

Flexible work schedules: what are we trading off to get them?

Flexible work schedules are spreading, but workers sometimes must be willing to increase their hours markedly, work evening shifts, or switch to part-time status, self-employment, or certain occupations to get flexibility in their schedules; this may entail a sacrifice of leisure time, compensation, or a predictable workweek

Lonnie Golden

The 1990s economic expansion not only whisked away decades-long stubborn labor market problems such as unemployment and stagnant wage rates, but also hosted the spread of flexible work schedules. By 1997, in the May Current Population Survey (cps), more than 27 percent of full-time wage and salary workers reported that they had some ability to vary either the starting or ending time of their typical workday, more than double the rate observed in 1985.¹ Workers tend to regard flexible work-scheduling practices as a valuable tool for easing the chronic pressures and conflicts imposed by attempting to execute both work and nonwork responsibilities. The growing value of such daily flexibility to workers may reflect increases in labor force participation rates of parents, dual-income households, family annual work hours, weekly overtime hours, the premium for additional hours of work, college enrollment rates, and the aging of the workforce.² Moreover, employers are likely to be turning to flexible scheduling as an instrument for recruiting and retaining employees (particularly those facing a labor shortage climate) and for boosting job satisfaction and labor productivity.³ Yet, the demand for such flexible work schedules on the part of workers appears still to exceed the supply provided by employers.⁴

This article examines the association between workers' access to flexibility in their work schedules, on the one hand, and their various work and job characteristics, on the other. In particular, it focuses on the levels of work hours and the types of jobs that either enhance or dimin-

ish a worker's chances of attaining a flexible work schedule. While the direction and magnitude of the trend in average work hours has been a source of much controversy, it is clear that paid work hours are growing for many segments of the workforce.⁵ The trend toward greater flexibility in hours may be inextricably linked with a polarization of work hours that has become evident among workers in which one segment of the workforce may be working longer than standard hours and another segment shorter or nonstandard hours or jobs, in part to gain access to the daily flexibility needed to better balance the competing demands on their time.

Research analyses of data from previous May cps supplements have detected a gradual trend toward a nonstandard workday and workweek in the United States. Work is increasingly being spread out, performed on the fringes of the typical workday, extending earlier in the morning or later into the evening.⁶ Consequently, in 1997, only 54.4 percent of employed nonagricultural workers over age 18 worked a traditional 5-day workweek on a fixed daytime schedule.⁷ The proportion working a 35- to 40-hour "standard" workweek was 29.1 percent in 1997, compared with 31.5 percent in 1991 and is considerably lower for men (decreasing from 29.5 percent to 26.5 percent over the years cited). In 1991, nonstandard schedules were adopted by workers much more for involuntary (for example, as a job requirement) than for voluntary (for example, to care for one's family) reasons, by an almost 2-to-1 margin. Working in the evening hours is much more common among part-time than full-time workers. Neither

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Table 1. Distribution of usual starting and ending times of the workday, full-time wage and salary workers aged 16 years and older, May 1997

Interval at work	Percent of workers beginning	Percent of workers ending
12:30 A.M. to 1:29 A.M.	0.1	0.6
1:30 A.M. to 2:29 A.M. ....	.1	.5
2:30 A.M. to 3:29 A.M. ....	.2	.3
3:30 A.M. to 4:29 A.M. ....	.5	.2
4:30 A.M. to 5:29 A.M.	1.7	.3
5:30 A.M. to 6:29 A.M.	6.9	.5
5:30 A.M. to 5:59 A.M. ....	.8	.1
6:00 A.M. to 6:29 A.M.	6.1	.5
6:30 A.M. to 7:29 A.M.	21.1	1.7
6:30 A.M. to 6:59 A.M.	3.4	.2
7:00 A.M. to 7:29 A.M.	17.7	1.4
7:30 A.M. to 8:29 A.M.	32.6	1.0
7:30 A.M. to 7:59 A.M.	9.0	.4
8:00 A.M. to 8:29 A.M.	23.6	.7
8:30 A.M. to 9:29 A.M.	13.3	.2
8:30 A.M. to 8:59 A.M.	6.1	.1
9:00 A.M. to 9:29 A.M.	7.2	.1
9:30 A.M. to 10:29 A.M.	2.1	.1
10:30 A.M. to 11:29 A.M. ....	.8	.1
11:30 A.M. to 12:29 A.M. ....	.5	.2
12:30 P.M. to 1:29 P.M. ....	.5	.5
1:30 P.M. to 2:29 P.M.	1.0	1.9
2:30 P.M. to 3:29 P.M.	2.2	7.8
2:30 P.M. to 2:59 P.M. ....	.4	2.0
3:00 P.M. to 3:29 P.M.	1.8	5.8
3:30 P.M. to 4:29 P.M.	1.5	17.6
3:30 P.M. to 3:59 P.M. ....	.5	6.8
4:00 P.M. to 4:29 P.M.	1.0	10.7
4:30 P.M. to 5:29 P.M. ....	.6	29.5
4:30 P.M. to 4:59 P.M. ....	.2	8.6
5:00 P.M. to 5:29 P.M. ....	.4	20.9
5:30 P.M. to 6:29 P.M. ....	.5	13.1
5:30 P.M. to 5:59 P.M. ....	.1	5.1
6:00 P.M. to 6:29 P.M. ....	.4	8.0
6:30 P.M. to 7:29 P.M. ....	.9	4.6
7:30 P.M. to 8:29 P.M. ....	.8	2.1
8:30 P.M. to 9:29 P.M. ....	.5	1.1
9:30 P.M. to 10:29 P.M. ....	.6	1.2
10:30 P.M. to 11:29 P.M.	1.3	2.0
11:30 P.M. to 12:29 P.M. ....	.5	1.7
Time varies	7.3	9.2
Actual time not available	1.9	2.0

Harriet B. Presser and Amy G. Cox nor Daniel Hamermesh finds great differences in nonstandard work hours by occupation or industry, although Presser does point to their greater prevalence in service and technical and support occupations and in personal service industries.⁸ Consequently, neither attributes changes in the pattern of timing of work and destandardization of the workday to either occupational or industrial shifts. Nor are demographic factors very consequential, although women being married or having children (depending on their ages) reduces the likelihood of being employed nonstandard hours or days.

Differentiation in work hours and schedules

The pattern of workers' daily work schedules may be observed from their responses to questions regarding their daily start-

ing and ending times by intervals. Table 1 displays the frequency distribution of workers by their daily starting and ending times. Not surprisingly, given the growing presence of flexible scheduling, the typical 9-to-5 workday is not as representative of work-time patterns in the 1990s as it might have been in previous decades. A surprisingly high proportion of workers, 40 percent, is usually still at work past 5 P.M. (although the table does not specify what time each of these workers starts his or her workday). Also, 28 percent of the workforce is at work by 7:30 A.M. (although again, it is unclear what time these individuals typically finish their shifts). Finally, approximately 10 percent of the workforce cannot specify a typical ending time of the workday, mainly because that time is variable.

Previous research has yet to take advantage of the question in the May cps Supplement about the flexibility of the worker's daily schedule. In this supplement, employed workers are asked, "Do you have flexible work hours that allow you to vary or make changes in the time you begin and end work?"⁹ Thus, the 27 percent who answered in the affirmative in 1997 represent a rather broad estimate. Among these respondents would be any worker whose job or employer permits an informal flexible arrangement, rather than just a formal flextime or "gliding" schedule of work over the course of a day. Also, the frequency with which respondents can or do take advantage of this option is unknown. Another question respondents were asked was whether they worked on nontraditional shifts, such as evening, night, rotating, or split shifts. The regular ("basic") cps questions include those inquiring about the number of actual and usual hours worked the previous week, as well as those inquiring about a host of demographic and other work characteristics of workers in the sample. Moreover, the cps asks individuals who usually work part time if they are employed at full-time hours and vice versa. Finally, there are sufficient observations to group the respondents into a total of 52 "detailed" Standard Industrial Classification (sic) industries and 45 "detailed" Standard Occupational Classification (soc) occupations, which are then collapsed into 23 "major" industries and 14 "major" occupations.¹⁰ Thus, the May 1997 cps provides a rich source of data that allows economists to examine the interrelationships among the different dimensions of work hours—including their level, timing, and flexibility. It also provides an opportunity to examine another facet of workers' time at work that has remained unexplored in previous research: the variability of the workweek.

Despite the impressive gains in flexible daily work schedules, the analysis performed herein finds that the distribution of flexible schedules among workers is quite uneven according to demographic and job characteristics of workers, such as gender, race, education level, occupation, employment, and usual work hours. Multivariate regression analysis identifies empirically the various factors associated with the likelihood that a worker reports possessing the ability to vary his or her

daily starting or ending times for work. Certain work and job characteristics are associated with having either significantly greater or significantly lesser access to flexibility in one's schedule. Such characteristics include not only the typical set of personal and human-capital variables, such as gender, race, education, and work-related characteristics, including occupation and self-employment, but also the work-time status of workers—that is, their usual number of hours worked and their work shift. Some workers must either work very long workweeks, part time, evening shifts, or in selected highly skilled occupations suffering a shortage of labor, become self-employed, or further their formal education to obtain a degree beyond high school. This suggests that workers may enhance their chances of gaining flexibility in the timing of their work by altering their jobs or the hours they work.

Moreover, because about 10 percent of the employed work a variable workweek,¹¹ a similar set of characteristics is examined with respect to the likelihood that workers have a variable number of work hours per week. This analysis not only provides a fuller picture of workers' daily or weekly work times, but also reveals whether having flexibility in one's daily schedule tends to either lessen or increase the chances that a worker faces volatile hours. A set of demographic and job characteristics that give the worker more access to flexibility in his or her schedule may, in addition, either enhance or reduce the chances that that worker will face a variable, unpredictable duration of the workweek.

Standard economic models of labor supply focus attention almost exclusively on the average duration of work hours, rather than other temporal dimensions, such as flexibility or instability. Workers work a certain number of hours per week, given their compensation rate and the constraints imposed on them, including that of an often fixed number of hours per week required by their employer. Whatever time the worker spends away from work is assumed to add to his or her well-being ("utility") by being either self-directed leisure time or time spent producing household goods and services. Yet, in addition to its sheer volume, the daily *timing* of available time for leisure or household production may have a profound impact on the worker's well-being. The daily and weekly scheduling of work, as well as the many non-work-related responsibilities a person has (for example, attending classes at school), are often outside the direct control of the individual. The scheduling of work may frequently overlap or conflict with time slots workers need to execute their non-work-related responsibilities and activities, such as caregiving, volunteering, commuting, studying, and socializing. For a given stock of work and leisure hours, having some ability to adjust one's work schedule when one's non-work-related responsibilities change is a crucial feature of both a job and a workers' well-being. While Hamermesh usefully distinguishes between hours per day and days worked in a week, and between regular day and evening or night-shift work, economists generally do not focus on the flexibility dimension.¹² Nor is *flexibility* ever sufficiently distinguished

from *variability* of hours through time.¹³ To a worker, *flexibility* means an immediate and fully proportional adjustment of actual hours of work to both anticipated and unanticipated deviations in the worker's desired number of hours. Indeed, this same notion applies to a worker's preference for changes in the scheduling of his or her work hours.

Conventional tests of labor supply models have found that a worker's desire for longer or overtime hours may be diminished by certain factors, such as the worker's age, or enhanced by other factors, such as the size of the firm employing the worker.¹⁴ Broader-based models find that the worker's desired hours of labor supply may be rising because of workplace and consumer culture. Longer hours are encouraged as a way for workers to earn promotions and improve their relative positioning with respect to relevant social reference groups inside the workplace.¹⁵ Longer hours also can improve the worker's positioning toward social groups outside the workplace as a consumer.¹⁶ In addition, longer hours may be perceived as an "insurance policy" or hedge against the risk of future job loss or income loss.¹⁷ Further, laws, regulations, and their changing scope of applicability have a real impact on actual hours worked.¹⁸ Finally, by facilitating greater flexibility in the allocation of work time, technological advances, such as the diffusion of telecommunications technology and "teleworking" (working in a facility remote from one's job site through the use of technology), may be lengthening workers' time spent at work.¹⁹

The findings in this article suggest that the rise in flexibility is no coincidence: it may be going hand in hand with the polarization of work hours, particularly at the high end, as manifested in an increasing proportion of individuals working extended hours (50 or more per week). In other words, some workers are trading off reduced leisure, others reduced compensation, in order to attain flexibility in their time spent at work.²⁰ Longer hours of work may be induced in part by the greater degree of autonomy many workers are being granted at the workplace in terms of the timing of those hours. Workers wishing to work standard hours are likely to be frustrated by the inflexibility of its daily timing, which, no doubt, explains the continuing excess demand for flexible schedules, despite their recently rising supply.²¹ Many workers are probably induced to switch their job status to part time, self-employment, or a different occupation in order to attain more flexibility, perhaps at stages of their life cycle when such a benefit is needed most. But they tend to suffer a reduction in earnings and benefit coverage as a result.²²

Workers' characteristics

Chart 1 demonstrates the difference in the distribution of flexible schedules by gender and age. Women aged 24 and younger actually have a greater incidence of flexible schedules, but the pattern reverses for women aged 25 and older relative to men. Indeed, while the growth of such access was across the board,

the existing inequality in access appears to be no less than it was in 1991. There is, however, surprisingly little difference by demographic group, although the share of men (except for teens) with flexible schedules is actually greater than that of women, who nonetheless exhibit a slight increase in access to daily flexibility in the prime childbearing years.

Table 2 shows that access to flexibility ranges widely across workers' "detailed" occupations (using the CPS supplement and supplement weights). While only 1 in 9 machine operators has a flexible daily work schedule, as many as 3 of 5 natural or mathematical scientists, lawyers, and sales representatives have such schedules. Professional and sales occupations tend to have much-higher-than-average flexibility of scheduling. The table also shows that having highly variable workweeks is a characteristic of computer equipment operator jobs, a true outlier in the sample, as well as farm and forestry jobs. Having variable hours is common, too, in transportation and construction jobs, as well as certain sales and service job classifications. Most professional, administrative, supervisory, and secretarial jobs tend to have a more stable, predictable workweek.

The first column of table 3 shows that there is not quite as much variation in the incidence of flexible schedules among industries as there is among occupations. The proportions by industry are highest in agriculture, but almost half of the workforce in "other professional services," insurance, and pri-

vate households has a flexible schedule. Many of the service and trade industries and public administration are above the average. The lowest incidences are 19 percent in educational services, 13 percent in local government (not shown in table), and 10 percent to 20 percent in several manufacturing industries. Within the manufacturing sector, however, there is considerable variation. Some industries have higher-than-average flexible scheduling: printing and publishing; professional, photo, and watches; petroleum and coal; aircraft; and miscellaneous manufacturing industries, in each of which about 1 in 3 workers reports having a flexible schedule. (There may be some reliability issues in several detailed production industries—"other metals," tobacco, petroleum and coal, and leather goods—for which the total sample in the CPS supplement was less than 120.) The rate in these latter industries is more than double to more than triple the rate for workers in textile, leather, and primary metals industries (10 percent, 13 percent, and 14 percent, respectively).²³ Of all workers with flexible schedules, 18 percent are in the retail trade sector, a percentage that owes mainly to the disproportionate presence of jobs in that sector.

Correlation analysis finds that having variable hours is somewhat positively correlated with usual part-time status ($\rho = 0.44$, whereas $\rho = 0$ for usual full-time status). In addition, having variable hours is somewhat negatively correlated with the number of usual hours on one's primary job ($\rho = -0.30$), reinforcing

Chart 1. Flexible work schedule, by age bracket

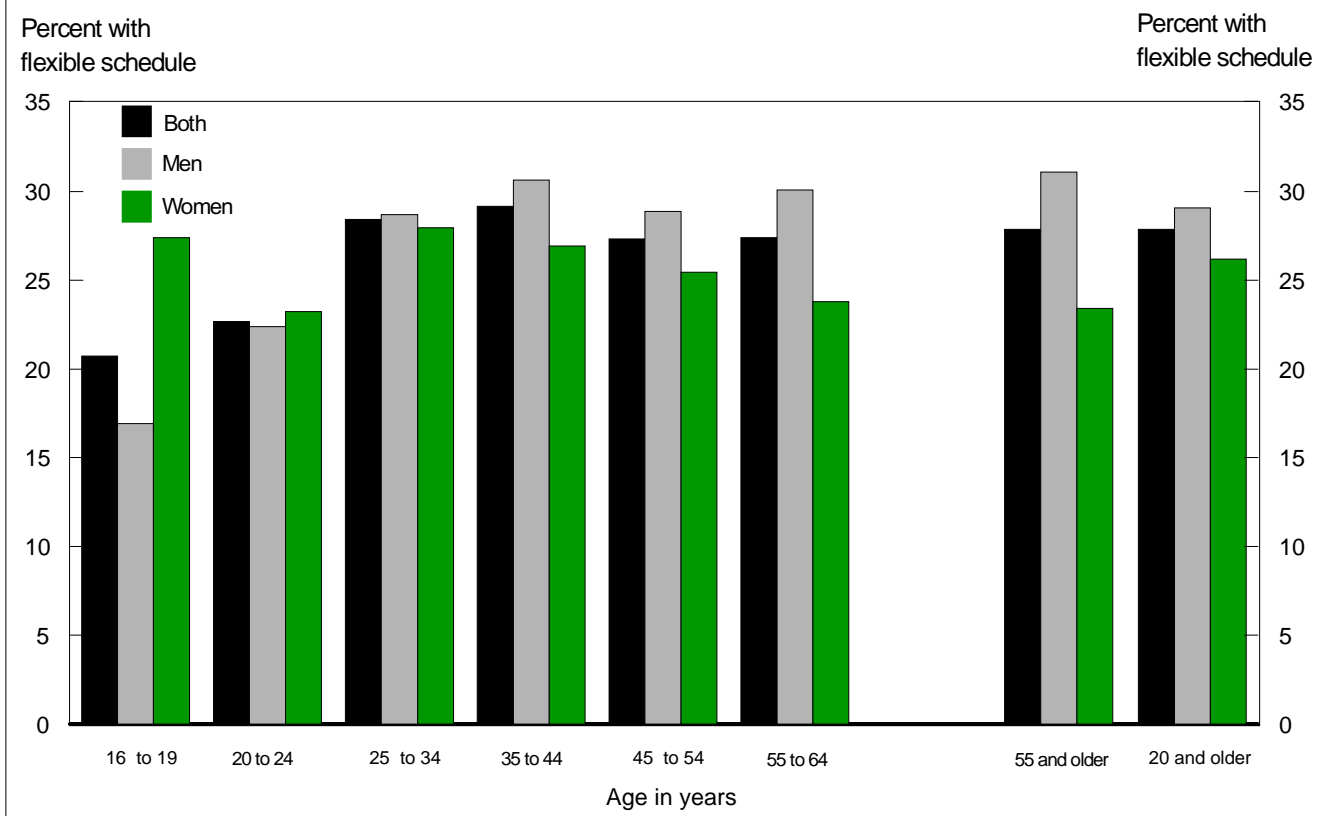


Table 2. Flexible schedules and variable weekly hours, ranked by occupation, May 1997

Rank	Detailed occupation ¹	Percent with flexible schedule	Rank	Detailed occupation ¹	Percent whose usual hours vary
1	Farm operators	77.9	1	Computer equipment operators	81.8
2	Natural scientists	60.2	2	Farm operators	30.0
3	Lawyers and judges	58.6	3	Forestry occupations	22.3
4	Sales representatives, finance and business services	58.1	4	Construction trades	19.0
5	Mathematical scientists	55.9	5	Personal service occupations	18.6
6	Teachers, college and university	54.6	6	Sales representatives, finance and business services	17.1
7	Forestry occupations	53.8	7	Farm workers	15.2
8	Other professional	50.3	8	Motor vehicle operators	14.9
9	Sales representatives and commodities, except retail	49.8	9	Other technicians	13.8
10	Engineers	47.9	10	Food service occupations	11.8
11	Managers	47.9	11	Other transportation	11.5
12	Sales supervisors and proprietors	45.7	12	Sales workers, retail and personal services	10.6
13	Sales-related occupations	44.4	13	Health service occupations	9.8
14	Other technicians	44.0	14	Freight handlers	8.8
15	Financial records, processing	43.5	15	Construction labor	8.6
16	Private household service	43.3	16	Other handlers and laborers	8.2
17	Health-diagnosing occupations	42.6	17	Other administrative support occupations	8.2
18	Management-related occupations	41.2	18	Lawyers and judges	8.0
19	Public administration	41.0	19	Health technicians	7.9
20	Farm workers	36.1	20	Cleaning and building service occupations	7.7
21	Personal service occupations	35.5	21	Health-diagnosing occupations	6.8
22	Engineering and science technicians	33.1	22	Machine operators and tenders, except precision	5.9
23	Sales, retail and personal services	30.7	23	Mechanics and repairers	5.8
24	Construction trades	30.4	24	Fabricators	5.6
25	Administrative support for supervisors	29.3	25	Other precision production occupations	5.4
26	Secretaries, stenographers, and typists	27.1	26	Financial records, processing	4.9
27	Motor vehicle operators	27.0	27	Sales representatives and commodities, except retail	4.9
28	Mechanics and repairers	24.7	28	Mail and message distributing	4.6
29	Other administrative support	24.3	29	Engineers	4.2
30	Health assessment and treating	23.3	30	Managers	4.2
31	Food service occupations	22.1	31	Engineering and science technicians	4.2
32	Cleaning and building services	21.2	32	Natural scientists	4.0
33	Health technicians	20.6	33	Sales supervisors and proprietors	4.0
34	Other precision production	19.9	34	Protective service occupations	3.1
35	Construction labor	19.5	35	Sales-related occupations	2.9
36	Health service occupations	19.4	36	Other professional	2.8
37	Computer equipment operators	19.3	37	Administrative support for supervisors	2.6
38	Freight handlers	17.8	38	Management-related occupations	2.0
39	Protective service occupations	16.2	39	Teachers, except college and university	1.7
40	Other handlers and laborers	15.1	40	Mathematical scientists	1.6
41	Mail and message distributing	14.4	41	Health assessment and treating	1.6
42	Fabricators	13.9	42	Secretaries, stenographers, and typists .....	.9
43	Other transportation	13.6	43	Public administration .....	.0
44	Teachers, except college and university	12.8	44	Teachers, college and university	—
45	Machine operators and tenders, except precision	11.1	45	Private household service	—

¹ Workers employed by the Armed Forces and unemployed persons are excluded.

NOTE: Dash indicates sample size too small to yield reliable data.

the notion that workers putting in fewer average hours face more variability in their workweeks. Thus, part-timers appear to be more prone to having variable, unpredictable workweeks, either because they have relatively less control over the length of their workweek or because they have more leeway in their arrival and departure times or in the particular days of the week that they work. Moreover, the last two rows of table 4 suggest that part-time workers whose workweeks vary have a high incidence of flexibility in their daily hours, compared with full-time workers. This in turn suggests that part-time workers

are deployed by employers in part to adjust their labor input levels instantaneously in response to fluctuations in the demand for their products or services. Employers thus are likely to gain more variable workweeks by expanding their part-time job base, which has much less of a “regular” workweek.²⁴ Interestingly, having a flexible schedule correlates somewhat positively with having variable hours, both generally ($\rho = .24$) and a bit more so with workers whose “daily ending times vary” ($\rho = .30$). The positive correlation is highest in three particular major occupational classifications: sales, crafts, and farming. This suggests

that such workers may have the most discretion to either lengthen or truncate the end of their workday.

Table 3 shows that, by industry, the incidence of unpredictable workweeks (hours vary) ranges from less than 2 percent up to the more than 20 percent of the workforce found in agriculture and in private household services. The incidence of unpredictable workweeks also is well above average in construction, transportation, and selected manufacturing (tobacco) and service (auto repair, entertainment and recreation, and personal services) industries. The next-to-last row of table 3 displays the correlation in the industry data between flexibility of schedule, on the one hand, and length of hours, variability of hours, and nonstandard forms of employment, on the other. The somewhat positive correlation of flexibility with long hours (at least 5 hours of usual “overtime”) intimates that industries using longer hours per worker do so with more flexible starting and ending times. The significantly positive correlation of flexibility with variable hours suggests that having flexible schedules makes workers’ workweeks less stable or predictable than does having fixed daily schedules. For example, there is also a slight positive correlation between a flexible schedule and variable hours in sales, craft, and farming occupations (+0.28). In addition, there is a significant positive correlation of both flexible schedules and variable workweeks with the sum total of nonstandard workers used in an industry. This correlation suggests either that employers using nonstandard workers also tend to use nonstandard work scheduling practices for their regular workforce or that the prominent presence of such nonstandard workers (predominantly independent contractors and workers contracting with a temporary agency) in an industry increases the utilization of flexible starting and ending times.²⁵ Whichever of these alternatives is true, it suggests that nonstandard workers are deployed in part as a complementary method for employers to achieve numerical flexibility of labor, along with variable workweeks and flexible scheduling.

Table 4 reveals that the frequency distribution of flexible scheduling across ranges of usual weekly hours is U shaped. Only 22.7 percent of workers reporting that they usually worked 40 hours per week have flexibility in scheduling. This figure is distinctly lower than the 33 percent of those working 41 to 49 hours per week and the 33 percent of those in the 35-to-39-hours bracket. Also, it is far below the 52 percent with flexible schedules who report averaging 50 or more hours per week, and it falls well short of the 45 percent and 62 percent working 21–34 and 1–20 hours per week, respectively. Notwithstanding this latter correlation with fewer hours, workers’ access to flexible scheduling is positively correlated with the usual length of their workweek ($\rho = 0.55$). Among major occupations, this correlation is highest in protective service jobs, with managerial and administrative jobs coming in second. The correlation is negative for administrative support workers, suggesting that clerical workers must actually reduce the length of their work-

week—for example, to part time—in order to gain greater flexibility in the daily timing of their work. The following tabulation reinforces this pattern, showing that both mean usual hours and actual hours are longer for full-time workers:

<i>Type of schedule</i>	<i>Mean usual hours</i>		<i>Mean actual hours,</i>
	<i>All workers</i>	<i>Full-time workers only</i>	<i>full-time workers only</i>
Flexible	33.7	45.82	47.32
Inflexible	35.6	42.69	43.93
Difference (flexible minus inflexible)	-1.9	3.13	3.39

Correlation coefficient, usual and actual hours = .885

This tabulation suggests, perhaps more persuasively than the evidence provided by table 3, that full-time workers with daily flexibility tend to work 3 or more additional (usual or actual) hours per week than those with fixed schedules.

In contrast, there is surprisingly little correlation between whether a worker has a flexible schedule and the worker’s personal demographic characteristics. For example, by major occupation, the highest correlation coefficient between one’s marital status and flexibility is +0.23, for the managerial positions. Interestingly, the managerial occupations appear to yield slightly *less* flexibility in schedule for women and for nonwhites (with correlation coefficients of about -0.20 and -0.26, respectively). However, in the same occupation, age is somewhat positively correlated with flexible schedules, with a correlation coefficient of 0.34, the highest among all major occupational categories. Education level, by contrast, has virtually no measurable correlation with flexible schedules, although by occupation, less education is slightly associated with less flexibility in farming and in sales occupations and with more flexibility for those with college degrees in professional occupations. Finally, being usually on full-time status actually hinders the access of administrative support workers to flexible schedules (-0.51), as it does (although less so) for those in craft, laborer, farming, and machine operator jobs. All this suggests that lesser skilled workers and traditionally disadvantaged demographic groups have slightly less access to flexibility in their schedules, particularly if they are working full-time jobs.

Table 3 also shows the somewhat inverse relationship between unemployment and flexible scheduling by detailed industry ($\rho = -0.30$). The relationship suggests that labor shortages tend to give rise to more use of flexible schedules, while labor surpluses stifle flextime somewhat. By way of contrast, the unemployment rate has a negligible association with both the variability of hours and the proportion of nonstandard workers. Thus, part of the increase in the availability of flexible schedules to workers is attribut-

Table 3. Proportions of workers with flexible, variable, and long work hours, and correlations, by detailed industry, May 1997

Detailed industry	Percent on flexible schedule	Percent working more than 45 hours per week	Percent whose hours vary	Percent of nonstandard workforce ¹	Unemployment rate (percent)	Percent of all workers
Agricultural services	45.5	17.3	21.8	35.9	1.6	.8
Agriculture, other	62.3	31.5	27.3	14.1	1.3	1.5
Mining	24.1	29.2	9.6	7.3	2.7	.5
Construction	34.9	19.4	13.6	30.4	2.3	6.3
Lumber	21.8	22.4	9.9	7.9	2.8	.7
Furniture	20.8	19.6	3.4	4.9	1.3	.6
Stone and glass	21.8	23.6	5.1	5.3	2.1	.5
Primary metals	14.4	27.9	5.6	.3	4.2	.6
Fabricated metals	19.9	24.8	4.5	3.9	2.8	1.1
Machinery, nonelectric	26.3	33.8	4.2	3.7	3.1	2.0
Machinery, electric	26.4	24.7	3.7	3.8	2.1	1.5
Motor vehicles	15.8	33.4	2.9	2.7	3.1	1.0
Aircraft	30.2	26.5	7.1	3.4	7.0	.4
Other transportation equipment	29.1	21.2	3.0	2.1	1.5	.4
Professional, photo, and watches	33.0	24.9	1.4	3.2	.6	.6
Toys and sporting goods	28.6	19.4	10.6	3.2	4.8	.1
Miscellaneous manufacturing	30.7	22.0	6.3	8.1	1.1	.4
Food	17.7	24.7	6.8	2.4	2.5	1.3
Tobacco	15.4	5.0	17.5	4.1	7.7	.1
Textiles	10.0	15.7	9.8	3.3	2.9	.5
Apparel	13.7	14.1	3.6	4.3	2.9	.7
Paper	16.9	23.9	6.2	2.4	2.8	.5
Printing and publishing	34.8	22.1	6.5	7.8	2.4	1.4
Chemicals	31.7	28.8	5.4	2.4	2.2	1.0
Petroleum and coal	32.1	28.3	5.6	3.4	1.2	.1
Rubber and plastic	15.5	19.5	4.7	3.1	2.3	.7
Leather	13.3	10.2	4.6	.0	5.0	.1
Transportation	26.1	25.1	12.4	10.8	2.4	4.4
Communication	31.3	23.3	4.7	4.2	2.5	1.2
Utilities	22.2	16.4	4.6	3.8	1.5	1.1
WholesaleTrade	36.7	30.5	6.3	7.8	2.0	3.8
Eating and drinking	29.0	13.8	10.6	4.1	2.3	5.1
Other retail trade	34.1	18.6	8.8	6.3	2.4	11.4
Banking and finance	28.2	22.5	4.3	4.4	2.3	2.7
Insurance and real estate	47.5	19.9	9.1	15.1	2.1	3.4
Private household service	41.7	11.2	21.2	27.7	2.7	.7
Business services	37.3	21.2	8.7	33.0	2.3	4.9
Auto repair services	39.8	27.1	13.6	16.8	2.9	1.8
Personal services	37.5	14.6	13.5	13.5	2.0	2.6
Entertainment and recreation	35.4	17.2	12.7	14.3	2.3	1.8
Hospitals	22.8	9.7	6.3	3.7	2.5	3.9
Health services	28.2	12.8	7.2	8.5	2.7	4.9
Educational services	19.3	17.0	6.0	4.5	2.0	8.0
Social services	30.6	14.2	6.1	8.6	2.9	2.5
Other professional services	49.4	29.0	10.6	18.1	2.2	4.6
Forestry and fisheries	63.9	26.8	18.4	18.1	3.3	.1
Justice, public order, and safety	20.7	20.6	3.8	3.2	2.5	1.7
Administration of human resources	38.2	5.0	2.2	.0	2.2	.7
National security, internal	35.9	11.5	3.4	2.1	3.8	.5
Other public administration	34.4	9.6	2.7	1.6	1.8	1.4
No industry response given .....	...	...	...	...	2.3	1.5
Correlations with percentage of workers with a flexible schedule .....	...	.27	.60	.60	-.30	...
Correlations with percentage of workers whose hours vary .....	...	...	...	.69	.14	...

¹ Data from February 1997 Contingent Work Supplement to the cps.

had a very small sample size and was omitted from the table.

NOTE: Armed Services employment is omitted. "Other metals" industry

able to the prolonged cyclical expansion of the 1990s: employers may have been offering such flexibility to recruit and retain workers as labor markets tightened.²⁶

Likely users of flexible schedules

Which factors explain the cross-sectional variation among individuals in their access to flexibility in their daily schedules? The probability that a given worker in the sample will be on a flexible schedule or will work variable hours is likely to be linked to both the worker's demographic characteristics and the characteristics of his or her job. To answer the preceding question requires econometric estimations, conducted by merging the CPS Supplement with the regular CPS questions containing information regarding the personal and work characteristics of the employed. Whether an individual reports that he or she has the flexibility to control either the starting or ending time of the workday may depend on four general sets of factors: (1) personal characteristics, such as gender, race, marital status, and age; (2) human-capital characteristics, such as one's education level and whether one attended college in conjunction with working; (3) job characteristics, such as the occupation and industry in which the worker is employed, whether the individual is self-employed, and whether he or she is a union member; and (4) one's work hours status, such as whether one usually works full time or part time, the actual average duration of one's weekly hours, whether one works on a non-standard time schedule, and whether the length of one's work-week is variable.²⁷

The likelihood that an individual in the sample has a flexible work schedule (F) is estimated. A virtually identical model is then estimated for the likelihood of having variable hours (V). In each case, the likelihood is determined by a worker's personal (X) as well as job (Y) characteristics and the vector of estimated coefficients— β and δ , respectively:

$$F_i, V_i = \alpha + X_i \beta + Y_i \delta + \varepsilon$$

The model is estimated with the use of probit analysis. The dependent variable is bivariate, taking on a value of unity if the worker answers that he or she has "flexible work hours that allow you to vary or make changes in the time you begin and end work." The estimated coefficients represent the marginal probabilities that an individual possessing a given characteristic has access to a flexible daily work schedule.²⁸

Table 5 displays the regression results of the model, beginning with demographic variables only and then adding sets of explanatory variables progressively rightward by column. The inclusion of job status, occupation, and usual full- or part-time status appears to improve the overall explanatory power of the model. Neither the estimates nor the significance of the coefficients proved very sensitive to the model specified, with a few minor exceptions, such as the demographic characteristics.

Table 4. Percentage of workers with flexible schedules, by average-usual-weekly-hours bracket, May 1997

Hours	Percent with flexible schedule	Number in supplement sample with flexible schedule
1–20	62.2	2,492
21–34	45.0	1,584
35–39	33.2	1,393
40	22.7	5,585
41–49	33.3	2,053
50 or more	52.2	5,550
Hours vary:		
Full-timers	61.2	2,770
Part-timers	72.8	1,075

Table 6 contains the results when "usual full-time status" is broken out into five different work-hour classifications (with at least one omitted, to serve as a reference group). Table 7 presents the results when workers' detailed occupational and industry classifications are controlled for.

The clear pattern that emerges from the empirical results is that, while many personal characteristics either significantly improve or diminish the likelihood of having flexibility in one's work schedule, access to such flexibility is significantly affected by the workers' job status and work-hour classification. On the personal side, nonwhites are about 50 percent to 60 percent less likely than whites to be on a flexible work schedule. Women also are significantly less likely than men to have such flexibility, by roughly the same percentage. However, this lack of access appears to be attributable in large part to the occupational segregation of women: their reduced likelihood of flexibility shrinks down to less than a 10-percent greater disadvantage relative to men when major occupational controls are included in the analysis and to no more than a 4-percent disadvantage when detailed occupational controls are included. Indeed, the relatively lower access of women to daily flexibility is not significantly different from zero if their detailed industry, as well as occupation, is taken into account.

Access to flexible schedules is gained with age, although it tapers off at older ages. Controlling for the occupational distribution, as well as some other job factors, however, indicates an exponential effect of age. This effect suggests that experience, seniority, or job tenure helps workers gain more access to control over the timing of their workday.

Married workers are significantly more likely than unmarried workers to have a flexible work schedule, although the magnitude of significance is small—on the order of about 8 percent. This greater likelihood may reflect either the fact that married workers are more likely to be parents and are offered, perhaps informally, a greater degree of flexibility by employers compared with unmarried workers or the fact that married workers are more apt to utilize formal flextime systems that employers have instituted in the workplace.

Table 5. Likelihood of having flexible starting and ending times, probit estimates, marginal effect of personal and work characteristics

Variable	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic
Age	0.0907	49.625	0.0847	44.01	-0.0079	-2.79	0.0116	3.98
Age squared	-.0010	-50.804	-.0009	-45.70	.0004	11.67	.0001	3.58
Doctoral degree	-.3750	-5.617	-.2124	-3.11	.5128	5.45	.5042	5.33
Master's degree .....	.3046	9.486	.4276	12.73	.6236	15.53	.6188	15.30
Bachelor's degree .....	.1834	7.117	.2272	8.42	.4694	15.04	.4475	14.22
Associate's degree	-.3638	-10.803	-.1872	-5.39	.1246	3.13	.1436	3.59
Some college	-.1523	-5.967	-.0619	-2.31	.1651	5.26	.1113	3.51
High school diploma	-.4030	-16.315	-.2612	-10.08	.1150	3.76	.0688	2.23
Less than high school	-.8019	-29.221	-.6604	-22.96	-.1445	-4.09	-.2693	-7.51
Nonwhite	-.4911	-32.488	-.6011	-37.97	-.4622	-25.41	-.5853	-30.91
Female	-.2787	-28.408	-.2369	-23.45	-.0357	-2.62	-.1000	-7.20
Married .....	.1524	13.638	.1255	10.94	.0925	6.78	.1079	7.71
College student .....	...	...	.1979	5.54	.5042	11.33	.2780	6.11
Self-employed .....	...	...	1.4975	64.96	1.0746	43.10	...	...
Union member .....	...	...	.0734	1.94	.0563	1.42	.1068	2.67
Usually work part time .....	...	...	...	...	...	...	.9039	21.57
Usually work full time .....	...	...	...	...	...	...	-.4794	-28.50
Occupation: ¹								
Managerial .....	...	...	...	...	.6737	4.30	.7413	4.78
Professional .....	...	...	...	...	.4672	2.95	.5201	3.32
Technicians .....	...	...	...	...	.5920	3.59	.6149	3.76
Sales .....	...	...	...	...	.7076	4.53	.7019	4.54
Administrative support .....	...	...	...	...	...	...	...	...
and clerical .....	...	...	...	...	.1220	.78	.0775	.50
Other service .....	...	...	...	...	.2191	1.39	.0669	.43
Craft .....	...	...	...	...	.2614	1.67	.2594	1.67
Operators .....	...	...	...	...	-.2784	-1.75	-.2348	-1.49
Transportation .....	...	...	...	...	.1599	1.01	.1901	1.21
Laborers .....	...	...	...	...	.0356	.22	-.0151	-.10
Farming .....	...	...	...	...	.8337	5.23	.7990	5.06
Constant	-2.1217	-45.199	-2.1796	-43.79	-1.3195	-7.85	-1.2122	-7.27
Pseudo R ² .....	.136	...	.186	...	.185	...	.208	...
n	56,982	...	88,728	...	56,982	...	56,982	...

¹ Protective service is dropped due to multicollinearity. Private household service also is omitted.
 NOTES: Regression results begin with demographic variables and add

sets of explanatory variables progressively rightward by column. Dependent variable = 1 if worker reports being able to vary starting or ending times of work.

Finally, workers' levels of education influence their access to flexible schedules, although not quite in a linear fashion.²⁹ Workers who have not finished high school are highly likely to be excluded from flexibility in their schedules. Interestingly, so are those with doctoral degrees, although this is entirely attributable to their occupational distribution. Also, a worker who is simultaneously attending college is significantly more likely to be on a flexible schedule, again indicating either that employers are more accommodating to these individuals or that those workers are more apt to request or take advantage of flextime. The results suggest that, given one's occupation, workers enhance their access to flexibility either by enrolling in or completing college, especially when they earn an advanced degree.

Perhaps the most fascinating results are the differences by workers' usual hours. Tables 5 and 6 show that being a part-time worker more than doubles a person's chances of having flexible starting and ending times for work. However, table 7 reveals that about half of this increased likelihood is traceable

to the detailed occupation or industry in which the worker is employed. At the other end of the spectrum, workers who report very long hours—more than 50 hours per week—increase their likelihood of having a greater influence over the starting and ending times of their work, by 8 percent to 21 percent.³⁰ In contrast, working exactly 40 hours per week is associated with a less flexible schedule, on the order of about 15 to 22 percent. Somewhat surprisingly, the flexibility payoff to working longer hours is not delivered to those working in the range of 41 to 49 hours per week (or to those working 35 to 39 hours per week). Thus, only workers who average at least 10 hours a day in a traditional 5-day workweek, or workers who put in at least 1 extra day per week, have a greater likelihood of being able to alter either the starting or ending time of their typical workday.

Reporting that the usual number of hours vary too widely from week to week to be specified precisely is strongly positively associated with having more flexibility in one's schedule, significantly heightening the likelihood of having a flex-

ible starting or ending time by 0.68 to 0.78 basis point. What is more, the association is even stronger for part-time workers whose hours usually vary. The suggestion is that workers with an enhanced ability to alter their daily starting or ending time for work are trading off stability in their usual weekly number of hours. In this regard, working on a “standard” day schedule reduces the likelihood that a worker has a flexible work schedule by 0.16 to 0.50 basis point. (Working on a generally nonstandard schedule *increases* the probability, by an even greater 0.75 point.) Working on nonstandard shift time, however, does *not* guarantee having more flexible starting and ending times: Those working an evening shift do improve their access to flexibility in their schedules, but those working the night shift actually have a reduced likelihood of flexible times. Those who report working on an irregular schedule arranged by their employer, presumably some (nonrotating) mix of regular day, evening, or night shifts, do gain some flexibility by working such irregular shifts.

For many workers, their occupation may influence their access to flexibility. Among major occupational classifications, when individual characteristics of workers are controlled for in the analysis, managerial, professional, technical, sales, and farming jobs provide greater access to flexibility in the schedule. Service (other than household or protective) and craft jobs may weakly enhance workers’ chances of attaining flexibility.³¹ Operators appear to get reduced access to flexibility, although not necessarily significantly, because the reduction is not robust to all model specifications.

Among detailed occupations, a worker’s probability of having a flexible daily schedule is increased significantly if the worker is employed in a few particular occupations: mathematics and computer science professional; freight, stock, and material handler; and farm worker. The likelihood of having access to flexibility rises somewhat for those in secretarial positions. In contrast, as many as 13 detailed occupational classifications, including health assessment and treating occupations, lawyers and judges, supervisors of clericals, financial records and processing occupations, protective service, food service, precision production, construction trades, and fabricators, assemblers, inspectors, and samplers, yield a reduced likelihood of having flexibility, all other things being equal. To a lesser degree, computer equipment operator, cleaning and building services, and construction laborer occupations also may offer less flexibility in the work schedule.³²

A few of the detailed industry classifications shown in table 7 significantly alter the likelihood of attaining flexibility when the worker’s occupation and other characteristics are taken into account. (No one *major* industry classification, however, significantly alters the likelihood of having flexibility.) Only six of the detailed industries enhance the worker’s chances of attaining a flexible schedule—in order of size of the industry’s positive effect, justice and public safety; manufacturing of transportation equipment; manufacturing other than motor

vehicles, aircraft, and miscellaneous industries; educational services; construction (perhaps weakly); and toys and sporting goods manufacturing (again, perhaps weakly). No nonagricultural industries of note significantly reduce a worker’s access to flexibility, taking into account the worker’s occupation and other characteristics.

While the industry in which one’s job is located may have limited bearing on the likelihood of having access to flexible scheduling, controlling for industry in the analysis does affect the likelihood of some occupations being associated with greater flexibility. For example, the greater flexibility enjoyed by both mathematical and computer scientists (and perhaps weakly by those in secretarial positions) is attributable at least in part to the industry distribution of these jobs. In addition, the reduced likelihood of access to a flexible schedule endured by workers in health assessment and treating occupations, lawyers and judges, computer equipment operators, and perhaps food service employees is attributable to their concentration in certain industries in which work schedules tend to be inflexible.

Working in either Federal or local branches of government reduces the likelihood of having a flexible schedule. This is surprising, given the efforts of the Federal Government over the last two decades to establish more flextime work schedules for Federal employees, in part as a model to be exported to the private sector. In addition, it is unexpected, given the ability of State and local governments to substitute compensatory time in lieu of pay for overtime hours if such an arrangement is formally agreed upon by individuals or collective bargaining agents. Apparently, such a policy does not translate into more flexibility for workers in their daily working hours.³³

Being self-employed rather than a payroll employee more than doubles the likelihood that a worker has the ability to vary his or her starting and ending times of work. Indeed, having a flexible schedule is clearly a major reason to become self-employed, despite the fact that the average number of hours the self-employed spend working is relatively longer than that of payroll employees.³⁴ Similarly, being a union member tends to improve a worker’s access to flexibility, although the effect is neither particularly strong nor always significant. (For example, the positive effect dissipates when the worker’s industry is also taken into account.) The positive effect, however, is counterintuitive, running counter to a conventional assumption and a past empirical finding that union membership is associated with *less* individual control over one’s work time.³⁵

Finally, being paid on an hourly basis appears to diminish a worker’s access to a flexible schedule, at least among the subsample of the cps that is asked a question pertaining to that category. However, being paid on a nonhourly basis does not appear to be significantly related to the likelihood of having flexibility, although observations on the category are available only for the outgoing rotation (quarter sample) for May 1997.

In sum, more than 1 in 4 employed individuals now have

Table 6. Likelihood of having flexible starting and ending times, probit estimates, marginal effect of work-hour characteristics

Variable	Controls added for—													
	Long hours		Standard hours		Nonstandard hours				Government		Shifts		Hours vary	
	Co-efficient	z-statistic	Co-efficient	z-statistic	Co-efficient	z-statistic	Co-efficient	z-statistic	Co-efficient	z-statistic	Co-efficient	z-statistic	Co-efficient	z-statistic
Age	-0.0006	-0.19	0.0017	0.60	0.0024	0.82	0.0017	0.60	0.0723	36.17	-0.0007	-0.25	-0.0112	-0.25
Age squared .....	.0003	8.61	.0003	7.59	.0002	7.44	.0002	7.50	-.0007	-35.32	.0003	8.65	.0004	11.93
Doctoral degree ..	.4884	5.16	.5209	5.49	.4054	4.28	.4205	4.44	-.1482	-2.10	.4659	4.94	.5548	5.81
Master's degree ..	.6181	15.21	.6834	16.70	.5086	12.26	.5109	12.30	.4486	12.98	.6426	16.02	.7258	17.61
Bachelor's degree .....	.4327	13.73	.4395	13.96	.3683	11.47	.3983	12.35	.2242	8.13	.4106	13.12	.4815	15.07
Associate's degree .....	.1476	3.69	.1818	4.54	.0866	2.14	.0976	2.41	-.1380	-3.86	.1368	3.42	.2278	5.61
Some college .....	.1374	4.34	.1558	4.92	.0580	1.79	.0728	2.24	-.0125	-.45	.1515	4.84	.1995	6.22
High school diploma .....	.0935	3.03	.1205	3.91	.0285	.91	.0329	1.05	-.2280	-8.55	.0485	1.59	.1267	4.04
Less than high school	-.2013	-5.63	-.1770	-4.94	-.2794	-7.68	-.2824	-7.75	-.5782	-19.32	-.2428	-6.82	-.1456	-4.01
Nonwhite	-.5493	-29.25	-.5508	-29.29	-.5677	-30.12	-.5752	-30.54	-.6324	-37.25	-.5276	-27.98	-.5962	-31.21
Female	-.0712	-5.13	-.0858	-6.15	-.0668	-4.80	-.0586	-4.20	-.2057	-19.43	-.1093	-7.84	-.0418	-2.97
Married .....	.0773	5.56	.0749	5.37	.0818	5.86	.0935	6.67	.0851	7.19	-.1062	7.61	.0787	5.64
College student ..	.3824	8.49	.0452	.00	.3695	8.20	.3570	7.91	.2488	6.65	.3540	7.78	.3932	8.71
Federal Government ...	...	...	...	...	...	...	...	...	-.3411	-5.05	...	...	...	...
State government ...	...	...	...	...	...	...	...	...	-.0301	-.25	...	...	...	...
Local government ...	...	...	...	...	...	...	...	...	-.6343	-8.98	...	...	...	...
Self-employed	1.0091	39.47	1.0130	39.65	.9894	38.53	1.0120	39.45	1.4499	61.58	1.1109	43.80	1.0148	39.86
Union member .....	.0374	.93	.0715	1.77	.0300	.75	.0259	.65	.0641	1.63	.0682	1.71	.0888	2.19
Usual part time ...	1.2024	29.73	1.1132	27.24	1.1862	29.31	1.1595	28.60	1.4860	37.72	1.1466	28.46	.6603	15.04
Standard day	-.2945	-19.70	-.2449	-16.02	-.2880	-19.28	-.2748	-18.37	.4968	36.35	...	...	...	...
Workweek: 50 or more hours .....	.1806	10.95	.0780	4.39	.1249	7.37	.0834	4.82	.2114	11.25	...	...	.1555	8.58
41-49 hours .....	...	...	...	...	-.2880	-14.05	-.3184	-15.42	-.1145	-5.44	...	...	...	...
40 hours .....	...	...	-.2205	-15.35	...	...	...	...	-.1592	-10.08	...	...	-.1455	-9.85
35-39 hours .....	...	...	...	...	...	...	-.3330	-12.68	-.1985	-7.54	...	...	...	...
Hours vary .....	...	...	...	...	...	...	...	...	...	...	...	...	.6796	27.60
Occupation: Managerial .....	.7584	4.87	.7457	4.78	...	...	.7799	5.04	...	...	.6800	4.35	.6354	4.04
Professional .....	.5699	3.63	.5624	3.57	...	...	.5794	3.71	...	...	.5147	3.26	.4281	2.69
Technicians .....	.6484	3.96	.6659	4.05	...	...	.6190	3.80	...	...	.5653	3.44	.5549	3.35
Sales .....	.7492	4.83	.7066	4.54	...	...	.7613	4.93	...	...	.7121	4.57	.6014	3.83
Administrative support and clerical .....	.1991	1.28	.1953	1.25	...	...	.1631	1.05	...	...	.1317	.84	.0502	.32
Other service .....	.1599	1.02	.1126	.72	...	...	.1432	.92	...	...	.1717	1.09	.1118	.70
Craft .....	.3403	2.18	.3409	2.18	...	...	.3093	2.00	...	...	.2943	1.88	.2130	1.35
Operators	-.2295	-1.45	-.2087	-1.32	...	...	-.2542	-1.62	...	...	-.2302	-1.45	-.2852	-1.79
Transportation ...	.1527	.97	.1360	.86	...	...	.1489	.95	...	...	.0987	.62	.0366	.23
Laborers .....	.0580	.37	.0489	.31	...	...	.0313	.20	...	...	.0401	.25	-.0249	-.16
Farming .....	.8608	5.43	.8287	5.21	...	...	.8401	5.33	...	...	.8387	5.27	.6538	4.08
Work shift: Evening .....	...	...	...	...	...	...	...	...	...	.1552	4.66	...	...	...
Night .....	...	...	...	...	...	...	...	...	...	-.3628	-6.79	...	...	...
Irregular .....	...	...	...	...	...	...	...	...	...	.8302	30.26	...	...	...
Constant	-1.2742	-7.62	-1.2389	-7.39	...	...	-1.1943	-7.17	-2.3067	-45.05	-1.4494	-8.62	-1.1835	-7.00
Pseudo R ² = .....	.198	...	.207	...	.226	...	.2080	...	.2620	...	.2180	...	.21	...
Chi-square	15,200	...	15,824	...	23,054	...	15,953	...	26,786	...	16,072	...	16,346	...
n	56,982	...	56,982	...	56,982	...	56,982	...	56,982	...	56,982	...	56,982	...
Logarithm of likelihood	-30,618	...	-30,306	...	-39,689	...	-30,241	...	-37,823	...	-30,182	...	-30,046	...

NOTE: Dependent variable = 1 if worker reports being able to vary starting or ending times of work.

Table 7. Probit estimates of likelihood of having a flexible schedule, by detailed industry and occupation

Has a flexible schedule	Detailed occupations		Detailed occupations and industries	
	Coefficient	z-statistic	Coefficient	z-statistic
Age	-0.0061	-2.05	-0.0092	-2.08
Age squared .....	.0003	9.84	.0004	7.26
Doctoral degree .....	.5850	5.51	.3997	2.66
Master's degree .....	.6244	14.88	.5354	8.74
Bachelor's degree .....	.4868	14.87	.3950	8.25
Associate's degree .....	.4891	11.26	.3984	6.26
Some college .....	.2253	6.83	.1615	3.35
High school diploma .....	.1631	5.06	.0879	1.86
Less than high school	-.0581	-1.55	-.1612	-2.93
Nonwhite	-.4804	-24.06	-.5420	-18.27
Female .....	.0372	2.53	.0299	1.37
Married .....	.0301	2.07	.0038	.18
College student .....	.4100	9.00	.4625	6.92
Self-employed .....	.9116	34.88	.9072	23.79
Union member .....	.1335	3.21	.0672	1.08
Usual part time .....	.5932	13.09	.5403	8.14
Hours vary .....	.6964	26.32	.7764	19.64
50 or more hours .....	.1391	7.33	.1856	6.62
40 hours	-.2109	-13.68	-.1610	-7.02
Occupation: ¹				
Public administration	-.8078	-1.20	-.7974	-.98
Managers .....	.3707	1.17	.2462	.48
Management related	-.2200	-.69	-.4208	-.82
Engineers .....	.2161	.67	.1292	.25
Mathematical scientists	1.0590	3.29	.8573	1.66
Natural scientists .....	.3930	1.15	.1376	.26
Health assessment and treating	-.7195	-2.03	-.8733	-1.52
Teachers, college and university .....	.2424	.68	.0909	.16
Teachers, except college and university ...	.1940	.45	.2139	.30
Lawyers and judges	-.8261	-2.58	-.7974	-1.55
Other professional .....	.2144	.61	.2620	.47
Health technicians .....	.1810	.56	.1058	.20
Engineering and science technicians .....	.0466	.14	-.0203	-.04
Other technicians .....	.0976	.31	-.1349	-.26
Sales supervisors and proprietors .....	.3056	.96	.1422	.28
Sales representatives, finance and business services .....	.2717	.84	.0746	.14
Sales representatives, commodities,				
excluding retail	-.0489	-.15	-.2248	-.44
Sales, retail and personal services	-.3770	-.92	-.9819	-1.53
Sales-related occupations	-.2508	-.74	-.4640	-.87
Supervisors, administrative support	-1.7555	-5.28	-2.1924	-4.05
Computer equipment operators	-.6500	-2.03	-.7905	-1.54
Secretaries, stenographers, and typists .....	.6078	1.89	.3816	.74
Financial records, processing	-.8195	-2.49	-1.0371	-1.97
Mail and message distributing	-.4437	-1.39	-.6010	-1.18
Other administrative support	-.4278	-1.21	-.4703	-.84
Private household service	-.1586	-.50	-.4248	-.83
Protective service occupations	-1.8389	-4.91	-2.2914	-3.54
Food service occupations	-.9237	-2.85	-.9996	-1.93
Health service occupations	-.0734	.21	-.3479	-.64
Cleaning and building service	-.6172	-1.93	-.7901	-1.54
Personal service occupations .....	.1453	.46	-.0310	-.06
Mechanics and repairers	-.5083	-1.59	-.6617	-1.29
Construction trades	-.7694	-2.40	-.9669	-1.88
Other precision production	-.6456	-2.01	-.7449	-1.45
Machine operators and tenders	-.2751	-.86	-.4198	-.82
Fabricators	-.7433	-2.29	-.9880	-1.90
Motor vehicle operators	-.5228	-1.61	-.6945	-1.34
Other transportation	-.3105	-.96	-.4340	-.84
Construction labor	-.6008	-1.86	-.8215	-1.59
Freight handlers .....	.6986	2.16	.6082	1.17
Other handlers and laborers .....	.0074	.02	-.2672	-.52
Farm operators	-.1051	-.27	-.5871	-.96

See footnotes at end of table.

Table 7. Continued—Probit estimates of likelihood of having a flexible schedule, by detailed industry and occupation

Has a flexible schedule	Detailed occupations		Detailed occupations and industries	
	Coefficient	z-statistic	Coefficient	z-statistic
Farmworkers .....	.3663	8.59	.2545	4.02
Forestry occupations	-.0406	-.19	-.3789	-1.10
Detailed Industry:				
Agricultural services0794	.91
Agricultural, other	-.1121	-1.73
Mining1363	1.16
Construction0711	1.89
Lumber	-.0202	-.17
Furniture1209	.95
Stone and glass	-.1793	-1.31
Primary metals2038	1.52
Fabricated metals0253	.28
Other metals	-.0132	-.19
Machinery, nonelectrical0605	.76
Machinery, electrical1361	1.39
Motor vehicles0884	.54
Aircraft0141	.10
Other transportation equipment3267	2.68
Professional photos and watches	-.0889	-.35
Toys and sporting goods2266	1.84
Miscellaneous manufacturing1830	2.36
Food0916	.20
Tobacco	-.0647	-.42
Textiles0766	.73
Apparel0950	.76
Paper0913	1.18
Printing and publishing0311	.37
Chemicals	-.0329	-.15
Petroleum and coal1580	1.38
Rubber and plastic goods	-.3239	-1.01
Leather	-.0004	-.01
Transportation	-.1913	-.43
Communication	-.3709	-.83
Utilities	-.2619	-.59
Wholesale trade	-.2337	-.53
Eating and drinking establishments	-.3039	-.69
Other retail trade	-.2393	-.54
Banking and finance	-.2316	-.52
Business services	-.3241	-.72
Automotive and repair services	-.1966	-.44
Personal services	-.1674	-.38
Entertainment and recreation	-.2177	-.49
Hospitals	-.1075	-1.60
Health services0347	.74
Educational services0936	2.16
Social services0491	1.43
Other professional services	-.0389	-.66
Forestry and fisheries0653	1.52
Justice, public order, and safety4015	1.97
Administration of human rights0908	1.25
National security and internal affairs	-.1901	-1.57
Other public administration	-.0775	-.59
Armed Forces1265	1.69
No industry response5886	1.15
Constant	-.8766	-2.70	-.6116	-1.18
Pseudo R ² .....	.252	...	.255	...
n	56,982.0	...	26,247.0	...
Logarithm of likelihood	-28,604.2	...	-13,115.5	...
Chi-square	19,228.0	...	8,966.2	...
Prob > chi-square .....	.000	...	...	...

¹ Health-diagnosing occupations, Armed Forces personnel, and the unemployed are dropped.

some flexibility in the daily timing of their work schedule. Still, there are disparities in access to such flexibility across workers according to their demographic, job, and work-hour characteristics. The analysis suggests that workers who wish to gain greater access to a flexible schedule sometimes must be willing to work very long workweeks (50 or more hours), work regularly nondaytime hours such as evening shifts, work irregular shifts, work an unpredictable number of hours each week, or make a transition to either part-time work or self-employment. Otherwise, workers may have to make longer term and presumably more costly mobility decisions, including pursuing further education credentials or switching to a different occupation or industry that tends not to utilize a standard 40-hour workweek as a norm. Thus, workers with a strong need or preference for daily flexibility in their work schedule may have to forgo leisure time, endure long-term reductions in income, or pay the costs associated with searching for a new job.

Likelihood of volatile hours

Table 8 shows that having variable hours, as evidenced by the respondent's reporting that his or her usual number of hours is impossible to specify, is a condition strongly influenced by several work characteristics as well as demographic factors. Being nonwhite heightens the marginal probability of having volatile hours, as does being female. However, almost half of the higher probability of having unstable workweeks for nonwhites, as well as all of the higher probability for women, is attributable to the distribution of the two groups' employment across industries, in effect reflecting industry segregation in employment. Married workers have a 9-percent to 19-percent lower likelihood of facing variable workweeks.

Being a government employee or a union member is associated with having a more predictable workweek length. Some of the workweek-stabilizing effect of unionism is traceable either to the detailed industry distribution of union jobs or to employment in government. Public-sector employment at all three levels—Federal, State, and especially local government—reduces the probability of having variable work hours. Self-employment increases the chances of having variable hours, due to the nature of the job, not the detailed industry in which the occupation is located.

Perhaps the most revealing finding of the analysis is that having variable hours is strongly positively associated with usually working part time, more than doubling the likelihood of having hours that vary weekly. Part-timers tend to face much more unpredictability in their workweeks than full-timers are confronted with. Indeed, usually working full time reduces the chances of having an unpredictable workweek by more than 40 percent, an association which suggests that part-time workers specifically may be used by employers to absorb fluctuations in workload via changes in their number of hours or days at work. This use of part-time workers serves to buffer full-time

employees' hours of work. Furthermore, not surprisingly, given the association revealed in the previous section's findings, having the ability to vary one's daily schedule leads to a (68-percent) greater likelihood of having a variable workweek length. It then follows that workers with more access to flexible daily starting and ending times, such as those with the shortest hours and those with the longest hours, experience a more unpredictable workweek length than those who are on fixed daily schedules.

In addition, certain major occupations—executive, managerial, and administrative positions; professional occupations, administrative support positions; and private household jobs—reduce the chances of having volatile hours. (Farming occupations make up the omitted category.) Those in craft jobs also have reduced chances of working variable hours, but this is due to the concentration of such jobs in certain industries. Conversely, machine operators, assemblers, and inspectors; handlers, equipment cleaners, and laborers; and, to a lesser extent, those in sales and service occupations other than protective and household services are more likely to work a variable-hour workweek. (Again, the last of these is in large measure due to their detailed industry distribution.³⁶ Note, however, that the reduced variability of hours in private household jobs and in craft jobs, as well perhaps as the greater variability of hours for sales workers, are attributable, to a large extent, to the more flexible scheduling commonly associated with those occupational classifications.)

THE ANALYSIS PRESENTED IN THIS ARTICLE HAS RESULTED IN SEVERAL NOTEWORTHY EMPIRICAL FINDINGS:

1. Access to flexibility in one's daily work schedule rose across most types of jobs between 1991 and 1997, reaching more than 27 percent of the labor force the latter year and more than doubling since 1985. The form such access takes appears to be mainly in the differentiation and stretching out of the available workday. This is because more than 40 percent of the employed now regularly work past 5:00 P.M. each day, and 28 percent begin work at or earlier than 7:30 A.M. (Those starting early, of course, are not necessarily those who stay late.)
2. Many workers are experiencing a tradeoff wherein they work long usual weekly hours in full-time positions while gaining greater access to flexibility in their work schedules, because working in excess of 50 hours per week heightens the chances of obtaining a flexible work schedule. Given that fewer workers are reporting that they work exactly 40 hours and more workers are indicating that they work 49 or more hours,³⁷ more workers may be willing to endure the longer workweeks in order to get a more flexible work schedule. However, it is possible that the attainment of flexibility may be only a secondary aim of workers or may even be just coincidental across occupations, because working long

Table 8. Likelihood that workers' usual hours are variable

Category	With controls for government employment						With major industry controls		With detailed industry controls	
	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic
Age	0.0239	7.36	0.0241	7.42	0.0223	6.93	0.0789	21.05	0.0707	18.65
Age squared	-.0001	-1.87	-.0001	-1.95	-.0001	-2.74	-.0007	-17.38	-.0006	-15.33
Doctoral degree .....	.0690	.57	.0745	.62	.0366	.30	.0269	.22	-.0048	-.04
Master's degree	-.6728	-11.34	-.6711	-11.30	-.7455	-12.57	-.8231	-12.89	-.8369	-13.03
Bachelor's degree	-.2633	-8.66	-.2630	-8.65	-.2886	-9.13	-.3326	-10.55	-.3875	-12.16
Some college .....	.1596	5.77	.1723	6.21	.2409	8.41	.0040	.14	-.0484	-1.64
High school diploma	-.0424	-1.59	-.0414	-1.55	.0388	1.39	-.1964	-7.02	-.1912	-6.79
Less than high school ..	-.0067	-.20	-.0076	-.23	.1172	3.43	-.2525	-7.14	-.2672	-7.50
Nonwhite .....	.3974	19.21	.4194	20.14	.4384	20.35	.2628	11.41	.2463	10.63
Female .....	.1657	9.59	.1606	9.27	.1512	8.49	-.0035	-.19	.0160	.84
Married	-.1088	-6.47	-.1117	-6.64	-.1910	-10.94	-.0934	-5.12	-.0994	-5.38
Union member	-.3321	-5.40	-.3024	-4.89	-.2854	-4.62	-.3037	-4.71	-.2347	-3.63
Self-employed .....	...	...	...	...	...	...	...	...	.5240	22.05
Federal Government .....	...	...	-.3954	-3.71	-.2784	-2.60	...	...	...	...
State government .....	...	...	-.4772	-2.37	-.4346	-2.10	...	...	...	...
Local government .....	...	...	-.9416	-8.43	-.8272	-7.29	...	...	...	...
Flexible schedule .....	...	...	...	...	.6818	41.43	...	...	...	...
Usually work part time ..	...	...	...	...	...	...	2.3074	53.28	2.2862	52.11
Usually work full time ..	...	...	...	...	...	...	-.4514	-23.12	-.4033	-20.29
Occupation: ¹										
Managerial	-.2882	-3.61	-.2977	-3.72	-.3510	-4.34	-.2077	-2.45	-.2595	-3.06
Professional	-.3503	-3.90	-.3576	-3.97	-.3281	-3.60	-.3461	-3.60	-.3579	-3.72
Sales .....	.2679	3.47	.2527	3.26	.1628	2.08	.2639	3.21	.1323	1.61
Administrative support and clerical	-.2940	-3.71	-.2796	-3.51	-.2192	-2.72	-.3894	-4.58	-.3828	-4.51
Private household	-.5099	-1.90	-.4489	-1.70	-.3418	-1.29	-.6184	-2.00	-.6146	-1.99
Protective service .....	.0450	.55	.0327	.40	.0885	1.06	-.1235	-1.39	-.1323	-1.49
Other service .....	.1738	2.19	.1679	2.11	.1656	2.06	.1778	2.11	.1261	1.50
Craft	-.2203	-2.61	-.2385	-2.81	-.0954	-1.11	-.1055	-1.18	-.1333	-1.49
Operators .....	.2847	3.41	.2929	3.50	.3497	4.13	.3475	3.93	.3022	3.42
Transportation	-.0110	-.13	-.0196	-.23	.0576	.66	-.0481	-.52	-.0618	-.68
Laborers .....	.4651	5.61	.4543	5.47	.3554	4.23	.4734	5.36	.4722	3.63
Constant	-2.2633	-21.36	-2.2510	-21.22	-2.4176	-22.84	-2.8719	-25.00	.4641	5.27
Number of observations	62,427	...	62,427	...	...	...	28,775	...	28,774	...
Chi-square	3,399	...	5,279	...	...	...	...	...	...	...
Prob > chi-square	0	...	0	...	...	...	0	...	0	...
Pseudo R ² .....	.086	...	.134	...	...	...	.245	...	.247	...
Logarithm of likelihood ..	...	...	-17,124	...	...	...	...	...	-6,906.2	...

¹ Technicians and farming are dropped.

hours also delivers an average hourly earnings premium across most occupations³⁸ and the greater income may be workers' primary goal. Alternatively, workers may get flexibility in their schedules by switching to part-time jobs or self-employment, by working evenings or irregular shifts, or by choosing to work unpredictable hours. Thus, the growing flexibility of work schedules may be producing a greater willingness on the part of workers to work considerably longer, considerably shorter, or less predictable hours than the 40-hour workweek norm. Still, the various causal connections may be muddled by the fact that some employers in certain occupations and industries may be increasingly inclined to offer more flexible scheduling in order to foster greater commitment by and retention of workers, either in conjunction with or in place of higher wages. Such offers may in turn induce a greater willing-

ness on the part of employees to accept long average hours. Meanwhile, in other industries and occupations, employers may use more part-time or alternative-shift options to accomplish the same end.

- Access to daily flexibility in one's schedule remains uneven by sector and not equally shared across individuals. It is less likely for nonwhites, women, unmarried persons, those with relatively less education, and individuals employed in the public sector. It is noticeably higher in many of the higher skilled, lower unemployment occupations and industries.
- Almost 10 percent of the workforce now has workweeks that are variable and thus unpredictable from week to week. Having such unstable hours is more likely among nonwhites, women, unmarried persons, those who work in the private sector, those who are not members of a union, and individuals in less skilled occupations. The variable work-

week is perhaps most prominent among part-time workers.

How this trend toward a destandardized workweek, workday, and work schedule plays out over the next decade or so promises to be a most interesting subject of study for economists, sociologists, and, indeed, all analysts of labor. On the one hand, if employers adhere or revert to a uniform, one-size-fits-all standard workweek, the diverse needs of today's workers and their families may go unsatisfied. As the male-breadwinner model of work life and households wanes, workers' desired hours may fluctuate more widely than ever before. On

the other hand, accessing flexible daily schedules may be coming at the dear price of lost leisure time, significantly lower lifetime earnings, a checkered career progression, or stresses associated with irregular work. Moreover, such flexibility in daily scheduling is most readily available to already advantaged workers, and it appears to promote more unpredictability in the length of the workweek and excessive work among those who usually work full time. The ultimate outcome of the ongoing destandardization and whether the various conflicting factors will improve the well-being of workers, on balance, cannot be foretold at the present time. □

Notes

¹ Thomas M. Beers, "Flexible schedules and shift work: replacing the '9-to-5' workday?" *Monthly Labor Review*, June 2000, pp. 33–40; "Workers on Flexible and Shift Schedules in 1997," *BLS News* (Bureau of Labor Statistics, Mar. 26, 1998). For comparison, see Earl Mellor, "Shift work and flexitime: how prevalent are they?" *Monthly Labor Review*, November 1986, pp. 14–21.

² Overtime hours, for which data are available only for production and nonsupervisory workers in the manufacturing sector, rose to a record peak by the end of the 1990s. (See Ron Hetrick, "Analyzing the recent upward surge in overtime hours," *Monthly Labor Review*, February 2000, pp. 30–33.) For an examination of the usually positive earnings premium employees receive for working longer hours, see Daniel Hecker, "How hours of work affect occupational earnings," *Monthly Labor Review*, October 1998, pp. 8–18. For a review of increases in labor force participation over the past 50 years and a projection of the aging of the workforce over the next 25 years, see Howard Fullerton, "Labor force participation: 75 years of change, 1950–98 and 1998–2025," *Monthly Labor Review*, December 1999, pp. 3–12. The recent trend of rising postretirement labor force participation is examined in Diane E. Herz, "Work after early retirement: an increasing trend among men," *Monthly Labor Review*, April 1995, pp. 13–20; and John R. Besl and Balkrishna D. Kale, "Older workers in the 21st century: active and educated, a case study," *Monthly Labor Review*, June 1996, pp. 18–28.

³ For a discussion of pockets of occupational labor shortages, see Carolyn Veneri, "Can occupational labor shortages be identified using available data?" *Monthly Labor Review*, March 1999, pp. 15–21. Evidence relating to the effects of flexible work arrangements on outcomes such as productivity, job satisfaction, and absenteeism is presented in M. Krausz and N. Freibach, "Effects of Flexible Working Time for Employed Women upon Satisfaction, Training and Absenteeism," *Journal of Occupational Psychology*, vol. 56, no.2, 1983, pp. 155–59; R. L. Moss and T. D. Curtis, "The Economics of Flexitime," *Journal of Behavioral Economics*, summer 1985, pp. 95–114; C. Rodgers, "The Flexible Workplace: What Have We Learned?" in S. Lobel (ed.), *Human Resource Management, Special Issue on Work and Family*, fall 1993, pp. 183–99; T. Clifton, E. Shephard, and D. Kruse, "Flexible Work Hours and Productivity: Some Evidence from the Pharmaceutical Industry," *Industrial Relations*, January 1996, pp. 123–39; T. Scandura and M. Lankau, "Relationships of Gender, Family Responsibility and Flexible Work Hours to Organizational Commitment and Job Satisfaction," *Journal of Organizational Behavior*, July 1997, pp. 377–91; and Boris B. Baltes, Thomas E. Briggs, Joseph W. Huff, Julie A. Wright, and George A. Neuman, "Flexible and Compressed Workweek Schedules: A Meta-Analysis of Their Effects on Work-Related Criteria," *Journal of Applied Psychology*, August 1999, pp. 496–513.

⁴ For evidence of the excess demand for more flexible work hours and schedules, see E. Galinsky, J. T. Bond, and J. Swanberg, *The 1997 Study of the Changing Work Force* (New York, Families and Work Institute, 1998). In a 1992 survey, as much as 25 percent of the workforce

was found to be willing to sacrifice career prospects in order to attain more flexibility in daily hours of work—this despite the finding that 26 percent of workers surveyed already have such flexibility available on a daily basis. Nearly all workers (92 percent) say that they are concerned with having flexibility in their work schedule in order to take care of family needs, with 38 percent of workers saying that they are extremely concerned and 37 percent asserting that they are very concerned (*Work Trends: America's Attitudes about Work, Employers, and Government* (John J. Heldrich Center for Workforce Development at Rutgers University and Center for Survey Research at University of Connecticut, Mar. 18, 1999).)

⁵ For evidence that work hours have risen in the United States since the early 1980s, see B. Bluestone and S. Rose, "Macroeconomics of Work Time," *Review of Social Economy*, winter 1998, pp. 425–41; and Galinsky, Bond, and Swanberg, *Changing Work Force*. For evidence of a rise in annual family hours, see L. Mishel, J. Bernstein, and J. Schmitt, *The State of Working America: 2000/2001* (Ithaca, NY, Economic Policy Institute and ILR Press, 2000), tables 1.29, 1.31, and 2.1; and L. Leete and J. Schor, "Assessing the Time-Squeeze Hypothesis: Hours Worked in the United States, 1969–89," *Industrial Relations*, January 1994, pp. 25–43. For evidence that average work hours have crept upward slightly, see Philip L. Rones, Randy E. Ilg, and Jennifer M. Gardner, "Trends in hours of work since the mid-1970s," *Monthly Labor Review*, April 1997, pp. 3–14. For evidence that average hours are growing among those workers in the upper tail of the distributions of income, weekly hours, and educational attainment, see M. Coleman and J. Pencavel, "Changes in Work Hours of Male Employees, 1940–1988," *Industrial and Labor Relations Review*, January 1993, pp. 262–83; and J. Jacobs and K. Gerson, "Who Are the Overworked Americans?" *Review of Social Economy*, winter 1998, pp. 442–59. For evidence that average hours are constant, but shifting toward youths, women, and married persons, see Ellen R. McGrattan and Richard Rogerson, "Changes in Hours Worked since 1950," *Federal Reserve Bank of Minneapolis Quarterly Review*, winter 1998, pp. 2–19. For the counterargument that average hours are declining, with data collected from time diaries, see John P. Robinson and Ann Bostrom, "The overestimated workweek? What time diary measures suggest," *Monthly Labor Review*, August 1994, pp. 11–23. This view is challenged by Jerry A. Jacobs, "Measuring time at work: are self-reports accurate?" *Monthly Labor Review*, December 1998, pp. 42–53.

⁶ Daniel Hamermesh, "The Timing of Work over Time," *Economic Journal*, January 1999, pp. 37–66.

⁷ Harriet Presser, "Toward a 24-Hour Economy," *Science*, June 11, 1999, pp. 1778–79; Harriet B. Presser and Amy G. Cox, "The work schedules of low-educated American women and welfare reform," *Monthly Labor Review*, April 1997, pp. 25–34.

⁸ Presser and Cox, "Work schedules of low-educated American women"; Hamermesh, "Timing of Work."

⁹ The May 1997 Supplement to the CPS queries the employed regarding the starting and ending times of their workday (at half-hour intervals) and their ability to vary those times. The regular CPS sample for May 1997 consists of 50,000 households, of which 48,000 are administered the Supplement's questions.

¹⁰ These classifications were recoded from the respondents given three-digit industry and occupation response.

¹¹ In the basic monthly CPS, respondents are asked the number of hours they usually work per week and the actual number of hours they worked the previous week. Beginning with the redesigned CPS in 1994, they may answer, "It varies." In May 1997, 9.7 percent gave this optional response. For the notion that irregular, unpredictable work hours are one of three features that characterize "contingent" work, see Anne E. Polivka and Thomas Nardone, "On the definition of 'contingent work,'" *Monthly Labor Review*, December 1989, pp. 9–16. The CPS's estimate of the proportion of contingent workers, which has varied between 4 percent and 5 percent of the workforce, according to the 1995, 1997, and 1998 *Contingent Work Supplement (CWS) to the February CPS*, can be broadened by including those workers who face a work-week so variable that they cannot even specify what its usual length is. (See D. Belman and L. Golden, "Contingent and Nonstandard Work Arrangements in the United States: Dispersion and Contrasts by Industry, Occupation and Job Type," in F. Carré, M. Ferber, L. Golden, and S. Herzenberg (eds.), *Nonstandard Work: The Nature and Challenge of Changing Employment Arrangements*, Industrial Relations Research Association Series (Ithaca, NY, ILR Press, 2000).)

¹² See Daniel Hamermesh, *Work Days, Work Hours, Work Schedules: Evidence for the United States and Germany* (Kalamazoo, MI, W. E. Upjohn Institute for Employment Research, 1996). Indeed, in another work, Hamermesh argues that "we need to integrate the notion of work timing into a variety of areas of applied economics [such as]...evaluations of household welfare [and]...the timing of the household's economic activities, including work, not merely how much of each activity is undertaken" (Hamermesh, "Timing of Work," p. 65).

¹³ *Variability (or variance) in hours* means the degree to which actual work hours deviate from their mean over the course of some period, such as a year. (See Lonnie Golden, "Projected Labor Market Consequences of Reforming the U.S. Overtime Hours Law," in G. De Geest, J. Siegers, and R. Van den Bergh (eds.), *Law and Economics and the Labour Market*, New Horizons in Law and Economics (Cheltenham, U.K., Edward Elgar, 1999, pp. 132–56).) While sometimes used as a proxy for flexibility (see, for example, A. King, "Industrial Structure, Flexibility of Working Hours and Women's Labor Force Participation," *Industrial and Labor Relations Review*, August 1978, pp. 399–407), variance in hours is clearly distinct from the ability to adjust one's hours or schedule in response to a change in preferences.

¹⁴ See T. Idson and P. K. Robbins, "Determinants of Voluntary Overtime Decisions," *Economic Inquiry*, January 1991, pp. 79–91.

¹⁵ See K. Moore Scott and M. Micelli, "An Exploration of the Meaning and Consequences of Workaholicism," *Human Relations*, March 1997, pp. 287–314; Linda Bell, "Differences in Work Hours and Hours Preferences by Race in the U.S.," *Review of Social Economy*, winter 1998, pp. 481–500; and Wayne Eastman, "Working for Position: Women, Men and Managerial Work Hours," *Industrial Relations*, January 1998, pp. 51–66.

¹⁶ See K. Rothschild, "A Note on Some Economic and Welfare Aspects of Working Time Regulations," *Australian Economic Papers*, vol. 21, 1982, pp. 214–18; and Juliet Schor, *The Overspent American: Upscaling, Downshifting and the New Consumer* (New York, Basic Books, 1999).

¹⁷ See R. Landers, J. Rebitzer, and L. Taylor, "Rat Race Redux: Adverse Selection in the Determination of Work Hours in Law Firms," *American Economic Review*, June 1996, pp. 329–48; and B. Bluestone

and S. Rose, "Macroeconomics of Work Time," *Review of Social Economy*, winter 1998, pp. 425–41.

¹⁸ Using the 1998 CPS outgoing rotation file, the U.S. General Accounting Office, in "Fair Labor Standard Act: White Collar Exemptions in the Modern Work Place," GAO/HEHS-99-164, *Report to the Subcommittee on Workforce Protections, Committee on Education and the Workforce, US House of Representatives*, September 1999, pp. 59–60, estimated that 44 percent of "exempt" workers (those not covered by overtime pay requirements), but only 20 percent of "nonexempt" workers (those so covered), worked longer than 40 hours per week. Daniel Hamermesh and Stephen Trejo, "The Demand for Hours of Labor: Direct Evidence from California," *Review of Economics and Statistics*, February 2000, pp. 38–47, found that the daily overtime pay premium required in California shortens average hours worked relative to other States in the industries and occupations the authors targeted for study.

¹⁹ Hours spent teleworking is a likely positive predictor of an employee's reporting that he or she has flexibility in scheduling work time. However, such flexibility, as well as the technologies facilitating it (for example, e-mail and voice mail), have lengthened workers' workdays. (See The Conference Board, "Work-Family Roundtable: Technology Is Helping Workers Balance Work-Family Issues," release no. 4457, Dec. 3, 1998.) Workers also say that devices like beepers, laptop computers, and cell phones make it difficult to escape work and even harder to catch up with missed work ("More Tech, Less Time," *HR Focus* (American Management Association, March 1999), p. 4).

²⁰ Conventional economic theory predicts that a competitive labor market will eventually sort workers and employers so that desired and required hours and schedules are matched. In the interim, the market should create fully compensating wage differentials, providing workers sufficient extra income to offset the ill effects of the adverse working conditions of inflexible or inconvenient hours and schedules. (See, for example, S. Rottenberg, "The Regulation of Work Hours and Its Externalities Defenses," *Journal of Labor Research*, January 1995, pp. 98–109.) However, this prediction has garnered little empirical support. (See, for instance, G. Duncan and B. Holmlund, "Was Adam Smith Right After All? Another Test of the Theory of Compensating Wage Differentials," *Journal of Labor Economics*, vol. 1, no. 4, 1983, pp. 366–79; R. Ehrenberg and P. Schumann, "Compensating Wage Differentials for Mandatory Overtime?" *Economic Inquiry*, October 1984, pp. 460–78; and J. Altonji and C. Paxson, "Labor Supply Preferences, Hours Constraints, and Hours-Wage Trade-Offs," *Journal of Labor Economics*, April 1988, pp. 254–76.) Thus, the additional income gained by enduring undesired inflexibility is likely less than fully compensating.

²¹ The majority of flexible work schedule arrangements are likely informal, because only 6 percent of employees are offered such arrangements by a formal employee benefit program. (See Beers, "Flexible schedules and shift work.") Much larger proportions of employers report in one-time surveys that they offer flexible schedules to their employees. Estimates range from just under half to more than three-quarters of (usually larger sized) firms. When asked, employers indicate that only about half such flexible scheduling systems are offered as a formal policy, and their offering is often subject to management discretion. One reason for the large discrepancy between the proportion of employers offering flextime and employees actually receiving or using it may be that flextime is often made available only, or first, to a particular segment of an organization's workforce—typically managerial and professional staff on a case-by-case basis—or only temporarily, seasonally, or experimentally. Another reason may be that 40 percent of employees fear that using flextime (or taking time off for family-related purposes) would damage their career prospects. (See Galinsky, Bond, and Swanberg, *Changing Work Force*; and the John J. Heldrich Center's *Work Trends*.) Almost 60 percent of women fear using flextime for the same reason. (See "Part 3: Work and Family: Flexibility on the Job," *Futurework—Trends and Challenges for Work in the 21st Century* (U.S. Department of Labor, 1999).) Time off and flexibility are strikingly important issues among women in particular. (See "Ask a Working Woman" survey, Working Women project, AFL-CIO, 1997.) Among the

most important employer policies are those which help working women gain more control of their time. The proportions of such women citing as "very important" having paid sick leave (82 percent), paid vacation time (76 percent), paid family leave for caregiving (70 percent), and flexible hours (61 percent) were greater than those citing protection from layoffs and downsizing and time off for child care (33 percent each). Another 25 percent indicated that having flexible hours or control over their hours was somewhat important. There remains a gap of 30 percent between those who deem this benefit at least somewhat important and those workers who have it. Still, 39 percent of respondents report lacking flexible hours.

²² For evidence that workers taking part-time positions suffer both a current and a future loss of pay and benefit coverage, see Marianne A. Ferber and Jane Waldfogel, "The long-term consequences of nontraditional employment," *Monthly Labor Review*, May 1998, pp. 3–12.

²³ Results from the 1998 Families and Work Institute survey of firms are consistent with this pattern of the presence of flextime by major industry group. In offering general "work-life" assistance, the finance, insurance, and real-estate industry is the most generous, while the wholesale and retail trade industries are the least. Also, 82 percent of firms in which more than half the executive positions are filled by women offer flextime. By contrast, 56 percent of firms wherein less than half the executive staff is composed of women offer flextime.

²⁴ The higher variability of work hours for part-timers reinforces the findings of Ian Dey, "Flexible 'Parts' and Rigid 'Fulls,'" *Work, Employment and Society*, December 1990, pp. 465–90; Arne Kalleberg, "Part-Time Work and Workers in the U.S.: Correlates and Policy Issues," *Washington and Lee Law Review*, vol. 52, no. 3, 1995, pp. 772–98; and Belman and Golden, "Contingent and Nonstandard Work Arrangements."

²⁵ The source for the data on nonstandard workers is the February 1997 Contingent and Alternative Work Survey, which contains information on the same 52 detailed industries examined in the current analysis, for independent contractors, workers contracting with a temporary agency, employees working for a contracting firm, and on-call and day laborers.

²⁶ Indeed, it is also possible that the prolonged noninflationary economic expansion owed much to the spread of flexible schedules, at least to the extent that they contributed to the growth of labor productivity during the decade and served as a nonpecuniary substitute for wage increases to employees.

²⁷ Potentially important factors that are *not* observable in the cps data include characteristics of the worker's industry of employment, such as the average size of enterprises, the degree of product market competition, the volatility of product market demand, and profitability.

²⁸ The columns labeled "coefficient" report derivatives of the likelihood function (dF/dx), for a discrete change of dummy variable from 0 to 1. The z -statistic represents a standard test of the coefficient being significantly different from zero.

²⁹ Workers with a professional school degree make up the omitted category in the regression on education level.

³⁰ J. Jacobs and K. Gerson, "Who Are the Overworked Americans?" *Review of Social Economy*, winter 1998, pp. 442–59, find that having flexible hours does not significantly lead workers to systematically exaggerate their reported work hours per week. Thus, the positive association between long hours spent at work and access to flextime is likely *not* a statistical artifact produced by workers on flextime tending to overreport their average work time.

³¹ Professional jobs' greater flexibility disappears, however, when controls are included for their major industry. (Service occupations are omitted as the reference occupation.)

³² Sample sizes in the account of some detailed occupational classifications that follow are likely to be insufficiently large to yield confidence in the stated estimated effects and significance, particularly for sales-related occupations, forestry occupations, computer equipment operators, and, to a lesser extent, public-sector administrators, health diagnosticians, lawyers and judges, natural scientists, health assessment and treating occupations, teachers other than college, health technicians, and protective service occupations.

³³ The flexibility of State and local public-sector employees may soon become even less, because the U.S. Supreme Court recently ruled, 6–3, in *Christensen et al. vs. Harris County* (120 S.Ct. 1655 (2000)) that public-sector employers can enforce a deadline before which employees have to use the compensatory time they have accumulated to avoid having to pay them cash for their extra time worked. (See "Public Employers Can Push Comp Time Usage," *Workforce*, June 2000, pp. 30–32.)

³⁴ That the self-employed are less dissatisfied with their work schedules is not surprising: "flexibility of schedule" is a key reason for becoming self-employed, particularly for women with children. (See R. Boden, "Flexible Working Hours, Family Responsibilities and Female Self-Employment: Gender Differences in Self-Employment Selection," *American Journal of Economics and Sociology*, January 1999, pp. 71–83.) However, Jennifer Glass, "Employer Characteristics and the Provision of Family Responsive Benefits," *Work and Occupations*, November 1995, pp. 380–411, finds no improvement in the flexibility of self-employed mothers' schedules.

³⁵ Using longitudinal data from 1973 to 1978, G. Duncan and F. Stafford, "Do Union Members Receive Compensating Wage Differentials? Reply," *American Economic Review*, vol. 72, no. 4, 1982, pp. 868–72, had found that workers who switched from union to nonunion status achieved larger-than-average increases in their own control, rather than their supervisors', over the setting of their overtime work hours. (For reasons that some employers desire to schedule overtime hours, see Darrell E. Carr, "Overtime work: an expanded view," *Monthly Labor Review*, November 1986, pp. 36–39; and M. Gunderson and K. Weiermair, "Labor Market Rigidities: Economic Analysis of Alternative Work Schedules Including Overtime Restrictions," in G. Dlugo, W. Doron, and K. Weiermair (eds.), *Management under Differing Labour Market and Employment Systems* (Berlin, Walter de Gruyter and Co., 1988), pp. 153–63.) S. M. Glosser and L. M. Golden, "Average Work Hours as a Leading Economic Variable in U.S. Manufacturing Industries," *International Journal of Forecasting*, June 1997, pp. 175–95, however, find that rising overtime hours no longer lead to imminent increases in employment in business cycle expansions.

³⁶ Results not reported in Table 8 reveal that several detailed occupations—managers, mathematical and computer scientists, lawyers and judges, health technicians, other administrative support, computer equipment operators, food service workers, cleaning and building services, and, most of all, protective services—raise the likelihood of having variable hours. In contrast, a few occupations—supervisors of clericals; freight, stock, and materials handlers; and farm operators and managers—*increase the stability* of hours. With occupation controlled for, four detailed industries are associated with volatile hours: agricultural services, mining, communication, and entertainment and recreation. One industry, paper manufacturing, stabilizes weekly hours.

³⁷ See *Report on the American Workforce*, table 3–1 (U.S. Department of Labor, 1999). In 1998, 20 percent of full-time workers reported working 49 or more hours per week, up from about 10 percent in 1979 (although only slightly since 1989). See also Philip L. Rones, Randy E. Ilg, and Jennifer M. Gardner, "Trends in hours of work since the mid-1970s," *Monthly Labor Review*, April 1997, pp. 3–14.

³⁸ For evidence of this possibility, see Daniel Hecker, "Work more, earn more? How hours of work affect occupational earnings," *Occupational Outlook Quarterly*, spring 1999, pp. 10–23, especially pp. 12–13.