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DIFFERENTIAL ACCESS TO FLEXIBLE SCHEDULES: IMPLICATIONS FOR EMPLOYEE OUTCOMES

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I. *Introduction*

Flexibility in scheduling work is expected to enable working parents and employees in dual-earner households to better balance paid work and family care responsibilities, and to perform better on the job by scheduling work hours when they are best able to work (Cohen and Gadon 1978; Ronen 1981; Scandura and Lankau 1997). For employers, flexible work arrangements have the potential to contribute to better corporate performance by facilitating the flexible allocation of employee skills on the one hand, and by expanding the pool of highly qualified workers from which the firm is able to recruit on the other (Pierce and Newstrom 1980; Pierce et al. 1983; Welch et al. 1980).

In the U.S., in 2001, over a quarter of all wage and salary workers[1] (27.55%) had access to the most common form of flexible schedule, i.e., flextime or flexible work hours that allow employees to vary or make changes in the time they begin and end work.[2] Among those, 9.7% had flexible work hours as part of a formal employer flexible work schedule program. Previous research shows that flexible schedules are most prevalent among employees who are better educated, have higher incomes, and work longer hours in executive, administrative, and managerial occupations (Golden 2001). These employees tend to have greater control over work schedules, and allocate the hours they work more flexibly.

Meanwhile, many contingent and/or part-time workers report that they work on flexible schedules, but in their case, due largely to a lack of control over work hours. Part-time workers are indeed more likely than full-time workers to have access to flextime. In 2001, 36.59% of part-time workers had flexible schedules compared with 26.15% of full-time workers. Not surprisingly, the sample included twice as many female part-time workers as male part-time workers. Many of these female workers in part-time jobs report that they work part-time for family reasons (Spalter-Roth et al. 1997). More than half of all part-time jobs are concentrated in just 10 (out of a possible 236) industries, and these industries pay below-average wages (Wenger 2001). Employees who choose part-time employment also frequently face a wage penalty and a lack of health and pension benefits. In 2001, female workers employed part-time earned 15% less on an hourly basis than their counterparts with similar education, experience and family characteristics who held full-time jobs, while male workers employed part-time earned 25% less than similarly situated full-time workers (Wenger 2002).

We thus observe two different types of settings where flexible work hours are prevalent. Higher income executive/administrative workers have greater control over work schedules

[1] Excluding self-employed and unpaid workers. See the section that describes our dataset for detail.

[2] For more information on the use of flexible work hours, see Table A1.1 and A1.2. in the Appendix.

and more access to flexible work hours. But flexible work hours are also quite often used for part-time workers, who usually work at lower wage levels and with less access to employee benefits. In the latter case, the implementation of flexible scheduling does not really aim at helping working families improve their work conditions. Rather, such flexible scheduling appears to be merely another condition of part-time or other variable workers whose employment status and work schedule tend to be controlled by employers in order, for instance, to adjust short-term employment cost.

In this paper, we examine differential access to flexible work schedules, particularly the use of flexible work schedules for full-time and part-time workers. We first introduce our dataset, extracted from a supplement to the May 2001 Current Population Survey (CPS) as well as from the general CPS. Here we include descriptive analyses of variables that we assume explain access to flexible work schedules, including demographic characteristics, educational background, family status, occupation and industry. We then proceed to the examination of how flexible work hours are used by different groups of workers, through econometric analysis. We have already identified two major groups of workers who more often have flexible work schedules — full-time, executive workers with higher income, and part-time workers (largely female) with lower income and job security. To further investigate this observation, we examine how access to flexible work hours is associated with earnings, focusing on the difference between full-time and part-time workers. The conclusion follows.

II. *Data*

For this study, we use a supplement to the May 2001 CPS.[3] The May 2001 Work Schedules and Work at Home Supplement contains questions for working individuals 15 years old and over who are employed. The question regarding a flexible work schedule was: "Do you have flexible work hours that allow you to vary or make changes in the time you begin and end work?" The number of individuals who responded to this question was 90,657, 18,421answered "yes" and 72,236 otherwise. Among them, and included in our analysis, were wage and salary workers.[4] We excluded self-employed workers and unpaid individuals from our analysis. The total number of individuals in the sample is 56,333.

We assume that the use of flexible work schedules is affected by the worker's demographic characteristics, educational background, family status, and by the occupations and industries to which the worker belongs. We thus extracted such information from the general CPS, and then merged it with our sample on flexible work schedules. Table 1 is a descriptive table that shows the proportion of wage and salary workers on flexible work schedules for full-time and part-time workers, respectively, by: personal characteristics, including sex and race; level of education; and family status.[5]

[3] The CPS is the monthly household survey conducted in approximately 47,000 interviewed households across the U.S. In May 2001 the survey collected information about flexible schedules, shift work, and other related topics.

[4] CPS defines wage and salary workers as those who receive wages, salary, commission, tips, or pay in kind from a private employer or from a governmental unit, including persons who are self-employed in an incorporated business.

[5] Here we use the samples of individuals who reported that they work full-time or part-time. The number of individuals in the sample is 55,560 which exclude those who did not respond to this question.

TABLE 1. PROPORTION OF WAGE AND SALARY WORKERS ON FLEXIBLE WORK SCHEDULES

	Full-time workers		Part-time workers	
	Total	With flexible work schedule	Total	With flexible work schedule
Total	46,082	12,050 (26.15%)	9,478	3,468 (36.59%)
Men	25,862	7,144 (27.62%)	2,996	1,078 (35.98%)
Women	20,220	4,906 (24.26%)	6,482	2,390 (36.87%)
Black	4,987	844 (16.92%)	781	209 (26.76%)
White	38,486	10,584 (27.50%)	8,203	3,087 (37.63%)
Hispanic	4,843	816 (16.85%)	707	178 (25.18%)
Non-Hispanic	41,239	11,234 (27.24%)	8,771	3,290 (37.51%)
Education				
< HS	4,922	647 (13.15%)	2,631	732 (27.82%)
HS	14,678	2,852 (19.43%)	2,485	835 (33.60%)
Some College	8,751	2,367 (27.05%)	2,076	884 (42.58%)
Associate's Degree	4,155	1,146 (27.58%)	659	254 (38.54%)
Bachelor's Degree	9,221	3,396 (36.83%)	1,163	538 (46.26%)
Master's Degree	3,108	1,066 (34.30%)	342	156 (45.61%)
Professional Degree	644	295 (45.81%)	67	41 (61.19%)
Doctoral Degree	603	281 (46.60%)	55	28 (50.91%)
Family Status				
Never married	11,270	2,628 (23.32%)	4,220	1,370 (32.46%)
Married	27,600	7,609 (27.57%)	4,205	1,729 (41.12%)
Other*	7,212	1,813 (25.14%)	1,053	369 (35.04%)
Child < 6	7,498	2,124 (28.33%)	1,246	502 (40.29%)
Child 6-17	13,816	3,783 (27.38%)	2,073	799 (38.54%)
No child < 18	13,698	3,586 (26.18%)	2,157	863 (40.01%)

* Widowed, divorced, or separated

Among full-time workers, men have greater access than women to flexible work hours (27.62% vs. 24.62%). Among part-time workers, women have slightly more access than men to flexible work arrangements. For both full-time and part-time workers, black workers have much less access than white workers to flexible work hours (for full-time, 16.92% for black and 27.50% for white, for part-time, 26.76% for black and 37.63% for white). Hispanic workers also have less access than non-Hispanic workers to flexible work arrangements for both full-time (16.85% vs. 27.24%) and part-time (25.18% vs. 37.51%) workers.

There is a clear trend of those with higher levels of education having greater access to flexible work arrangements. There are a few exceptions. For full-time workers, those with a master's degree have slightly less access than those with bachelor's degree, and for part-time workers, those with a professional degree have the highest access, at more than 60%. As for family status, married workers have greater access to flexible work arrangements than those who are not married, or who are widowed, divorced, or separated, for both full-time and part-time workers.

Table 2 shows access to flexible work hours by occupation and industry. On average, executive, administrative and managerial occupations have the most prevalent access to flexible work schedules (42.85%), and their flexible work hours are most likely under an employer program (13.78%). Sales occupations, professional specialty occupations, and technicians and related support occupations also have higher access to flexible work schedules

TABLE 2. PROPORTION OF WAGE AND SALARY WORKERS WITH ACCESS TO FLEXIBLE WORK HOURS BY OCCUPATION AND INDUSTRY

	Total	With flexible work schedule	As part of employer program
Occupation			
Executive, Admin., & Managerial Occs	8,214	3,520 (42.85%)	1,132 (13.78%)
Professional Specialty Occs	8,741	2,907 (33.26%)	1,045 (11.96%)
Technicians & Related Support Occs	1,883	540 (28.68%)	241 (12.80%)
Sales Occs	6,469	2,286 (35.34%)	656 (10.14%)
Admin. Support Occs, incl. Clerical	8,225	2,061 (25.06%)	877 (10.66%)
Private Household Occs	343	133 (38.78%)	34 (9.91%)
Protective Service Occs	1,074	168 (15.64%)	85 (7.91%)
Service Occs, exc. Protective & Hhld	6,647	1,427 (21.47%)	555 (8.35%)
Precision Prod., Craft & Repair Occs	5,896	1,103 (18.71%)	368 (6.24%)
Machine Opers, Assemblers & Inspectors	2,937	285 (9.70%)	118 (4.02%)
Transportation & Material Moving Occs	2,413	442 (18.32%)	142 (5.88%)
Handlers,eEquip Cleaners, Helpers, Laborers	2,414	348 (14.42%)	133 (5.51%)
Farming, Forestry & Fishing Occs	1,070	298 (27.85%)	73 (6.82%)
Armed Forces	7	0 (0.00%)	0 (0.00%)
Industry			
Agriculture	982	294 (29.94%)	69 (7.03%)
Mining	366	69 (18.85%)	26 (7.10%)
Construction	3,621	864 (23.86%)	225 (6.21%)
Manufacturing — Durable Goods	4,992	1,119 (22.42%)	442 (8.85%)
Mfg. — Non-Durable Goods	3,159	663 (20.99%)	232 (7.34%)
Transportation	2,607	583 (22.36%)	210 (8.06%)
Communications	902	285 (31.60%)	98 (10.86%)
Utilities & Sanitary Services	639	154 (24.10%)	66 (10.33%)
Wholesale Trade	2,111	731 (34.63%)	195 (9.24%)
Retail Trade	9,769	2,743 (28.08%)	885 (9.06%)
Finance, Insurance, & Real Estate	3,567	1,344 (37.68%)	519 (14.55%)
Private Households	387	150 (38.76%)	42 (10.85%)
Business, Auto & Repair Services	3,601	1,172 (32.55%)	401 (11.14%)
Personal Services, excl. Private Hhlds	1,380	404 (29.28%)	131 (9.49%)
Entertainment & Recreation Services	1,120	380 (33.93%)	138 (12.32%)
Hospitals	2,285	505 (22.10%)	189 (8.27%)
Medical Services, excl. Hospitals	2,912	738 (25.34%)	243 (8.34%)
Educational Services	5,139	929 (18.08%)	291 (5.66%)
Social Services	1,409	381 (27.04%)	153 (10.86%)
Other Professional Services	2,486	1,150 (46.26%)	356 (14.32%)
Forestry & Fisheries	60	29 (48.33%)	18 (30.00%)
Public Administration	2,832	831 (29.34%)	530 (18.71%)
Armed Forces	7	0 (0.00%)	0 (0.00%)

in general, as well as to employer programs. Private household occupations and farming, forestry and fishing occupations also have high access to flexible work schedule, but relatively lower access to employer program flexible hours. Except for members of the armed forces, machine operators, assemblers and inspectors (9.7%), handlers, equipment cleaners, helpers and laborers (14.42%), and protective service occupations (15.64%) are least likely to have flexible work schedules. Machine operators, assemblers and inspectors also have the least chance to access employer program flexible work arrangements.

Forestry and fisheries (48.33%), other professional services (46.26%), private households (38.76%), and finance, insurance and real estate (37.68%) have greater access to flexible work schedules. Forestry and fisheries also have highest access to employer program flexible work schedules (30%). Public administration, finance, insurance, and real estate, and other professional services also have greater access to flexible work schedules under employer programs.

Descriptive analysis based on the 2001 CPS thus shows results consistent with previous studies. For full-time workers, men have greater access to flexible schedules than women while for part-time workers, women have more access than men to flexible scheduling. Due probably to family reasons, married women have greater access to flexible work arrangements. We confirmed that the level of education is clearly associated with the use of flexible work arrangements. Employees in executive, administrative and managerial occupations, as well as those in professional and technical services, who tend to have higher income on average, also tend to have more access to flexible scheduling, particularly to programs supported by employers. Although it is not a focus of this study, non-white workers tend to have less access to flexible work hours.

III. *Who Has Access to Flexible Work Schedules?*

We've seen a broad picture that shows that access to flexible work schedules varies by workers' personal and job characteristics as well as the occupations and industries to which the workers belong. We now examine how these factors act together to explain employees' access to flexible work schedules, through regression analyses.

We use the following probability model:

$$Pi = F(Zi) = \alpha + \beta PCi + \chi WSi + \delta IOi + \varepsilon$$

where the range of the cumulative probability function, F of Z observation, is the (0,1) interval, and where 1 refers to when the worker answers that he/she has flexible work hours that allow him/her to vary or make changes in the time he/she begins and ends work, and 0, otherwise. "*PC*" indicates the worker's personal characteristics including age, sex, white or non-white, marital status, whether the worker has a child (or children) under 6 or/and between 6 and 17, and highest degree completed. "*WS*" indicates work status including whether the worker is part-time, a union member and whether his/her work hours vary or not. *IO* is industry and occupation to which the individual workers belong. ε is the stochastic error term.

Coefficients in Table 3 show the marginal effects of respective characteristics on the likelihood of individuals having flexible work hours. The first column shows the effect of personal characteristics only. We then added work status variables in the second column, and occupations and industries to which workers belong, in the last column. When controlling for other personal characteristics, age has negative effects on the access to flexible work arrangements although the age effect becomes positive as workers get older. As more variables are added, however, the age effects taper off, becoming statistically insignificant when adding occupational and industrial variables. Male workers are more likely to have flexible work hours than female workers. White workers are more likely to have access to flexible work hours than

TABLE 3. LIKELIHOOD OF HAVING FLEXIBLE START AND END TIME[1]

Variable	Personal characteristics		Work status		Occupation and industry	
	Coef.	Z statistic	Coef.	Z statistic	Coef.	Z statistic
Age	−0.0227**	−8.65	0.0017	0.6	0.0045	1.57
Age squared	0.0003**	9.14	0.0000	0.05	0.0000	−0.96
Sex (if male)	0.0305**	2.65	0.0975**	8.2	0.1148**	8.36
Non-white	−0.2476**	−15.02	−0.1340**	−13.94	−0.1977**	−11.62
Marital status (if married)	0.0233*	1.67	0.0161	1.14	0.0057	0.39
Child < 6	0.0567**	3.34	0.0646**	3.78	0.0509**	2.92
Child 6-17	0.0586**	4.14	0.0368**	2.57	0.0440**	3.02
Highest degree completed[2]						
Less than 12th grade; no diploma	−0.4042**	−15.34	−0.4695**	−17.57	−0.3870**	−13.69
High school grad diploma or GED	−0.2477**	−11.29	−0.2508**	−11.36	−0.1889**	−8.22
Some college but no degree	0.0165	0.72	0.0011	0.05	0.0025	0.11
Bachelor's degree	0.2409**	10.55	0.2482**	10.81	0.1414**	5.9
Master's degree	0.1731**	5.95	0.1890**	6.46	0.1629**	5.15
Professional school degree	0.4657**	9.16	0.4625**	9.06	0.3594**	6.7
Doctoral degree	0.4542**	8.63	0.4532**	8.58	0.4956**	8.99
Part-time			0.4315**	26.35	0.4780**	28.04
Union member			−0.4849**	−12.87	−0.2694**	−6.93
Work hours vary			0.2196**	10.2	0.2062**	9.37
Occupation[3]						
Executive, admin., & managerial					0.1803**	8.14
Technicians & related support					−0.1244**	−3.47
Sales					−0.0128	−0.47
Admin support incl. clerical					−0.1742**	−7.05
Private households					−0.1812**	−0.87
Protective service					−0.5851**	−11.05
Service, excl. protective & hhld					−0.2699**	−9.8
Precision prod., craft & repair					−0.3936**	−13.27
Machine operators, assemblers & inspectors					−0.6877**	−17.08
Transportation & material moving					−0.3711**	−9.61
Handlers, equi. cleaners, helpers, etc.					−0.5743**	−14.56
Farming, forestry & fishing					−0.2202**	−3.29
Industry[4]						
Agriculture					0.1105	1.39
Mining					−0.2770**	−3.05
Construction					0.0280	0.54
Manufacturing — Durable goods					−0.0673	−1.35
Manufacturing — Non-durable goods					−0.1175**	−2.23
Transportation					−0.1036*	−1.92
Utilities and sanitary services					−0.1080	−1.5
Wholesale trade					0.1247**	2.31
Retail trade					−0.0389	−0.81
Finance, insurance, & real estate					0.0817	1.63
Private households					0.3364*	1.67
Business, auto, & repair services					0.0704	1.4
Personal services					0.0836	1.42
Entertainment & recreation services					0.0332	0.55
Hospitals					−0.3685**	−6.75
Medical services excl. hospitals					−0.2146**	−4.07
Educational services					−0.6149**	−12.19

Social services					−0.1437**	−2.45
Other professional services					0.1744**	3.35
Forestry					0.5878**	3.38
Public administration					−0.0275**	−0.52
Constant	−0.1573	−2.86	−0.7380	−12.45	−0.5949	−7.68
Pseudo R2	0.0299		0.0454		0.0825	
Number of obs	56333		56333		56326	

* 10% significant ** 5% significant

1. These regressions exclude Armed Forces.
2. Associate's degree is used as a reference.
3. Professional specialty is used as a reference.
4. Communication industry is used as a reference.

non-white workers. Married workers have more access to flexible schedules. The effect of being married becomes statistically insignificant after controlling for work status and occupational and industry variables. But to have a child (children) less than 6 years old and/or between 6 and 17 years old has significant positive effect on access to a flexible work arrangement.

For the analyses of educational effects, the Associate's degree has been dropped and is the reference category. We can see a general pattern that the higher the education level one has attained, the greater the access to flexible work schedules. Particularly after controlling for occupational and industry variables, there is a linear positive effect in educational attainment.

We confirm that part-time workers have significantly higher access to flexible work schedules. To be a union member has a statistically insignificant effect on access to flexible work. Those whose work hours vary are more likely to report that they are in a flexible work arrangement.

Occupations are also significant variables that explain access to flexible work hours. We dropped professional specialty occupations as a reference group. Here we also confirmed that executive, administrative, and managerial occupations are most likely to have flexible work hours. Following professional occupations, sales occupations (although statistically insignificant), technical and related support occupations, and administrative support occupations have more access to flexible hours. Meanwhile, machine operators, assemblers and inspectors, protective service workers, and transportation and material moving have less access to flexible work arrangements.

What industry workers belong to also helps to explain access to flexible work schedules. Here, we use the communication industry as a reference category. Workers in the forestry industry have the most prevalent access to flexible schedules. Private households, other professional services, and wholesale trade industries follow. We have to note however that workers in these industries are rarely the users of flexible scheduling under employer programs.[6] Workers in education are least likely to have flexible work hours. Workers in hospitals, mining, and medical services excluding hospitals are also less likely to report that they have access to flexible work arrangement.

[6] The result of regression using employer-supported flexible scheduling as a dependent variable is available upon request.

TABLE 4. MEAN WEEKLY EARNINGS[7] IN 2001

	Mean	SD	Number of observations
Full-time			
With flexwork	191.2415	450.6414	12,050
With no flexwork	157.1547	349.6128	34,032
Part-time			
With flexwork	59.77965	179.1676	3,468
With no flexwork	49.4338	132.108	6,010

IV. *Earnings and Flexible Work Schedule*

Our last analysis focuses on how earnings are associated with access to flexible work schedules, focusing on the difference between full-time and part-time workers. Table 4 shows the descriptive table for mean earnings for full-time and part-time workers with, and without, flexible work hours. For both full-time and part-time workers, those with flexible work arrangements have higher earnings on average.

While we see a clear gap in earnings between full-time and part-time workers, as well as between those with, and without, flexible work arrangement, we should see how these differences are explained by difference in sex and the presence of young children, which are important factors in the issues of work-family balancing. For this investigation, we use Probit regression of access to flexible work hours on weekly earnings, sex, and whether the worker has a child (or children) under 6 years of age. Then we examine interaction terms of these variables. The model shows:

$$Pi = F(Zi) = \alpha + \beta WEi + \chi FMi + \delta Child < 6i + \phi WE^{*}FM + \gamma WE^{*}Child < 6 + \varepsilon$$

where WE represents weekly earnings, FM, female workers, $Child < 6$, workers with a child (or children) under 6 years old, $WE^{*}FM$, interaction between weekly earnings and female workers, and $WE^{*}Child < 6$, interaction between weekly earnings and having a child (or children) under 6 years old. The coefficients of the interaction terms tell how much the correlation between access to flexible work hours and the respective explanatory variables changes as weekly earnings change. If the coefficient is positive, for instance, it means that the effect of the explanatory variable on access to flexible work hours increases as weekly earnings increase. It should be noted that if the correlation of access to flexible work hours and other variables is negative, and the coefficient of the interaction term is positive, the negative correlation between tenure and other variables attenuates, possibly reversing the negative effect. This examination of the interaction term attempts to inspect which explanatory variables that relate to family/work balancing have contributed to the effect of earnings on the access to flexible work hours.

Tables 5 and 6 show the result of the regressions for full-time and part-time workers, respectively. For both full-time and part-time workers, there are significant positive correlations between earnings and access to flexible work arrangements, which is consistent with the descriptive table above. Also, both full-time and part-time workers with a child (children)

[7] Weekly earnings, excluding from the sample those who report 0 earnings.

TABLE 5. LIKELIHOOD OF HAVING FLEXIBLE WORK HOURS: EFFECT OF EARNINGS, SEX AND HAVING CHILD(REN) UNDER 6 YEARS OLD — FULL-TIME WORKERS

Variable	Coef.	Z statistic
Weekly earnings	0.00013**	6.38
If female	−0.09331**	−6.68
Child < 6	0.07452**	4.05
Weekly earnings*Female	−0.00002	−0.44
Weekly earnings*Child < 6	−9.88e-06	−0.23
Constant	−0.6323	−65.24
Pseudo R2	0.0028	
Number of obs	46,082	

* 10% significant ** 5% significant

TABLE 6. LIKELIHOOD OF HAVING FLEXIBLE WORK HOURS: EFFECT OF EARNINGS, SEX AND HAVING CHILD(REN) UNDER 6 YEARS OLD — PART-TIME WORKERS

Variable	Coef.	Z statistic
Weekly earnings	0.00043**	2.98
If female	0.02242	0.74
Child < 6	0.11251**	2.70
Weekly earnings*Female	−0.00023	−1.28
Weekly earnings*Child < 6	−0.00011	−0.50
Constant	−0.38684	−15.60
Pseudo R2	0.0016	
Number of obs	9,478	

* 10% significant ** 5% significant

under 6 years old are more likely to access flexible work arrangements. To be a female worker, meanwhile, has a negative effect on access to flexible work arrangements among full-time workers. Among part-time workers, however, female workers are more likely to have flexible work hours. Negative coefficients of interactions between weekly earnings and female workers, for both full-time and part-time workers, show that, for both types, the positive association between weekly earnings and access to flexible work hours is weaker for female workers. Also, the strong positive effect of earnings on access to flexible work hours is reduced if workers have a child (children) under 6 years old. Although the coefficients are statistically insignificant, these negative signs show that to be female and/or to have a child (children) under 6 years old could have a negative effect on the positive relation between earnings and the use of flexible work hours. These statistical results remain consistent when including control variables such as demographic characteristics, work status and industry groups. The results with these control variables can be seen in Tables A2 and A3 in the Appendix.

Earnings and access to flexible work hours, then, have a significant positive relation, but the relation changes as the worker's gender as well as a variable on the existence of a young child (children) are added to the equation. This is true for both full-time and part-time workers.

TABLE 7. REGRESSION OF WEEKLY EARNINGS ON FLEXIBLE WORK SCHEDULE, PART-TIME JOB STATUS, AND SSEX

Variable	Coef.	t statistic
Flexible work hours	0.26045**	13.72
If part-time worker	−1.26248**	−64.62
If female	−0.18844**	−13.57
Flexible work hours*Part-time worker	−0.08727**	−2.60
Flexible work hours*Female	−0.06641**	−2.46
Constant	6.416515	655.01
Pseudo R2	0.3734	
Number of obs	12,897	

We now want to examine to what extent the relation between earnings and flexible work hours are affected by being a full-time or part-time worker. For this examination, we regress weekly earnings on flexible work hours, part-time workers, and female workers, as well as interactions between flexible work hours and part-time workers, and flexible work hours and female workers. Weekly earnings are transformed into logarithmic form and the analysis evaluates the percentage change in earnings due to the explanatory variables.

Table 7 shows the regression result. It is confirmed that those with flexible work arrangements have higher earnings, although the causation likely runs from higher earnings to flexible work arrangements. Also, the negative effects of part-time work and of being female on earnings are not new. Interesting to note is the negative coefficient of the interaction term between flexible work hours and part-time work. This means that to be a part-time worker significantly reduces the positive effects of flexible work arrangement on weekly earnings. Also, the positive coefficient of flexible work hours turns negative in interaction with the female variable, showing that to be a female worker makes the positive effect weaker. Thus, to be a part-time worker and to be female has a strong enough effect to attenuate the positive relationship between flexible work hours and earnings. These results are confirmed also in the analysis with control variables, including other demographic and work status variables, education variables, and industry variables. The results of this analysis can be seen in Table A 4 in the Appendix.

Conclusion

This study showed that flexible work hours have been used differently by different groups of workers. Executive, administrative, and managerial workers and those in professional or technical occupations, who tend to earn higher incomes, are more likely to be able to choose their work hours. White rather than non-white, non-Hispanic rather than Hispanic, and higher educated workers also have greater access to flexible work schedules. Among full-time workers, men have more access than women to flexible work schedule.

Flexible work schedules, in the meantime, have been used widely by part-time workers whose earnings are much lower on average. Particularly, female part-time workers are more likely to report that they work under flexible work arrangements. For both full-time and part-time workers, those who use flexible work arrangements tend to have higher earnings.

Nonetheless, the likelihood of flexible schedule workers getting higher earnings is significantly lower for female workers, particularly those with a child (children) under 6 years old. While many working mothers with young children take part-time jobs to balance family and work responsibilities, such mothers are still at a disadvantage in obtaining the same level of earnings as men and/or workers without children.

Flexible work hours for higher income executive workers, particularly those under employer programs, seem to have been for the greater convenience of workers and to improve their ability to balance work and family. But flexible work arrangements for lower income part-time workers are possibly a means by which employers seek to control short-term labor costs. Flexible work arrangements, then, have two different implications for employees: one is to improve workers' welfare, but the other is for employers to exert control over the work hours as well as employment. The latter is particularly true when businesses are in frequent cyclical fluctuation and/or facing severe competition, both of which are the recent trend in the economy. This indeed reflects the growing use of part-time workers and/or short-term contract workers with lower levels of wages and benefits — a trend that is being increasingly identified in many industrialized and some newly industrializing countries.

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APPENDIX

TABLE A1.1. FLEXIBLE WORK HOURS FOR ALL WAGE AND SALARY WORKERS, AND FULL-TIME WORKERS

Total wage and salary workers	56,333	100%
Have access to flexible work hours	15,518	27.55%
As part of employer program	5,459	9.69%
Full-time workers	46,082	100%
Have access to flexible work hours	12,050	26.15%
As part of employer program	4,228	9.17%

TABLE A1.2. FLEXIBLE WORK SCHEDULE FOR PART-TIME WORKERS

	Total	With flexible schedule	Percent of total
Part-time workers	9,478	3,468	36.59
Female	6,482	2,390	36.87
Male	2,996	1,078	35.98

Note: There are 773 individuals among salary and wage workers who did not answer, or did not meet conditions to assign. The total of full-time and part-time workers thus does not correspond to the total number of wage and salary workers reported in Table A1.1 (56,333).

TABLE A2. LIKELIHOOD OF HAVING FLEXIBLE WORK HOURS: EFFECT OF EARNINGS, SEX AND HAVING CHILD(REN) UNDER 6 YEARS OLD — FULL-TIME WORKERS[1]

Variable	Coef.	Z statistic
Weekly earnings	0.00011**	5.02
If female	−0.04737**	−3.06
Child < 6	0.08555**	4.37
Weekly earnings*Female	−0.00002	−0.58
Weekly earnings*Child < 6	−0.00003	−0.73
Age	0.0164551**	5.01
Age squared	−0.0001544**	−3.98
Non-white	−0.248401**	−13.38
Highest degree completed[2]		
Less than 12th grade; no diploma	−0.55808**	−17.53
High school grad diploma or GED	−0.28768**	−11.76
Some college but no degree	−0.03545	−1.38
Bachelor's degree	0.24943**	9.88
Master's degree	0.30355**	9.22
Professional school degree	0.45991**	8.3
Doctoral degree	0.66565**	11.63
Union member	−0.44867**	−10.49
Work hours vary	0.24313**	9.46
Industry[3]		
Agriculture	0.04207	0.62
Mining	−0.38858**	−4.27
Construction	−0.11160*	−2.14
Manufacturing — Durable goods	−0.22184**	−4.43
Manufacturing — Non-durable goods	−0.26605**	−5.01
Transportation	−0.17954**	−3.29
Utilities and sanitary services	−0.21758**	−2.98
Wholesale trade	0.07854	1.44
Retail trade	0.01490	0.31
Finance, insurance, & real estate	0.11824**	2.32
Private households	0.29844**	2.74
Business, auto, & repair services	0.06109	1.19
Personal services	0.04369	0.7
Entertainment & recreation services	0.14691*	2.17
Hospitals	−0.38365**	−6.76
Medical services excl. hospitals	−0.23826**	−4.32
Educational services	−0.68283**	−13.01
Social services	−0.09908	−1.57
Other professional services	0.17465**	3.25
Forestry	0.60478**	3.32
Public administration	−0.08766*	−1.66
Constant	−0.8447954	−10.1
Pseudo R2	0.0652	
Number of obs	46,082	

* 10% significant ** 5% significant

1. This regression excludes Armed Forces.
2. Associate's degree is used as a reference.
3. Communication industry is used as a reference.

TABLE A3. LIKELIHOOD OF HAVING FLEXIBLE WORK HOURS: EFFECT OF EARNINGS, SEX AND HAVING CHILD(REN) UNDER 6 YEARS OLD — PART-TIME WORKERS[1]

Variable	Coef.	Z statistic
Weekly earnings	0.00027*	1.82
If female	0.01867	0.56
Child < 6	0.05554	1.25
Weekly earnings*Female	−0.0001137	−0.62
Weekly earnings*Child < 6	−0.000058	−0.26
Age	−0.01096**	−2.26
Age squared	0.00015**	2.7
Non-white	−0.14045**	−3.48
Highest degree completed[2]		
Less than 12th grade; no diploma	−0.39452**	−6.27
High school grad diploma or GED	−0.20132**	−3.47
Some college but no degree	0.07962	1.34
Bachelor's degree	0.20799**	3.29
Master's degree	0.28468**	3.24
Professional school degree	0.59503**	3.57
Doctoral degree	0.33497*	1.86
Union member	−0.25395**	−2.16
Work hours vary	0.06042	1.45
Industry[3]		
Agriculture	0.76833**	3.36
Mining	0.46127	0.96
Construction	0.58540**	2.64
Manufacturing — Durable goods	0.52245**	2.3
Manufacturing — Non-durable goods	0.36605	1.62
Transportation	0.14402	0.65
Utilities & sanitary services	1.15616**	3.02
Wholesale trade	0.90342**	3.92
Retail trade	0.32197	1.54
Finance, insurance, & real estate	0.55790**	2.57
Private households	0.80272**	3.52
Business, auto, & repair services	0.38335*	1.78
Personal services	0.49351**	2.25
Entertainment & recreation services	0.39275*	1.81
Hospitals	0.01377	0.06
Medical services excl. hospitals	0.18043	0.84
Educational services	−0.07022	−0.33
Social services	0.16921	0.77
Other professional services	0.75187**	3.45
Forestry	0.57890	0.96
Public administration	0.32665	1.43
Constant	−0.4353	−1.87
Pseudo R2	0.0455	
Number of obs	9,478	

* 10% significant ** 5% significant

1. This regression excludes Armed forces.
2. Associate's degree is used as a reference.
3. Communication industry is used as a reference.

TABLE A4. REGRESSION OF WEEKLY EARNINGS ON FLEXIBLE WORK SCHEDULE, PART-TIME JOB STATUS, AND SEX

Variable	Coef.	Z statistic
Flexible work hours	0.156845**	9.51
If part-time worker	−0.91276**	−50.77
If female	−0.19532**	−15.23
Flexible work hours*Part-time worker	−0.06856**	−2.40
Flexible work hours*Female	−0.0383*	−1.66
Child < 6	0.06508**	4.47
Child 6-17	0.00298	0.25
Age	0.05414**	21.92
Age squared	−0.00057**	−19.33
Non-white	−0.07986**	−5.73
Highest degree completed[2]		
Less than 12th grade; no diploma	−0.27707**	−16.38
Some college but no degree	0.05702**	4.09
Bachelor's degree	0.40391**	28.28
Master's degree	0.60530**	26.35
Professional school degree	0.76708**	14.83
Doctoral degree	0.84892**	15.52
Union member	0.15228**	9.86
Work hours vary	−0.12983**	−6.55
Industry[3]		
Agriculture	−0.43738**	−7.46
Mining	0.122073*	1.66
Construction	−0.08668*	−1.95
Manufacturing — Durable goods	−0.09223**	−2.16
Manufacturing — Non-durable goods	−0.1476**	−3.34
Transportation	−0.06065	−1.33
Utilities & sanitary services	−0.03803	−0.66
Wholesale trade	−0.14492**	−3.10
Retail trade	−0.30262**	−7.33
Finance, insurance, & real estate	−0.07895*	−1.80
Private households	−0.82548**	−11.07
Business, auto, & repair services	−0.14158**	−3.21
Personal services	−0.33288**	−6.60
Entertainment & recreation services	−0.30805**	−5.67
Hospitals	−0.11682**	−2.54
Medical services excl. hospitals	−0.17706**	−3.89
Educational services	−0.36895**	−8.59
Social services	−0.44602**	−8.77
Other professional services	−0.16984**	−3.69
Forestry	−0.24982	−1.42
Public administration	−0.1494**	−3.36
Constant	5.30354	84.18
Pseudo R2	0.5475	
Number of obs	12,897	

* 10% significant ** 5% significant

1. This regression excludes Armed Forces.
2. Associate's degree is used as a reference.
3. Communication industry is used as a reference.