



## An Explanation for the Gender Wage Gap in the United States

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### ABSTRACT

*This study examines recent research on the gender pay gap. It reviews and evaluates statistical discrimination and human capital models to explore the disproportionate representation of women in the labor force. In addition to the trend, this study considers the consequences of discrimination and occupational segregation in the labor market. The study also attempts to determine whether and how specific factors, such as education, discrimination, and employment across sectors of the U.S. economy, influence the income gap between men and women. Both traditional and market mechanisms are at play. Continued progress towards reducing occupational Segregation requires that women enter a broader range of traditionally male occupations and that more men enter historically female occupations. The present study reveals that income inequality between men and women primarily stems from market forces. The market factors of education and discrimination are the primary areas where women suffer disadvantages that result in their lower income.*

**KEYWORDS:** Economic discrimination, Income inequality, Employment discrimination, Wage gap

### INTRODUCTION

The substantial increase in the participation of women in the labor force is probably the most significant. significant U.S. labor market development of the post-World War II era. Studies of the U.S. The labor market during the 1990s reported that the gender wage differential narrowed. The good The news is that women's earnings power is at an all-time high. The bad news is that women are still earning less than men for the same work. Women's earnings as a percentage of men's earnings increased from 65.4 percent in 1979 to 76.5 percent in 1999. But the pay gap for Black and Hispanic women are much broader; Black women receive just 67 cents for every dollar earned by white men, and Hispanic women get only 60 cents. A large part of the pay gap is attributable to the differential treatment of men and women in the labor market. For many years, the measured ratio of women's pay to men's in the U.S. remained steady at around 60 percent.

Indeed, some observers pointed to Old Testament passages, suggesting that a similar type of Wage disparity prevailed in biblical days. This article examines the factors underlying earnings differentials between men and women, focusing on the roles of human capital and labor-market discrimination. Discrimination in any form against any group of people, whether racially or by gender, tends to minimize their role and contribution to society. I will demonstrate that discriminatory treatment within labor markets is a significant cause of this inequality. Traditional economic analysis factors of the gender gap and occupational segregation have focused on what might be termed gender-specific factors (i.e., gender differences in either qualifications or labor market treatment similar to that of qualified individuals. Gender differences in capabilities have primarily been analyzed within the human capital model. The persistent wage gap paints a picture of an inflexible labor market that fails to reward women for their growing skills. This view of the literature focuses on research relevant to the gender pay gap, tracing its roots from several studies and theories of the 1980s and 1990s.

### Overview of Women in the U.S. Labor Market: 1999 to 2020

The proportion of women 16 years and over working or actively looking for work increased. from 57.5 percent in 1999 to 61.3 percent in 2020. This change reflects an increase in the number of women in the U.S. population and a parallel rise in the employment opportunities available to women. For many decades, women were exceptionally concentrated in administrative support (including clerical) and service occupations. The six most prevalent occupations for women were, in order of magnitude, school teachers (except post-secondary teachers, secretaries, cashiers, managers and administrators, registered nurses, sales supervisors, and proprietors. A detailed examination of the male and female occupational distributions clarifies the pattern of gender job segregation in the U.S. labor force.

On the other hand, business professionals, in particular, have seen substantial growth toward leveling the gender gap. In some traditionally male-dominated professions, the percentage of Women participants surpassed that of men. The patterns of occupational Segregation by gender may be explained, in general, by the stereotypes common in many countries about women, and The characteristics of female and male occupations mirror their supposed abilities. For example, caring nature, skill, and experience in household-related work, greater manual dexterity, greater tolerance for monotonous work, and an attractive physical appearance help qualify women for such occupations as nurses, teachers, cleaners, cooks, weavers, sewers, bookkeepers, clerks, and shop assistants.

Out of the 60 occupations listed by the Bureau of Labor Statistics for management, business, and financial operations, the average percentage of women participants was 43.6 percent (United States Department of Labor Bureau of Labor Statistics Current Population Survey, 2012). While the United States has not achieved gender parity in business, we are reducing the gap. Today, about 77 percent of women between the ages of 25 and 54 are either currently. employed or seeking employment. Compared to international standards, the U.S. lags despite The progress is



illustrated above. Sweden, one of the world's leaders in gender diversity, is Currently at 88 percent.

While the growth of the participation of women across all areas of business has been a substantial improvement over the past fifty years, there is an important issue that seems to be falling by the

wayside in most firms. Nevertheless, for true gender equality in the workplace across all career areas, compensation must be equal between men and women. Table 1 illustrates the labor force participation rates by gender from 1999 to 2020.

**Table 1:** Labor Force Participation Rates by Gender from 1999-2020

Year	Women	Men
1999	60%	74.7%
2000	59.9%	74.8%
2001	59.8%	74.4%
2002	59.6%	74.1%
2003	59.5%	73.5%
2004	59.2%	73.3%
2005	59.3%	73.3%
2006	59.4%	73.5%
2007	59.3%	73.2%
2008	59.5%	73%
2009	59.2	72%
2010	58.6%	71.2%
2011	58.1%	70.5%
2012	57.7%	70.2%
2013	57.3%	69.7%
2014	57%	69.2%
2015	56.7%	69.1%
2016	56.8%	69.2%
2017	57%	69.1%
2018	57.1%	69.1%
2019	57.4%	69.2%
2020	56.2%	67.7%

Source: U.S. Bureau of Labor Statistics, Current Population Survey

Women's labor force participation has steadily declined since the late 1990s. Women's participation peaked at 60% in 1999 but fell to 56% in 2021. On the other hand, in those same years, men's participation was 75% and 68%, respectively.

**Literature Review**

The gender pay gap has attracted the attention of economic researchers in the past decade for various reasons. Some economists have been drawn to the topic by the increased labor force participation of women in the economy and the consistent inequality in the wage rates among men and women (Blau and Khan, 1994,; Groshen, 1991). Others have been interested in the wage gap among ethnic groups (Baldwin, 1992; Becker, 1971; Farley, 1990; and Oaxaca,1973). Common threads throughout this body of research concern the female role in the labor market, the persistent wage gap, and the impact of public policies on the unfair treatment of female and ethnic minorities.

In many of these studies, the empirical portion of the analysis was applied to human capital. and statistical discrimination models (Mincer and Polachek, 1994), Polachek (1981). The neoclassical view of human capital theory suggests that pay differentials between female and Male-dominated occupations refer to differences in human capital between women and men. (England et al., 1988; Polachek, 1981). The human capital model focuses on individual factors (e.g., natural ability, formal education, on-the-job training, and on-the-job experience) that Predict a worker's productivity in the labor market. The usual assumption is that the

difference. between a worker's productivity at the firm where that worker acquired tenure and that Workers' productivity elsewhere is shared between the workers and the firm. The worker's Share generates the correlation between tenure and wages. The human capital theory also predicts that occupations requiring advanced skills will pay higher salaries (England, 1992).

On the other hand, others explain gender differences in economic outcomes based on models. of labor market discrimination. Becker's (1957) examination of race discrimination initiated theoretical work on discrimination. Becker conceptualized discrimination as a personal taste. prejudice against members of a particular group. Models of statistical discrimination were later developed to explain the persistence of discrimination in the long run in the face of competitive labor markets (Aigner and Cain, 1977; Lundberg and Startz, 1983). Such models assume a world of uncertainty and imperfect information, and focus on differences between groups in the expected productivity or the reliability with which productivity may be predicted. In addition, the relationship between occupational Segregation and a discriminatory wage gap was formulated in Bergmann's (1974) overcrowding model. Bergmann argues that discriminatory. Exclusion of women from male jobs results in an excess labor supply in female occupations, depressing wages for otherwise equally productive workers.

The results of Blau and Khan (1997), based on data from the Panel Study of Income Dynamics (PSID). The gender ratio in the U.S. rose from 62.2 to 72.4 percent over the 1980s. Women's



lower levels of human capital (primarily full-time experience) accounted for roughly one-third of the pay gap in 1988 compared to 29.4 percent in 1979. Although a precise determination of the impact of discrimination vs. qualifications on the gender pay gap is complicated for practical and conceptual reasons, both explanations share a common gender-specific focus.

### Gender Differences in Earnings: Human Capital Effects

All workers enter the labor market with unique abilities and acquired skills, commonly referred to as human capital. Generally, the more human capital an individual gains, the higher the pay range of occupations the individual can enter. Differences in the types of human capital have been one explanation for differences in male and female wage levels.

Generally, there are two types of human capital: general and specific. General human capital relates to the kind of capital that, once acquired, is equally useful in all other occupations. Specific human capital refers to the type of capital that is valuable only to the firm in which the worker is involved and cannot be transferred to other firms. The mix of human capital varies across occupations. Also, males and females tend to have different general and specific human capital mixes. This, in turn, may generate different rates of return on their human capital stocks.

One of the most common forms of human capital is formal education. A general misconception is that males attain more formal education than females? Currently, females, in general, tend to achieve higher levels of general human capital than males, though this has only developed during the 1970s. Moreover, human capital theory helps to explain the positive relationship between education and earnings, which is more beneficial to females.

As males are generally involved in occupations requiring more specific capital training, females are more inclined to be in occupations requiring more general capital training, which may continue to disadvantage males. As females tend to have more general human capital, their skills are more transferable to a broader range of occupations and, in many cases, do not need the specific training that many males do in a new job. However, continually more significant numbers of males entering part-time activities, as has been evident in the U.S. over the last few decades may lead to many males and females having similar levels of human capital. As males are more involved with acquiring specific human capital than females, a large proportion of some males may receive a lower wage than females in similar positions.

On the other hand, the worker who acquired specific human capital would not find his skills transferable to most jobs; the chances of moving to another job would be lower than for those with general human capital. Therefore, those who received only general human capital skills may be more likely to leave than those who received specialist training. Also, receiving on-the-job training and formal education provides the opportunity for workers to be in a better position to turn on-the-job training into formal education experience in human capital or enter into different occupations. Therefore, acquiring more human capital leads to higher wages over the job profile.

Overall, various studies suggest that human capital differences are one of the reasons for differences in earnings between genders. In formal education, males have traditionally acquired higher qualifications than females at both secondary and post-secondary levels. It has been argued that women are slightly

less likely to have a bachelor's degree, but considerably less likely to have an advanced degree. Increasing enrollment of young women in college over time has narrowed the gap between men and women in educational attainment. In turn, the narrowing of the gap in educational attainment is gradually narrowing the income gap between men and women.

Human capital models are also used to explain the frequency of job turnover. In such models, turnover declines with tenure as workers acquire firm-specific human capital. Quits fall with experience (and the amount of general capital) if there are lump sum costs of changing jobs and the expected duration of subsequent jobs is a decreasing function of experience. If, as the human capital model suggests, women have less experience than men, on average, the higher the return to experience received by workers, regardless of sex, the larger the gender difference will be.

### The Labor Market Discrimination Model

Labor market discrimination may also affect women's wages and occupations. The study of discrimination received a significant impetus in the 1960s when increasing social attention focused on race and gender differentials in market outcomes. Studies of the labor market also suggest the continued presence of discrimination. While some racial and ethnic gaps have diminished over recent decades, econometric research finds that minorities do less well than equally qualified nonminorities on such employment outcomes as representation in higher-level occupations, wages, return on investment in educational credentials, and rates of job dismissal.

Gary Becker did the first examination of discrimination by an economist in the 1950s when he developed his famous "taste for discrimination" model. Becker hypothesized that prejudiced employers would discriminate in hiring because employing members of those groups that were prejudiced against imposed a "psychic cost" on the employers. Gary Becker's *The Economics of Discrimination* (1951) strongly influenced empirical research by providing a definition of wage discrimination and suggesting a specific way in which it might operate.

Becker defined the market discrimination coefficient as the difference in wage ratios between two groups, with and without discrimination (Blau and Ferber, 1994).

Gender discrimination in pay is generally defined as the "unexplained part of differences in rewards" (Ferber & Hoffman, 1997). For example, the part of the earnings gap (pay gap, salary differential) accounted for by differences in variables such as years of experience and highest degree earned is an example of explanatory variables in the gender pay gap, according to Ferber & Hoffman (1997). However, there are disagreements over which explanatory variables should be used.

Economic research on the presence of discrimination in employment has mainly focused on male-female and black-white earnings and occupational disparities. The position typically taken by economists is that some part of the racial or gender gap in earnings or occupations is due to average group differences in productivity-linked characteristics (a human capital gap), and some parts of this problem are due to average group differences in treatment (a discrimination gap). The more of the gap that human capital differences can explain, the easier it becomes to assert that labor markets function in a nondiscriminatory manner; any remaining racial or gender inequality in employment outcomes must



be due to differences between blacks and whites or between men and women that arise outside the labor market.

Another widely used approach is to estimate a regression equation where earnings levels or occupational status are the dependent variable, explained by some combination of factors like years, quality of education, experience, job tenure, region of the country, and dummy variables for race and gender. If the coefficient on the race and gender variables is statistically significant and negative after controlling for other factors, this is taken as evidence of discrimination in the labor market.

A second widely used approach in labor economics for analyzing group disparities is to apply the Blinder-Oaxaca decomposition procedure. This method is important for its ability to decompose differences in economic outcomes between groups, helping researchers understand what portion of the gap is explained by observable characteristics and what remains unexplained. The procedure involves estimating separate earnings or occupational status regressions for a reference group, such as all males or all white males, and all other groups. The Blinder-Oaxaca technique allows researchers to determine how much of the observed group outcome disparity is due to measurable characteristics versus other factors. permits the researcher to sort out the extent to which the disparity in outcomes between the reference and the comparison groups is due to differences in average group endowments (human capital) of income-generating characteristics and differences in treatment discrimination of given characteristics.

The human capital gap is captured by isolating the effects of intergroup disparity in the mean values of the variables included in the regressions. Discrimination is captured by isolating the effects of intergroup disparity in the estimated values of the constant term and coefficients in the regressions. Thus, the Blinder-Oaxaca decomposition identifies the presence of discrimination when there are discernible differences in the estimated structural equations that produce economic outcomes for the reference and comparison groups.

### Gender Differences in Earnings: Discrimination Effects

According to most of the literature, gender-based discrimination is widely recognized as a primary factor contributing to the earnings gap between men and women. Women often receive lower wages than men due to biased treatment based solely on their gender. While gender roles—both positive and negative—can result in discrimination against both men and women, research tends to focus more on women's roles, often overlooking the discrimination men may face. Discrimination can arise from a variety of sources and manifests in multiple forms. Aldelda (1971) identified three main groups that may perpetuate discrimination in the labor market: consumers, employers, and employees.

### Employer Discrimination

Employers may engage in discriminatory practices by paying certain groups of workers lower wages or refusing to hire them altogether. If a significant number of employers within an industry share a bias against a particular group, the demand for labor from that group decreases, leading to lower wages and fewer employment opportunities.

The results of this can vary, from wage differentials, unemployment for the group, or being crowded out and forced to enter other occupations.

Unlike consumer discrimination, employers have the advantage of knowing who is producing their goods or services and, with such information, are in a strong position to discriminate. However, the problem with employer discrimination due to unfair treatment towards a particular group is that, like consumer discrimination, there has to be a concerted effort to exclude some groups from employment.

### Employee Discrimination

Some employees may dislike working with another group of employees and, in turn, prevent them from pursuing certain occupations. The underlying assumption about employee discrimination is that the discriminating employees must be willing to accept lower wages to make up for their lack of productivity. It has been argued that employment discrimination could be wiped out through the actions of competitive markets by the creation of segregated workplaces (Becker, 1975). Inefficiency due to employer discrimination would most likely arise through skill monopolies. Certain industries may refuse to train particular individuals. Furthermore, if a few members of the group were already discriminating against those currently working in the industry, inefficiency would result. Also, employer discrimination relies on the existence of skill monopolies.

### The Statistical Discrimination Model

The theory of statistical discrimination in the labor market argues that discrimination and segregation in job assignments represent the rational reactions of employers to different average productivity levels between easily identifiable classes of job applicants. Because employers have limited reliable information at the individual level as to future productivity, they use statistical averages for groups to discriminate between a likely good job match and a prospective employee who is less likely to work out (Arrow, 1972; Phelps, 1972). If there are average group productivity differences for the target jobs, then the use of gender or race as a screening device increases average efficiency in labor markets (Haagsma, 1993). Employers may discriminate in hiring or, more commonly, job placement against all or most women or minority candidates because, as a group, they are expected by the employer to be less productive in the target job.

The robust version of the statistical discrimination hypothesis, typically associated with economists (Aigner & Cain; Haagsma, 1993) assume that these average group differences in productivity exist. On the other hand, a weak version of this model is typically associated with sociologists (Bielby & Baron, 1986; England, 1992), who assume that beliefs and stereotypes about productivity are more important than actual productivity.

A typical example is that some employer records may show the previous female employees leaving work in their late twenties to raise children. As the prospective female employee may also leave the firm for the same reasons, the employers may be more inclined to choose a male for the position. This is because the male is viewed, statistically at least, as being less likely to leave for family responsibilities and be more productive for the firm. Yet statistically, discrimination can disadvantage both men and women. A female may be considered suitable for a part-time service job with few prospects, as she may want limited hours and be prepared to stay long-term.

On the other hand, another form of statistical discrimination is when employers have less information about one group of



prospective employees. A typical example involves females who have reentered the workforce after a period of absence. The male applicant's up-to-date employment history may provide an advantage over the female applicant, even though she may be more competent at the job than he is.

It has often been observed that gender and race/ethnic wage inequality is lowest early in the career and increases with age (Rosenfeld, 1979 & Horton, 1993). Part of the explanation for this increased career disparity is that many employers make smaller investments in the skill training of minorities and women (Amirault, 1991). There is also indirect evidence that employers may assume all women have an average job commitment level lower than that of men. Similarly, discounting the quality of African Americans' education by employers because of lower average cognitive achievement has been argued to explain substantially Black-White wage inequality. Hence, if the difference in education quality increases, the training costs of the average African American relative to the moderate White candidate for jobs that require cognitive skills might represent a motive for statistical discrimination.

The neoclassical economic version of the statistical discrimination account leads to the following four hypotheses:

**Hypothesis 1:** As the percentage of female and minority workers in the firm's labor force increases, aggregate productivity should decrease.

**Hypothesis 2:** As the percentage of female and minority workers in the firm's labor force increases, aggregate labor costs should decrease.

**Hypothesis 3:** As the percentage of female and minority workers in the firm's labor force increases, aggregate profitability should also increase.

**Hypothesis 4:** As the percentage of female and minority workers in the firm's labor force increases, labor costs, and profits will be unaffected.

Reich (1981) argued that employers exploit the traditionally lower wages of women and minorities to capture higher profits. He also argued that when labor markets undervalue minorities and women, employers capture the resulting surplus value.

If employer exploitation is correct, then the race and gender composition of the firm should not affect aggregate productivity but should influence the division of productivity between wages and profit. As the percentage of women and minorities in the workforce increases, profits should rise, and aggregate labor costs fall. This argument is consistent with Hypothesis 2.

On the other hand, with increased proportions of minorities and women, total productivity is unaffected, profits should rise, and total salaries and wages should fall. This suggests that employers are expropriating the value produced by underpaid minorities and women. This pattern would be consistent with an employer exploitation account of wage inequalities (Hypothesis 3). However, if neither total productivity nor its components are affected by the gender and race composition of employment, this suggests that, on average, white males are the primary beneficiaries of gender and racial wage inequalities (Hypothesis 4).

### The Thurow Model

It is assumed that discrimination increases the wages of white workers and reduces the wages of black workers. Unless labor supply curves are perfectly inelastic, however, this assumption

implies that discrimination also increases the employment of white workers and reduces the employment of black workers.

Using Thurow's model, I derive expressions for the effect of discrimination in the employment of black and white workers in a perfectly competitive labor market.

Thurow adopted Becker's assumption that white employers maximize a utility function that includes profits and tastes for discrimination against blacks. When faced with a wage rate,  $W$ , white employers act as if the black wage were  $W(1 + D)$ , where  $D$  is the market discrimination, the coefficient is a function of the number of discriminating employers in the market, and the intensity of their taste for discrimination. Thurow noted that discrimination shifts the demand for black workers to the left. The effect of discrimination on the employment of black workers depends on the magnitude of  $D$  and the elasticities of supply and demand for black labor.

Let  $W_B$  and  $N_B$  ( $W_0$  and  $N_0$ ) [ $B$ ] be the equilibrium wage and employment of blacks when employers are not discriminatory. If the black supply curve is perfectly inelastic, employer discrimination reduces wages and does not affect employment.

In this case, the loss to blacks equals the wage lost by black workers:

$$(1) L_1 = (W_0 - w_B) N_{0B}$$

At the opposite extreme, if the black supply curve is perfectly elastic, black employment falls with discrimination, but black workers earn the same wage as whites. In this case, the loss to blacks equal the wages lost by black workers who would have been employed in the absence of discrimination:

$$(2) L_2 = (N_{0B} - N_B) W_0$$

In the more realistic case, where the black supply curve is upward-sloping, discrimination imposes wage and employment losses on blacks. In that case, the total losses to blacks equal

$$(3) L_1 + L_2 = (W_0 - W_B) N_{0B} + N_B (W_0 - W_B)$$

The sum of the wages lost by employed blacks and the wages lost by unemployed blacks due to discrimination. In addition, the wage loss to blacks who are not employed at the discriminatory wage is obtained by substituting into equation (2),

$$(4) \frac{L_2}{E_{s,d} + E_{s,w}} = \frac{\epsilon_d \epsilon_s DW_{2,d}}{\epsilon_s + \epsilon_d}$$

It has been argued that wage discrimination discourages some black men from working and encourages some white men to accept employment. Becker's (1971) model predicts that most workers are the only winners of wage discrimination. White men gain from wage discrimination against blacks in two ways. First, employed white men earn a discriminatory wage premium.

Second, some white men would not work at the nondiscriminatory wage and accept employment at the higher, discriminatory salary. Wage discrimination increases the incentives for black men to drop out of labor. If discrimination reduces the rewards for skilled labor relative to unskilled labor, it also reduces the incentives for those who are discriminated against to invest in additional human capital. By reducing black men's incentives to work and weakening their incentives to invest in education, discrimination limits the potential of a generation of black men to be productive members of the mainstream labor force.



Hence, the direct and indirect effects of discrimination reduce wages and labor force participation in the short term and reinforce a pattern of marginal attachment to the labor force that further limits black males' opportunities to advance their productivity. The effect of wage discrimination in employment depends on the wage elasticities of supply and demand for black and white labor. Theory predicts that wage elasticities are positive for the labor force participation decision. Since blacks generally earn

lower wages than whites, the wage elasticity for blacks is expected to be higher than the wage elasticity for whites.

Hence, the wage gap is a statistical indicator often used as an index of the status of women's earnings relative to men's. It is also used to compare the earnings of Black men to those of White men. Table 2 summarizes the changes in the gender wage ratio gap from 1999 to 2020.

**Table 2:** The Gender Wage Ratio Gap, 1999-2020, Full-Time Workers Median Annual Earnings (2019 dollars)

Year	Women	Men	Female-to-male earnings ratio
1999	\$40,507	\$56,015	72.3%
2000	\$40,884	\$55,458	73.7%
2001	\$42,289	\$55,404	76.3%
2002	\$43,041	\$56,189	76.6%
2003	\$42,811	\$56,667	75.5%
2004	\$42,385	\$55,350	76.6%
2005	\$41,807	\$54,311	77.0%
2006	\$41,330	\$53,718	76.9%
2007	\$43,388	\$55,762	77.8%
2008	\$42,548	\$55,192	77.1%
2009	\$43,333	\$56,292	77.0%
2010	\$43,347	\$56,347	76.9%
2011	\$42,284	\$54,911	77.0%
2012	\$42,158	\$55,106	76.5%
2013	\$43,044	\$55,000	78.3%
2014	\$42,829	\$54,462	78.6%
2015	\$43,965	\$55,263	79.6%
2016	\$44,270	\$55,015	80.5%
2017	\$44,449	\$54,427	81.7%
2018	\$45,914	\$56,293	81.6%
2019	\$47,299	\$57,456	82.3%
2020	\$49,312	\$58,619	84.12%

Source: Calculation based on U.S. Bureau of Labor Statistics, 2020.

### Effects of Labor Market Discrimination

Some of the effects of discrimination are obvious; others are not. With discrimination, there are always gainers and losers. The groups with higher employment and higher incomes (whites and males) are prominent gainers.

The groups with lower employment and incomes (minorities, including women) are the losers. But there is another, less obvious loser: our economy as a whole. Our national output will be reduced because we are not using our labor force as efficiently as possible.

### Alternative Explanations for the Female Pay Gap

An alternative explanation for persistence in the gender wage differential is occupational gender segregation. Another is the occupational crowding hypothesis. Some early justification for women's absence from many traditional male occupations turns on the preferences of women themselves. Polachek (1975), relying on the human capital perspective, argues that women will choose those occupations where their skills depreciate less if they leave for periods of time because of family obligations. This explanation has not, however, received empirical support. England (1982) found that women in predominantly female occupations were not penalized less for intermittent employment, and those with continuous

employment were just as likely to be employed in predominantly female occupations. Economists have also developed theoretical models that locate the source of occupational segregation within the actions of employers, which are called "demand-side" factors. For example, Becker (1971) proposed an explanation that assumed that employers might have what he termed a taste for discrimination, so that they would act as if there were additional costs when they hire women. Such employers will only hire women if they are willing to work for lower wages. On the other hand, institutional economists offer an entirely different set of explanations. Their approach to gender discrimination attributes specific forms of occupational segregation to the inflexible arrangements that hinder competition within firms and the labor market.

Like statistical discrimination theorists, institutionalists argue that occupational segregation results from more than employer discrimination. They point to formal structures in many work organizations that inhibit market forces. For example, once women are assigned to gender-segregated positions, internal labor markets continue to constrain opportunities promotionally, inhibit free competition, and preserve Segregation. Lack of promotional opportunities results in vertical as well as occupational Segregation. Radical economists further developed the notion that employers



benefit from the divisions among workers caused by Segregation because it enables them to take advantage of social divisions between women and men to segment the workforce. The interaction between employers' preferences for workers and workers' preferences for jobs determines the gender and racial composition of an occupation.

Alternatively, employers might rerank men and women in the labor queue, influenced by a new perception of the value of employing females because they recognize that the stereotype of women as unproductive is unjustified. Hence, employers would hire women into some predominantly male occupations and thus reduce occupational Segregation. When measuring occupational Segregation over time, the data reflect changes in the gender composition and the size of professions. Recently, methodological advances have improved statistical measures of segregation, but researchers agree that further progress needs to be made to capture the changes therein more fully.

### Consequences of Occupation Segregation

The gender wage gap is the most frequently cited and most easily measured form of occupational Segregation. Gender differences in qualifications have not been sufficient to explain wage differences. Although the gap has been closing, women working year-round, full-time still earned only 80 percent as much as men in 2020. Estimates of the degree to which occupational Segregation contributes to this gap vary widely, depending on the data sets and statistical procedures employed (England, 1992; Sorenson, 1990).

### Data and Methodology

The data used in this study are from the findings of several studies; it traces the changes in the gender pay gap from the end of the nineteenth Century until 2020 and the forms and extent of the gender pay gap in occupations across nationalities. By using data from multiple sources of the U.S. Bureau of Labor Statistics and the Current Population Survey conducted from 1999 to 2020, I constructed a large data series to study various previously unanswered questions about the gender pay gap. Descriptive statistics for men and women are presented in a Table format, respectively.

### Conclusion

The study reveals that the wage gap between men and women comes mainly from market forces and discriminatory practices of employers. A review of empirical studies suggests that

even when reasonably refined measures of productivity-related characteristics are held constant, women and minorities earn less than white men. However, women's earnings in the United States have been catching up to men's for 25 years.

The gain has occurred because women have gained additional schooling and job market experience relative to men and have begun moving into higher-wage occupations. Women continue to confront discrimination in the labor market, although its extent seems to be decreasing.

Some economists argue that the employer who hires on any basis other than efficiency or finding the most productive worker for the job will be at a competitive advantage compared with other employers. It has been argued that discriminating employers have higher costs than nondiscriminatory ones, so eventually, they will be driven from the market. Statistical discrimination can be viewed, on the one hand, as a reason for taste discrimination and, on the other, as a factor contributing to crowding; it can be seen as subordinate to taste discrimination segregation or both.

Second, several studies find that gender-specific factors, including gender differences in qualifications, overall wage structure, the rewards for skills, and employment in particular sectors, significantly influence the gender pay gap.

In addition, the government can also work in some less direct ways to reduce discrimination. Improving educational opportunities for racial and ethnic minorities and women will put them in a better position vis-à-vis the labor market. Women have made great strides in education and utilization of that education in the labor force over the past fifty years. More women and minorities than ever are receiving higher education in numbers that are even.

This paper has several limitations that provide avenues for further research. Hence, it will be fruitful for research to investigate possible overlaps and interactions across various empirical testing models of statistical discrimination in the labor market. Future research could shed light on economic statistical discrimination, simplify the theory, and yield plausible empirical implications. I hope this research will encourage scholars to pursue such endeavors and enrich the overall understanding of the wage gap between men and women. Building this work should ensure ample opportunities for empirical researchers looking to apply labor market theory, and for theoretical researchers looking to advance it.

### References

- Adelda, R., Drago, R. & Shulman, S. (1997). *Unlevel Playing Fields: Understanding Wage Inequality and Discrimination*: McGraw-Hill Companies Inc., New York.
- Aigner, D., & Glen, C. (1977). Statistical Theories of Discrimination in Labor Markets. *Industrial and Labor Relations Review*, 30, 2, 175-187.
- Amirault, T. (1991). Training to Qualify for Jobs and Improve Skills. *Monthly Labor Review*, 115, 31-36.
- Baldwin, M. & William, G. (1992). Estimating the Employment Effects of Wage Discrimination. *Review of Economics and Statistics*, 74:2, 446-455.
- Becker, G. S. (1971). *The Economics of Discrimination*, 2nd Ed. Chicago: University of Chicago Press.
- Becker, G. S. (1985). Human Capital, Effort, and the Sexual Division of Labor. *Journal of Labor Economics*, 3: 1, 33-58.
- Bendick, M., Jackson, C., & Reinoso, V. (1994). Measuring Employment Discrimination through Controlled Experiments. *The Review of Black Political Economy*, 77-100.
- Bergmann, B. (1994). Occupational Segregation, Wages, and Profits: When Employers Discriminate by Race or Sex. *Eastern Economic Journal*, 1, 561-573.



- Bielby, W. T., & Baron, J. N. (1986). Men and Women at Work: Sex Segregation and Statistical Discrimination. *American Journal of Sociology*, 91 (4), 759-799.
- Blau, F. D., & KAHN, L. M. (1994). Rising Wage Inequality and the U.S. Gender Gap. *American Economic Review*, 84, 23-28.
- Blau, F. D., & Kahn, L. M. (1997). Swimming Upstream: Trends in the Gender Wage Differential In the 1980s. *Journal of Labor Economics*, 15, (1), 1-42.
- Blau, F. D., & Ferber, A. M. (1987). Discrimination: Empirical Evidence from the United States: *American Economic Review*, 77, (2), 316-320.
- Blau, F. D., Ferber, A. M., & Winkler, A. E. (1998). *The Economics of Women, Men, and Work*, 3rd Ed. Prentice Hall, Upper Saddle. N.J.
- Blau, F. D., Simpson, P., Anderson, Deborah. (1998). Continuing Progress? Trends in Occupational Segregation in the United States Over the 1970s and 1980s. *Feminist Economics*, 4, (3), 29-71.
- England, P. (1982). The Failure of Human Capital Theory to Explain Occupational Sex Segregation. *Journal of Human Resources*, 17:3, 358-370.
- England, P., & Kilbourne, B.S. (1988). Explaining Occupational Sex Segregation and Wages: Findings from a Model with Fixed Effects. *American Sociological Review*, 57, 544-558.
- England, P. (1992). *Comparable Worth: Theories and Evidence*. New York: Aldine.
- Farley, R. (1990). Blacks, Hispanics, and White Ethnic Groups: Are Blacks Uniquely Disadvantaged? *American Economic Review*, 80:2, 237-241.
- Gill, Andrew, "The Role of Discrimination in Determining Occupational Structure," *Industrial and Labor Relations Review*, Vol. 42, No. 4 (1989), pp.610 – 623.
- Goldin, Claudia. 1990. *Understanding the Gender Gap*. New York: Oxford University Press.
- Groshen, E. L. (1991). The Structure of the Female/Male Wage Differential: Is It Who You Are, What You Do, or Where You Work? *Journal of Human Resources*, 26:3, 457 – 472.
- Haagsma, R. (1993). Is Statistical Discrimination Socially Efficient? *Informational Economics and Policy*, 5, 32 – 50.
- Hodson, R., & England, P. (1986). Industrial Structure and Sex in Earnings. *Industrial Relations*, 25, 16 – 32.
- Jacobs, J. A. (1999). The Sex Segregation of Occupations: Prospects for the 21st Century, in Gary N. Powell, ed. *Handbook of Gender in Organizations*, Newbury Park, CA. Sage Publications, 125 – 141.
- Lundberg, S., & Startz, R. (1983). Private Discrimination and Social Intervention in Competitive Labor Markets. *American Economic Review*, 73, 340–347.
- Miner, J., & Polachek, S. (1974). Family Investments in Human Capital: Earnings of Women. *Journal of Political Economy*, 82, S76 – S108.
- Neumark, D., Blank, R., & Van Nort, K.D. (1996). Sex Discrimination in Restaurant Hiring: An Audit Study. *Quarterly Journal of Economics*, 111, 915 – 941.
- Oaxaca, R. (1973). Male-Female Wage Differentials in Urban Labor Markets. *International Economic Review*, 14: 3, 693 – 709.
- Polachek, S. (1981). Occupational Self-Selection: A Human Capital Approach to Sex Differences in Occupational Structure. *Review of Economics and Statistics*, 58, 60 – 69.
- Reich, M. (1981). *Racial Inequality*. Princeton, NJ. Princeton University Press.
- Rosenfeld, R. (1979). Women's Occupational Careers: Individual and Structural Explanations. *Sociology of Work and Occupations*, 6, 283 – 311.
- Sorensen, E. (1990). The Crowding Hypothesis and Comparable Worth Issue. *Journal of Human Resources*, 25, 55 – 89.
- U.S. Bureau of the Census, *Statistical Abstract 2020*.
- U.S. Bureau of Labor Statistics (1999 – 2020).
- U.S. Bureau of the Census *Current Population Survey 2000*.
- Wood, R. G., & Corcoran, M. E., & Courant, P. (1993). Pay Differences Among the Highly Paid: The Male-Female Earnings Gap in Lawyers' Salaries. *Journal of Labor Economics*, 11, 417– 441.
- Wootton, Barbara, 1997. "Gender differences in occupational employment." Bureau of Labor Statistics, *Monthly Labor Review*, April, pp. 15 – 24.