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Essays on Women's Economic Advancement in the
Twentieth Century United States: Dissertation
Summary

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Women's Economic Advancement in the Twentieth Century United States

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The integration of women into formal labor markets was one of the most salient changes of the twentieth century. The "female century," in the words of *The Economist* (1999), witnessed an extraordinary transformation of women's opportunities and outcomes both in and outside the household. My dissertation explores both the causes and consequences of women's moves from home to the labor market in the United States during three episodes of rapid change. It begins by documenting demand-side shifts in the 1940s that increased the earnings and changed occupational options of African-American women; then it demonstrates the impact of contraceptive technology on the extent and intensity of women's participation in the formal labor market after 1960. Finally, I estimate the consequences of shifts in women's labor supply for the growth of earnings inequality in the United States during the 1980s.

The first chapter (joint with William J. Collins) examines women's earnings growth during the 1940s. While the decade is widely regarded as a watershed in the labor market gains of black men and especially, given the iconic depictions of "Rosie the Riveter," in the labor force participation of white women, it also marked a turning point in the economic opportunities for black women.¹ Within 10 years, the average real weekly wages of African-American women nearly doubled and the black-white earnings gap among working women narrowed by a full 15 percentage points.² At the same time, the proportion of employed black women holding formal sector jobs nearly doubled, increasing from 27 to 50 percent.³

Using various sources of microdata, the analysis documents and analyzes the sources of wage gains among women by race over the decade.⁴ It is important to note that African-American women's wage gains during the 1940s were not continuations of preexisting trends, nor were they reclaimed by employers in the aftermath of World War II. In fact, the wage gains among black women during this decade persisted beyond the 1940s and rival those commonly associated with the Civil Rights Era.⁵ Central to explaining these wage increases is our finding that wages grew more rapidly in occupations that were historically dominated by black women. For instance, domestic service jobs recorded the largest earnings gains during the 1940s, whereas clerical occupations, relatively more populated by white women, recorded the smallest

gains. But even within job categories after accounting for observable characteristics, black-specific wage gains account for approximately 38 percent of the decade's total convergence in mean weekly wages.

Shifts in African-American women's employment and wages are consistent with substantial increases in the relative demand for their labor in the formal sector.⁶ Increases in black women's education levels were undoubtedly important; perhaps more important, the wartime economy appears to have opened new opportunities for black women outside of agriculture and domestic service. Thus, the 1940s ushered in an era of changing labor market integration that lasted well beyond the exceptional years of World War II.

The second chapter of the dissertation examines the effects of oral contraception on women's lifecycle labor-force participation. Although popular accounts and social histories afford "the pill" a great deal of credit in changing women's options over childbearing and market work, economists have been hesitant to draw this conclusion. With few exceptions, the existing economic literature largely downplays the pill's role.⁷ Becker (1991, p. 143) summarizes a view held by many prominent scholars, in his *Treatise on the Family*: "the 'contraceptive revolution' ... ushered in by the pill has probably not been a major cause of the sharp drop in fertility in recent decades."

Disentangling the treatment effect of the contraceptive pill from other contemporary factors poses a difficult empirical problem. Its introduction in 1960 and subsequent diffusion corresponded to the resurgence of the women's movement, the spread of labor-saving household technologies, the enactment and increasing enforcement of antidiscrimination legislation, and the social unrest associated with the Civil Rights Movement and Vietnam. Abortion also became increasingly available around the time many young women gained access to the pill.⁸

My results suggest that the availability of the pill was in fact a significant cause of changing fertility patterns and increasing work opportunities for women. Time-series evidence suggests that dramatic reductions in first birth rates among 18–21-year-olds and increases in the labor force participation rates among young women in their twenties correspond closely to the diffusion of oral contraception to younger women. In the June supplements to the Current Population Survey, for instance, for women born too early to have had legal access to the pill before age 21 (women born before 1940), approximately 62 percent of those giving birth report having their first child by age 22. For women born around 1955—almost all of whom had access to the pill under the law—the fraction giving birth by age 22 had declined to 44 percent. For the same cohorts, trends suggest a rapid transformation in women's lifecycle labor force participation profiles as

well. Whereas women born during the first 40 years of the century tended to withdraw from the labor force during their twenties, the ages traditionally associated with highest fertility, and return to work after their children had grown, this “fertility dip” in labor force participation had disappeared for women born after 1955. Among these younger women, labor force participation rates were 24 percentage points higher at age 25, and 20 percentage points higher at age 30, than those of women born in 1940.⁹ Thus, the most rapid, intercohort shift in young women’s labor market participation during the twentieth century occurred precisely over the same period that younger and unmarried women gained legal access to oral contraceptives.

The most compelling evidence of the pill’s effect, however, comes from comparisons within year-of-birth cohorts for women from 1940 to 1955. Similar to Goldin and Katz (2002), I use a difference-in-difference approach to exploit variation in access stemming from state-level changes that expanded the legal rights of individuals ages 18 to 21 from 1960 to 1976. While the timing of these changes appears unrelated to a host of state-level characteristics in 1960, they are significantly related to younger women’s ability to consent to medical care and, by extension, obtain oral contraception without parental approval. Access to the pill before age 21 reduced the likelihood of becoming a mother before age 22 by 14 to 18 percent and increased the extent of 26–30-year-old women’s labor force participation by approximately 8 percent. At the intensive margin, women with early access worked at least 68 more annual hours at ages 26–30. The overall pattern of findings is consistent with the notion that the pill catalyzed changes in labor force participation through birth timing, a mechanism not recognized in previous empirical work. By providing a low-cost means of delaying childbearing, oral contraception allowed women to remain in school, pursue longer-term careers, and work more in the paid labor force during ages historically associated with childrearing. Changes in the timing of births associated with the diffusion of the pill can explain roughly 15 percent of the increase in market employment among younger women between 1970 and 1990.

The third chapter shifts focus from the factors causing women’s rapid integration in the labor force to one possible consequence of these changes. As both black and white women made inroads into traditionally male occupations, acquired more formal education, and worked more hours per week and more weeks per year on average than their predecessors, they may have increased labor market competition for certain jobs. Specifically, the growing pool of capable women workers may have depressed the earnings of men at the lower end of the earnings distribution.¹⁰ Consistent with this

hypothesis, the dramatic rise in young women’s labor-force participation from 1970 to 1990 in the United States corresponded to the largest increase in earnings inequality among men of any developed country.¹¹

Although previous studies have examined the effect of women’s shifting labor supply on the wage distribution, no consensus has emerged on the relative importance of competing explanations.¹² The causal link between female labor supply and male wage inequality has proven difficult to measure, as many factors influencing women’s labor supply decisions are also correlated with determinants of men’s wages. Women may have entered the workforce to offset absolute and relative declines in the earnings of their husbands or in response to a heightened probability of divorce. Another related explanation emphasizes that gender-biased technical change raises the earnings power of women relative to men and may have induced more households to send women to work outside the home.

To mitigate these difficulties, the final chapter of my dissertation employs a strong and valid instrumental variable for women’s labor force participation. The instrument is constructed using cross-state and year variation in fertility rates from 1940 to 1956 and heterogeneity in the timing of legal changes that allowed younger, unmarried women to obtain oral contraceptives. Evidence put forward in Chapter 2 of my dissertation as well as in other studies suggests that these legal changes provide exogenous variation in access to the pill and that they are strongly associated with changes in women’s labor force participation (see Goldin and Katz 2000, 2002).

Using data from the 1960–2000 Integrated Public Use Data Microdata Series (IPUMS), the results suggest that the greater labor force participation among women induced by early access to the pill had two primary effects on male wage inequality during the 1980s (Ruggles et al. 2004). Rather than decreasing the wages of men at the lower end of the distribution, relative supply shifts tended to *increase* the wages of men at the 90th percentile. These women’s skills—perhaps clerical or administrative—may have been more complementary to the skills of men in certain skilled occupations and enhanced the productivity of those at the upper end of the earnings distribution. Second, accretion in the number of weeks worked by women depressed wage growth at the mean. Thus, while changes in the actual experience of the average woman worker during the 1980s was one of the most important factors contributing to the decline in the gender gap, changes in their labor supply tended to mitigate the wage gains of women as a group (see Blau and Kahn 1997; O’Neill 2003). The point estimates imply that the gender gap in wages would have been roughly half as large in 1990 in the absence of the epochal changes in women’s

labor supply—a particularly remarkable figure as the 1980s experienced the largest declines in the gender gap since World War II.

Notes

1. For the importance of the 1940s for black men, see Maloney (1994) and Margo (1995). For the importance of the 1940s for women, see Goldin (1991) and Fernández, Fogli, and Olivetti (2004).
2. The figures are calculated using the wage income variable of the Integrated Public Use Microdata Series, using the consumer price index for deflation. The average weekly wage for black women rose from \$13 to \$24 (1950 dollars). The black-white ratio increased from 0.44 to 0.59. See Figure 1 notes for sample restrictions. Cunningham and Zalokar (1992) report results of a similar magnitude (0.44 to 0.64) for estimates of hourly wages. Ad hoc adjustments for cost of living differences between metropolitan areas and non-metropolitan areas (discounting metro area income by 20 percent) have little effect on the magnitude of the wage gains. Furthermore, the bulk of the absolute and the relative gains were not explained by selection into the labor force.
3. The term “formal sector” denotes all occupations outside agriculture and private household service.
4. We employ the Integrated Public Use Microsamples from 1940 and 1950, the industry-level average wage series from *Historical Statistics of the United States*, and the Palmer Data. The Palmer Data are taken from the Palmer Survey, also known as the “Six-City Survey.” It collected work histories in 1951 for more than 4,000 female workers residing in Chicago, Los Angeles, New Haven, Philadelphia, San Francisco, or St. Paul and is the only known data set that contains retrospective information on women’s labor market experiences during the 1940s. We thank Claudia Goldin for sharing the data with us.
5. Changes in black women’s wages were larger in absolute terms during the 1940s than the 1960s, but the gains relative to white women were approximately the same in each decade.
6. See Collins (2001) and (2003) for more on anti-discrimination legislation and its effects during the 1940s.
7. Two notable exceptions are Michael and Willis (1972) and Goldin and Katz (2002).
8. Further weakening the argument for the pill is that recent quasi-experimental research suggests that declining numbers of children can explain remarkably little of the longer-term changes in women’s market work. See Bronars and Grogger (1994); Jacobsen, Pearce, and Rosenbloom (1999); Hotz, McElroy, and Sanders (1997), and Angrist and Evans (1998). Angrist and Evans conclude that since 1950, “the increase in female labor-force participation has been so large that declining fertility can explain only

a small fraction of the overall change.” Between 1970 and 1990, the same authors suggest that the decline in childbearing beyond the second child among women ages 21 to 35 can account for roughly two percentage points (of the total 16.8 increase) in employment. If changes in fertility explain little of the increase in women’s labor-force participation, it is difficult to argue why the pill should.

9. Smith and Ward (1985, S65) also note that for women born after 1950, there is no observable employment decline over the childbearing years. Goldin (forthcoming) notes in Figures 4 and 5 that these trends are borne out for married women as well, although the labor market integration of college graduate women appears to have begun earlier.
10. For other papers discussing this argument see Topel (1994, 1997); Fortin and Lemieux (2000); and Acemoglu, Autor, and Lyle (2004).
11. For cross-country comparisons of changing earnings inequality see Autor and Katz (1999). See also Card and DiNardo (2002).
12. The most prominent of these explanations include skill-biased technological change (Bound and Johnson 1992; Katz and Murphy 1992); international trade (Borjas and Ramey 1994; Feenstra and Hanson forthcoming); immigration (Card 1990), labor market institutions (Fortin and Lemieux 1997; DiNardo, Fortin, and Lemieux 1996); and the increasing participation of women (Topel 1994, 1997; Juhn and Kim 1999).

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