



POLICY FORUM: DEMOGRAPHICS

Toward a 24-Hour Economy

Harriet B. Presser

Americans are moving toward a 24-hour, 7-day-a-week economy. Two-fifths of all employed Americans work mostly during the evenings or nights, on rotating shifts, or on weekends. Much more attention has been given to the number of hours Americans work (1, 2) than to the issue of which hours—or days—Americans work. Yet the widespread prevalence of nonstandard work schedules is a significant social phenomenon, with important implications for the health and well-being of individuals and their families and for the implementation of social policies. Here I discuss recent national data on the widespread prevalence of nonstandard work schedules, explain why this has come about, and highlight some of the important social implications.

Prevalence

As of 1997, only 29.1% of employed U.S. citizens worked a "standard work week," defined as 35 to 40 hours a week, Monday through Friday, on a fixed daytime schedule. For employed men, the proportion is 26.5%; for employed women, 32.8%. Only 54.4%—a bare majority—regularly work a fixed daytime schedule, all five weekdays, for any number of hours.

These figures are derived from the May 1997 Current Population Survey (CPS), a representative sample of about 48,000 U.S. households. I selected for further study a subset of about 50,000 employed Americans ages 18 and over in these households with nonagricultural occupations and who reported on their specific work hours and/or work days (see the table).

Of the people in this group, one in five work other than on a fixed daytime schedule, and one in three work on weekends (and, for most, on weekdays as well). Men and women are similar in their prevalence of evening employment, but a somewhat higher proportion of men than women work fixed nights, rotating and variable hours, and weekends. The most marked differences are between those working full time and part time. More part-timers work other than a fixed day (29.6%) than do full-timers (17.0%); evening employment

is especially high among part-timers. The difference between full- and part-timers is less marked for weekend employment (30.7% and 34.7%, respectively).

For the modal U.S. family—the two-earner couple—the prevalence of nonstandard work schedules is especially high, because either the husband or wife may be working nondays or weekends. (Rarely do both work the same nonstandard schedules.) Among two-earner couples, 27.8% include at least one spouse who works other than a fixed daytime schedule, and 54.6% include at least one spouse working weekends. When children under age 14 are in the household, the respective percentages are 31.1 and 46.8%. Indeed, of all two-earner couples with children, those with both spouses working fixed daytime schedules and weekdays are a minority; 57.3% do not fit this description. Thus, the temporal context in which millions of American couples are raising their children today is diverse and is likely to become even more so in the future.

Origins and Causes

At least three interrelated factors are increasing the demand for Americans to work late hours and weekends: a changing economy, changing demography, and changing technology. With regard to the changing economy, an important aspect is the growth of the service sector with its high prevalence of nonstandard work schedules relative to the goods-producing sector. In the 1960s, employees in manufacturing greatly exceeded those in service industries, whereas by 1995 the percentage was about twice as high in services as in manufacturing (3). In particular, there is an interaction between the growth of women's employment and the growth of the service sector because there is a disproportionately high percentage of female occupations in this sector. In turn, the increasing participation of women in the labor force contributes to the growth of the service economy. For example, the decline in full-time homemaking has generated an increase in family members eating out and purchasing other services. Moreover, women's increasing daytime labor force participation has generated a demand for services during nondaytime hours and weekends (4).

Demographic changes also have contributed. The postponement of marriage,

along with the rise in real family income resulting from two earners, has increased the demand for recreation and entertainment during late hours and weekends. The aging of the population has increased the demand for medical services over a 24-hour day, 7 days a week.

Finally, technological change, along with reduced costs, has moved us to a global 24-hour economy. The ability to be "on call" at all hours of the day and night to others around the world at low cost generates a need to do so. For example, the rise of multinational corporations, along with the use of computers, faxes, and other forms of rapid communication, increases the demand for branch offices to operate at the same time that corporate headquarters are open. Similarly, international financial markets are expanding their hours of operation. Express mailing companies such as United Parcel Service require round-the-clock workers all days of the week.

We do not have precise national estimates of the amount of growth over recent decades in the prevalence of nonstandard work schedules as a consequence of these changes. Questions on work hours have been asked differently by the Bureau of Labor Statistics in each of the CPSs since 1980; questions on work days were not even asked until 1991.

Most of the top 10 occupations projected by the Bureau of Labor Statistics to have the largest job growth between 1996 and 2006 are service occupations [table 4 in (5)]. Using the May 1997 CPS data, I calculated the percentages in the top growth occupations for which nonstandard schedules are prevalent and considered their gender and racial composition.

The data suggest that not only will future job growth generate an increase in employment during nonstandard hours and weekends, but also that this increase will be experienced disproportionately by females and blacks. Many of the top growth occupations that tend to have nonstandard work schedules also have high percentages of female workers: cashiers, registered nurses, retail salespersons, nurses' aides, orderlies, and attendants combined with home health aides. The top growth occupations that disproportionately include blacks and tend to have nonstandard work schedules are cashiers, truck drivers, nurses' aides, orderlies, and attendants combined with home health aides.

Although nonstandard work schedules are pervasive throughout the occupational structure, such schedules are disproportionately concentrated in jobs low in the occupational hierarchy (6). This fact, combined with the expectation that women and blacks will disproportionately increase their participation in nonstandard work

The author is in the Department of Sociology and Center on Population, Gender, and Social Inequality, University of Maryland, College Park, MD 20742, USA, and is Visiting Scholar at the Russell Sage Foundation, 112 East 64th Street, New York, NY 10021, USA.

Work schedules	Total			Males			Females		
	Total	≥35 hours	<35 hours	Total	≥35 hours	<35 hours	Total	≥35 hours	<35 hours
Hours:									
Fixed day	80.1%	83.0%	70.4%	78.9%	81.1%	67.5%	81.4%	85.9%	72.0%
Fixed evening	8.1	6.3	14.4	8.1	6.9	15.2	8.1	5.5	14.0
Fixed night	4.1	4.3	3.7	4.5	4.5	4.5	3.7	3.9	3.3
Hours vary	4.2	3.2	7.7	4.4	3.7	8.5	3.9	2.5	7.2
Rotating*	3.6	3.2	3.8	4.1	4.0	4.4	2.8	2.2	3.5
Number	49,570	38,272	11,201	25,916	22,067	3,800	23,654	16,205	7,401
Days:									
Weekday only, 5 days	60.3	65.7	42.4	59.7	62.3	45.6	61.1	70.6	40.6
Weekday only, <5 days	8.0	3.6	22.9	5.3	3.4	16.1	11.0	3.9	26.6
7 days	7.9	7.7	8.0	8.7	8.4	9.5	6.9	6.7	7.2
Weekday and weekend <7 days	23.1	22.9	24.3	25.7	25.8	26.2	20.1	18.7	23.3
Weekend only, 1 or 2 days	0.7	0.1	2.4	0.5	0.1	2.6	0.9	0.1	2.2
Number	50,275	37,827	10,771	26,167	21,802	3,635	24,108	16,025	7,136
Combination:									
Fixed weekday, 5 days	54.4	59.6	36.5	52.9	55.5	38.6	56.2	65.4	35.3
Rotators or hours vary and weekend*	5.3	4.6	7.2	5.9	5.4	8.6	4.5	3.5	6.5
All others	40.3	35.8	56.3	41.1	39.2	52.8	39.3	31.1	58.2
Number	48,672	37,813	10,765	25,469	21,790	3,631	23,203	16,203	7,134

*This includes 74 individuals designated as 24-hour workers.

The total number of cases is more than the sum of those working 35 or more hours last week and less than 35 hours because of missing data on the number of hours worked last week on all jobs. Also, differences in number of cases by type of work schedules are due to missing data for these variables. All percentages are weighted for national representativeness; the number of cases reports unweighted samples for each category. Percentages may not add exactly to 100.0 because of rounding. Work schedules refer to principal job; total hours worked refers to all jobs.

Work schedules. Distribution of employed Americans age 18 and over. Data are from the May 1997 CPS. "Fixed shifts" are schedules that do not regularly change, in which most hours worked fall between 8 a.m. to 4 p.m., 4 p.m. to midnight, or midnight to 8 a.m. "Rotating shifts" are schedules that change periodically, such as from day to evening to night. "Hours vary" is an irregular schedule that cannot be classified.

schedules, suggests that this phenomenon will increasingly affect the working poor.

Effects on Families

The physical consequences of working nonstandard hours, particularly night and rotating hours, have been well documented (7). Such work schedules alter one's circadian rhythms, often leading to sleep disturbances, gastrointestinal disorders, and chronic malaise. The social consequences of such employment have received less attention, although working nonstandard schedules may be significantly altering the structure and stability of family life. Some of the consequences can be viewed as positive, others negative, and both may vary by family member. Moreover, short-term benefits may be offset by long-term costs and vice versa.

Consider, for example, the care of children among dual-earner couples. As noted above, one-third of such couples with preschool-aged children are split-shift couples with one spouse working days and the other evenings, nights, or rotating schedules. A national study of American couples with preschool-aged children showed that in virtually all cases in which mothers and

fathers are employed different hours and neither are on rotating schedules, fathers are the primary caregivers of children when their wives are employed (8). Insofar as we view the greater involvement of fathers in child care as desirable, and considering the economic benefits to the family of reduced child care expenses resulting from this arrangement, such split-shift parenting may be a positive outcome.

However, these gains may be more than offset by the longer term costs to the marriage. New research shows that among couples with children, when men work nights (and are married less than 5 years) the likelihood of separation or divorce 5 years later is some six times that when men work days. When women work nights (and are married more than 5 years) the odds of divorce or separation are three times as high. Moreover, the data suggest that the increased tendency for divorce is not because spouses in troubled marriages are more likely to opt for night work; the causality seems in the opposite direction (9).

Single as well as married mothers often engage in a split-shift caregiving arrangement with grandmothers. More than one-

third of grandmothers who provide care for preschool-aged children are otherwise employed (10). Here, too, there may be both positive and negative aspects of such arrangements, but this has not been studied. The observation that single mothers are more likely than married mothers to work long as well as nonstandard hours and are more likely to be among the working poor (11, 12) suggests that the problems of managing time and money are especially stressful for such mothers.

Policymakers and scholars must take a more realistic view of the temporal nature of family life among Americans. With regard to welfare reform, for example, close to half (43.3%) of employed mothers with a high school education or less, ages 18 to 34, work other than a fixed daytime schedule, weekdays only (13). If mothers on welfare are to move into jobs similar to these mothers, a key policy issue is how to improve the fit between the availability of child care and these working mothers' schedules. Expanding day care alone will not be satisfactory.

The movement toward a 24-hour economy is well underway, and will continue into the next century. Although driven by factors external to individual families, it will affect the lives of family members in profound ways. The home-time structure of families is becoming temporally very complex. We need to change our conception of family life to include such complexities. This should help to improve social policies that seek to ease the economic and social tensions that often result from the dual demands of work and family, particularly among the working poor.

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