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The Persistence of the Gender Wage Gap in the 21st Century

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By

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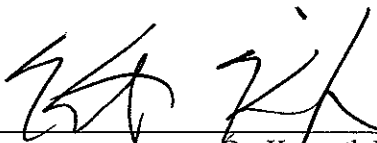
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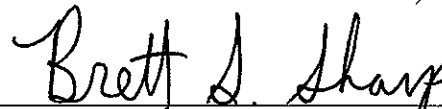
A THESIS

APPROVED FOR THE DEPARTMENT OF POLITICAL SCIENCE

April 26, 2012

By 

Dr. Kenneth Kickham, Chairperson



Dr. Brett Sharp



Dr. Jan Hardt

Dedication

To my children, Katie, Emma-Rose and Sam –

Thank you for the endless hours of making do while I studied in the library.

U a me.

To my parents, Dick and Susan –

Thank you for being a beacon for me through so many of my joys and trials.

This is as much your success as it is mine.

I love you.

To my husband, John –

Thank you for supporting me through this whole process
and helping me make my dream come true.

Acknowledgements

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Jennifer S. Stringham

*University of Central Oklahoma
April 2012*

The Persistence of the Gender Wage Gap in the 21st Century

TITLE PAGE.....	i
SIGNATURE PAGE.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS.....	iv
TABLE OF CONTENTS.....	v
TABLES.....	vi
CHAPTER 1: Introduction	viii
CHAPTER 2: Literature Review	14
1932 Federal Economic Act and Section 213	18
Emergence of Women Workers during WWII	22
Post-WWII Efforts	27
Equal Pay Act of 1963 and the Fair Labor Standards Act	28
Oklahoma Equal Pay Act.....	30
Title VII	33
The Paycheck Fairness Act.....	35
The Lilly Ledbetter Fair Pay Act of 2009.....	36
The Equal Employment Opportunity Commission.....	37
Chapter 3: Methodology	40
Approach.....	40
Data Gathering Method and Validity of Data:	41
Statistical Equations.....	46
Limitations of this study	50
Chapter 4: Presentation of Findings.....	52
Chapter 5: Conclusions	57
Works Cited	59

Tables

1 - U.S. Business Cycle Expansions and Contractions, 2000-2010	34
2 - GDP Growth (annual %), Late 2000s Recession.....	34
3 - GDP Growth (% of Annual).....	35
4 - Median usual weekly earnings of full-time and salary workers by detailed occupation and sex.....	37
5 - Median usual weekly earnings of full-time and salary workers by sex and state.....	38
6 - Difference of Proportions Tests: National Gender Wage Gap by Year by Occupation.....	41
7 - Difference of Proportions Tests: Gender Wage Gap by Year by State by Total Population.....	42
8 - Difference of Proportions Tests: Gender Wage Gap by Year by State to State by Total Population.....	44

CHAPTER 1: Introduction

Real equality is immensely difficult to achieve, it needs continual revision and monitoring of distributions. And it does not provide buffers between members, so they are continually colliding or frustrating each other. Mary Douglas, (20th Century British Anthropologist)

The United States of America. Those words evoke feelings of freedom, envy and longing throughout the world. Even before the establishment of the American nation, this continent held the hopes of those all over the world for freedom and equality. The founding fathers struggled to form a government that embodied the need for their new nation to be a refuge for those seeking tolerance. It was clear that their vision for the nation included the notion of equality when they penned the Declaration of Independence in 1776. The introduction of their founding document declares:

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. — That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed... (U.S. Declaration of Independence)

The government that evolved from these men sought to provide its citizens with more equality and opportunity than they had found in their homelands. It endowed the citizens with rights and privileges through the Bill of Rights in the Constitution. Throughout the history of the nation, the rights in the Bill of Rights were simply not enough to provide the protections needed. Since that time, steps have been taken to expand the rights of the citizens. Since the Constitution cannot be changed without either three-fourths of state legislatures approving it or ratifying conventions with three-fourths of the states approving it, adding new rights is a long and arduous task (U.S. Constitution, Article V).

Since the Constitution was ratified in 1787, it has been amended seventeen times, but only five of those amendments extended rights, privileges or protections to specific citizens. Each of these five amendments was the direct result of a specific struggle of a specific class of people to simply have the same rights as others. *A woman is one of those specific classes.* After the 1948 Seneca Falls Convention, in which women organized themselves to earn rights equal to those of their male counterparts; the United States continued to resonate their rally cries—to them equal rights mean claiming access to all the prevailing definitions of “freedom.” For example, the Homestead Act of 1862 is one of the earliest examples of the federal government passing legislation that empowered women by giving them additional rights under the law. Up until this piece of legislation became law, women had no federally protected right to own property. The Homestead Act of 1862, extended this right to them by establishing this three-fold acquisition process for claiming ownership of land in the West: 1) the filing of an application; 2) the improving of the land claimed; and 3) the filing for the deed of title, (*The Homestead Act of 1862*, c. 75, 12 Stat. 392). The federal government did not make gender a criterion for homestead ownership, (“Married Women’s Property Laws” http://memory.loc.gov/ammem/awhhtml/awlaw3/property_law.html).

Sec. 1 . . . head of a family, or who has arrived at the age of twenty-one years, and is a citizen of the United States, . . . shall, from, and after the first January, eighteen hundred and sixty-three, be entitled to enter one quarter section or a less quantity of unappropriated public lands, upon which said person may have filed a preemption claim, or which may, at the time the application is made, be subject to preemption at one dollar and twenty-five cents, or less, per acre;

Sec. 2: And be it further enacted. . . . upon application to the register of the land office in which he or she is about to make such entry, make affidavit before the said register or receiver that he or she is the head of a family. . . . (The Homestead Act of 1862, c. 75, 12 Stat. 392).

Women continued to fight for equality. Women earned the right to vote with the ratification of the 19th amendment on August 18, 1920, which said: “The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of sex. Congress shall have power to enforce this article by appropriate legislation,” (U.S. Constitution). This guarantee for women, now included in the Constitution, marked the end of a campaign by Susan B. Anthony and Elizabeth Cady Stanton that was 41 years in the making and was the first right guaranteed by the Constitution specifically intended to include women.

Although the rights to own property and vote had been awarded to women, workplace inequity was prevalent. The federal government has addressed the issue of workplace inequality between the sexes in small ways, several times since the beginning of the 20th century. But it wasn't until women moved into the job market en masse during World War II that women demanded definitive equality there also. Once the U.S. Congress had set the federal standard, it became the responsibility of individual states to obey the laws and/or to follow suit and pass like state laws. In the case of wage equality, the federal government has passed different pieces of legislation to remedy the situation and the state of Oklahoma has responded in kind.

Despite strides made throughout the 20th century, the issue of equality in the workplace is still alive today. The United States Census reported that in 1942, a man earned an average of \$.987/hour or \$43.46/week, to a woman's \$.609/hour or \$23.95/week (“Quick Stats on Women Workers, 2009”). In 2009, the U.S. Bureau of Labor Statistics reported that a man earned an average of \$20.475/hour or \$819/week to a woman's \$16.425/hour or \$657/week (“Quick Stats on Women Workers, 2009”). Currently, the Institute for Women's Policy Research estimates that the gender wage gap for full-time, year-round workers is 22.9 percent (“Fact Sheet: The Gender Gap: 2009”). Trends show that women are entering the workforce at a higher rate than men and

that a greater percentage of those are the heads of their households. In 2009, women comprised 46.8 percent of the workforce, and by 2018 they are expected to comprise 46.9 percent of the workforce (“Quick Stats on Women Workers, 2009”). With single women making up 28 percent of all heads of households, it is of vital importance to make sure that they are being fairly compensated (“Families Below the Poverty Threshold” 2010). Because more and more women are the sole breadwinners for their households, it should be a priority for the wage gap to be researched, be specifically addressed and more significant efforts must be made to narrow or eliminate the gap completely.

The goal of this research project is to determine whether the gender wage gap still exists, and if so, why it continues to exist. It will explore the evolution of federal wage equality legislation, the establishment of the federal Equal Opportunity Employment Commission and how the state of Oklahoma in particular, has addressed the issue of gender wage parity. In addition, it will use a mixed research method approach. Through a meta-analysis of existing literature and a quantitative comparison of census data reports conducted by the U.S. Bureau of Labor Statistics this researcher will investigate whether or not a wage gap continues to exist in the United States and in Oklahoma.

If there are so many policies and institutions in place to insure gender wage equality, why is this a relevant research question? A comparison of three generations of women and their perception of the existence of the wage gap illustrates why a study of the persistence of the gap is important. A retired 63-year-old woman who worked her entire life can recall many instances of gender workplace discrimination. While she is unsure if she herself was ever a victim of gender wage discrimination, she knows of many other women who were paid less for the same work as a man, simply based on gender. She has also experienced the changes in the workplace with the institution of the Equal Pay Act, Title VII, and the Lilly Ledbetter Fair Pay Act, and the creation

of the EEOC, and the introduction of the Paycheck Fairness Act. She is now out of the

workplace but is skeptical that these changes made much of a difference for her but hopes that they have had a positive impact for her daughter. Her daughter is a 40-year-old woman who believes that gender wage discrimination should be completely eradicated in light of the work that her mother's generation did to equalize paychecks. She knows for a fact that there are still some remnants of gender discrimination that exist in the work environment, because she has experienced them herself. She is confident that she has been paid equally to do equal work as men, but knows that her choices to raise a family have had a negative impact in her efforts to secure equal employment. She hopes that wage equality is the standard practice, but recognizes that women may still be lagging behind men. Her daughter is 16 years old and cannot fathom a world where inequality exists at all. Ask her about wage inequality and she can't envision it. To her it is a non-issue – it has never been part of her environment. She simply knows that men and women are being paid equally. This research project will prove which one of these women has the correct stance on the issue of gender wage inequality in the 21st century.

CHAPTER 2: Literature Review

Much has been written to explain the differences in gender and the struggles for equality that have been endured. The social sciences have explored the topic from all angles. It has become a focused research interest of academic historians to study issues of race, class and gender and to develop “new theoretical frameworks that focus upon human’s social identity” (Alford 2004). Sociologists have studied inequality by researching how race, gender and class can affect people’s choices and opportunities (Lee 2002). Economists have explored the wage gap in terms of the marketplace and how managers hire and pay (Farrell 2006). The study of the management of gender wage inequality and policies created to address them is explored in both political science and public administration journal articles. The area of political science and public administration has been working to adapt methods to research policy within the context of gender. One of the newest trends within the public administration field of study is that of *intersectionality*, which is a theoretical design that focuses on identity categories, such as race and gender and looks at where the categories intersect, defying the status quo that race, gender and class form independent analytic categories (Bearfield 2009). This review of the existing literature touches on articles from all the aforementioned disciplines in order to create an overview of gender wage inequality.

In order to understand the literature, the term of gender must be examined in all of the contexts that could influence the research. “Gender’ is defined by Merriam Webster as: “the behavioral, cultural, or psychological traits typically associated with one sex” (“Gender” 2011). However, the world has come to understand “gender” through the context of the social movements that have used the word to distinguish between the sexes for purposes of achieving

equality for women (Scott 1999, 29). Eventually, scholars began to worry that women's studies had narrowly used the term "gender" to exclusively reference a synonym for female. In order to assuage worries, the word "gender" became a more encompassing definition — one where women and men were "defined in terms of one another, and no understanding of either could be achieved by entirely separate study" (Scott 1999, 29). It is this approach to "gender" that will be used throughout this research.

The study of gender wage disparity is more than how much each of the sexes gets paid to do the same work. It is the study of how the sexes have each evolved into their individual roles — men as breadwinners and women as homemakers and how those roles affect employment. An inquiry must also be made into how other characteristics affect employment choices such as race, marital status and education. The goal of gender studies, according to historian Natalie Davis, is "to understand the significance of the sexes, of gender groups in the historical past...the goal is to discover the range in sex roles" and to explore their meaning and their functions within the social order and how those roles promote change, (Davis 1975, 90). The term "gender" is now more commonly used to denote that scholarly information about women is also scholarly information about men; "one implies the study of the other" (Scott 1999, 32).

Traditional gender roles have been in existence for centuries, for example, the classic Greek beliefs of traditional sex roles can be summed up into six tenets:

- 1) Males and females are opposites and their comingling brings harmony and order to society.
- 2) Nature designed the individual male and female roles to be opposites but complementary as well.
- 3) Nature has organized its needs into two separate spheres, the Outdoor or male sphere and the Indoor or female sphere. (The Outdoor is concerned with heavy work, protection, and livelihood; while the Indoor is mainly concerned with all things gentle, nurturing and loving.)
- 4) The Outdoor sphere prepares man to be in the public eye and to deal with all things for the betterment of the state; whereas the Indoor sphere prepares

woman for quiet, invisible roles.

- 5) The public role prepares man to be concerned with the survival of the state and is considered more important than the private role of women who simply are concerned with basic needs and survival.
- 6) Men are superior because they are stronger and braver; women are inferior because they are weak and irrational. (Marshall 1964, 71-72).

British sociologist, T.H.Marshall crea outlines the three essential rights of citizenship that Western cultures embrace:

***Social rights**, the right to a basic level of economic welfare and security; the right to share in the social heritage, and to live as a civilized being according to the standards prevailing in the society; **Civil rights**, liberty of person; freedom of speech, thought, and faith; the right to own property and to conclude valid contract; the right to justice; and **Political rights**, the right to vote and the opportunity to hold public office. (Marshall 1964, 71-72).*

By embracing tenets that address the natural state of man and rights that address progressive Western ideals, the fact that women in the United States have lagged behind other Western cultures in gaining access to equal treatment is surprising. Women have rarely been granted social rights, but under the protective umbrella of their husbands, fathers, or sons, they gained indirect access to civil and political rights. Even the U.S. Declaration of Independence, which declared that all men were created equal, restricted suffrage to white, property owners, (Kelly 1991, 9). Laws written in the United States were based on the idea of the patriarchal family as the basic unit of society. Women were under the protection of their men and gleaned all legal existence through them.

Both men and women have always worked. In the United States the established agricultural society required that men work outside, tending to the farm and livestock, and it required that women take care of the work at home. Women would sell their excess home-crafted goods at the local market for additional income and occasionally, circumstances found women seeking employment opportunities (such as sewing) outside of the home. As the industrial

revolution began, the means of production shifted from the family farms to the factory. Worth began to be determined by the wage that a person could command. In 1860, women comprised 10.2 percent of the work force, in 1870, they comprised 14.8 percent and since then those numbers have increased at a greater rate than the increase in men entering the workforce. (Matthaei 1982).

As more and more women entered the workplace, the jobs they chose were those that matched the skill-set that they had cultivated as homemakers, with seven out of ten women working as servants (Woloch 1984, 220). As factories opened and more jobs were created, they migrated in great numbers towards those employers. Though the work they did still centered on their domestic training — the manufacturing of cloth, clothing, and food — they were beginning to creep into other occupations, like teachers, nurses, office workers, and telephone switchboard operators (Woloch 1984, 220). Women who worked in these white collar positions tended to be young and unmarried and the general school of thought was that these women would only work until they were married, at which time they became the financial responsibility of their husbands and were expected to tend to home and family. President Theodore Roosevelt stated; “If the women do not recognize that the greatest thing for any women to do is to be a good wife and mother, why, that nation has cause to be alarmed about its future” (Margolis 1984). It was due to this expectation that their positions tended to be without possibility of promotion and therefore low paying (Ford 2011, 281).

In an effort to bring equity to the wage issue, the federal government has passed legislation over the course of the 20th century that has provided a basis on which women could fight for reparation. The enacting of the 1932 Federal Economic Act, the Equal Pay Act in 1963, Title VII of the Civil Rights Act of 1964, the introduction of the Paycheck Fairness Act in 2009

and most recently the passing of the Lilly Ledbetter Act in 2009 have helped to address gender bias in the workplace and have in turn encouraged states to enact their own legislation to specifically protect gender in the workplace.

1932 Federal Economic Act and Section 213

The federal government began to hire women at an accelerated rate, after the U.S. Treasury Department started the trend and hired the first female in 1862 (McGuire 2008). Women continued to advance in the federal system as more opportunities became available, such as the Civil Service Commission allowing women to take the competitive examinations in 1919. In a radio speech in 1931, Mary Anderson, director of the U.S. Department of Labor's Women's Bureau, stated that eighty-nine thousand women worked for the federal government (McGuire 2008).

With the stock market crash of 1929, the United States economy was flailing. President Herbert Hoover had been elected to office when the country was riding on the economic wave of the 1920s and was unprepared for the issues that the Great Depression created. As with many economic crises both before and after the Great Depression, most felt that strict rules and regulations could legislate the country towards recovery (VanGiezen and Schwenk 2003). In early 1931, the same women that Mary Anderson spoke of in her radio address were threatened with unemployment. The strides that women had made to become valuable assets within government service were now at risk of being erased in the name of economic stimulus. Since more and more women were being employed outside of the home, men were having an even more difficult time finding work—as the unemployment rate topped 23.6% (Dunlop and Galenson 1978). In January 1931, New York State Assemblyman Arthur L. Swartz proposed, to

have the New York State Legislature to conduct a study to determine how many married women were employed by state and local governments (McGuire 2008). This study was in essence trying to validate the state's position that the economy of labor of women was less valuable than that of their male counterparts. "With the present unemployment there is no doubt in my mind," Assemblyman Swartz proclaimed, "that most married women could be, and should be, relieved of their public positions, particularly where the husband also holds a public job, or where it is self-evident that the husband's income is sufficient for the support of the family" (Oaks 1931).

As a result of the comments of Swartz and other like-minded people around the country, state and local governments began to entertain the idea of dismissing married women (McGuire 2008). This trend resulted in the United States Congress tackling the same issue on a federal level. After several failed attempts at legislation to help create a more fiscally conservative federal environment, such the establishment of a national sales tax and revoking World War I veterans their promised bonuses, Congress was thinking of giving married women pink slips (McGuire 2008). Initially, a proposed amendment that would terminate any salaries for "any dependent wife of any federal employee who receives an annual salary in excess of \$2,500" was defeated. But in April of 1932, Congress began to study a statute as part of the Economic Act of 1932. What became known as Section 213 stated, "in any reduction of personnel in any branch of service of the United States government or the District of Columbia," any married persons (defined as those living with their spouse) would be dismissed before any other persons in similar jobs if their spouses also worked for either of the specified governments," ("Still the Working Wives Problem" 1933). Even though the verbiage was gender neutral, it left little doubt that wives, who were most often paid a lower salary, would be left unemployed, while their

better paid husbands would continue to be employed. Despite concerns from the major political influences of such groups as the National Women's Party and the Governmental Worker's Council, Congress passed the bill—trying to conclude congressional business on its way out the door, making a mad dash for the June, 1932 presidential conventions being held. President Hoover signed the bill, despite concerns that it caused “unnecessary hardships,” on government workers (McGuire 2008). By October 1933, approximately 1,900 federal employees, three-fourths of which were women, had been dismissed or resigned (Scharf 1932).

Section 213 became one of the most hotly debated pieces of equality legislation of the 20th century. The fight for its repeal helped to forge alliances between groups who usually found themselves on opposite sides of political discussions. On July 9, 1937, after almost five years of battling Congress and tradition, the House of Representatives passed the repeal measure by a vote of 205-128; the Senate then unanimously approved the measure (McGuire 2008). President Roosevelt signed H.R. 3408 into law on July 26, 1937, repealing Section 213.

The mandate of Section 213, before its repeal, did not affect the state of Oklahoma as it did in other parts of the nation. Women in the state had always received a certain amount of encouragement to be involved in state government. While no data exists as to when the first woman was hired by the state, it is known that in 1907, Oklahoma voters, (all of whom were male) elected Catherine Barnard as the first Commissioner of Charities and Corrections (Edmondson and Larason 2000). After Oklahoma achieved statehood in 1907, conservative Alice M. Robertson was elected to Congress and served from 1921 to 1923 (Stanley 1967), despite a voting record that was considered decidedly anti-woman by the feminists of the time. Before and after the repeal of Section 213, Oklahoma continued to elect and appoint women to state and local offices; in fact, the town of Byron in Alfalfa County had an all-female city

government (Wilson 2007). Oklahoma never enacted legislation that kept men and women or husbands and wives from working for the same state or local agencies, like the federal government did with Section 213 of the Federal Economy Act of 1932.

The repercussions of Section 213 lasted well past its repeal. Since there was not a mechanism in place for the mandatory reinstatement of workers fired under the Act, many women continued to find themselves unemployed even after the repeal (McGuire 2008). Every other federal agency, save the Treasury Department, insisted that any jobs lost under Section 213 did not constitute “vested right[s],” and declared that the reinstatement of “additional female help” would not receive top, if any, priority (McGuire 2008).

The country as a whole seemed unwilling to reevaluate traditional working gender roles either. The State of Oklahoma suffered along with the entire nation during the Great Depression. By the winter of 1932, the state unemployment rate is estimated to have reached 300,000 in an urban population of approximately 800,000. New Deal programs implemented in Oklahoma in the early 1930s, helped women to move into the workplace. The jobs that were created helped put an end to the staggering unemployment rates. As a result of the New Deal programs, Oklahoma women were now working in a variety of jobs — in sewing rooms, canning plants, mattress factories and Federal One fine art programs (Wilson 2007). The results of a 1938 survey of 291 cities across the United States by the National Educational Association which found that over three-fourths of city administrations reported that they would not hire married women as teachers, did not reflect the mindset in Oklahoma (McGuire 2008). The National Industrial Conference Board, which was one of the first “think tanks” organized (in 1916) with the purpose of investigating “the causes of the increasing strife between employers and their employees and the effect of the rapidly multiplying amount of restrictive labor and social legislation on the

conduct of business . . . in order that a proper course of future action might be determined upon, alike beneficial to employers and employees and subservient to the welfare of the nation” emerged as an expert group in labor issues (Naar 1991, 13-14). The Board conducted a study in 1939 which reported that more than 50% of banks, insurance companies and public utilities would not hire married women either (McGuire 2008). Even though these studies were emerging, Oklahoma women continued to make strides in the workforce.

Emergence of Women Workers during WWII

In general, societal pressure on women to be home raising families caused their opportunities to be limited. It also perpetuated the workplace segregation that existed keeping women underpaid and in dead end positions, as men advanced and earned more money. Even though women in Oklahoma enjoyed more opportunities in the workplace than many of their counterparts around the country, they still suffered inequalities in the workplace. While the nation as a whole seemed reticent to accept women working on equal footing with men, the country would be soon calling on them to work as World War II began. The nation was in a crisis. It called upon and expected its women to step up to the challenge and enter the workforce. Though married women had previously been discouraged from taking jobs during the Great Depression, they became an untapped resource when WWII produced a manpower shortage (Wilson 2007).

Women responded to the call of duty in record numbers in large part due to the propaganda efforts of the federal government. The Office of War Information (designed to be a propaganda machine) in conjunction with the War Manpower Commission (established by executive order of President Roosevelt in 1942 to address the labor shortage caused by male

workforce fighting overseas) created a Basic Program Plan for Womanpower. This campaign had one objective: to play to the patriotic passions of women and their protective natures (helping to keep the minds of their men focused on their job, by taking care of things at home) to encourage her to go to work for her country (Honey 1995). The Plan stated, “jobs will have to be glorified as a patriotic war service if American women are to be persuaded to take them and stick to them. Their importance to a nation engaged in total war must be convincingly presented” (“It’s a Woman’s War Too!” Archives.gov). Women contributed more than one-third of the labor force during the war by 1944, with nearly half of all adult women working at one time or another and making possible the war industry production that transformed the American economy.

At the beginning of WWII, the United States defense industry created several programs that encouraged women to become part of the war effort. The *Women Airforce Service Pilots* or WASPs were civilian pilots who volunteered their flying experience to the Army Air Corps from 1942 until 1944. With the exception of combat training, they received the same training as male volunteers and proved to be just as good at the stick. The WASP program was an experimental program to see if women could perform like men and perhaps relieve them of overseas duties. A WASP volunteer earned only \$150 per month while in training and \$250 per month after graduation (“Women Airforce Services Pilots (WASP)” 2012). The WWII era propaganda icon “Rosie the Riveter” symbolized the woman’s entrance into defense industries. Oklahoma had her own workforce of Rosies working for the war effort at the Midwest City Douglas Aircraft Company Plant. In fact, over half of those employed at Douglas were women and earned \$40 a week (Wilson 2007). By the beginning of WWII, twenty-five women from Tulsa were training at the Spartan School of Aeronautics to be prepared to fill vacancies in flying positions (in order to fill wartime vacancies as ferry pilots, flight instructors, and copilots) (Wilson 2007).

In another program, the *Women Accepted for Volunteer Emergency Service* or WAVES was established as a way for women to volunteer for the war effort (running the Navy's affairs at home while men served overseas) with the understanding that they were not *in* the Navy and would return to their home lives at the end of the war ("Establishment of Women's Reserve" 2011). Women in WAVES first served as clerical staff and eventually worked their way into navigator, machinist and technician positions ("Types of Duty" 2006). Oklahoma A&M University (now called Oklahoma State University) began to train twenty-five Oklahoma women to fulfill WAVES duties (Wilson 2007). A&M was the training center for naval yeomen—whose duties were to "take dictation, prepare reports, operate duplicating machines, use Navy filing system, keep personnel records, handle routine details of enlistments, discharges, transfers, promotions" ("Types of Duty" 2006). WAVES received the same pay and other compensations as men of the same rank ("Payment" 2006).

Women proved themselves to be an invaluable workforce during WWII. WASP Commander Byrd Howell Granger had this to say about the women who served during the war: "If the nation ever again needs them, American women will respond. Never again will they have to prove they can do any flying job the military has. Not as an experiment. Not to fill in for men. They will fly as commissioned officers in the future Air Force of the United States with equal pay – hospitalization – insurance – veterans' benefits. The WASP have earned it for these women of the future" (Granger 1991, 476).

In 1989, Mark Aldrich, professor of economics at Smith College, undertook the task of evaluating the effects of industrialization on women's wages during World War II. Prior to publishing his findings, it was widely believed by political scientists, economists and scholars that the advent of the war, the enlisting of an entire workforce of men and the evolution of new

industries, brought wages for women in line with those being earned by men. In studying the Social Security data for 1939—1945 for Pennsylvania, Illinois, and New York, research found that this was not necessarily in the case. Contrary to the common school of thought, the national all-industry earnings of women during the war fell compared to those of men, (Aldrich 1989). Aldrich admits that while the findings of his study were based on “fragmentary data,” and yet concludes that his findings “cast doubt on the view that World War II advanced women’s relative earnings” (Aldrich 1989, 424). He further concludes that the gains that women did make were due to their “breakthrough into heavy manufacturing” (Aldrich 1989, 424). As he stated,

The national annual earnings data and weekly wages for all production workers in Illinois both indicate that women's pay fell sharply behind men's during the early war years and never fully recovered. In manufacturing, women's relative weekly and annual earnings did indeed rise over the war years, but apparently at a rate below their long-term trend. In both Illinois and Pennsylvania, women’s gains in manufacturing were – consistent with widespread belief – in large part the result of a massive shift of the female labor force into heavy industry; but the same was not true of New York, where intra-industry wage changes accounted for two-thirds of women's relative wage gain (Aldrich 1989, 424).

Aldrich confesses that the determinants of change in women’s relative pay are not clear. Hourly wages increased for woman compared to men during the war, the female labor force shifted into manufacturing, and the inter-industry segregation that existed before the war all helped to increase the relative weekly earnings (Aldrich 1989). However, women also suffered a decline in the number of hours worked during a week.

Aldrich states clearly that despite his data being extracted from obscure Social Security data that was innately fragmented, scholars still cannot come to a definitive

agreement on the effects of World War II on women's compensation compared to men's (Aldrich, 1989):

The majority concur with the International Labor Office's finding, reported in the immediate postwar period, that "women's wages increased . . . relatively to men's wages." The ILO hastened to add, however, that "this trend existed already before the war," (ILO 1946 : 206)... Thus, William Chafe, asserted that during the war women's "wages leaped upward" (Chafe, 1972); Mary Schweitzer that they "rose swiftly," (Schweitzer, 1980); Susan Hartmann, that women's "wages in industry increased both absolutely and in relation to men's," (Hartmann, 1982); and Karen Anderson, that "the disparities between men's and women's average earnings narrowed somewhat during the war years," (Anderson, 1981), " (Aldrich, 1989). In opposition to this position is that of Alice Kessler-Harris. Although Kessler-Harris views the period as resulting in "real gains" for women, she also asserts that "the gap between men's and women's wages increased during the war" (Kessler-Harris 1982), (Aldrich 1989, 415).

The importance of this article is not only to show that from the first major modern movement in the United States of women into the workforce, there has been wage disparity but also to show that scholars have not come to an agreement on its consequences. The social bans against married women working outside of the home had for the most part been abandoned, despite the government's efforts to "return to normalcy" after the war. However, Americans "cherished conventional gender roles and worried about how women's new activities outside the home would affect male-female relations about family life" (Hartmann 1995, 15). Women had made their mark on the country's labor market and proved that they were valuable, essential and capable. They had proven that they could balance home, family, work *and* war; but as the men returned home from the war, women were once again forced to turn their attentions towards the home family. As Foust and Bradshaw point out feminist author Barbara Ryan had previously concluded in her 1992 book, *Feminism and the Women's Movement: Dynamics of Change in*

Social Movement Ideology and Activism, “contrary to trends that had been developing prior to World War II, traditional gender roles again took hold in the postwar years as part of a mythical ideal American family” (Foust and Bradshaw 2007, 94).

Post-WWII Efforts

Now that the men were back at home and working and the women were back working in the home, the labor force began to change again. By 1947, the presence of women in the workforce had declined from 36 to 28 percent. Women were moved from the higher-paying essential wartime jobs (male jobs) back to the pre-war female jobs (Hartmann 1995).

Veterans who had faced the enemy gained many employment advantages upon their return, which the women could not directly benefit from (except vicariously through the benefit of their husbands) even though they worked to support the war stateside. But women were about to use their wartime experience to catapult their equality issues to the forefront of policy creation. World War II served to highlight for both women and men that women just might deserve equality in the workplace. Feminists pointed to wartime sacrifices and rhetoric to promote equality at home (Hartmann 1995).

The entrance of women in large numbers into the workforce during World War II brought to light new issues. Chief among those was the principle of equal pay for equal work or gender wage discrimination. The United States Census reports that in 1942, a man earned an average of .987/hour or \$43.46/week, to a woman's .609/hour or \$23.95/week (U.S. Bureau of the Census). In 1942, the War Labor Board, urged employers to voluntarily make adjustments which would equalize the wage or salary rates paid to females with the rates paid to males for

comparable quality. This “suggestion” was never enforced, and most employers did not voluntarily comply since the federal government fell short of legislating it.

The idea of wage equality, which had been essentially non-existent before the war, began to pick up momentum as more and more women considered working outside of the home. Women’s organizations and labor unions felt empowered to “strike while the iron was hot,” to push through equal pay laws. By the end of the 1940s, ten states had passed equal pay legislation, which helped to set the stage for further legislative remedies at the federal level to narrow the inequality in wages (Hartmann 1995).

The idea of what women’s work is has evolved, as a direct result of the “interplay” between the needs of the economy and the household, and traditional gender roles (Ford 2011, 285). As the economy needed more workers and households needed more income, women stepped up, usually confined only by society’s traditional gender roles. In order to meet the challenges of new employment, women were looking for a way to be better trained for opportunities. The National Manpower Council, the Department of Labor, and the Women’s Bureau forged an alliance to develop ways to cultivate women’s labor potential. In 1957, the Council issued a report calling for equality of opportunity and pay to extend to women as well as men, (Womanpower). From this official statement grew two pieces of legislation each approaching gender in different ways.

Equal Pay Act of 1963 and the Fair Labor Standards Act

The first, The Equal Pay Act or EPA, (passed Congress in 1963), addressed the neutral definition of gender in guaranteeing legal equality for men and women in the workplace, “assuming that men and women experienced the workplace in similar ways,” (Ford 2011, 285).

The EPA, whose goal was to “prohibit discrimination on account of sex in the payment of wages by employers,” was an amendment to the Fair Labor Standards Act, or FLSA, and did not proclaim either gender as a discriminated class (*Equal Pay Act of 1963*). The law mandates that everyone be compensated equally for the same work.

The FLSA, and thus the EPA, covered approximately 27,500,000 employees, but as subsequent legislation was passed it was then applied to executive, administrative and professional employees (with the Education Amendments in 1972) and federal, state and municipal workers (with the Fair Labor Standards Amendments in 1974). In 1963, the year the EPA was passed, the U.S. Census Bureau reports that a woman who worked full-time, year-round made 59 cents for every dollar earned by a man (“Pay Equity History” 2011). The EPA was a first step in creating a balance of pay for women, even though it ignored that fact that men and women do not experience the workplace in the same manner; simply based on their individual sex or as Justice William Brennan referred to it, “an ‘inherently invidious’ classification,” (*Frontiero v. Richardson*, 1973).

The EPA provided for women to be able to file grievances and lawsuits independent of any agency or class action, but assigned the Secretary of Labor as the sole enforcer of the laws. In 1978, President Jimmy Carter transferred the enforcement responsibility to the Equal Employment Opportunity Commission (EEOC). The EEOC had the charge to adjudicate all of the labor claims that the Secretary of Labor had been enforcing. The creation of a separate agency to handle such claims gave women a dedicated advocate in the workplace.

Oklahoma Equal Pay Act

States began to pass legislation that mirrored federal mandates. In 1965, Oklahoma passed the Oklahoma Equal Pay Act. It states that:

It shall be unlawful for any employer with the state of Oklahoma to willfully pay wages to women employees at a rate less than the rate as which he pays any employee of the opposite sex for comparable work on jobs which have comparable requirements relating to skill, effort and responsibility, except where such payment is made pursuant to a seniority system; a merit system; a system which measures earnings by a quantity or a quality of production; or a differential based on any other factors other than sex, (“Oklahoma Equal Pay Act” 1965).

For both the federal law and Oklahoma state law, the burden to both the employee and employer is essentially the same. The plaintiff has to establish that “she received lower pay than a male employee for substantially the same work for the same employer” (“Gender Discrimination” 2011). Such substantial equivalence is established by showing that the jobs required: equal effort and equal skill, and had equal responsibility and similar working conditions (“Oklahoma Equal Pay Act” 1965; “Equal Pay Act of 1963”). If the plaintiff can meet the “substantially equal” test and establish these points, then the burden shifts to the defendant who must establish that the pay disparity is justified by 1) seniority, 2) merit, 3) quality or quantity of production, and 4) any factor other than sex (“Oklahoma Equal Pay Act” 1965; “Equal Pay Act of 1963”). Once adjudicated, on both the state and federal level, employees and employers must abide by the decisions.

As with most legislation, it was challenged considerably in courtrooms all over the country. The courts have heard several cases regarding the EPA. Landmark cases such as *Schultz*

v. *Wheaton Glass Co.* and *Corning Glass Works v. Brennan* set the precedents against which equal pay challenges are balanced.

The appellate court case, *Schultz v. Wheaton Glass Co.*, 1970, dealt with the issue of “substantially equal jobs,” and was brought by the Secretary of Labor against Wheaton Glass Company. The Secretary of Labor claimed that the glass company:

...discriminated against its ‘female selector-packers’ on the basis of sex by paying them at an hourly rate of \$2.14, which is 10% Less than the \$2.355 rate it pays to its ‘male selector-packers.’ The Secretary sought an injunction against future violations and the recovery of back pay for past violations. The company denied that the female selector-packers perform equal work within the terms of the Act and claimed that in any event the 10% Pay differential is within exception (IV) of the Act because it is based on a ‘factor other than sex,’ (*Schultz V. Wheaton Glass Co.* 1970).

The United States Court of Appeals Third Circuit ruled that jobs which merited equal pay did not need to be identical, but only “substantially equal” in actual duties and employees subjected to discrimination on that basis are protected by the Equal Pay Act. Further, any employer who employs a woman and a man to do the same job with different titles in order to pay either gender lesser pay is discriminating under the Equal Pay Act. This ruling demonstrated to other courts that they have to examine the duties performed by males and females, not solely relying on the company’s job descriptions, and opens the door for other courts to broadly construe the EPA (Mezey 1992, 93).

Corning Glass Works v. Brennan, 1974, was the first to reach the U.S. Supreme Court when the Court was asked to determine whether men who worked the night shift could be paid more than women who worked on the day shift because the conditions were different. In this case, the glass company had been found discriminatory in its wage practices, when paying male

inspectors different base wages than female inspectors when working the night shift. The Court ruled that employers couldn't justify paying women lower wages because that is what they traditionally received under the "going market rate." A wage differential occurring "simply because men would not work at the low rates paid women" was unacceptable (*Corning Glass Works v. Brennan* 1974).

These cases highlight the problems with the application of the EPA. The act could not pass unless the wording was changed from "equal pay for work of comparable worth" to "equal pay for equal work," marking a significant concession for advocates of the bill. The substitution of the word "equal" for "comparable" made it far easier for employers to simply write separate (or identical) job descriptions despite the actual work performed or manipulate hiring practices to circumvent the intent of the law. And since the EPA only addressed pay equity, it left other discriminatory practices unchecked (Conway, Ahern and Steurnagel 2005, 97). There are also enforcement issues with the law. The complainant has no right to a hearing and can only participate in a hearing if the EEOC chooses to allow it. This does not encourage people to come forward and file claims, because they might fear that they would not get the chance to publicly air their complaints.

The significance of these two landmark cases cannot be ignored. Despite the inadequacies of the laws passed, women were beginning to see legal relief for the discrimination. Precedents were being set for further cases and updated legislation. The EPA still falls short of achieving that which it was written to do: establish pay equity, and by doing that, eliminate the pay gap. By 1988, twenty-five years after the passage of the EPA and despite Court decisions that helped to define employment laws, the wage gap had only narrowed slightly, from a woman earning 59 cents to man's dollar in 1963 to 66 cents to the dollar ("Pay Equity History" 2011).

Title VII

Subsequent to the passage of the EPA, Congress passed additional legislation that broadened the scope of federal protection against wage discrimination on the basis of sex. Originally written to end discrimination based on race or religion, the passage of Title VII of the Civil Rights Act of 1964 accidentally occurred after Rep. Howard Smith, D-VA, put sex on the list believing that it would never pass that way. Title VII accomplishes several things. First of all, it identified sex as a protected class from discrimination and established that it could be enforced through the judicial process by the administrative agency on the plaintiff's behalf, rather than through the usual administrative court processes (Conway, Ahern and Steurnagel 2005, 98). Secondly, it reversed previous precedent requiring grievances be filed by individuals. If a pattern of discrimination can be established, then class action suits may be filed (Conway, Ahern and Steurnagel 2005, 99). Third, Title VII mandated that an independent administrative agency was to be created to adjudicate all claims. The Equal Employment Opportunity Commission was established in 1964 as part of the Civil Rights Act, to enforce the laws. Title VII also expanded the protection of women from employment discrimination to include almost all employees working for employers with fifteen or more employees.

Title VII of the Civil Rights Act of 1964 legislates that discrimination on the basis of race, color, religion, sex or national origin is unlawful in hiring or firing, determining wages; providing fringe benefits; classifying, referring, assigning, or promoting employees; extending or assigning facilities, training, retraining, or apprenticeship; or any terms, conditions, or privileges of employment (Title VII). In 1972, Congress added the Educational Amendment to the Civil Rights Acts and extended the requirement of equal pay for equal work to persons employed in an executive, administrative or professional capacity, or as an outside salesman.

Title VII was designed to allow women entry into all occupations that they had previously been excluded from, but it has done so only in small measurements. For example, within the engineering field, the number of female engineers increased from 1.6 percent in 1970 to 10.8 percent in 2002 (Statistical Abstract 1997; Statistical Abstract 2003). Although the difference between 1.6 percent and 10.8 percent seems like a significant increase, when compared to the total proportion of the workforce that is female, it is a very small gain.

Conway, Ahern and Steurnagel (2005, 111), theorize that because of the high concentration of women in low-paying occupations, it would be expected to see that women's earnings are "substantially below those of men." They look at the median annual earnings of women who worked full-time, year round longitudinally (1939, 1983, 1988, and 2002) and found that the percentage of women's to men's wages grew from 58 percent (1939) to 63.6 percent (1983), to 66 percent (1966) to 76 percent (2002). Conway et al. (2005), control for the fact that women are less likely to work full-time and year round than men and annual wages should not be used, so they also looked at median weekly earnings across time (1967, 1984, 1994, and 2002). Their research shows that the percentage of women's to men's wages went from 62 percent (1967), to 65 percent (1984), to 76 percent (1994) to 78 percent (2002) (Conway, Ahern and Steurnagel 2005, 111). They conclude that their hypothesis that women's earnings will be substantially below that of men is correct. Differences in earnings are not solely contributed to the amount that individuals are paid for a job, but they theorize that inequality in wages might be contributed to by an imbalance of women in certain occupations. They argue that "if fewer women are employed in higher-paying jobs, then women's average earnings will be lower than men's. If disparities are the result of differences in occupational distribution, the equal pay provisions of Title VII and the Equal Pay Act cannot solve the problem of unequal pay caused by

job segregation” (Conway, Ahern and Steurnagel 2005, 111).

While the federal government worked to try and legislate wage equality throughout the 1960s and 1970s, it wasn’t until 1984 that Oklahoma enacted its first piece of legislation that addressed the issue. Oklahoma House Bill 1681 required state agencies to prepare affirmative action policies to ensure that they are accountable for the equal employment practices disclosed within them (“Affirmative Action Plans” 2011). With regard to the issue of discrimination within state agencies, the state of Oklahoma requires that statements on equal employment and/or affirmative action plans reflect the following position: “The agency’s commitment to a fundamental policy of non-discrimination for all persons without regard to race, creed, color, sex, national origin, age, religion, political affiliation or opinion, or disability so long as the disability does not render the person unable to do the work for which he or she is employed” (“Manual for Affirmative Action Plans in Oklahoma State Government” 2004).

The Paycheck Fairness Act

Advancements in legislation have continued to be made since the passage of the Civil Rights Act of 1964. The Paycheck Fairness Act was introduced January 2009 to amend the Fair Labor Standards Act of 1938 to strengthen the Equal Pay Act of 1963 by providing more effective remedies to victims of discrimination in the payment of wages on the basis of sex, and for other purposes (“Paycheck Fairness Act, 2006). In addition, the Paycheck Fairness Act called for a study of data collected by the Equal Employment Opportunity Commission and proposed voluntary guidelines to show employers how to evaluate jobs with the goal of eliminating unfair disparities. While the bill passed the in House of Representatives, it was defeated in the Senate. The entire Oklahoma Congressional delegation voted against the bill.

The Lilly Ledbetter Fair Pay Act of 2009

The Lilly Ledbetter Fair Pay Act of 2009 was signed into law by President Barack Obama on January 29, 2009 (Stolberg 2009). The act was named for Lilly Ledbetter who was a production supervisor at a Goodyear Tire plant in Alabama. At the time of her retirement in 1998, she discovered that she had been paid less for work equal to that of her male counterparts over the duration of her career. She filed a claim for relief under Title VII in 2007, but the Supreme Court decided against Ledbetter, largely in part due to the statute of limitations of 180 days from when the employer makes any decision regarding an allegation of discrimination (*Ledbetter v. Goodyear Tire and Rubber Company*, 2007). Introduced in the Senate by Rep. Barbara Mikulski, (D-MD) on January 8, 2009, the Lilly Ledbetter Fair Pay Act amended the Civil Rights Act of 1964, by resetting the 180-day statute of limitations for filing an equal-pay lawsuit regarding pay discrimination with each new discriminatory paycheck (“Lilly Ledbetter Fair Pay Act” 2009).

The long-term impact of this legislation may not be known for a while; however, according to the Compensation & Benefits Association of Sacramento, employers will feel immediate implications first:

The Act exposes employers to potential liability for accumulated pay differences that emerge over an extended time frame. This will likely mean that employers find themselves having to justify pay decisions made two, five, or even twenty years earlier. As the result of the Act, employers need to review their documentation processes supporting pay decisions, current compensation and benefit practices, and ensure such practices are implemented in a nondiscriminatory manner (“Lilly Ledbetter Fair Pay Act: Practical Implications for Employers” 2009).

The Equal Employment Opportunity Commission

The Equal Employment Opportunity Commission (EEOC) was established on July 2, 1965. Its mandate is specified under Title VII of the Civil Rights Act of 1964 and further bolstered by additional employment legislation, the *Age Discrimination Employment Act of 1967*, which forbids employment discrimination against anyone over the age of 40 years in the U.S., the *Rehabilitation Act of 1973*, which prohibits discrimination on the basis of disability in programs conducted by federal agencies, in programs receiving federal financial assistance, in federal employment, and in the employment practices of federal contractors; the *Americans with Disabilities Act of 1990*, which prohibits, under certain circumstances, discrimination based on disability; and the *ADA Amendments Act of 2008*, which clarifies definitions and laws previously used in other legislation.

The vision statement of the EEOC states: “A strong and prosperous nation secured through a fair and inclusive workplace,” (*Overview 2011*). The EEOC is responsible for enforcing federal laws that make it “illegal to discriminate against a job applicant or an employee because of the person's race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability or genetic information,” (*Overview 2011*). The EEOC also investigates cases where there is alleged discrimination against a person because the person complained about discrimination, filed a charge of discrimination, or participated in an employment discrimination investigation or lawsuit, (*Overview 2011*). Just who does the EEOC protect? Most employers with at least 15 employees are covered by EEOC laws, and with at least 20 employees employers are subject to age discrimination laws (*Overview 2011*). In addition, most labor unions are covered. And the laws extend and apply to all types of work situations, including, hiring, firing, promotions, harassment, training, wages and benefits.

The mission statement of the EEOC is, “We promote equality of opportunity in the workplace and enforce federal laws prohibiting employment discrimination,” (*Overview* 2011). The EEOC has the authority to investigate charges of discrimination against employers who are covered by the law. It achieves this goal “by fairly and accurately assessing the allegations and then making a finding” (*Overview* 2011). It tries to mediate the situation to arrive at a resolution between both parties; although the EEOC does not file lawsuits in all cases, if it is not successful in mediation, it has the authority to file lawsuits to protect the rights of individuals and the interests of the public.

The lion’s share of work at the EEOC is done towards the efforts to prevent discrimination before it occurs, through outreach, education and technical assistance programs. In addition, the EEOC provides the structure, leadership and guidance to all federal agencies in all aspects of the federal government's equal employment opportunity program. According to the EEOC,

EEOC assures federal agency and department compliance with EEOC regulations, provides technical assistance to federal agencies concerning EEO complaint adjudication, monitors and evaluates federal agencies' affirmative employment programs, develops and distributes federal sector educational materials and conducts training for stakeholders, provides guidance and assistance to [our] Administrative Judges who conduct hearings on EEO complaints, and adjudicates appeals from administrative decisions made by federal agencies on EEO complaints (*Overview* 2011).

The EEOC has a clear vision and mission as well as guidelines to follow and yet, inequality still exists. Gender equality has reached a high point, due in part to federal legislation, the establishment of the EEOC and states, such as Oklahoma, following the federal government’s lead. However, obvious disparities between the sexes are still prevalent in the workplace today.

Despite the equality afforded to them by the Constitution and various laws since then, women still lag behind men in wages and other compensation. A review of the literature shows that legislation and the creation of the EEOC have led to a narrowing of the gap. If the data show that the wage gap persists, then clearly laws have a limiting effect in correcting the gap.

Chapter 3: Methodology

Approach

This thesis studies the gender wage gap over the ten-year period from 2000 to 2010. Specifically it compares three years within that period, 2001, 2004 and 2009 and the differences in wages between males and females within like occupations, to determine whether specific occupations have a statistically significant narrowing in gender wages. The hypothesis is “there has been a narrowing in the pay gap between 2001, 2004 and 2009 within like occupations.” Alternatively, the null hypothesis is that “there has been no narrowing in the pay gap between 2001, 2004 and 2009 within like occupations.”

In order to explain the relationships between the concepts, they must be defined in two ways: nominally and operationally (Meier, Brudney and Bohte 2012, 39). The concepts in this design can be nominally defined in the following manner: *occupation* refers to a job or profession; *gender* refers to the sex of a person; *wage* refers to the money paid or received for work or services; and the *gender wage gap* refers to the difference between male and female earnings expressed as a percentage of male earnings. The operational definition of the concepts can be defined in the following manner: *occupation* refers to a set of activities or tasks that an employee is paid to perform full-time, year-round, for the majority of the year (“*Occupation*” 2008); *gender* refers to the sex of a worker either male or female; *wage* refers to the median weekly money earned by full-time, year-round workers, either hourly or salary and before payroll deductions, received for work or services performed (“Wages and Salary” 2008); and the *gender wage gap* refers to the difference between male and female earnings expressed as a percentage of male earnings. For the purposes of this research, the dependent variable is the

gender wage gap and the independent variables are the *occupation, gender and wage*

Data Gathering Method and Validity of Data:

The data in this design was gathered from several sources; employment data came from the U.S. Department of Labor Bureau of Labor Statistics' Annual Highlights of Women's Earnings Reports, data regarding the economic cycles came from the National Bureau of Economic Research, and the data outlining the United States' historical annual GDP growth percentage was accessed through the World Bank. The employment data was drawn from the U.S. Department of Labor, Bureau of Labor Statistics' (BLS), Annual Highlights of Women's Earnings Reports. The earnings reports are created from data in the Current Population Survey (CPS), which is a monthly survey of 60,000 households conducted by the Bureau of Census for the Bureau of Labor Statistics. Data is collected by personal and telephone interviews. Basic labor force data are gathered monthly, while data on special topics are gathered in periodic supplements. It provides a comprehensive body of data on the labor force, employment, unemployment, persons not in the labor force, hours of work, earnings and other demographic and labor force characteristics.

The method for the CPS is designed and reevaluated after each decennial census. This thesis uses data from two separate censuses and therefore there are two designs at play here. The first design covers,

“(the) original 1990 census-based sample design included about 66,000 housing units per month located in 792 selected geographic areas called primary sampling units (PSUs). The sample initially was selected to meet specific reliability criteria for the Nation, for each of the 50 States and the District of Columbia, and for the sub state areas of New York City and the Los Angeles-Long Beach metropolitan

area. In 1996, the original reliability criteria for the sample design were modified to reduce costs, which decreased the sample to 754 PSUs and 59,000 housing units. The current criteria, given below, are based on the coefficient of variation (CV) of the unemployment level, where the CV is defined as the standard error of the estimate divided by the estimate, expressed as a percentage. These CV controls assume a 6-percent unemployment rate in order to establish a consistent specification of sampling error,” (“BLS Handbook of Methods” 2003).

This particular design covers the collection of 2001 in the data set. The other two years of data come from 2004 and 2009; since the sample collection and research design are rethought after each decennial census, there was a new approach taken to data collection for these two years.

“The current sample design was introduced in July 2001. It includes about 72,000 households from 754 sample areas, or PSUs (primary sampling units), and maintains a 1.9-percent CV (coefficient of variation) on national monthly estimates of unemployment level. This translates into a change of 0.2 percentage point in the unemployment rate being significant at a 90-percent confidence level. For each of the 50 States and for the District of Columbia, the design maintains a CV of at most 8 percent on the annual average estimate of unemployment level, assuming a 6-percent unemployment rate. Due to the national reliability criterion, estimates for several large States are substantially more reliable than the State design criterion requires. Annual average unemployment estimates for California, Florida, New York, and Texas, for example, carry a CV of less than 4 percent” (“BLS Handbook of Methods” 2003).

Participants in the CPS are selected within the confines of the CPS design by their address. As long as someone 15 years old or older responds to the questions, the answers are considered having come from the household respondent and become part of the data set. The household is interviewed for four consecutive months initially and again for the same four consecutive months a year later (“What to Expect as a CPS Participant” 2011).

The business cycle data determined the recession and expansion periods, and came from The National Bureau of Economic Research (NBER). The NBER's Business Cycle Dating Committee maintains a chronology of the U.S. Business cycle. It is comprised of alternating dates of peaks and troughs in economic data. There are no definitive parameters used to determine the cycles – instead, the committee compares behaviors of various measures of broad activity, such as real gross domestic product (GDP), measured on the product and income sides, economy-wide employment, and real income (“US Business Cycle Expansions and Contractions”2010).

Lastly, the data to determine the percentage of annual GDP growth for the United States between 2000 and 2011 was pulled from the World Bank. The percentage of annual GDP growth rate at market prices is based on constant local currency. Annual percentage growth rate of GDP at market prices are represented in constant 2000 U.S. dollars. “GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources” (“GDP growth (annual %)” 2011).

The CPS data was chosen because it gives a comprehensive analysis of wages across different demographic characteristics and occupations. The data used came from the calculation of “Median usual weekly earnings of full-time wage and salary workers, by detailed occupation and sex” in the BLS reports from each year studied. Data was collected for the years 2000-2010. The desired comparison was three different years within that 10-year period, with years in between. In order to determine which years to use, the most recent U.S. Business Cycle Expansions and Contractions report from the NBER was accessed. From the information

gathered there it was determined that the ten-year period between 2000 and 2010 had two recessions, March 2001 through November 2001 and December 2007 through June 2009. It also had a major expansion period from November 2001 through December 2007. (See Table 1.)

Table 1. U.S. Business Cycle Expansions and Contractions, 2000-2010

Name	Dates	Duration (months)	Time since previous recession (months)	Employment Growth	Peak unemployment	Annual GDP Growth	GDP decline (peak to trough)
Early 2000s Recession	March 2001 – November 2001	8 months	10 years		6.3% (June 2003)		-0.30%
Mid 2000s Expansion	November 2001 - December 2007	73 months		+6.3%		+1.4%	
Late 2000s Recession	December 2007 – June 2009	1 year 6 months	6 years 1 month		10.1% (October 2009)		-5.10%

Source: “U.S. Business Cycle Expansions and Contractions.” 2010. *The National Bureau of Economic Research*.

The early 2000s recession lasted 8 months, from March until November 2001. Since it was at the beginning of the decade and coming down from an economic peak in the late 1990s the year 2001 was selected. The late 2000s recession lasted 1 year and 6 months, from December 2007 until June 2009. It was at the end of the decade and also coming down from a high economic expansion period. The span of the late 2000s recession touched three different years, greater than the one year desired. Therefore, further analysis was needed to determine which year within the recession period would be used for this study.

In order to determine which out of the three years included within the late 2000s recession, to use for this study, the percentage of annual GDP growth for the United States was utilized. (See Table 2.) Within the three different years, there is a range of GDP growth from

1.9% to -2.7%. The year chosen for this study was 2009. It was chosen because it has a negative GDP growth rate and this is the year with the least amount of growth out of the three years.

Table 2.
GDP Growth (annual %), Late 2000s Recession

Year	GDP Growth (% of
2007	1.9
2008	0
2009	-2.7

Source: "GDP growth (annual %)." 2011. *The World Bank*.

The last year that needs to be chosen is the expansion or peak year. This is a year in which the economy has just come off of a recession and is swinging upward towards a peak. In the 2000 decade, the period of November 2001 until December 2007, was considered an expansion. This is a timeframe touches seven different years. The same process was applied to this span as to the late 2000s recession period, determining by percentage of annual GDP growth which year to choose. Since it is a cycle of expansion, the one year out of the seven which has the most growth will be chosen. (See Table 3).

Table 3.
GDP Growth (% of Annual)

Year	GDP Growth (% of Annual)
2001	1.1
2002	1.8
2003	2.5
2004	3.6
2005	3.1
2006	2.7
2007	1.9

Source: "GDP growth (annual %)." 2011. *The World Bank*.

For this expansion, the year chosen is 2004, because it has the biggest amount of growth for the entire span of seven years.

The federal government's standard classification system for grouping occupations together is called the Standard Occupation Classification (SOC) system. The SOC system groups occupations according to the nature of the work performed and relates the occupations to others of a similar nature ("Industry and Occupation FAQs" 2011). The Census Bureau uses these classifications in its surveys and reports. For the purposes of this study, two occupation categories were chosen, *Managerial and professional specialty*ⁱ and *Service occupations*ⁱⁱ. These occupation categories were optimal because in each of the years being compared in this study: 2001, 2004 and 2009, they had the most equal balance of both men and women working in them.

In addition the research will look at whether or not the wage gap is narrowing in the state of Oklahoma. It will do this by examining the median weekly earnings of full-time workers by gender in Oklahoma and compare it to Arkansas and Texas. It will utilize the same data set from the Bureau of Labor Statistics in the same years as the primary question.

Statistical Equations

The narrowing of the gap between the years of 2001, 2004 and 2009 will be determined by using a difference of proportions calculation. See Table 4 for an explanation of data.

The equations were set up to compare year to year each of the two occupational categories. So within the management and professional category, three separate calculations were

done to determine the difference in the proportion of change in the wage gap. The difference of proportion formula for this equation where:

n_1 = number of female workers in year 1

p_1 = women's earnings as a percentage of men's earnings in year 1

s_1 = standard deviation of year 1

$s.e._1$ = standard error of year 1

$s.e._d$ = pooled standard error

n_2 = number of female workers in year 2

p_2 = women's earnings as a percentage of men's earnings in year 2

s_2 = standard deviation of year 2

$s.e._2$ = standard error of year 2

t = score

looks like this,

$$t = \frac{p_1 - p_2}{s.e._d}$$

Examining the median weekly earnings of full-time workers by gender in Oklahoma, and comparing it to the neighboring states of Arkansas and Texas will determine an analysis of the narrowing of the gap in Oklahoma between the years of 2001, 2004 and 2009. See Table 5 for an explanation of data.

Table 4. Median usual weekly earnings of full-time and salary workers by detailed occupation and sex

Year	Occupation	Both sexes			Women			Men			Women's earnings as percent of men's
		Number of workers (in thousands)	Median weekly earnings	Standard error of median	Number of workers (in thousands)	Median weekly earnings	Standard error of median	Number of workers (in thousands)	Median weekly earnings	Standard error of median	
2001	Managerial and professional specialty	32,221	859	3	15,956	732	2	16,265	1038	6	70.5
	Service occupations	11,143	377	2	5,812	335	2	5,331	438	5	76.6
2004	Management, professional, and related occupations	36,149	918	3	18,168	780	4	1,781	1098	8	71.1
	Service occupations	13,763	411	2	6,773	374	2	6,989	476	5	78.6
2009	Management, professional, and related occupations	39,080	1044	4	20,152	907	4	18,928	1248	5	72.7
	Service occupations	14,299	470	3	7,187	418	2	7,113	524	5	79.8

Sources: "Highlights of Women's Earnings in 2001"; "Highlights of Women's Earnings in 2004"; "Highlights of Women's Earnings in 2009"

Table 5. Median usual weekly earnings of full-time and salary workers by sex and state

Year	State	Both sexes			Women			Men			Women's earnings as percent of men's
		Number of workers (in thousands)	Median weekly earnings	Standard error of median	Number of workers (in thousands)	Median weekly earnings	Standard error of median	Number of workers (in thousands)	Median weekly earnings	Standard error of median	
2001	Arkansas	866	472	8	409	414	7	457	522	11	79.3
	Oklahoma	1153	517	8	520	425	9	632	619	11	68.7
	Texas	7650	530	6	3281	467	6	4369	605	7	77.3
2004	Arkansas	899	509	8	399	445	12	500	580	12	76.7
	Oklahoma	1151	559	15	509	483	10	643	637	18	75.9
	Texas	7674	577	6	3272	517	7	4402	614	7	84.2
2009	Arkansas	11233	809	7	4743	753	8	504	620	10	88.2
	Oklahoma	1098	740	17	485	652	18	653	678	19	87.2
	Texas	8274	661	8	3453	596	7	4821	732	10	81.4

Sources: "Highlights of Women's Earnings in 2001"; "Highlights of Women's Earnings in 2004"; "Highlights of Women's Earnings in 2009"

The equations were set up to compare each state year to year to themselves. For instance, Oklahoma was compared by three different calculations for the years 2001, 2004, and 2009 to determine the difference in the proportion of change in the wage gap. These same calculations were done for both Arkansas and Texas. The difference of proportion formula for this equation where:

n_1 = number of female workers in year 1	n_2 = number of female workers in year 2
p_1 = women's earnings as a percentage of men's earnings in year 1	p_2 = women's earnings as a percentage of men's earnings in year 2
s_1 = standard deviation of year 1	s_2 = standard deviation of year 2
$s. e._1$ = standard error of year 1	$s. e._2$ = standard error of year 2
$s. e._d$ = pooled standard error	t = score

looks like this:

$$t = \frac{p_1 - p_2}{s.e.d}$$

In addition, the states were compared to each other in each of the three years using the same representations as above. (See Table 5).

Limitations of this study

The greatest limitations to this study are the occupational categories used to compare data. The Standard Occupation Classification system takes jobs and organizes them according to the nature of work performed and then occupations of a similar nature are organized into occupational categories. The occupations that the SOC system designates have too small of an “n” size for statistical analysis. Thus the bigger categories were chosen. The occupational

categories were chosen because out of all the categories that the SOC system has they were the categories that had the most equal balance of male versus female workers for each of the years explored.

These categories have other problems. For instance, in the occupational category of *Managerial and professional specialty*, there is a wide range of occupations within the category. Occupations include lawyers, teachers, recreation workers and writers in both public and private arenas. There are two issues with the organization of all of these occupations under one category. The first issue is the possibility of inflating the median wage. The median weekly wage for lawyers in 2001 was \$1,398 (representing the highest single occupation) and recreation workers were making a median weekly wage of \$471 (representing the lowest single occupation) in 2001 (“Highlight of Women’s Earnings in 2001”). Due to the wide chasm between lawyers and recreational workers in median weekly wages and in professional designation, there is some question about whether they belong together. The second issue is the organization of public and private occupations in the same category. Public employees’ wages are a matter of public record and therefore any discrepancy between the wages that a man earns versus what a female would earn in the same position would open the possibility of a class action lawsuit. It would not be tolerated and therefore the gap would presumably be nonexistent. The categories do not differentiate between public and private employees. Therefore private salaries could skew the median weekly wages. Moreover, the gap could be skewed by the lack of public disclosure of private salaries and lack of accountability for wage equality in the private sector.

Chapter 4: Presentation of Findings

An analysis of the data through a difference of proportions test concludes that the gender wage gap, while it is narrowing, continues to persist in nearly all instances. It persisted across all three years in each of the occupational categories. The gender wage gap also persisted in all three states with only two exceptions. In addition, the statistics show that between the three states studied, Texas is the one state in which the gap increased.

When looking at the national gender wage gap by year by occupation, the following table represents the findings of this study statistically:

Table 6.
Difference of Proportions Tests: National Gender Wage Gap by Year by Occupation

Survey Item	p_1 [□]	p_2 [□]	t-score	Hypothesized Direction?
Managerial and Professional Specialty				
2001 to 2004	0.705	0.711	1.22	Yes
2004 to 2009	0.711	0.727	3.48*	Yes
2001 to 2009	0.705	0.727	4.60*	Yes
Service Occupations				
2001 to 2004	0.761	0.786	3.34*	Yes
2004 to 2009	0.786	0.798	3.48*	Yes
2001 to 2009	0.761	0.798	5.05*	Yes

Sources: “Highlights of Women’s Earnings in 2001”; “Highlights of Women’s Earnings in 2004”; “Highlights of Women’s Earnings in 2009” and Author’s own calculations.

[□]Represents women’s earnings as a percentage of men’s for each year.

*Statistically significant *t*-scores (i.e., those $\geq |1.96|$, $p < .05$).

In this table it is clear that the gender wage gap has persisted, but has narrowed in all years for each of these two occupations in each year comparison. The smallest increase in female

pay as a proportion of male pay is seen in the *Managerial and Professional Specialty* occupations over the 2001 to 2004 time period where the increase in women’s earnings was only .006 which represents .6 percentage points. The greatest increase is seen in the *Service Occupations* over the 2001 to 2009 where the increase in women’s earnings was .037, which represents 3.7 percentage points.

When looking at the gender wage gap by year by state by total population, the following table represents the findings statistically:

Table 7.
Difference of Proportions Tests: Gender Wage Gap by Year by State by Total Population

Survey Item	n_1 □	n_2 □	t-score	Hypothesized Direction?
Arkansas				
2001 to 2004	0.793	0.767	-0.89	No
2004 to 2009	0.767	0.882	5.31*	Yes
2001 to 2009	0.793	0.882	4.33*	Yes
Oklahoma				
2001 to 2004	0.687	0.759	2.59*	Yes
2004 to 2009	0.759	0.872	4.65*	Yes
2001 to 2009	0.687	0.872	7.29*	Yes
Texas				
2001 to 2004	0.773	0.842	7.11*	Yes
2004 to 2009	0.842	0.814	-3.05*	No
2001 to 2009	0.773	0.814	4.16*	Yes

Sources: “Highlights of Women’s Earnings in 2001”; “Highlights of Women’s Earnings in 2004”; “Highlights of Women’s Earnings in 2009” and Author’s own calculations.

□ Represents women’s earnings as a percentage of men’s for each year.

*Statistically significant *t*-scores (i.e., those $\geq |1.96|$, $p < .05$).

Table 7 shows that the gender wage gap has persisted in each of these three states in every year. The gap narrowed in all three years in Oklahoma by significant amounts. Across the time span of this study, from 2001 to 2009, the average woman's wage increased 0.185, or 18.5 percentage points, as a proportion of male wages.

Arkansas saw a decrease in women's wages between 2001 and 2004. Across the time span of this study, from 2001 to 2004, the average woman's wage decreased 0.026 or 2.6 percentage points, as a proportion of male earnings.

The statistics show that the wage gap increased in Texas between 2004 and 2009. Across the time span of this study, from 2004 to 2009, the average woman's wage *decreased 0.028* as a proportion of male wages. Overall, Oklahoma saw the biggest increase in women's wages as a percentage of men's wages between 2001 and 2009.

Table 8 looks at the gender wage gap by year by state to state by total population and represents its findings statistically:

Table 8.
Difference of Proportions Tests:
Gender Wage Gap by Year by State to State by Total Population

Survey Item	<i>p</i> 1 [□]	<i>p</i> 2 [□]	t-score
2001			
Arkansas to Oklahoma	0.793	0.687	-3.71*
Arkansas to Texas	0.793	0.773	-0.94
Oklahoma to Texas	0.687	0.773	3.98*
2004			
Arkansas to Oklahoma	0.767	0.759	-0.28
Arkansas to Texas	0.767	0.842	3.39*
Oklahoma to Texas	0.759	0.842	4.15*
2009			
Arkansas to Oklahoma	0.882	0.872	-0.63
Arkansas to Texas	0.882	0.814	-8.38*
Oklahoma to Texas	0.872	0.814	-3.50*

Sources: “Highlights of Women’s Earnings in 2001”; “Highlights of Women’s Earnings in 2004”; “Highlights of Women’s Earnings in 2009” and Author’s own calculations.

□ Represents women’s earnings as a percentage of men’s for each year.

*Statistically significant *t*-scores (i.e., those $\geq |1.96|$, $p < .05$).

This table shows that the gender wage gap has persisted in each of these three states in every year. But a comparison of the three states shows: In 2001 women were paid more to do the same job in Arkansas as women in Oklahoma. For example, a female, first year kindergarten teacher with a Bachelor’s degree in an Arkansas school system makes \$41,310 annually. Based on that annual wage, a female, first year kindergarten teacher with a Bachelor’s degree in an

Oklahoma school system would make \$36,931.14 annually. *That's a \$4,378.86 difference.*

In 2009 women in Arkansas and Oklahoma were paid more to do the same job as women in Texas. For example, based on the salary of a female first year kindergarten teacher with a Bachelor's degree in an Arkansas school system who makes \$41,310 annually, a female first year kindergarten teacher with a Bachelor's degree in an Oklahoma school system would make \$40,897 annually, And a female first year kindergarten teacher with a Bachelor's degree in a Texas school system would make \$38,524.98 annually. *That's a \$2785.02 difference between Arkansas and Texas and a \$2,372.02 difference between Oklahoma and Texas.*

Chapter 5: Conclusions

What this study ultimately proves is that despite all manner of legislation, public pressures and expected advancements, the gender wage gap continues to persist. The fact is that the gap has narrowed slightly but continues and the expectation that it has been eliminated is false. In light of these results, if the example of the three generations of women workers is again examined, it is clear that the 40 year old woman's assumptions are the correct ones. Policies and institutions have only gotten so far in eliminating the gender wage gap. It still persists.

This author recommends further research into why the gap occurs. Does it persist despite education, region, age or race? Further exploration into how the economics of motherhood affects the gap would be recommended as well.

ⁱ The following occupations fall under the ***Managerial and professional specialty*** category for the years 2001, 2004 and 2009: 2001: ***Managerial and professional specialty: Executive, administrative, and managerial:*** Administrators and officials, public administration; Administrators, protective services; Financial managers; Personnel and labor relations managers; Purchasing managers; Managers, marketing, advertising, and public relations; Administrators, education and related fields Managers, medicine and health food serving and lodging establishments; Managers, properties and real estate; Management-related occupations; ***Professional specialty:*** Engineers, architects, and surveyors, Natural scientists, Health diagnosing occupations, Health assessment and treating occupations, Teachers, college and university, Teachers, except college and university, Counselors, educational and vocational, Librarians, archivists, and curators, Social scientists and urban planners, Social, recreation, and religious workers, Lawyers and judges, Writers, artists, entertainers, and athletes.

2004: ***Management, professional, and related occupations:*** Management, business, and financial operations occupations; ***Professional and related occupations:*** Computer and mathematical occupations, Architecture and engineering occupations, Life, physical, and social science occupations, Community and social services occupations, Legal occupations Education, training, and library occupations, Arts, design, entertainment, sports, and media occupations, Healthcare practitioner and technical occupations.

2009: ***Management, professional, and related occupations: Management, business, and financial operations occupations:*** Management occupations, Business and financial operations occupations; ***Professional and related occupations:*** Computer and mathematical occupations, Architecture and engineering occupations, Life, physical, and social science occupations, Community and social services occupations, Legal occupations, Education, training, and library occupations, Archivists, curators, and museum technicians, Arts, design, entertainment, sports, and media occupations, Healthcare practitioner and technical occupations.

ⁱⁱ The following occupations fall under the ***Service Occupations*** category for the years 2001, 2004 and 2009:

2001: ***Service occupations:*** Private household, Protective service; ***Service occupations, except private household and protective:*** Food preparation and service occupations, Health service occupations, Cleaning and building service, Personal service occupations.

2004: ***Service occupations:*** Healthcare support occupations, Protective service occupations, Food preparation and serving related occupations, Building and grounds cleaning and maintenance occupations, Personal care and service occupations

2009: ***Service Occupations:*** Healthcare support occupations, Protective service occupations, Food preparation and serving related occupations, Building and grounds cleaning and maintenance occupations, Personal care and service occupations

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