

Considering the Effects of Life-Cycle Occupational Sorting and Motherhood on The Gender
Wage Gap in the U.S

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Abstract

This paper uses the CPS covering the period from 2000 to 2009 to study the wage gap between males and females with and without children in the U.S. It also analyzes the life-cycle occupational sorting of men and women with and without children. A wage gap is existent between males and females in all ages and in all occupations, followed by females with no children then mothers. Females seem to be dominating certain types of occupations that are perceived to be “mother-friendly”. The results show that the motherhood penalty is in fact a main contributor to the gender wage gap. It also highlights the potential role of gender differences in life-cycle occupational sorting.

1. Introduction

Gender inequality has been extensively studied for several decades but is still an area of active research (e.g. Ghosh et al., 2018 and Blau & Kahn, 2000). The gender wage gap, in particular, has received much attention especially that the numbers kept changing for the past three decades. Although, the gender wage gap has declined in most OECD countries during the past decades. However, there is still important wage inequality between men and women in these countries.

A vast amount of literature tries to understand the causes of this persistent wage inequality. It has been argued that part of the remaining wage gap is a consequence of motherhood and of differences in the occupational sorting behavior of men and women, especially after having a child (e.g. Kleven, Landais, & Sogaard, 2018; Budig & England, 2001 and Felfe, 2012). This suggests a potential link between occupational choice, the dynamics of careers, and wage inequality between genders. Therefore, identifying the sources of the gender wage gap might require analyzing the sorting behavior of men and women along the life cycle, and how it affects wage inequality along the life cycle.

First, this paper uses the CPS to compare the life cycle hourly wage profile of men and women with and without a child in the U.S. I find that the hourly wage of males is always higher than that of the females in all ages. Moreover, females with no child have higher earnings compared to females with children until around the age of 40. The gap between both keeps decreasing until the age of retirement and it even becomes inexistent.

Second, it analyzes the life-cycle occupational sorting of men and women with and without child in the U.S. This analysis is aimed at assessing the potential role of gender differences in life-cycle occupational sorting for explaining life-cycle wage inequality between genders; the potential role

of having a child on life-cycle occupational sorting, and how, in turn, this could affect life-cycle wages.

The paper documents the following main facts regarding occupational sorting across genders: there are occupations that are more dominated by females like education and training and personal care. Females seem to be distant from all managerial occupations and also jobs related to computer and mathematics. Finally, there are occupations that are not dominated by a certain gender such as financial specialists' sector and legal occupations. On the other hand, the results show that the motherhood penalty is in fact a main contributor to the gender wage gap, I find that males and females with no children have no wage gap until the age of 30 in all occupations while women with children have a bigger difference in their wages compared to men. I discuss the implications of these findings for wage inequality between men and women along the life-cycle.

The plan of the paper is as follows. Section 2 presents a review of literature. Section 3 discusses the data source and description. Section 4 presents the methodology and results. Finally, section 5 concludes the paper and identifies areas of future research.

2. Literature Review

2.1.1. Explanations for the Gender Wage Gap

There are many studies trying to explain why the wage gap exists. Some papers explore whether there are economic reasons behind the phenomenon. The human capital theory (Becker, 1964) for example, attributes wages to different education and experience levels. On the other hand, new home economics theory (Becker, 1965) argues that wages are related to the number of hours worked which links to productivity. As a result, if for example, males have more flexibility in working overtime, they would consequently get paid more. (Cha & Weeden, 2014) argue that

although the women's education is getting better and they have better labour force experience, but they still lay behind men. Men work more over hours defined as more than 50 hours a week and thus have better earnings. They estimate the effect of this to contribute to 10 percent of the total wage gap.

Other studies believe that the wage gap is explained by pure discrimination like occupational overcrowding, occupational segregation that leads to the salary gaps between members of each gender. Bergmann (1974) studies the discrimination by age and sex and shows that the jobs available for women are so much less than that offered for men. The overcrowding model clarifies the relationship between employment segregation and earnings differentials in another competing environment. If men and women with equal potential are separated by employment, the wages of men and women in jobs are separately determined by supply and demand for labour in each sector. There are not enough jobs offered for women compared to men resulted in an oversupply and depressing the wages. Another explanation is the devaluation of female work, also known as the devaluation theory (England, 1992). The devaluation theory assumes that the culture devaluates women in society. As a result, it assumes that men's occupations are of more value. The author integrates all perspectives from different branches like sociology, economics, and feminist theory and argues that employers offer lower wages in predominately female jobs and that is mostly because of gender stereotypes. Social identity theory (Murphy, 1988; Weber, 1978) can also be an explanation where it is believed that the probability of an individual to prefer in-group members depends on his own social status. As a result, higher social status is associated with better jobs that persist leaving those in this category always better than the others economically not only socially. Based on a study on a financial services firm, (Abraham, 2017) extends the theory and suggests

that it is very important to take into consideration the manager's gender and the organizational position of the employees when studying the wage gap.

2.1.2. Studies on the U.S. Wage Gap

Studies on the U.S are diverse as they try to attribute the unexplained wage gap to different factors. For example, Fleming (2015) focuses on the U.S hospitality sector where he draws a random sample of 112,990 workings in this field. He finds evidence of the wage gap between men and women even despite the progress in education and hours worked of women. He also argues that the managers' sector was the most obvious sector facing this inequality. According to the study, after accounting for all the standard explanations like human capital differences and crowding, sex discrimination in wages could be the reason.

On the other hand, Wood, Corcoran, & Courant (1993) give special attention to lawyers' jobs in the U.S where he focuses on graduates of the University of Michigan Law school. The idea is to study a group of people who have exactly the same qualifications upon graduation. They find evidence that women earn only a little bit less than men at the beginning of their careers. However, across the years the gap becomes bigger and they earn only 60% as men. The paper attributes the gap to two reasons; women changing their jobs frequently and a change in the lawyer's labour supply as women leave their jobs and take care of their children. Almost 25 percent of the wage gap still remains unexplained.

Other studies look at factors like globalization and its impact on the wage gap. Black & Brainerd (2004) study the manufacturing industry and compare concentrated versus competitive manufacturing industries. They find that although trade increases wage inequality by decreasing the relative wages of less-skilled workers. However, it has a positive effect on females as it decreases the capacity of firms to discriminate.

Hellerstein, Neumark, & Troske (2002) try to explore whether competitive market forces that decrease or get rid of discrimination. They find that firms with market power get more profits from hiring females and that in the long run, the results are also the same. This is not the case in the firms with low market power and this relationship does not exist.

Moreover, Kilbourne et al. (1994) use panel data from 1966 to 1981 to study the gap in wages between males and females. It was found that skill does not have a direct effect in the wage gap and in contrast with the usual belief, physical conditions of a specific occupation still did not affect the gap between males and females. Actually, it was found that the gap is higher when the occupation is dominated by females.

2.1.3. The Impact of Motherhood on the Wage Gap

A considerable amount of literature argue that the remaining wage gap is related to motherhood. Viitanen (2014) studies how having children affects female wages in the UK. The author follows a sample of women along with their career and analyses the effect of motherhood on earnings. The effect is negative, and it persists for 30 years after the birth of the first child. On average, the influence of the first child is 8.1% when 23 years of age, 22% when 33, 4.8% when 42 years of age and 0% when 51 years of age. A second child has an overall effect of 16% when she is only 33 years old.

Adda, Dustmann, & Stevens (2017) try to quantify the life-cycle career costs for women with children by estimating a model of fertility and career choice. They find that women who make the decision to have children make different occupational choices, they lose skills as they get interrupted when they have a child, they work less when at work. Moreover, they believe that career

decisions are made even before the birth of the first child by choosing jobs that requires less training.

Felfe (2012) tries to explore the sources of the motherhood wage gap, which refers to the lower hourly wages observed for women with children compared to those without. Using the German Socio-Economic Panel dataset, they show that women, after the birth a child, tend to reduce their hours worked, and to avoid overtime working schedule (e.g. schedule with night shifts) and more generally, stressful jobs. This would accordingly affect their work experience.

Fuller (2018) studies the aggregate motherhood wage gap in Canada and finds that women with children are penalized for having children by earning less compared to women with no children. The author addresses the question of whether the results are from the same workplace or due to mothers changing the workplace to a lower paying one. She finds that most mothers choose to work in firms that offer low wages and this attributes to 97% of the net aggregate motherhood wage gap in Canada.

Budig & England (2001) study the wage motherhood penalty using data from the 1982-1993. They estimate that each child incurs a 7 percent decline in hourly wage. Penalties for married women are higher than those for unmarried women. Although the earnings of mothers are less due to not having much experience, less productivity and being in mother-friendly jobs, which causes discrimination against them.

Kleven, Landais, & Sogaard (2018) study how having children can affect gender inequality in the labour market of Denmark between 1980-2013. They find that the impact on women is huge, which is not the case for men. The female child penalty from the earnings perspective is 20 percent in the long run. This affects women not just in their wage rates but also in their hours worked, the choice of occupation and the decision to join the labour force. They also discussed other factors

contributing to gender inequality but still find that children related factors have increased so much across the years where they jumped from 40 percent in 1980 to 80 percent in 2013.

Nsiah, DeBeaumont, & Ryerson (2013) use panel data from the National Longitudinal Survey of Youth (1979) to explain why the wages of women with children is less than that of those who do not have children. They give special focus on occupational differences and explore whether some occupations are less mother-friendly. Results show that the sales sector experience a large wage differential in the high-paying sales jobs compared to other occupations. On the other hand, there seems to be minimal effect in professional and blue-collar jobs. The possible explanation of the wage penalty is that there are factors that work against mother, some are related to productivity and others to discrimination. The sales sector probably has a combination of both explanations.

2.1.4. Life-Cycle Occupational Sorting

Occupational segregation by gender is considered the most important cause of gender wage gap (Anker, 1988). Furthermore, many researchers believe that occupations are critical in generating social stratification. As a result, Mouw & Kalleberg (2010) find that the main reason for the increased wage gap in the United States between 1992– 2008 is due to such polarization among occupations. Gunderson (1989), Hellerstein, Neumark, & Troske (2002) believe that women are concentrated in certain occupations and this may be causing the gender wage gap. Cohen & Huffman (2003) argues that in the metropolitan areas of the USA where there is minimal segregation, the gender wage gap is proportional to the number of women employed.

Busch & Holst (2011) find that for executive positions in Germany, sectors that are dominated by women affects negatively only women's earnings.

The effect of gender composition on average wages is different than gender wage occurring within jobs. As a result, the overall gender pay gap is due to the differential distribution of women and men across occupations and within-job pay difference (Cohen & Huffman, 2003).

Occupational segregation by gender is significant. Hegewisch, Williams, & Edwards (2011) find that in 2010, 80% of the employed women were in the so-called “feminized” occupations. This is the term used to describe occupations where the women represent 75% of it. On the other hand, the proportion of men working in “masculinized” occupations was 50%.

Kanter’s (1977) theory of tokenism suggests that more women representation in occupations should contribute to less gender inequality. This is because women in these conditions become more powerful than women in male-dominated occupations as they face less performance pressure and thus are not subject to discrimination as other women. This theory does not seem to hold as there is still a prevalent pattern of inequality. Kraus & Yonay (2000) find that the gender gap is high in occupations that are highly dominated by females. Kilbourne, England, Farkas, Beron, & Weir (1994) and Macpherson & Hirsch (1995) find a wage difference of approximately 5 percent between male and female dominated occupations.

3. Data

The study is based on the Current Population Survey (CPS) which is carried out by the Bureau of Labour Statistics every month and contains labour-market information for a representative panel of U.S. individuals. I use data in the Basic Monthly sample, for the period from 2000 to 2009, which provides information for a monthly rotating panel of households. My sample contains 2,039,037 observations. I use the OCC2010 occupation coding scheme, which is based on the Census Bureau’s 2010 occupation classification scheme. I consider the occupation groups which are believed to be a good representation of all occupations that are motherhood friendly. For that

reason, I exclude occupations such as engineering and architecture, designers, directors, astronauts, space scientists, social workers, police officers, and medical practitioners. I consider the following six occupation groups of the OCC2010 classification scheme: *management in business, science, and arts category*, which includes managerial positions in different sectors like human resources, marketing, financial managers, etc; *financial specialists*, which includes accountants, tax preparers, auditors and budget analysts, etc; - *computer and mathematical category* which includes computer scientists, computer programmers, statisticians, mechanical engineers, etc; - *legal occupations*, which includes lawyers, paralegals, and legal support workers, etc; - *education, training, and library*, which includes teachers of all grades and librarians; finally, *personal care and service* such as barbers, tour and travel guides, ushers and childcare workers.

I divide my sample by sex into males and females as the inequality between both is my main interest. I am interested in different age groups, so I divide age into groups between 20 to 30, 30 to 40, 40 to 50 and 50 to 60. Moreover, employment status where those who are employed are the individuals of interest. The hourly wage reports how much the respondent earned per hour in the current job. I also added a variable that describes whether the person have a child or not and the number of children they have. I use race and education as control variables. Table 1 reports a set of summary statistics describing my sample. It contains the means and standard deviations for various demographics, the occupational categories and the educations and race controls. The mean age is roughly 33 years old, but I also divide the sample into age groups where I find that the age 40 is the highest representing 15% followed by the age 30 representing 14%. The percentage of males and females is so similar with females slightly higher representing 51%. Females with no children are more than those who have children. Among the occupations that I consider, the most

prevalent is the managers occupations and the least is the legal one. Most of my sample have a bachelor's degree and is of the white or black race.

4. Methodology

In order to investigate the prevalence of the different occupations among male and female of different ages, I estimate the following linear probability model:

$$\text{occ}_{l,it} = \beta_0 + \sum_{j=1}^K \alpha_j * \text{age}_{j,it} + \sum_{j=1}^K \delta_j * \text{age}_{j,it} * \text{female}_{it} + X_{it} \varphi' + \sigma_t + \varepsilon_{it}, \quad (1)$$

where $\text{occ}_{l,it}$ is an binary variable taking value of one if individual i is in occupation l at time t , and zero otherwise; the index $l=1,\dots,5$ indicates the relevant occupation group among the five considered in this study.

The independent variables $\text{age}_{j,it}$ for $j=1,\dots,K$, represent a set of dummies for 10-year age groups, from 20 to 60 years; since there are four age groups, $K=4$. The omitted age dummy is the ages below 20 and above 60. Moreover, female_{it} is an indicator variable taking value of one when individual is a woman, which is interacted with the age-group dummies. In addition, X_{it} is a set of controls for race and education. More specifically, it includes 20 race binary variables,¹ and 15 education binary variables.² Finally, σ_t is a vector of year fixed effects. The regression is performed for the five occupation groups considered. The coefficients of interest are the α 's and δ 's, which reflect the differences in occupational sorting across gender and age groups.

¹ Race is divided into different categories: White, Black, American Indian, Asian only, Hawaiian, White-Black, White-American Indian, White-Asian, white-Hawaiian, Black-American Indian, Black-Asian, Black-Hawaiian, American Indian-Asian, Asian-Hawaiian, White-Black-Asian, White-American Indian-Asian, White-Asian-Hawaiian, White-Black-American, 2 or 3 races, 4 or 5 races.

² Education is divided to no school education, 1st to 4th grade, 5th to 8th grade, 9th grade, 10th grade, 11th grade, 12th grade (no diploma), high school graduate, some college (no degree), associate degree (occupational program), associate degree (academic program), Bachelor's degree, Master's degree, professional degree, Doctorate degree.

5. Results

In this section, I first present results for each of the six occupational categories. Next, I show results that compare the life cycle hourly wage profile of men and women with and without a child to identify wage gap. Moreover, I analyze the life-cycle occupational sorting of men and women with and without a child.

5.1. Results for Each Occupational Category

5.1.1. Managers Occupation

Table 2 illustrates the results of Eq. (1) for the managers category occupation. It should be noted that all age categories are statistically significant at the 1% level. All coefficients are positive and the age 40 is the highest showing that managers are most represented at this age. This means that it is highly likely to find managers at such age compared to the other ages representing around 9%. Moreover, the age 20 is the least represented with 0.5% followed by the ages 30 and 40. The interaction term which measures the additional effect of gender is also all significant at the 1% level. It is worth mentioning that the coefficients at the ages 20, 30 and 40 are positive which shows that being a female does not hinder the probability of being a manger. On the contrary, at the age of 40, women have more chances of being a manger with a 6%. However, there is a negative effect at the age of 50 for being a female which is a very interesting conclusion.

5.1.2. Legal Occupation

Table 3 illustrates the results of Eq. (1) for the legal category occupation. Again, all age categories are statistically significant at the 1% level. As is the case for the managers occupation, the age 20 has the least coefficient of 0.2% showing that this occupation is least represented at this age. However, it increases to nearly 0.32% at ages 30, 40 and 50. The additional effect of being a female does not affect the outcome negatively. The coefficients for being a female are positive at all age

categories. Females have the most chances of being at this occupation at the age of 50 with coefficient of 0.32%. On the other hand, being female at the age of 40 drops the coefficient to almost 0.2%.

5.1.3. Personal Care Service Occupation

Table 4 illustrates the results of Eq. (1) for the personal care service category occupation. Again, all age categories are statistically significant at the 1% level. However, all age categories coefficients are negative. The age of 50 has the most negative effect of 0.43% followed by the age of 40 with 0.40%. As for the additional effect of being female, they are positive and highest at the age of 20 representing 3%. On the other hand, females have the least chances at the age of 50 with a coefficient of around 3%.

5.1.4. Financial Specialist Occupation

Table 5 illustrates the results of Eq. (1) for the financial specialist category occupation. All age categories are statistically significant at the 1% level. It should be noted that the age of 50 has the highest representation of 0.57%. The chances of being at this occupation are lower at other age categories and the least at the age of 20 with a coefficient of 0.43%. As for the additional effect of being female, it is highest at the age of 40 representing around 0.6%. However, the least chances for females to join this occupation is the age of 20 where the coefficient is just 0.1%.

5.1.5. Computer and Mathematical Occupation

Table 6 illustrates the results of Eq. (1) for the computer and mathematical category occupation. Again, all age categories are statistically significant at the 1% level. This occupation is most represented at the age 50 representing around 0.9%. All the interaction terms are negative showing

a negative effect of being a female. Females have the least chances of being in this occupation at the age of 30 where the coefficient is 2%.

5.1.6. Education, Training and Library Occupation

Table 7 illustrates the results of Eq. (1) for the education, training and library category occupation. Again, all age categories are statistically significant at the 1% level. Only age 20 has a positive effect of 0.7%. However, all the other age categories 30, 40 and 50 all have negative coefficients. Moreover, all interaction terms are significant at the 1% level as well. The highest chances for a female to be in this occupation is at the age of 40 with around 5.7% followed by the age of 50 with a coefficient of 5.6%

In the following section, I present the results for occupational sorting conditional on gender and age. Furthermore, I present the life cycle hourly wage profile of men and women with and without a child.

5.2. Occupational Sorting and Measuring the Wage Gap

5.2.1. Occupational Sorting Conditional on Gender and Age

The different occupational categories are studied according to gender & age. This is done by looking for the individuals in the sample that belong to each occupational category, then for each gender and age group, I compute the probability of being in the different occupation groups considered. This helps to determine how is the occupation divided between males and females.

I then investigate the wage gap between males and females within the same occupation at the same age. This is done by looking for male and female individuals within the same occupation and then compare their average wage at the same age to be able to discuss the stalled gender wage gap.

Another interesting feature I am looking into is whether females have children or not. This is important to my study as it is claimed that motherhood might affect the choice of women for jobs, the number of working hours and productivity and thus affect the wage. The wage gap between females with children and females with no children within the same occupation at the same age was investigated. This is done by looking for the female individuals with children and the female individuals with no children within the same occupation and then compare their average wage at the same age.

By looking at the probability of being in a given occupation given gender and age, I find that there are some occupations that are more represented in the female gender than in the male gender and vice versa. The occupations that are more represented in the females are education & training and personal care (see figure 1). Managerial occupations along with computer and mathematics are more represented in the male gender (see figures 2 and 3). Financial Specialists along with legal occupations are closely represented in both genders (see figures 4 and 6). I look within each occupation the probability of being in the occupation conditional on the female having a child or not. I find that the occupations that were previously mentioned as being more represented by females are the ones preferred by females with children. While in the other occupations I have not noticed that motherhood had an effect on the probability of female presentation within the occupation as females with children had nearly the same probability as females with no children except for the legal categories I find that the probability of females with children is less than the females with no children until the age of 40, that is when once again I find that motherhood had no effect on the probabilities.

5.2.2. *Hourly Wage Conditional on Gender, Occupation, and Age*

To be able to compare the wages, I compute the real hourly wage for all individuals. In the CPS, there are two distinct variables: one for the hourly wage and one for weekly salary. Some workers report weekly salary as they do not have an hourly wage. For purposes of comparison, I need to standardize the earnings to be a real hourly wage. Moreover, because I am comparing across different years, I should account for inflation and that is by adjusting the variable by taking the CPI into consideration. According to figures 7 to 13, the hourly wage of females is lower than that of the males in all ages. Furthermore, females with children have lower earnings until around the age of 40. The wage gap after that starts to decrease until the age of retirement. Becker (2009) and Cha & Weeden (2014) attributed that one of the reasons behind the wage gap is the difference in the education level between gender and even though the female's education is getting better still they are lagging behind the males. I find evidence that support that, by comparing the hourly wage in occupations between males, females with children and females with no children. I find that until the age of 30, female with no children have no difference in wages with males in nearly all occupations. The wage difference is between males and females with children which shows that the motherhood penalty is a major factor in creating the wage gap between males and females until the age of early 30s. After the early 30s, the wage gap between males and females increase and females with children have the same wage level as the females with no children. I think that the wage gap increases where age is greater than 30 because in previous generations education level between genders had an effect that is no longer apparent in new generations. I also find out that the wage gap is higher in the occupations dominated by females than occupations that are evenly represented by both genders or those that are dominated by males.

6. Discussion and Implications

The findings of the paper provide evidence of wage inequality between men and women in the U.S in all occupations investigated in the study. Although, there are many initiatives over the last 20 years to engage women in the labour force and laws to prevent discrimination, wage gap is still existent. The implications for this are substantial, especially that women are progressing in their education and should be able to have the same performance as men. It should be expected that if this wage gap persists in the U.S, women would be discouraged to join the labour market. They might think that working is not worth the time and effort especially if they believe that they have a limit in their promotion. The data shows that there is a huge gap between men and women in the managerial sector which could be discouraging for women. Furthermore, women will not be loyal to their place of work and can have a higher rate of turnover than men. On the other hand, the data shows that mothers are penalized, and they usually end up in certain kinds of jobs and with lower salaries than males and even females with no children. Companies should have flexible work conditions for mothers as I believe that this will not negatively affect their productivity, on the contrary, feeling that they are not discriminated against would make them want to perform better and prove themselves.

7. Conclusion and Limitations

In this paper, I investigate the effect of occupational sorting along with the effect of the motherhood penalty in explaining the wage gap between females and males. I find that the motherhood penalty is a major factor contributing to the wage gap between males and females, I find that males and females with no children have no wage gap until the age of 30 in all occupations. While females with children have higher wage gap with males. I also find that there are occupations that are still preferable and more presented by each gender, this reflected in the

wage gap difference as it was more apparent in the occupations that are dominated by females. More research is required to determine why the wage gap between females with no children and males are only observed after the age of 30 and it is not existent before that, is the higher level of education for females in new generations a contributing factor?

References

- Abraham, M. (2017). Pay Formalization Revisited: Considering the Effects of Manager Gender and Discretion on Closing the Gender Wage Gap. *Academy of Management Journal*, 60(1), 29-54.
- Adda, J., Dustmann, C., & Stevens, K. (2017). The Career Costs of Children. *The Journal of Political Economy*, 125(2), 293-337.
- Anker, R. (1988). *Gender and Jobs: Sex Segregation of Occupations in the World*. International Labour Office Press.
- Becker, G. S. (1964). *Human Capital; a Theoretical and Empirical Analysis, with Special Reference to Education*. New York: National Bureau of Economic Research.
- Becker, G. S. (1965). A Theory of the Allocation of Time. *The Economic Journal*, 75(299), 493-517.
- Bergmann, B. R. (1974). Occupational Segregation, Wages and Profits When Employers Discriminate by Race or Sex. *Eastern Economic Journal*, 1(2), 103-110.
- Black, S. E., & Brainerd, E. (2004). Importing Equality? The Impact of Globalization on Gender Discrimination. *Industrial & Labour Relations Review*, 57(4), 540-559.
- Blau, F. D., & Kahn, L. M. (2000). Gender Differences in Pay. *Journal of Economic Perspectives*, 14(4), 75-99.
- Budig, M., & England, P. (2001). The Wage Penalty for Motherhood. *American Sociological Review*, 66(2), 204-225.
- Busch, A., & Holst, E. (2011). Gender-Specific Occupational Segregation, Glass Ceiling Effects, and Earnings in Managerial Positions: Results of a Fixed Effects Model. *IDEAS Working Paper Series from RePEc*.

- Cha, Y., & Weeden, K. A. (2014). Overwork and the Slow Convergence in the Gender Gap in Wages. *American Sociological Review*, 79(3), 457-484.
- Cohen, P. N., & Huffman, M. L. (2003). Individuals, Jobs, and Labour Markets: The Devaluation of Women's work. *American Sociological Review*, 68(3), 443-463.
- England, P. (1992). *Comparable Worth: Theories and Evidence*. New York: Aldine De Gruyter.
- Felfe, C. (2012). The Motherhood Wage Gap: What About Job Amenities? *Labour Economics*, 19(1), 59-67.
- Fleming, S. S. (2015). Déjà Vu? An Updated Analysis of the Gender Wage Gap in the U.S. Hospitality Sector. *Cornell Hospitality Quarterly*, 56(2), 180-190.
- Fuller, S. (2018). Segregation across Workplaces and the Motherhood Wage Gap: Why Do Mothers Work in Low-Wage Establishments? *Social Forces*, 96(4), 1443-1476.
- Ghosh, I., Larch, M., Murtazashvili, I., & Yotov, Y. (2018). Gender Inequality in the Aftermath of Negative Trade Shocks: Evidence from the U.S. *IDEAS Working Paper Series from RePEc*.
- Gunderson, M. (1989). Male Female Wage Differentials And Policy Responses. *Journal of Economic Literature*, 27(1), 46-72.
- Hegewisch, A., Williams, C., & Edwards, A. (2011). *The Gender Wage Gap by Occupation*. Washington, D.C: Institute for Women's Policy Research Fact Sheet.
- Hellerstein, J., Neumark, D., & Troske, K. (2002). Market Forces and Sex Discrimination. *Journal of Human Resources*, 37(2), 353-380.
- Kanter, R. M. (1977). *Men and Women of the Corporation*. Basic Books.
- Kilbourne, B. S., England, P., Farkas, G., Beron, K., & Weir, D. (1994). Returns to Skill, Compensating Differentials, and Gender Bias: Effects of Occupational Characteristics on the Wages of White Women and Men. *American Journal of Sociology*, 100(3), 689-719.
- Kleven, H., Landais, C., & Sogaard, J. (2018). Children and Gender Inequality: Evidence from Denmark. *IDEAS Working Paper Series from RePEc*.
- Kraus, V., & Yonay, Y. P. (2000). The Effect of Occupational Sex Composition on the Gender Gap in Workplace Authority. *Social Science Research*, 29(4), 583-605.
- Macpherson, D., & Hirsch, B. (1995). Wages and Gender Composition: Why Do Women's Jobs Pay Less??. *Journal of Labour Economics*, 13(3), 426-471.

- Mouw, T., & Kalleberg, A. L. (2010). Occupations and the Structure of Wage Inequality in the United States, 1980s to 2000s. *American Sociological Review*, 75(3), 401-431.
- Murphy, R. (1988). *Social Closure: the Theory of Monopolization and Exclusion*. Oxford: Clarendon Press.
- Nsiah, C., DeBeaumont, R., & Ryerson, A. (2013). Motherhood and Earnings: Wage Variability by Major Occupational Category and Earnings Level. *Journal of Family and Economic Issues*, 34(2), 224-234.
- Viitanen, T. (2014). The Motherhood Wage Gap in the UK over the Life Cycle. *Review of Economics of the Household*, 12(2), 259-276.
- Weber, M. (1978). *Economy and Society : An Outline of Interpretive Sociology*. Berkeley: University of California Press.
- Wood, R., Corcoran, M., & Courant, P. (1993). Pay Differences Among the Highly Paid: The Male-Female Earnings Gap in Lawyers' Salaries. *Journal of Labour Economics*, 11(3), 417-441.

Table 1. Summary Statistics

Variables		
<i>A. Demographics</i>		
Age	33.826	(21.770)
Age20	0.119	(0.324)
Age30	0.145	(0.352)
Age40	0.158	(0.365)
Age50	0.113	(0.316)
Male	0.485	(0.499)
Female	0.515	(0.499)
Female with Children	0.189	(0.391)
Female with no Children	0.326	(0.468)
<i>B. Occupations</i>		
Manager	0.053	(0.224)
Legal	0.005	(0.071)
Personal Care	0.015	(0.123)
Financial Specialist	0.010	(0.100)
Computer and Mathematical	0.010	(0.100)
Education, Training and Library	0.030	(0.169)
<i>C. Education</i>		
No School Education	0.003	(0.054)
High School Graduate	0.220	(0.414)
Some College, No degree	0.135	(0.341)
Bachelor's Degree	0.117	(0.321)
Master's Degree	0.041	(0.198)
Professional Degree	0.009	(0.096)
Doctorate Degree	0.008	(0.087)
<i>D. Race</i>		
White	0.806	(0.395)
Black	0.114	(0.317)
Observations	2,039,037	

Notes: Standard deviations are in parenthesis

Table 2. Regression Results for the Managers Occupation

Variables	(1)
age20	0.0051*** (0.0000)
age30	0.0617*** (0.0000)
age40	0.0943*** (0.0000)
age50	0.0861*** (0.0000)
age20*female	0.0131*** (0.0000)
age30*female	0.0463*** (0.0000)
age40*female	0.0648*** (0.0000)
age50*female	-0.0598*** (0.0000)
Education Controls	Yes
Race Controls	Yes
Time Fixed Effect	No
Constant	0.0188*** (0.0000)
Observations	2,039,037
R-Squared	0.0724

Notes: The dependent variable is a binary variable of the manager category occupation. Standard errors are in parentheses. ***p<0.01, **p<0.05, *p<0.1

Table 3. Regression Results for the Legal Occupation

Variables	(1)
age20	0.0025*** (0.0000)
age30	0.0032*** (0.0000)
age40	0.0032*** (0.0000)
age50	0.0032*** (0.0000)
age20*female	0.0028*** (0.0000)
age30*female	0.0027*** (0.0000)
age40*female	0.0022*** (0.0000)
age50*female	0.0032*** (0.001)
Education Controls	Yes
Race Controls	Yes
Time Fixed Effect	Yes
Constant	-0.0042*** (0.0000)
Observations	2,039,037
R-Squared	0.1311

Notes: The dependent variable is a binary variable of the legal category occupation. Standard errors are in parentheses.

***p<0.01,**p<0.05,*p<0.1

Table 4. Regression Results for the Personal Care Service Occupation

Variables	(1)
age20	-0.0015*** (0.0000)
age30	-0.0037*** (0.0000)
age40	-0.0040*** (0.0000)
age50	-0.0043*** (0.0000)
age20*female	0.0316*** (0.0000)
age30*female	0.0298*** (0.0000)
age40*female	0.0262*** (0.0000)
age50*female	0.0229*** (0.0000)
Education Controls	Yes
Race Controls	Yes
Time Fixed Effect	No
Constant	0.0059*** (0.0000)
Observations	2,039,037
R-Squared	0.0167

Notes: The dependent variable is a binary variable of the personal care service category occupation. Standard errors are in parentheses.

***p<0.01,**p<0.05,*p<0.1

Table 5. Regression Results for Financial Specialist Occupation

Variables	(1)
age20	0.0043*** (0.0000)
age30	0.0056*** (0.0000)
age40	0.0050*** (0.0000)
age50	0.0057*** (0.0000)
age20*female	0.0010*** (0.0080)
age30*female	0.0049*** (0.0000)
age40*female	0.0060*** (0.0000)
age50*female	0.0015*** (0.0000)
Education Controls	Yes
Race Controls	Yes
Time Fixed Effect	No
Constant	0.0030*** (0.0000)
Observations	2,039,037
R-Squared	0.0212

Notes: The dependent variable is a binary variable of the financial specialist occupation. Standard errors are in parentheses.

***p<0.01, **p<0.05, *p<0.1

Table 6. Regression Results for the Computer and Mathematical Occupation

Variables	(1)
age20	0.0200*** (0.000)
age30	0.0282*** (0.000)
age40	0.0183*** (0.000)
age50	0.0093*** (0.000)
age20*female	-0.0196*** (0.000)
age30*female	-0.0254*** (0.000)
age40*female	-0.0159*** (0.000)
age50*female	-0.0099*** (0.000)
Education Controls	Yes
Race Controls	Yes
Time Fixed Effect	Yes
Constant	0.0172*** (0.000)
Observations	2,039,037
R-Squared	0.0284

Notes: The dependent variable is a binary variable of the computer and mathematical occupation. Standard errors are in parentheses.

***p<0.01,**p<0.05,*p<0.1

Table 7. Regression Results for the Education and Training Occupation

Variables	(1)
age20	0.0071*** (0.000)
age30	-0.0054*** (0.000)
age40	-0.0104*** (0.000)
age50	-0.0063*** (0.000)
age20*female	0.0316*** (0.000)
age30*female	0.0408*** (0.000)
age40*female	0.0566*** (0.000)
age50*female	0.0561*** (0.000)
Education Controls	Yes
Race Controls	Yes
Time Fixed Effect	Yes
Constant	-0.0206*** (0.000)
Observations	2,039,037
R-Squared	0.0984

Notes: The dependent variable is a binary variable of the education and training occupation. Standard errors are in parentheses.

***p<0.01, **p<0.05, *p<0.1

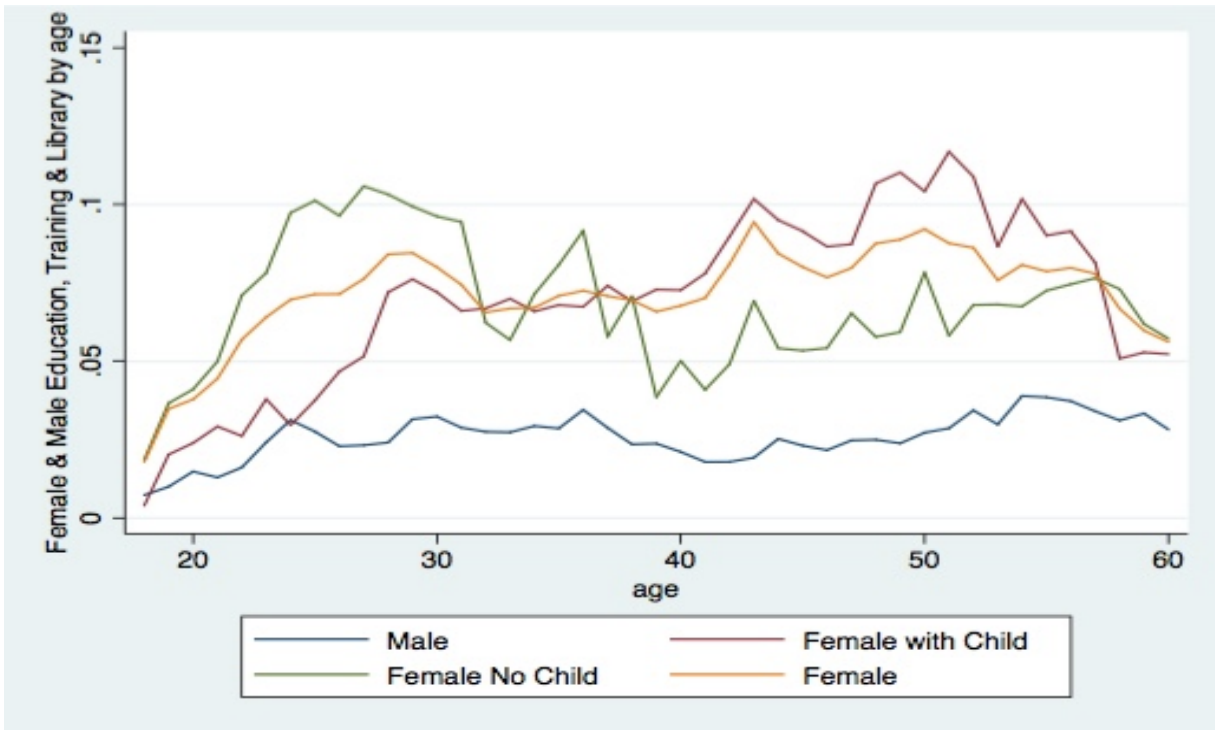


Figure 1. Proportion of Males and Females in the Education, Training and Library Occupation

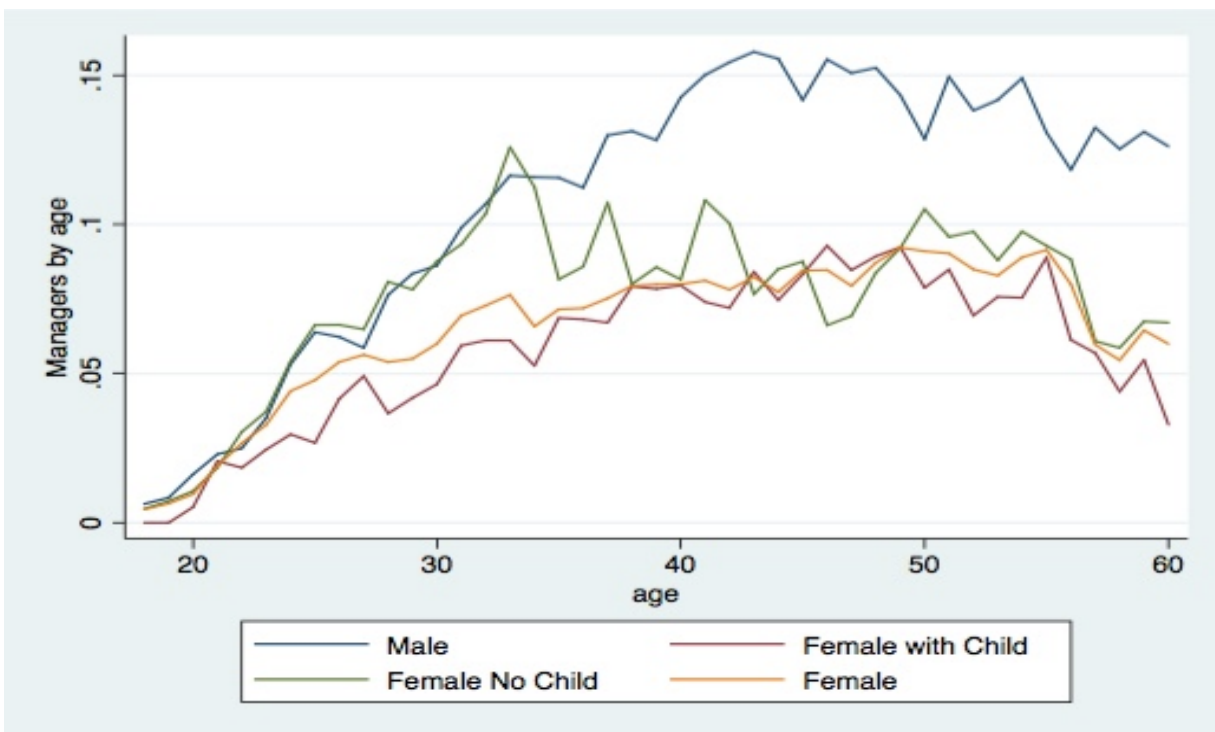


Figure 2. Proportion of Males and Females in the Managers Occupation

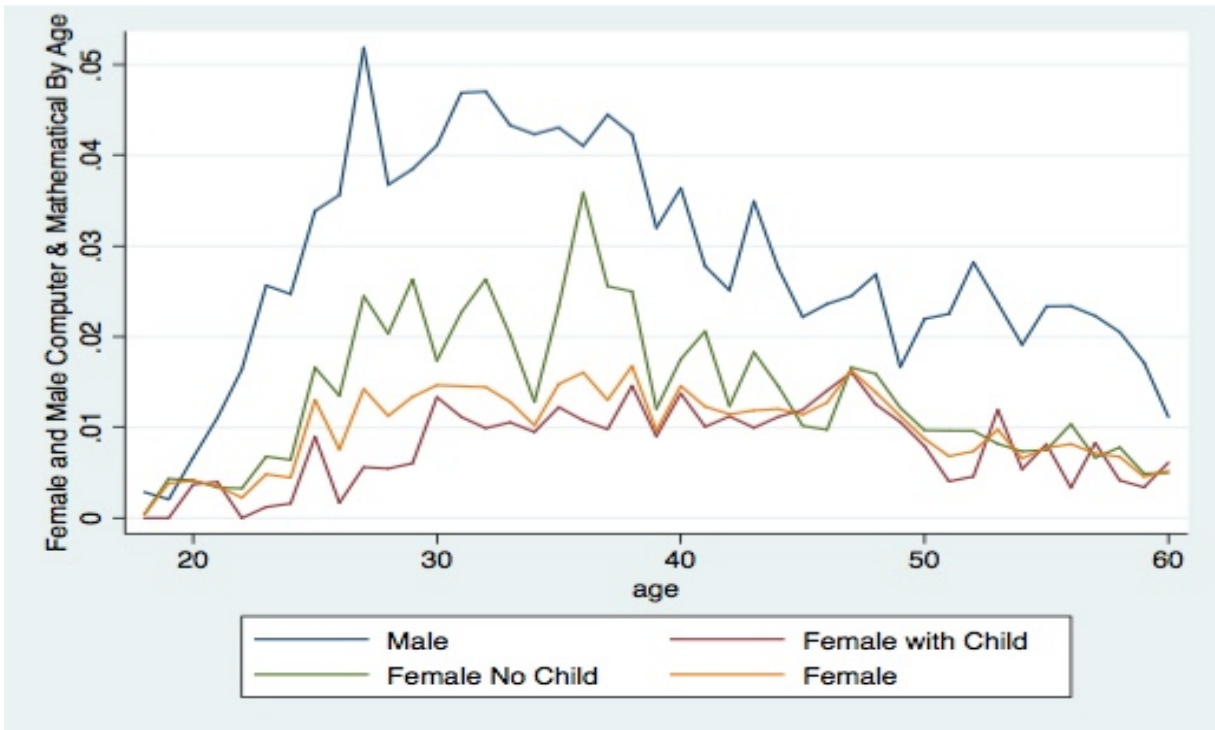


Figure 3. Proportion of Males and Females in the Computer and Mathematical Occupation

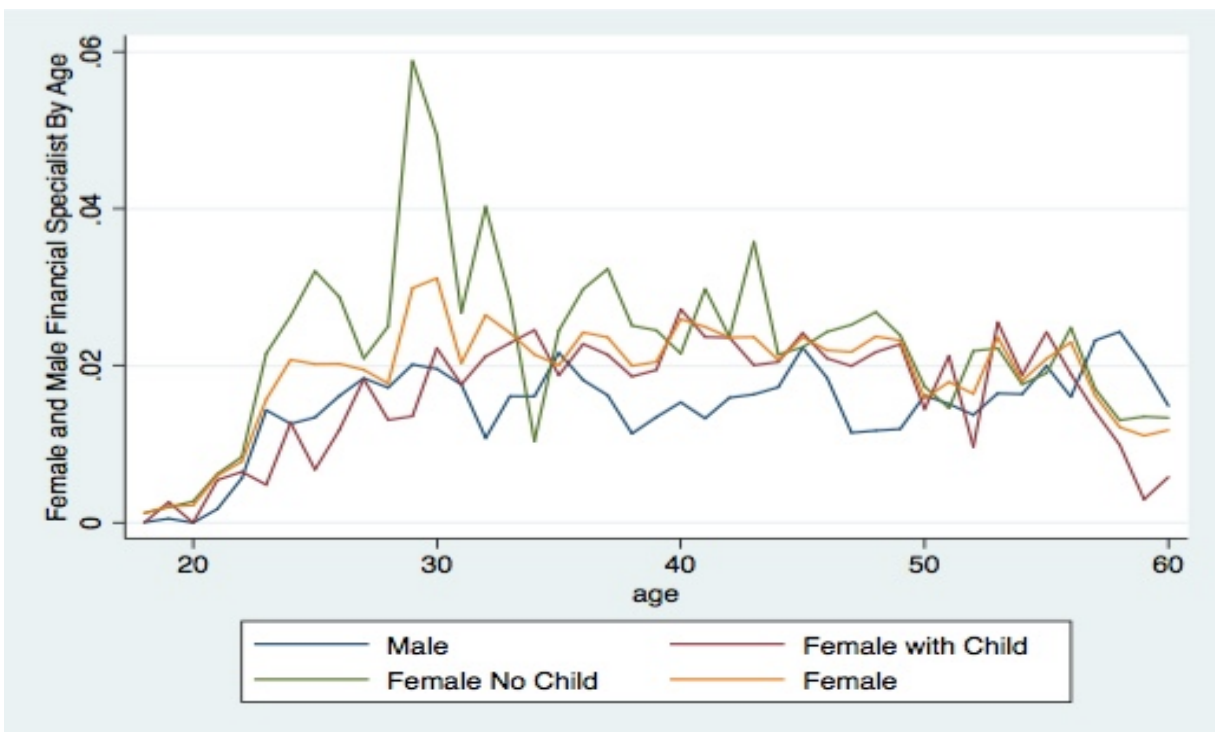


Figure 4. Proportion of Males and Females in the Financial Specialist Occupation

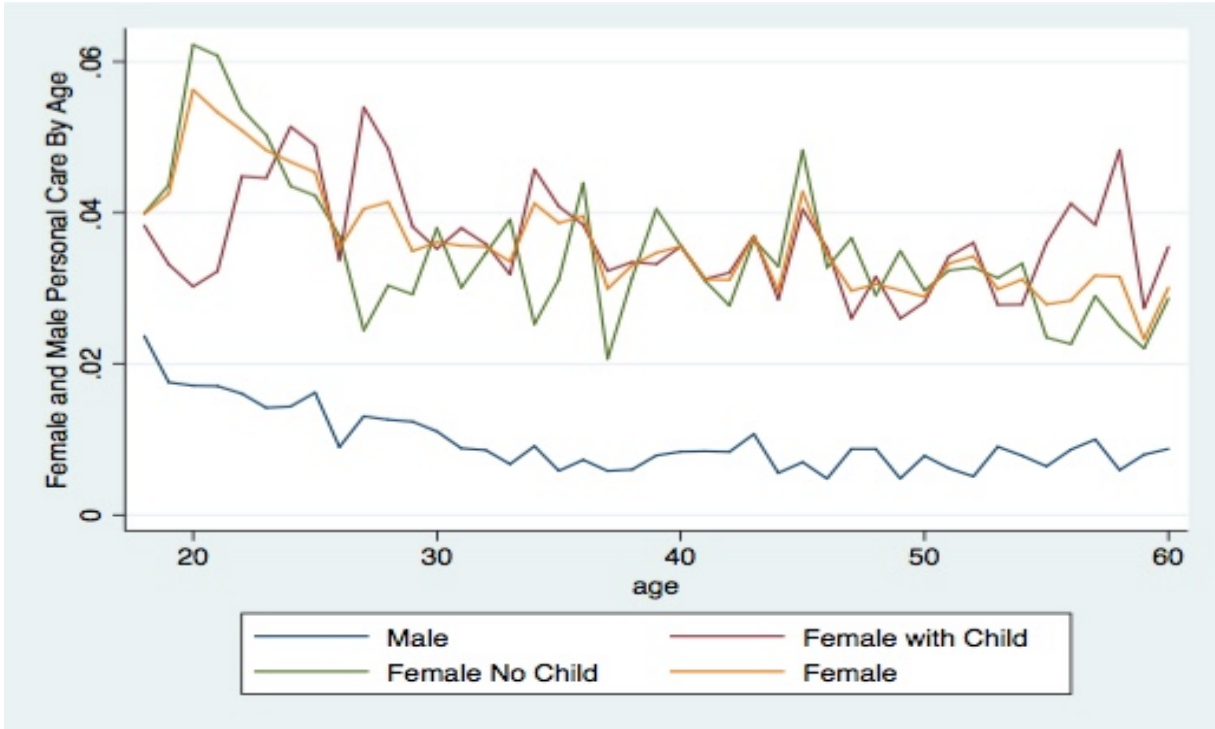


Figure 5. Proportion of Males and Females in the Personal Care Occupation

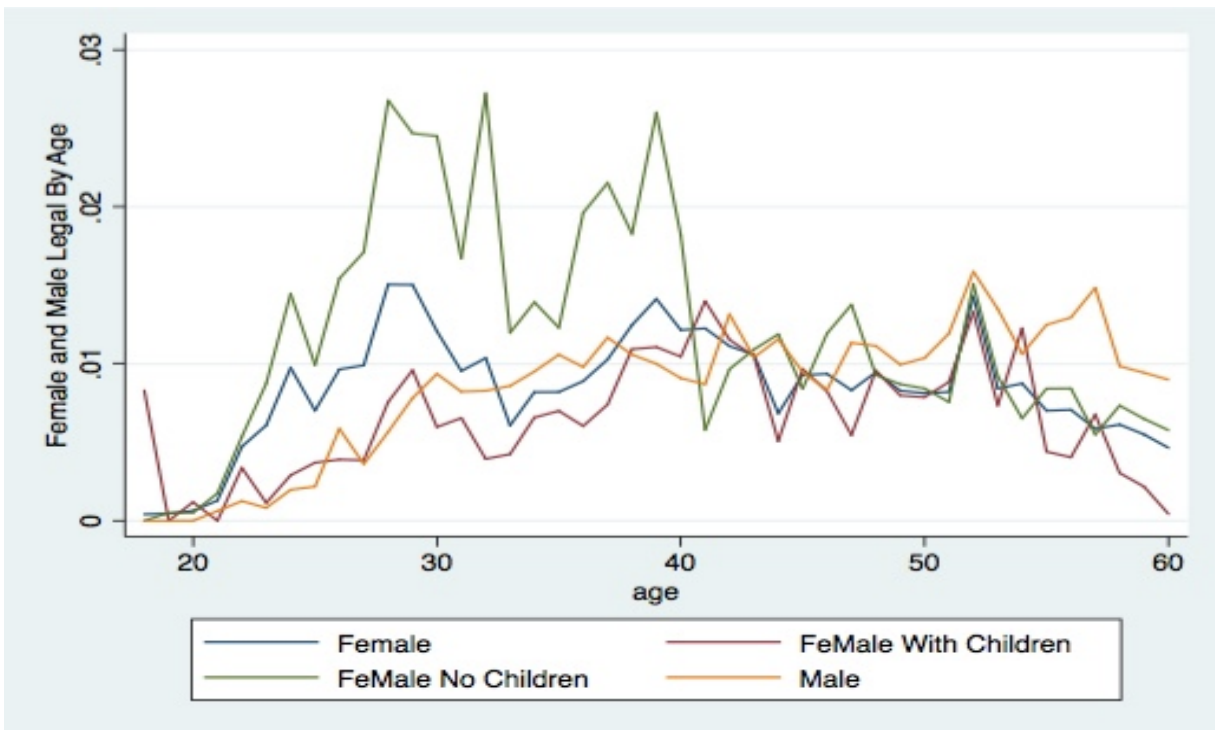


Figure 6. Proportion of Males and Females in the Legal Occupation

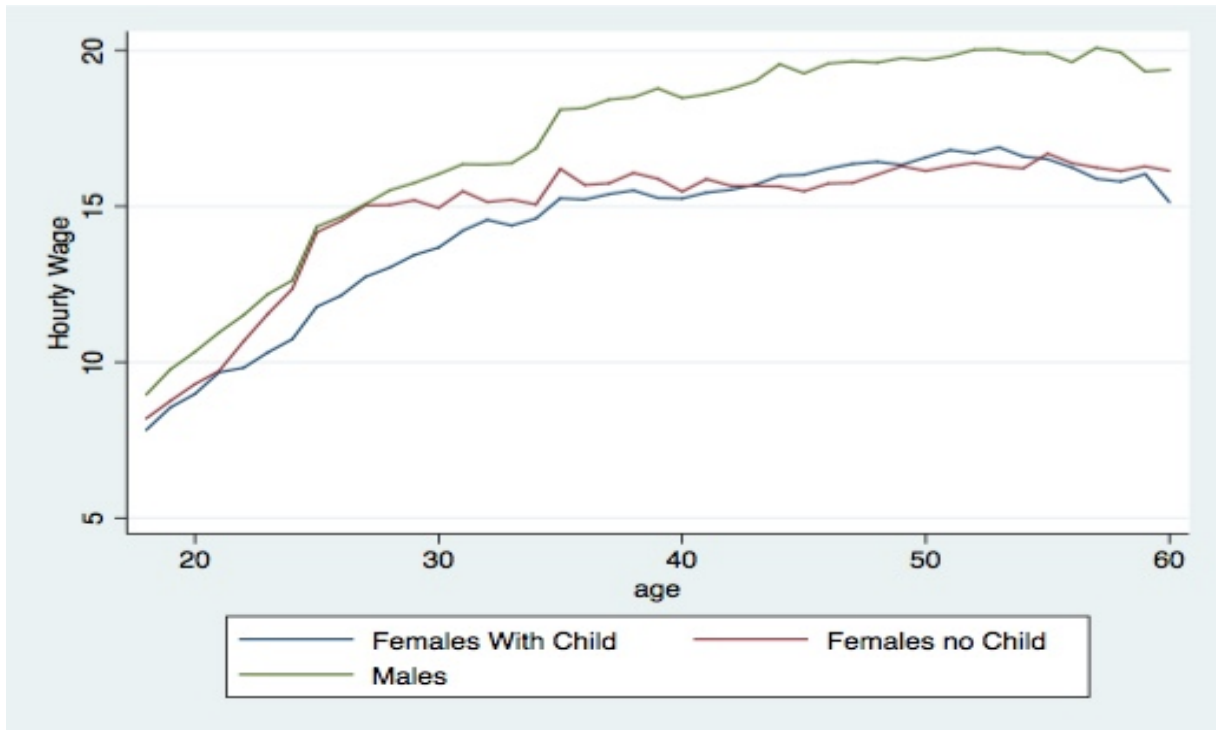


Figure 7. Hourly Wage Conditional on Gender, Occupation, and Age

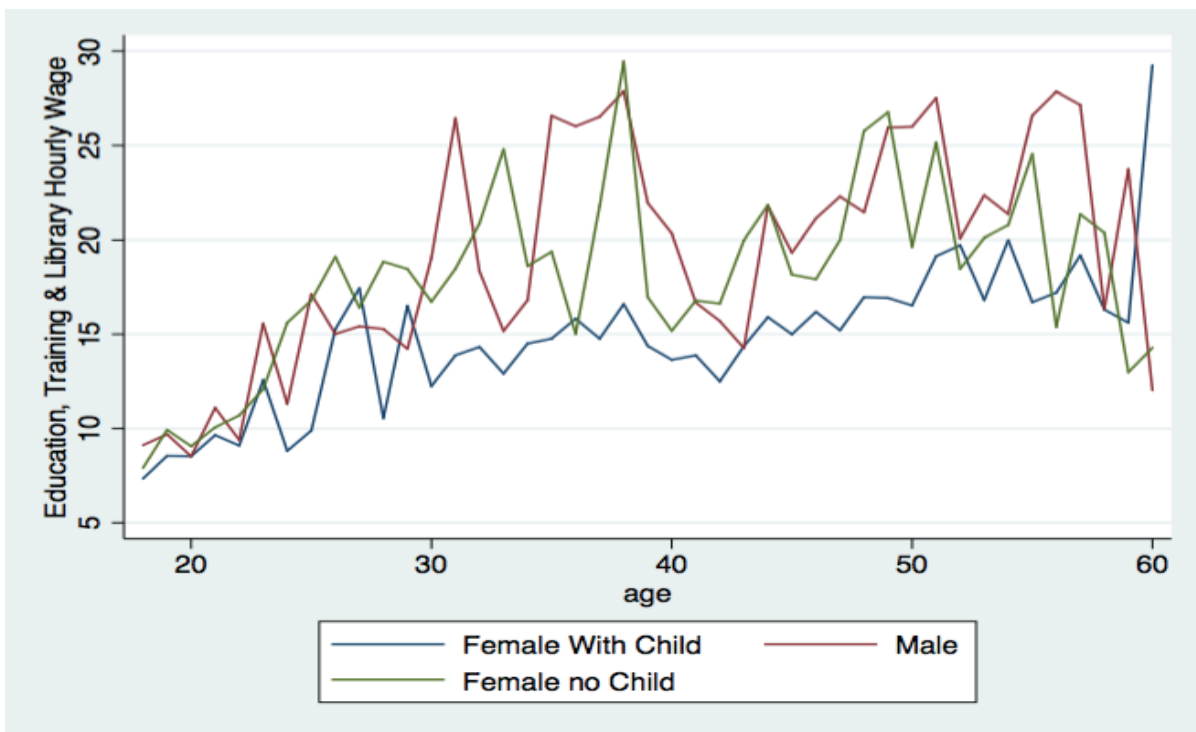


Figure 8. Hourly Wage Conditional on Gender and Age in the Education, Training and Library Occupation

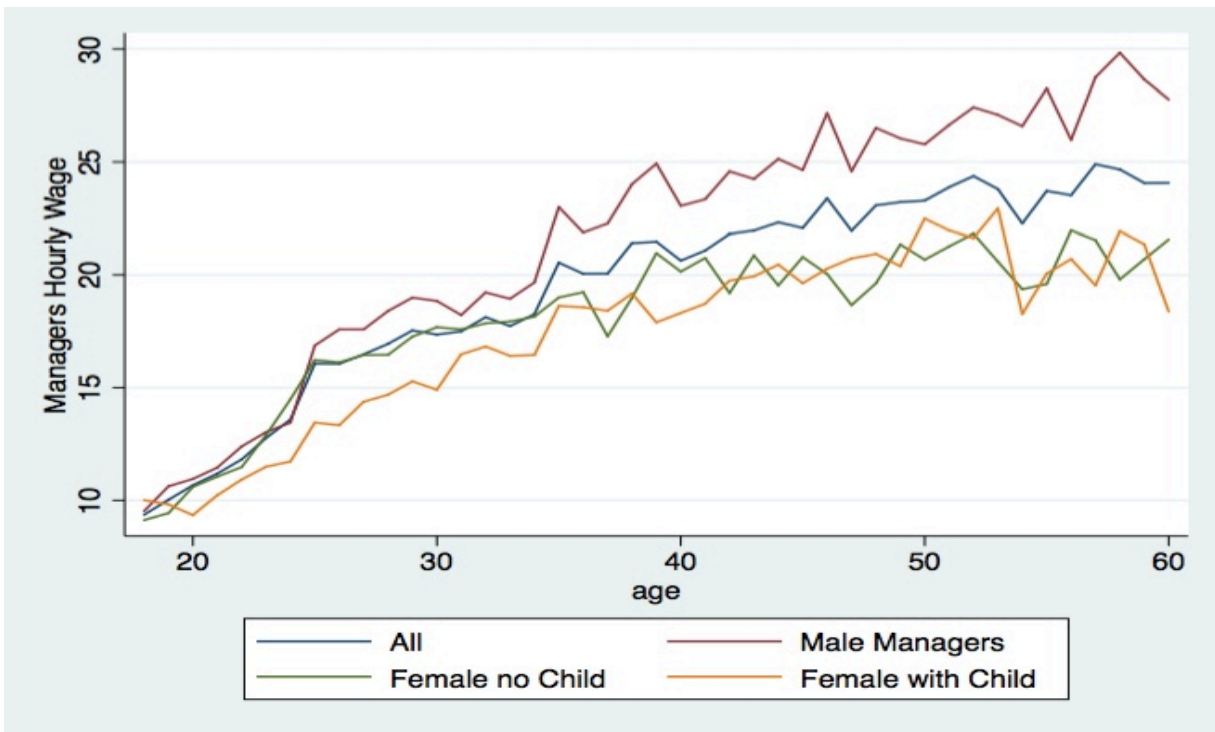


Figure 9. Hourly Wage Conditional on Gender and Age in the Managers Occupation

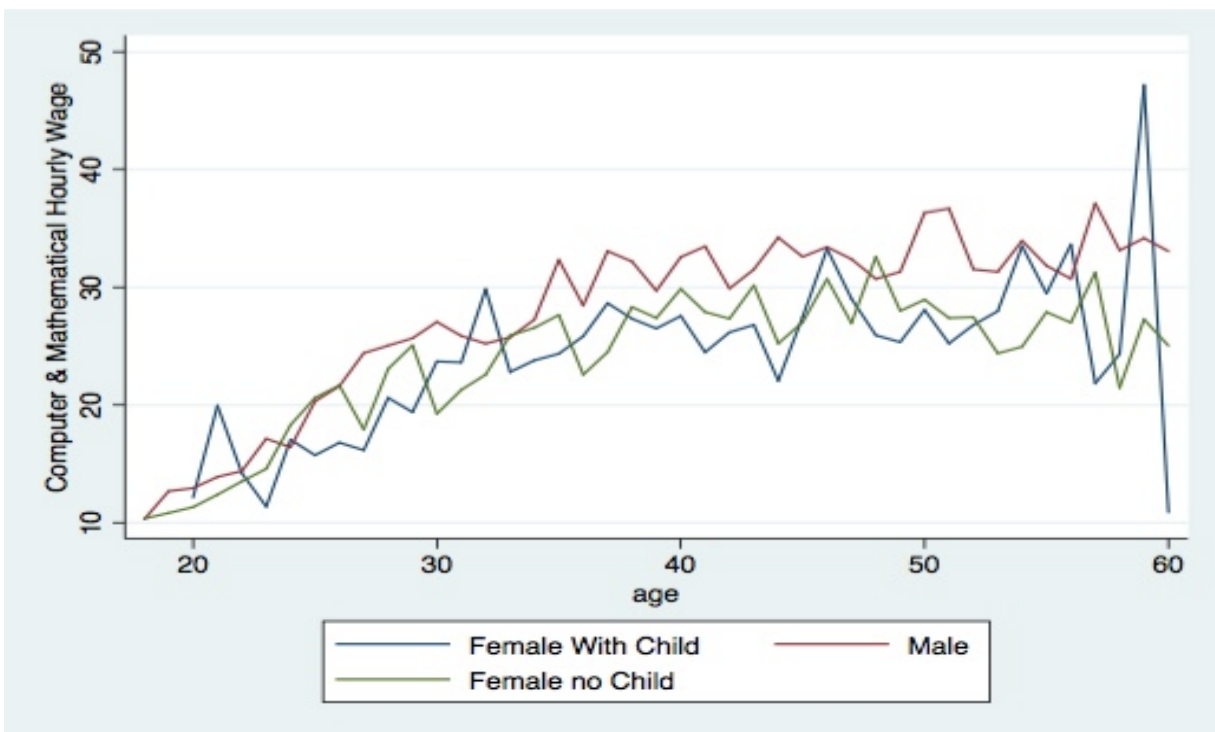


Figure 10. Hourly Wage Conditional on Gender and Age in the Computer and Mathematical Occupation

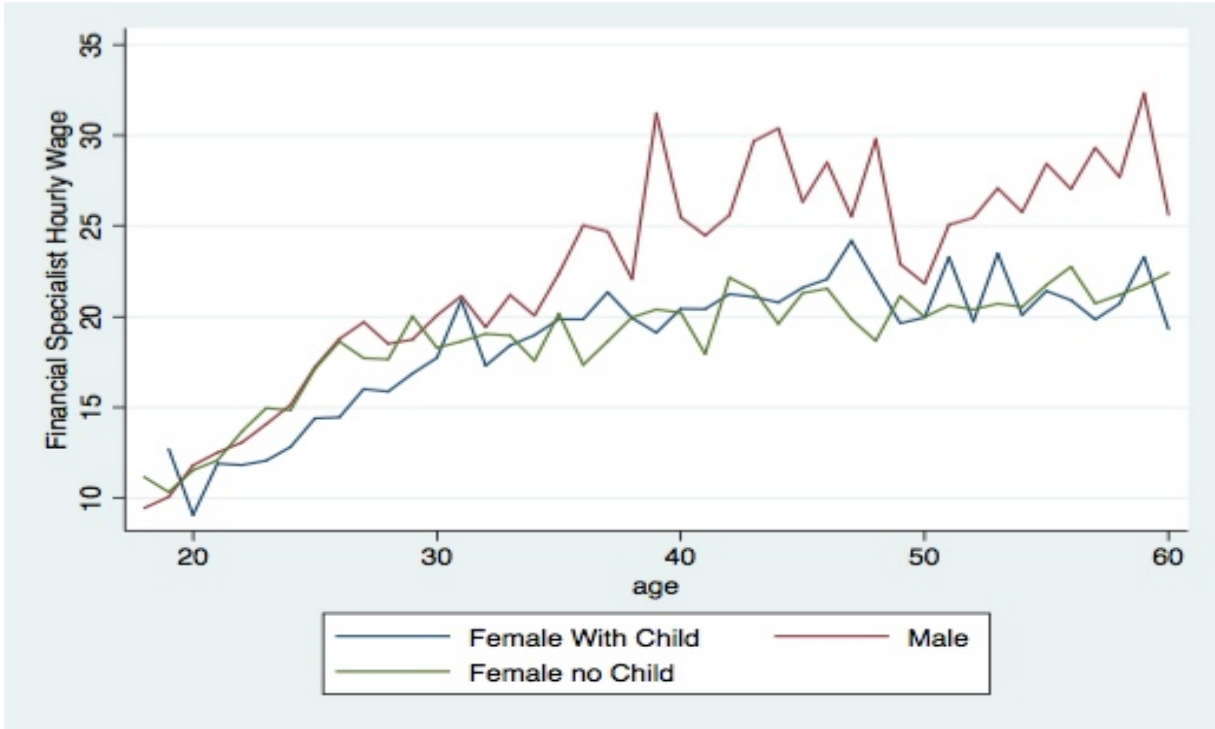


Figure 11. Hourly Wage Conditional on Gender and Age in the Financial Specialist Occupation

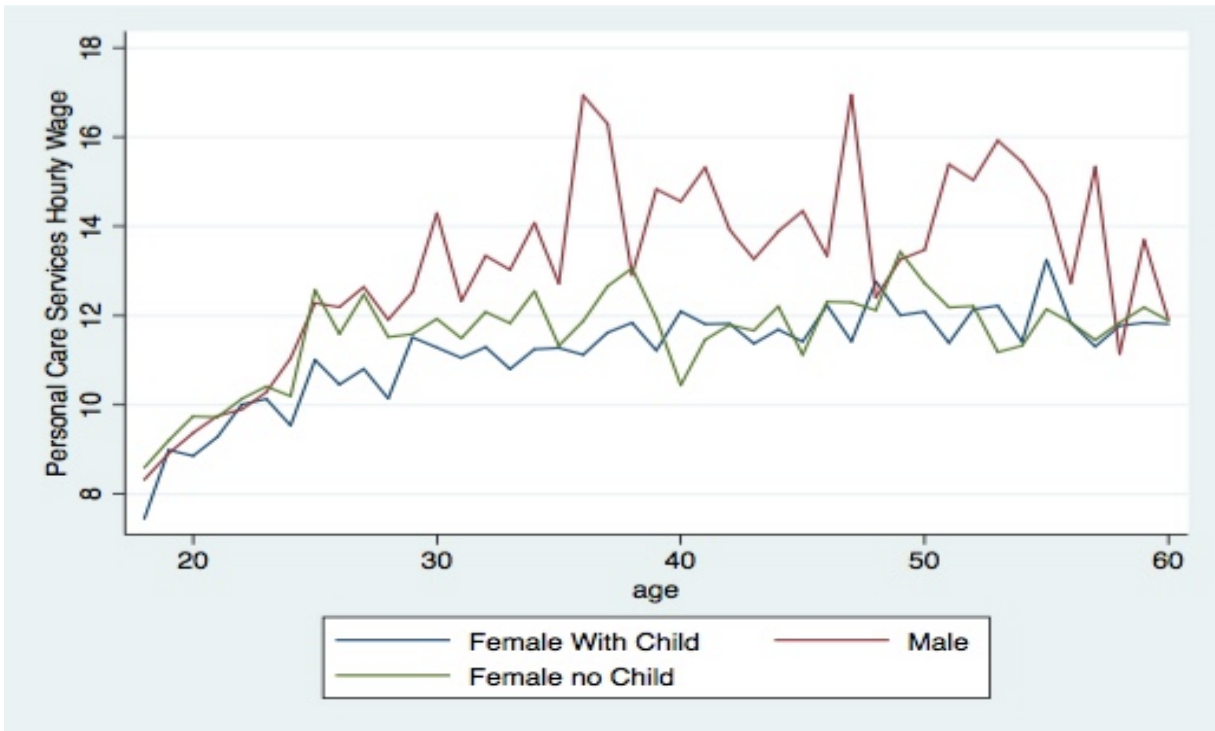


Figure 12. Hourly Wage Conditional on Gender and Age in the Personal Care Occupation

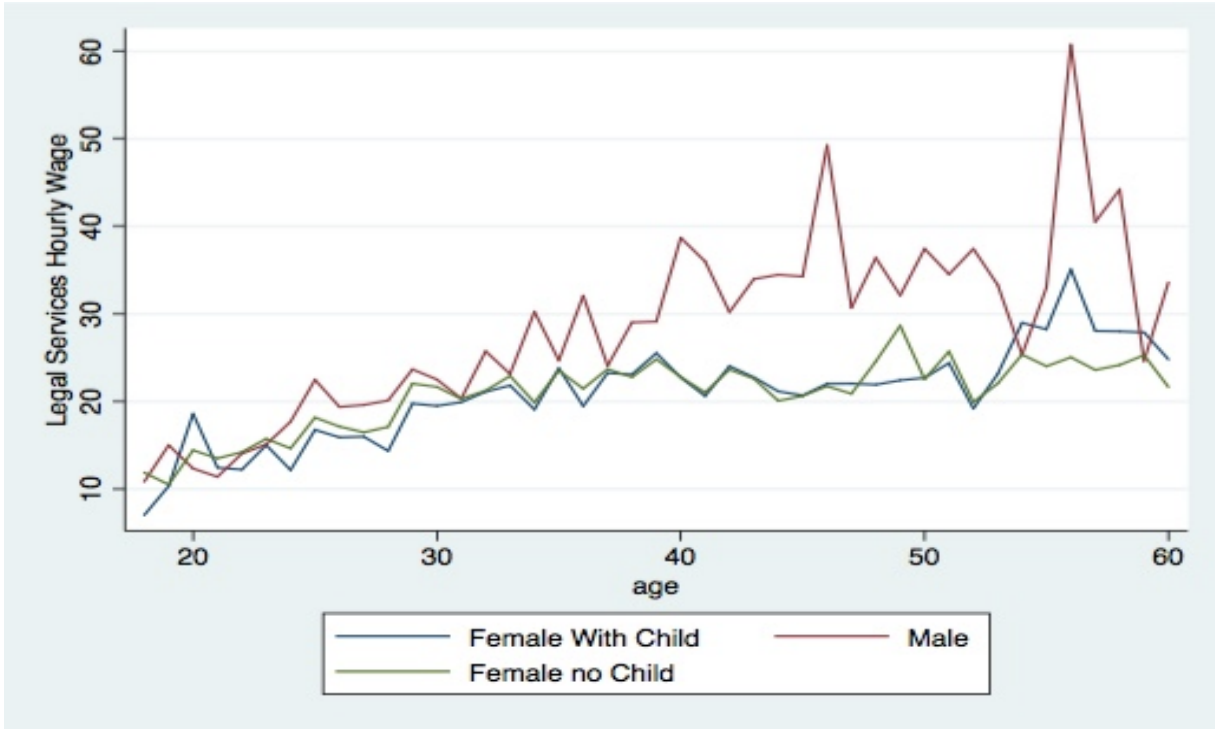


Figure 13. Hourly Wage Conditional on Gender and Age in the Legal Service Occupation