**Gender Wage Gap in the US**

**Introduction:**

The gender wage gap in the United States has fallen steadily since 1970s. During 1980s, the gender wage gap reduced sharply due to increase in the education attainment among women (O'Neill and Polachek 1993). By now, education attainment of female is higher than male; this is even more apparent in upper-level education (Kathrin Leuze 2016); however, the wage disparities between men and women is still persistent. Female workers earn considerably less than male. Much research has contributed to capture how wage disparities evolve over time (Blau and Kahn 1994, 1997, 2006), through which we generally agree that occupation preference, education attainment, work history and social expectation toward female and male are the four major blocks that derive wages differences. Kathrin Leuze (2016) interprets the wage puzzle in Germany from working time arrangement and “female-typical positions”. This paper will mainly approach this problem in the US from the aspects of working time arrangement, work tasks and differences in wage gap for racial and ethnic group.

**Data and Measurement**

Data used in this essay is mainly from IPUMS USA, originally, the "Integrated Public Use Microdata Series", covering samples of 2006 and 2019 with 54 variables selected regarding economic characteristic, family interrelationship, demographic, race and ethnicity, income, and working status. Only people between the age of 25-65 is considered for those people are more likely to participate in the workforce and are more likely to form a family. This would also help to control other factors when analyzing motherhood wages. People who retired are excluded out for the discrimination against women mainly in the elder cohort preceding from decades ago. Then Usual hours worked per week (UHRSWORK) are further specified into three categories: part-time(0-35h), full-time (35-50) and long-time (more then 50 h) to analyze what contributes the most to working time arrangement differences. This results in a simple size of 6,209,294 individuals.

**Measurement**

Firstly, an OLS regression of logged income and salary income (INWAGE) is conducted, adding controls to see how other background characteristics such as demographic factors and family interrelationship, may affect the wages gap. Since IPUMS USA doesn’t have hourly wages, wage and salary income will be used as the dependent variable instead. This may not reflect the wage differences exactly, because it doesn’t control the working hours differences. Then, we run on three logit regression to see which segments will contribute the most to the working time differences. Finally, we will look into the wages gap among different race and ethnic groups.

Family interrelationship includes the number of children in the family (NCHILD), number of own children under 5(NCHLT5), marital status (MARST dummy) to isolate the influence on the role of mother and father in the social labor division. Doing interaction with female and NCHILD, NCHILT5 and MARST allows us to see how motherhood wages derive from others.

**Working Time Arrangement Disparities**

In the first logit model, we construct the dummy variable of UHRSWORK under 35h as part-time to be the dependent variable. Number of children, number of children under 5 and marital status are included and interact female with these household characteristics as independent variables.

This estimation in table1 shows that female who has children or children under 5, whose marital status is married, but spouse is absent; separate or widowed is more likely to be a part-time worker. After calculation, the probability of a woman who has one child or more is 64.6% to work less than 35 hours per week; while there is a 43% chance that female who has at least one child underage of 5 work as a part-time. 21% less likely than the former category since children ages 4 and 5 years old are eligible to attende center-based care as their primary early care and education (ECE) arrangement before kindergarten (NCES). As for those females who get divorced or single, they are negatively relative to work less hours per week. The interaction of female with NCHILD/ NCHILT5 or MARST indicates that motherhood and social expectation toward housewife retain female workers to work less.

**Table1: female works under 35h labels as part time**

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**Table2 Multi-variables Logit Regression: Race and Education Attainment**

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Table 2 lists the result of three logit regression with dummy variable, part-time, full-time and long time as the dependent variable respectively. Education attainment and ethical and race group are also added to see how working-time arrangement differ from segments. Across different races, Hispanic and Asian are significantly more likely to work longer hours. The White and other races are less likely to work partially. Except for Hispanic, majority of races tend to as a full-time worker. Hispanic are the hardest worker. In education segment, people who have bachelor’s degree seems to work flexibly. The log odds of bachelor’s degree holder are positively relative to these three working time arrangements; the reason might because they can either choose to work or continuously pursue their advanced professional study.

**Multi-variate Result from OLS Models**

In this part, different OLS models are to establish to see to what extent the income wage change adjusted by different factors. Log wage and salary income is used to measure the income gap. Model1 only includes female as the indicator, representing the overall income difference between man and woman. Model2 differentiates the gender wage gay by race and ethnic group; RACE serves as the reference category. Model3 is a multi-variables regression with female interacting with all the variable to see how gender shifts the coefficients and affect the income wage.

In Model1 which includes no other indicator, we estimate the overall gender wage gap of 1.098 log point, indicating that women in general earn less than men. Model2 adjusted by race shows that only Asian and White male earn more than male classified by RACE. Female the black and Hispanic earn more than male RACE.

Model3 add controls for race, education attainment and family characteristics interacted with female. For different race and ethnic group, the interaction shifts most of the coefficients of race to be negatively related to income wages. Female in the category “other race” is the most sensitive decrease from log -o.o2 point to -0.08 point, indicating that female in other race earn 8% less than people in RACE in general. The conclusion is that females in other race are contributed the greatest to the wage gap. Females in the White help to reduce the gender wages gap; after interaction, the coefficient of white female is actually greater than before from a log -0.05 to log -0.02.

OLS: Model2: female+ race

OLS: Model1: female

OLS: Model1

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Model3 : female in different segments

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For the education attainment, the income wage for female no-high school workers increases, which imply that female with lower education earn more. This is likely because they are more likely to work longer than women in other segments.

**“Female-Type” Work Task Maybe Another Disparities in Gender Wage ap**

**Chart, bar chart

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The graph above is plotted with the field of degree data versa gender to demonstrate the distribution of careen choices preferences between men and women. The chart shows that women have great preference in fine art and education and administration teaching, while men are concentrated on agriculture, military tech and engineering. The share of women holding a engineering degree is actually large; however, due to the working time arrangement differences between women and men, women get paid in the same industry is actually less than men. In Katherine’s empirical research (2016), he figures out that if the share of women in an occupation is 10 per cent higher than the occupational average, the wages of persons working in this occupation are about four per cent lower. So, in order to narrow the gender wage gap, alter the working time arrangement of women will be very effective.

**Educational Gap Is Actually small between Female and Male**

**Chart, bar chart

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The share of women in advanced education exceeds men, making up around 60% in bachelor’s degree. So, this implies education attainment now is now as import as the occupation type and working time arrangement.

**Discussion:**

Women have made great progress on narrowing down the gender wage gap over the last recent decades but continue to earn less than men. The narrowing gap of education attainment can be a significant factor to explain this change. Blau and Kahn (2017) comment that women are now better educated than men, but they continue to lag (slightly) in the market experience. From the previous discussion, females working time arrangement is greatly affect by family characters like the number of children/ children under age of 5, marital status etc. Motherhood and household works retains women at home, as a result, women tend to work less hours than men. As for the race and ethnic group, IPUMS data shows female of RACASIAN and RACBLACK tend to get higher salary than male of RACE. Females in other race groups are negatively related to income wages. Female and male demonstrate strong preferences in some industries, which forms so-call “female-typical” position. Education attainment gap between men and women are greatly reduced. This leads to less emphasis to educational level when interpret gender wages gap. Whereas, this indicates that to reducing gender wage gap needs institutions support mother’s employment, national time-work norms stimulate to set free mother from home, and improvement in part-time worker.

Reference:

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