Impact of Occupational Flexibility on Labor Market Outcomes of Women Following Childbirth

by

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ABSTRACT

The purpose of this study is twofold: (1) determine how occupational flexibility of a couple influence the effects of childbirth on women's labor market outcomes and (2) measure the parental gender gap and decompose the gap for high and low flexibility occupations. Using data from the Panel Study of Income Dynamics and occupational flexibility characteristics from the O*NET database, we utilize an event study specification to determine the impact of a first child on various labor market outcomes for women within high vs low flexibility occupations and women whose spouses are within high vs low flexibility occupations. Our findings indicate that occupational flexibility impacts labor market outcomes following childbirth. We find an increase in income for women within high flexibility occupations following their first childbirth. Their low flexibility counterparts face an initial income decline that represents 6.1% of the average income. This income decline persists beyond the observed time frame. Occupational flexibility also has positive impacts on employment at the extensive and intensive margin. In the long term, the difference in weeks worked and weekly hours adjustments between women in high and low flexibility occupations is 3.4 weeks and 3.6 hours, respectively. Husbands' occupational flexibility also exerts a positive, although smaller, positive influence on income and employment at the extensive and intensive margin. Furthermore, we estimate a parental gender gap that is twice as large in low flexibility occupations compared to high flexibility occupations. For instance, the parental gender gap among 30 to 34 year olds is 20.1 percent in the low flexibility cohort but only 12.3 percent in the high flexibility cohort. We also observe the absence of a fatherhood premium among the high flexibility cohort. Given the correlation between occupational flexibility and the gender gap, workplace flexibility shows promise as a policy tool to address gender disparities in labor market outcomes.

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Chapter 1

Introduction

It is widely recognized that significant disparities in earnings, employment, and other labor market outcomes persist between men and women. These disparities are further exacerbated after the birth of children, with the gap between mothers and fathers widening. Research shows that following childbirth, men's income and employment tend to remain relatively stable, or even increase in some cases, while women often experience declines in both income and hours worked [1].

The prevailing explanation for these gender disparities emphasizes societal norms and discrimination. Women disproportionately shoulder childcare responsibilities, leading to higher rates of workforce withdrawal or reduced working hours once children are born. However, while societal norms and discrimination contribute to the parental gender gap, these factors do not fully account for its persistence.

Goldin (2014) [2] offers a complementary perspective, attributing the gap to structural aspects of the labor market. High-paying occupations frequently reward overwork—where the marginal wage increases with additional hours worked—creating strong incentives to work longer hours. These occupations also tend to incur higher costs for offering flexibility, such as the ability to choose when, where, and how much to work. Consequently, women, who are more likely to seek flexibility due to household and childcare responsibilities, often self-select into lower-paying but more flexible jobs. Even when women enter high-paying occupations with nonlinear pay structures, they are more likely to transition to part-time work or exit employment entirely after having children.

As a result, the largest income gaps are observed in high-paying occupations that offer little flexibility. One proposed solution is to increase occupational flexibility, particularly in these high-paying roles. This paper seeks to contribute to this body of research through examining the impact of occupational flexibility on women's labor market outcomes, with a focus on the period surrounding childbirth.

This study has two primary objectives. First, we determine how the occupational flexibility of both the wife and husband influence the effects of childbirth on women's labor market outcomes, including income, wages, employment, weeks worked, and hours worked per week. Second, we empirically measure how occupational flexibility affect the parental gender gap — defined as the difference in earnings between mothers and fathers - in high and low flexibility occupations. Additionally, we deconstruct the parental gender gap into three components to identify the mechanisms through which occupational flexibility influences this gap.

The study utilizes data from the Panel Study of Income Dynamics (PSID), merged with occupational flexibility characteristics derived from the O*NET database. The sample is categorized into high- and low-flexibility occupations based on the mother's occupation in the year preceding the birth of her first child. An event-study framework is employed, with the birth of the first biological child serving as the event of interest. To estimate the parental gender gap, we adopt a methodology similar to that of Goldin (2022) [3].

Our findings indicate that occupational flexibility significantly affects labor market outcomes following childbirth. We find an increase in income for women within high flexibility occupations after their first childbirth but a decrease in income for their low flexibility counterparts that does not recover to prebirth levels in the observed time frame. Beyond income, occupational flexibility has positive impacts on employment at the extensive and intensive margin. Husbands' occupational flexibility also exerts a positive, although smaller, positive influence on income and employment at the extensive and intensive margin. Furthermore, we estimate a parental gender gap that is twice as large in low flexibility occupations compared to high flexibility occupations. For those between 30 and 34 years old, the parental gender gap is 20.12% among those in low flexibility occupations but only 12.3% among their high flexibility counterparts. We also estimate a negligible fatherhood premium in high flexibility occupations.

The remainder of the paper is organized as follows. Section 2 reviews the existing literature. Section 3 describes the data and event-study methodology used in the analysis. Section 4 presents the results. Finally, Section 5 discusses policy implications and outlines directions for future research.

Chapter 2

Literature Review

There is a substantial body of research examining how occupational flexibility influences labor market outcomes for women. Most studies suggest that occupations offering limited flexibility exhibit the largest within-occupation gender disparities. Goldin and Katz (2013) analyze the pharmacy profession, which has one of the lowest gender earnings gaps. They attribute this change to the emergence of flexibility in the pharmaceutical industry, driven by the standardization of procedures, computer systems, and medications. Goldin and Katz (2011) explore the penalties associated with job interruptions, part-time work, and work flexibility across various sectors. They find that industries imposing the highest penalties on flexibility experience the largest gender pay gaps [4]. Similarly, Oladipo et al. (2023) examine a sample of U.S. firms and show that women entrepreneurs who operate their businesses from home, gaining the flexibility to manage household responsibilities, significantly narrow the performance gap between their male counterparts [5].

The literature also highlights the role of spousal characteristics in shaping women's labor market outcomes. For example, Bertrand et al. (2010) find that female labor supply after childbirth varies significantly with spousal income. Women married to high-earning spouses are 18.5 percentage points less likely to remain employed and work 19 percentage points fewer hours compared to women married to lower-earning spouses. They attribute these differences to a combination of income effects and substitution effects, in which increased household demands lead women to substitute labor market participation with household production [6]. Bang (2022) examines the impact of a husband's job flexibility on his wife's labor supply, concluding that when husbands have low job flexibility, couples are more closely conforms to traditional gender roles. In such cases, wives are more likely to exit the workforce to focus on household responsibilities, while husbands increase their working hours [7].

Some researchers have linked these patterns to the concept of compensating differentials. Women are more likely to seek jobs offering greater flexibility, which are often associated with lower pay. Flexibility thus acts as a compensating differential, partially explaining the wage disparities between occupations with varying levels of flexibility [8] [4]. Cortes and Pan (2019) extend this argument by suggesting that even if women did not prioritize flexibility, structural constraints often limit their ability to work long hours. They show that providing substitutes for household production, using low-skilled immigration as an instrument, reduces the relative earnings of men and women in jobs that reward overwork [9].

Given the pronounced labor market disparities that emerge around childbirth, many studies focus on how these outcomes evolve during this period. Using panel datasets, Chung and Horse (2017) and Ishizuka and Musick (2021) find that women in occupations with greater flexibility, such as those offering telework or flexitime, are less likely to reduce their working hours after childbirth and more likely to remain in the labor force [10] [11]. Similarly, Landivar (2014) and Lu et al. (2017) report that women in white-collar jobs, which typically provide more flexibility than blue-collar or service jobs, are more likely to stay in the workforce post-childbirth [12] [13]. Alarmingly, the research also recognizes that the negative impacts of childbirth on women's labor market outcomes tend to grow over time [6].

This paper contributes to the literature on occupational flexibility and the parental gender gap in two significant ways. First, it considers couples as units of analysis rather than focusing solely on women. While prior research has examined the impact of a husband's occupational flexibility on his wife's labor adjustments, these studies primarily addressed income and employment outcomes. Our research expands this scope by analyzing a broader range of outcomes to characterize how the interaction between spouses' occupational flexibility influences women's labor market trajectories. Second, we provide a more detailed examination of the parental gender gap in high and low flexibility occupations. We additionally decompose the parental gender gap into three components: the motherhood effect, the price of being female, and the fatherhood premium. This approach helps uncover the mechanisms through which occupational flexibility affects labor adjustments after childbirth. Through this analysis, we aim to offer insights into alternative policy interventions to address the parental gender gap.

Chapter 3

Methods

3.1 Data

3.1.1 Panel Study on Income Dynamics

The Panel Study of Income Dynamics (PSID) is a longitudinal household survey that has collected economic and demographic information regarding families in the United States and their members since 1968 [14]. Data are collected biannually, and as of 2021, the dataset contains 9,200 families and 24,000 individuals. The PSID's detailed data on income, employment, fertility, and demographics makes the PSID an invaluable resource for understanding labor market outcomes during and after childbirth. In addition, the longitudinal nature of the dataset allows for the analysis of both short-term impacts, such as changes immediately following childbirth, and long-term outcomes, including career progression and income disparities.

For this study, we included only individuals whose first biological child was born during or after 2003 and during or before 2021. We additionally only kept individuals who would have been the mother in a traditional "nuclear" family. More specifically, we filtered in individuals who identified as being female and whose relation to the head (who was typically male) was the legal wife; "Wife", defined as a female cohabitor who has lived with Head for 12 months or more; or First-year cohabitor of Head. We additionally filtered out individuals who were actively pursing an education and whose age at the time of their first biological child was less than 18.

3.1.2 Occupational Information Network

The Occupational Information Network (O*NET) database is that provides detailed information on occupational characteristics and work requirements in the U.S. labor market [15]. Developed by the U.S. Department of Labor, O*NET offers data on job tasks, skills, education, and training requirements, as well as work environments and conditions for a wide range of occupations. The dataset is updated quarterly. Its standardized and structured format makes the database an ideal resource to compare flexibility across occupations and time.

To measure job flexibility for each individual in the PSID sample, we utilize a similar framework as that of Goldin (2014) [2]. We focus on five variables in the O*NET database, which are shown in Table 3.1. Each of these variables are highly correlated with the degree of occupational flexibility and encompass different traits of each occupations. We use version 5.0 to 26.0 of the database, which covers the years from 2003 to 2021.[1] These variables also capture annual changes to occupations. Ratings are surveyed yearly and we record the ratings for each occupation for every year available.

Table 3.1: O*NET Characteristics

Characteristic	**Question in O*NET Survey**
Time Pressure	How often does this job require the worker to meet strict deadlines? *Lower pressure indicates that the worker has greater accessibility to flexible working schedules.*
Contact with Others	How much does this job require the worker to be in contact with others in order to perform it? *Less contact indicates that the worker can more easily change working location.*
Establishing and Maintaining Interpersonal Relationships	How important are developing constructive and cooperative working relationships with others, and maintaining them over time for this job? *Greater importance indicates that the worker must be around more.*
Structured Versus Unstructured Work	To what extent is this job structured for the worker, rather than allowing the worker to determine tasks, priorities, and goals? *Greater structure indicates that there are less substitutes for the worker, making it more difficult to set one's own schedule.*
Freedom to Make Decisions	How much decision making freedom, without supervision, does the job offer? *Greater freedom indicates that workers are poorer substitutes for eachother.*

Note, variable names and definitions from Goldin (2014)[2]

Each characteristic is on scale from zero to five. For each version of the database and occupation code, we extracted these five characteristics. Note, the O*NET database uses the Standard Occupational Classification (SOC) system. The PSID relies on the 2000 three digit census codes before 2015 and 2010 four digit census codes after 2015. To convert the SOC codes to the three and hour digit census codes, we use the crosswalk provided by the United States Census Bureau [16].

The SOC codes provide a more granular breakdown of occupations compared to the codes used by the United States Census Bureau. Thus, some census codes mapped to multiple SOC codes. For census codes that had multiple matching SOC codes, we averaged the O*NET scores for each characteristics based on weight provided as part of the O*NET database. These weights are the frequency of each occupation in the surveyed sample. The resulting dataset covered a total of 8,597 unique occupation code, year pairs for the years from 2003 to 2021. Table 3.2 shows the occupations with the highest and lowest total scores for 2003, 2012, and 2021. Note, higher scores correspond to lower occupational flexibility and lower scores correspond to higher occupational flexibility. Management, healthcare practitioners, and

[1] Note, earlier versions that cover the years before 2003 are available; however, the team compiling the O*NET database did not recommend using versions earlier than 5.0 due to inconsistencies in data collection.

sales occupations tend to have the low levels of occupational flexibility. On the other hand, entertainment, media, engineering, and production occupations tend to have the highest levels of occupational flexibility.

Table 3.2: Occupations with Highest and Lowest Flexibility Across Years

Year	Lowest Flexibility Occupations	Highest Flexibility Occupations
2003	1. Occupational Therapists 2. Medical and Health Services Managers 3. Administrative Services Managers 4. Optometrists 5. Licensed Practical and Licensed Vocational Nurses	1. Biological Scientists 2. Carpenters 3. Drafters 4. Electrical and Electronics Repairers, Industrial, Utility, and Transportation Equipment 5. Artists and Related Workers
2012	1. Chief Executives 2. Agents and Business Managers of Artists, Performers, and Athletes 3. First-Line Supervisors/Managers of Non-Retail Sales Workers 4. Public Relations Managers 5. Lodging Managers	1. Graders and Sorters, Agricultural Products 2. Ushers, Lobby Attendants, and Ticket Takers 3. Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders 4. Textile Bleaching and Dyeing Machine Operators and Tenders 5. Sewing Machine Operators
2021	1. Meeting, Convention, and Event Planners 2. Morticians, Undertakers, and Funeral Arrangers 3. Chief Executives 4. Real Estate Brokers and Sales Agents 5. Human Resources Managers	1. Pressers, Textile, Garment, and Related Materials 2. Textile Bleaching and Dyeing, and Cutting Machine Setters, Operators, and Tenders 3. Grounds Maintenance Workers 4. Transportation Attendants, Except Flight Attendants 5. Laundry and Dry Cleaning Workers

3.1.3 Merging O*NET and PSID Database

For each individual and year in the PSID dataset, we calculated the year of the survey information relative to the year of the birth of the individual's first child. We then matched each individual with a set of O*NET scores based on their occupation and the occupation of their husband in the year before the birth of their first child. Note, because the PSID surveys are taken biannually, some individuals were matched on their occupation in the year before the birth of their first child or in the year of the birth of their first child.

Occupational information is only available for individuals who were employed in the year of survey collection. [2] Thus, the merging of the PSID and O*NET database naturally restricted the sample to women who were employed and whose husbands were employed in the year before the birth of their first child or the year of the birth of their first child. Table 3.3 display summary statistics for demographic variables for the resulting sample five years before, one year before, the year of, one year after and five years after their first child birth. Table 3.4 display summary statistics for labor outcomes for each individual and her husband in the sample. Unsurprisingly, we notice that income, wage rate, employment, weeks worked, and weekly working hours are higher for husbands compared to wives.

Figure 3.1 display average job flexibility scores by gender and education for the year before or year of first birth. Low-income women have less flexibility (higher scores) on

[2] Note, "employed" in the PSID database was defined as actively working, temporarily laid off, on sick leave, or on maternity leave.

Table 3.3: Summary Statistics of Demographics PSID Sample

	Year Relative to First Child					
	-5	-1	0	1	5	10
Wife Age	25.0	28.5	28.6	30.7	34.3	38.3
Wife Race						
Non-white	23	67	74	55	28	21
	23%	21%	20%	20%	16%	19%
White	79	257	302	222	142	90
	77%	79%	80%	80%	84%	81%
Wife Education						
Some High School Completed	1	5	6	3	1	1
	1%	2%	2%	1%	1%	1%
Received High School Diploma or GED	13	54	46	38	21	8
	13%	17%	12%	14%	12%	7%
Some College	21	54	93	39	30	21
	21%	17%	25%	14%	18%	19%
Received College Degree	47	150	160	137	83	57
	46%	46%	43%	49%	49%	51%
Received Higher Degree	10	49	57	49	28	23
	10%	15%	15%	18%	16%	21%
Unknown	10	12	14	11	7	1
	10%	4%	4%	4%	4%	1%
# Live Births	1.7	1.8	1.9	1.9	2.2	2.4

average compared to their male counterparts. We see the opposite pattern for more educated individuals. For those who have some college education, women have greater flexibility compared to their male counterparts. Figure 3.2 displays the relationship between income and job flexibility scores, broken down by sex in the year before or year of first birth. There is an inverse relationship between the degree of flexibility in the job and income. High degrees of flexibility in work have lower incomes. Those with high scores (low flexibility) tend to have higher incomes.

We normalized each of the five O*NET characteristics to have a mean of 0 and standard deviation of 1 across the individuals in the PSID dataset. We sum the five characteristics to get the resulting occupational flexibility score. We then observed the median of occupational flexibility scores across individuals in the year of or year before their first childbirth. Those with scores above the median were classified as being in a low flexibility occupation and scores below were classified as being in a high flexibility occupation. [3] The resulting sample then

[3] The same cutoff was used to determine high and low flexibility indicators for the husband's occupation. Thus, the resulting split of individuals who were classified as having a husband within a high flexibility vs low flexibility occupation were not even.

Table 3.4: Summary Statistics of Outcomes for PSID Sample

	Year Relative to First Child				
	-5	-1	0	1	5
Labor Income of Wife	33422.7	49825.8	44345.5	50230.0	40216.7
	(23129.7)	(33801.3)	(38005.8)	(54926.2)	(33511.1)
Labor Income of Head	46762.5	58717.3	60176.1	63530.5	64501.2
	(43505.8)	(75052.3)	(40041.3)	(47797.0)	(43550.7)
Wife Wage Rate	17.1	24.5	29.7	28.4	24.6
	(11.96)	(15.74)	(22.88)	(25.02)	(19.01)
Head Wage Rate	20.97	26.58	27.48	28.21	30.02
	(18.07)	(30.95)	(17.11)	(19.42)	(19.67)
Employment of Wife	0.86	1.00	1.00	0.86	0.79
	(0.35)	(0.00)	(0.00)	(0.34)	(0.41)
Employment of Husband	0.93	1.00	1.00	0.94	0.96
	(0.26)	(0.00)	(0.00)	(0.23)	(0.19)
Work Weeks of Wife	43.17	47.63	37.35	43.19	39.12
	(15.40)	(6.90)	(12.11)	(14.33)	(17.94)
Work Weeks of Husband	47.57	47.78	48.01	48.10	47.44
	(8.43)	(8.08)	(6.04)	(6.92)	(8.02)
Hours Worked per Week of Wife	37.67	41.55	37.88	34.90	31.10
	(15.67)	(9.08)	(11.16)	(13.60)	(17.54)
Hours Worked per Week of Husband	44.71	44.34	44.08	45.02	47.36
	(13.08)	(9.82)	(8.96)	(10.52)	(9.70)

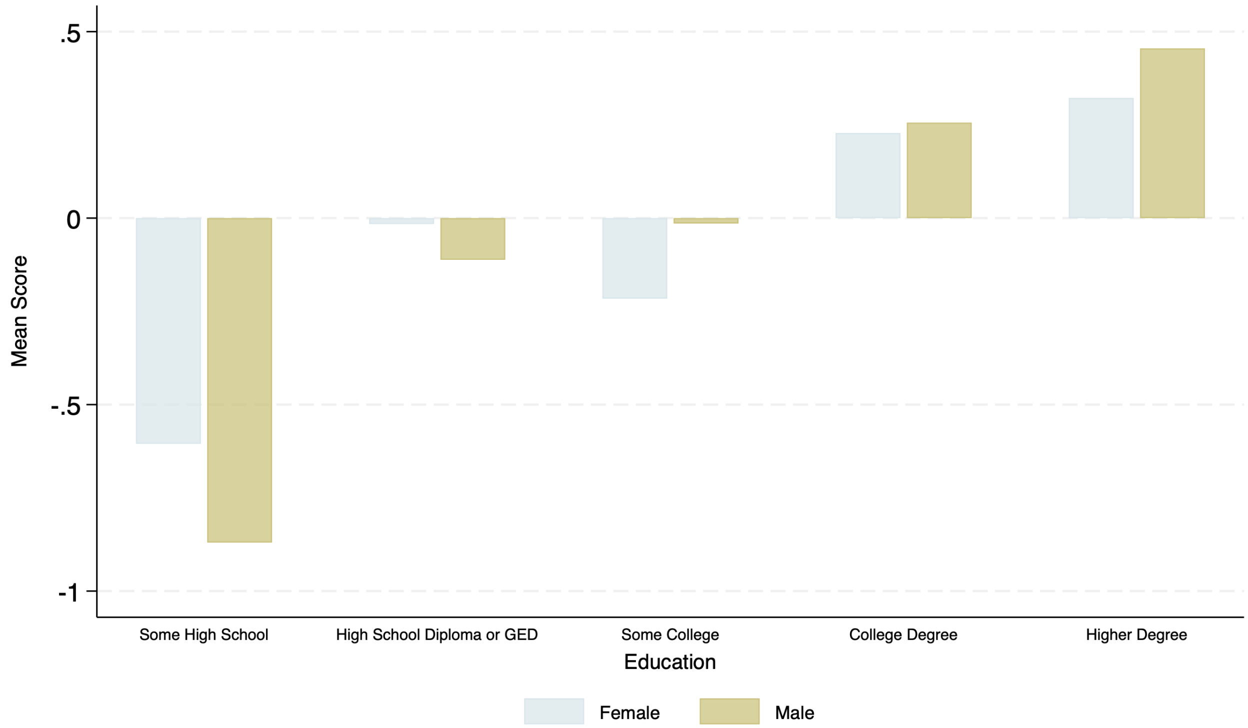
consisted of 700 unique individuals, 351 of which were part of the high flexibility group and 349 of which were part of the low flexibility group. Lastly note, because we merge O*NET characteristics based on occupation in the year before first birth or year of first birth, the low flexibility occupation and high flexibility occupation groups are stagnant over time, even if the individual changes occupations.

3.2 Event Study Design

3.2.1 Specification

To estimate the impact of children on women's labor market outcomes across those within high and low flexibility occupations, we would ideally be able to randomize childbirth. One approach to mitigate this obstacle is to employ instrumental variables, that is exploit variation in variables that correlated with childbirth but exogenous to the labor market outcomes. However, common instrumental variable approaches such as the sex mix of the first two children and the presence of twins only provide insights into the marginal impact of a third

Figure 3.1: Average Normalized Job Flexibility Scores by Gender and Education



Average occupational flexibility scores are lower for men compared to women in the low income cohorts. This pattern switches among more educated cohorts. Occupational flexibility scores also increase as education increases.

child. The marginal impact of a third child is most likely far less compared to the marginal impact of having a child.

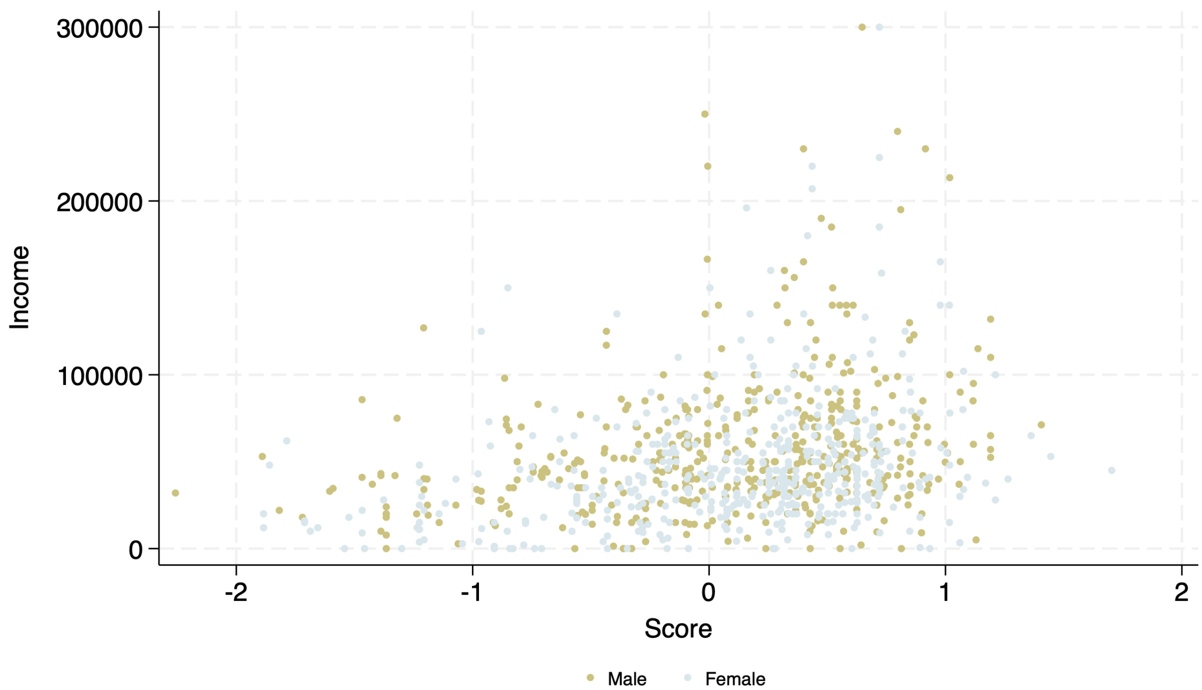
Thus, to measure the impact of parenthood on labor market outcomes, we utilize an event study approach. The event study approach is commonly used to determine both the short and long term impacts of children on labor market outcomes [17] [18]. The model relies on the assumption that the event of interest, the birth of the first child, leads to sharp changes in labor outcomes due to changes in observables that should otherwise evolve smoothly. We touch more upon this assumption in the assumptions section.

The outcome variable y_{it} is defined as the outcome for individual i at time t. The outcomes of interest are income, wage rate, employment, weeks worked, and hours per week worked. Income, hourly wage rate, weeks worked, and hours per week worked are all conditioned on being employed in the given year. Employment is defined as the percentage of the sample within a given year that is employed.

$$y_{it} = c + \sum_{j \in \{-m,0,m\}} \gamma_j D_{t-j} + \alpha_i + \delta_t + \beta X_{it} + \epsilon_{it} \tag{3.1}$$

D_{t-j} is an indicator variable for event time j, meaning that the childbirth took place j years before time t. That is, negative j represent outcomes before the birth of the first child and positive t indicates outcomes after the birth of the first child. γ_j for $j \geq 0$ capture the

Figure 3.2: Income and Job Flexibility Score by Gender



Income and occupation flexibility score exhibits a loose positive relationship, implying that higher income occupations typically offer lower occupational flexibility.

effects of childbirth. γ_j for $j < 0$ can be used to test the absence of anticipation effects or omitted confounding variables. We omit the event time dummy for $j = -1$. This will make the event time dummy coefficients interpreted as the change in the outcome relative to the outcome in the year before child birth.

Because the PSID is a panel dataset, we additionally include individual fixed effects α_i, time fixed effects δ_t, and a set of additional control variables X_{it}. We estimate regression 3.1 for women within a high flexibility occupation, women within a low flexibility occupation, women with husbands in a high flexibility occupation, and women with husbands in a low flexibility occupation.

3.2.2 Framework

In this section, we dwell into more details regarding the event study specification and justify the use of the specification for this research. Define y_{it} to be the outcome of interest for individual i at time t, k_{it} to be the number of children for individual i at time t, k_i to be individual i's lifetime fertility, x_{it} to be determinants that respond to the number of children (e.g. hours worked, time off, and drowsiness), and z_{it} to be determinants that are not impacted by children (e.g. age and ability). y_{it} is a function of k_{it}, x_{it}, and z_{it}. We allow x_{it} to be a function of k_{it}, k_i, and z_{it}.

$$y_{it} = F(k_{it}, x_{it}, z_{it}) = F(k_{it}, x(k_i, k_{it}, z_{it}), z_{it}) \tag{3.2}$$

Thus, labor outcomes could respond to the number of children k_{it} both directly, such as being tired and exhausted from taking care of a newborn, and indirectly through labor choices x_{it}, such as going on maternal leave or working less hours. [4]

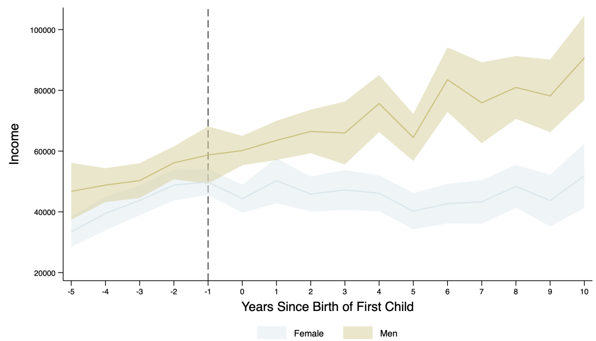
3.2.3 Assumptions

Central to the event study model is the assumption that children k_{it} is exogenous to outcome y_{it} conditioned on z_{it}. That is, children do not respond to outcomes, conditioned on outcome determinants that do not respond to children. We present graphical evidence in Figure 3.3 to support our assumption that children do not respond to outcomes. Outcomes seem to respond sharply in the time period after the birth of the first child, not before.

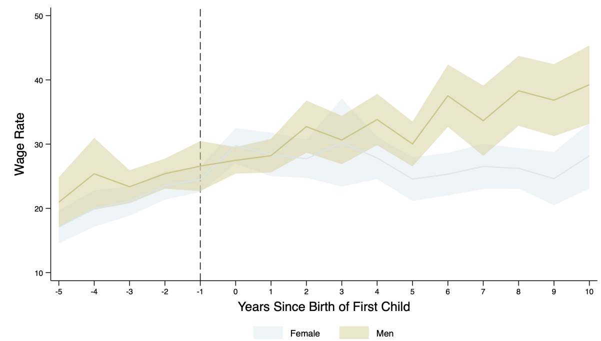
In addition, we believe that, through controlling for the lifetime total number of children and a large set of outcome determinants, we address concerns regarding changes to outcome determinants that do not respond to children. However, the extent remains an area to be explored.

[4] Even further detail regarding the event study design could be seen in Miller (2023) [19].

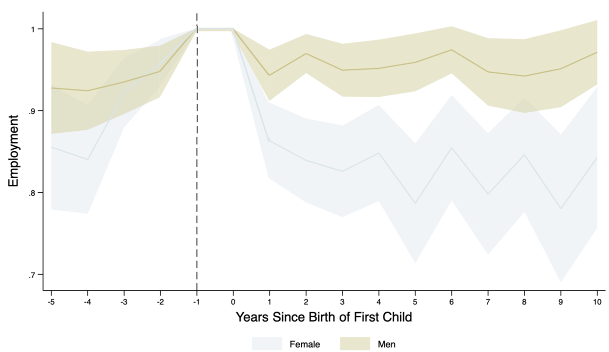
Figure 3.3: Outcomes Over Years Relative to the First Child Birth by Gender



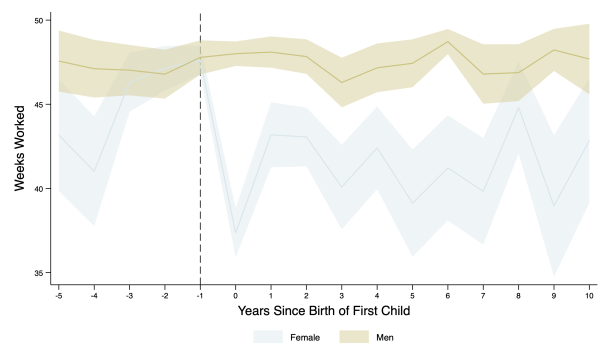
(a) Labor Income



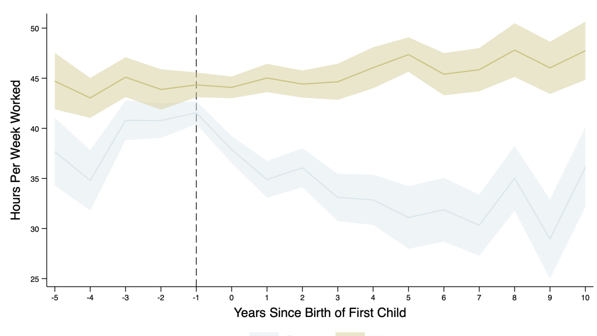
(b) Wage Rate



(c) Employment



(d) Weeks Worked



(e) Hours Per Week Worked

Shaded areas represent one standard deviation. The outcomes are characterized by sharp changes in the year after giving birth, that is, in year zero and onward.

Chapter 4

Results

4.1 Main Specification

This section estimates how the impact of parenthood on women's labor outcomes varies by their own occupational flexibility and that of their husbands. Figure 4.1 presents the results of regression 3.1 for women employed in low and high flexibility occupations in the year prior to their first childbirth. Across both groups, we observe an initial decline in employment and weekly hours worked. However, women in high flexibility occupations tend to recover their pre birth levels within seven years. Interestingly, labor income, wages, and weeks worked increase post childbirth for women in high flexibility occupations, while these measures either decline or remain stagnant for their counterparts in low flexibility occupations. Moreover, women in high flexibility occupations consistently exhibit higher income, hourly wages, employment rates, weeks worked, and weekly hours worked compared to women in low flexibility occupations. This indicates that high flexibility occupations partially mitigate the adverse effects of parenthood on women's labor market outcomes.

The differences in income trajectories between high and low flexibility occupations are particularly striking. For women in low flexibility occupations, income significantly declines by 3,050 in the first one to two years post childbirth relative to baseline levels. At an average baseline of 50,000, this decrease in income is 6.1%. In contrast, no significant income decrease is observed for women in high flexibility occupations. Over time, income for women in low flexibility occupations continues to decline, while income for women in high flexibility occupations rises, even in the immediate years following childbirth. Similar patterns, albeit less pronounced, are evident for labor at the intensive margin. Women in low and high flexibility occupations adjust their weeks worked by 0.1 and 1.4 weeks in the year following child birth. This gap grows to 3.4 weeks seven years after childbirth. The gap in hours per week grows from 1.0 to 3.6 hours in the year following childbirth to seven years after childbirth.

Employment patterns reveal another notable trend. Although employment rates decline for women in both high and low flexibility occupations after childbirth, the reduction is less pronounced for women in high flexibility occupations. The employment rate adjustment is -15.7 percentage points for women within low flexibility occupations but only -4.9 percentage points for women within high flexibility occupations. Both groups experience long term negative impacts on employment, but women in high flexibility occupations recover their baseline employment levels seven years post childbirth, whereas women in low flexibility occupations do not achieve similar recovery within the observed time frame. This trend may reflect women reentering the workforce as their children transition to school or daycare.

Overall, these findings suggest that occupational flexibility plays a critical role in shaping women's labor market adjustments following childbirth, affecting both intensive and extensive labor margins. The widening income gap between women in high and low flexibility occupations is particularly concerning, as it implies that the negative impact of parenthood on women's incomes compounds over time when occupational flexibility is limited.

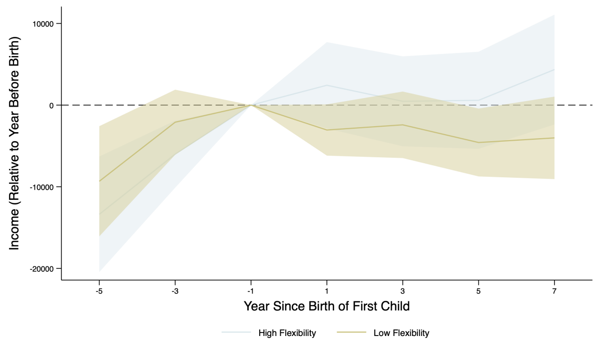
In addition to women's own occupational flexibility, we estimate regression 3.1 for women based on their husbands' occupational flexibility. Figure 4.2 presents the results for women with husbands in high and low flexibility occupations. Post childbirth, incomes increases by 2,040 for women with husbands in high flexibility occupations but decreases by 2,300 for women with a husband in low flexibility occupations. For women whose husbands are in low flexibility occupations, income remains below baseline levels.

Extensive level employment adjustment is slightly more negative for women with husbands in low flexibility occupations compared to their high flexibility counterpart. This difference becomes more pronounced as time progresses. The employment adjustment is zero for women with husbands in high flexibility occupations and 4.3 percentage points for women with husbands in low flexibility occupations. We hypothesize that husbands in high flexibility occupations may adjust their work conditions to take on a greater share of childcare responsibilities, reducing the need for women to exit the labor force. Furthermore, having a husband in a high flexibility occupation appears to improve employment at the intensive margin in the long term. By five years post childbirth, weeks worked and hours per week worked for women with husbands in high and low flexibility occupations diverge.

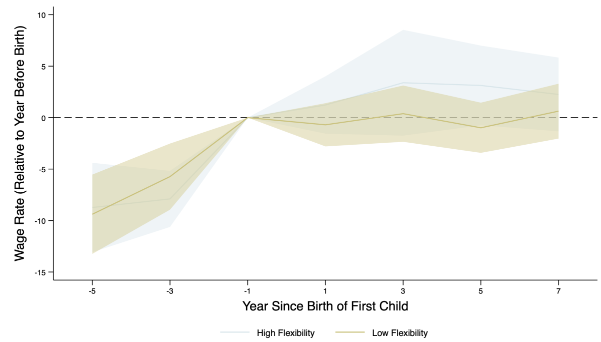
These results are consistent with findings from Bang (2022) [7], who reported that women with husbands in less flexible occupations experience a greater decline in labor supply, both at the intensive and extensive margins. The similarity between these findings suggests the universality of these conclusions across different sample compositions. While Bang used data from the National Longitudinal Survey of Youth, which is representative of the U.S. population, the PSID sample over samples low income families. This indicates that the impact of flexibility on labor outcomes may be similar across income groups. In the "Sources of Heterogeneity" section, we further examine these potential differences by analyzing high and low income subsets of the sample.

These results have several consequences. First, occupational flexibility has a large impact on women's labor outcomes following childbirth. Women in high flexibility occupations tend to have smaller, if any, negative impacts on all outcomes. We also find that the husband's occupational flexibility impacts women's labor supply at the extensive margin. Those with husbands in low flexibility occupations adjusted their employment slightly more than those with husbands in high flexibility occupations. Thus, greater flexibility for men and women could partially mitigate the negative impacts that childbirth has on women's labor outcomes, making job flexibility a promising policy intervention to address the parental gender gap.

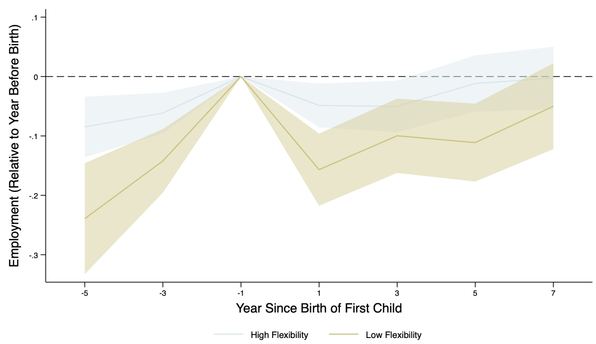
Figure 4.1: Estimated Coefficients by Own Occupational Flexibility



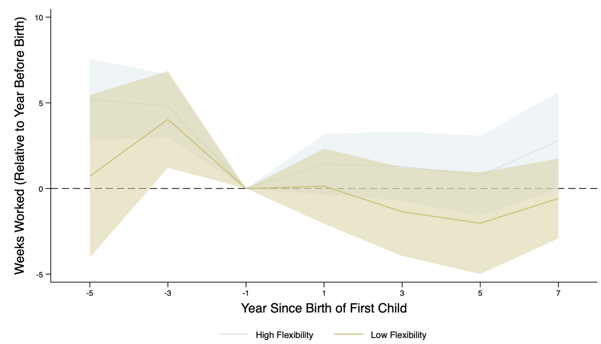
(a) Labor Income



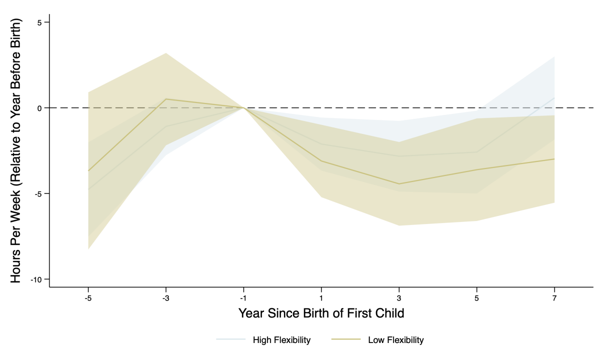
(b) Wage Rate



(c) Employment



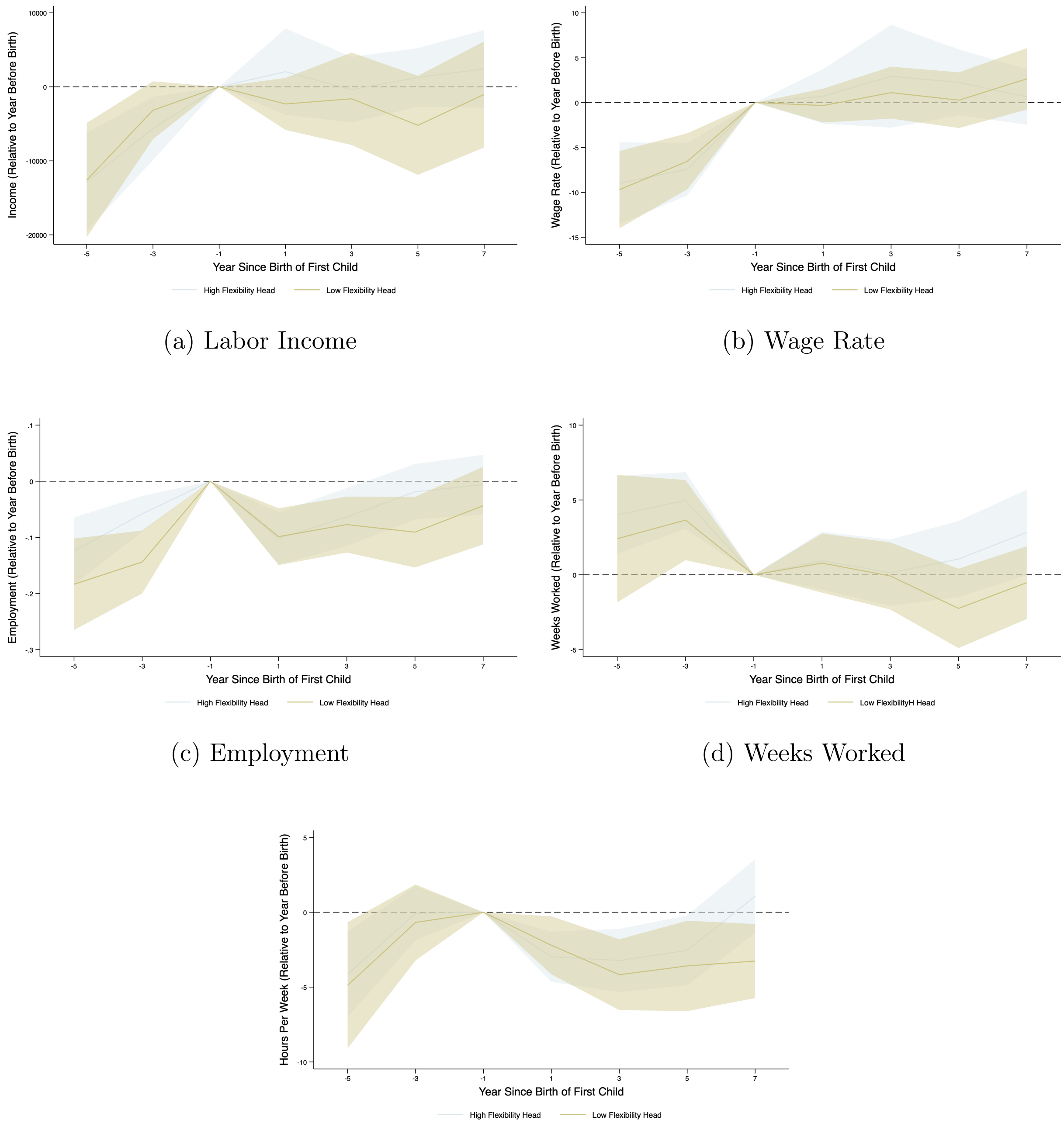
(d) Weeks Worked



(e) Hours Per Week Worked

Shaded areas represent 95% confidence intervals. Women in low flexibility occupations experience more negative income, wage rate, and employment (at both the extensive and intensive margin) changes compared to their high flexibility counterparts. There is also a widening gap in labor income adjustments for women within high and low flexibility occupations

Figure 4.2: Estimated Coefficients by Husband Occupational Flexibility



(a) Labor Income

(b) Wage Rate

(c) Employment

(d) Weeks Worked

(e) Hours Per Week Worked

Shaded areas represent 95% confidence intervals. Women with husbands in low flexibility occupations consistently experience more negative income, employment, and weeks worked adjustments compared to their high flexibility husband counterparts. However, these differences are less pronounced compared to own flexibility.

4.2 Estimation of the Parental Gender Gap

This section estimates the parental gender gap for individuals in high and low flexibility occupations during the year before their first childbirth. The parental gender gap is defined as the income disparity between mothers and fathers. To analyze this gap, we decompose it into three components: the "motherhood effect," the "price of being female," and the "fatherhood premium." The motherhood effect captures the income difference between women with and without children. The price of being female reflects the income difference between men and women in the absence of children. The fatherhood premium is the increase in income that fathers receive compared to mothers.

To perform this analysis, we adapt the methodology outlined by Goldin (2022) [3]. We modify the methodology slightly through excluding several child-specific variables from the main regression. Our dataset is composed of individuals from the PSID who are identified as either the male head of household, the legal wife of the head, a female cohabitant, or a "wife" of the head. We exclude individuals under the age of 18 and those actively pursuing education. Since individuals without children in the sample lack a defined year of first childbirth, we assign a synthetic year of first birth to these cases.

To estimate these synthetic years, we regress the actual year of first childbirth on birth year, sex, race, and education for individuals with children in the sample. The resulting coefficients are used to predict the year of first childbirth for individuals without children.

This approach produces a sample in which each individual is associated with either an actual or predicted year of first childbirth. We then merge the PSID data with O*NET occupation scores based on the individual's occupation in the designated year. Our analysis focuses on individuals whose actual or predicted year of first childbirth falls between 2003 and 2021. Finally, we classify occupations as either high or low flexibility, as described in section 3.1.3.

$$y_{it} = \phi_0 + \phi_1 F_i + \phi_2 A_{it} + \phi_3 A_{it} \times F_i + \alpha_0 C_{it} + \alpha_1 C_{it} \times F_t + \gamma T_{it} + \psi Z_{it} + \delta Y_t + \epsilon_{it} \quad (4.1)$$

y_{it} is the outcome, log of income, in time t for individual i. We include a summary variable for female F_i. A_{it} is a vector of five year age groupings and $A_{it} \times F_i$ is their interaction with the female dummy. C_{it} is the number of biological children born to individual i by time t and $C_{it} \times F_i$ is the interaction with the female dummy. T_{it} is a vector of work variables which include the log of hours worked and log of hours worked per week in time t for individual i. Z_{it} is a vector of controls including race and education. y_t are time fixed effects for the year.

We estimate regression 4.1 for those within high flexibility occupations and low flexibility occupations in the year before the first child birth. Due to the limited number of individuals in the PSID sample, we estimate the regression as a cross sectional OLS instead of using fixed effects. The estimated coefficients are seen in Table 4.1.

Table 4.1: Pooled Regression on Log of Labor Income

	Low	High
Female	−0.056	−0.009
	(0.33)	(0.15)
Age Groups		

(Continued on next page)

	Low	High
<= 24	0.000	0.000
	(.)	(.)
25 to 29	0.189***	0.326***
	(0.04)	(0.06)
30 to 34	0.389***	0.543***
	(0.04)	(0.06)
35 to 39	0.532***	0.680***
	(0.04)	(0.06)
40 to 44	0.647***	0.788***
	(0.05)	(0.07)
45 to 49	0.668***	0.712***
	(0.07)	(0.09)
50 to 54	0.610**	0.506***
	(0.19)	(0.14)
55 to 59	0.587***	1.011***
	(0.08)	(0.15)
Female × Age Group		
Female × <= 24	−0.092	−0.096
	(0.34)	(0.16)
Female × 25 to 29	−0.027	−0.053
	(0.33)	(0.15)
Female × 30 to 34	−0.061	−0.073
	(0.33)	(0.15)
Female × 35 to 39	−0.114	−0.147
	(0.34)	(0.15)
Female × 40 to 44	−0.103	−0.206
	(0.34)	(0.16)
Female × 45 to 49	−0.257	−0.150
	(0.37)	(0.17)
Number of Children	0.017	0.000
	(0.01)	(0.01)
Female × Number of Children	−0.042	−0.021
	(0.02)	(0.02)
ln_weekly_hours	0.985***	1.066***
	(0.04)	(0.04)

(Continued on next page)

	Low	High
ln_weeks	1.041***	0.884***
	(0.04)	(0.04)
Education		
Some High School Completed	0.156	0.000
	(0.15)	(.)
Received High School Diploma or GED	0.420**	−0.006
	(0.14)	(0.09)
Some College	0.514***	0.004
	(0.14)	(0.09)
Received College Degree	0.774***	0.334***
	(0.14)	(0.09)
Received Higher Degree	1.085***	0.492***
	(0.14)	(0.09)
Year Fixed Effects		
2003	0.000	0.000
	(.)	(.)
2005	0.013	0.072
	(0.07)	(0.05)
2007	0.030	0.142**
	(0.06)	(0.05)
2009	0.161**	0.219***
	(0.06)	(0.05)
2011	0.081	0.144**
	(0.06)	(0.05)
2013	0.099	0.165***
	(0.06)	(0.05)
2015	0.134*	0.240***
	(0.06)	(0.05)
2017	0.172**	0.278***
	(0.06)	(0.05)
2019	0.271***	0.363***
	(0.06)	(0.05)
2021	0.286***	0.463***
	(0.06)	(0.05)

(Continued on next page)

	Low	High
2022	0.739***	0.447
	(0.07)	(0.31)
Race		
White	0.000	0.000
	(.)	(.)
Black	−0.160***	−0.199***
	(0.02)	(0.03)
Native American	−0.093	−0.130
	(0.11)	(0.08)
Asian, Pacific Islander	0.415***	0.245***
	(0.10)	(0.07)
Latino origin or descent	0.117	−0.559***
	(0.12)	(0.14)
Other	−0.071	0.026
	(0.05)	(0.05)
Observations	4009	5413
Adjusted R^2	0.663	0.595

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Using the estimated coefficients and the mean number of biological children for each age group in Table 4.2, we then estimate the parental gender gap and its three components. The coefficients on terms interacted with the female dummy give the parental gender gap. The coefficient on the number of children interacted with the female dummy and the coefficient on the number of children give the motherhood penalty. The price of being female emerges from the coefficients on the female dummy and the age group interacted with the female dummy. The fatherhood premium comes from the coefficient on the number of children.

Table 4.2: Mean Number of Children by Age Group

	Age Group							
	<= 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59
Number of Children	1.998	1.996	1.994	2.014	1.917	1.811	1.617	1.312

Take for instance the age group 25 to 29 for those in low flexibility occupations. The parental gender gap is -0.056 + -0.027 + -0.42*1.996 = -0.167. Note, we can interpret this parental gap as fathers with the mean number of children on average make 16.7 percent more compared to mothers with the mean number of children. The motherhood penalty is (0.017 + -0.042)*1.996 = -0.0497. The price of being female is -0.056 + -0.027 = -0.0833. The fatherhood premium is 0.017*1.996 = 0.0341. Notice that the parental gender gap is the sum of the price of being female and the motherhood penalty with the fatherhood premium subtracted.

Table 4.3: Parental Gender Gap for Low Flexibility Occupations

Age Group	**Parental Gender Gap**	**Motherhood Penalty**	**Price of Being Female**	**Fatherhood Premium**
<=24	−23.25	−4.97	−14.86	3.41
25-29	−16.71	−4.97	−8.33	3.41
30-34	−20.12	−4.96	−11.75	3.40
35-39	−25.43	−5.01	−16.98	3.44
40-44	−23.93	−4.77	−15.88	3.27
45-49	−38.90	−4.51	−31.30	3.09
50-54	−12.41	−4.02	−5.62	2.76
55-59	−11.13	−3.27	−5.62	2.24

Table 4.4: Parental Gender Gap for High Flexibility Occupations

Age Group	**Parental Gender Gap**	**Motherhood Penalty**	**Price of Being Female**	**Fatherhood Premium**
<=24	−14.52	−4.03	−10.42	0.07
25-29	−10.28	−4.02	−6.19	0.07
30-34	−12.29	−4.02	−8.20	0.07
35-39	−19.66	−4.06	−15.53	0.07
40-44	−25.34	−3.86	−21.41	0.07
45-49	−19.62	−3.65	−15.90	0.06
50-54	13.27	−3.26	16.58	0.06
55-59	−3.55	−2.64	−0.86	0.05

Table 4.4 and Table 4.3 present the estimations for individuals in high and low flexibility occupations during the year prior to their first childbirth. The parental gender gap is most pronounced among individuals aged 35 to 49. This likely reflects the period when parenting demands are at their peak, requiring parents to make significant sacrifices for their children. During this time, the burden of caregiving often falls disproportionately on women, leading to career interruptions or reduced workforce participation.

Notably, the motherhood penalty diminishes as age increases, yet the overall parental gender gap remains substantial. The "price of being female," which captures the unexplained portion of the gap not accounted for by the regression variables, constitutes the largest share of the parental gender gap. Additionally, the fatherhood premium is consistently positive.

This premium may result from fathers working longer hours or exerting greater effort to support their families or compensate for income losses on the mother's side. Furthermore, having children may enhance fathers' perceived desirability in the workplace, potentially leading to promotions or higher wages.

When comparing the estimates across occupational flexibility groups, we observe that the parental gender gaps are significantly larger in magnitude for individuals in low flexibility occupations than for those in high flexibility occupations. In some age group cohorts, the parental gender gaps for those in low flexibility occupations are almost twice as large for those in high flexibility occupations. For instance, for the age group 30-34, the estimated parental gender gaps are 20.12% and 12.29% for those in low flexibility and high flexibility occupations, respectively.

While the motherhood penalties are relatively similar between the two groups, the fatherhood premiums are considerably smaller for individuals in high flexibility occupations. This difference could be attributed to a reduced labor adjustment among women in high flexibility occupations. Because women in these occupations are less likely to reduce their working hours, men may face less pressure or incentive to increase their own hours or earnings.

4.3 Additional Analyses

In the following section, we build upon the results in section 4.1.

4.3.1 Differences in Differences Estimates

To evaluate whether the differences in labor outcomes between women in high and low flexibility occupations are statistically significant, we conducted a difference in differences analysis. Given the larger observed differences in outcomes when the sample was categorized by women's own occupational flexibility, we restricted this analysis to own flexibility. Table 4.5 displays the coefficients for the interaction between the year relative to the birth of the first child and the indicator for being in a high flexibility occupation.

The coefficients in Table 4.5 corroborate the visual results presented in Figure 4.1. Positive coefficients for income, wages, weeks worked, and hours worked per week during post childbirth years indicate that women in high flexibility occupations experience more favorable changes in these outcomes compared to women in low flexibility occupations. Conversely, negative coefficients for employment suggest that women in low flexibility occupations face greater declines in employment relative to their pre birth levels. Furthermore, the difference in employment at the intensive margin between the two groups grows as the time since childbirth increases.

We observe significant coefficients for weeks worked and employment. Notably, the significant coefficients seven years post childbirth highlight the long term impact of occupational flexibility prior to the birth of the first child. While other coefficients lack statistical significance, their magnitudes remain substantial. For instance, consider the coefficient of 5,093 for the high flexibility indicator interacted with the one year post childbirth indicator in regression (1). Given that the average labor income one year post childbirth is approximately 50,200, this difference represents a substantial 10% of income.

Table 4.5: Difference in Differences Estimates for Low vs High Flexibility Occupations

	(1) Income	(2) Wage Rate	(3) Employment	(4) Work Weeks	(5) Hours / Week
High Flex × -5	-4302.74	-1.05	0.06	1.05	-0.75
	(3618.25)	(1.95)	(0.26)	(1.80)	(1.85)
High Flex × -3	-3461.12	-2.47	0.04	-0.98	-1.55
	(2379.59)	(1.68)	(0.13)	(1.32)	(1.32)
High Flex × 1	5093.75	1.74	-1.19^{*}	2.15	1.13
	(2774.07)	(1.66)	(0.59)	(1.53)	(1.35)
High Flex × 3	1322.85	2.77	-0.69^{*}	3.97^{*}	1.51
	(2998.51)	(3.14)	(0.27)	(1.95)	(1.71)
High Flex × 5	2878.77	3.15	-0.87^{**}	4.23	0.19
	(3263.99)	(2.09)	(0.28)	(2.29)	(2.07)
High Flex × 7	4884.50	0.84	-0.54^{*}	4.90^{*}	1.72
	(4011.81)	(2.30)	(0.26)	(2.13)	(2.11)
Observations	2379	2379	2379	2379	2379
Adjusted R^2	0.690	0.531	0.184	0.421	0.514

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.3.2 Sources of Heterogeneity

There are numerous sources of heterogeneity in the impact of occupational flexibility on women's labor outcomes following childbirth. In this section, we examine two major dimensions of heterogeneity: education and income.

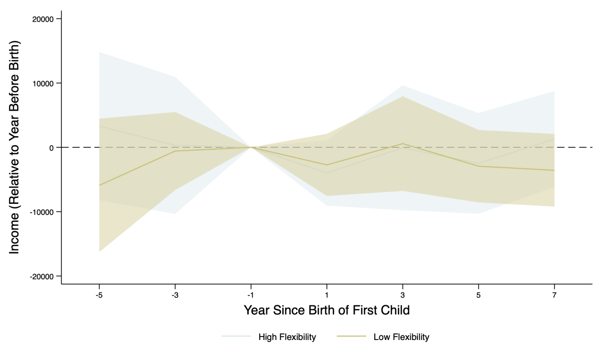
College Graduates vs. non College Graduates

Education has been identified as a key determinant of labor market outcomes in prior research [3]. To investigate its role, we divide the sample into two groups: women without a college degree and women with a college degree. Regression 3.1 is estimated separately for four categories: (1) college graduates in low flexibility occupations, (2) college graduates in high flexibility occupations, (3) non college graduates in low flexibility occupations, and (4) non college graduates in high flexibility occupations. The results, shown in Figure 4.3, use income and weeks worked as the primary outcomes.

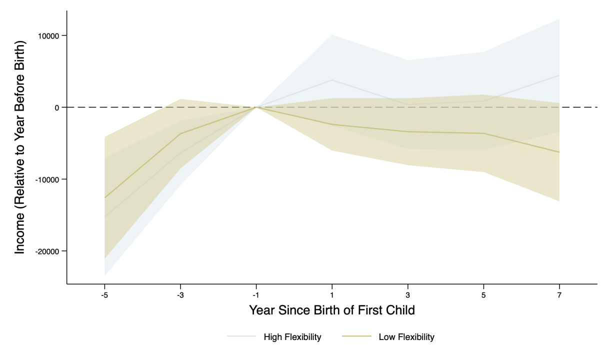
Panels (a) and (b) reveal that occupational flexibility has a significantly smaller impact on income for non college graduates compared to college graduates. For non college graduates, the estimated coefficients for high and low flexibility occupations are relatively similar. For college graduates, the difference is 6,200 in the year following childbirth and then grows to

11,700 seven years after childbirth. One possible explanation is that college graduates are more likely to have higher-earning spouses, which may enable them to work fewer hours or earn lower incomes without financial strain. In contrast, panels (c) and (d) demonstrate that both college and non college graduates adjust their weeks worked in response to occupational flexibility in a similar manner.

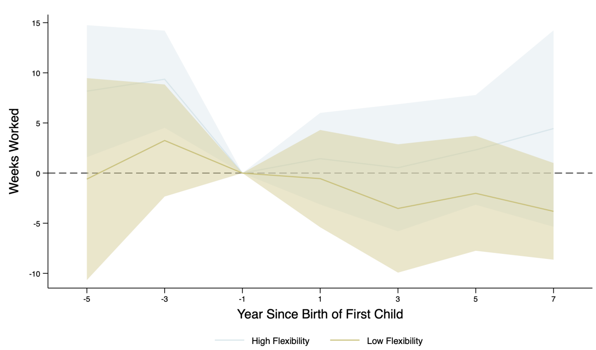
Figure 4.3: Estimated Coefficients by Own Occupational Flexibility and Education



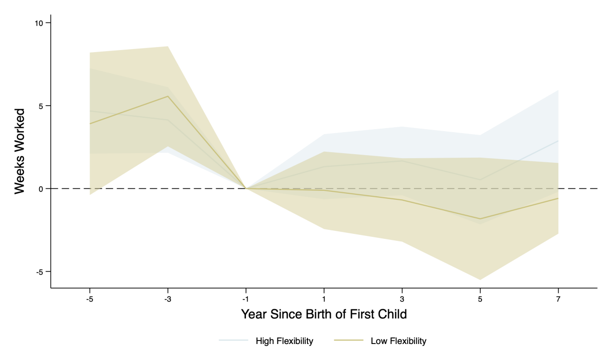
(a) Income - No Degree



(b) Income - College Degree



(c) Weeks Worked - No Degree



(d) Weeks Worked - College Degree

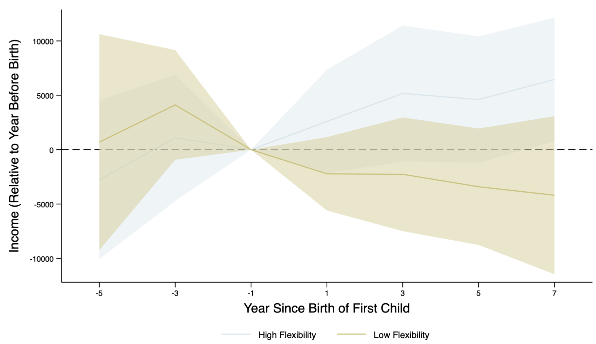
Shaded areas represent 95% confidence intervals. Differences in income adjustments are pronounced for the women with a college degree. Differences in weeks worked adjustments are similar among women with and without a college degree.

Low Income vs. High Income

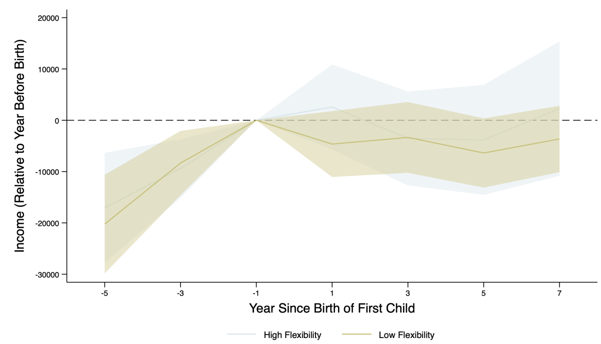
We further divide the sample by income, categorizing individuals as high or low income based on the joint income of the husband and wife during the year preceding the birth of their first child. Those above the median are classified as high income, while those below the median are classified as low income. Regression 3.1 is estimated separately for the four income and flexibility groups, and the results are presented in Figure 4.4, with income and weeks worked as the outcomes of interest.

The findings indicate that occupational flexibility has a greater impact on income adjustments for low income individuals. Women in low income, high flexibility occupations experience an increase in income of 2,600 following the birth of their first child, whereas their counterparts in low flexibility occupations experience a decline of 2,200. Among high income women, those in high flexibility occupations increase their weeks worked, while those in low flexibility occupations reduce their weeks worked. In the long term, the difference in weeks worked adjustments is 5.6 weeks. One plausible explanation is that high income women in low flexibility occupations may have the financial security to decrease their labor supply. Given the constraints of low flexibility occupations, these women may opt to reduce their work weeks rather than modify their work schedules.

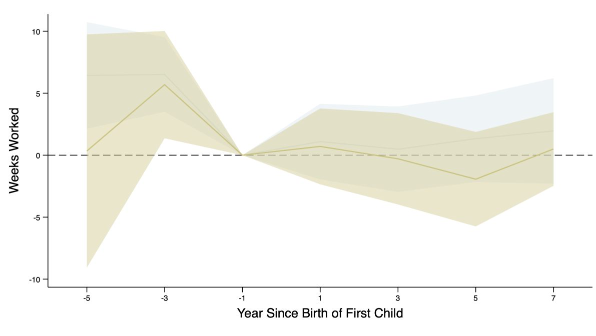
Figure 4.4: Estimated Coefficients by Own Occupational Flexibility and Income



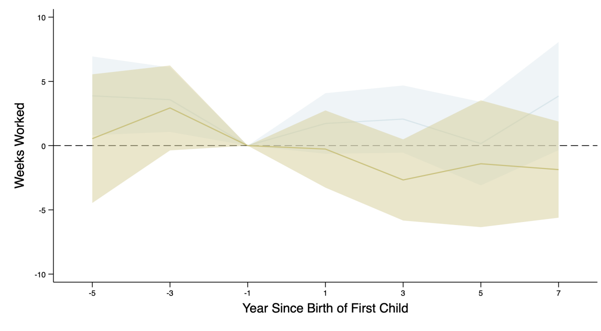
(a) Income - Low Income



(b) Income - High Income



(c) Weeks Worked - Low Income



(d) Weeks Worked - High Income

Shaded areas represent 95% confidence intervals. Differences in income adjustments are larger for low income women. Differences in weeks worked adjustments are larger for high income women.

4.3.3 Convergence of Women's Incomes

Figure 3.2 and literature suggests that high paying occupations typically offer lower occupational flexibility. The above results imply that women within high flexibility occupations experience growth in income whereas women within low flexibility occupations experience a decrease in income. Taken together, we should thus observe a convergence in incomes for women. We measure the trajectory of income variance at different points relative to the birth of their first child for men and women.

We find that the variance in income for men and women in the year before childbirth is 9,781 and 35,904, respectively. In the year after childbirth, the variance in income for men grows to 41,824, whereas the variance in income for women declines to 35,618. Seven years after the birth of the first child. the variance in income for men grows to 49,643. The variance in income women slightly increases as well to 37,456. Although these results do not indicate that income converges for women, the small growth of income variance relative to their male counterparts suggests that preferences towards high flexibility occupations hinders long term career growth for women.

Chapter 5

Conclusion and Future Work

5.1 Summary of Findings

The purpose of this study was twofold: (a) to evaluate how occupational flexibility impacts women's labor market adjustments following the birth of their first child, and (b) to estimate the parental gender gap, motherhood effect, price of being female, and fatherhood premium across low and high flexibility occupations. Our findings confirm that women experience significant negative impacts on their labor market outcomes after the birth of their first child.

However, we find an increase in income for women within high flexibility occupations after their first childbirth. Women within low flexibility occupations, on the other hand, experience a significant decline amounting to 6.1% of the average income in the sample in the year following the birth of the first child and do not restore their pre birth income levels in the observed time period. High flexibility occupations also positively influence employment at the extensive and intensive margin, increasing the number of weeks worked, hours per week worked, and employment relative to women in low flexibility occupations. These differences are especially pronounced in the long term; seven years after the birth of the first child, the difference in weeks worked, weekly hours, and employment adjustments between the two groups is 3.4 weeks, 3.6 hours, and 5.0 percentage points. Husbands' occupational flexibility exerts a positive, although smaller, influence on income and employment at the extensive and intensive margin. Furthermore, the parental gender gap is substantially smaller in high flexibility occupations. For instance, in the PSID sample, the parental gender gap among 30 to 34 year olds was 20.1 percent in the low flexibility cohort but only 12.3 percent in the high flexibility cohort.

These findings highlight the promise of policies that enable women to effectively balance their dual roles as workers and mothers in reducing the parental gender gap. Commonly implemented policies, such as paid maternity leave, while valuable, may not address the long-term adverse impacts of childbirth on women's labor market outcomes. Such policies often fail to support women's ability to maintain continuous labor force participation during the early stages of motherhood, and research indicates they have limited effects on increasing long-term employment and income. Instead, policymakers could evaluate initiatives that enhance workplace flexibility. These might include policies that allow employees to choose when, where, and how they work. Such measures not only directly improve women's labor market outcomes but also have indirect benefits by increasing flexibility for spouses, which can further alleviate negative consequences of childbirth on women.

5.2 Future Directions

While this study provides valuable insights, it also raises several questions that warrant further exploration. First, the event study framework employed in this research focuses on post childbirth outcomes. Using this framework, we can not measure potential pre sorting into high or low flexibility occupations prior to childbirth. Women who anticipate the demands of motherhood may disproportionately select into occupations offering greater flexibility, a phenomenon likely influencing the parental gender gap observed in this study. Future research could quantify the extent and impact of this pre sorting on labor market outcomes.

One area of concern is that the main specification characterizes absolute changes in outcomes, rather than relative changes. The impact of a decrease in income, for instance, depends on the base level of income. This study also misses an analysis characterizing the difference in labor outcomes between women with and without children. To address these two concerns, one could consider transforming the outcome variable to log scale and comparing summary statistics between women with and without children. Propensity score matching or similar methods which create a "faux" control group for comparing women with and without children could provide an insightful avenue.

In addition, while this study examines the birth of the first child as a pivotal event, other significant milestones in the family life cycle may influence women's labor market adjustments. Events such as children starting preschool, transitioning to college, or achieving greater independence (e.g., learning to drive) often reduce household production demands. These transitions could provide opportunities for women to re-enter the workforce or increase their labor supply. Future research could explore how labor market outcomes evolve in response to these events and whether they contribute to narrowing the gender gap over time.

Although this study highlights the potential of occupational flexibility as a policy intervention, little is known about the specific design and effectiveness of such policies. Future work could evaluate the real-world impact of policies aimed at enhancing flexibility, such as remote work options, flexible scheduling, or job-sharing programs. Alternatively, researchers could develop economic models or simulations to estimate the potential outcomes of such policies.

Lastly, beyond immediate labor market outcomes, future studies could explore the long-term and inter generational effects of occupational flexibility. For instance, how do flexible work policies affect children's outcomes, such as educational attainment or health? Additionally, what are the implications for household income dynamics, wealth accumulation, and retirement savings? Understanding these broader effects could help build a more comprehensive case for implementing flexibility oriented policies. These analyses would provide insights for policymakers seeking to address the parental gender gap and promote gender equity in the labor market.

Appendix A

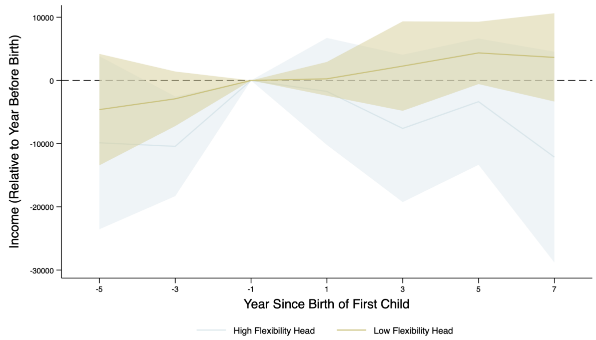
Gender Comparison for Main Specification

We run specification 3.1 on men within high flexibility occupations and men within low flexibility occupations in the year before the birth of their first child. Figure A.1 displays the results.

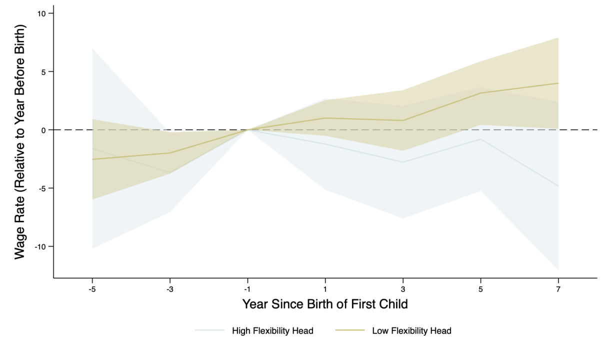
We observe that income and wage rate increases in the years following childbirth for those in low flexibility occupations and decreases for those in high flexibility occupations. This is in stark contrast to the results in section 4.1, where we find the opposite trend for women.

There are no significant impacts of occupational flexibility on employment adjustments at the extensive margin. However, similar to the results in section 4.1, hours per week worked decreases for those within low flexibility occupations but increases for those within high flexibility occupations. This may seem odd because of the results in panel (a). The increases in income despite working less hours for those in low flexibility occupations may be explained by the increase hourly wages seen in panel (b).

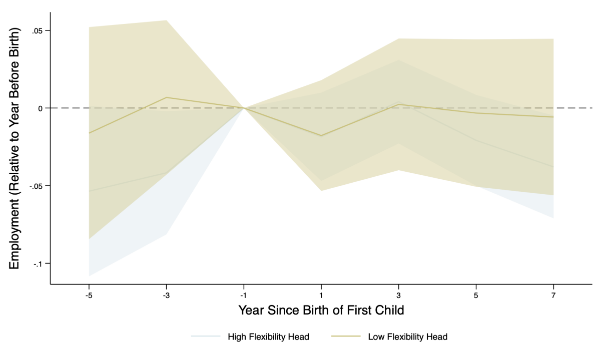
Figure A.1: Estimated Coefficients for Men by Own Occupational Flexibility



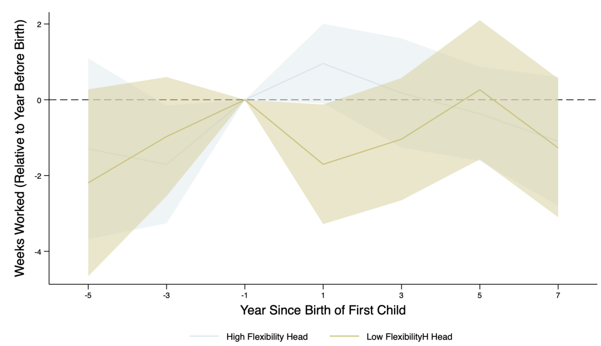
(a) Labor Income



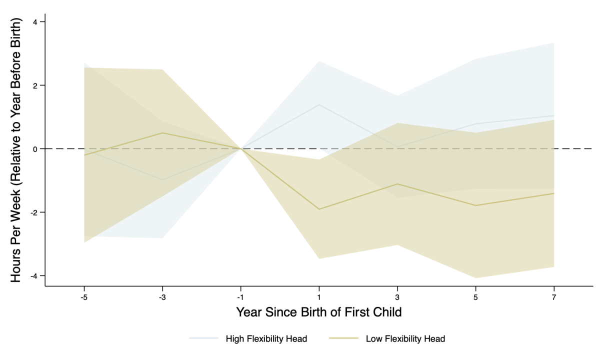
(b) Wage Rate



(c) Employment



(d) Weeks Worked



(e) Hours Per Week Worked

Shaded areas represent 95% confidence intervals. In contrast to women's outcomes, men within low flexibility occupations see more favorable income and wage rate adjustments following childbirth.

Appendix B

Robustness Checks

We test how robust our results are to different sets of controls. We run the main specification using income as the outcome for various sets of controls. Regression (1) has no controls. Regression (2) adds controls for age, race, and education. Regression (3) adds individual and year fixed effects. Regression (4) includes the values of the outcome in the pre first birth or first birth year for both the women and her husband. Regression (5) includes a more detailed race breakdown beyond white and non white. Regression (6) includes controls for the total number of children and indicators for having a child in the past year. We run all the regressions above using the controls in regression (6).

Table B.1: Estimates on Income for Low Flexibility Occupations for Varying Sets of Controls

	(1)	(2)	(3)	(4)	(5)	**(6)**
-3	$1,354$	$1,905$	$-1,500$	$-1,500$	$-1,665$	**-7,449****
	(1804)	(1543)	(1941)	(1941)	(1951)	**(2606)**
1	$-2,397$	$-6,896^{***}$	$-3,352^{*}$	$-3,352^{*}$	$-3,258^{*}$	**-6,319*****
	(1762)	(1697)	(1559)	(1559)	(1564)	**(1834)**
3	-846	$-8,487^{***}$	$-2,560$	$-2,560$	$-2,542$	**-3,963**
	(2608)	(2539)	(2047)	(2047)	(2048)	**(2169)**
Observations	1038	1038	1025	1025	1025	**1025**
Adjusted R^2	0.001	0.269	0.728	0.728	0.728	**0.731**

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.2: Estimates on Income for High Flexibility Occupations for Varying Sets of Controls

	(1)	(2)	(3)	(4)	(5)	**(6)**
-3	$-2,856$	997	$-5,230^{**}$	$-5,230^{**}$	$-5,170^{*}$	**-9,772*****
	(1817)	(1854)	(2013)	(2013)	(2020)	**(2424)**
1	$3,384$	$-2,291$	$1,687$	$1,687$	$1,799$	**237**
	(2693)	(2498)	(2424)	(2424)	(2429)	**(2950)**
3	-339	$-10,373^{***}$	285	285	435	**-971**
	(2874)	(2861)	(2770)	(2770)	(2786)	**(2848)**
Observations	1361	1361	1354	1354	1354	**1354**
Adjusted R^2	0.008	0.130	0.660	0.660	0.662	**0.663**

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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