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Understanding the Gender Gap: A Review Article*

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ECONOMIC HISTORY IS IN THE MIDST of a quiet revolution. Two decades ago, cliometricians were bent on showing that economic analysis could be applied even to the study of far-off times and places. In this way they hoped to bring a somewhat stodgy specialty into the mainstream of economics. More recently, economic historians have begun to take a more assertive posture toward the discipline, defending the distinctiveness of historical approaches and advocating the essentiality of history to comprehending modern issues. These developments are closely tied to a renewed appreciation of the importance of institutions and culture for economic life. Whereas the older brand of institutionalism tended to be “anti-theory,” newer approaches draw upon a broader class of theoretical models in which “history matters,” in the sense that the events of the past have a lasting influence on the outcomes of the present, an effect that does not wash away in a hypothetical “long run.”¹ In some cases this new breed of historical economist even sees

fit to bring historical research to bear on pressing contemporary affairs.

These trends are illustrated by Claudia Goldin’s new book on the economic history of American women, *Understanding the Gender Gap*. Goldin writes in the preface: “I began this study more as an economist but have ended with a fuller appreciation of how the distant past affects the present, how norms and expectations impede change, how discrimination can survive even in highly competitive markets, and how slow genuine change can be” (p. viii). Not content with antiquarian appeal, Goldin tackles the two central “women’s issues” in economics today: Why has the female labor force participation rate risen so dramatically over the past half century, particularly for married women? Why has the gap between men and women’s earnings been so persistent over this same period? The study extends the scope of this discussion to nearly two centuries of American history, reaching back to the eighteenth century at one point to analyze the occupations of Philadelphia widows in the 1790s (p. 49). Though her orientation is quantitative, throughout the book she unavoidably confronts the deeper background question: Are the trends in women’s work and pay governed by “market fundamentals,” or are they instead a reflection of changes in attitudes, institutions, political power, and other apparently noneconomic factors? It does not do justice to the sub-

* Claudia Dale Goldin. *Understanding the Gender Gap: An Economic History of American Women*. NY: Oxford University Press, 1990. Pp. xviii, 287. ISBN 0-19-505077-0.

¹ Paul David (1988) argues that the core concept for historical economics is “path dependence,” a property of systems characterized by local positive feedback mechanisms and consequent multiple equilibria.

tlety of the argument to say that her answer is "both." Rather than force a choice between these rigidly constraining options, the book brings out instead the interactive and evolutionary character of the elements in the story.

The subtitle *An Economic History of American Women* may convey a misleading sense of scope. Little of the book's attention is devoted to the experience of women in agriculture, to the changing nature of household work, to decision making within the family, nor to economic aspects of such important demographic developments as fertility and life expectancy. The bulk of the new statistical evidence comes from the century following 1890, though for contrast and perspective the author does make use of her earlier work on women in the industrial labor force during the first half of the nineteenth century. For the most part, the text concentrates on a handful of topics: women's jobs in manufacturing; the rise of the clerical sector; patterns of life-cycle labor force participation among women; and institutional restrictions on women's work, such as protective legislation and marriage bars.

Though the subject matter is concentrated, the author brings to bear a wealth of new quan-

titative and qualitative information, much of it the fruits of her own persistent digging in the National Archives. Particularly noteworthy are original returns from four major Labor Department surveys conducted during the 1930s. The most remarkable is a retrospective 1939 survey of the work histories of over 2,800 women, for cohorts born between 1880 and 1915. Also rare and previously untapped are office firm surveys from 1931 and 1940, covering personnel records and personnel policies for hundreds of firms in major U.S. cities. One can hardly overstate the value of this material, and it is no criticism to say that the analysis in the book only makes a beginning at extracting its potential. These data sets will surely be mined and manipulated for many years to come. My discussion here, however, will focus on interpretation.

What Fare, Young Maids?

A central objective of the book is to recount and explain long-term trends in relative women's pay. She advances two main propositions: (1) The "gender gap" in earnings (the unadjusted average differential, averaged over all men and women in the paid labor force) has

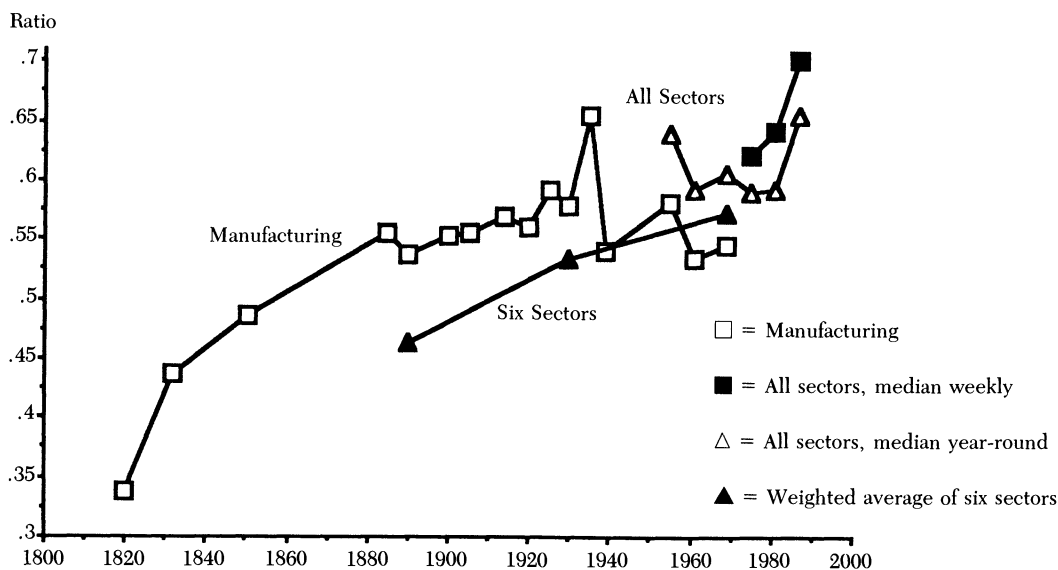


Figure 1. Ratio of Female to Male Earnings, 1815–1987

Source: Goldin 1990, pp. 60–61.

not been a deep historical constant, as many observers have suggested on the basis of recent evidence. Neither institutional rigidities nor intrinsic characteristics of women workers prevented distinct narrowing of the gap in two main periods: the American Industrial Revolution (1820–50), and the era of the rise of white-collar employment (1890–1930). Figure 1 summarizes her evidence. (2) The phenomenon known as “wage discrimination” on the basis of gender (lower pay for workers with identical objective characteristics) has also not been historically constant, but emerged for the first time in the twentieth century. Paradoxically, wage discrimination was increasing at the same time that the gender gap was narrowing.

The first episode of rising relative female wages came with the employment of young, unmarried women in the early factories of New England and the Middle Atlantic states. Goldin estimates that the shift into manufacturing nearly doubled the earnings of women relative to men, in comparison with their previous meager potential in agriculture and domestic service (pp. 59–66). The statistical trend seems reasonably clear, but the interpretation offered might have come out somewhat different if this era had received the same detailed scrutiny as those of a century later. Goldin suggests that the rise in women’s wages should not be surprising inasmuch as “the substitution of machinery for human strength” should logically have raised the ratio of female to male productivity (p. 63). This technological interpretation rather obscures the question of the extent of which previously existing limitations on women’s earning potential were social rather than physiological in nature. Further, not all of the technologies of the Industrial Revolution apparently lent themselves to female labor. Mule spinning, for example, was exclusively masculine in both England and America. In contrast to the English, American textile manufacturers quickly developed technological strength in ring spinning (the alternative to the mule), motivated in part by the desire to tap into relatively abundant supplies of female labor. Another example of a self-consciously gender-specific employment strategy is the famous “dormitory system” of the early Lowell-Waltham mills, intended to reassure middle-class parents as to the respectable character of the work environment. But this system was undetermined, beginning

in the 1840s, by the first wave of mass foreign immigration, a development that also surely had an impact on wage differentials for skill and gender. Presumably these issues would come in for more discussion in a comprehensive historical account. Here the early history serves mainly to make the point that the gender gap can change.

It did not change very much, however, between 1850 and 1900. The emerging manufacturing technologies of the late nineteenth century evidently had little use for female labor. In fact, the industries that led America’s way into world preeminence between the Civil War and World War I had, as a common characteristic, an almost complete exclusion of women from their work forces (e.g., iron and steel, machinery, lumber, transportation equipment, automobiles, petroleum products). As Goldin shows, at the turn of the twentieth century, an extraordinary degree of sex segregation prevailed in American manufacturing. Women were confined to no more than a handful of industries (textiles, apparel, boots and shoes, canning, and tobacco), and to jobs with predictable characteristics: no qualifications for entry, no opportunities for promotion, and payment by the piece (pp. 74–82).

These young women were the objects of much reformist attention at that time, and they undoubtedly suffered much. They and the reformers might perhaps have taken comfort, however, from the finding in Chapter 4 that they did not suffer from “wage discrimination.” This conclusion emerges from a series of estimates of earnings functions for female manufacturing workers in 1888 and in 1907. In contrast to studies of contemporary workers, Goldin finds an entry-level wage gap of 35 percent which subsequently *narrowed* with additional work experience up to about ten years, well past the time when most women had stopped working (p. 103). At its lowest point (where all work experience is at the same firm and occupation), the gap was as small as 8 percent for unmarried male and female workers. Thus most of the overall difference in male and female manufacturing earnings is attributable to differences in their characteristics, chiefly job experience.² Because this finding of “no wage

² With her data, Goldin is not able to distinguish general work experience from experience on a partic-

discrimination" carries great risk of misinterpretation, it should be stressed that Goldin does not deny that differences in attributes may themselves reflect discriminatory factors. Women had little incentive to build up work experience, because the skills they learned were narrow and largely nontransferable; they had no chance of promotion; and those who lived at home probably kept little of their own earnings (p. 105). Her point is not that women were treated equitably, but that the *form* of discrimination differed from that which later prevailed in the clerical sector.

It should be noted that although Goldin's interest is in *relative* women's earnings, she estimates earnings functions only for women, not for men. The problem is that her best data sources are special surveys of women workers, which were not careful to survey a "control group" of comparable men. Hence her comparisons of male and female trajectories are based on estimates by Eichengreen (1984), using data from California in 1892 (!). She asserts in a footnote that Eichengreen's functions are confirmed by other data, noting a study of Michigan manufacturing workers in 1889. Despite this assurance, the absence of precise comparability between men and women is potentially a serious problem. Women were largely excluded from the "high-wage" industries which were on the ascendancy at the turn of the century but were not prominent in 1889 Michigan or 1892 California. Though a broader male sample might not change the main elements of the story Goldin tells, the implications of industry-level segregation clearly deserve more study.

The next forward surge for relative women's pay came with the rise of clerical jobs. Between 1890 and 1930, clerical employment grew from 5 to 25 percent of white female employment, the largest single category (p. 74). This sectoral shift was beneficial for women, because earnings were higher to start with, and because it allowed them a return on their high school education. The prospect of "work in an office" as opposed to a factory was also more acceptable

to young middle-class women, who had long shown a greater aptitude for schoolwork than their male classmates. The rapid supply response into such commercial courses as typing and stenography reduced but did not eliminate the sectoral wage premium for clerical work relative to manufacturing, from 50 to 25 percent (p. 107). Goldin wisely refrains from offering a precise breakdown of the shift into supply and demand components, though she expresses the view that the rise in educational levels was primarily a cause and not an effect (p. 145). That proposition evidently requires a distinction between years of schooling and the subject matter actually studied during those years of schooling.

Although clerical work opened up new opportunities and higher incomes for women, "wage discrimination" was much more prevalent in this new sector. Discrimination accounted for "at most 20% of the difference in male and female earnings around 1900 in manufacturing, [versus] 55% in office work in 1940" (p. 117). It sounds contradictory, but such a result is entirely possible, even logical: As education came to have greater importance in employment and job assignments, and as more relatively well educated women entered the labor force, the rise in women's "qualifications" was considerably faster than the rise in their earnings. Why was this so? Whereas women's manufacturing jobs typically paid by the piece, thus adjusting wages immediately to productivity differences, office work more often entailed entry qualifications and screening, less objective measurability in output, and a more structured set of work rules and salary schedules. The net result is the "modern" pattern of wage profiles, in which the wage gap starts small and then widens with increasing experience (p. 110). It must be stressed that this contrast is based on two industry snapshots, manufacturing in 1900 versus clerical work in 1940, with little discussion of change within these industries.

Goldin argues that the rise of personnel departments and policies created the institutional conditions that allowed discrimination to persist. She is willing to entertain the possibility that segregation into dead-end jobs was a rational employer response to women's shorter expected job tenure, in a context of limited information and imperfect incentives (a kind

ular job (tenure), but she cites Barry Eichengreen (1984), who finds that women's earnings were more narrowly a function of years on present job and years with present firm, whereas male workers gained more from overall experience (p. 99).

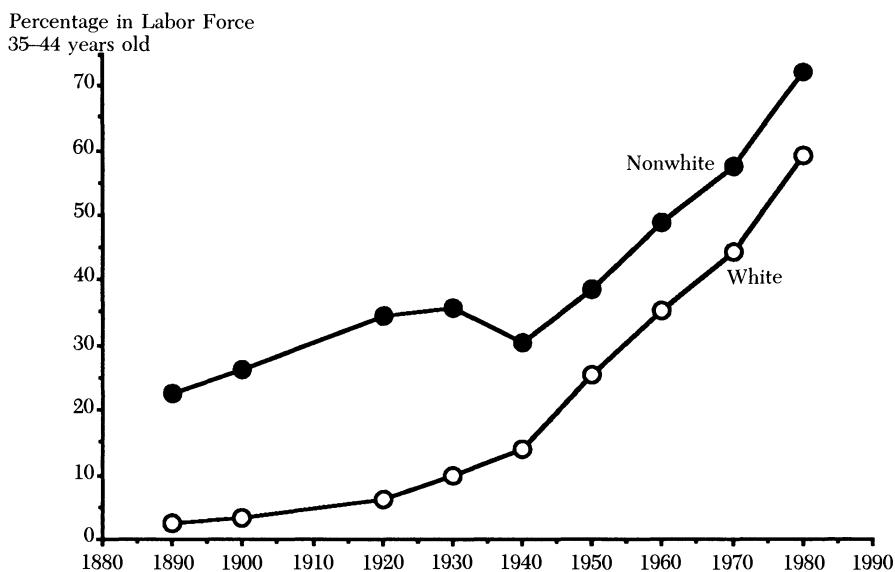


Figure 2. Female Labor Force Participation Rates for Married Women 35–44 Years Old, by Race, 1890 to 1980

Source: Goldin 1990, p. 18.

of “statistical discrimination”). But she clearly also believes that the widely practiced outright restrictions on women in managerial and supervisory positions reflected the prejudices of male workers, employers, and customers (p. 117). We do not get a decisive answer to the question of exactly how the new type of discrimination relates to efficiency and competition among firms. But her inclinations on these issues are suggested in her treatment of marriage bars, discussed below.

More Work for Mothers

Of course, the gender gap in wages is only an average, over the subpopulation of men and women who are actually working. Even when expressed as a function of age, experience, schooling, and so on, there is still an essential element of noncomparability between men’s and women’s wages, because employed workers, especially female workers, have always been nonrandomly selected from the full population. Though Goldin does not attempt to measure the implications of this selection compre-

hensively, she calls attention to the issue, pointing out that rapid changes in labor force participation are likely to have compositional effects on the average wage. Explaining those changes in participation is, therefore, an essential part of the story.

In twentieth century America, the outstanding explicandum is the behavior of married women: In 1890, labor force participation by white married women was negligible, less than 3 percent at any age bracket; by 1980 a solid majority were employed (pp. 17–18). The largest increases have been recent, but Goldin points out that the trend had clearly begun prior to World War II, and that the problem of working wives came in for growing discussion and concern during the 1920s and 1930s. Figure 2 displays the twentieth century trend for women aged 35–44 years, and shows further that participation rates for nonwhite married women were high at a much earlier time, and followed a different path before World War II.

To an economist this trend is something of a puzzle. In every cross-section, there is a strong inverse relationship between married

Percentage in Labor Force
35-44 years old

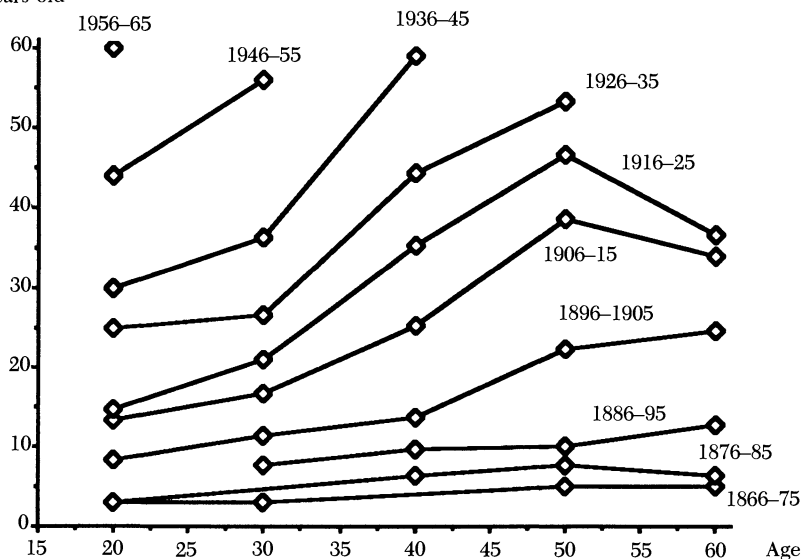


Figure 3. Labor Force Participation Rates by Cohort Married White Women, 1890 to 1980, for Cohorts Born 1866 to 1965

Source: Goldin 1990, p. 18.

women in the labor force and household income (excluding earnings of the wife). It would seem therefore that rising household income should lead to *reduced* participation by married women, just as the “income effect” is thought to explain the long-term decline in the length of the standard work week. In fact, the opposite has occurred, so something else must have changed. To social historians and others, the explanation seems obvious, a revolution in the attitudes and aspirations of women, facilitated by and reflected in such developments as the decline in fertility and the diffusion of labor-saving household appliances. To economists, however, the story has been much simpler: a consistent supply response (the “substitution effect”) to the long-term rise in the real wage available to women. Econometric studies by Jacob Mincer (1962) and by James P. Smith and Michael Ward (1984) have concluded that movement along a stable but elastic supply function can account for a large fraction of the change in women’s labor force participation between 1900 and 1980.³ Goldin’s chapter 5 is

³ Essentially the same position is endorsed by Barbara Bergmann (1986).

largely devoted to a critique of this position.

The first step in the critique is the observation that labor force participation by married women did not increase across the nineteenth century, though the rise in wages was even more rapid than in the twentieth. Instead, the rate seems to have declined somewhat prior to 1900 (consistent with a negative income effect), so that the entire history of married women’s participation traces out a U-shape (p. 11). Evidently the developments of the twentieth century were in some sense a break from the past.

The next point is that in the twentieth century, the pattern of participation across cohorts is entirely different from that indicated by cross-section evidence (see Figure 3). At any given age, each successive cohort has a higher participation rate than the one before. Until recently, the majority of women stopped work at the time of marriage; the bulk of the increase did not originate in a change in that historic pattern, but in much higher rates of reentry years later. To drive home the fact of change, Goldin cites evidence from the 1968 National Longitudinal

Survey, which asked women aged 14 to 24 whether they expected to be in the labor force at age 35: Among white females, 29 percent said yes, less than half the percentage who actually found themselves working twenty years later (pp. 154–57).

Goldin demonstrates that cross-section estimates of labor supply elasticities show a systematic pattern of change since 1900, in a logical direction: Substitution effects have increased, income effects have declined in absolute value (p. 132). This suggestive evidence informs her own econometric formulation, a cross-section, time-series model that allows for “cohort” as well as “period” effects on labor supply response (pp. 149–54). Wisely, she does not attempt a comprehensive quantitative decomposition, concentrating instead on characterizing the mechanisms at work. Cohort variables such as fertility and education may be partly endogenous, and other aspects of socialization and early work experience are not well captured. Despite limitations, the author successfully carries her argument that the process worked through cohorts, and the cohort effects were important. She takes an open-minded, eclectic view of what these cohort effects represent, but clearly she sees these results as support for a broad historical view, incorporating changes in socialization, norms, and expectations.

Does it really matter whether the women’s labor supply curve was stable or shifting? It does, because the historical dynamics of labor supply shed light on the composition and background of the female labor force, factors that in turn help to explain the sluggishness of the gender gap. If the majority of the entrants were older women who had not worked for years, returning to jobs that had essentially been designed to accommodate short-term young single women, it is more understandable that they have not received pay commensurate with their maturity and experience. If many women reentered the work force who had not expected to, it is likely that they had underinvested in appropriate education and training, a factor that has also contributed to their failure to advance more rapidly. None of this means that women have got what they deserved. But this view of the past leads Goldin to take a cautiously optimistic outlook on the future, suggesting that as the adjustment to the new regime becomes more

complete and more fully anticipated, women’s career preparation should improve and so should their relative earnings. She finds support for this assessment in the narrowing of the wage gap during the 1980s. Presumably the process will include continuing adaptation on the part of employers and fellow workers in the future, as it has in the past.

Women’s Rules

What sort of work experience did married women have when they entered the labor force? To contemporaries in the 1920s and 1930s, the major concerns were indeed that paid employment would simply mean “more work for mother”: that the burden of housework would not be reduced, except perhaps in socially undesirable ways like neglect of child care. The practice of married women working outside the home was considered a social evil like child labor, sometimes seen as a form of exploitation of wives by their husbands, at other times viewed as a prime example of capitalism’s ruthless disruption of traditional institutions like the family. Modern evidence indicates that, at least with respect to hours of work and child care, these concerns were not unfounded (Ruth Schwartz Cowan 1983; Thomas Juster and Frank Stafford 1985; Victor Fuchs 1988). But for the most part these are not the issues taken up by Goldin.

Instead, she pursues the more modern issue of equity: Did women have an equal chance at promotion and career advancement? Clearly not. The better part of chapter 6 is devoted to an exceptionally interesting account and analysis of the practice of “Marriage Bars,” explicit rules against hiring married women or retaining women in their jobs after marriage. To those who are accustomed to allegations of discrimination based on subtle social pressures, body language, or objections to the principles of statistical inference, it may come as a shock to learn that these rules were written explicitly and enforced. To almost anyone, it is jolting to realize how recently such rules were in place: in 1942, 87 percent of American school districts would not hire married women, and 70 percent would not retain single women who married (p. 162). And it was not just in the public sector. In 1940, many firms hiring office workers had rules against hiring or retaining married

women, and the majority of large office-work firms in many cities either had such rules or had explicit preferential policies in favor of single women. Marriage bars were clearly of more than symbolic importance, because they applied to the largest classes of occupations for women. Yet they did not decline until the 1950s. That this historical record is little known today is testimony to the drastic change in conventional behavior and outlook over the past half century.

How can these restrictive rules be understood? Goldin refutes the view that they originated as job-rationing measures during the Great Depression (pp. 164–66). The Depression did expand and intensify marriage bars, augmented by Depression-era government policies; but the policies themselves and the thinking behind them was of much longer standing. As Goldin writes, “it is inconceivable that marriage bars could have gained such wide acceptance during the Depression had previous policies not existed and had social consensus not been built around them” (p. 166). The existence of social consensus often makes it difficult to learn the reasons by simply asking. In the office-work surveys of 1931 and 1940, officials sometimes stated that women were less reliable as employees after marriage, because their loyalties were divided (p. 168). Most often, however, personnel officers articulated their policies in favor of married men as an article of pride and ethical behavior on the part of the company. It certainly may be that these were the real reasons, but it also appears that these were the answers they thought would be well received.

Ever the economist, however, Goldin is reluctant to say that the marriage bar simply represented a social norm. She asserts instead that “the policy was profitable, even in the absence of what may be termed clearly prejudicial views about the impropriety of married women’s employment” (p. 161). But this statement is stronger than what is actually established. Goldin does show that marriage bars were closely associated with the spread of modern personnel departments and personnel policies, such as fixed salary scales and promotion procedures (pp. 168–69). She argues that severing the strict relationship between productivity and earnings (which prevailed under piece rates in manufacturing) opened the way for marriage bars and

other forms of discrimination.⁴ But how did that connection work? One possibility is an adaptation of the argument of Edward Lazear (1979) concerning mandatory retirement: If contracts with upward-sloping wage trajectories are established and are relatively inflexible, beyond a point wages may grow faster than productivity, and the firm may find it worthwhile to “induce turnover,” and the marriage bar might have been a device for doing so. Putting aside issues of a priori plausibility, Goldin’s detailed evidence is not consistent with this interpretation. The bar applied only to those who married, not to unmarried women who stayed on the job. A desire to induce turnover would not explain the “hire bar” (the rule against hiring married women), which was also common. Furthermore, fixed salary scales for office workers did not typically rise indefinitely with time on the job, but became level at about six years for women (p. 173). In light of this clearly presented evidence, it is difficult to see why Goldin is not more emphatic in rejecting the turnover theory, at least for private sector office firms.

She does propose an alternative rationalization, however, which is that firms believed that women were less productive as workers after marriage, or that married women were likely to quit soon anyway. (She calls this a “complementary” effect, but a reluctance to retain a worker because she is *unlikely* to stay on the job seems directly contrary to the turnover theory.) It was surely more than mere sexism for firms to anticipate problems with morning sickness, absence during confinement, leaving work to care for sick children, and so on. Though these assumptions would not have applied to all married women, firms may have found it less costly to impose a fixed rule than to go through the process of dismissing selected workers on a discretionary basis. This argument is plausible, but it seems unlikely that many firms had enough experience employing married women to have based such a policy on direct evidence; certainly none is presented in the book. Hence it is difficult to distinguish

⁴ The most striking illustration is the widespread, almost routine exclusion of black women, from office jobs, as a matter of explicit policy. Almost 50 percent of the firms surveyed in 1940 had such a policy, written or unwritten, considerably more than the number with marriage bars (p. 147).

this interpretation from the simpler one that marriage bars mainly implemented widely accepted behavioral norms, and that such restrictions were not costly for that very reason, namely that most women stopped work at the time of marriage anyway. That view does not weaken Goldin's point that the *institutionalization* of marriage bars may have had significant long-run consequences, by channeling women's education and training around expectations of a short work career, and blocking progress at the margin. At the least, the confident statement that marriage bars were profitable seems premature.

Although questions are left unanswered about the marriage bars and other restrictions on married women's work, Goldin is explicit about what may be the most important lesson from this phase of women's history, hard as it is for today's students to believe: the social consensus which held that marriage was tantamount to withdrawal from the work force included the views of most women. To be sure, expressions of discontent and alternative opinions may be cited from almost every era, but before the 1960s the great majority of women silently accepted the system, and most women politically active in progressive causes accepted the ideology behind it as well (Eileen Boris 1985). A footnote tells us, for example, that although the marriage bar was established in St. Louis in 1897, no woman challenged it until 1941 (p. 253).

Indeed, Goldin might have gone further in portraying the regulation of women's work as part of an internally consistent world view that reached its political culmination in the 1930s. It is not properly called the "New Deal" ideology, because the Democratic program of the 1930s was in many respects merely the enactment at the federal level of what could be called the "progressive" political agenda, which had been building for several generations with considerable legislative success at the state level. In brief, progressive ideology called for a social choice in favor of a "high-wage" economy, in which full-time adult male workers earned enough to support their families at a middle-class living standard. It was obvious enough in this view that the preferences of children for work over school could not be accepted at face value: Children could not be expected to

know their own best long-term interests, and they might be subject to parental compulsion and exploitation. The same was true for married women with respect to their husbands. Though these policies clearly involved another kind of compulsion, the core premise was that families would *want* to have the children in school and the wives at home, if the husband's earnings were sufficient to make this possible at an acceptable material living standard. Florence Kelley wrote in 1912: "It is the American tradition that men support their families, the wives throughout life, and the children at least until the fourteenth birthday" (quoted in Martha May 1982, p. 404). Cross-section evidence on child labor and married women's labor force participation suggests that this premise was reasonably accurate, and that the progressive conception did represent a broad cultural consensus, at least among native-born white Americans.⁵ Thus there was a coherent social package with complementary elements: higher wages, greater investment in (compulsory) public education, and legislated standards for the workplace, including general protections for employed women and active discouragement of paid employment for married women. Goldin reminds us that as late as the 1960s, prominent liberals like John Kennedy, Estes Kefauver, and Eleanor Roosevelt opposed legislation like the Equal Rights Amendment, because they feared it would jeopardize a generation of social progress attained through protective legislation (pp. 189, 200).

The progressive program has seldom been discussed in exactly these terms, because its advocates generally chose alternative language and because its critics have found it easier to attack its sexist and class biases. The point of this synopsis is to understand these policies better, not to defend them, certainly not to advocate a return to the world view of an earlier era. Younger generations with a little education

⁵ In this connection, Goldin might have devoted more attention to the very different history of labor force participation among black women. Her earlier study (1977) showed that black female participation rates were higher than those of white women, even controlling for such factors as income, education, and number of children. The racial contrast might shed further light on the diffusion of social norms.

are often quick to believe that their forebears have merely been ignorant or merely hostile toward women, but we will be in better position to construct a social order if we can remember and understand the thinking that went into the old one.

Beyond the Gender Gap

On the whole, Goldin's strategy of sharply limiting the range of topics under detailed discussion is prudent. She chooses issues that lend themselves to quantitative analysis, and she strikes a balance between putting forward an interpretation that is historical and represents a "woman's perspective," while doing so in a manner such that today's labor economists will find it hard to ignore. She well understands that there are many more dimensions to women's economic history than are covered here, many of them subjective. There is an open-mindedness and receptivity to alternative ideas which is admirable, coupled with a determination to keep her own work disciplined and focused. It is nonetheless appropriate to identify some areas that deserve further attention. An essential task of economic history, after all, is to call attention to the historically specific character of elements in modern economies that economists and others take for granted.

The first subject area is women's work in relationship to the evolution of technology. Goldin clearly recognizes that the extent of job segregation goes well beyond what can be directly explained by gender attributes. She notes that jobs acquire an "aura of gender" when dominated by one sex or another (p. 81). She does not overlook the importance of such non-neutral institutional details as scheduled part-time work, which came in for the first time in the 1950s (pp. 180-83). And yet there are throughout the text residues of a technological determinism which I believe is not the central lesson of a broadly based historical view. That central lesson is the malleability of technology with respect to the detailed specialization of jobs and gender. The point is not that any technology can be summoned up at will, but that genuinely technological constraints are rarely gender-specific. In the textiles industry, one observes great international variation in work force gender within a standard technology (Gary Saxonhouse

and Gavin Wright 1984). In a comparative study of autos and electrical manufacturing, Ruth Milkman (1987) makes the case that early choices on gender became quickly embedded, shaping the subsequent evolution of job characteristics more powerfully than technological imperatives. To be sure, the rise of a major new sector like clerical work had great significance for women. But even here the significant fact was that the structures were new and malleable (many clerical tasks such as typewriting and shorthand stenography were in fact originally male). In general, labor history and labor economics have emphasized the supply side at the expense of the demand side. Goldin's book makes some real progress in understanding office-work policies, and it would be healthy to redress the balance even further.

Another important topic is the internal economy of the household. Goldin acknowledges the great difficulty of knowing the nature of relationships between husbands and wives, parents and children, and how these have changed historically. Yet we know that they have indeed changed, and the interpretation of women's paid employment will not be complete until we subject the nonmarket or household alternative to the same rigorous scrutiny: time allocations, productivity, decisions about family size, choices between market and "domestic" options with respect to laundry, food preparation, childcare, and so on. Here too Goldin is aware of the significance of these developments, but they do not play an integral role in her analysis. Despite her appreciation for the importance of norms and institutions in women's history, there is still a tendency to view these constructs mainly as legacies of the past that "impede change," implicitly taking the direction of that change for granted. It would be harder to maintain that view in an analysis focused on the dynamics of household, family, and child care (e.g., Fuchs 1988).

A third subject in need of more attention is women's education. Greater educational attainment is assigned an important role in Goldin's story, in the rise of wages, in opening up clerical jobs, and in arousing the discontent among college-educated women in the 1960s. Yet the substance of education is treated conventionally as a straightforward investment in human capital, an input into an earnings function requiring

no further explanation. This cannot be the last word. Coeducation became institutionalized from the very beginnings of American public education, quite in contrast to many other countries, and the schools have been a remarkable bastion of relative equality through two centuries of discrimination and segregation in most other spheres (David Tyack and Elisabeth Hansot 1990). In fact, through most of that history girls did better at school than boys, who noticed that jobs available to "dropouts" paid well, and that more years of schooling were not going to advance their work career. What were the implications of these historically peculiar circumstances, for women and for the economy? Did the country inadvertently invent an effective system of supplying mass public education, by educating women and then limiting their job opportunities outside teaching (Susan Carter 1986)? To complete the economic history of American women, we will first have to develop a better understanding than we now have of the connections among education, productivity, and the labor market at different phases of American history.

Perhaps the most lasting merit of *Understanding the Gender Gap* will be that it advocates and begins a project of just that sort, in which the economic history of American women will not be regarded as a narrow subspecialty largely isolated from the major themes and developments of the economy as a whole. That her book suggests so many hypotheses and extension to be pursued is testimony to Claudia Goldin's achievement.

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