



The Economic Impact of Wages & Earnings For Tennessee Women

Tennessee Economic Council on Women
William Snodgrass Tennessee Tower, 27th Fl.
312 Rosa L. Parks Blvd.
Nashville, TN 37243

State of Tennessee



Economic Council on Women
 312 Rosa L. Parks Avenue
 27th Floor William R. Snodgrass Tower
 Nashville, Tennessee 37243
 Phone 615-253-4266
 Fax 615-253-4263

October 2009

Greetings:

Earnings. Wages. Salary. Money.

Zig Ziglar once said, "Money isn't the most important thing in life, but it's reasonably close to oxygen on the 'gotta have it' scale." Often in our culture it seems the bottom line is the bottom line. But, in reality, it isn't the number on the currency itself that sends a message. Instead, it is the worth we place on the person who earned it that says the most about our values.

Women make up more than half of the population in Tennessee. Nationally, women make up about 50% of the labor force. With those numbers alone, it's clear that women's wages and earnings have a tremendous impact. And in Tennessee, where the government's operating source is primarily sales taxes, personal spending income translates into revenue streams.

Given the importance of women's earnings to every citizen and considering the current economic climate, the Council is pleased to release this report on the economic impact of wages and earnings for Tennessee's women. It would not be possible to provide this ground-breaking research, which is based on Tennessee wages and earnings statistics, without the expertise and dedication of Dr. Yasmeen Mohiuddin. Her work clearly shows that we can and should take the issue of women's wages seriously and that we fail do to so at our collective economic peril.

"It is more rewarding to watch money change the world than watch it accumulate," Gloria Steinem said. In so many ways, Tennessee women change the world every day and, thankfully, they put their money where their values are. We are all better for it.

Sincerely,

Rep. Janis Sontany
 Chair

Jennifer Rawls
 Executive Director

Dr. Carol Berz
 Economic Impact Committee

TABLE OF CONTENTS

Mission, Members & Staff	4
Executive Summary	6
Wages, Pay Inequity & the Legislation of Equal Pay	8
Male-Female Wage Differentials and Occupational Sex Segregation: The Case of Tennessee	
Evidence on Gender Pay Gap & Occupational Segregation	16
Theoretical Background	24
Empirical Model	26
Data	28
Regression Results & Findings	30
Conclusions & Policy Recommendations	35
References for Dr. Mohiuddin's analysis	36
Findings & Recommendations	
Findings: Women's Incomes & the Economic Impact	38
Toward Closing the Wage Gap and Economic Stability: Recommendations	40
In Conclusion	43



Mission

The Women's Economic Council Foundation assists the Tennessee Economic Council on Women in studying the economic needs of women in Tennessee and in developing constructive, cost-effective programs of service and education to meet those needs. It works to promote public understanding and support for these programs and to stimulate volunteer participation.



Mission

The Tennessee Economic Council on Women is an economic advocate for women. It assesses Tennessee women's economic status and develops and advocates solutions to address women's economic needs to help them achieve economic autonomy. It sets priorities that are timely, cost-effective and likely to result in positive changes for women.

Vision

The Tennessee Economic Council on Women will be *the* information source for Tennessee women.

Who We Are

The Tennessee Economic Council on Women is a state agency with 21 appointed members and an Executive Director. The Governor appoints six (6) members. The Speakers of the House of Representatives and the Senate jointly appoint nine (9) representatives of the State's Development Districts. The Speaker of the Senate appoints two (2) Senators and the speaker of the House appoints two (2) Representatives. The Tennessee Black Caucus of state legislators and the Women's Legislative Caucus make one appointment each.

What We Are About

The One Hundredth General Assembly created the Tennessee Economic Council on Women (TCA § 4-5-101, *et seq.*) to address the economic concerns and needs of the women in Tennessee. These concerns and needs include, but are not limited to, employment policies and practices, educational needs and opportunities, child care, property rights, health care, domestic relations and the effect of federal and state laws on women.

The Council conducts research, holds hearings, develops recommendations and policy, educates the public and engages in activities for the benefit of women. It is authorized to request funds from the federal government and private sources. The Council consults with and reports to the Governor, the Women's Legislative Caucus, the General Assembly and the pertinent agencies, departments, boards, commissions and other entities of State and local governments on matters pertaining to women.

Council and Foundation Members and Staff

Council and Foundation Executive Committee

Rep. Janis Sontany, Chair, House of Representatives
Carol Danehower, Vice-Chair, Board of Regents Representative
Elliott Moore, East Tennessee, First Development District Representative
Tommie Morton-Young, Middle Tennessee, At-Large Women's Group
Shawn Francisco, West Tennessee, Northwest Development District Representative
Ellen Vergos, Secretary, Memphis Area Governments Representative
Yvonne Wood, Treasurer, Greater Nashville Development District Representative
Carol Berz, Immediate Past Chair, Southeast Development District Representative

Foundation Members listed alphabetically

Rosemary Frank
Christi Granstaff
Patricia Pierce
Deborah Reed

Council Members listed alphabetically

Sandra Bennett, At-Large Women's Group Representative
Commissioner Gwendolyn Sims Davis, Governor's Cabinet Representative
Rep. Sherry Jones, State House of Representatives
Linda Manning, Association of Independent Colleges and Universities Rep.
Jane Powers, Upper Cumberland Development District Representative
Rep. Mary Pruitt, Women's Legislative Caucus Representative
Sandra Silverstein, Southwest Development District Tennessee Representative
Dena Wise, University of Tennessee Representative
Senator Jamie Woodson, Senate Representative

Council Staff

Jennifer Rawls, Executive Director
Julia Reynolds, Research Analyst
Tracey Roberts, Secretary

This report was prepared by:

Dr. Carol Berz, Economic Impact Committee, Economic Council on Women
Dr. Yasmeen Mohiuddin, Ralph Owen Distinguished Professor of Economics,
 University of the South
Jennifer L. Rawls, Executive Director, Economic Council on Women
Julia Reynolds, Research Analyst, Economic Council on Women
Van Ngugen, Student, University of the South

EXECUTIVE SUMMARY

Questions were immediately raised when the number of women joining the waged labor force began to increase. World War I, and the passage of the 19th Amendment were among the many social and political changes leading more women to the workplace. Beginning in 1912, efforts were made, some successful, to pass legislation aimed at creating a fair and safe workplace for women despite continued legal challenges and an unwillingness to include protections in a broad number of industries. The arguments for a women-specific minimum wage, for example, ranged from assertions of women worker's inability to bargain for adequate wages to the need to protect women's health to ensure their roles as mothers.

When the Fair Labor Standards Act was passed, thanks in large part to then Secretary of Labor Francis Perkins, the idea that workers' needs and living standards mattered in setting wages became an issue to be considered rather than a theory that could be easily dismissed. In 1942, President Roosevelt charged that National War Labor Board with determining wage stabilization policies and companies were asked to adjust salaries paid to women to equal rates paid to men for comparable work and time. This voluntary program resulted in changes to those jobs traditionally filled by men who were then fighting WWII. Efforts to expand the practice of "equal pay for equal work" failed at the time but the theory became the foundation for the discussion that continues today.

A federal equal pay bill was introduced in Congress in 1945 and had support of numerous labor organizations. That legislation, however, failed and the continued policies from previous attempts to equalize pay through voluntary efforts and legislation passed in the States resulted in the drop of the ratio of women's to men's earnings to 59 cents for every dollar.

In 1974, Tennessee passed legislation prohibiting discrimination based on gender for comparable work with comparable skill requirements, effort and responsibility and that are performed under similar working conditions.

Despite national and state legislation, lawsuits and the general acceptance of women in many traditionally male-dominated fields, gender discrimination still exists and has a significantly negative effect on the overall economy of Tennessee and the nation.

A statistical analysis of Tennessee wage data demonstrates:

- When men and women at the same level of education are compared, the wage gap persists.
- When the earnings of men and women in the same occupational fields are analyzed, it is clear that jobs held by women are heavily segregated into three of eight broad occupational categories and these jobs pay less.
- Women comprise 80-97% of the workers in these occupations: secretaries and administrative assistants, cashiers, elementary and middle school

- teachers, registered nurses, bookkeeping and accounting/auditing clerks, nursing, psychiatric and home health aides, child care workers and office clerks.
- Theories explaining the earnings differential between men and women at similar levels of education and in similar occupations offer the greater likelihood of women's early withdrawal from the labor force, labor market discrimination, discrimination based on generalizations about gender, and the overcrowding of 'female' jobs as explanations for women's lower wages. These theories can now be assessed by statistical data accounting for marital status, children (both number and ages), race, and level of completed education.
 - Consistent with other studies utilizing national data, the Tennessee data demonstrates that a large portion of the wage gap is attributable to the gender of the employee.

Whether the wage gap, occupational segregation of women, and their resulting lower status is due to discrimination by the employers or due to socialization that affects their choices, or both, there is a pressing need to address it in a multi-faceted way with involvement from all of the stakeholders.

Women must be encouraged to move into higher paying work and girls must be encouraged, mentored and taught to seize opportunities in science, math, engineering and technology. While mobility leading to true equality in higher-paying fields may require an investment for generations, the 2009 economy provides opportunities for women who are seeking to further their education and be involved in "green" sector jobs and businesses.

Family friendly policies, including safe, adequate and affordable childcare, must be encouraged. These policies benefit not only mothers. These policies would also provide fathers with additional family time.

Legislation and self-policing by employers is necessary to negate gender pay discrimination. The first federal equal pay was introduced over 60 years ago. One of the most overlooked aspects of the women's wage issue is the difference between government spending for poverty-based programs and overall spending which would increase government coffers. Women's wages, like all other economic issues, have an impact on the overall health and future of our economy.

I. WAGES, PAY INEQUITY AND THE LEGISLATION OF EQUAL PAY

INTRODUCTION AND AN HISTORICAL PERSPECTIVE

Women have always worked. Their work has been essential to providing shelter and sustenance for their families. However, as a matter of public policy, that work has not always been financially compensated.

At the beginning of the twentieth century waged work was viewed as an essential part of male but not of female identity.¹ With increasing industrialization, larger proportions of the population relied on waged labor, as opposed to owning a farm or being an independent artisan, for family welfare. Family structure became based on a male breadwinner and a female homemaker. Women largely did not participate in waged labor unless their families had no other means of support. These women included “daughters in immigrant families, widows and other poor women, including a higher proportion of African American than white women--.”²

When, during the twentieth century, women joined the waged labor force in greater numbers, questions about what their labor was worth were immediately raised. Male laborers had fought for a family wage so that they could support their dependent wives and children. If it was assumed that women’s primary role in life was motherhood, would paying them *too much* encourage them to leave their roles as wives and mothers? Would paying women *too little* injure their health as future mothers? Was the relative value of homemaking compared to waged work different for working class or non-white women when compared to white, middle-class counterparts?

Concepts of rights, individualism, and equality have had a distinct impact on the way that women have understood themselves and have expressed their sense of their proper position in society.

- Ellen Carol DuBois

The process of wage-setting is deeply political and cultural, its basis impacted by underlying assumptions regarding the role of women in the greater society. The early 1900’s ushered in significant changes for women and political, social and economic opportunities. Out of sheer necessity, the number of women in the workforce increased during World War I. The passage of the 19th Amendment in 1920, gave women the vote and the understanding that they would and should have a voice in the voting booth, consumer decisions and the workplace.

Two very interesting facts stand out about the suffrage debates relative to workplace issues: First, many male anti-suffragists were concerned that giving women the right to vote would result in major changes in child labor and other employment laws. Second, many female anti-suffragists posited that passage of the amendment would eventually *offend the dignity of men as breadwinners*.

¹ Deborah M. Figart, Ellen Mutari, & Marilyn Power (2002) *Living Wages, Equal Wages: Gender and Labor Market Policies in the United States*, p. 3, London: Routledge.

² Ibid.

The Story of Frances Perkins

Frances Perkins was a bastion of strength regarding public policy during the New Deal. One of two daughters of a small Massachusetts businessman, Perkins graduated from Mount Holyoke College in 1902. While she was at Mount Holyoke, Florence Kelley, founder of the National Consumer's League (NCL), came to speak on campus. Perkins was moved by Kelley's speech, later writing to a friend that it "first opened my mind to the necessity for and the possibility of the work which became my vocation" (quoted in Martin 1976: 52). After graduation, she moved to New York and devoted herself to the anti-sweatshop movement. Although she married and had a daughter, she was adamant in keeping the name Perkins throughout her career.

Perkins entered the public sector in 1919 when Governor Alfred E. Smith appointed her to the Industrial Commission in the State of New York, a board within the Labor Department, in charge of investigating worker conditions. Smith was cognizant that women were new voters in the state and wanted to appoint a woman to political office, preferably one who was not the wife or sister of a male politician. According to her biographer, Perkins was concerned that her now-colleague and friend Florence Kelley might object to her entering a political administration rather than continuing to work for social betterment through the NCL. Governor Smith allegedly responded, "There'd better not be any of that separation much longer if we're to get good government. If you girls [sic.] are going to get what you want through legislation, there'd better not be any separation between social workers and the government" (Martin 1976: 144).

When Franklin Roosevelt succeeded Smith in the governor's mansion, he promoted Perkins to Industrial Commissioner, the chief administrator supervising a largely male staff. Perkins then became Roosevelt's Secretary of Labor when he assumed the presidency in 1933, the first woman to serve in the Cabinet. In her memoirs of the politician whose career was so linked to her own, Perkins indicated that she accepted the post reluctantly, concerned that labor union leadership would object to her because she was not from their ranks.

As the condition under which she would serve, she proposed an ambitious agenda that included the hallmarks of New Deal social welfare policy: an extensive public works program to combat unemployment (instituted in the Works Progress Administration and other programs), federal aid for unemployment relief and old-age insurance (accomplished in the Social Security Act of 1935), and a minimum wage/maximum hours law and a law banning child labor (both codified in the FLSA). Her background in the NCL and other Progressive Era women's organizations made wage and hour regulation and a ban on child labor her particular concerns – though she had many allies in the administration. When Roosevelt agreed to her conditions, she observed that such laws might be considered unconstitutional. She recalls Roosevelt's response as: "Well, that's a problem, but we can work out something when the time comes" (Perkins 1946: 152).

The states are obligated to ensure a minimal standard of living to all citizens participating in waged labor, not biased by gender or race.³ From 1912 to 1923, women's minimum wage legislation, aimed at assuring a living wage to women at the bottom of the wage scale, was passed in fifteen states, the District of Columbia, and Puerto Rico. However, because many states' policies were delayed by legal challenges and because legislation often was aimed at establishing industry-specific minimums, coverage was extended to very few women. In several states significant low-wage women's occupations such as agriculture and domestic work were specifically excluded from minimum wage legislation.⁴ The arguments for a women-specific minimum wage ranged from assertions of women worker's inability to

³ Ibid, p.67.

⁴ Ibid, p.70.

bargain for adequate wages to the need to protect women's health to ensure their roles as child bearers.⁵

One example of both an attempt at providing a minimum wage and the efforts to derail such legislation is the 1923 Supreme Court case of *Adkins v. Children's Hospital*. A 1918 Congressional act established the District of Columbia Minimum Wage Board, which set minimum wages for workers depending on occupation, age and sex. The law was adopted primarily to protect the wages of women and children. Children's Hospital, in order to maintain an army of underpaid workers, sued the Board's representative. In its decision, the Supreme Court, through Justice Sutherland, held that federal minimum wage legislation for women was an unconstitutional infringement of liberty of contract as protected by the Constitution. In his opinion, Justice Sutherland commented that societal changes, especially the passage of the 19th Amendment, cast the legislation in a different light from previous decisions. Previous decisions had emphasized the differences between men and women as justifying special protection for women; however, "[in] view of the great – not to say revolutionary – changes which have taken place...in the contractual, political, and civil status of women, culminating in the Nineteenth Amendment, it is not unreasonable to say that these differences have now come almost, if not quite, to the vanishing point."⁶

A Federal minimum wage finally became possible following *Adkins*. Frances Perkins, then Secretary of Labor, first worked with legal strategists to introduce a public contracts bill which passed as the Walsh-Healey bill and set work week, minimum wage and child labor limitations on government contractors. Perkins worked with President F.D. Roosevelt to send to Congress what became the Fair Labor Standards Act (FLSA).

Even though, in its final form, only a small percentage of the labor force met the criteria of covered industries and occupations, the FLSA legitimated the idea that living standards and workers' needs mattered in setting wages.⁷

Wage setting practices that instituted separate pay scales for men and women conflicted with equal pay principles, something working women's advocates had been supporting for decades. From the 1920s to the 1950s, job evaluation as a wage-setting technique became increasingly prevalent.⁸ Job evaluation promoted pay based on the content of the job rather than the characteristics of the employee. Even so, separate wage structures for men and for women persisted and many employers favored the segregation of men's jobs and women's jobs for valuation purposes.⁹

⁵ Ibid, pp.74-77.

⁶ *Adkins v. Children's Hospital of Washington*, 261 U.S. 525 (1923).

⁷ Op.Cit, Figart, p.105.

⁸ Ibid p. 126.

⁹ John W. Reigel (1940) *Salary Determination: Common Policies and Selected Practices in Forty American Corporations*, pp. 42-43, Ann Arbor: Bureau of Industrial Relations, University of Michigan.

During World War II many women joined the labor force to support war industry. The National War Labor Board (NWLB) was charged at the time by President Roosevelt with determining wage stabilization policies. In 1942 the NWLB issued General Order No. 16 urging employers to voluntarily make “adjustments which equalize wage or salary rates paid to females with the rates paid to males for comparable quality and quantity of work on the same or similar operations.”¹⁰ However, equal pay was largely applied to women working in traditional men’s jobs and it was still common practice to replace separate pay scales with concepts such as “light” and “heavy” work as a basis for unequal pay.¹¹ Efforts for a broader interpretation of equal pay for work of comparable worth required further struggle; however the phrase “equal pay for equal work” brought about by wartime job evaluation became the foundation for contemporary equality discussion.

After the war, women who had gained access to experience and better wages sought to remain in the labor force. At mid-century, women were 27.8 percent of the labor force; by the end of the century women were 46.6 percent of the labor force (see Table 1).

Table 1 Labor force composition, 1900-2000

Year	Percent female	Percent male	Year	Percent female	Percent male
1900	18.3	81.7	1960	32.1	67.9
1910	21.2	78.8	1970	37.2	62.8
1920	20.5	79.5	1980	42.6	57.4
1930	22.0	78.0	1990	45.2	54.8
1940	24.3	75.7	2000	46.6	53.4
1950	27.8	72.2			

Sources: U.S. Census Bureau (1975: Series D 11-25); U.S. Department of Labor, Bureau of Labor Statistics (2001: Table 2)

A rapidly expanding post-war economy with an abundance of clerical and sales positions, the increasing standard of living considered desirable for working- and middle-class families, declining birth rates and rising divorce rates all had an impact on women’s expectations regarding work, wages, motherhood and marriage. As more and more women joined the labor force, the type of job one had, rather than whether or not one had a job, was increasingly a marker of masculinity or femininity.

A federal equal pay bill was first introduced to Congress in 1945, and though the bill had the support of numerous labor organizations it failed to pass. Until the early 1960s newspapers published separate job listing for men and for women, with the higher level jobs almost exclusively under “Help Wanted – Male.” Of note is the

¹⁰ National War Labor Board, *The Termination Report of the National War Labor Board, Volume I: Industrial Disputes and Wage Stabilization in Wartime, January 12, 1942 – December 31, 1945*, 3 vols, Washington, DC: U.S. Government Printing Office.

¹¹ Ruth Milkman (1987) *Gender at Work: The Dynamics of Job Segregation by Sex during World War II*, pp. 80-81, Urbana: University of Illinois Press.

employment section of the August 2, 1957 edition of the *Nashville Banner* showing separate 'Help Wanted' ads for women and for men. Positions open to men that Friday included engineers and draftsmen, while the women's section was dominated by clerical and waitressing opportunities.

EMPLOYMENT	
14 Help Wanted—Female	AMUSEMENTS, entertainers, 210 weekly, AM 9-1837.
SECRETARY	SALES LADIES—Permanent full time work. Apply in person only. FOX ON FIFTH AVE.
	WAITRESS—Experienced. Apply PATTON'S RESTAURANT, Hermitage & Peabody St.
Executive type. Opening available for qualified young woman age 25-35, with good poise and personality and ability to work with people on high level. Average or above in shorthand and typing. 5 days week. Hours 7:30 a.m. to 4 p.m. Engineering or Industrial relations background helpful. Apply in person. Mondays through Fridays. Personnel Office	HELPER — White woman, live and work in convalescent home health card. Call CV 2-6348
	AVCO MFG. CORP. Vultee Blvd. Nashville, Tenn.
TYPIST	WAITRESS—Short order combination, night work, 323 week. OPBY CORNER CAFE, 8th & Broad.
Age 20-40, settled. Must be reliable. No dictation. Will pay good salary and expect efficient performance. Perfect working conditions. Hospitalization, life insurance and pension plan at no cost to em-	WAITRESSES — Two, one part time, hours 11-3. Apply in person. JAYA ROOM, in Maxwell House.
	SHORT ORDER COOK
	Experienced. Apply Wendell Smith's Restaurant, 487 53rd Ave. N.
	WAITRESS—WHITE
	Night work. Apply BELLE MEADE MOTEL, Harding Rd.
	NURSE—Practical, white, day duty, MAY on place. JENNING'S REST HOME, AL 4-7228.
	HOUSEKEEPER — Experienced with children, Woodbine area. AL 8-8618.
	15 Help Wanted—Male
	Openings for ENGINEERS

Of course separate meant unequal. Between 1955 and 1961, the ratio of women's to men's earnings dropped to 59 cents for every dollar earned.¹²

Early drafts of federal equal pay legislation had called for paying men and women equally for work of comparable character. In 1963 three versions of a federal equal pay bill were submitted to Congress. What was to become the Equal Pay Act of 1963 was introduced by Republican Representative of New York Charles Goodell. Goodell's bill appeased business by calling for equal pay for equal work. This limited the bills scope to men and women working side-by-side doing virtually identical or essentially similar work. Also, rather than charging the Secretary of Labor with regulation

and creating a division to investigate and administrate complaints, Goodell's bill gave equal pay administration to the existing Wage and Hour Division. Employers concerned by the proactive enforcement of equal pay promised by other versions of the legislation were appeased by this change. Goodell's bill was also proposed as an amendment to the FLSA so that a large number of industries were exempted from the equal pay legislation.¹³ The following year, Title VII of the Civil Rights Act of 1964 was enacted, making it illegal to discriminate, including in wages and pay, on the basis of sex, race, color, religion, and national origin.

Two court cases in the seventies helped to strengthen and further define the Equal Pay Act of 1963. In 1970 the U.S. Court of Appeals for the Third Circuit ruled in *Schultz v. Wheaton Glass Co.* that jobs need to be "substantially equal" but not "identical" to fall under the protection of the Equal Pay Act of 1963.¹⁴ In 1974 the U.S. Supreme Court ruled in *Corning Glass Works v. Brennan* that employers cannot justify paying women lower wages solely because that was the traditional "going market rate."¹⁵ A wage differential occurring because men refused to work at the low rates paid to women was not acceptable.

¹² U.S. Department of Labor, Women's Bureau (1963) Economic Indicators Relating to Equal Pay, Washington, DC: U.S. Government Printing Office.

¹³ Op.cit, Figart, p.174.

¹⁴ *Schultz v. Wheaton Glass Co.*, 421 F.2d 259 (3rd Cir. 1970).

¹⁵ *Corning Glass Works v. Brennan*, 417 U.S. 188 (1974).

In 1974 Tennessee passed legislation prohibiting discrimination “between employees in the same establishment on the basis of sex by paying any employee salary or wage rates less than the rates the employer pays to any employee of the opposite sex for comparable work on jobs the performance of which require comparable skill, effort and responsibility, and that are performed under similar working conditions.” The legislation also authorized the Commissioner of Labor and Workforce Development to eliminate unlawful pay practices by conference, conciliation and persuasion and to supervise the payment of wages owed to any employee.¹⁶

In the early eighties several events brought equal pay into the public eye. The Supreme Court set precedent in the 1981 case of *County of Washington, Oregon v. Gunther*.¹⁷ The case was brought by female prison guards, performing the same job as male guards for considerably less pay, who claimed intentional sex discrimination in violation of Title VII of the Civil Rights Act of 1964; the Supreme Court ruled in their favor. In the same year the National Academy of Sciences published *Women, Work and Wages: Equal Pay for Work of Equal Value* which found strong evidence of gender-based discrimination.¹⁸ Another lawsuit filed in 1982 was based on comparable worth job studies commissioned by the State of Washington in 1974, 1976 and 1980 which had all indicated that jobs held mostly by women were paid significantly less than those held mostly by men.¹⁹ When the State did not respond to these consistent findings, the American Federation of State, County and Municipal Employees (AFSCME) and the Washington Federation of State Employees (WFSE) filed a class action lawsuit claiming that the state had discriminated against employees in female-dominated jobs by paying them lower wages than employees in comparable male-dominated jobs. After a District Court decision in favor of AFSCME, the State legislature passed a bill committing full implementation of pay equity within ten years but appealed the court decision which was then overturned by the U.S. Court of Appeals for the Ninth Circuit.²⁰

Comparable worth job evaluations became more prevalent and promised to determine the gender-neutral rate for jobs. Many states and municipalities attempted to use these pay equity studies in exchange for dropped lawsuits and to remedy wage disparity. What these studies repeatedly found was that men’s and women’s wages reflected gendered assumptions about the relative value of different types of work and not the relative productivity of the individual. Throughout the eighties advocates of pay equity made strides in the public sector through reformed classifications systems and targeted increases for underpaid jobs; however, targeted investigations and reclassifications were more sparse in the private sector.

¹⁶ Tennessee code 50-2-202: Acts 1974, ch. 757, § 2; T.C.A., § 50-321 and 50-2-203: Acts 1974, ch. 757, § 3; T.C.A., § 50-322.

¹⁷ *County of Washington, Oregon v. Gunther*, 452 U.S. 161 (1981).

¹⁸ Donald J. Treiman & Heidi I. Hartmann, Eds. (1981) *Women, Work, and Wages: Equal Pay for Jobs of Equal Value*, pp. 91, Washington DC: National Academy Press.

¹⁹ *AFSCME v. Washington* 578 F. Supp. 846 (W.D. Wash. 1983).

²⁰ *AFSCME v. State of Washington*, 770 F. 2d 1401. (9th Cir. 1985)

The wage gap persists and pay equity advocates have turned their attention to enforcement of the Equal Pay Act of 1963 and other civil rights laws. Lilly Ledbetter's case against Goodyear Tire & Rubber Co.²¹ is illustrative of the kind of quietly accepted pay discrimination women face daily. Ms. Ledbetter worked for nearly 20 years as a supervisor at a Goodyear Tire and Rubber Company facility in Alabama. As she was preparing to retire from the company, she learned from a co-worker that the company had paid her less than her male colleagues even though she had more experience than many of them. A jury found that the company had discriminated against her. The case made it to the U.S. Supreme Court where it was determined that, even though discrimination had occurred, the 180 day statute of limitations to file a complaint under the Civil Rights Act began after she received her first discriminatory paycheck despite the fact that she did not know she was being discriminated against. One reading of the Supreme Court's decision is that if a company could successfully (quietly) discriminate for 180 days, it was home free. In one of his first acts in office, President Obama signed the Ledbetter Act, which relieves employees from filing a discrimination complaint for every paycheck received, into law in 2009.

Two other federal bills have recently been proposed that target wage inequity. The Paycheck Fairness Act (S. 182/H.R. 12), most recently introduced in January of 2009, would amend the FLSA by creating incentives for employers to follow the law, help women negotiate for equal pay and strengthen federal outreach and enforcement.²² The second piece of legislation is the Fair Pay Act (S. 904/H.R. 2151) which seeks to end wage discrimination against those who work in female-dominated or minority-dominated jobs by establishing equal pay for equivalent work. One employer could not pay predominantly women-held jobs less than predominantly men-held jobs if the jobs were of equal value to the employer.

In Tennessee, equal pay legislation has been considered for the past several years which would allow employees to file suit, and receive damages, if they could prove gender discrimination in wages. The bill would also allow companies to request an audit, receive training and self-report. The General Assembly has not adopted the law as yet.

Despite these efforts on the state and national level by women's advocates and economists alike, there is no question that a significant part of the wage gap is due to gender discrimination. Interestingly, such discrimination is not necessarily a respecter of economic status or title.

A recent study conducted by the Center for Urban Economic Development in Chicago, the National Employment Law Project in New York and the UCLA Institute for Research on Labor and Employment in Los Angeles found that women are more susceptible to minimum wage violations than men. The study reports that "the higher minimum wage violation rates for foreign-born respondents were concentrated

²¹ *Ledbetter v. Goodyear Tire & Rubber Co.*, 550 U.S. 618 (2007).

²² For more detailed analysis of this bill see National Women's Law Center (2008) *How the Paycheck Fairness Act Will Strengthen the Equal Pay Act* factsheet

among women – especially women who are unauthorized immigrants, nearly half of whom had a minimum wage violation in the previous week.”²³

On the other end of the pay scale are the CEO’s of companies with over \$1 billion in revenue. According to Fortune magazines 25 Highest Paid Women, in 2008, Safra Catz, President of Oracle, received \$42.2 million in compensation. Second on the list is Linda Chen, President of Wynn International Marketing, Limited, who earned \$23.9 million that same year. Contrast the men on the 25 Highest Paid Men list and you find that the executive in the number one position, Chesapeake Energy’s Aubrey K. McClendon made \$112.5 million. In fact, the man in the last position of the top 25 earned more than the woman in the second position on the women’s list.²⁴

To date, there is not a single state in which women have gained economic equality with men. This fact cannot be logically explained by “women’s choices” in family and career matters. Even when, as the next section shows, all of the applicable factors are considered, there remains a significant gap which can only be attributed to gender discrimination.

- In 2004, Wachovia Corp. admitted no wrongdoing but agreed to pay \$5.5 million to settle allegations by the U.S. Office of Federal Contract Compliance Programs that it engaged in compensation discrimination against more than 2,000 current and former female employees over six years.
- In 2004, on the eve of trial, investment house Morgan Stanley agreed to settle a sex discrimination action filed by the Equal Employment Opportunity Commission alleging that the investment firm paid women in mid- and upper-level jobs less than men, passed women over for promotion, and committed other discriminatory acts. Although it denied the allegations, Morgan Stanley did agree to pay \$54 million to the plaintiffs and to take numerous other actions to prevent future discrimination.
- In June 2001, six female Wal-Mart employees filed a sex-discrimination lawsuit in U.S. District Court in San Francisco against Wal-Mart Stores. The suit, *Dukes v. Wal-Mart Stores Inc.*, gained class certification in 2004 as the largest such suit ever filed against a private employer, affecting more than 2 million female employees. In the suit, female employees alleged that they were denied opportunities for advancement and paid less than men doing similar work. The suit also detailed a locker-room culture at Wal-Mart that made women uncomfortable. Wal-Mart has fiercely battled the class certification. Sometime this fall, a federal circuit court of appeals will rule on Wal-Mart's request to review the class certification.

²³ Annette Bernhardt, et al. (2009) *Broken Laws, Unprotected Workers: Violations of Employment and Labor Laws in America’s Cities*, pp. 48.

²⁴ Fortune Magazine online, (September 2009)
http://money.cnn.com/galleries/2009/fortune/0909/gallery.women_highest_pay.fortune/index.html
http://money.cnn.com/galleries/2009/fortune/0909/gallery.women_men_highest_pay.fortune/index.html

II. MALE-FEMALE WAGE DIFFERENTIALS AND OCCUPATIONAL SEX SEGREGATION: THE CASE OF TENNESSEE*

[The following analysis provided by Dr. Yasmeen Mohiuddin, Ralph Owen Distinguished Professor of Economics at Sewanee: The University of the South, Sewanee, Tennessee, and a former board member of the Tennessee Economic Council on Women]

During the last several decades, women have made impressive gains toward economic equality with men as gender gaps in educational attainment, labor force participation rates, earnings, and access to managerial and professional jobs have narrowed. Yet, throughout the United States, women earn less than men in almost all occupations and within each educational category. In 2008, median weekly earnings of women working full-time were \$638 compared to \$798 for their male counterparts resulting in a female/male earnings ratio of .799 (IWPR, 2009), which implies a male-female earnings differential (as a proportion of female earnings) of .25. In Tennessee, the situation is slightly worse. The median annual earnings of women who worked full-time were \$29,000 in 2005 compared to men's \$37,180, the earnings ratio being 78 percent (Williams, 39).

The purpose of this study is to analyze the sources of the gender gap in earnings in Tennessee and to statistically decompose it into two parts: one due to gender differences in human capital investment and other measured characteristics, and the other unexplained and potentially due to labor market discrimination. The study uses state-level data from the Integrated Public Use Micro Series (IPUMS) from the 2000 Census, covering a five percent sample of all workers between 18 and 65 years of age (a total of 113, 026 workers, of which 59, 754 are males and 53, 272 are females). The present study is the first to analyze gender wage gaps by detailed occupation groups at the state level. This report is organized into 5 sections. Section II presents the evidence on the gender wage gap and occupational segregation in Tennessee based on evidence from the 2000 Census Integrated Public Use Micro Series (IPUMS) survey. Section III reviews the literature on gender wage gaps and some of the more important theories/models of wage and occupational discrimination. Section IV outlines the empirical model and describes the data set used in the statistical analyses. Section V presents regression results and decomposition estimates of the wage gap. Section VI concludes with policy recommendations.

Section II

EVIDENCE ON GENDER PAY GAP AND OCCUPATIONAL SEGREGATION

Differences in earnings and in the distribution of men and women across occupations have been the subject of much research on U.S. labor markets recently. The female-male earnings ratio has increased and the gender pay gap reduced

* The author wishes to thank Van Ngugen for providing research assistance for this paper, and for help with econometric work. The responsibility for any errors and omissions lies with the author. Financial assistance for this study was provided by the Tennessee Women's Economic Council Foundation.

significantly over the past thirty years as women have increasingly entered traditionally male occupations. The ratio remained more or less constant at 60 percent from the 1950s to late 1970s. It increased from 61 percent to 78.5 percent between 1978 and 1999, plateaued for a few years, and increased to 80.4 percent in 2004. The female-male weekly earnings ratio was 79.9 in 2008, the third consecutive decline since the peak of 81 in 2005 (IWPR 2009, p.1). Based on progress between 1995 and 2005, it is estimated that women will not achieve wage parity for at least 50 years (Williams 2008, p.6).

This ‘raw wage gap’, however, does not control for male-female differences in education and occupational choice. Since income is likely to be higher with a postgraduate than a graduate degree, and men make up a higher proportion of those with postgraduate degrees, the raw wage gap does not reflect the true earnings gap. Similarly, engineers earn more than schoolteachers do, and since more women are likely to be teachers than engineers, the raw wage gap does not reflect the true earnings differentials between men and women. A more valid case is made if we compare the earnings of men and women at similar education levels and within the same occupation. Figures I and II show the age-earnings profiles for high school and college graduates of Tennessee. In both cases, earnings of diploma/degree holders lie above those without it of the same sex, showing

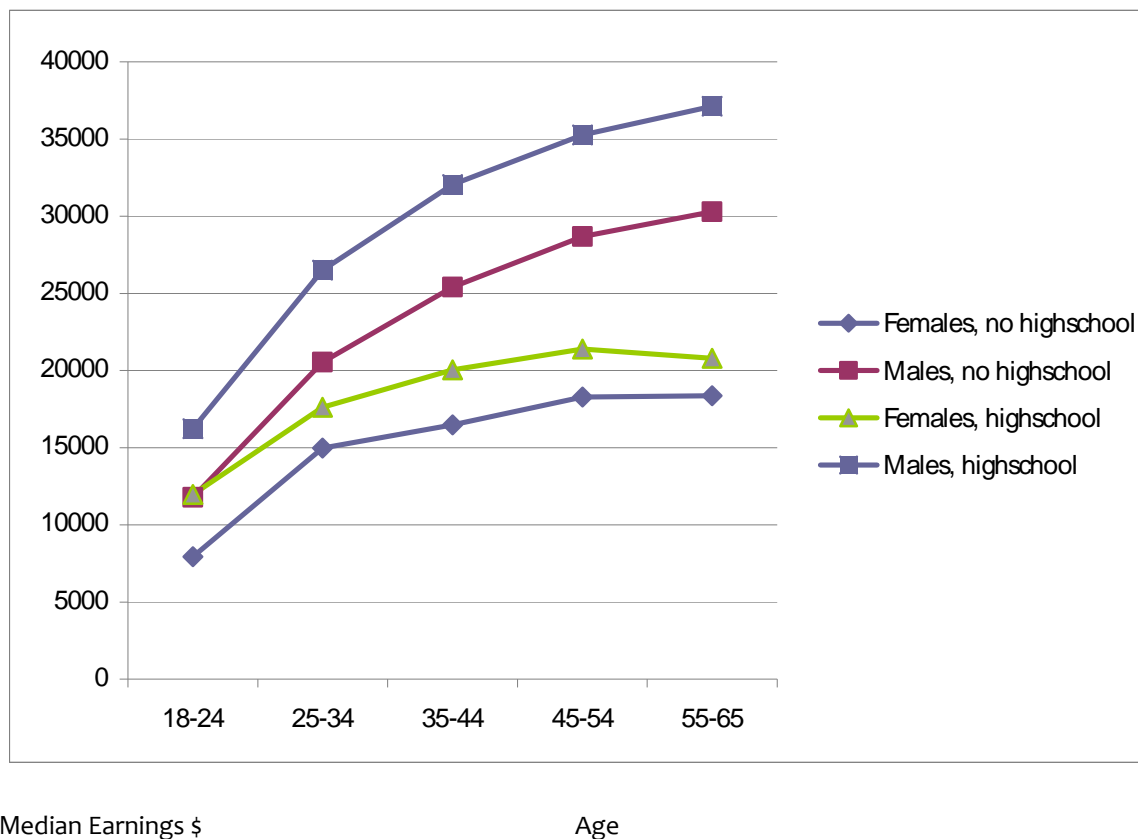
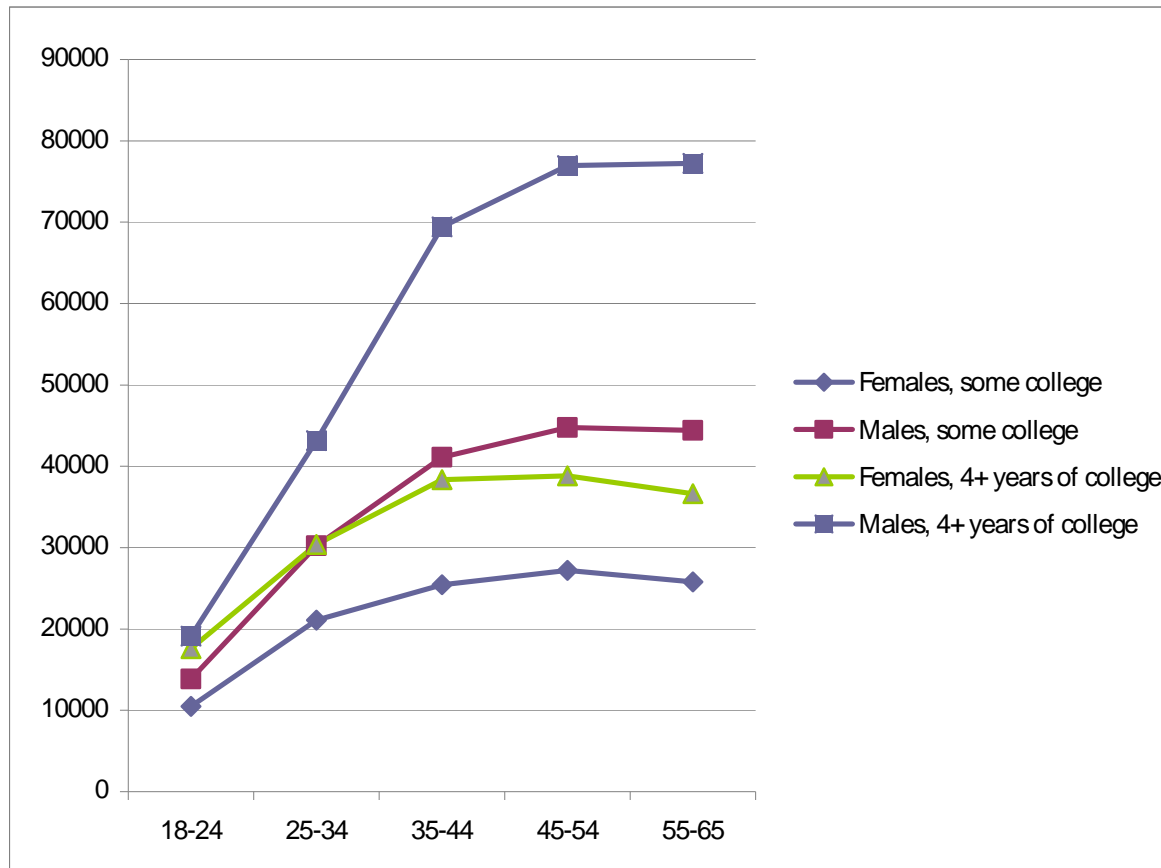


FIGURE I: Age-Earnings Profile of All Workers by Gender and Education (High School)

positive returns to education for both men and women. Although earnings profiles in Figure II are steeper than that of Figure I for both men and women, that for male college graduates is the steepest showing a constant high rate of increase in income until age 45. Moreover, within each education group, women earn less than men; their earnings profiles are flatter than men's; and their earnings drop at around 50 years of age for both school and college graduates. Thus the wage gap persists even when we compare men and women at similar levels of education.



Mean Earnings (\$)

Age

FIGURE II: Age-Earnings Profile of All Workers by Gender and Education (College)

Next, we compare the earnings of men and women within the same occupational group. We begin by analyzing the distribution of men and women across eight broad occupational categories and the female-male earnings ratio in each. Table I shows two things: women and men are occupationally segregated with women heavily concentrated in only three of the eight occupations, and occupations with larger numbers of female workers pay less. Also, the female-male earnings gap persists within each occupation. The ratio varies from 76% in management, business, and financial operations to 87% in construction, extraction, and maintenance

occupations (excluding military specific occupations). Moreover, women are concentrated in 3 occupations: sales and office occupations, professional and related, and service occupations. About 75% of all women workers are in these three categories compared to 40% of men. Further, 51% of women (and 26% of men) are concentrated in just two occupations: sales and office, and service. The office occupations include secretaries and administrative assistants, general office clerks, bookkeeper, and customer service representative, while service occupations include

TABLE I: OCCUPATIONAL DISTRIBUTION AND EARNINGS OF WOMEN AND MEN IN TENNESSEE: 8 BROAD OCCUPATIONS								
OCCUPATIONS	Number Employed (Men)	Percent Employed (Men)	Number Employed Women	Percent Employed Women	Percent Female in Occupation	Earnings (Men)	Earnings (Women)	Female income as % of Male's
Management, business & financial operations	7292	12.20	5565	10.45	0.433	\$52,950	\$40,000	0.755
Professional and Related	8077	13.52	12350	23.18	0.605	\$38,032	\$31,000	0.815
Service occupations	5708	9.55	7961	14.94	0.582	\$17,698	\$14,200	0.802
Sales and Office	9849	16.48	19209	36.06	0.66	\$25,970	\$20,000	0.770
Farming, Fishing, & Forestry	506	0.85	92	0.17	0.15	\$19,256	\$15,000	0.779
Construction, extraction and maintenance	10625	17.78	470	0.88	0.04	\$30,352	\$26,400	0.870
Production, transport, & Material Moving	17426	29.16	7600	14.27	0.30	\$26,974	\$23,000	0.853
Military specific occupations	271	0.45	25	0.05	0.08	\$30,418	\$28,000	0.921
ALL 8 OCCUPATIONS	59754	100	53272	100	100	\$30,847	\$24,000	0.778

childcare workers, waiters and waitresses, hairdressers and cosmetologists, cooks, maids and housekeeping cleaners. These are the lowest paying non-farm occupations for both men and women, which may reflect wage discrimination against *female work* rather than just *female workers*. This has been referred to as the 'devaluation hypothesis' in literature, meaning a general cultural devaluation of women's labor (Tam 1997; England 1992).

This 'occupational segregation' increases rather than decreases as we look at more detailed occupational classifications, as in Table II. Thus, when we disaggregate the 8

TABLE II: OCCUPATIONAL SEGREGATION IN TENNESSEE: 25 OCCUPATIONS						
OCCUPATIONS	Number	Percent	Percent	Number	Percent	Percent
	Employed	Employed	Male in	Employed	Employed	Female in
	(Men)	(Men)	Occupation	Women	Women	Occupation
Mgmt, Business & Financial	7292	12.20	0.567	5565	10.45	0.433
Management Occupations	5647	9.45	0.632	3289	6.17	0.368
Business Operations Specialists	864	1.45	0.447	1068	2.00	0.553
Financial Specialists	781	1.31	0.393	1208	2.27	0.607
Professional and Related	8077	13.52	0.395	12350	23.18	0.605
Comp. & Math. Occupations	1165	1.95	0.693	516	0.97	0.307
Architecture & Engineering.	1742	2.92	0.862	279	0.52	0.138
Life, Physical & Social Science	479	0.80	0.615	300	0.56	0.385
Community & Social Services	742	1.24	0.454	893	1.68	0.546
Legal Occupations	310	0.52	0.438	398	0.75	0.562
Education, Training, & library	1459	2.44	0.235	4754	8.92	0.765
Arts, entertainment, sports, etc.	793	1.33	0.526	714	1.34	0.474
Healthcare practitioners& Tech.	1387	2.32	0.236	4496	8.44	0.764
Service	5708	9.55	0.418	7961	14.94	0.582
Healthcare support occupations	200	0.33	0.101	1775	3.33	0.899
Protective Service	1631	2.73	0.793	426	0.80	0.207
Food Prep. & serving occupatons	1633	2.73	0.350	3029	5.69	0.650
Building & Grounds Cleanng, etc	1869	3.13	0.604	1225	2.30	0.396
Personal care & service occupatons	375	0.63	0.199	1506	2.83	0.801
Sales and Office	9849	16.48	0.339	19209	36.06	0.661
Sales Occupatons	5561	9.31	0.490	5777	10.84	0.510
Off. & Adm. Support occu.	4288	7.18	0.242	13432	25.21	0.758
Farming, Fishing, and Forestry	506	0.85	0.846	92	0.17	0.154
Construction, Extraction & Maintenance	10625	17.78	0.958	470	0.88	0.042
Construction Trades	5806	9.72	0.968	193	0.36	0.032
Extraction Workers	76	0.13	0.950	4	0.01	0.050
Installation, Main. & Repair	4743	7.94	0.946	273	0.51	0.054
Production, Transport & Material Moving	17426	29.16	0.696	7600	14.27	0.304
Production occupations	10071	16.85	0.622	6131	11.51	0.378
Transportaton & Mat. Mov. Occu	7355	12.31	0.834	1469	2.76	0.166
Military specific occupations	271	0.45	0.916	25	0.05	0.084
Total	59754	100.00	0.529	53272	100	0.471

broad categories into 25, it shows that a quarter of all employed women are in just one of the 25 occupations, namely, office and administrative support. Moreover, as many as 53% of employed women work in just four occupations: healthcare practitioners and technicians; education, training, and library; office and administrative support; and sales. Conversely, male workers are more evenly distributed across all the 25 categories. The same pattern of women's concentration in a narrow range of occupations becomes evident when we look at the distribution of men and women across 475 occupations in the IPUMS data for Tennessee.

Table III shows the fifteen largest occupations for employed women out of a total of 475. It shows that about 25 percent of all employed women in the IPUMS sample work in only eight of the 475 occupations included in the data: secretaries and administrative assistants; cashiers; elementary and middle school teachers; registered nurses; bookkeeping and accounting/auditing clerks; nursing, psychiatric and home health aides; child care workers, and office clerks. Women comprise 80 - 97 percent of workers

TABLE III: FIFTEEN LARGEST OCCUPATIONS FOR WORKING WOMEN IN TENNESSEE						
OCCUPATIONS	Number Employed (Men)	Percent Employed (Men)	Number Employed (Women)	Percent Employed (Women)	Percent Female in Occupation	Female earnings as % of Male's
Secretaries and Adm. Assistants	87	0.12	3,239	5.20	0.97	83.4
Cashiers	650	0.91	2,515	4.03	0.79	87.5
Elem. and Middle School Teachers	485	0.68	2,310	3.71	0.83	87.6
Registered Nurses	216	0.30	2,034	3.26	0.90	86.6
Retail Salespersons	1,561	2.20	1,721	2.76	0.52	70.6
Bookkeeping, Accounting, and Auditing Clerks	114	0.16	1,506	2.42	0.93	93.5
Customer Service Representatives	510	0.72	1,365	2.19	0.73	93.6
Waiters and Waitresses	393	0.55	1,333	2.14	0.77	84.2
Nursing, Psychiatric, and Home Health Aids	164	0.23	1,302	2.09	0.89	87.4
First-Line Supervisors/Managers of Retail Sales Workers	1,601	2.25	1,277	2.05	0.44	71.2
Misc. Assemblers and Fabricators	1,477	2.08	1,270	2.04	0.46	80.2
Child Care Workers	53	0.07	1,081	1.73	0.95	-
Office Clerks, General	171	0.24	1,045	1.68	0.86	96.7
Cooks	1,022	1.44	1,042	1.67	0.50	89.9
Managers of Office and Adm. Support Workers	470	0.66	1,028	1.65	0.69	64.9
15 Occupations Above	8,974	12.62	24,068	38.61		
All 475 Occupations	71,099	100	62,334	100		

in these eight professions, most of which tend to be low paying. Men are more uniformly distributed throughout all occupations. There are only four out of 475 where there is a large concentration of men and where the percentage male in the occupation is simultaneously high. These are automotive service technicians, carpenters, construction laborers, and truck drivers. They account for ten percent of male employment and only 3-6 percent of the workers in these occupations are female. Also, men are heavily concentrated in the high paying occupations of physicians and surgeons, pharmacists, chief executives, and engineers, where men comprise 80 percent or more of workers. It is important to note that there is still a significant wage gap: female secretaries earn less than male secretaries, female

registered nurses less than male registered nurses, female elementary school teachers less than male elementary school teachers and so on for each of the 475 occupations for which data is available. The female-male earnings ratio varies from 71% for managers of retail sales workers to 97% for general office clerks.

Table IV-A: HIGHEST PAYING OCCUPATIONS FOR WOMEN & MEN IN TENNESSEE								
OCCUPATIONAL GROUPS	Male Earnings	# of Men	% of Men in Occupation	Female Earnings	# of Women	% of Women in Occupation	Female Income as % of Male	% of Occupation that is Female
Five Highest Paying Occupations								
Chief executives	\$103,948	696	1.16	\$83,356	152	0.29	0.8019	0.179245
Physicians and Surgeons	\$99,476	471	0.79	\$63,960	128	0.24	0.643	0.213689
Pharmacists	\$99,372	405	0.68	\$85,644	93	0.17	0.8619	0.186747
Lawyers Judges, magistrates, and other legal workers	\$97,500	397	0.66	\$78,468	164	0.31	0.8048	0.292335
Engineers (computer hardware and software, electrical and electronics, chemical, aerospace, industrial, civil, flight, marine, mechanical, others)	\$77,272	1150	1.92	\$70,252	294	0.55	0.9092	0.203601
Managers (marketing and sales, financial, human resources, adm, services, computer & info systems, industrial process, purchasing, and other managers)	\$69,004	3797	6.35	\$58,656	3000	5.63	0.85	0.441371
Other High Paying Occupations								
Computer specialists, scientists, analysts	\$67,000	700	1.17	\$57,000	300	0.56	0.8507	0.3
Postsecondary Teachers	\$64,740	509	0.85	\$54,912	451	0.85	0.8482	0.469792
Physical and occupational therapists, physician assistants	\$61,000	137	0.23	\$53,924	304	0.57	0.884	0.689342
Registered nurses	\$60,736	216	0.36	\$52,572	2034	3.82	0.8656	0.904
			14.17			12.99		
Note: Physicians and surgeons are the fifth highest paid occupation for women and the second for men. Pharmacists are the highest paid among women. Also all women engineers are computer engineers.								

In addition to the occupational segregation of women and the male-female earnings ratio, we also need to look at the lowest paying (and highest paying) occupations for women and men, and explore whether women are under-represented in the highest paying and over-represented in the lowest paying occupations. Tables IV-A and IV-B show these results. Table IV-A shows that women are about twenty percent of the workers in the five highest-paying occupational groups – actually representing fifteen highest-paying groups because several engineering occupations have been lumped into just one engineering category in the table. These five groups are chief executives, physicians and surgeons, pharmacists, lawyers, and engineers for men. For women, the order is different: the highest paying occupation is pharmacists,

followed by chief executives, lawyers, engineers, and physicians and surgeons in that order. The female-male earnings ratio is 0.64 for physicians and surgeons, 0.8 for lawyers, 0.85 for postsecondary teachers, and 0.91 for engineers. It is initially surprising that women physicians and surgeons earn less in absolute amount than women pharmacists or engineers, or that female physicians and surgeons earn 64% of what their male colleagues earn. This may be due to differences in fields of specialization: women are more concentrated in the relatively lower-paying specialties of pediatrics and family practice rather than the higher-paying specialties of anesthesiology, gynecology and surgery. Similarly, within the post-secondary teacher category, women are concentrated in teaching of foreign languages rather than economics, the latter being higher-paying. An IWPR 1995 study found that women managers are unlikely to be top earners in managerial positions: only one percent have earnings in top ten percent, only six percent have earnings in top twenty percent, and only 5.2 percent of the highest earning executives in Fortune 500 companies were women in 2002.

OCCUPATIONS	Female Earnings	Female Earnings as % of Male	Number Employed Women	Percent Employed Women	Percent Employed Men	Percent Female in Occupation
Cooks & Food Preparation workers	\$17,576	89.9	1,042	1.67	1.44	0.50
Cashiers	\$18,148	87.5	2,515	4.03	0.91	0.79
Waiters and Waitresses	\$19,084	84.2	1,333	2.14	0.55	0.77
Child Care Workers	\$20,436		1,081	1.73	0.07	0.95
Nursing, Psychiatric, and Home Health Aides	\$22,048	87.4	1,302	2.09	0.23	0.89
Retail Salespersons	\$22,880	70.6	1,721	2.76	2.20	0.52
				14.43	5.41	

Table IV-B shows occupational segregation of women at the lower end of the income scale. Women comprise 76% of the workforce in the five lowest paying occupations, namely cooks and food preparation workers; cashiers; waiters and waitresses; childcare workers; and nursing, psychiatric, and home health aides. These occupations employ about twelve percent of all women workers, and only three percent of the total employed males. These lowest paying occupations are predominantly female. Thus 95% of childcare workers, 89% of nursing aides, and 79% of cashiers are women. While men are substantially represented among cooks and retail salespersons (about 50%), and among waiters and waitresses (23%), women are often concentrated in lower-paying industries, firms, and establishments. In fact, many jobs in these categories are either predominantly female or predominantly male. Thus restaurants may sometimes hire either male waiters or female waitresses, with male waiters more likely to be hired at expensive

restaurants, and women waitresses at less expensive ones. Table IV-B also shows, once again, that the female-male earnings ratio is less than one, ranging from 71% in retail sales to 90% for cooks.

The evidence presented in Tables I–IV clearly shows the occupational segregation of women, the wage gap, and the absolute earnings disadvantage, all of which persist and in some cases worsen as the occupational breakdown becomes more detailed. The following sections explain the gender pay gap and occupational segregation, both in theory and empirically.

Section III

THEORETICAL BACKGROUND

Despite the earnings differentials between men and women at similar levels of education and in similar occupations, the existence or absence of a wage gap in itself does not provide the evidence for the presence of discrimination in the labor market. The gender pay gap and occupational segregation may also be due to gender differences in qualifications and rational choices by women.

The “human capital theory” (Mincer and Polachek 1974, 1978) argues that women’s lower earnings relative to men and occupational segregation are due to the greater likelihood of women to withdraw sooner than men from the labor force, either permanently or temporarily, due to household responsibilities, particularly childbearing and childrearing. Since women anticipate shorter and more discontinuous work lives, their expected rate of return on human capital investments, including education and training, will be lower than men’s. This implies that they will invest less in education and on-the-job training, and will choose careers that penalize them the least for withdrawal. These are occupations that require minimal training, where the education and skills learned are interchangeable between employers, and where the skills learned will not become obsolete if and when they re-enter the occupation. Thus, women will be concentrated in low-training occupations, which also tend to be low paying and largely female. The human capital theory also argues that women’s higher turnover in the labor market affects hiring decisions of employers, who may hesitate to hire women for occupations that require extensive training, thus furthering occupational segregation (Aziz and Weihrauch 2007, 3-4).

Labor market discrimination may also explain gender pay gap and occupational segregation. Discrimination can occur for different reasons. Gary Becker (1957), in his seminal work on the economic theory of discrimination, analyzed the effect of employer, employee and customer discrimination on the wages of blacks relative to whites. According to this theory, a discriminating employer, with a “taste for discrimination,” would hire a woman only at a lower wage than that of an equally productive man. Similarly a discriminating employee would be willing to work with a woman as an equal or superior only if he is paid a higher wage, and a customer with a “taste for discrimination” would only be willing to buy from a woman if she charged a lower price.

Another model, “statistical discrimination” is based on the argument that employers have mistaken notions about the abilities of workers, assuming that they will have the average characteristics of their groups. These employers use an individual’s gender as a proxy for determining his or her productive attributes such as labor force commitment. Thus a firm may choose not to hire a woman, who is as qualified as a man, based on the average statistics of a woman being more likely to quit a job than a man. Such an employer would hire a man, even though the particular female applicant may have greater labor force commitment. Thus statistical discrimination theory argues that women (and men) are denied work in some occupations because of generalizations about their gender, leading to occupational segregation. Discrimination due to taste, as in the Becker model, or statistical discrimination are both likely to decrease with time in competitive markets, and are prohibited by civil rights legislation.

The “overcrowding model” of Bergmann explains why women are crowded into a limited number of occupations and why earnings tend to be lower in predominantly female occupations. The theory argues that women’s exclusion from ‘male’ jobs results in their excess supply in ‘female’ jobs, leading to occupational segregation. The exclusion from male jobs may be due to labor market discrimination, or preferences of workers, or socialization. But the theory argues that, regardless of the reason for segregation, the consequence would be lower earnings in the ‘female’ occupations compared to the ‘male occupations.’ This is because demand for workers in female jobs would be small relative to the supply of women workers in such jobs.

These models or theories can be tested by using statistical regression techniques to estimate the percentage of the wage gap that is due to differences in the characteristics of workers, such as education, occupation, experience, and number of children. The percentage that is unexplained is considered to be potentially due to discrimination. Most studies have generally concluded that about 25-40% of the wage gap cannot be explained by these differences between men and women, and so it is potentially due to discrimination. According to Francine Blau of Cornell University, even if we control for male-female differences in educational attainment, labor force experience, race, and occupational category, 64.4% of the wage gap is unexplained. Research by the U.S. General Accounting Office in 2003 showed that from 1983-2000, 45% of the wage gap could not be explained by the differences in human capital, industry and occupation, unionization, and work hours.

There are basically two opinions among economists on controls used in regressions, or the number of independent variables included in the regression. Some believe that we should control not only for education and work experience differences, but also occupational and industry differences so that we compare men and women in same occupations, same industry, with same education and work experience. In other words, education, experience, occupational and industry group should all be included as independent variables in the regression since they affect wages. If we omit these variables, so the argument goes, we would overestimate discrimination. Others

believe that we should control for education and experience, but not for occupations and industry (meaning that these should not be included as independent variables) because these are themselves affected by discrimination. The choice of an occupation or an industry is not entirely due to women's personal preferences, but women face greater barriers than men in obtaining human capital or in entering certain occupations and industries. Moreover, "subtle barriers" and "socialization" steers women away from certain occupations. Hence, including these variables would underestimate discrimination.

Section IV

EMPIRICAL MODEL

We assume that the wage gap between males and females is a function of demographic and human capital characteristics and occupational segregation. We estimate wage regressions of the following form:

$$\ln \text{WAGE} = \beta_1 + (\beta_2) \text{Female} + (\beta_3) \text{Edu-high school} + (\beta_4) \text{Edu-some college} + (\beta_5) \text{Edu-4+ College} + (\beta_6) \text{Age} + (\beta_7) \text{Age Squared} + (\beta_8) \text{Marital Status 2} + (\beta_9) \text{Marital Status 3} + (\beta_{10}) \text{Children} + (\beta_{11}) \text{Children} < 5 + (\beta_{12}) \text{Asian} + (\beta_{13}) \text{African American} + (\beta_{14}) \text{Other Races} + (\beta_{15}) \text{Location} + (\beta_{16}) \% \text{Female in Occupation}$$

where,

Ln Wage is the natural log of wage per hour, defined as in the Census to be annual earnings during the previous calendar year divided by an estimate of annual hours (weeks worked times usual hours per week during the year).

Female is a dummy variable = 1 if individual is female and 0 if male

Educational attainment is a proxy for productivity on which data is available. It is measured by the highest year of school or year of college completed by the respondent. Dummy variables are created based on 4 categories with the first one being omitted. These are:

1. Less than high school
2. High school
3. 1 to 3 years of college
4. 4 or more years of college

Experience is measured by two variables, age and age squared. Since the Decennial Census does not have any direct information on experience, it is indirectly measured in most studies by Age - 6- years of school completed by the individual. The IPUMS data set does not have a variable measuring the actual years of educational attainment of each respondent. So age has been used as a proxy for potential work experience. This works well in the case of men, who have a strong commitment to the labor force. But age may overstate actual years of work experience of women

since many women withdraw from the labor force for some time due to their household and childbearing responsibilities. Age squared is included as a variable to capture the concavity of the earnings function.

An individual's *current marital status* is also included in the analysis of wage differentials. Dummy variables are created based on 3 categories with the first one being omitted.

1. Married, spouse present
2. Separated, widowed, divorced
3. Single, never married

Fertility is measured in terms of number of own children in the household and number of children under 5 years old in the household. Both these measures capture responsibilities that affect women more than men and may influence their preferences for types of skills acquired (in addition to educational attainment above), type of jobs chosen, etc.

An individual's *race* is also taken into consideration. The IPUMS data set defines racial groups as whites, Asian American, African American and Others, but not Latinos. Latinos may be of any race. Dummy variables are created based on 3 categories with the first one being omitted.

1. White
2. Asian
3. Black or African American
4. Other

Location is measured through a dummy variable with value =1 if respondent lives in a metropolitan area, 0 otherwise

Occupational segregation is measured by including two alternative continuous variables on 'percent female' in occupation. The first is based on eight broad occupation groups, and the second on more detailed twenty-five groups. The 8 broad occupational categories are: management, business, and financial operations; professional and related occupations; service; sales and office; farming, fishing, & forestry; construction, extraction, and maintenance; production, transport, and material moving; and military specific occupations. When we disaggregate these 8 into 25 occupations, it means that the professional and related category, for example, constitutes 8 separate occupations: computer and mathematical; architecture and engineering; life, physical, and social sciences; community and social services; legal; education, training, and library; art design, entertainment, sports, and media; and healthcare practitioners and technical occupations. At the level of 475 occupations, these 25 categories are further disaggregated, with some occupations listed in Tables III and IV, such as chief executives; pharmacists; postsecondary teachers; waiters and waitresses; cooks; cashiers; logging workers; electricians; tool and die makers; and military.

Table V gives a short description of all the variables in the empirical model and their hypothesized signs.

TABLE V: VARIABLE NAMES, DESCRIPTIONS & HYPOTHESIZED SIGNS		
VARIABLE NAME	DESCRIPTION	HYPOTHESIZED SIGN
DEPENDENT VARIABLE		
lnWAGE	Natural log of hourly wage	N/A
KEY INDEPENDENT VARIABLES		
Female (β_2)	1 if female, 0 otherwise	-
CONTROL VARIABLES		
Edu-high school (β_3)	1 if Highest Education Attainment = High school, 0 otherwise	+
Edu-some college (β_4)	1 if Highest Education Attainment = 1 to 3 years of college, 0 otherwise	+
Edu-4+ college (β_5)	1 if Highest Education Attainment = 4+ years of college, 0 otherwise	+
Age (β_6)	A person's age in years as of the last birthday	+
Age square (β_7)	Age square	+
Marital Status 2 (β_8)	1 if separated/divorced/widowed, 0 otherwise	-
Marital Status 3 (β_9)	1 if single (never married), 0 otherwise	-
No. of children (β_{10})	Number of own children in household	-
No of children <5 years (β_{11})	Number of own children under 5 in household	-
Race-Asian (β_{12})	1 if Asian, 0 otherwise	-
Race-Black (β_{13})	1 if black or African American, 0 otherwise	-
Race-Other (β_{14})	1 if other race rather than white, Asian, black	-
Location (β_{15})	1 if lives in metropolitan area, 0 if not	+
% Female in Occupation (β_{16})	Percentage of females in each of 25 occupation categories	-

DATA

The analyses are based on data from the 2000 Integrated Public Use Micro Series from the 2000 Census. We extracted data from the 5% sample of the IPUMS data set. The analysis is restricted to persons aged 18-65 years old. The data contains 113,026 individuals, of whom 53,272 are women and 59,754 are men. Table VI reports the descriptive statistics for the sample. The sample is 47% female, with an average age of 39 years. The percentage of whites is 85%, blacks 12%, Asians 1%, and others (including Hispanics) 2%. The percentage currently married is 61%, single 21%, and divorced/widowed/separated is 18%. With respect to education, 48%

report no college education and 22% report 4 or more years of college. About 59% live in metropolitan areas. With respect to occupations, Table I shows the distribution of workers across 8 broad occupations, and Table II shows it across 25 occupations.

TABLE VI: MEANS OF VARIABLES			
	FEMALE	MALE	TOTAL
Income	23191.7	37671.92	30847.03
Population	53,272 47.13%	59,754 52.87%	113,026 100%
Age	39.0725	39.03846	39.0545
White	44,402 39.28%	51,668 45.71%	96,070 85.00%
Black	8013 7.09%	6547 5.79%	14560 12.88%
Asian	538 0.48%	696 0.62%	1234 1.09%
Other Race	769 0.68%	1416 1.25%	2185 1.93%
No high school	4,578 4.05%	7,881 6.97%	12,459 11.02%
High school degree	22,575 19.97%	19,080 16.88%	41,655 36.85%
1-3 years of college	17,682 15.64%	16,308 14.43%	33,990 30.07%
4+ years of college	11,932 10.56%	12,990 11.49%	24,922 22.05%
Married	30,713 27.17%	38,131 33.74%	68,844 60.91%
Seperated/Divorved	11,964 10.59%	8,721 7.72%	20,685 18.30%
Single	10,595 9.37%	12,902 11.42%	23,497 20.79%
Number of children	0.83	0.79	0.81
# of children < 5	0.15	0.18	0.17
Live in metro area	32,064 28.37%	34,885 30.86%	66,949 59.23%
% Female in Occupation (475 occupations)		0.81	0.766
% Female in Occupation (25 occupations)		0.392	0.401
% Female in Occupation (8 occupations)		0.467	0.479

Section V

REGRESSION RESULTS AND FINDINGS

Table VII reports the results of wage regression estimations for Tennessee for four different models that successively include increasing number of independent variables. Table VIII reports the decomposition of the gender wage gap using regression coefficients from Table VII and other statistics. Model 1 runs OLS regression on the natural log of hourly wages (Ln WAGE) against a dummy variable for gender. The regression coefficient on the dummy variable is interpreted as reflecting the raw wage differential between women and men, the unadjusted wage gap. Model 2 includes a dummy variable for gender as in Model 1, but adds three dummy variables for education, age, age squared, two dummy variables for marital status, number of children, number of children less than 5 years old, three dummy variables for race, and a dummy variable for location. Model 3 includes the dummy variable for gender, all of the human capital and demographic control variables in Model 2, and adds the percent female in each of the eight broad occupation categories. By controlling for occupations, we eliminate some of the effects of occupational barriers as sources of discrimination, thereby underestimating the extent of discrimination. Model 4 is same as Model 3 except that the percent female in occupation variable includes 25 rather than 8 occupations.

Table VII shows the log hourly wage differential between men and women, given by the partial regression coefficient on the dummy variable indicating whether the worker is female, for Models 1 to 4. A negative coefficient of the dummy variable “female” shows that the hourly wage is lower for women compared to men, holding other things equal. Model 1, which considers only gender as the independent variable, reports the estimate of the raw wage gap, or the unadjusted wage differential, from a regression of log hourly wages on the female dummy variable to be $-.246$. This means that the male-female earnings gap is 24.6% in Column 1 (Table VII) when no other explanatory variable is considered except gender. That is, the hourly earnings of women workers in our sample are 24.6% less than men’s if we assume that there are no other differences between them.

Model 2 controls for male-female differences in demographic and human capital characteristics. The independent variables considered (or controls used), in addition to gender, include education, experience, marital status, fertility, race, and location. Under this model, the male-female earnings gap falls to 24.2% in Column 3 (Table VII). In other words, adjusting for age, education, location, race, and marital and fertility status reduces some of the relative disadvantage of women, but barely. This may be because men and women, on average, have similar profiles in terms of years of schooling, average age (a proxy for experience), and other variables. For example, women are more likely to have a high school diploma or 1-3 years of college while men are slightly more likely to have 4 or more years of college. It may also be that differences in kinds of training and skills acquired in schools, which are not included in our data, are far more important for explaining the male-female wage gap. In high school, boys are more likely than girls to take advanced math and science courses,

	MODEL 1		MODEL 2		MODEL 3		MODEL 4	
Adjusted R-Squared	0.032		0.247		0.248		0.248	
VARIABLE NAME	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
	Estlmate		Estlmate		Estlmate		Estlmate	
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
Constant	2.606	949.51	1.297	41.08	1.37	42.93	1.35	42.56
KEY VARIABLES								
Female (β_2)	-0.246***	-61.46	-0.242***	-73.36	-0.238***	-61.16	-0.231***	-56.32
High School			0.156***	25.62	0.164***	26.79	0.164***	26.75
Some College			0.3***	47.38	0.318***	49.48	0.315***	49.24
4-year Degree or higher			0.647***	96.05	0.673***	97.13	0.669***	97.18
Age			0.053***	47.7	0.052***	46.54	0.052***	46.72
Age Squared			-0.0005***	-37.92	-0.0005***	-36.72	-0.0005***	-36.93
Divorced, Widowed or Separated			-0.086***	-17.54	-0.087***	-17.86	-0.087***	-17.85
Single, never married			-0.138***	-23.83	-0.136***	-23.52	-0.136***	-23.63
Living in Metro Areas			0.101***	26.77	0.106***	27.95	0.103***	27.27
Asian			-0.035**	-2.06	-0.031*	-1.84	-0.033**	-1.96
Black			-0.043***	-7.77	-0.043***	-7.81	-0.042***	-7.67
Other			-0.134***	-10.42	-0.139***	-10.82	-0.138***	-10.73
Number of children			0.005**	2.55	0.006***	2.7	0.006***	2.73
Number of children < 5 years			0.03***	6.51	0.029***	6.28	0.029***	6.29
% of Occ. that is female (8 groups)					-0.160***	-15.69		
% of Occ. that is female (25 groups)							-0.129***	-15.17

* Significant at the .1 level, ** Significant at the .05 level, *** Significant at the .01 level

while girls are more likely to take foreign languages. Also, in college, men are more likely to major in different fields than women. The inclusion of other demographic variables in Model 2 also does not reduce the wage gap much.

Models 3 and 4 include an additional independent variable: percentage of the occupation that is female. Model 3 takes into account eight occupations, while Model 4 considers twenty-five occupations. The male-female wage gap falls in both Models 3 and 4, compared to Models 1 and 2. But, controlling for occupational segregation does not eliminate or drastically reduce the earnings advantage of men. In Model 3,

the gender wage gap falls to 23.8% (column 5), and in Model 4 to 23.1% (Column 7). A wage gap of 23.1% means that if a male in Tennessee were to earn \$50,000 per year, then an equally educated and experienced Tennessee woman working in the same occupational category and of the same race would earn only \$38,450.

Moreover, the estimates in all the four models show positive returns to education in Tennessee. Earnings typically rise with additional education because of the higher productivity effects of education. Thus Model 2 shows that a person who doesn't have a high school diploma would earn 15.6% less than a person graduating from high school, 30% less than a person with one to three years of college education and 64.7% less than a person with four years of college or more. Similarly, Model 4 shows that a person who doesn't have a high school diploma would earn 16.4% less than a person graduating from high school, 31.5% less than a person with one to three years of college education and 66.9% less than a person with four years of college or more. Each additional year of age (as a proxy for experience) increases one's earnings — by 5.3% in Model 2, and by 5.2% in Models 3 and 4. A person who is married with spouse present earns more than a person who is separated/divorced/widowed from his/her spouse, partly because of the possibility of dual earners in such households — 8.6% more in Model 2, and 8.7% more in Models 3 and 4. Similarly, a person who is single and never married earns less than a person who is married with spouse present, partly because of the double burden of market and non-market work — 13.8% less in Model 2, and 13.6% less in Model 3. A person who lives in metropolitan area would earn more than a person who does not in all the three models. Model 1 also shows that a white person would earn 3.5% more than an Asian, 4.3% more than a black, and 13.4% more than a person from other races. The results for the other models are very similar. Each additional child would increase a person's earnings by 0.5%, and each additional child under five years of age would increase it by 3%. It is somewhat surprising that earnings are higher for persons with children, particularly those less than five years old. It may be that the presence of children brings child support and supplementary income for some parents, or our sample includes very career-oriented women for whom children are not a constraint to work.

The last explanatory variable to consider in the regression models 3 and 4 is 'occupational segregation.' Model 3 further shows that each percent increase in the percentage of females in an occupational category (a total of eight) would reduce the earnings of people in those occupations by 16%. Model 4 replicates the specifications of Model 3, but uses twenty-five rather than eight occupational categories. It shows that a one percent increase in the percentage of females in an occupational category would reduce earnings by 12.9%. Thus wages are lower in occupations with a higher proportion of females. While it changes quantitative results, the qualitative conclusion is not affected by the level of occupational disaggregation used. According to Macpherson and Hirsch, "the percent female in the worker's occupation may be a proxy for other job-related characteristics, so that the estimated negative effect on wages may partially reflect compensating differentials based on workers' preferences and perhaps also different skill requirements." (Bayard 2003, pp. 904).

All the variables are statistically significant at the 0.01 level except for the dummy variable for Asians (significant at the 0.05 level in Model 2 and 4). The R Squared, or the wage gap “explained” by differences in all of the coefficients including the intercept, is 24.8% in Model 4. The residual, 75.2% of the wage gap is “unexplained”, and may be considered to be due to discrimination. This would be an overestimate of discrimination if several variables have been omitted from our analysis that would explain women’s lower wages. These could be women’s discontinuous work patterns, their spells out of the labor force for family responsibilities, and choice of less math-related college majors. Brown and Corcoran (1997) have shown that differences in college majors selected by men and women explains a sizeable proportion of the wage gap among college graduates, partly because men major in fields that develop more valuable job-related skills which affects the type of occupation and industry where they work. On the other hand, the unexplained gap would be an underestimate of discrimination if the explanatory variables included in the model are themselves affected by labor market discrimination. Corcoran and Courant (1989) argue that women may invest less in typically “male” skills because of a lower return to their investment compared to men’s because of discrimination. Similarly, gender differences in occupation may reflect choice or employer prejudices. By controlling for broadly defined occupations (including percent female in an occupation as an explanatory variable), we eliminate some of the effects of occupational barriers as sources of discrimination, thus underestimating discrimination.

Table VIII reports the decomposition of the gap in wages between men and women by estimating the proportion of the wage gap that can be explained by differences in the characteristics of workers, based on the regression equation of Model 4. The decomposition of the gender gap requires not only the regression coefficients of Model 4 (Col. 3), but also the mean differences between women and men in values of explanatory variables (Col. 7). Columns 8 and 9 of Table VIII present the decomposition results. For any variable X, the wage gap that is “due to X” is defined as (mean of X for the female sample minus mean of X for the male sample) multiplied by the coefficient corresponding to X. This is the absolute contribution of each variable to the wage gap, reported in Col. 8. For the first explanatory variable, “female”, the absolute contribution of gender to wage gap is equal to 1 (mean difference-Col. 7) multiplied by -0.231 (coefficient of ‘female’- Col. 3), equal to -23.1%. Column 9 reports the relative contribution. The estimates indicate that most of the wage gap (97.88%) is due to sex differences in wages that remain after accounting for human capital and demographic variables and occupational segregation. Only 2.41% is due to occupational segregation. It would have been higher if we could have included more detailed occupational classification. All the human capital and demographic variables together account for 0.3% of the wage gap-some adding to the wage gap, others reducing it, thus canceling each other out. This number would have been higher if we had better data on some of the explanatory variables, particularly experience and education.

TABLE VIII: MALE-FEMALE WAGE DIFFERENTIALS ATTRIBUTABLE TO VARIOUS EXPLANATORY VARIABLES									
	MODEL 1		MODEL 4		Mean Women	Mean Men	Mean diff. (Col.5-Col.6)	Absolute Contribution to wage gap (Coeff x mean diff Col.3 x Col.7) %	Relative Contribution to wage gap (%)
Adjusted R-Squared	0.032		0.248						
Constant	2.606	949.51	1.35	42.56					
	Coefficient estimate	t-stat	Coefficient estimate	t-stat					
	1	2	3	4	5	6	7	8	9
KEY VARIABLES									
Female (β_2)	-0.246***	-61.46	-0.231***	56.32	1	0	1	-23.10	-97.88
High School			0.164***	26.75	0.2	0.169	0.031	0.51	2.15
Some College			0.315***	49.24	0.156	0.144	0.012	0.378	1.60
4-year Degree +			0.669***	97.18	0.106	0.115	0.009	-0.602	-2.55
Age			0.052***	46.72	39.07	39.04	0.035	0.182	0.77
Age Squared			0.0005***	36.93	1527	1524	2.734	-0.137	-0.58
Div., Wid., or Sep.			-0.087***	17.85	0.106	0.077	0.029	-0.252	-1.07
Single never married			-0.136***	23.63	0.094	0.114	-0.02	0.272	1.15
Living in Metro Area			0.103***	27.27	0.284	0.309	-0.025	-0.258	-1.09
Asian			-0.033**	-1.96	0.005	0.006	-0.001	0.003	0.01
Black			-0.042***	-7.67	0.071	0.058	0.013	-0.055	-0.23
Other			-0.138***	10.73	0.007	0.013	0.006	0.083	0.35
Number of children			0.006***	2.73	0.834	0.788	0.046	0.028	0.12
No. children <5 yrs			0.029***	6.29	0.152	0.181	-0.029	-0.084	-0.36
% of Occ. female (25 occu.)			-0.129***	-15.17	0.81	0.766	0.044	-0.5676	-2.41

Our result that gender wage gap is mostly attributable to the sex of the worker is consistent with other studies (Oaxaca 1973, Bayard 2003, Brown and Corcoran 1997). Bayard, et al. (2003) found that about 65% of the sex gap in wages is attributable to the individual's sex and the rest is accounted for by segregation of women into lower-paying occupations, industries, establishments, and occupations within establishments. This share fell to 51% when they added other human capital and demographic control variables.

Section VI

CONCLUSIONS AND POLICY RECOMMENDATIONS

As in other studies, we find that a large proportion of the male-female wage gap is attributable to sex of the worker. Large wage gaps are primarily due to concentration of women in lower paying jobs. Whether the wage gap and the occupational segregation of women, and their resulting lower status is due to discrimination by the employers or due to socialization that affects their choices, or both, there is a pressing need to address it in a multi-faceted way, with involvement of all the stakeholders. This requires action by the women themselves, employers in the private sector, non-profits, women's groups, and the government. Efforts need to be directed in three directions: to prepare women better for receiving higher earnings – through education, training, mentoring and employment; for making the work place more family-friendly; and for more government involvement in enforcing existing legislation on equal opportunity and formulating new where needed.

The socialization aspect points for a special need for extensive mentoring of girls at the school age and for awareness raising programs, both of which can best be accomplished through collaboration with state agencies, particularly the Department of Education. Similarly, if choice of majors by women is due to preferences determined by socialization and if typically male majors provide training and skills that enhance students' productivity as workers, then there is a strong case for encouraging women college students to enroll in "profitable," typically male majors. At the same time, government should encourage educational attainment among all women, particularly women of color, through increased financial aid and scholarship programs to reduce economic barriers.

For training, both government (federal, state, and local) and the private sector should improve job-training opportunities for women, especially in occupations not traditionally held by women. Technological training in primary, secondary, and post-secondary schools should be encouraged by the state and local governments to equip women for jobs needing these skills. For employment, both government agencies and private businesses should actively recruit women into predominantly male jobs that pay well. Moreover, businesses should regularly evaluate their wage and promotion practices to ensure fair compensation for all employees.

The family-friendly workplace requires better, adequate, and affordable childcare facilities and better policies for preventing and handling sexual harassment. Small and large businesses can also evaluate the needs of their workers for flexibility and family-friendly benefits on an ongoing basis.

Government efforts should include, among others, the monitoring of violations of Equal Pay Act and Title VII of the Civil Rights Act, as well as stronger poverty reduction programs. It is important that the sources of wage differences between men and women within and between occupations be eliminated. If wages differ by sex in jobs that require substantially equal skill, effort, responsibility, and working conditions,

then stronger enforcement of the Equal Pay Act should reduce the wage gap between men and women. But, if occupational segregation accounts for most of the sex wage gap, then there is need for policies along the lines of comparable worth, equal opportunities in employment and promotion, and affirmative action. States should also enforce Title IX rules about equal access to educational programs at the secondary school level.

REFERENCES

Aziz, Fahima and Kari Weihrauch. 2007. "Occupational Sex Segregation: An Analysis of Trends in the United States: 1983-2005." Paper presented at the 33rd Annual Meeting of the Eastern Economic Association. New York.

Bayard, Kimberly, Judith Hellerstein, David Neumark and Kenneth Troske. 2003. "New Evidence on Sex Segregation and Sex Differences in Wages from Matched Employee-Employer Data." *Journal of Labor Economics*. Vol. 21, No. 4, pp. 887-922.

Becker, Gary S. 1957. *The Economics of Discrimination*. Chicago: University of Chicago Press.

Bergmann, Barbara. 1974. "Occupational Segregation, Wages and Profits When Employers Discriminate by Race or Sex." *Eastern Economic Journal* 1:1-2, pp. 103 - 10.

Blau, Francine, D. and Lawrence M. Kahn. 2000. "Gender Differences in Pay." *Journal of Economic Perspectives*. Volume 14, Number 4, pp.75-99.

Blau, Francine, D., Marianne A. Ferber and Anne E. Winkler. 2006. *The Economics of Women, Men, and Work*. 3rd ed. Englewood Cliffs, NJ: Prentice Hall.

Brown, Charles and Mary Corcoran. 1997. *Journal of Labor Economics*. Vol. 15, No.3, pt. 1, pp 431-465.

Corcoran, Mary, and Paul Courant. 1989. "Sex-Role Socialization, Screening by Sex, and Occupational Segregation." Working paper. Ann Arbor: University of Michigan.

England, Paula. 1992. "From Status Attainment to Segregation and Devaluation." *Contemporary Sociology*. 21:643-47.

Groshen, Erica 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: 457-72.

Institute for Women's Policy Research, Publication Number C 350a, April 2009.

Mincer, Jacob, and Solomon Polachek. 1974. "Family Investments in Human Capital: Earnings of Women." *Journal of Political Economy*. 82:2, pp. S76-S108.

Mincer, Jacob, and Solomon Polachek. 1978. "An Exchange: Theory of Human Capital and the Earnings of Women: Women's Earnings Reexamined." *Journal of Human Resources*. 13:118 - 34.

Oaxaca, Ronald. 1973. "Male-Female Wage Differentials in Urban Labor Markets." *International Economic Review*. Vol. 14, No. 3. pp. 693-709.

O'Neill, June, and Dave O'Neill. 2006 "What Do Wage Differentials Tell Us about Labor Market Discrimination?" in *The Economics of Immigration and Social Policy* (edited by Solomon Polachek, Carmel Chiswick, and Hillel Rapoport). *Research in Labor Economics* 24:293-357.

Tam, Tony. 1997. "Sex Segregation and Occupational Gender Inequality in the United States: Devaluation or Specialized Training." *AJS*, Volume 102, Number 6: 1652-92.

Williams, Erica. 2008. "The Economic Status of Women in New York State." Institute for Women's Policy Research.

III. FINDINGS AND RECOMMENDATIONS

FINDINGS: WOMEN'S INCOMES AND THE ECONOMIC IMPACT

I. Impact of Reduced Wages on State Sales Tax

Although other taxes and fees are collected, Tennessee's operating budget is based on sales tax. It stands to reason that paying women [more than 50% of the population] 25% less than men will result in lower spending, less sales tax and a smaller budget – especially when the overall economic climate forces citizens in general to spend less.

II. Impact of Penalty for Spending Time “Out of the Labor” Force

Women typically spend more time than men in care giving - 28 hours a week on child rearing and housework, compared with men, who average 16 hours a week, with yard, home and automobile maintenance included.²⁵ According to the Families and Work Institute, 67% of women in dual-earner couples report taking greater responsibility for routine child care than their male partners in 2008; 70% of women also report responsibility for taking time off work because of children's needs, in comparison with 30% of men.²⁶ Women are much more likely to spend time out of the labor force for care giving and are more likely to work part-time. In 2008, 31% of working women and 18% of working men were employed part-time.²⁷ Long parental leave may lead to an actual or perceived deterioration in women's labor market skills and impact future earnings. Women who take time out of the workforce for childrearing face many barriers to reentry. Additionally, later in life women find themselves at a disadvantage through Social Security and pension payments based on earnings and time spent in the paid labor force.

III. Impact of Women Concentrated in Lower-paying Jobs

According to a 2005 study of the 70 largest U.S. cities, the two most important factors in the disproportionately high female poverty rate are the unpaid labor of women in childrearing, care giving and domestic work and the demographic shift towards single female-headed households.²⁸ Single female-headed households have 31% poverty rate while single male-headed households have a 14% poverty rate and households headed by married couples have a 7% poverty rate.²⁹ The social safety net programs that most often help women, particularly welfare, are available only

²⁵ Juliet Schor (1991) *The Overworked American: the Unexpected Decline of Leisure*, p.36, New York: Basic Books.

²⁶ Ellen Galinsky, Kerstin Aumann and James T. Bond, *Times Are Changing: Gender and Generation at Work and at Home*, p. 16, Families and Work Institute, <http://www.familiesandwork.org/>.

²⁷ Bureau of Labor Statistics, Household Data Annual Averages, 22. Persons at work in nonagricultural industries by age, sex, race, Hispanic or Latino ethnicity, marital status, and usual full- or part-time status, p.234, <http://www.bls.gov/cps/cpsaat22.pdf>.

²⁸ Sara Lichtenwalter (2005) “Gender poverty disparity in US Cities: Evidence Exonerating Female-headed Families”, in *Journal of Sociology and Social Welfare*, June 2005.

²⁹ U.S. Census Bureau, Current Population Survey, 2009 Annual Social and Economic Supplement, POV02: People in Families by Family Structure, Age, and Sex, Iterated by Income-to-Poverty Ratio and Race.

after recipients are impoverished and are funded at levels that keep their recipients below the poverty line.

Federal welfare strategy implemented in 1996 gave states authority to define the needy, set percentages of recipients who must be employed and required that welfare funds not be spent on any adult for more than sixty months in his or her lifetime. According to Albelda and Tilly this current strategy does not work because it ignores the work of taking care of children, the fact that many mothers do not have sufficient training for a job that could earn enough to support a family, the reality that much low-wage work requires non-traditional hours and frequent shift changes and are generally unstable which makes securing childcare difficult.³⁰

You wouldn't tolerate getting to vote in three out of every four elections. You wouldn't like it if someone said you could only pick up three out of every four paychecks. But that is, in effect, what we have said to the women of America.

- President Bill Clinton, June 10, 1998, on the 35th anniversary of the signing of the Equal Pay Act

Tennessee's Families First program requires participants to follow a Personal Responsibility Plan (PRP). As part of the PRP, the participant agrees to keep immunizations and health checks up to date for their children, keep their children in school, cooperate with Child Support Services to establish paternity, and participate in a work/training program for at least 30 hours per week.

In June 2009 the average monthly wage of employed participants was \$ 882.83 and the average monthly cash benefit for participating families was \$ 167.66. Of the 4,135 case closures in that month, 1,441 were because of work-related sanctions while 458 were closures for employment. Employment can provide its own set of costs – especially child care and transportation – and the loss of food stamps and Medicaid. Low-wage

employment is often unstable since people are frequently laid off or fired for missing work when no leave is available.

According to Current Population Survey estimates for 2008 about 4% of women paid hourly rates had wages at or below the prevailing Federal minimum, compared with about 2% of men.³¹ In July of 2009 the minimum wage was raised from \$6.55 to \$7.25 an hour. Even at \$7.25 an hour, a full-time minimum-wage worker will earn just \$14,500 a year – not nearly enough to meet basic needs anywhere in the United States. Large numbers of women earning minimum wage translates into families falling into poverty.

Though “women’s jobs” typically require comparable amounts of education, training, responsibility and effort to “men’s jobs,” they typically pay far less and are often described as unskilled. Work women have historically done is devalued in the

³⁰ Randy Albelda and Chris Tilly (2001) “Moving Beyond ‘Get a Job’: What Real Welfare Reform Would Look Like” in *Squaring Up: Policy Strategies to Raise Women’s Incomes in the United States*, Mary C. King, ed., p.19, Ann Arbor: University of Michigan Press.

³¹ Bureau of Labor Statistics, U.S. Department of Labor (2009) Characteristics of Minimum Wage Workers: 2008, retrieved October 2, 2009 from www.bls.gov/cps/minwage2008.htm.

marketplace; very few jobs pay less than child care, no matter how much education or training workers have. Additionally, work slips in value when large numbers of women replace men in an occupation, as can be seen in teaching and clerical work.

The state of Minnesota has been a leader in the pursuit of gender pay equity. It used an audit to evaluate job attributes (including complexity, danger, and required levels of experience and education). Each job was assigned points, and the state compared the gender concentration of each job and its points and pay. The audit found that jobs with more women paid much less than similarly ranked jobs for men, e.g. jobs of delivery van driver and clerk typist were given the same number of points, but the delivery van driver job was filled mostly by men and paid \$1,900 a month while the clerk typist job was filled mostly by women and paid \$1,400 a month. The state raised the wages of affected workers in all cases of disparity.³²

IV. Impact of On-the-job Sex Discrimination

Although access to labor market earnings serves as the primary determinant of poverty status, the workplace itself is a powerful stratifying institution with many factors operating against women and mothers.³³ Occupational sex-typing and within occupation status segregation and all manner of other gendered wage differentials and discriminatory practices contribute to the creation of a gender wage gap.³⁴

TOWARD CLOSING THE WAGE GAP AND ECONOMIC STABILITY: RECOMMENDATIONS

Wage equity is unquestionably a matter of fairness. It is also a matter of fiscal recovery and advancement. Closing the wage gap will have a significant positive impact on the State's economic condition. Recommendations toward that end are encompassed in the concept that we must understand the significance of the problem and recognize that it is not just a "woman's issue".

The old adage that the first step to solving a problem is to admit its existence, applies to the wage equity issue. While it is convenient to blame "women's choices" for the gap, such a simplistic response results in continued deficits in the public coffers and a continuous increase in the need for government assistance.

1. Leadership Must Lead

Men and women who are currently in positions of leadership and authority must make wage equity a priority. For those who would insist that the conversation stops with a requirement to immediately increase the hourly rate of half of their employees by 25%, we submit that there are more creative ways to encourage and employ women in important work and pay them equitably for that work.

³² State of Minnesota (2006) *Pay equity / comparable worth*, retrieved October 2, 2009 from www.mmb.state.mn.us/comp-pay-equity.

³³ For more information see M. Budig & P. England (2001) "The wage penalty for Motherhood" in *American Sociological Review*, 66(2): 204-225; Ann Crittenden (2001) *The Price of Motherhood: Why the Most Important Job in the World Is Still the Least Valued*, New York, NY: Henry Holt and Company.

³⁴ For more information see Samuel Cohen (2000) *Race, Gender & Discrimination at Work*, Boulder, Colorado: Westview Press.

Making wage equity a priority can include setting and publishing clear standards for pay, developing an internal audit procedure for comparing wages paid to employees in every position and developing a plan to increase wages, if necessary, over a reasonable period of time.

2. Women Must be Encouraged to Move into Higher Paying Work

By encouraging women, regardless of their age or employment history, to study science, technology, engineering and math (STEM) fields, we are preparing them for the jobs of the future. Many of these jobs, in fact, are already seeing an increased need. Studies have found that girls and young women find studies in technology unappealing for a variety of reasons, from boredom, to lack of understanding of the existing opportunities, to a lack of self-confidence. All of these perceptions can, and should, be overcome if earnings advancement and a prepared citizenry is the goal. These fields will undoubtedly become rich with opportunity and by allowing our women and girls to excuse themselves from them, our culture is turning its back on a more economically sound future.

Policies encouraging girls to pursue STEM studies must be extended beyond the pilot stage. Women who are seeking a degree, whether in a community college or university, after a break in their education should be steered toward math and science as fields of study. Programs matching women who have successfully entered these fields should be acknowledged as role models and encouraged to continue developing the talent of young women entering these fields.

Women who have a postsecondary degree have far greater earnings potential than women with only a high school degree. Education needs are great for women participating in welfare. The long-term benefits of time permitted for college to the woman, her family and the state should be considered in welfare reforms.

Every man and woman may not receive a college degree or pursue a secondary education. However, with job training, many of these people are qualified to work in skilled positions. Programs that encourage women to participate in such training opportunities should be expanded and rewarded. As was learned during World War II, women are capable of doing skilled work in manufacturing and wherever the job opportunities exist.

3. The Negative Impact of Child Rearing on Women's Incomes Must be Reduced

A recent study by the AAUW Educational Foundation found that "the division of labor between parents appears to be similar to that of previous generations. Motherhood and fatherhood affect careers differently. Mothers are more likely than fathers (or other women) to work part time, take leave, or take a break from the work force – factors that negatively affect wages. Among the women who graduated from college in 1992-93, more than one-fifth (23%) of mothers were out of the work force in 2003, and another 17% were working part time. Less than 2% of fathers were out of the work force in 2003, and less than 2% were working part time. On average,

mothers earn less than women without children earn, and both groups earn less than men.³⁵

Women in the workforce need affordable child and elder care, as well as access to quality flexible work and paid family leave. Women need support through expanded tax credits to help meet the costs of raising their families. Such policy changes would not just improve the wages of women. Men who desire to take a bigger role in parenting their children would benefit from these changes, too. Flexible hours, making full use of the technological advances to work from remote sites and access to paid family leave would benefit both men and women, allowing men to make the same family choices women have made for years.

4. Family-Friendly Policies Must be Made Available and Expanded

Given the current technological advances, employers should reconsider remote working opportunities, flexible time policies and incorporating safe child care facilities into their current practices. Such policies are a matter of common sense and profitability.

Additionally, employers who significantly rely on temporary or part-time workers should re-evaluate their wage and employment practices. In some instances, employees who work under such agreements are not given any leave time which puts the employees in impossible situations and employers scrambling to fill the positions. By way of example, if a person (male or female) is a single parent and working in a situation where there is no provided leave, a child with a fever will likely result in the loss of the job. Education policies require that a child be fever-free for a period of 24 hours before returning to school. A single parent with no resources will be forced to stay home with the child. If the employer does not provide or approve such leave, the employee is forced to choose between his/her child and his/her job. Unfortunately, this is a scenario that is played out daily all across the United States.

5. Legislation must be strengthened

Although Equal Pay legislation exists, it is on the whole, unenforceable and ineffective. There are several options for reasonable expansion including putting gender discrimination on equal footing with race or ethnicity discrimination for legal action, improving the collection of salary/wage information by the EEOC, prohibiting employer retaliation, developing guidelines for recognizing model employers, providing training for employee negotiation skills, and expanding and protecting the Family Medical Leave Act.

The expansion or adoption of such legislation would emphasize the importance of women's wages to the overall economic health of the state and nation. While increasing wages in the current economic climate seems impossible in the immediate future, failure to do so will result in the continued downtrend in the overall economic picture.

³⁵ Judy Goldberg Dey & Catherine Hill (2007) *Behind the Pay Gap*, pp. 2, Washington, D.C.: American Association of University Women Educational Foundation.

IN CONCLUSION

One cannot deny that over the last 100 years, American women have made progress: They have gained the ability to vote, to serve on juries, to acquire legal custody of their children and to work in jobs other than domestic services. They also have the right to own property, including their own wages. Yet there is much more to do – and it revolves about the specter of gender discrimination. Wage equity is necessary to the economic health of a society. Especially in times of economic downturn, we must educate ourselves about the value of women’s work and advocate for their workplace rights. Finally we must enlist the support leadership in both the public and private sectors in promulgating the social and economic policies that lead to such equity.

Economic recovery will be based, in large part, on consumers who are investing – literally in and through – consumer purchasing. Closing the wage gap would necessarily provide additional spendable income for more than half the population – the half that makes more than 80% of consumer decisions!



Department of State, Authorization No. 305341, 500 copies, October 2009.
This public document was promulgated at a cost of \$1.97 per copy.