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VARIATION IN GENDER PAY DISPARITY OVER TIME

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ABSTRACT

This study examines the impact of federal legislative acts on the gender wage gap over the last half-century. As females have entered the workforce since the post-World War II era and have gained the same positions as their male counterparts, they have yet to reach a point of earning equal pay for comparable work. There have been three federal legislative acts passed – the earliest studied in 1963 and the latest studied in 2009 – which have aimed to close this disparity. This hypothesis suggests that these acts will cause the female-male earnings ratio to increase, which will represent a closing wage gap between females and males. This hypothesis is tested by evaluating the annual female-male earnings ratio from 1955 through 2011 in relation to the implementation of three major legislative acts, and find evidence that these acts do have influence on the female-male earnings ratio.

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Chapter 1

Variation in Gender Pay Disparity Over Time

Employment in the United States today is a complex issue with no clear solution. It has appeared as a main issue platform for the 2008 and 2012 presidential elections and continues to be a source of concern among United States citizens in every area of the country; it is difficult to read or watch the news without hearing of the current unemployment rate. Something easily overlooked, though, is that in the United States today, men and women are widely regarded as being equals in the workforce. When looking more closely at the pay rates for both sexes across multiple industries, though, equality is not as visible. While women may now be able to hold the same job titles as men without the boundaries that once kept them from doing so, wage equity has yet to be reached. Although there is legislation to demand equal pay despite sex, females are still not paid at the same level that their male counterparts are. This female-to-male earnings ratio has varied over time, but why?

Employment in the United States is a multifaceted issue and puts millions of Americans and their dependents at a disadvantage. It also indicates the health of the United States economy. To have a measure of labor failing in one group – whether it is a race, gender or other demographic – can be seen as a poor sign of the larger system on a whole. If women already have preexisting legislation protecting their rights to a salary equal to that of men, it is difficult to see what needs to change. It also makes it impossible to assume that all demographics are being paid equally and instead, makes it possible to assume all races are subject to pay discrimination, and asks the question “why do women and men in the workforce have a disparity in pay?”

In this study, I will be testing the effect that three federal acts of legislation have had on the level of pay gender disparity in the United States from the years 1955-2011. I will be looking at three specific pieces of legislation signed into law that held significant implications for women's earnings in comparison to men's earnings for the same jobs: the Equal Pay Act of 1963, the Civil Rights Act of 1964 and the Lilly Ledbetter Act of 2009. I will use a multi-interrupted time series research design to evaluate the changes in the annual female-male earnings ratio provided by the Bureau of Labor Statistics and whether the earnings ratio saw a significant increase or decrease following the implementation of these three pieces of legislation.

Chapter 2

Prior Work on Pay Disparity in the Workplace

Some researchers, such as Thomas Billitteri (2008) in “Gender Pay Gap”, have given thought as to why pay disparity varies over time and speculate that the reasons may vary from discrimination to occupational differences. Francine Blau and Lawrence M. Kahn (2000) offer a similar perspective in “Gender Differences in Pay” to Thomas Billitteri’s while taking interest in the pay gap’s variation over time but again lacking data that give evidence to why the pay disparity exists.

What data both Blau and Khan and Billitteri’s fail to provide though, Mohamed G. Alkadry and Leslie E. Tower (2006) are able to provide in “Unequal Pay: The Role of Gender”. In their paper, Alkadry and Tower focus on the public sphere of individuals in similar positions. While they did gather their own data instead of aggregated data like the aforementioned research, their methods of gathering data by way of survey does not account for rival explanations that may be caused by maturation of the studied individuals or external historical changes.

Morley Gunderson (1989) takes on the question of the importance of different components of the gender gap in the United States. He found that, among his findings, the greater the number of control variables led to a smaller productivity-adjusted wage gap relative to the unadjusted gap. He also noted that in other studies looking in similar measurements, there was usually some sort of residual wage gap, which those researchers ultimately labeled as the result of discrimination. Further, Gunderson found that “factors originating from outside the labor market are an important source of the overall earnings gap, highlighting the limited scope for policies that focus only on the labor market”.

These factors are all important to the research featured below. Gunderson uses hourly wages as opposed to the annual wage used below to calculate the difference in earned wages. Gunderson also examines similar effects in other countries as well. Additionally, Gunderson notes how policies aimed at equal opportunity are in place to help minority parties like women and thus, should show a narrower gap after their implementation, though he does not provide any data.

June O'Neill (1985) takes a similar approach to Gunderson's study in her study "The Trend in the Male-Female Wage Gap in the United States". Gunderson studies a 30-year change from 1955 to 1985, even calling the gender gap a "research puzzle, because of women's increased involvement in the work force". O'Neill uses the female-male earnings ratio as her dependent variable and shares the same source for her information, gathering data from the United States Census Bureau. She also evaluates the differential in schooling of workers and percentage of female workers as explanatory variables. O'Neill does not evaluate the impact that policies may have had, though, on the female-male earnings ratio.

While there are other studies who look at specific industries – such as R.G. Wood's study "Pay Differences Among the Highly Paid: the Male-Female Earnings Gap in Lawyers' Salaries" (1993) – none found seem to evaluate the effect of solely federal legislative action and whether they were able to successfully narrow the gender gap. Policies are often introduced as a possible reason for the gap slowly closing, but many other factors are also usually offered as alternatives as well.

Chapter 3

Theory

As judging by the aforementioned studies, there is no clear answer to why the pay gap has persisted to vary over time. While women have gained more of a predominant foothold in the United States' labor force, though, their pay has not equated to their labor. The first federal United States policy to address this was the Equal Pay Act of 1963 that prohibited wage disparity based on sex; eight years before it, in 1955, the female-male earning ratio was at the highest it would see for almost thirty years. The first Act in 1963, followed by Title VII of the Civil Rights Act of 1964, prohibited discrimination by employers for a matter of reasons including sex, and both led to initial decreases in the ratios.

When looking at the variation of gender disparity in wages over time, beginning in 1955, this ratio can be seen to fluctuate throughout time. Three federal policies, though, can be seen to have contributed to overall growth – though slow – in the female-male earnings ratio. A lack of any major federal policy between 1964 and 2009 makes this more difficult to interpret, but the federal policies in 1963 and 1964 began a steady period of overall growth eventually resulting in a ratio .07 greater after a fifteen-year period.

In the human capital theory of economics, according to Marini (1997), “workers are seen as rational actors who seek to maximize their lifetime utility by investing in their own productive capacities” (1997, p. 590). This different quest of gathering skills by men and women is what Marini and Fan say to be the most frequently hypothesized and studied explanation. According to the National Women's Law Center (2012), though, men's gaining more skills is not simply why they are able to earn more than women. In 2011, the female-male earning ratio for both high

school graduates and bachelor degree holders was .074; the typical female associate degree holder was actually making less to her male counterpart who had only graduated high school. The largest source of skills can be found at the educational level and to have a wide gender disparity even with equal education levels shows that a disparity in skills cannot be the only reason for the gender gap in the work force.

A Harvard Business Review survey performed by Orit Gadiesh and Julie Coffman (2010) found that despite women constituting half of the American workforce, women represented only 3% of Fortune 500 CEOs. The study lists the time taken out by females to be the primary caregivers in their families as a “root cause of inequality in promotions, especially in ‘up-or-out’ firms” (2010, p. 1).

For this study, I will be testing the following model of regressing female-male earnings ratio over time in relation to when three federal policies were passed. I hypothesize that the female-male earnings ratio will increase as a whole over time and the Equal Pay Act of 1963 will be seen to have a significant effect on the female-male earnings ratio. All three acts were designed to close the wage gap between males and females in comparable jobs, and the Equal Pay Act will likely have the largest impact as it was the first piece of legislation solely aimed at bringing the wage gap to a close. These acts all had the same goal in mind: ending the wage gap, but it is important to see which of these may have had more of an influence than others to better understand how to bring this pay disparity to a close. At the times of their implementation, the Equal Pay Act had the lowest female-male earnings ratio, meaning that it had the greatest chance of changing the gap because the gap was largest at that point. In 2009, once the gap had already been improved upon, the Lilly Ledbetter Act will not be able to as easily make significant changes in this female-male earnings ratio.

The female-male earnings ratio is collected in the Current Population Reports, which are gathered by the Bureau of the Census. The Bureau of the Census is part of the Department of

Commerce. This ratio, which will begin in 1955 – allowing for enough time before passage of the first act, the Equal Pay Act of 1963 – and end in 2011, measures how much females make to males by the dollar in comparable jobs. It is a measure taken annually and for those who work full-time.

In order to evaluate the effects of these three legislative acts, they will be regressed against the female-male earnings ratio in a multi-interrupted time series research design using dummy and counter variables. As a way of accounting for other factors that may influence the female-male earnings ratio over the 57 years, the trend variable will be used as a control variable in the regression. Further, because two of the acts are implemented in 1963 and 1964 and this close proximity of time does not allow these acts' separate effects to be truly seen, 1963 and 1964 will not be tested separately but rather as one independent variable.

The female-male earning ratio is a measure taken by the United States government. This annually reported figure comes from the Current Population Reports, which is published by the United States Census Bureau. While these ratios are available both unadjusted and adjusted for hours worked, the number used for the purpose of this study is the ratio that is adjusted for hours. The statistics were adjusted for hours by multiplying the earnings ratio by the male-to-female ratio of average hours worked per week by workers on full-time schedules. This ensures that the wages for either sex will not be inflated.

It can also be assumed that the legislation will not actively affect the dependent variable immediately upon implementation. For instance, the Equal Pay Act was passed in 1963, but its effects on equalizing the gender gap will likely not be evident right away, but rather a broader amount of time is required to see its full influence.

A multi-interrupted time series will be used to analyze these policy effects. A multi-interrupted time series will help counteract the possibilities of skewed data from maturation and historical effects on the dependent variable.

Chapter 4

Legislative Background

The three federal acts used in this study are the Equal Pay Act of 1963, the Civil Rights Act of 1964 and the Lilly Ledbetter Act of 2009.

The Equal Pay Act of 1963

The Equal Pay Act was built out of the concept of equal pay for equal work. This was the motivation in passing the Act, and it was the first of its kind to be signed into law, but not the first attempted. The Women's Equal Pay Act of 1945 failed after heated debate; it initially rode on the tide of success in women in the workplace after they had taken over the jobs that were left vacant when most men were serving overseas. Once men were able to return to their jobs within years after World War II, though, the drive to push for women's rights faltered.

The Equal Pay Act's intent, said by Congress, was to "prohibit discrimination on account of sex in the payment of wages" (1963, p.1) in an effort to remediate sex discrimination that workingwomen experienced. Under this Act, employees have the option of taking their employers directly to court if they feel that their employer is violating the stipulations set forth in the Equal Pay Act.

This Act is selected for this study because it was the first overarching piece of legislation of its type. It was the first law that forbade men to be placed higher above them in the workplace, in terms of salary or position, strictly because of sex. While it has a mixed legacy because of the still-existent gender gap, it was groundbreaking for establishing the prohibition of sex discrimination.

The Civil Rights Act of 1964

The entire Civil Rights Act of 1964 did not deal exclusively with discrimination in the workplace, but Title VII of the Act did. It protected recruiting, hiring and advancement in the workplace from discrimination based on sex, race and religion. It serves to prohibit “employment decisions based on stereotypes and assumptions about abilities traits or the performance of individuals” (2011, p.2).

Title VII, while passed only a year later than the Equal Pay Act of 1963, was also an important piece of federal legislation in the effort to gain pay equality for women. It extended compensation and other employment benefits to be included as well.

If these acts are seen to negatively affect the ratio, it will be statistically impossible to tell between the Civil Rights Act and the Equal Pay Act which were more helpful in narrowing the gender pay gap. They are tested together as one independent variable for this purpose.

The Lilly Ledbetter Act of 2009

The first act that President Obama signed into law in his presidency was the Lilly Ledbetter Act of 2009. After a period of more than forty years with no legislation addressing the persistent gender gap, the Lilly Ledbetter Act was passed in an effort to empower women to take action against pay discrimination following the plight of its namesake.

This, while a fairly recent Act, is an important addition to the fight for pay equity. Not only is it the first piece of legislation passed in a relatively long time for the cause of closing the gender wage gap, it also makes companies more vulnerable to payouts and the will of their female employees if they are not compensated at the levels equivalent to their male counterparts.

The hope of the Lilly Ledbetter Act is that companies will be more inclined to pay women the same salary as men in the same positions in order to action taken by female employees. Because of this Act's passing in 2009, though, its full ability to close the pay gap may not be fully realized. Additionally, the Act was passed at a time where there had been significant progress for the earnings ratio already, presenting a greater challenge to close the remaining gap.

Another important note about the Lilly Ledbetter Act is the fact that it does not directly address the wage gap. It, instead, provides women with the necessary tools to demand equal compensation from their employers. This is unlike the Equal Pay Act of 1963, which directly prohibits unequal wages for men and women doing comparable work.

Between the Civil Rights Act of 1964 and the Lilly Ledbetter Act of 2009, there were no federal pieces of legislation that held significant implications for the wage gap despite the lack of important strides in the pay disparity. This is not necessarily because it was not recognized as an issue though; politicians can widely agree that it is a prominent issue in the American workforce. President Obama even mentioned it in his inaugural speech for his second term. A wider issue, though, is that politicians cannot agree on policies to address the wage gap.

Choice of Acts

These three acts were all created with the intent of closing the currently existing wage gap. The wage gap has closed slightly since 1955, the first parameter for this study, but it has not yet been closed. These three acts will be tested to determine whether they were influential or not in assisting the increase in the female-male earnings ratio.

Each act addresses the wage gap differently: the Equal Pay Act directly prohibits pay differences, the Civil Rights Act of 1964 handles discrimination and the Lilly Ledbetter Act provides women with the security of holding employers accountable without fear of retaliation.

Chapter 5

Research Design

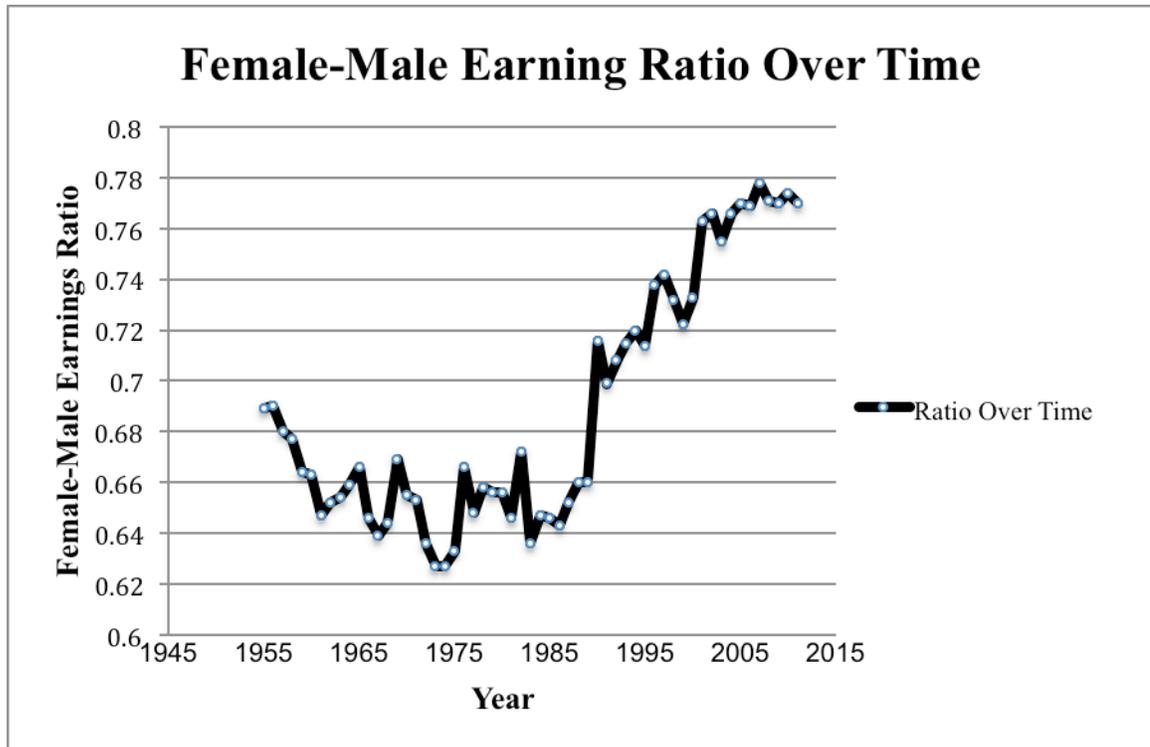
The annual female-male earnings ratio, Y_t , can be plotted over a period of 56 years, from 1955 to 2011. These years were chosen because 1955 falls before the first passage in 1963 and 2011 is the most recent year with the female-male earnings ratio available for. The first observation is in 1955, 8 years before the passage of the first studied Act. The interrupted time-series design, then, would be:

$$Y_t = b_0 + b_1 X_{1t} + b_2 X_{2t} + b_3 X_{3t}$$

Where Y_t = annual female-male earnings ratio; X_{1t} = a counter for years, from 1 to N, the number of observations or 56 in this case, X_{2t} = a dichotomous variable scored 0 for observations before 1963, and 1 for 1963 and after; X_{3t} = a counter of years, scored 0 for observations before 1963, and 1,2,3 for 1963 and after; X_{4t} = a counter of years, scored 0 for observations before 1964, and 1,2,3 for after. b_0, b_1, b_2, b_3 = parameters to be estimated. The parameters b_0 and b_1 , respectively, stand for the level and slope of the time-series before the implementation of the Equal pay Act of 1963.

The first year with data available about the annual female-male earnings ratio is 1955, which had a female-male earnings ratio of 0.689. The last year with the measure available, 2011, had a female-male earnings ratio of 0.77. Because there are other possible changes that could account for the increase over time, the trend variable will be used as a control variable. The counter variable will test whether there is an increase in the slope, and the dummy variable will test whether there is an increase in the annual earnings ratio.

Figure 1



Source: United States Census Bureau

The years that are covered in the study make up the X axis. The study begins with the female-male earnings ratio in 1955, allowing for enough time before the passage of the Equal Pay Act of 1963, and continues until 2011, the most recent year with statistics available for the female-male earnings ratio. The dependent variable – the female-male earnings ratio – lies on the Y axis.

Figure 1 shows an overall increase in the female-male earnings ratio over the course of 57 years, but does not show the effects of the individual pieces of legislation that this study is testing. Further, the graph shows a lack of a consistent pattern of growth in the female-male earnings ratio; while the graph's overall direction goes up, it also reflects periods of the ratio's decrease at certain points.

The point of this research will be to determine whether this overall growth in the female-male earnings ratio can be attributed to the Equal Pay Act of 1963, the Civil Rights Act of 1964 and/or the Lilly Ledbetter Act of 2009.

Chapter 6

Data Analysis

The OLS regression used for this study consists of three models. The first model is used to regress the dummy variable against the trend variable, the second model is used to test the counter variable against the trend variable and the third model is used to test both the counter and dummy variables against the trend variable. These three models used examine the relationship between the female-male earnings ratio over time with the legislation. The change over time is represented by two different independent variables: the Equal Pay Act of 1963 and the Civil Rights Act of 1964 (which are to be tested as one variable) and the Lilly Ledbetter Act of 2009. The Equal Pay Act of 1963 and the Civil Rights Act of 1964 are treated as one independent variable because their proximity to one another does not allow their separate effects on the female-male earnings ratio to be truly seen.

Model 1 is the regression of the pay ratio dependent variable on the dummies for the legislative interventions and the trend variable. The dependent variable is the female-male earnings ratio that is present for each year from 1955-2011. When comparing the dummy variable and the earnings ratio, the trend variable has a coefficient of 0.003, a standard error of 0.002 and a t-value of 11.964, showing evidence of a positive, albeit slow, growth in the female-male earnings ratio. The dummy variable following the 1963 and 1964 acts was seen to be statistically significant, having a negative coefficient of -0.067, showing that the Equal Pay Act of 1963 and the Civil Rights Act of 1964 failed to bring an increase in the female-male earnings ratio. When looking at the dummy variable for after 2009's legislation, the coefficient is 0.007. This failed to be statistically significant; as expected, the Lilly Ledbetter Act could not be seen to cause great growths in the female-male earnings ratio as there are only statistics on the female-male earnings

ratio available for two years after its implementation. This likely did not allow female wages to fully be affected by the Lilly Ledbetter Act and showed its failure to make significant strides in the wage gap in the two years following its passage. The intercept is 0.656, which means that if all the independent values were to be set to zero, the female-male earnings ratio would be 0.656. Additionally, the RSquare is 0.77 and means that it explains for 77% of the total variance in the dependent variable explained by the independent variables.

Model 2 is the regression of the pay ratio dependent variable on the counters for the legislative interventions and the trend variable. The dependent variable is the female-male earnings ratio that is present for each year from 1955-2011. The counter variable is testing for the change in slope that determines the unit of change in the female-male earnings ratio for each one unit of change in the independent variables. In the trend variable, the coefficient yielded -0.012, showing a negative change in the female-male earnings ratio. This changes, though, after the counter variable for the first two acts when the coefficient is 0.015, showing a positive change. After the Lilly Ledbetter Act of 2009, the variable is 0.003, again showing a positive change but a smaller change than after the acts that were implemented in the 1060s. This, again, can be seen as a result of 2009's act not being given ample time to fully see its effects on the female-male earnings ratio. The intercept, again standing for the value that the female-male earnings ratio would be if all of the independent values were set to zero, is 0.716, which is higher than the intercept for the dummy variables. Lastly, the RSquare for the second model is 0.787. This means that almost 79% of total variance in the dependent variable can be accounted for by the independent variables.

Model 3 is the regression of the pay ratio dependent variable on the dummies and the counters for the legislative interventions and the trend variable. The trend coefficient is -0.006, showing negative growth in the female-male earnings ratio. For the dummy variable regressed against the independent variable of first and second acts, this coefficient is -0.034, showing a

continued decrease. This changes when the dummy variable is regressed against the third act, the Lilly Ledbetter Act, though, when the coefficient is 0.012. But this is not statistically significant, whereas the dummy variable regressed against the first two acts was statistically significant.

When the trend, dummy and counter variables are all regressed, the counter variable following the first two acts has a coefficient of 0.010 and is the most statistically significant amongst all the independent variables. Both the dummy and counter variables in the third model for the third act fail to be statistically significant. The constant for the third model is 0.699, meaning that if all the independent variables were to be set to zero, the dependent variable – the female-male earnings ratio – would be 0.699. Lastly, the RSquare for the third model is the highest of the three models. The RSquare is 0.806, meaning that 80% of the total variance in the dependent variable can be explained by all of the independent variables.

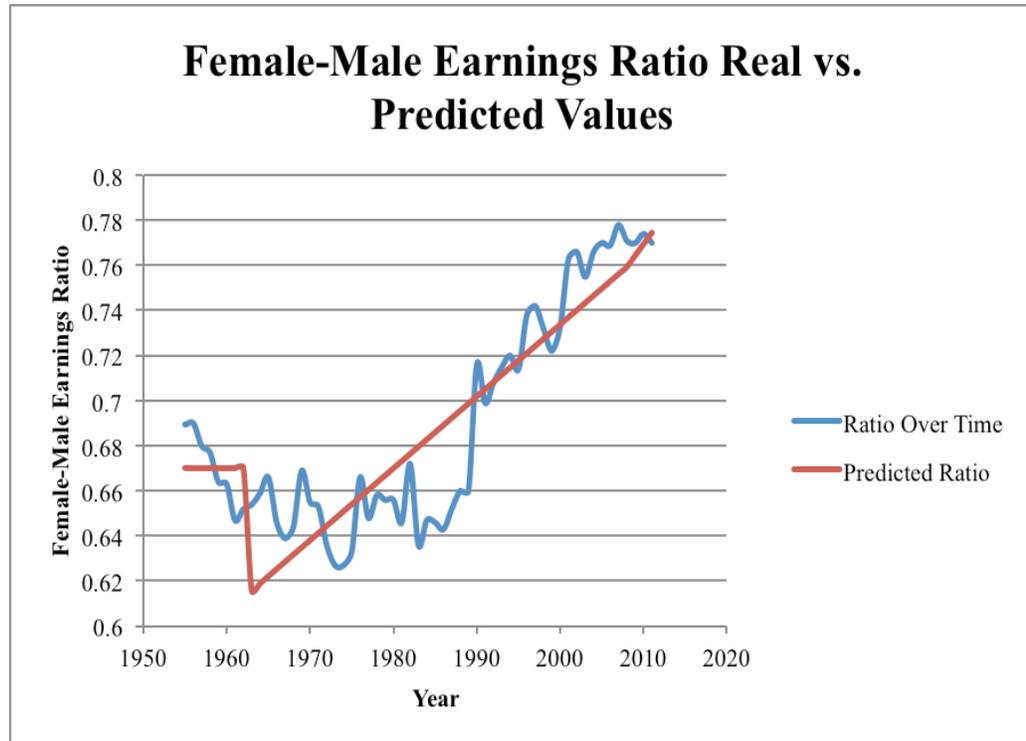
Results from the third act, the Lilly Ledbetter Act of 2009, failed to be significant in any of the models. This can be because the short period of time between 2009 and the last year with available statistics, 2011, does not allow enough of time to see its effects fully be reflected in the female-male earnings ratio. Further, the counter variables regressed against the trend variables showed the greatest growth in the coefficients.

The earlier acts – the Equal Pay Act of 1963 and the Civil Rights Act of 1964 – also have a greater margin with which to improve upon. By the time the Lilly Ledbetter Act of 2009 is passed, there has already been significant improvement in the female-male earnings ratio and to finally close the gap is made much more difficult, no matter the nature of the legislation.

TABLE 1

OLS REGRESSION RESULTS OF FEMALE-MALE EARNINGS RATIOS OVER TIME FROM 1955-2011						
Independent Variables	Model 1		Model 2		Model 3	
Trend Variable	0.003 <i>0.002</i> <i>11.964</i>	##	-0.012 <i>0.002</i> <i>-5.267</i>	##	-0.006 <i>0.003</i> <i>-1.851</i>	
Acts 1 & 2 Dummy	-0.067 <i>0.012</i> <i>-5.846</i>	**	---		-0.034 <i>0.016</i> <i>-2.184</i>	*
Act 1 & 2 Counter	---		0.015 <i>0.002</i> <i>6.245</i>	**	0.010 <i>0.003</i> <i>2.762</i>	**
Act 3 Dummy	0.007 <i>0.015</i> <i>0.459</i>		---		0.012 <i>0.034</i> <i>0.350</i>	
Act 3 Counter	---		0.003 <i>0.007</i> <i>0.484</i>		-0.003 <i>0.016</i> <i>-0.200</i>	
Constant	0.656		0.716		0.699	
RSquare	0.777		0.787		0.806	
Number of Observations	57		57		57	
Coefficients are unstandardized coefficients, with standard error and t-values in italics below						
* - p<0.10, ** - p<0.05, *** - p<0.01. One-tailed test.						
# - p<0.10, ## - p<0.05, ### - p<0.01. Two-tailed test.						

FIGURE 2



In order to get a better idea of the predicted values for the female-male earnings ratio, the ratio was tested against the counter variable using the equation $Y_t = b_0 + b_1X_{1t} + b_2X_{2t} + b_3X_{3t}$. This equation took into account the intercept and the slope. The intercept is the value of the dependent variable when the independent variable is set to zero and the slope stands for the unit of change in the dependent variable for every one unit change in the independent variable.

This would mean that for every change in the independent variables of legislation, the intercept would explain the change that the legislation had on the ratios.

Chapter 7

Conclusion

The empirical research into legislation's effect on the female-male earning ratio in the United States was driven by the question "why does the female-male earnings ratio vary over time?" A multiple interrupted time-series research design showed the success of legislation on helping to close the gap between men women in comparable jobs, but primarily in earlier years of the 1963-2009 timeframe. While the 1963 and 1964 legislative acts of the Equal Pay Act of 1963 and the Civil Rights Act of 1964, specifically Title VII, both displayed effects on the pay gap, these two acts are also different from 2009's Lilly Ledbetter Act in two important ways: the environment in which they were passed and the implementation time for the Lilly Ledbetter Act. Over the years 1955 to 2011, the female-male earnings ratio increased .081 points from 0.689 to 0.77, with the highest ratio at any point being in 2007 when the ratio was 0.778. While the Equal Pay Act and the Civil Rights Act may seem to have more profound effects, these Acts were also passed in an environment where there was no previous legislation to protect the rights of women in the workplace. The female-male earnings ratio was so low at this time period that a proportionally smaller change would still mean a great deal for the ratio. Once the 2009 Lilly Ledbetter Act was passed, the ratio had grown, making the margin of success smaller and more difficult to see the type of real progress that had been seen after the passage of the Equal Pay Act and the Civil Rights Act. Further, the Lilly Ledbetter Act was passed in January of 2009. At the very earliest, its changes could most likely not be seen until 2010, if even that early. Because the nature of the Act does not directly call for changes in the ratio but rather defend women in the workplace who feel disadvantaged, this Act could be expected to take even longer because it is

not changing an unjust situation but rather promoting managerial and cultural changes within companies.

These findings are important because it shows the effect of legislation on the average female-male earnings ratio. While many researchers looked at the change of the earnings ratio, there were not any reports that looked at the effect of legislation on this each year. This may be because there have not been a great deal of legislative acts to be studied. This also used an annual ratio, as opposed to the weekly ratio of earnings that some studies use.

The Paycheck Fairness Act has been introduced in both the United States House of Representatives and the United States Senate with the goal of strengthening the Equal pay Act through multiple provisions such as “facilitating class action suits” and “prohibiting employer retaliation” (2012). While there is no foolproof way to foresee the effect that future legislation may have on the female-male earnings ratio in the United States workforce, the legislation would be an additional way for the government to strengthen the Equal Pay Act of 1963.

One of the challenges – albeit unavoidable – in this study is the time frame used. The years from 1955 through 2011 were used because these were both available and because the three legislative acts to be studied fell within this frame. One problem, though, is that the time between the acts did not allow for clear recognition of each act’s effects. For instance, the acts between 1963 and 1964 had only a year between them, not allowing for 1963’s effects to fully develop before 1964 was implemented. Further, there were more than thirty years before the third act. This period saw slight changes – both increases and decreases – in the ratio although an overall growth in the ratio. This period of growth was not a result of any acts, since they were none passed over that period. Further, the effect of 2009’s legislation could not be fully seen since the implementation was too recent and the 2011 ratio would not fully show the extent of its effect on the female-male earnings ratio.

This study did not take into account controls such as political parties in power or changes made in individual states. These are important factors in that if one political party was more influential in enforcing the rules set forth or provided incentives for increase female earnings, this could be reflected in the earnings ratio. Additionally, if individual states were to do any of the above, they could too have an effect on whether the ratio was to increase or decrease over time. This study focused on federal legislation only, though, not permitting these controls to be made. These are controls which could be made in future studies, or studied further on their own.

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ACADEMIC VITA

Charlotte Kohl
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Education

The Pennsylvania State University, University Park, PA Expected Graduation: May 2013
B.A., Political Science, *Minor in Information Sciences and Technology*
Schreyer Honors College

The Institute at Palazzo Rucellai, Florence, Italy

Summer 2010

Leadership Experience

Penn State IFC/Panhellenic Dance Marathon (THON)

THON 2012 Executive Communications Director April 2011 – April 2012

- Selected by peers to coordinate the largest student-run philanthropy in the world as a member of the 15-Person Overall Committee, who oversaw 315 Captains and 3,300 Committee Members, resulting in a total of \$10,686,924.83, more than a \$1 million increase in fundraising efforts from the prior year
- Responsible for the development of all communication strategies, including web content and execution among students, faculty, staff, community members and university alumni
- Directed a committee of 24 Captains and 180 Committee Members in the advisement of more than 370 organizations' fundraising efforts and involvement
- Wrote and managed a weekly newsletter sent to 23,000 subscribers

THON 2011 Communications Captain September 2010 – April 2011

- Supervised the fundraising efforts of 43 university organizations
- Provided consistent feedback and guidance on fundraising strategies to organization chairs, while helping organizations reach maximum potential in fundraising efforts

THON 2010 Rules and Regulations Committee Member September 2009 – April 2010

- Oversaw the safety of more than 15,000 spectators, volunteers and participants

Schreyer Honors College

Day of Service Donation Chairperson September 2009 – May 2011

- Promoted Day of Service amongst the local community, while securing sites for students and procuring food donations for the meals of volunteers

Pi Beta Phi Women's Fraternity

January 2010 – Present

Leadership & Nominating Committee Member

• Oversee and coordinate the election of Pi Beta Phi's Executive Board; oversee fundraising for THON

Primary THON Fundraising Executive

- Orchestrated fundraising initiatives for entire Chapter and worked closely with fundraising executives in partnered fraternity
- Coordinated new fundraising methods for the Chapter, such as a Peer-to-Peer online giving page
- Communicated requirements and goals to other members of Chapter throughout the year, culminating in total reaching almost \$150,000.00 over the course of 4.5 months

Penn State Homecoming

January 2010 – Present

Alumni Relations Captain

- Serve as a contact for Alumni helping to ensure a safe and enjoyable Homecoming experience

Penn State Greek Week

September 2011 – Present

Public Relations Captain

- Oversee creation and development of graphic materials aimed at highlighting members and initiatives

Honors and Awards

- Academic Excellence Scholarship, *Fall 2009-Spring 2013*
- Brunhouse Scholarship for the Liberal Arts, *Fall 2012-Spring 2013*
- Genovese Award, *Fall 2012-Spring 2013*
- Skull and Bones Senior Honor Society, *Spring 2012-Spring 2013*
Member, Treasurer