

NOT ENOUGH TIME?

by Daniel S. Hamermesh*

Abstract

This study summarizes evidence on various unique aspects of work time in the American labor market. Compared to workers in other rich countries, Americans: Work longer hours per week; take fewer paid vacations; are more likely to work on weekends or at nights; enjoy fewer daily hours of leisure; are more likely to feel pressured for time. Except for night/weekend work, these phenomena are concentrated among higher earners. Their workaholism spills over onto other workers and non-worker family members. The study indicates policy remedies for what appears to be an inferior labor-market equilibrium of excessive market work in the U.S.

Keywords: hours of work; time use; time stress

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I. Introduction

The answer to the titular question seems obvious: Of course there is not enough time—there is not enough of anything: I don't have enough ballet tickets, enough space (in our Texas-sized house), enough good shoes, or enough time. Everything is scarce—that is the central point that we economists make. The crucial distinction here, as noted by Becker (1965), Linder (1970) and others, is that without more time I cannot enjoy my regrettably few ballet tickets or my house or my shoes as much as I would like. It takes time to spend money—we combine goods and time in consumption.

The scarcity of time is obvious. **What is important and novel in the developed world is that time is increasingly relatively scarce.** Now it is true that, while there remain only 24 hours in a day and 365.25 days in the average year, our life expectancies have increased. We do have more time, as shown in Columns (2) and (4) of Table 1: Life expectancies in two wealthy Anglo-Saxon countries, the U.S. and the U.K., have increased by about 15 percent in the past 60 years. Real income per

capita, however, more than tripled in these countries during that same period. Thus with very little additional time we have much more income to spend (or to save for our children, giving them even more income beyond the additional spending power that they will obtain with economic growth).

The question for citizens in the developed world is whether or not our institutions and behavior are accounting properly for this growing relative scarcity. For Americans and, indeed, citizens in each particular country, the issue must be expanded to ask how our own institutions and behavior stack up in comparison to those of other rich economies. Are we generating the right mix of spending ability to combine with time outside of work? Is there something in our institutions or behavior that makes us Americans' use of time different from that in other rich countries? If so, what is it?

My main purpose here is document how we and citizens of other rich countries use time and how incentives alter our time use. Also, however, I ask the normative question—but one based on a positive analysis of labor-market and other behavior—whether time use in this country is getting us to a social

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TABLE 1.
Real GDP per Capita and Life Expectancy, U.S. and U.K., 1950–2010

Year:	United States		United Kingdom	
	GDP Per Capita (2005 US \$)	Life Expectancy at Birth (Years)	GDP Per Capita (2005 US \$)	Life Expectancy at Birth (Years)
1950	\$13,046	69.8	\$8,997	68.4
1970	\$20,436	70.8	\$13,799	71.8
1990	\$31,452	75.2	\$23,161	75.9
2000	\$39,643	76.6	\$30,152	77.8
2010	\$41,365	78.2	\$34,267	80.4

Source: <http://www.google.com/publicdata/>; Heston *et al*, *Penn World Tables Version 7.1*.

optimum. Thus this discussion is also prescriptive about how we Americans can use our time.

II. Hours of Work—and of Play

International comparisons of time use are tricky: The methodologies for collecting data are not completely standardized internationally. Even if they were, what might be viewed as work in one country might be viewed as leisure elsewhere. Despite these difficulties, efforts have been made to draw standardized international comparisons. Perhaps the best effort is the now 35-year-old annual comparison of hours worked per employee published by the OECD (2013). Table 2 presents these data for a number of wealthy countries for 1979 and 2012.

The crucial thing to note in this table is how the U.S. now stands out. While in 1979 we ranked roughly at the median in terms of paid work hours per employee among rich countries, today we are the champion workers. Even this comparison under-

states how much more we Americans work than do others: The effects of the Great Recession were still being felt here in 2012, while the economies of many of these other countries, especially Australia and Northern Europe, were booming. If we adjusted for the state of the business cycle, Americans' hours of work would appear even longer relatively.

These data suggest that Americans who are employed work more than citizens in other rich economies. But perhaps fewer of us are employed; and perhaps too we use our non-work time so as to have as much leisure as citizens elsewhere. To consider these possibilities we need information on how people spend their days—information from large samples of time diaries. Fortunately, an increasing number of countries are producing these samples on a regular basis, today allowing comparisons relying on large samples of respondents. The problem is how to classify activities—clearly, we engage in huge numbers of different activities, and we need to aggregate these into manageable categories. As with the categorization of the goods we buy, some accounting logic needs to be brought to bear to facilitate these comparisons. A reasonable accounting system for this purpose would classify human activities into four main categories:

- Work for pay, including time spent looking for a job or commuting;
- Work around the house, including child care, cooking, cleaning, gardening and even shopping, which we call household production. This category includes all activities for which you are not paid but which you could pay somebody to do for you (Reid, 1934), the so-called third-party criterion;
- Personal activities, mostly biological or socially required, such as sleeping, eating, washing, sex and others, which we may enjoy but over which we have little choice;

TABLE 2.
Average Annual Hours Worked/Employed Person,
Selected Countries, 2012

Country:	Year:	
	1979	2012
Australia	1832	1728
Canada	1841	1710
Denmark	1636	1546
Finland	1869	1672
France	1804	1479
Japan	2126	1745
Netherlands	1556	1381
Sweden	1530	1621
U.K.	1813	1654
U.S.	1829	1790

Source: *OECD Employment Outlook*, 2013.

—Leisure activities, which we choose but are not compelled to do, including television-watching, exercising, attending sporting events, religious activities and many others.

While this categorization is, like any accounting system, quite arbitrary, so long as it is applied consistently across people, countries and time, it will provide useful insights into how we spend our days.

Consider the country-wide averages in Table 3, which in addition to data for the U.S. also presents statistics for recent years for the U.K., Germany and Italy. The crucial fact to note in these data is that work for pay is the least important of the four categories in continental Europe for the average adult on a typical day over the entire week; and work is less important in the U.K. than here. The average person spends somewhat more time in household (unpaid) work, substantially more at leisure, and much more in personal care. These patterns are not surprising: Sleep, the major component of personal care, is the most important single activity undertaken by the average adult. Indeed, combining only three basic activities – sleep, paid work and television-watching – can account for nearly two-thirds of the average adult’s time in rich countries.

Also noteworthy is the apparently greater amount of work for pay, and lesser amount of work at home, in the U.S. than elsewhere. The difference may point out the potential dangers of making too much out of international comparisons: The diaries that underlie these surveys are not collected in the same way across countries. Nonetheless, this finding is consistent with other data (Freeman and Schettkat, 2005).

Most important in this table, however, is the markedly lower amount of leisure we Americans enjoy than do citizens in other countries (a difference that remains if we add diaries from other rich

countries such as the Netherlands or Australia). We have less time outside of work, work-like home activities and personal activities, to combine with the goods that we purchase than do citizens in other countries (which are also rich, but whose income per capita is still a bit below that in the U.S.). Not only is time scarce and becoming relatively scarcer; in the U.S. leisure time relative to income is especially scarce compared to other rich countries.

The relative decline in the total amount of non-work time facing citizens of increasingly rich countries does not mean that we have had less leisure. Quite the contrary: The best evidence (Aguiar and Hurst, 2007) from time-diary data suggests that leisure in the United States has been increasing. The data in other wealthy countries are less comparable over time, but the preponderance of evidence suggests that the same thing is happening there too (Gimenez Nadal and Sevilla-Sanz, 2012). Even with no or only a tiny decline in market work, the growth of household capital—appliances for cooking, house- and clothes-cleaning and others—has meant that people have been able to substitute away from time-intensive household production toward time-intensive leisure. But even so, this slight increase in leisure time over time has been far outstripped by the growth of material goods at our disposal, as suggested by Table 1.

These changes in hours of work and of leisure have not been spread evenly across the population—especially not across the population stratified by income. Table 4, based on successive cross-sections of time-diary data, shows that the more-educated among us have seen the smallest decline in market work, and that our total work—paid work and household production—has barely fallen over the last half-century. Among those with only a high-school education, on the contrary, total work has fallen

TABLE 3.
Average Time (hours/day), Four Rich Countries,
Early 2000s, Ages 20–74 (Hours per
Representative Day)

Time Use Category:	Germany 2001/02	Italy 2002	U.K. 2000	U.S. 2003
Work for Pay	3.3	3.5	3.8	4.2
Work at Home	4.1	3.9	3.7	3.5
Personal Care	11.1	9.9	10.3	10.5
Leisure	5.5	6.7	6.2	4.8

Source: Author’s calculations from various time-diary data sets.

TABLE 4.
Hours of Work per Week, by Educational
Attainment, Men, U.S., 1965–2003

Time Use Category:	Years of Education	1965	1985	2003
Work for Pay	12	53	43	39
	≥16	49	42	45
Work at Home	12	9	13	14
	≥16	11	15	14
Total Work	12	62	56	53
	≥16	60	57	59

Source: Aguiar and Hurst (2007).

enough to leave almost ten additional hours per week for personal care and leisure.

Should we pity highly-educated individuals who are not enjoying any more leisure? NO!! Their near-failure to cut hours worked results from offsetting income and substitution effects in response to an increase in the relative returns to work. These are choices the more highly educated among us have made in response to the steady growth in wage inequality in the U.S. (and to a lesser extent in other Anglo-Saxon countries), one that labor supply responses have translated into even more rapid growth in earnings inequality.

III. Hours When?

If we Americans perform more market work and enjoy less leisure than citizens of other rich countries, perhaps we are at least concentrating our paid work into fewer weeks than in other countries, so that we enjoy substantial vacation time. The evidence on this issue suggests exactly the opposite: While many other countries have mandated mini-

mum weeks of vacation, no such mandate exists here, leading to fewer days of paid vacation in the U.S. than in other wealthy countries. And the evidence from a panel of rich countries (Altonji and Oldham, 2003) indicates that each extra week of mandated vacation time reduces average annual hours of paid work by essentially one full-time week—these laws do not appear to induce any offsetting substitution.

The marginal worker finds work at night time to be unpleasant. The best evidence for this assertion is that such work pays hourly wage premia (Kostiuk, 1990) and is disproportionately performed by people with low full incomes—the young, the old, minorities and immigrants, as Hamermesh (1996) showed for the U.S. and Germany. How does the U.S. compare to other rich countries in its diurnal work patterns? Even though we spend more time than elsewhere performing market work, perhaps, since we are one of the richest developed economies, we are doing so at the more desirable hours of the day—so-called “normal hours.”

The evidence suggests exactly the opposite. Figure 1 presents the distribution of work time by

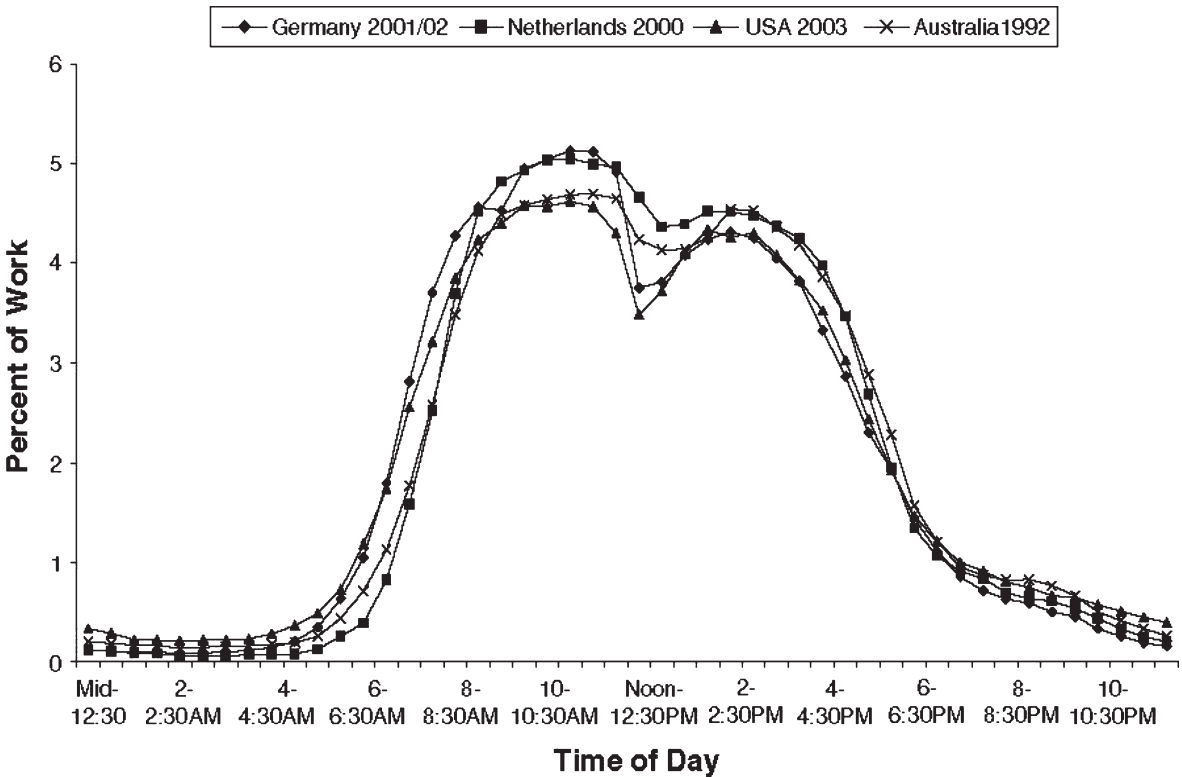


FIGURE 1. Percentage of Daily Work Time at Each Half-hour, Germany, Netherlands, U.S. and Australia
Source: Burda *et al* (2008).

hour of the day in the U.S. and three other rich countries for selected recent years (those for which the time-diary surveys provide evidence). The integrals of work time for each country are standardized so that the figure illustrates only differences in the fraction of total time worked at each hour of the day. The crucial point to note is that American workers perform proportionately less market work during “normal hours”—from 7AM to 6PM—and are more likely to be working evenings and nights than workers elsewhere.

These data say nothing about hebdomadal patterns of work time in the U.S. and elsewhere. Looking at time-diary data, the same international differences persist in scheduling over the week. Americans’ schedules of paid work differ less between weekdays and weekends than do those of workers in the other three countries whose diurnal schedules are depicted in Figure 1 (Burda *et al*, 2008). Even in the U.K., where schedules are more similar to those here than are schedules in other rich countries, male workers are slightly more likely to be scheduled on weekdays than on weekends, and women workers are substantially more likely than in the U.S. Thus, in addition to working more hours than in other rich countries, we Americans are also much more likely to be working at times of the day and days of the week that the market suggests people view as undesirable.

IV. Feelings

As an economist I have some doubts about our spending time measuring feelings, worrying that subjectivity is best left to sociologists and social psychologists. Nonetheless, we can participate usefully and without professional embarrassment in discussing feelings if we can link them explicitly to concepts in our theories and thus gain new insights into outcomes that those theories predict. Feelings about time are one of those subjective outcomes about which economic theory does speak, since one can argue (see Hamermesh and Lee, 2007) that feelings of being stressed for time reflect the tightness of the time constraint in a model of household production and utility maximization. Expressed feelings of time stress might be viewed as the empirical equivalent of a Lagrangean multiplier on a time budget constraint.

In 2001 the first wave of the Australian household panel (HILDA) contained a question on time

TABLE 5.
Time Pressure, Couples, Three Countries (percent distributions)

Under Time Pressure:	Australia		Germany		U.S.	
	2001		2002		2003	
	M	F	M	F	M	F
Always; Almost	43	51	34	36	43	54
Always; Often						
Sometimes	42	39	38	42	33	30
Rarely; Never	15	10	28	22	24	16

Source: Hamermesh and Lee (2007).

stress. I included the same question in the 2002 wave of the German Socioeconomic Panel and the 2003 wave of the PSID in the U.S. These comparisons across countries may be problematic—it may be more difficult to compare expressions of feelings across countries than it is to compare more objective behaviors, but at least the questions are worded essentially identically, although one must allow for possible cognitive distinctions across countries.

The averages of the responses to these questions by gender are shown in Table 5. The crucial point to note here is that it appears that, among these three countries, Americans express more feelings of being rushed for time than do Germans, and about the same as Australians (who in the early 1990s exhibited roughly the same amount of market work as Americans in the 1990s). Estimates of probits describing these data suggest that we should not find this distinction surprising: the most important determinant, in terms of beta-coefficients, of differences in the feeling of being rushed for time, is the amount of market work that is performed. Given that Americans spend more time in the market today than Australians or Germans, our feeling rushed seems a natural result of our choices about work and leisure.¹

The distribution of feelings of being rushed for time is consistent with people’s viewing their work time as restricting their ability to consume. Also, however, it is consistent with the notion that having additional income makes one feel more rushed in one’s leisure time because of the q-complementarity of goods and time in household production. In Hamermesh and Lee (2007) we showed for these three countries and Korea that feelings of being pressured for time increase as full earnings increase. (Also, non-working spouses of high earners express more time stress than do non-working spouses of low earners.) Figure 2 replicates this analysis using the British time-diary study of 2000. It makes clear

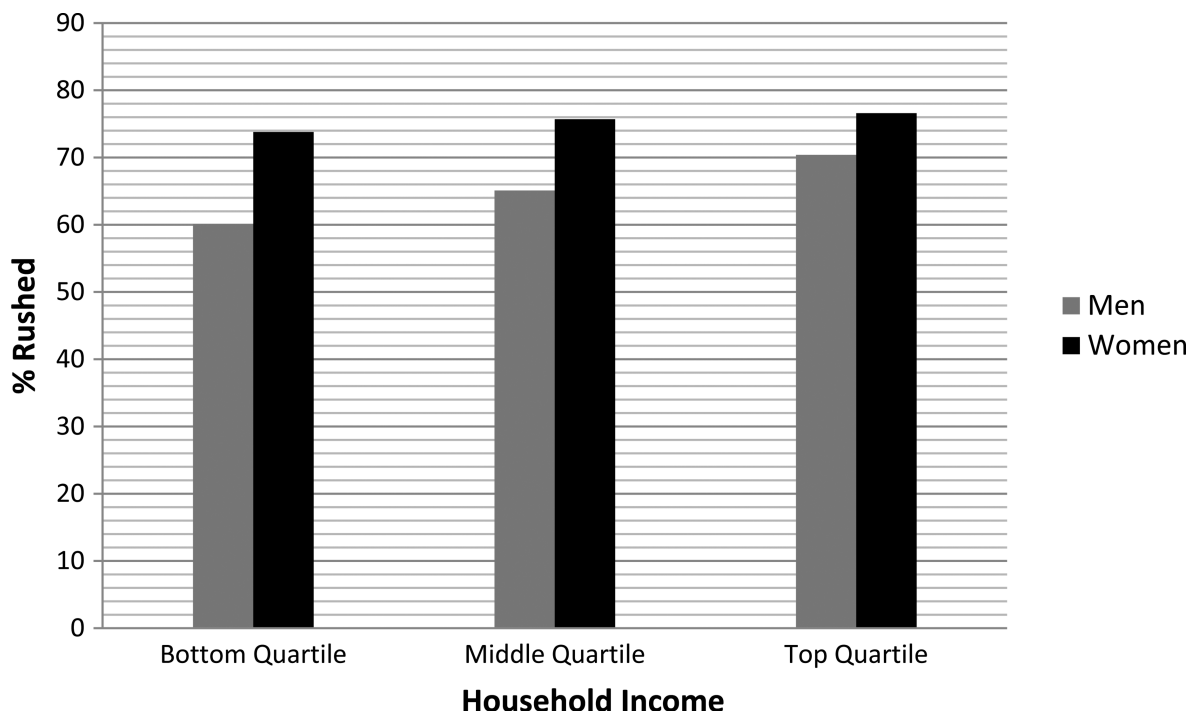


FIGURE 2. Time Stress by Income Quartile, U.K. 2000
Source: Author’s calculations from the U.K Time Use Study 2000.

that for both men and women higher household incomes are associated with a greater likelihood of being rushed for time. Feeling rushed for time is the “curse” of the highly educated, middle-aged individual in a rich country. It is an expression of dissatisfaction; but like long hours, it is something that these people, or at least the society in which they participate, choose themselves.

Feelings of being rushed for time are negatively related to feelings of being financially strapped: in each of the four surveys underlying Table 5 and Figure 2 those people who expressed more feeling of time pressure expressed less feeling of financial pressure. This is not surprising: for such people time is relatively scarce and goods are relatively abundant. Those people also generally express greater satisfaction with their lives. Implicitly, they are unwilling to trade off fewer goods for more non-market time.

V. What If We Had More Time?

Keynes (1930) was concerned about what people would do when there was little “need” for market work and opined that, “Three-hour shifts

or a fifteen-hour week may put off the problem for a while.” While his forecast about aggregate labor demand was obviously wrong, it is well worth asking what we would do with our time if we stopped working so much for pay. Obviously we cannot obtain any more time (except for the slow growth of additional time in old age generated by rising life expectancies). We can, however, obtain more time by working less, shifting time use from market work to non-market activities. What would happen if we did so—what kind of non-market activities would we undertake with the time that is freed up?

One way to answer this question is to examine how people spend their time when they retire, or at least cut back on their market work as they move into old age. Table 6 presents the fourfold breakdown of time use by selected age groups for the U.S. and the U.K., highlighting how the allocation of time changes as people reduce their market work. In both countries people in the oldest age group in the table, ages 70-74, work about four hours less per day than do their prime-age fellow citizens. How are these four freed-up hours spent? Clearly, retirement does not lead to a one-for-one

TABLE 6.
Time Use by Age (Hours per Day), U.S. 2003–04,
U.K. 2000

Time Use Category:		Age:			
		25–59	60–64	65–69	70–74
Work for Pay	U.S.	4.8	3.0	1.4	0.8
	U.K.	4.5	1.7	0.5	0.2
Work at Home	U.S.	4.0	4.1	4.6	4.4
	U.K.	3.7	4.2	4.6	4.7
Personal Care	U.S.	10.4	10.8	11.0	11.4
	U.K.	10.1	10.5	10.9	11.2
Leisure	U.S.	4.8	6.1	7.0	7.4
	U.K.	5.7	7.6	8.0	7.9

Source: Author's calculations from the ATUS 2003–04 and U.K. Time Use Study 2000.

substitution of household production for market work. Indeed, in the U.S., additional household production accounts for less than one-half hour out of the four fewer hours of market work, while in Britain it comprises one of the four extra non-market hours. Most of the freed-up time is spent in additional leisure—2.2 out of the 4.3 hours in Britain, and 2.6 out of the 4.0 in the U.S. Retirement leads people to switch voluntarily (although no doubt because of financial incentives and health concerns) from market work mostly to leisure, not merely to do unpaid work around the house that they perhaps can no longer afford financially to have performed for them.

Recessions provide another way of inferring what happens to non-market time use when work hours are cut. Using both cyclical and cross-section variation in unemployment, Burda and Hamermesh (2010) suggest that none of the time is reallocated toward household production. A much more thorough study, of the Great Recession (Aguiar *et al*, 2013), modifies this conclusion slightly, but still with the result that no more than one-third of the freed-up time is used in household production. As with retirement, these findings demonstrate that people use reductions in work hours for leisure-type activities.

While this evidence and that in Table 6 is interesting and indicative, it cannot be probative about the impact of cuts in hours of market work. Recessions are only temporary, so that they cannot speak directly to the likely effect of permanent cuts in work hours. Similarly, while reductions in work time in old age are permanent, perhaps people plan their life-cycle patterns of time allocation early on,

so that, if constrained to decrease market work, they would merely substitute non-market work time. Cutbacks in market work in retirement and the reallocation of time during a recession are not responses to some exogenous permanent shocks to hours of work—all these choices are endogenous and perhaps expected and planned.

Fortunately we can construct evidence on what healthy people do when confronted with a permanent decline in the demand for their time spent in market work. In the late 1980s, Japan enacted legislation cutting the length of the standard work-week, thus applying a penalty of 25 percent for overtime work to all hours beyond 40 instead of the previous 48. Korea enacted similar legislation in the early 2000s, imposing a 50 percent overtime penalty on all hours beyond 40 instead of the previous 44. In both countries these laws, by raising the price of an extra hour of work, represented exogenous and permanent shocks to the demand for weekly hours of work per person. In both countries we have time-diary evidence from before and after the shock that allows us to examine the extent to which market work declined among those who were likely to have worked long hours, and thus to have been affected by the legislation, and how cuts in market work time were reallocated among various components of non-market time.

The evidence (Kawaguchi *et al*, 2013) suggests that these laws decreased the work time put in by those workers whom the law targeted relative to that of other workers. Moreover, in Japan the targeted workers used none of the freed-up time to perform activities that we classify as household production—most of the time was used for leisure activities. In Korea no more than one-third of the freed-up time was substituted as household production, with most of the rest being spent in personal activities. All of this evidence suggests that we do not need to share Keynes' worry. People would use most of any freed-up time as leisure—when constrained to work less, they do not choose work-like non-market activities *faute de mieux*.

VI. Why Is This, and What Is To Be Done?

At this point American employees work more hours per week than employees in comparably wealthy countries. American workers are more

likely to be at work at night or on weekends than workers in other rich economies. Americans generally enjoy less leisure time than equally well-off citizens elsewhere. These facts and our reaction to them—we complain at least as much, if not more than others about how busy we are—suggest that something is not right. We work harder than we say we would like, and we lack the leisure time to enjoy the goods that our increasing material prosperity has generated.

One might argue that this American exceptionalism results from exploitation of the working class by capitalists.² I don't, because we were not exceptional 35 years ago, as Table 2 makes clear, and it is hard to argue, except *post hoc*, that exploitation of the working class only began in the 1980s in the U.S. It is also extremely difficult to argue for monopsonistic exploitation, since labor markets are becoming more densely populated and geographic mobility is at least as easy as it was in the past. Nor, despite the beauty of Akerlof's (1976) model, do I believe that more of us are now in a rat-race equilibrium—working more than is optimal so that our employers can discern the quality and quantity of what we produce.

The change has been initiated by the rise in wage inequality—the fundamental economic development of the last 35 years—and the growing incentives that it has provided for highly educated Americans to work longer. Worse than that, it has generated more workaholic behavior—addiction to long hours by higher-wage people—as evidenced by highly-educated people disproportionately continuing to work long hours at ages at which they had earlier stated they expected to be retired (Hamermesh and Slemrod, 2008). One could argue that working for pay and even addiction to long hours are people's free choices; but the behavior of high-paid executives and professionals who are addicted generates negative spillovers onto the time use and well-being of their subordinates and their family members.

Despite the title of this Section, I am not advocating a Leninist solution to the difficulties I have identified. But something needs to shock the system out of what appears to be an inferior equilibrium. Let me suggest several easy legislative solutions:

1. Enact federally mandated minimum weeks of vacation. These exist in most other rich countries and, as the evidence I have cited suggests,

will do more than anything else to cut the incentives for workaholism.

2. Lower standard work hours to 35, so that the overtime penalty applies to more hours and employers have less incentive to demand long workweeks. (Reducing the fraction of workers who are exempt from the overtime provisions of the FLSA would seem important here too.³)
3. Although this suggestion may be viewed as reactionary, mandatory closing times and days for business (so-called Blue Laws) would also help in reducing the disproportionate tendencies of Americans to work at strange times of the day and week.

All of these proposals will offend those who argue that government has no business interfering in labor markets. Their opponents will say that these ideas will cause drastic cuts in standards of living. Legislation exactly like this is, however, ubiquitous in other rich countries, none of whose economies trails the U.S. by much, if anything, in material living standards, and in all of whom more time is available for non-market activities that allow the enjoyment of a cornucopia of goods. Perhaps by making these old-fashioned changes we can move out of a rat race that is leaving us richer and more rushed—and an increasing outlier in the developed world.

Notes

1. The table also shows that women tend to express more feeling of being rushed for time than men. One reason for this difference may be that women are managers of the household who must juggle activities and deal with shocks (e.g., a suddenly sick child who cannot attend school). Women do engage in more different activities on a typical day than men (Gronau and Hamermesh, 2008), perhaps indicative of their managerial role and suggesting that set-up costs may weigh especially heavily in people's views of how pressured they are for time.
2. This argument was made by Schor (1991) without much evidence and at a time when work time in the U.S. seemed much less exceptional than it now does.
3. While this has frequently been proposed as a "job-sharing" mechanism, I offer it here as a worker-protection device, which was the purpose

of the first U.S. hours legislation (the Keating-Owen Act of 1916 regulating child labor).

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