftsmen | 416,512 | 12,589 |
| Operatives | 408,780 | 174,146 |
| Service Workers | 110,528 | 186,145 |
| Non-farm Laborers | 126,448 | 4,970 |

Notes: Table reports the number of observations in our wage earner sample by sex for each year, industry, and observation.
Sample: See Figure 5 notes.

## Appendix Table 12. The Effect of the Equal Pay Act and Title VII on Weekly Wages using the 1960 Gender Wage Gap, Event-Study Estimates

| Year | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Women |  |  | Men |
|  | Model 1 | Model 2 | Model 3 | Model 3 |
| 1949 | 0.093 | 0.092 | 0.012 | 0.003 |
|  | (0.021) | (0.020) | (0.034) | (0.018) |
| 1959 | 0.015 | 0.009 | -0.003 | 0.008 |
|  | (0.020) | (0.020) | (0.031) | (0.016) |
| 1961 | 0.003 | 0.002 | 0.032 | 0.005 |
|  | (0.031) | (0.031) | (0.045) | (0.024) |
| 1962 | 0.008 | 0.001 | -0.000 | 0.003 |
|  | (0.033) | (0.030) | (0.046) | (0.023) |
| 1963 | 0.016 | 0.016 | 0.027 | -0.010 |
|  | (0.025) | (0.024) | (0.042) | (0.021) |
| 1964 (omitted) |  |  |  |  |
| 1965 | 0.007 | -0.001 | 0.018 | -0.007 |
|  | (0.027) | (0.022) | (0.033) | (0.018) |
| 1966 | 0.062 | 0.056 | 0.091 | -0.007 |
|  | (0.035) | (0.031) | (0.045) | (0.020) |
| 1967 | 0.099 | 0.092 | 0.098 | -0.015 |
|  | (0.030) | (0.027) | (0.038) | (0.020) |
| 1968 | 0.100 | 0.094 | 0.083 | 0.008 |
|  | (0.031) | (0.027) | (0.043) | (0.020) |
| 1969 | 0.119 | 0.114 | 0.129 | -0.002 |
|  | (0.031) | (0.027) | (0.040) | (0.020) |
| 1970 | 0.103 | 0.101 | 0.077 | 0.006 |
|  | (0.031) | (0.027) | (0.044) | (0.020) |
| 1971 | 0.097 | 0.092 | 0.110 | -0.007 |
|  | (0.030) | (0.027) | (0.038) | (0.020) |
| 1972 | 0.151 | 0.145 | 0.158 | -0.013 |
|  | (0.035) | (0.031) | (0.043) | (0.020) |
| 1973 | 0.155 | 0.155 | 0.216 | -0.015 |
|  | (0.034) | (0.028) | (0.040) | (0.021) |
| 1974 | 0.167 | 0.164 | 0.176 | -0.029 |
|  | (0.037) | (0.030) | (0.046) | (0.022) |
| Observations | 797,272 | 797,272 | 797,272 | 1,362,199 |

Notes: Table presents the event-study coefficients and standard errors from equation (4) presented in Figure 9. The standard errors have been corrected for heteroskedasticity and an arbitrary correlation within industry-occupation-state-group. Point estimates and standard errors are multiplied by the average gender wage gap in the 1960 Census (equal to 0.374)
Sample and Sources: See notes to Figure 9.

## Appendix Table 13. The Effects of the Equal Pay Act and Title VII on The Distribution of Weekly Wages using 1960 Gender Wage Gaps

|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | P 10 | P 25 | P 50 | P 75 | P 90 |
| A. Women |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | 0.314 | 0.184 | -0.036 | -0.032 | 0.085 |
|  | $(0.099)$ | $(0.040)$ | $(0.029)$ | $(0.024)$ | $(0.037)$ |
| Trend-break in 1964 | 0.079 | 0.046 | -0.009 | -0.008 | 0.021 |
|  | $(0.025)$ | $(0.010)$ | $(0.007)$ | $(0.006)$ | $(0.009)$ |
| Pre-trend slope, 1949-1964 | 0.016 | -0.006 | -0.002 | -0.001 | -0.004 |
|  | $(0.004)$ | $(0.004)$ | $(0.002)$ | $(0.002)$ | $(0.002)$ |
| B. Men |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | 0.052 | 0.014 | -0.046 | -0.057 | -0.031 |
|  | $(0.023)$ | $(0.020)$ | $(0.012)$ | $(0.014)$ | $(0.025)$ |
| Trend-break in 1964 | 0.013 | 0.004 | -0.012 | -0.014 | -0.008 |
|  | $(0.006)$ | $(0.005)$ | $(0.003)$ | $(0.004)$ | $(0.006)$ |
| Pre-trend slope, 1949-1964 | -0.007 | -0.003 | 0.002 | 0.004 | 0.006 |
|  | $(0.002)$ | $(0.002)$ | $(0.001)$ | $(0.001)$ | $(0.001)$ |

## Covariates

| Demographics, Ind-Occ-State FEs, Year FEs | X | X | X | X | X |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Ind-Year FEs, Occ-Year FEs, State-Year FEs | X | X | X | X | X |

Notes: Table reports estimates of equation (5), where the dependent variable is the recentered influence function for weekly log wages and all regressions include as covariates an indicator for nonwhite race, a quadratic function in age, and fixed effects for industry-occupation-state-group, industry-year, occupation-year, and state-group-year. Spline estimates at mean Gap are multiplied by the average gender gap (equal to 0.374). As in Figure 9, we pool years 1959 and 1961-1963 because of small sample sizes in the CPS. See notes to Table 2 for details on sample and specification.
Sample and Sources: See Figure 10 notes.

Appendix Table 14. Heterogeneity in the Effects of the Equal Pay Act and Title VII on Wages and Employment of Women using 1960 Gender Wage Gaps

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All <br> wage earners | Full-time wage earners | White | Black | Less than 12 years education | At least 12 years education | $\begin{gathered} \text { Age } \\ 25-44 \end{gathered}$ | $\begin{gathered} \text { Age } \\ 45-64 \end{gathered}$ | Married | Unmarried |
| A. Log weekly wage |  |  |  |  |  |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | $\begin{gathered} 0.100 \\ (0.023) \end{gathered}$ | $\begin{gathered} 0.140 \\ (0.023) \end{gathered}$ | $\begin{gathered} 0.079 \\ (0.024) \end{gathered}$ | $\begin{gathered} 0.045 \\ (0.059) \end{gathered}$ | $\begin{gathered} 0.093 \\ (0.030) \end{gathered}$ | $\begin{gathered} 0.095 \\ (0.028) \end{gathered}$ | $\begin{gathered} 0.096 \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.102 \\ (0.035) \end{gathered}$ | $\begin{gathered} 0.090 \\ (0.030) \end{gathered}$ | $\begin{gathered} 0.111 \\ (0.031) \end{gathered}$ |
| Trend-break in 1964 | $\begin{gathered} 0.067 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.098 \\ (0.016) \end{gathered}$ | $\begin{gathered} 0.056 \\ (0.017) \end{gathered}$ | $\begin{gathered} 0.022 \\ (0.029) \end{gathered}$ | $\begin{gathered} 0.052 \\ (0.017) \end{gathered}$ | $\begin{gathered} 0.077 \\ (0.023) \end{gathered}$ | $\begin{gathered} 0.065 \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.065 \\ (0.022) \end{gathered}$ | $\begin{gathered} 0.060 \\ (0.020) \end{gathered}$ | $\begin{gathered} 0.074 \\ (0.021) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{gathered} -0.001 \\ (0.004) \end{gathered}$ | $\begin{gathered} -0.010 \\ (0.004) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.005) \end{gathered}$ | $\begin{aligned} & -0.008 \\ & (0.009) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.005) \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.004) \end{gathered}$ | $\begin{aligned} & -0.002 \\ & (0.007) \end{aligned}$ | $\begin{gathered} 0.003 \\ (0.005) \end{gathered}$ | $\begin{gathered} -0.006 \\ (0.005) \end{gathered}$ |
| B. Log number of employees |  |  |  |  |  |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | $\begin{gathered} -0.118 \\ (0.047) \end{gathered}$ | $\begin{gathered} -0.060 \\ (0.055) \end{gathered}$ | $\begin{aligned} & -0.050 \\ & (0.050) \end{aligned}$ | $\begin{aligned} & -0.752 \\ & (0.321) \end{aligned}$ | $\begin{gathered} -0.239 \\ (0.085) \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.068) \end{gathered}$ | $\begin{gathered} -0.160 \\ (0.056) \end{gathered}$ | $\begin{gathered} -0.115 \\ (0.073) \end{gathered}$ | $\begin{gathered} -0.085 \\ (0.067) \end{gathered}$ | $\begin{gathered} -0.213 \\ (0.069) \end{gathered}$ |
| Trend-break in 1964 | $\begin{gathered} -0.079 \\ (0.031) \end{gathered}$ | $\begin{gathered} -0.042 \\ (0.039) \end{gathered}$ | $\begin{aligned} & -0.035 \\ & (0.035) \end{aligned}$ | $\begin{aligned} & -0.372 \\ & (0.159) \end{aligned}$ | $\begin{gathered} -0.133 \\ (0.047) \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.055) \end{gathered}$ | $\begin{aligned} & -0.108 \\ & (0.038) \end{aligned}$ | $\begin{aligned} & -0.073 \\ & (0.046) \end{aligned}$ | $\begin{gathered} -0.057 \\ (0.045) \end{gathered}$ | $\begin{gathered} -0.143 \\ (0.046) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{array}{r} -0.005 \\ (0.011) \\ \hline \end{array}$ | $\begin{array}{r} -0.010 \\ (0.016) \\ \hline \end{array}$ | $\begin{gathered} 0.024 \\ (0.012) \\ \hline \end{gathered}$ | $\begin{gathered} 0.059 \\ (0.030) \\ \hline \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.010) \\ \hline \end{gathered}$ | $\begin{gathered} 0.026 \\ (0.018) \\ \hline \end{gathered}$ | $\begin{gathered} -0.016 \\ (0.017) \\ \hline \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.015) \\ \hline \end{gathered}$ | $\begin{array}{r} -0.016 \\ (0.014) \\ \hline \end{array}$ | $\begin{gathered} 0.016 \\ (0.015) \\ \hline \end{gathered}$ |
| C. Log annual hours worked |  |  |  |  |  |  |  |  |  |  |
| Spline estimate in 1968 at mean Gap | $\begin{aligned} & -0.087 \\ & (0.052) \end{aligned}$ | $\begin{gathered} -0.086 \\ (-0.086) \end{gathered}$ | $\begin{gathered} -0.063 \\ (0.058) \end{gathered}$ | $\begin{aligned} & -0.573 \\ & (0.502) \end{aligned}$ | $\begin{gathered} -0.157 \\ (0.081) \end{gathered}$ | $\begin{gathered} -0.021 \\ (0.076) \end{gathered}$ | $\begin{gathered} -0.130 \\ (0.056) \end{gathered}$ | $\begin{gathered} -0.079 \\ (0.077) \end{gathered}$ | $\begin{gathered} -0.058 \\ (0.076) \end{gathered}$ | $\begin{gathered} -0.135 \\ (0.080) \end{gathered}$ |
| Trend-break in 1964 | $\begin{gathered} -0.058 \\ (0.034) \end{gathered}$ | $\begin{gathered} -0.060 \\ (0.039) \end{gathered}$ | $\begin{aligned} & -0.044 \\ & (0.041) \end{aligned}$ | $\begin{aligned} & -0.284 \\ & (0.249) \end{aligned}$ | $\begin{gathered} -0.088 \\ (0.045) \end{gathered}$ | $\begin{gathered} -0.017 \\ (0.062) \end{gathered}$ | $\begin{aligned} & -0.088 \\ & (0.038) \end{aligned}$ | $\begin{aligned} & -0.050 \\ & (0.049) \end{aligned}$ | $\begin{gathered} -0.038 \\ (0.051) \end{gathered}$ | $\begin{gathered} -0.090 \\ (0.053) \end{gathered}$ |
| Pre-trend slope, 1949-1964 | $\begin{array}{r} -0.019 \\ (0.013) \\ \hline \end{array}$ | $\begin{array}{r} -0.016 \\ (0.015) \\ \hline \end{array}$ | $\begin{gathered} 0.012 \\ (0.014) \\ \hline \end{gathered}$ | $\begin{gathered} 0.019 \\ (0.016) \\ \hline \end{gathered}$ | $\begin{array}{r} -0.019 \\ (0.011) \\ \hline \end{array}$ | $\begin{gathered} 0.017 \\ (0.018) \\ \hline \end{gathered}$ | $\begin{gathered} -0.026 \\ (0.017) \\ \hline \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.017) \\ & \hline \end{aligned}$ | $\begin{array}{r} -0.025 \\ (0.015) \\ \hline \end{array}$ | $\begin{array}{r} -0.004 \\ (0.018) \\ \hline \end{array}$ |
| Group mean Gap | 0.374 | 0.358 | 0.356 | 0.505 | 0.449 | 0.309 | 0.370 | 0.394 | 0.374 | 0.374 |
| Observations | 797,272 | 548,891 | 693,141 | 97,935 | 353,102 | 440,266 | 442,429 | 354,843 | 512,242 | 285,029 |
| Industry-Occupation-State-Year Cells | 5,264 | 4,640 | 4,976 | 847 | 2,430 | 4,395 | 3,888 | 3,568 | 4,319 | 3,008 |

 The spline estimates in 1968 are scaled using the mean gender gap for the group, whose value in the data is reported in the third-to-last row. Individual observations are reported for Panel A, and the number of job cells are reported for Panels B and C. See Table 2 notes and text for details.
Sample and Sources: See Table 2 notes.

## Appendix Table 15. The Effect of the Equal Pay Act and Title VII on Employment using the 1960 Gender Wage Gap, Event-Study Estimates

| Year | (1) | (2) | (3) | (4) |
| :---: | :---: | :---: | :---: | :---: |
|  | Log Em | er of ees | Log A | Hours d |
|  | Women | Men | Women | Men |
| 1949 | 0.095 | -0.076 | 0.125 | -0.030 |
|  | (0.087) | (0.043) | (0.100) | (0.045) |
| 1959 | 0.075 | -0.015 | 0.038 | 0.013 |
|  | (0.071) | (0.037) | (0.087) | (0.039) |
| 1961 | 0.099 | -0.075 | 0.094 | -0.105 |
|  | (0.090) | (0.056) | (0.123) | (0.062) |
| 1962 | 0.048 | -0.097 | 0.040 | -0.110 |
|  | (0.092) | (0.055) | (0.112) | (0.060) |
| 1963 | 0.170 | 0.037 | 0.088 | 0.039 |
|  | (0.077) | (0.042) | (0.095) | (0.044) |
| 1964 (omitted) |  |  |  |  |
| 1965 | 0.038 | 0.018 | 0.018 | 0.021 |
|  | (0.067) | (0.043) | (0.078) | (0.045) |
| 1966 | -0.021 | -0.033 | -0.081 | -0.026 |
|  | (0.092) | (0.048) | (0.120) | (0.049) |
| 1967 | -0.039 | 0.043 | -0.104 | 0.067 |
|  | (0.089) | (0.046) | (0.105) | (0.048) |
| 1968 | -0.046 | -0.025 | -0.078 | -0.005 |
|  | (0.102) | (0.046) | (0.121) | (0.048) |
| 1969 | -0.088 | -0.016 | -0.125 | 0.012 |
|  | (0.101) | (0.045) | (0.136) | (0.049) |
| 1970 | -0.062 | -0.077 | -0.117 | -0.069 |
|  | (0.088) | (0.048) | (0.098) | (0.052) |
| 1971 | -0.160 | -0.105 | -0.284 | -0.088 |
|  | (0.094) | (0.047) | (0.101) | (0.048) |
| 1972 | -0.178 | -0.102 | -0.217 | -0.093 |
|  | (0.093) | (0.047) | (0.105) | (0.049) |
| 1973 | -0.098 | -0.052 | -0.169 | -0.049 |
|  | (0.086) | (0.047) | (0.104) | (0.048) |
| 1974 | -0.199 | -0.004 | -0.256 | 0.031 |
|  | (0.089) | (0.049) | (0.116) | (0.056) |
| Observations | 5,264 | 10,640 | 5,264 | 10,640 |

Notes: Table presents the event-study coefficients and standard errors from model 3 of equation (4) presented in Figure 11. The standard errors have been corrected for heteroskedasticity and an arbitrary correlation within industry-occupation-state-group. Point estimates and standard errors are multiplied by the average gender wage gap in the 1960 Census (equal to 0.374).
Sample and Sources: See notes to Figure 11.

## Appendix Table 16. Dollar Values of Percentiles of Hourly, Weekly, and Annual Wages for Women

|  | Hourly Wage |  | Weekly Wage |  | Annual Wage |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Value in | Value in | Value in |  | Value in | Value in |
| Percentile | $1964 \$$ | $2022 \$$ | $1964 \$$ | $2022 \$$ | $1964 \$$ | Value in |
| 1 | 0.17 | 1.53 | 3.92 | 35.63 | 68.44 | 622.68 |
| 2 | 0.25 | 2.32 | 6.02 | 54.76 | 121.97 | 1109.79 |
| 3 | 0.32 | 2.92 | 8.00 | 72.74 | 182.96 | 1664.69 |
| 4 | $0.38^{\text {a }}$ | 3.44 | 9.93 | 90.31 | 218.43 | 1987.43 |
| 5 | $0.43^{\mathrm{b}}$ | 3.87 | 11.75 | 106.91 | 274.78 | 2500.14 |
| 6 | 0.48 | 4.36 | 12.81 | 116.57 | 316.26 | 2877.52 |
| 7 | $0.52^{\text {c }}$ | 4.76 | 14.69 | 133.68 | 373.29 | 3396.42 |
| 8 | 0.57 | 5.16 | 15.82 | 143.95 | 414.76 | 3773.80 |
| 9 | 0.61 | 5.55 | 17.56 | 159.74 | 484.81 | 4411.12 |
| 10 | 0.65 | 5.90 | 18.82 | 171.23 | 518.46 | 4717.25 |

Notes: Percentiles are calculated separately for each outcome using the 1960 Census and 1962-1964 CPS. ${ }^{\text {a Blau and Kahn (2017) }}$ exclude workers earning less than $29 \%$ of the minimum wage, or around $\$ 0.36$ per hour in 1964 dollars $(\$ 1.25 \times 0.29=\$ 0.36)$.
${ }^{\mathrm{b}}$ Derenoncourt and Montialoux (2020) study the effects of the FLSA expansions on the Black-White wage gap in the 1960s and winsorize the annual wage data at the 5 percent level. ${ }^{\text {c Katz and Murphy (1992) exclude workers earning less than } 50 \% \text { of the }}$ 1982 minimum wage ( $\$ 3.35$ ), which is equivalent to around $\$ 0.55$ per hour in 1964.
Sample: Women ages 25 to 64 who are not in the Armed Forces, institutionalized, employed in agriculture, or self-employed.
Sources: 1\% sample of the 1960 Decennial Census, 1962-1964 CPS ASEC (Flood et al. 2022, Ruggles et al. 2023).

## Appendix Table 17. The Effects of the Equal Pay Act and Title VII on Wages and Employment using 1960 Gender Wage Gaps, Robustness to Accounting for the Gender Gap as a Generated Regressor

|  | (1) | (2) | (3) |
| :---: | :---: | :---: | :---: |
|  | Women | Men | Women -Men |
| A. Log weekly wage |  |  |  |
| Spline estimate in 1968 at mean Gap | 0.100 | -0.007 | 0.107 |
|  | (0.023) | (0.011) | (0.025) |
|  | [0.023] | [0.010] | [0.025] |
| Trend-break in 1964 | 0.067 | -0.004 | 0.071 |
|  | (0.015) | (0.008) | (0.017) |
|  | [0.015] | [0.007] | [0.016] |
| Pre-trend slope, 1949-1964 | -0.001 | -0.000 | -0.001 |
|  | (0.004) | (0.002) | (0.004) |
|  | [0.004] | [0.002] | [0.004] |
| B. Log number of employees |  |  |  |
| Spline estimate in 1968 at mean Gap | -0.118 | -0.062 | -0.057 |
|  | (0.047) | (0.029) | (0.048) |
|  | [0.044] | [0.026] | [0.051] |
| Trend-break in 1964 | -0.079 | -0.041 | -0.038 |
|  | (0.031) | (0.019) | (0.032) |
|  | [0.030] | [0.017] | [0.034] |
| Pre-trend slope, 1949-1964 | -0.005 | 0.015 | -0.020 |
|  | (0.011) | (0.005) | (0.011) |
|  | [0.010] | [0.005] | [0.011] |
| C. Log number of annual hours worked |  |  |  |
| Spline estimate in 1968 at mean Gap | -0.087 | -0.047 | -0.039 |
|  | (0.052) | (0.030) | (0.054) |
|  | [0.053] | [0.027] | [0.056] |
| Trend-break in 1964 | -0.058 | -0.032 | -0.026 |
|  | (0.034) | (0.020) | (0.036) |
|  | [0.035] | [0.018] | [0.038] |
| Pre-trend slope, 1949-1964 | -0.019 | 0.008 | -0.026 |
|  | (0.012) | (0.005) | (0.012) |
|  | [0.012] | [0.005] | [0.012] |
| Observations | 797,272 | 1,362,199 | 2,159,471 |
| Sex-industry-occupation-state-year cells | 5,264 | 10,640 | 15,904 |
| Covariates |  |  |  |
| Demographics, Ind-Occ-State FEs, Year FEs | X | X | X |
| Ind-Year FEs, Occ-Year FEs, State-Year FEs | X | X | X |

Notes: Table presents the spline estimates and asymptotic standard errors clustered by industry-occupation-state-group in parentheses. The standard errors in brackets are based on the parametric clustered Bayesian bootstrap described in Appendix C, which accounts for the fact that Gap is a generated regressor. See notes to Table 2.
Sample and Sources: See Table 2 notes.

# Appendix Figure 1. Additional Estimates of the U.S. Gender Gap in Wage Earnings 


B. Smoothed Estimates for the Gender Earnings Ratio in Weekly Wages for Full-Time, Full-Year Workers, by Percentile

C. Unsmoothed Estimates for the Gender Earnings Ratio in Weekly Wages for Full-Time Workers with at least 27 Weeks of Work, by Percentile


Notes: Figure uses the 1950 and 1960 Decennial Censuses and the 1962 to 2020 ASEC. We linearly extrapolate values for earnings years $1950-1958$ and 1960 when Census and CPS data are not available. Panel A uses a sample of wage and salary workers ages $25-64$ who work full-time ( $35+$ hours in the survey reference week), work at least 27 weeks in the previous year, and report positive wage income in the previous year. Panel B uses a sample of wage and salary workers ages 16-64 who work full-time, full-year (50+ weeks worked), and report positive wage income in the previous year. Panel C uses the same sample as Panel B of Figure 1. In panels A and B, we smooth the series using a local linear regression with a bandwidth of 2 years. We plot the gender earnings ratio at the pth percentile/mean by taking the ratio of the pth percentile/mean of the wage distribution for women over the pth percentile/mean of the wage distribution for men. See notes to Figure 1 for details on sources.

## Appendix Figure 2. Changes in Men's Log Weekly Wages Relative to Women's Log Weekly Wages by the Share of Female Employees, 1950-1960



Notes: Figure plots the change from 1950 to 1960 in men's average log weekly wages minus the change in women's average log weekly wages ( y -axis) against the share of employees that are women in 1950 (x-axis) for single digit industry-occupation cells. To minimize the visual influence of outliers, the figure excludes the observation for the mining industry and sales occupation, for which the x -axis value is 0.17 and the y -axis value is 1.4 .
Sample: The underlying sample consists of 25-64-year-olds with positive annual wage and salary earnings and weeks worked in the prior year who are not in the Armed Forces, institutionalized, employed in agriculture, or self-employed.
Sources: Authors' calculations using the $1 \%$ sample of the 1950 Decennial Census and $5 \%$ sample of the 1960 Decennial Census. See text for details on sample selection and exclusion criteria.

## Appendix Figure 3. Changes in the Log Number of Men Employed Relative to the Log Number of Women Employed by the 1950 Log Wage Earnings, 1950-1960



Notes: Figure plots the change from 1950 to 1960 in the log number of employees who are men minus the change in the $\log$ number of employees who are women (y-axis) against the average log weekly wage for all individuals in 1950 ( x -axis) for single digit industry-occupation cells. To minimize the visual influence of outliers, the figure excludes observations for the mining industry and sales occupation ( x -axis: 6.8 , y -axis: 1.4 ), the construction industry and service workers ( $6.1,-1.7$ ), and the wholesale trade industry and professional occupation ( $6.8,-1.1$ ).
Sample: The underlying sample consists of 25-64-year-olds with positive annual wage and salary earnings and weeks worked in the prior year who are not in the Armed Forces, institutionalized, employed in agriculture, or self-employed.
Sources: Authors' calculations using the $1 \%$ sample of the 1950 Decennial Census and $5 \%$ sample of the 1960 Decennial Census. See text for details on sample selection and exclusion criteria.

# Appendix Figure 4. The Effect of the Equal Pay Act and Title VII on Wages using Pre-Existing State Equal Pay Laws, Robustness to Using Hourly and Annual Wages 



Notes: Figure plots the event-study coefficients from equation (1) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within state-group. The dependent variable is either the log weekly wage (our preferred approach), log hourly wage, or log annual wage. Log hourly wage is log annual wage earnings less log weeks worked last year and log hours worked in the reference week. The spline (equation 3) is shown for the log weekly wage. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, and fixed effects for industry-occupation-state-group, industry-year, and occupation-year. We include log hours worked as a covariate when the dependent variable is log weekly wages and log hours worked and log weeks worked when the dependent variable is log annual wages. See description in Appendix A.
Sample and Sources: See Figure 3 notes.

## Appendix Figure 5. The Effects of the Equal Pay Act and Title VII on Wages using Pre-Existing State Equal Pay Laws, Robustness to Winsorizing Low Wages



Notes: Figure plots the event-study coefficients from equation (1) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within state-group. The dependent variables are the unwinsorized log hourly, weekly, or annual wage ("all wages") and their winsorized counterparts at the indicated percentile (see Appendix Table 16 for the value in levels). The spline (equation 3) is shown for the unwinsorized dependent variable. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, and fixed effects for industry-occupation-state-group, industry-year, and occupation-year. We include log hours worked as a covariate when the dependent variable is log weekly wages and log hours worked and log weeks worked when the dependent variable is log annual wages. See description in Appendix B for details on winsorizing and Appendix A for details on dependent variables Sample and Sources: See Figure 3 notes.

# Appendix Figure 6. The Effect of the Equal Pay Act and Title VII on Wages using Pre-Existing State Equal Pay Laws, Robustness to Limiting Sample to More Attached Workers 



Notes: Figure plots the event-study coefficients from equation (1) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and an arbitrary correlation within state group. The thin lines correspond to spline estimates of equation (3) for the baseline specification. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, log hours worked, and fixed effects for industry-occupation-state-group, industry-year, and occupation-year. The estimates in red are based on a sample of individuals who worked at least 27 weeks in the previous year and at least 35 hours in the reference week.
Sample and Sources: See Figure 3 notes.

## Appendix Figure 7. The Effect of the Equal Pay Act and Title VII on Wages using Pre-Existing State Equal Pay Laws, Robustness to Controlling for Education



Notes: Figure plots the event-study coefficients from equation (1) as well as 95-percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and an arbitrary correlation within state group. The thin lines correspond to spline estimates of equation (3) for the baseline specification. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, $\log$ hours worked, and fixed effects for industry-occupation-state-group, industry-year, and occupation-year. The estimates in red include years of education as a covariate. We omit earnings year 1962 from the regression because education is not available in that year.
Sample and Sources: See Figure 3 notes.

# Appendix Figure 8. The Effect of the Equal Pay Act and Title VII on Wages using Pre-Existing State Equal Pay Laws, Robustness to Dropping States that Enacted Equal Pay Laws from 1959-1962 



Notes: Figure plots the event-study coefficients from equation (1) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within state-group. We present results for a sample of wage earners in all states, as well as an auxiliary sample that excludes individuals living in state groups that adopted or expanded equal pay laws between 1959 and 1962 (Arizona-Colorado-New Mexico, Alaska-Hawaii-Washington, MichiganWisconsin, Ohio, Idaho-Montana-Nevada-Utah-Wyoming). We end the analysis with the 1972 CPS to obtain more detailed state group definitions for this robustness check. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, log hours worked and fixed effects for industry-occupation-state-group, industry-year, and occupation-year. See text for more details.
Sample and Sources: See Figure 3 notes.

# Appendix Figure 9. The Effect of the Equal Pay Act and Title VII on Wages using Pre-Existing State Equal Pay Laws, Robustness to Excluding Industries Newly Covered under the 1961 FLSA Amendments 



Notes: Figure plots the event-study coefficients from equation (1) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within state-group. We present results for all industry-occupation-state-group cells in our main sample in blue and results when excluding industries where coverage of the minimum wage expanded under the 1961 FLSA amendments in red. These industries are retail trade and construction. The spline (equation 3) is shown for the main sample. All regressions use the covariates from model 2.
Sample and Sources: See Figure 3 notes.

## Appendix Figure 10. The Effect of the Equal Pay Act and Title VII on the Distribution of Wages using Pre-Existing State Equal Pay Laws



Notes: The figure plots estimates of model 2 of equation (1) where the dependent variable is the RIF for weekly log wages for women (panel A) and men (panel B). Because sample sizes are much smaller in the early ASEC years and because this is a demanding specification, we pool 1959 and 1962-1964 into a single event-study coefficient (plotted in 1959). Estimates for the 1970 Census are shown for the $10^{\text {th }}$ and $25^{\text {th }}$ percentiles, from a regression estimated using only the 1950, 1960, and 1970 Censuses.
Sources: See Figure 3 notes and the combined one-percent Form 1 and Form 2 state samples of the 1970 Decennial Census.
Sample: See Figure 3 notes.

## Appendix Figure 11. Comparison of Different Measures of 1960 Gender Wage Gap

## A. Unadjusted Hourly Wage Gap to Demographic-Adjusted Hourly Wage Gap



## B. Unadjusted Hourly Wage Gap to Unadjusted Weekly Wage Gap




Notes: Each point represents the gender wage gap in an industry-occupation-state-group cell. We construct the unadjusted hourly and weekly wage gaps as the difference between mean log wages of men and women as described in the text. The covariateadjusted hourly wage gap is estimated from a regression that pools women and men and includes as covariates an indicator for nonwhite race, a quadratic in age, and indicators for educational attainment (with all covariates assumed to have the same coefficient for women and men). The covariate-adjusted weekly wage gap also includes the log of usual hours worked as a covariate in the regression.
Sources: 5\% sample of the 1960 Decennial Census (Ruggles et al. 2023).
Sample: See Figure 7 notes.

## Appendix Figure 12. The Effect of the Equal Pay Act and Title VII on Wages using 1960 Gender Wage Gaps, Robustness to Using Hourly and Annual Wages



Notes: Figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within industry-occupation-state-group. The dependent variable is either the log weekly wage (our preferred approach), log hourly wage, or log annual wage. Log hourly wage is the log annual wage earnings less log weeks worked last year and log hours worked in the reference week. The spline (equation 5) is shown for the log weekly wage. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, and fixed effects for industry-occupation-state-group, industry-year, occupation-year, and state-group-year. We include log hours worked as a covariate when the dependent variable is log weekly wages and log hours worked and log weeks worked when the dependent variable is $\log$ annual wages. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374). See description in Appendix A.
Sample: See Figure 7 notes.
Sources: See Figure 3 notes.

## Appendix Figure 13. The Effects of the Equal Pay Act and Title VII on Wages using 1960 Gender Wage Gaps, Robustness to Winsorizing Low Wages



Notes: Figure plots the event-study coefficients from equation (4) as well as 95-percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within industry-occupation-state-group. The dependent variables are the unwinsorized log hourly, weekly, or annual wage ("all wages") and their winsorized counterparts at the indicated percentile (see Appendix Table 16 for the value in levels). The spline (equation 5) is shown for the unwinsorized dependent variable. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, and fixed effects for industry-occupation-state-group, industry-year, occupation-year, and state-group-year. We include log hours worked as a covariate when the dependent variable is $\log$ weekly wages and $\log$ hours worked and log weeks worked when the dependent variable is log annual wages. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374). See description in Appendix B for details on winsorizing and Appendix A for details on dependent variables.
Sample: See Figure 7 notes.
Sources: See Figure 3 notes

## Appendix Figure 14. The Effect of the Equal Pay Act and Title VII on Wages using 1960 Gender Wage Gaps, Robustness to Robustness to Limiting Sample to More Attached Workers



Notes: Figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation by industry-occupation-state-group. The thin lines correspond to spline estimates of equation (5) for the baseline specification. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, log hours worked, and fixed effects for industry-occupation-state-group, industry-year, occupation-year, and state-group-year. The estimates in red are based on a sample of individuals who worked at least 27 weeks in the previous year and at least 35 hours in the reference week. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374 ).
Sample: See Figure 7 notes.
Sources: See Figure 3 notes.

## Appendix Figure 15. The Effect of the Equal Pay Act and Title VII on Wages using 1960 Gender Wage Gaps, Robustness to Controlling for Education



Notes: Figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation by industry-occupation-state-group. The thin lines correspond to spline estimates of equation (5) for the baseline specification. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, log hours worked, and fixed effects for industry-occupation-state-group, industry-year, occupation-year, and state-group-year. The line in red adds years of education as a covariate. We omit earnings year 1962 from the regression because education is not available in that year. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374 ).
Sample: See Figure 7 notes.
Sources: See Figure 3 notes.

# Appendix Figure 16. The Effect of the Equal Pay Act and Title VII on Wages using 1960 Gender Wage Gaps, Robustness to Using the 1940 Gender Wage Gap as an Instrumental Variable 

## A. Women, Using 1940 Gap as an IV, Specification 2


C. Men, Using 1940 Gap as an IV, Specification 2

B. Women, Using 1940 Gap as an IV, Specification 3

D. Men, Using 1940 Gap as an IV, Specification 3


Notes: Figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within industry-occupation-state-group. The blue line displays our baseline results, which use the 1960 gender wage gap as the key explanatory variable. The green line displays results in which the 1940 gender wage gap is an instrumental variable for the 1960 gender wage gap. The spline (equation 5) is shown for the baseline approach. Panels A and C use the covariates from model 2 of Figure 9A, and panels B and D use the covariates from model 3 of Figure 9A. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374). See text for more details.
Sample: The sample is the same as in Figure 3, but we additionally restrict the sample to individuals working in industry-occupation-state-group cells for whom we estimate a gender wage gap variable (which requires at least 10 men and 10 women full-time, fullyear workers with non-missing hourly wages in 1940 and 1960. Sources: Full count of the 1940 Decennial Census, 1\% sample of the 1950 Decennial Census, $5 \%$ sample of the 1960 Decennial Census and the 1965 CPS ASEC (Flood et al. 2022, Ruggles et al. 2023).

# Appendix Figure 17. The Effect of the Equal Pay Act and Title VII on Wages using 1960 Gender Wage Gaps, Robustness to Excluding Industries with Coverage Expansions under the 1961 FLSA Amendments 



Notes: Figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within industry-occupation-state-group. We present results for all industry-occupation-state-group cells in our main sample in blue and results when excluding industries where coverage of the minimum wage expanded under the 1961 FLSA amendments in red with circle markers. These industries are retail trade and construction. The spline (equation 5) is shown for the main sample. All regressions use the covariates from model 3. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374).
Sample: See Figure 7 notes.
Sources: See Figure 3 notes.

# Appendix Figure 18. The Effect of the Equal Pay Act and Title VII on Weekly Wages using the 1960 Gender Wage Gap, Robustness to Adding State-by-Cohort Fixed Effects 

## A. Women


B. Men


Notes: Figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation by industry-occupation-state-group. The thin lines correspond to spline estimates of equation (5) for the baseline specification. All regressions include as covariates an indicator for nonwhite race, a quadratic function in age, log hours worked, and fixed effects for industry-occupation-state-group, industry-year, occupation-year, and state-group-year. The line in red adds fixed effects for state-by-birth-year as a covariate. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374 ). Sample: See Figure 7 notes.
Sources: See Figure 3 notes.

# Appendix Figure 19. The Effect of the Equal Pay Act and Title VII on Wages using 1960 Gender Wage Gaps, by 1960 Average Wage Level in Industry-Occupation-State-Group Cell 



Notes: Figure plots the event-study coefficients from equation (4) as well as 95 -percent, pointwise confidence intervals using standard errors that have been corrected for heteroskedasticity and arbitrary correlation within industry-occupation-state-group. The thin lines correspond to spline estimates of equation (5). We allow the event-study coefficients to differ based on whether an industry-occupation-state-group cell has a 1960 average wage that is above or below the median cell-level average wage. Otherwise, this specification is the same as model 3, shown in Figure 9A. Point estimates and confidence intervals are multiplied by the average gender wage gap in the 1960 Census for women (equal to 0.374 ).
Sample: See Figure 7 notes.
Sources: See Figure 3 notes.
E. Selected Newspaper Articles

Appendix - 44

By Elizabeth Shelton<br>washington Post Staff Writer

Cascs are being settled out of court and back wages are being paid in restitution to women employes under the Equal Pay Act as a result of a Federal court decision in Reno. Nev.
Labor Department spokesmen said yesterday voluntary compliance was one of the results of the decision in the first test case, which it brought "to explore a hypothesis."
The Reno case, on which a decision was handed down July 22, was listed yesterday in the Status of Women newsletter as one of the major advances women have made in the past year.

District Court Judge Bruce R. Thompson awarded back pay to two women laboratory analysts who had been getting less money than a more experienced male co-worker performing the same services.

The employer, Basic, Inc., claimed the male analyst was entitled to more money because he had more experience and responsibility.
Judge Thompson decided that the work the three em. ployes were doing was substantially the same and found, in addition, that the man's longer experience was not a requirement of the job.

The Basic case was brought by the Labor Department to test the act, which went into effect in July, 1965.

JUDGE THOMPSON referred in his opinion to a statement by the labora. tory's division manager, when warned in 1963 of the imminence of passage of the Equal Pay Act, that "Con. gress would never pass such a foolish law."
"This 'roolish law' is now
before the Court for interpretation . . ."" he began, adding humorously:
"The case for the plaintiff was presented by a feminine attorney (Mildred Law) of the Department of Labor, resisted by a masculine attorney of the Nevada Bar, and considered by a judge who, for the purposes of this case at least, must be sexless, a possibility not apparent when the oath of office was taken and one which may bespeak the appointment of older judges."

His holdings covered the points that wage differentials are permissible only for the actual hours during which working conditions and responsibilities differ and that a "paper" job classification unrelated to true working conditions does not justify a differential.

He ruled that the burden of proof of the exceptions is on the employer.

The two women who won a raise and back pay were Ann Jones and Jo Ann Barredo who work in the Basic plant laboratory in Gabbs, Nev.

THE OUTCOME of the appropriately named "Basic case" was reported here in the newsletter of the Inter. departmental Committce on the Status of Women and Citizens' Advisory Council. The newsletter also reported some new interpretations of the Office of Equal Employment Opportunity affecting job equality. one that employers may not refuse to consider women for jobs that require travel.

## Pay Is Up; Will Jobs Go Down?

The Washington Post, Times Herald (1959-1973); Jun 14, 1964; ProQuest Historical Newspapers: The Washington Post

## Pay Is Up;

 Will Jobs
## Go Down?

THE EQUAL PAY ACT may be a mixed blessing for some of the women workers whose salaries it is supposed to boost.

Instead of getting higher pay for the job, they may not get the job at all.

As the head of a new Virginia manufacturing plant put it: "We had planned to employ women in some of our light manufacturing jobs, but we decided against it because of anticipated complica. tions arising from the equal pay law."

An Ohio manufacturer said his plant would downgrade some job clas. sifications for women and reassign higher-level, higher-paying duties to men.

BUT they were in the minority of 335 employers surveyed by Prentice-Hall about expected results of the law that went into effect last week.

Many employers said they would hike women's wages to bring them into line with men's. Some firms said they would equalize salaries now, but in the future would segregate male and female job classifications.

In the long run, thanks to the example of the Federal Government's drive to wipe out discrimination against its own women employes, the Equal Pay Act may be an easing of promotional channels for qualified women, the researchers found.

## Women Reap Crop of Gains

The Washington Post, Times Herald (1959-1973); Nov 14, 1964;
ProQuest Historical Newspapers: The Washington Post
pg. A18
Vintase Years

## Women Reap Crop of Gains

THE STATUS of American women has improved more over the last three years than at any time since they got the vote in 1920, the head of the Women's Bureau of the Department of Labor said last night.

Mary Dublin Keyserling traced many improvements in the distaff lot to the
establishment in 1961 by President Kennedy of the Commission on the Status of Women.

Since the Commission issued its findings in October 1963, Mrs. Keyserling told the American University Faculty Women's Club, these "significant gains have been won":

- Passage of the Equal

Pay Law, which went into effect last June 11.

- Appointment by President Johnson of 68 women to top Government positions, plus the appointment of 311 women and promotion of more than 1230 others by executive agencies to jobs at salary levels of $\$ 10,000$ and above.
- Efforts by the United States Employment Service to encourage use by employers throughout the country of hiring specifications based exclusively on job performance factors.
- Passage of the Civil Rights Act, with its Title VII that prohibits sex discrimination in employment.
- Establishment by 33 governors of State Commissions on the Status of Women.


## Women Losing Battle for Jobs

The Washington Post, Times Herald (1959-1973); May 9, 1964; ProQuest Historical Newspapers: The Washington Post pg. C6

# Women Losing Battle for Jobs 

Unlted Press International

THE LABOR Department told America's career girls last week that they are losing the battle of the sexes.

On just about every job front, it said, men are getting ahead of the fairer sex. There are still few women doctors, engineers and ac-countants-work traditionally performed by men-while even greater numbers of men are invading the female domain as librarians, social workers and grade school leachers.

Unless women try harder, taey will find the competition even tougher in the decade ahead, Labor Department experts said in the April edition of the monthly Labor Review.

They did not say how this will affect President Johnson's campaign to put more women in high-level government jobs. Mr. Johnson himself admitted last week that qualified "can-do" women are hard to find.
"Despite the publicity given the growing acceptance
of women in the occupausions once reserved exclusively for men," the experts said, some old - fashioned obstacles stand in the way of better jobs for girls.

Private employers are said to prefer men because women constantly leave to get married and have babies. Besides, women rarely plan a lifetime carcer because they expect to get married -and nearly all of them do.

And some bosses simply do not like to have women in the office.

Pay is still often lower for women performing the same jobs as men, despite the equal pay act of 1963. A typical male doctor, for example, earned $\$ 14,784$ in 1959 but his female counterpart took in just \$6562. The picture in other fields, too, has not changed much since then.
"The increasing competition with men for jobs is a very real problem for college women," the report said.

By Harry Naltchayan, Stalf Photographer
TENNESSEE'S Carolyn Adair, alternate Maid of Cotton, wears Maurice Rentner's casual cotton gown with red plaid skirt, black plaid bodice and kerchief in Jelleff's Maid of Cotton fashion show Thursday.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

## States Boost Women's Status More Than U.S.

By Winzola McLendon Washington Post Staff Writer

# States Boost Women's Status More Than U.S. 

By Winzola McLendon Washincton Post Btaf! Writer
A great deal more is being done to improve the status of women at the state level than at the Federal level, Secretary of Labor Willard Wirtz said yesterday.

The state commissions are spearheading drives for better state standards of labor, Wirtz told a news conference. And among the improvements the states are interested in are the Government's goals of $\$ 1.25$ an hour, plus premium pay for overtime and equal-pay-forequal work laws.

Wirtz said the growth of the state commissions on the status of women "has been almost phenomenal" and that the number of commissions has tripled (from 13 to 39 ) in the past year, with even more states expected to follow suit.

THE COMMISSIONS were discussed by Wirtz following an Inter-Departmental meeting on the Status of Women.

Esther Peterson, the President's assistant who coordinates the work of the Inter-Departmental Committee and the Citizens' Advisory Council on the Status of Women (both are outgrowths of a Presidential Commission on the Status of Women established by President John F. Kennedy to look into problems of discrimination against women), also attended the news conference and said there would be a meeting here in July of the state commissions on the status of women and the government bureaus.

Wirtz then noted that the state commissions are taking effective leadership in their states, and are making efforts in behalf of both men and women employes who do not come under the wage regulations set down by the Federal Government.

M A R Y KEYSERLING. head of the Women's Bureau, reported on labor statistics involving women, noting that more than half the women working today are in the age group of 45 to 54
and 68 per cent of this group are college graduates.

Before World War Il, said Mrs. Keyserling, the majority of working women were in the 18 -to- 24 age group.

She also noted that of the women who have five years or more of college education, 81 per cent are gainfully employed. But when it comes to wages, Mrs. Keyserling said, women are not faring so well. The median earnings of women are only 58 per cent of what the men are earning.

## Commission Will Enforce Sex Clause In Title VII With 'Common Sense'

By Elizabeth Shelton Washington Post Staff Writer
The Washington Post, Times Herald (1959-1973); Nov 24, 1965;

## ProQuest Historical Newspapers: The Washington Post

## pg. C3

# Commission Will Enforce Sex Clause In Title VII With 'Common Sense’ 

By Elizabeth Shelton Washington Post Staff writer Common sense will be the rule in interpreting Title VII of the Civil Rights Act, chairman Franklin D. Roosevelt of the Equal Employment Opportunity. Commission said Monday.
He said this means it is still legal under the Title's ban on sex discrimination to advertise for, and to hire, a masseur for a men's Turkish bath and a masseuse for a women's establishment.

Roosevelt called a press conference to make public new guidelines prepared by the Commission for the use of employers. He said he did not foresee any "revolution in job patterns," such as more male nurses and secretaries, as a result of the interpretations.

THE COMMISSION has asked Congress and the state legislatures to examine all their "protective" laws designed to guard women against danger and exploitation.

The Commission said its study of these laws demonstrated that many are irrelevant to present-day needs of women and are capable of denying equality of opportunity to them.
The Status of Women Commission will make recommendations to the state legislatures where the protective laws are found to have lost their rationale.

Where compliance is not achieved voluntarily through conciliation, with the Commission acting as the conciliator, it will be up to individual employes and would-be employes to bring suits in Federal Court.

THE COMMISSION'S general counsel, Charles Duncan, told of an effective series of talks with a large shoe warehouse company.

The company previously had maintained separate work lines, with jobs labeled as "men's" and "women's." The highest paying women's job was equal in salary to the lowest paying men's job.

The "men's" jobs of crating, packing, unpacking and lifting are now open to women and the "women's" jobs of inspecting, labeling and rec-ord-keeping are now open to men.

The separate seniority lines/were combined when the jobs were opened up to both sexes.

ROOSEVELT said "confidentiality" prevented his listing specific cases but he told of a company with a policy of firing women who got married.

One of the guidelines issued Monday states that a company may not fire women who marry unless it also has a policy of firing men who marry.

Other provisions include:

- Sex will be considered a bona fide occupational qualification in the case of an actor or actress but the Commission will not accept refusals to hire based on general assumptions such as that the job change rate is higher among women than among men.
- It is unlawful to maintain separate promotion and seniority lines, or to classify jobs as "male" or "female."
- Help wanted ads may not specify "male" or "female" unless there is a bona fide occupational qualification, such as masseur or actress.
- Employment agencies may not discriminate against any individual because of sex. Roosevelt was asked about Kelly Girls and male chorus lines. Here he said that the large national employment agencies are open to both males and females.
(Later his associate, Her-
man Edelsberg, executive director of the Commission, jokingly told the press that "there are people on this Commission who think that no man should be required to have a male secretaryand 1 am one of them.")
- It is legal to list "male" or "female" or "Mr., Mrs. and Miss" on a job application form, providing the information is sought for a non-discriminatory purpose.
- The Commission will seek the opinion of the Administrator of the Wages and Hours division of the Department of Labor when complaints that equal pay is not being received for equal work are filed.

Roosevelt, in a prefatory statement, said the Commission's main business is to enforce compliance when discrimination is due to race. He said about 83 per cent of the complaints received thus far deal with racial discrimination. About 15 per cent deal with diserimination due to sex.

## jog. Paychecks

## Women

## Earning

## Equality

By William J. Eaton
Untled Presn International
A little-noticed law is taking sex out of the paycheck for 28 million American workers.

The signs are that indus. try generally is complying with a year-old statute designed to prevent wage-scale discrimination against women.
But a Labor Department study indicales that labormanagement agreements often contain pay provisions that unduly favor men.

These were outlawed June 11 as the final stage of the Equal Pay Aet of 1963 went into effect. A two-ycar period from the date of passage was allowed to permit changes in labor contracts affected by the law.
$A$ bout 8 million women are among the 28 million workers covered by the new statute. The equal pay clause allso bars discrimination against men.

ITS MAIN standard declares: "The employer must not discriminate on the basis of sex within his establishment by paying to employes of one sex wages at rates lower than he pays employes of the opposite sex for doing equal work on jobs requiring equal skill, effort and responsibility which are performed under similar working conditions."

In a report sent to Congress last January, the Labor Department said it had received reports on 159 establishments checked by wage-hour division investigators. About 10 per cent said women's wages already had been raised.
"The comments received thus far indicate that generally the new standard has been accepted," the Department said at the time. "「o a considerable extent, reports of discrimination appear to involve differences of opinion whether the jobs held by men and women are sub. stantially the same."

ASSISTANT Secretary of Labor Esther Peterson, who might be called the "Mother of the Equal Pay Law," fold UPI the legislation has had a clear impact on pay practices.
"And it has not been a terrible burden as some businessmen claimed it would be," she said. "There have been disputes over its application, based mainly on claims of superior ability of men over women. But I
think most of them are what I call nitpicking."
A Labor Department spokesman said violations seemed to occur most often in large department stores, banks, airline reservation offices, chain stores and other firms where men and women customarily perform similar work.

Secretary of Labor $W$. Willard Wirtz has filed a suit against a Texas wholesale grocer to force him to raise the pay of a single woman victim of alleged wage discrimination.

Investigators said they found that $\$ 6,000$ in wages were withheld in violation of the Equal Pay provision during the first six months of enforcement. One firm voluntarily paid $\$ 25,000$ when the wage-hour division began checking for possible discrimination.

THE LAW specifically exempts lower pay rates if the employer can show that the differential is based on a seniority system, merit program, piecework or any factor other than sex.

The Department has started a study of union contracts to see if they contain provisions that discriminate against women. Its carly findings indicated there were differentials between men and women in wage
rates, welfare and pension plans, sick leave, rest periods and seniority provisions.

In some cases, the study said, unions negotiate larger wage increases for men than for women. In one case, agreement provided loss of seniority and possible dismissal for any female employe who got married.

AND THE Department reported that one contract, which had a clause adopt-
ing the principle of equal pay for equal work, also had a provision which said: "During the life of this agreement, male employes shall be paid a minimuin rate of $\$ 2.59$ an hour; female employes shall be paid a minimum of $\$ 2.35$."
This clause - presuming men and women performed the same work under similar conditions on jobs requiring equal skill, effort
and responsibility - is now illegal.

Employers who violate the provisions may be fined up to $\$ 10,000$ for the first offense and may be sent to prison for any succeeding violations.

Employes may sue for unpaid wages and an equal amount as damages or apply to the Wage-Hour Administration for help in collecting pay due under the

## THE WALL STREET JOCRVAL.

## Vol. CLXXXII No. 37 <br> Flexing a Muscle Women, Government, Unions Increasingly Sue Under Equal-Pay Act

Law, Passed Ten Years Ago
And Recently Broadened,
Has Yielded $\$ 72$ Million
Batman and Robin and Batgirl




Owners of the Auto in Canada
Form Club to Tell of Woes;
Form Club to 'Tell of Woes;
But GM Says It's No Lemon

Mutual funds in July posted their
first monthly net sales position in 18
months as investors bouxht shares val-
 tions totaled $\$ 355.6$ million, leav
net sales positition of
(Story
on pase
 on the American exchange.




Pen Central's rail unit narrowed
its loss in July to $\$ 22.3$ million from
$\$ 29.8$ million the year before.








 labor union district
namited a rail line.


 motorists have beco
An owner's Hopo

## 

## 








| . Moore, a hospi. |
| :---: |
| Firena last Aut |
| 8,000 miles, it |








| Tax Report |  |
| :---: | :---: |
| A Special Summary and Forecast |  |
| Of Federal and State Tax |  |
| Developments |  |
|  |  |
|  |  |
|  |  |

## The Greeters <br> Privately Held Hallmark Regards Philanthropy As Key Company Policy <br> It Subsidizes Civic Ventures. <br> Backs Cultural Projects <br> Millions \& Two *63 Buick





[^0]:    * This work was generously supported by the University of Michigan (UM) Department of Economics (MITREG022729) and the UCLA Department of Economics. We gratefully acknowledge the use of the services and facilities of the California Center for Population Research at UCLA (P2C HD041022), which receives funding from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). During work on this project, Bryan A. Stuart was supported by the NICHD (T32 HD0007339) as a University of Michigan Population Studies Center trainee. We thank Francine Blau, Claudia Goldin, Hilary Hoynes, Lawrence Katz, and numerous seminar and conference participants for helpful comments and discussions. We also thank Kelsey Figone, Deniz Gorgulu, and Eric Wang for excellent research support. The views expressed here are solely those of the authors and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

[^1]:    ${ }^{1}$ The Census Bureau has reported the gender gap at the median for full-time, full-year workers for decades in order to characterize pay gaps for individuals with a similar level of labor-market attachment. However, full-time, full-year women workers comprised only 45 percent of working women in 1964.

[^2]:    ${ }^{2}$ See Appendix Figure 1 for the gender gap at different percentiles for full-time, full-year workers and for annual wage earnings.

[^3]:    ${ }^{3}$ In an analysis of these advertisements, Hunt and Moehling (2021) find an advertised gender wage gap of 38 log points in three cities in 1960, 28 log points of which corresponds to within-agency differences in pay.

[^4]:    ${ }^{4}$ Fisher (1948) reports one particularly egregious example: "In the gun manufacturing industry...where experienced men and

[^5]:    women worked on five different types of machines, the lowest rate for men was at least ten cents above the highest wage paid to women" (p. 51).
    ${ }^{5}$ Appendix Table 3 reprints tabulations of gender differences in average hourly earnings across several industry-occupation categories in Chicago, Winston-Salem, and Philadelphia.

[^6]:    ${ }^{6}$ Not all workers are covered under the FLSA, but its coverage was expanded in the 1961 and 1966 Amendments and in the 1972 Educational Amendments. The 1961 Amendments extended FLSA coverage to employees in retail or service, local transit, construction, and gasoline service stations. The 1966 Amendments expanded coverage to include employees on large farms, federal service contracts, federal wage board employees, and certain Armed Forces employees (e.g., post exchanges). It also narrowed or repealed exemptions for employees of hotels, restaurants, laundries and dry cleaners, hospitals, nursing homes, schools, auto and farm implement dealers, small loggers, local transit and taxi companies, agricultural processing, and food services. Finally, the 1966 FLSA included an indirect expansion of coverage through its reduction in the enterprise volume test from $\$ 1$ million (in the 1961 Amendments) to $\$ 250,000$. See Bailey, DiNardo, and Stuart (2021) for a discussion of changes in coverage and minimum wages in the 1960s. Another quirk of the FLSA is that section 13(a)(1) carves out an exemption to the minimum wage and overtime provisions for any worker employed in a bona fide executive, administrative, or professional (EAP) capacity. Consequently, when the Equal Pay Act Amendment prohibited discrimination on the basis of sex by amending the FLSA, EAP-exempt workers were not covered. In 1972, Title IX of the Educational Amendments amended section 13(a)(1) to remove the EAP exemption from the Equal Pay provisions.
    ${ }^{7}$ Goldin (2023) notes some nuance to this interpretation, pointing out that Smith supported the Equal Rights Amendment.

[^7]:    ${ }^{8}$ When a reporter asked Franklin D. Roosevelt, Jr., the EEOC's first commissioner, "What about sex?" Roosevelt joked, "I'm all for it." Similarly, the EEOC's second executive director, Herman Edelsberg, dismissed the sex provision as a "fluke" that was "conceived out of wedlock" (Thomas 2016). Title VII became known as the "Bunny Law," named after a satirized case in which Playboy turned down a man for a job as a Playboy bunny.

[^8]:    ${ }^{9}$ Following Marietta, considerable ambiguity about sex discrimination remained. For instance, the U.S. Supreme Court in General Electric Co. v. Gilbert held in 1976 that Title VII did not guarantee pregnant women equal coverage under employee benefit plans covering non-occupational sickness and accidents, which Congress remedied with the Pregnancy Discrimination Act of 1978 (Posner 1989).

[^9]:    ${ }^{10}$ The nine industries are mining, construction, manufacturing, transport/communications/electric/gas/sanitary services, wholesale trade, retail trade, finance/insurance/real estate, services, and public administration. The eight occupations are professional/technical, managers/officials/proprietors, clerical, sales, craftsmen, operatives, service, and non-farm laborers. The public ASEC only identifies 21 state groups consistently in our period of interest, which dictates our use of 21 "state groups."
    ${ }^{11}$ We prefer weekly wages as an outcome variable because this adjusts to some degree for labor supply (unlike annual earnings) and avoids combining questions on earnings and weeks worked in the prior year with hours worked in the survey reference week. The 1960 Census and 1962-1975 ASEC report weeks worked last year in categories (1-13, 14-26, 27-39, 40-47, 48-49, and 50-52 weeks), whereas the 1976-1979 ASEC report weeks worked in integers. We use the 1976-1979 ASEC to estimate the mean log number of weeks worked within each category in the 1962-1975 ASEC by sex, race, and 10-year age bin. Similarly, the 1960 Census reports hours worked in categories (1-14, 15-29, 30-34, 35-39, 40, 41-48, 49-59, and 60+). For 1960, we use the mean log hours worked within each category estimated from the 1962-1979 ASEC by sex, race, and 10-year age bin.

[^10]:    ${ }^{12}$ Changes to the sampling frame reflect changes in the population size and distribution as well as the industrial mix between areas as revealed in the 1960 Census. Interested readers may find a history of the CPS here, https://www2.census.gov/programssurveys/cps/methodology/Techincal\%20paper $\% 2066 \% 20$ chapter $\% 202 \% 20$ history.pdf (accessed December 30, 2021).

[^11]:    ${ }^{13}$ We calculate the share of workers within a state group that lived in a state without an equal pay law using the 1960 Census. In Arkansas-Louisiana-Oklahoma, 76 percent of wage earners were in a state without an equal pay law (Louisiana, Oklahoma). In Arizona-Colorado-Idaho-Montana-Nevada-New Mexico-Utah-Wyoming, 40 percent of wage earners were in a state without an equal pay law (Idaho, Nevada, New Mexico, Utah). In Maine-Massachusetts-New Hampshire-Rhode Island-Vermont, 5 percent of wage earners were in a state without an equal pay law (Vermont). Appendix Table 5 reports summary statistics by states' preexisting equal pay law status.

[^12]:    ${ }^{14}$ We control for the log of hours worked in the reference week because the usual number of hours worked during the year is not available. Although this variable is not ideal, it allows us to adjust for potential differences in labor supply that could contribute to differences in weekly earnings. The aggregation of "nonwhite" is necessitated by the data. Detailed race/ethnicity coding that would be used today is not consistently reported during the 1960s. Hispanic/Latinx origin is not available in the ASEC until 1971.

[^13]:    ${ }^{15}$ Educational attainment is available in all years except the 1963 ASEC. We omit this covariate from our main specifications to avoid dropping 1962 as a pre-treatment observation. Including education as a covariate changes the estimates little (see Appendix Figures 7 and 15).

[^14]:    ${ }^{16}$ We first construct annual hours worked for individuals by multiplying the level of weeks worked by hours worked, where the level is calculated using the procedure described in footnote 11 . Then, we aggregate to the nos cell.

[^15]:    ${ }^{17}$ Note that the terms, $\widetilde{\alpha_{3}} t+\widetilde{\alpha_{4}} 1(t>1964) t+\widetilde{\alpha_{5}} 1(t>1968) t$, are not identified due to the inclusion of year fixed effects.
    ${ }^{18}$ For a discussion of pre-trend adjustments, see Freyaldenhoven, Hansen, and Shapiro (2019) and Rambachan and Roth (2022).

[^16]:    ${ }^{19}$ This estimate is the event-study coefficient on the year 1965 for model 2 (Appendix Table 6). Appendix Figure 4 shows that results are similar when examining log hourly or annual wages instead of log weekly wages. We construct log hourly wages as log annual wages minus the sum of log weeks worked and log hours worked. Categories for weeks and hours worked are translated into values using the procedure described in footnote 11 . In addition, Appendix Figure 5 shows the robustness of our findings to winsorizing up to the tenth percentile of the 1960-1964 wage distribution for women, which is equivalent to around one-half of the 1964 minimum wage, which covered fewer workers and was at a higher real level than in recent periods. One-half the minimum wage is similar to Katz and Murphy (1992) and more aggressive than Blau and Kahn (2017), whose average "too-low-wage" is 29 percent of the federal minimum wage. Appendix Figure 6 shows that our results are similar when limiting to a sample of more attached workers, Appendix Figure 7 shows that our estimates are robust to controlling for education, and Appendix Figure 8 provides a similar conclusion when dropping states that adopted equal pay laws between 1959 and 1962.

[^17]:    ${ }^{20}$ The 1960 Census has over 600,000 women in the wage earner sample, whereas the 1964 ASEC has around 6,000 such women, allowing us to construct only 75 job cells. If a high gender gap (due to lower women's wages) in a job cell in the 1964 ASEC reflects sampling variation, these job cells would tend to see higher wage growth for women in the year afterwards due to mean reversion. Using the 1960 Census to measure the gender wage gap eliminates this mechanical relationship.
    ${ }^{21}$ Included job cells are listed in Appendix Table 9, and excluded job cells are listed in Appendix Table 10. Appendix Table 11 describes the number of observations by sex, year, occupation, and industry.

[^18]:    ${ }^{22}$ We use the sample of individuals working at least 27 weeks and 35 hours per week when calculating the gender wage gap. In addition, we use the gender gap in hourly wage earnings to minimize the influence of differences in labor-market work between women and men. The gender wage gap is nearly identical when we control for individuals' demographic and education characteristics using a quadratic in age, an indicator for workers of a nonwhite race, and a set of indicators for each year of schooling. The correlation between the unadjusted gender gap and the covariate-adjusted gender gap is 0.97 (Appendix Figure 11A), so we use the unadjusted gender gap for simplicity. Appendix Figure 11B shows that the gender gap in hourly wages is very similar to the gender gap in weekly wages (correlation of 0.98 ), and Appendix Figure 11C shows that the gender gap in weekly wages is nearly identical after controlling for demographics and hours worked (correlation of 0.97).
    ${ }^{23}$ We use the full-count 1940 Decennial Census to compute the 1940 gender gap in hourly wages for this exercise (Ruggles et al. 2021).

[^19]:    ${ }^{24}$ Online Appendix C uses a combination of a parametric bootstrap and a Bayesian bootstrap to show that accounting for sampling variability in estimates of the gender gap variable leads to standard errors that are similar to those reported in the main tables.
    ${ }^{25}$ See Appendix Table 12 for the event-study coefficients and standard errors in numerical form.

[^20]:    ${ }^{26}$ Appendix Table 14 examines effect heterogeneity across other population subgroups. The results show that the within-job cell wage gains for women following the Equal Pay Act and Title VII were pervasive. Wage increases are evident for White workers, which addresses the concern that our results are driven by provisions in the Civil Rights Act targeting racial discrimination. Similar regressions yield no evidence of wage increases for White or Black men, which is consistent with a key role for the Equal Pay Act or our research design not picking up the race-based provisions of the Civil Rights Act.

[^21]:    ${ }^{27}$ See Appendix Table 15 for the event-study coefficients and standard errors in numerical form.

[^22]:    ${ }^{28}$ The p-values on the test of the null hypothesis that estimates in columns 4 and 5 of Table 2 are equal are 0.07 in panel B (employment) and 0.19 in panel C (annual hours worked).
    ${ }^{29}$ Appendix Table 14 shows that the employment effects of the Equal Pay Act and Title VII are large but imprecise across subgroups.

[^23]:    ${ }^{30}$ We calculate this number as the sum over industry-occupation-state-group cells of the difference in the mean log hourly wage for men and women, multiplied by the share of men employed in the cell. This calculation is 62.5 percent when multiplying the within-cell gender wage gap by the share of women employed in the cell. This share is not directly comparable to estimates of occupational segregation because our occupation/industry cells are larger groupings than job classifications. Polachek (1987) similarly finds that only 17-21 percent of gender differences in annual wage earnings in 1960 and 1970 can be explained by occupational segregation, which is similar to the conclusion of Goldin (1990, pp. 71-73). Blau (1977) finds that intra-firm pay differences are a small share of the total gender wage gap in 1970 in office occupations in three Northern cities for establishments with at least 50 employees (Tables 4-6). Using data from 1974 to 1983, Groshen (1991) finds that wage gaps from establishment and job segregation account for around 6 percent of the gender wage gap, whereas occupational segregation accounts for considerably more. These results are consistent with our findings that the Equal Pay Act and potentially Title VII narrowed withinjob pay gaps.

[^24]:    Notes: Table presents the spline estimates for model 3 of equation (5). The spline estimates and standard errors in 1968 are scaled by the mean gender gap in the 1960 Census (equal to 0.374 ). Columns 4 and 5 split the sample into state groups where at least one state had an equal pay law as of January 1,1963 , and state groups that did not (U.S. Congress 1963). We use separate values of the mean gender gap for these two columns (equal to 0.364 for column 4 and 0.392 for column 5). Standard errors are corrected for heteroskedasticity and an arbitrary correlation within industry-occupation-stategroup (Huber 1967, White 1980, Arellano 1987).
    Sample: See Figure 7 notes (Panel A) and Figure 8 notes (Panels B \& C).
    Sources: See Figure 3 notes.

