Overemployment mismatches: the preference for fewer work hours

The preference of workers for having either more or fewer hours of work has remained virtually unchanged since 1985; rates of overemployment differ considerably by job type, workweek length, income level, gender, and stage of workers' life cycle

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While workers' preferences regarding work hours by their nature are not directly observable, restrictions on individuals' choice of hours of work in a given job are widely acknowledged as a central feature of the labor market and, in many conventional economic studies, of labor supply. For the purpose of this article, overemployment occurs when a worker's desired hours of labor supply is exceeded by hours of labor demanded at their current pay rate. This article identifies empirically the demographic and job factors associated with being "overemployed," and the extent one may be willing to reduce hours of work at one's current (or suitable alternative) job for less income. Unlike previous studies of hours constraints, the focus here is less on underemployment—the desire for more hours and income—even though underemployment is more common and may be more adverse to worker welfare.[1] However, overemployment has considerable spillover (hidden) social costs. Facilitating a reduction in overemployment with appropriately targeted policy may potentially reduce the extent of underemployment, at least in sectors and workplaces where they co-exist.[2]

The research for this article relies on analysis of the May 2001 Supplement to the Current Population Survey (CPS). This Supplement queried workers directly (for the first time since a previous CPS in 1985) about their hypothetical choice between more income with more hours, fewer hours for less income, or same hours and income. The empirical findings can be contrasted to previous estimates of the "rate of overemployment" in the United States using the previous CPS or different instruments capturing the presence of "constrained hours." (See exhibit 1.) They also can be used to contrast the volume or rate of overemployment in comparable countries.[3] This article first sets the stage by considering the theoretical labor market and macroeconomic forces determining the overall rate and distribution of overemployment. Then, it discusses measurement issues pertaining to estimating the level of overemployment. Gauging the extent of overemployment has proven to be highly sensitive to survey question wording and range of options presented to respondents. The article then considers whether hours mismatches are widely shared or are more prevalent for certain types of workers. The empirical analyses test the null hypothesis that overemployment is distributed randomly among individuals against the alternative hypothesis that it is attributable entirely to workers' stage in their life cycle vis-à-vis the nature of jobs. There may be microeconomic, macroeconomic, and institutional reasons to expect that overemployment might be disproportionately associated with certain personal characteristics of workers, reflecting life cycle preferences such as being a parent. In addition, to the extent overemployment is also associated with certain occupations and industries, union coverage, longer usual workweeks, or inflexible daily work schedules, employer or workplace constraints may hold sway. There are few previous studies applying the type of disaggregated data needed

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to explore in depth the divergence of overemployment by workers' specific characteristics and the degree to which it is associated with either a greater or a lesser incidence of underemployment among a given type of worker. The conclusion section explores theoretical reasons why the overall rate has been stable since 1985 and will likely remain so, and derives implications for surveys and research.

Measuring overemployment

The overemployed are workers who state a preference to reduce hours of paid work even if to do this lessens their income. The most germane questions in surveys are those querying the employed if they are willing (but unable) to reduce hours at their current (or comparable) job in exchange for less current or future earnings or pay. Estimates of the rate of overemployment in the United States vary considerably, depending on the type of sample, instrument, wording, and context of the question from which it can be derived. Exhibit 1 summarizes available, recent estimates of the rate of overemployment from studies considering technical aspects of the survey attempting to measure hours preferences and the existence (or size) of a discrepancy with actual hours.

The CPS Supplement yields the lower bound while other surveys yield estimates of overemployment as high as 50 percent in the United States. Generally, in any survey that also presents an alternative option of obtaining higher income, the proportions of respondents indicating a preference for fewer hours are typically lower.[4] On one hand, if workers are presented exclusively with various hours and pay reduction options, the proportions indicating overemployment are higher. This leads some analysts to be skeptical whether workers' stated preferences would become revealed preferences. On the other hand, overemployment may be underestimated if the query provokes implicit assumptions among respondents about the current income foregone, amount and dimensions of hours reduced, and type of gains realized with time off. First, respondent openness to hours reduction is greatest when surveys do not explicitly state any direct tradeoff of lower income.[5] Second, rates will vary inversely with the extent to which respondents inherently believe they are unable in practice to change their own hours toward their truly preferred hours. Workers may perceive that hours reduction is either not permissible (for example, mandatory overtime), infeasible (under established organizational and job norms and rigidities), or penalized (no quality part-time or shorter standard workweek options). Furthermore, surveys find workers' inclination to forgo current income is considerably less than the willingness to forgo future income or raises.[6] Estimates of the proportion overemployed also tend to be greater if individuals are asked to specify how many hours they would have preferred to have worked in a given week, rather than just indicating fewer (or more) hours. Thus, survey questions regarding hours preferences are challenging not only because they are trickier to measure than actual working hours, but because it is often left unclear whether and how workers would get their "preferred" number of hours and whether they implicitly assume they would experience either more than proportional reduction in compensation, such as access to employee benefit coverage or premium pay.[7] Moreover, any preference for fewer hours might be suppressed if a worker anticipates being underemployed or unemployed in the future.[8] Finally, because survey questions do not address the intensity of work, respondents may be interpreting the "work less" question as implying not only less pay but also a consequently greater work pace or effort. Thus, it is likely that estimates of overemployment drawn from CPS-type survey questions may be biased downward, on balance.

Underlying sources of overemployment

The conventional microeconomic model of the labor market suggests labor suppliers sort themselves or are matched into jobs that reflect their preferred work time in the long run. In the interim, they would receive a compensating wage differential.[9] If there were a persistent mismatch between desired and actual hours, even though it may be equilibrium, this is both individually and socially suboptimal. Hours mismatches are created when labor demand-side incentives lead employers to require longer hours than employees prefer in the context of human capital investment (the cost of training and screening or adverse selection), principal-agent, or efficiency wage models.[10] The labor market does not tend to offer "diverse durations" of shift lengths and instead may under-provide short-hour jobs.[11] An overemployment mismatch may exist and persist so long as: (a) employers perceive the costs of adjusting hours downward toward each employee's preference to exceed the benefits; (b) employers underestimate or discount the longer term indirect labor costs (for example, absences, tardiness, turnover, reduced labor productivity) they may incur with worker overemployment; (c) employees lack recourse or bargaining power to impose adverse cost consequences on employers who do not match preferences.[12]

The overall rate of overemployment also has macroeco-

Exhibit 1.	Recent estimates of rate of overemployment, sources and measurement			
Source	Date	Sample	Overemployment	Survey question wording
CareerBuilder.com, Survey of Working Moms, 2006	February-March, 2006.	N = 600 full-time women with children under age 18 living at home	52 percent of working mothers; 10 percent willing to take a pay cut of 10 percent or more	Are you… "willing to take a pay cut to spend more time with your children?"
Friedman and Casner-Lotto, 2003, Work in America	2002	Time is of the Essence Survey, n = 815 (614 = union members)	27 percent-union; 39 percent-nonunion	"Which would you probably select at this point in your life? Your current work schedule, or 90 percent of a Full-time schedule with 90 percent pay and benefits, 80 percent with 80 percent of pay and benefits 70 percent, 60 percent, etc."
Friedman and Casner-Lotto, 2003, Work in America	…	…	Very likely or somewhat likely: 33 percent-union 36 percent-nonunion	"If you had more high quality… part-time options available to you right now, how likely do you think you would be to use them and reduce your schedule?
Hart and Associates, 2003.	2002	Imagining the Future of Work n = 1,106 adults	15 percent would now definitely or probably; 42 percent would in future definitely or probably.	"Would You… Work Fewer Hours Per Week / Less Pay, would now or would in future."
www.NewDream.Org	2003	Center for the New American Dream	52 percent	"Would you be willing to trade one day off a week for an equivalent pay reduction?"
Fligstein and Sharone, 2002	2001–02	California Workforce Survey, n = 911	8 percent	"If you could, would you work …same hours for same pay…fewer hours for less pay?"
Heldrich Center	1999	Work Trends Survey	30 percent (28 percent in 1998)	"Would you like to work more hours than you currently work, same number of hours, or fewer hours than you currently work?"
J. Hahnel, 1998, Is Time Really Money? Dollars and Sense, (Jan./Feb.), 43	1998		17 percent (20 percent cut) 50 percent (10 percent cut)	"Would…accept a 10 percent cut in their pay… a 20 percent pay cut, to get a 4-day workweek."
Smith, 2000; Hout and Hanley, 2003; Bell and Freeman, 2001	1997 2005	International Social Survey Program (ISSP), Work Orientations Module	1997: 10 percent (18 percent wives; 8 percent husbands) 2005: 6 percent	"If you had only one of these three choices, which of the following would you…prefer to work…fewer hours and earn less money?"
Families and Work Institute, 1998	1997	n = 3,500	28 percent	"Would…give up a day's pay for one fewer day of work per week."
Schor, 1995	1994	…	51 percent-10 percent cut, 19 percent-20 percent cut, 37 percent-prefer time off	"(Would you) take the option of a four day week, for a 10 percent pay cut? 20 percent pay cut?""(Do you) prefer a raise or more time off?"
Clarkberg and Moen, 2001	2001	National Study of Families and Households 1993/4 and 1987/8; n = 9,108	36 percent of husbands in dual-career couples; 39 percent of husbands in "neo-traditional" couples	(If employed and married) "Would you prefer to work less than your present work schedule?"
Feather and Shaw, 2000	1992	National Survey of Recreation, n = 860	25 percent of hourly wage workers; 50 percent of workers on a fixed schedule (not free to choose how long to work)	"Would you be willing to work fewer hours in order to have more free time?"

nomic sources, such as cyclical factors. When orders or customers are surging, the demand for hours per worker may rise faster than hours desired induced by rising wages (particularly when income effects dominate substitution effects on labor supply). Also, overemployment may be structural. This may result from skill upgrading or skill shortages and the rising quasi-fixed cost of health insurance contributions, or institutional factors such as de-unionization and more noncompliance with Fair Labor Standards Act (FLSA) overtime hours and pay regulations. All of these factors would tend to increase average hours demanded.[13] Finally, frictional overemployment stems from the bundling of hours with pay in most employment contracts and from incomplete information regarding available jobs, hours, and scheduling arrangements and employee preferences.[14]

Hypotheses: overemployment distribution

An employee becomes overemployed when their employer's demand for hours per worker lengthens beyond the supply of hours employers can induce (with working conditions or pay) from employees. Alternatively, it occurs when workers cannot realize a new preference for reduced hours of paid market work because constraints in the workplace, such as minimum hours required to retain or perform a job preclude a commensurate downward adjustment of hours. Various theories of the labor market suggest that overemployment, all else constant, may be more prevalent among certain types of workers (as with unemployment and underemployment). Thus, overemployment (underemployment) is expected to be positively (negatively) associated with:

- Personal characteristics that are associated with relatively shorter preferred time in paid work activity, during certain life cycle stages.[15] This includes times when competing demands on time are greatest, especially in dual earner households, when household production, caregiving, or health needs are at a peak,[16] and personal characteristics associated with access to relatively higher relative wage rates, such as for whites and the higher educated, rather than disadvantaged minorities such as African-Americans and the lesser educated;
- Long average weekly hours, as this is associated with a desire to work less, particularly among full-time dual working spouses where at least one partner wishes to reduce hours;[17]
- High relative earnings per hour, where income effects may be stronger;[18]

- Occupations for which there are no legally required overtime pay premia for increasing hours, such as "exempt" jobs that tend to be paid by salary rather than hourly;
- Occupations and industries with workplaces or jobs that offer incentives that induce longer hours with the promise of future compensation rewards or enhance job security and/or penalize expressing preferences for shorter hours;[19]
- Occupations with structural economic constraints, such as high minimum hours requirements or little autonomy for workers to exert control over their own hours;[20]
- Industries where there is some productivity per worker gained while the additional wage cost is negligible, such as jobs compensated with salary rather than hourly wages;[21]
- Little bargaining leverage among workers to obtain arrangements for adjusting hours downward as needed when their preferences shift, such as younger or nonunion workers, and a paucity of alternative job opportunities;[22]
- Jobs with more flexible working options, such as flexitime scheduling and work at home, to the extent these may help alleviate chronic daily time conflicts associated with long workweeks, or lead workers to reciprocate with greater effort in the form of extra hours.[23]

Descriptive statistics

The descriptive statistics of the key variables used in the May 2001 CPS Supplement sample of more than 57,000 individuals appear in the appendix. (See page 37.) The key question asks: "If [you/name] had a choice [at your main job] would you/he/she prefer to: work fewer hours but earn less money. Work more hours but earn more money. Work the same number of hours and earn the same money?" Because proxy answers for this question were not allowed, just under 43,000 observations were collected. The distribution of hours mismatches by personal and work characteristics appear in tables 1 through 5.[24]

Table 1 shows that estimates of the overemployment rate using the CPS Supplement question on the willingness to trade income for reduced hours in 2001 was about 7 percent of all employed (7.4 percent among full-time workers), virtually the same as the 7.6 percent rate observed when last measured in 1985.[25] While a far greater proportion is either satisfied with their level of hours or seeks more hours to gain income, the share that is over-

employed is not trivial. Indeed, it implies a growth over time in structural or frictional overemployment, as there was presumably less cyclical overemployment in the midst of the 2001 recession year. The overemployment rates and overemployment ratios (overemployment over underemployment rate) are relatively higher among women and whites than among men and African-Americans. There is a clear pattern by age, with overemployment low among young workers but rising with age. There appears to be more interest in reduced hours in 2001 among the 55–64 age group, than had been in 1985, and somewhat more interest among 65 and older men as well. However, the overall rates by gender exhibited no discernable change over time.

Table 2 shows how the overemployment varies by level of work hours. The pattern by hours level is similar in both 2001 and 1985. Overemployment climbs steadily as hours lengthen, with the exception that overemployment and the overemployment ratio dip somewhat among those working exactly 40 hours, in both 2001 and 1985. A shift seems to have taken place over time where overemployment has become somewhat less disparate by hours. It has become less concentrated among those with very long hours, but is slightly more apparent among those with fewer than 30 hours. Thus, the small decline in overall overemployment rate observed since 1985 has occurred almost entirely because of a decline in overemployment among those working exactly 40 or more than 48 hours per week.

Table 3 shows the general distribution of overemployment and underemployment by job sector. Private non-profit sector jobs exhibit higher rates of overemployment. The sample collapsed responses into 49 detailed industry and 43 detailed occupational classifications. Overemployment ratios are higher for managerial, professional, technical and sales jobs. Since 1985, there has been a slight increase among managerial and technical jobs, and a noticeable drop in overemployment among production and service type occupations.

Table 4 illustrates the largely positive association between a preference for reduced hours and a worker's weekly earnings level. The preference appears to intensify as income climbs from low to high. Among women, this preference rises, for the most part, linearly in all but two of the ten income groups. Also, among men, higher income is associated with elevated overemployment, however, in contrast, men in the highest income group have slightly lower overemployment, compared with men in the second highest income group, and the rate of overemployment for men in the $300–$399 per week group is lower than the level of income just below that. Correspondingly,

however, underemployment decreases in a linear fashion (with the exception of men with short weekly hours and/or very low wage rates) as income level grows. Thus, the overemployment (to underemployment) ratio has a clear linear relationship to income among women and virtually linear among men.

Table 5 shows that overemployment is particularly high in certain occupational classifications. In health diagnosing, the overemployment ratio exceeds one. Overemployment actually surpasses the rate of underemployment. With an overemployment ratio just under one in health assessment and law professions, overemployment appears to be almost on par with underemployment. The intensity of desire to trade income for fewer hours is significantly correlated with the amount of work hours in an occupation (but not industry).

Table 6 shows that certain industries feature higher overemployment rates, although the rates are less disparate by industry than by occupation, as measured by the standard deviation among the 49 industries and 43 occupations. Rates are highest in services such as hospitals and other health, utilities and sanitary, professional services, insurance and real estate, and a few manufacturing industries—paper, professional equipment and toys-sporting goods.

The mismatch ratio is defined here as the sum of overemployment plus underemployment, divided by the share of workers that prefers the "same hours" they currently have. That is, the ratio of those who are dissatisfied to those who are satisfied with their number of work hours. Data in tables 1–6 suggest that mismatches are more concentrated in relatively lower skilled blue-collar jobs and in industries such as retail trade, private household, and personal and entertainment services. In addition, mismatches shrink as age progresses and this ratio is a bit lower among men than among women.

Empirical model and estimation results

The microdata permit empirical testing of the explanatory power and significance of many of the personal and job status characteristics often hypothesized to affect the likelihood a given individual in the sample may express a preference for "fewer hours and less income." Whether an individual reports being willing to reduce hours and income depends on three independent sets of factors observable in the CPS and Supplement:

1) Personal characteristics such as age, gender, race, marital status, parental status, and human capital such as education level.

Table 1.	Hours preference by workers' demographic characteristics, 2001 and Shank 1986								
	CPS, 2001			Number of cases	Mismatch ratio[1]	Over-employment ratio[2]	Shank (1986)		
Characteristic	Same hours	Fewer hours	More hours				Same hours	Fewer hours	More hours
Total	65.8	6.94	27.25	42,956	0.52	0.25	64.9	7.6	27.5
Usually full time	67.0	7.43	25.6	25,098	.49	.29	…	…	…
Male	64.7	5.4	30.0	21,897	.55	.18	63.5	5.9	3.6
Age:									
16-19	42.5	3.1	54.4	1,131	1.36	.06	39.7	2.6	57.8
20-24	54.3	2.6	43.2	2,282	.84	.06	48.5	3.9	47.7
25-34	60.5	4.5	35.1	5,218	.65	.13	60.4	6.0	33.6
35-44	67.4	5.6	27.0	5,980	.48	.21	66.8	6.7	26.5
45-54	70.2	6.6	23.2	4,673	.42	.28	72 .6	6.7	20.6
55-64	74.6	7.8	17.5	2,089	.34	.45	79 .5	6.8	13.7
65 and older	79.6	8.0	12.4	524	.26	.64	81 .9	7.4	10.7
Female	67.0	8.6	24.3	21,059	.49	.36	65 .7	8.8	25.5
Age:									
16-19	51.3	4.2	44.5	1,143	.95	.09	42 .8	3.4	53.8
20-24	59.5	4.3	36.3	2,221	.68	.12	57 .4	6.1	36.6
25-34	64.8	9.1	26.1	4,697	.54	.35	65 .5	9.7	24.8
35-44	68.1	9.6	22.3	5,661	.47	.43	65 .6	1.7	23.6
45-54	71.3	9.9	18.9	4,773	.40	.52	71 .2	9.4	19.4
55-64	72.8	9.9	17.3	2,064	.37	.57	77 .3	7.5	15.2
65 and older	81.6	6.3	12.1	500	.23	.52	81 .3	6.9	11 .8
Male-- usually full time	67.7	5.6	26.8	14,050	.48	.21	…	…	…
Female--usually full time	69.6	10.1	20.3	11,048	.44	.50	…	…	…
White	67.0	7.4	25.6	36,598			65 .5	7.7	26.8
Male	65.7	5.7	28.6	19,345	.52	.20	64 .5	6.2	29 .3
Female	68.5	9.2	22.3	17,253	.46	.41	66 .5	9.4	24 .2
Black	59.1	4.4	36.5	4,131	...	…	56 .6	4.4	39 .0
Male	58.1	3.1	38.8	1,839	.72	.08	54 .0	3.8	42 .2
Female	60.0	5.5	34.6	2,292	.67	.16	58 .8	4.9	36 .3

[1] The numerator of the mismatch ratio is the sum of overemployment plus underemployment, and the denominator is the proportion that prefers the "same hours" they currently have.

[2] The overemployment ratio is the overemployment rate divided by the underemployment rate.

SOURCE: May 2001 CPS Supplement on Work Schedules and Work at Home.

2) Work hours status, such as working either standard or long workweeks, part-time job, on a daytime or non-traditional shift, and flexibility of its daily timing.

3) Job characteristics, such as the occupation and industry of employment, hourly paid, or union membership status, and private or public sector employment.

This likelihood of an individual (*i*) responding affirmatively to the option of reducing both hours and income, that is, being overemployed (or underemployed), is determined by a worker's personal (β) as well as job characteristics, including work hours (δ), and the respective vectors of estimated coefficients, *X* and *Y*:

$$OVER_i = \alpha + X_i\beta + Y_i\delta + \varepsilon$$

$$UNDER_i = \alpha + X_i\beta + Y_i\delta + \varepsilon$$

Table 2.	Hours preferences by number of hours worked, 2001 and Shank (1986)								
Actual hours worked weekly	**CPS, 2001**			**Number of cases**	**Mismatch ratio[1]**	**Overemployment ratio[2]**	**Shank (1986)**		
	Same hours	**Fewer hours**	**More hours**				**Same hours**	**Fewer hours**	**More hours**
Total	67.0	7.4	25.6	30,327	…	…	…	…	…
1 to 14	62.1	5.1	32.9	680	0.61	0.15	50.9	4.6	44.5
15 to 29	60.3	6.0	33.7	2,404	.66	.18	57.3	5.6	37.1
30 to 34	58.9	8.1	33.1	1,989	.70	.24	58.6	8.0	33.4
35 to 39	64.0	7.7	28.3	2,179	.56	.27	65.0	8.1	26.9
40	69.8	5.6	24.5	12,961	.43	.23	70.5	7.1	22.5
41 to 48	66.6	8.1	25.3	4,015	.50	.32	65.3	8.1	26.6
49 to 59	69.7	9.6	20.6	3,745	.43	.47	66.5	10.8	22.7
60 and more	66.1	13.3	20.7	2,354	.51	.64	63.9	16.3	19.8

[1] The numerator of the mismatch ratio is the sum of overemployment plus underemployment, and the denominator is the proportion that prefers the "same hours" they currently have

[2] The overemployment ratio is the overemployment rate divided by the underemployment rate.

NOTE: As with Shank (1986), only those aged 25 to 54 are included here.

SOURCE: May 2001 CPS Supplement on Work Schedules and Work at Home.

The model is estimated using multinomial logit analysis, given the three potential responses. The dependent variable is bi-variate, taking on a value of one if the employed worker reports having a preference for fewer hours and less income or more hours for more income. The coefficients are derivatives of the probit estimates, representing the marginal probabilities that an individual possessing a given characteristic prefers fewer hours with less income. The estimation shows precisely which personal and job characteristics are more likely to be associated with the condition of "overemployment," with the effects of all other variables held constant. The sequential estimation by sets of variables will highlight the role of various job attributes that might otherwise be attributed (solely) to personal characteristics.

Demographic and worker personal characteristics. Results in the appendix show that as workers become older, their likelihood of harboring a preference for fewer hours heightens, but the effect is nonlinear, diminishing over the life cycle. Moreover, the effects of age are smaller when controlling for workers' work hours and occupational characteristics. Female workers appear to be much more likely to report being overemployed than their male counterparts. The order of magnitude is about a 4-percent greater likelihood. Note this is not reduced at all when taking into account work hours and other job characteristics.

Conversely, African-American workers are significantly less likely than others to be overemployed. This probably reflects their significantly greater likelihood of being underemployed.[26] Because wage rates for African-American workers, on average, are lower than for other workers, apparently such workers are more willing to work additional hours for added income.

Marital status is also a factor. Being married is associated with more overemployment, on the order of about 2 percent, relative to the reference group of single workers, even when controlling for all job characteristics. Being divorced, separated, or widowed, however, is not. Indeed, such workers are more likely to be underemployed. Having children in the household (relative to having either no children or fully grown children) is important, but with nuances. When the youngest child in the household is younger than 3 years, this raises the likelihood of feeling overemployed by an additional 2 percent. Having children ages 3 through 5 (pre-school age) has a statistically significant but weaker effect, about half the magnitude of the youngest children. Interestingly, when the youngest child present in the household reaches age 14, this reverses the effect of having children on the likelihood of overemployment. Thus, it is apparent that when the youngest child is an infant or toddler, there is a relatively greater demand for time than for money (some of the lower underemployment probability for parent workers can be attributed

Table 3. Hours preferences by job type, 2001 and Shank (1986)

Job type	CPS, 2001			Number of cases	Mismatch ratio[1]	Overemployment ratio[2]	Shank (1986)[3]		
	Same hours	Fewer hours	More hours				Same hours	Fewer hours	More hours
Major occupations									
Executive, administrative and managerial	72.8	10.4	16.9	6,234	0.37	0.61	72.3	9.7	18.0
Professional speciality	73.0	9.5	17.4	7,076	.37	.54			
Technicians and related support	69.9	8.2	22.0	1,564	.43	.37	66.1	8.3	25.6
Sales	63.1	6.8	30.1	4,671	.58	.23	...	...	...
Administrative support, including clerical	67.5	7.7	24.9	6,317	.48	.31	...	...	...
Private household	54.6	4.7	40.7	197	.83	.12	56.6	4.5	38.9
Protective services	65.4	4.2	30.4	875	.53	.14	...	...	...
Services, except protective and household	56.1	4.2	39.7	4,846	.78	.11	...	...	...
Precision production, craft and repair	64.3	4.3	31.4	4,509	.56	.14	63.5	6.4	3.1
Machine operators, assemblers and inspectors	60.8	3.9	35.4	2,368	.64	.11	59.4	5.6	35.0
Transportation and material moving	64.5	5.3	30.2	1,877	.55	.18	...	...	...
Handlers, equipment cleaners, helpers, laborers	54.8	3.7	41.5	1,712	.82	.09	...	...	...
Farming, forestry and fishing	54.0	4.5	41.5	710	.85	.11	49.4	5.0	45.6
Major industries									
Total	65.8	6.9	27.3	42,956	...	...	...	...	...
Agriculture	54.4	5.3	40.4	657	.84	.13	49.4	7.3	43.3
Mining	75.6	4.1	20.3	196	.32	.20	66.3	8.0	25.6
Construction	62.0	4.4	33.6	2,480	.61	.13	58.6	5.3	36.1
Manufacturing--durables	66.8	6.4	26.8	4,152	.50	.24	66.7	7.5	25.8
Manufacturing--nondurables	67.5	6.5	25.9	2,562	.48	.25	...	...	...
Transportation	67.3	7.0	25.7	2,045	.49	.27	68.7	7.8	7.8
Communication	69.2	7.8	23.0	781	.45	.34	...	...	...
Utilities and sanitary services	69.9	10.6	19.5	518	.43	.55	...	...	...
Wholesale trade	66.3	7.9	25.9	1,666	.51	.30	66.3	7.4	26.3
Retail trade	58.8	5.5	35.7	7,075	.70	.15	56.3	6.4	37.3
Finance, insurance and retail estate	69.5	8.2	22.3	2,751	.44	.37	68.6	8.0	23.5
Private household	55.5	5.0	39.5	226	.80	.13	65.6	7.8	26.5
Business, auto and repair services	63.7	6.7	29.6	2,751	.57	.23	...	...	...
Personal services	59.7	6.6	33.6	912	.67	.20	...	...	...
Entertainment and recreation	59.6	5.1	35.4	834	.68	.14	...	...	...
Hospitals	71.5	10.6	17.9	1,848	.40	.59	...	...	...
Medical services, except hospitals	68.2	8.7	23.2	2,165	.47	.37	...	...	...
Education services	68.9	7.8	23.3	4,148	.45	.33	...	...	...
Social services	64.8	6.7	28.6	1,066	.54	.23	...	...	...
Other professional services	71.8	9.5	18.7	1,860	.39	.51	...	...	...
Forestry and fisheries	62.0	16.2	21.8	25	.61	.74	...	...	...

See footnotes at end of table.

Table 3.	Continued—Hours preferences by job type, 2001 and Shank (1986)								
	CPS, 2001			Number of cases	Mismatch ratio[1]	Overemployment ratio[2]	Shank (1986)[3]		
Job type	Same hours	Fewer hours	More hours				Same hours	Fewer hours	More hours
Federal Government	71.6	6.7	21.7	1,196	.40	.31			
State government	70.9	6.6	22.5	2,096	.41	.29	…	…	…
Local government	69.8	6.9	23.3	3,699	.43	.29	…	…	…
Private, for profit	64.4	6.8	28.8	33,379	.55	.24	…	…	…
Private, nonprofit	71.4	9.0	19.6	2,586	.40	.46	…	…	…

[1] The numerator of the mismatch ratio is the sum of overemployment plus underemployment, and the denominator is the proportion that prefers the "same hours" they currently have.

[2] The overemployment ratio is the overemployment rate divided by the underemployment rate.

[3] Shank collapsed occupations and industries into fewer categories, and the proportions here are combinations with the blank spaces directly below it.

SOURCE: May 2001 CPS Supplement on Work Schedules and Work at Home

to their number of work hours). However, when their youngest child reaches high school age, parents shift their preference, to the point where they actually prefer more income relative to time, all else constant.

Finally, the desire to reduce work hours is strongly connected to education level. Those with college or advanced degrees are much more likely to indicate overemployment and those without any college are far less likely. The effect of higher education, however, appears to have more to do with such workers' occupations rather than their education level per se. Those aged 16 to 24 who are enrolled in school are actually more likely to be overemployed when holding constant their work hours, shift, and sector. Women, the married, and parents of very young children exhibit significantly less likelihood of being underemployed, while the divorced-widowed-separated, school-enrolled, the higher educated, and workers with children of school-age, have a lesser likelihood. (A supplemental table displaying the symmetry found with underemployment hours mismatches is available. See endnote 26.)

Work hours, work shift, and work flexibility characteristics. The explanatory power of the model (See pseudo-R^2 in appendix table, page 37.) is improved measurably when workers' duration and timing of weekly hours is added to the model. A clear pattern is evident as a worker's average workweek lengthens. Full-time workers have a progressively higher likelihood of being overemployed corresponding to the length of their usual weekly hours, relative to those working 35 to 39 hours (the reference group). Working from 41 to 49 hours raises the prob-

ability of overemployment by a statistically significant 2 percent. Working 50 hours or more raises it still further, on the order of about 5 percent, even when including controls for occupation and industry type. Having variable weekly hours, where a worker is unable to specify their usual workweek length, exhibits no effect either way on the likelihood of overemployment. Interestingly, however, full-time workers with variable hours are somewhat less likely to be underemployed, while part-time workers with variable workweeks are considerably more likely to be underemployed. The effects of hours duration on underemployment are symmetrical, but even stronger. Perhaps surprisingly, workers reporting usual hours of exactly 40 hours per week (accounting for about half the work force) are significantly less likely to be underemployed and no less likely to be overemployed, and this cannot be attributed to their occupations or industries of employment. This runs counter to expectations that the FLSA overtime pay requirement restrains employer demand for work hours in ways that constrain workers who might wish more labor supply to earn the premium pay. In fact, there is no indication whatsoever of a desire for more hours among those working 41 or more hours. Not surprising, however, is that part-time workers are considerably more likely to be underemployed as well as less likely to be overemployed. The findings suggest there is a widespread preference to work somewhere between 35 and 40 hours.

Compared to those working an evening shift (the reference group), those on a regular daytime shift (the vast majority) have a slightly increased likelihood of being overemployed. This appears to be due in large measure

	CPS, 2001			Number of cases	Mismatch ratio[1]	Overemployment ratio[2]	Shank (1986)		
Weekly earnings	Same hours	Fewer hours	More hours				Same hours	Fewer hours	More hours
Male	67.1	5.6	27.4	3,877	…	…	65.5	6.5	28.0
Less than $150	63.0	4.6	32.4	51	0.59	0.14	39.3	3.9	56.7
150–199	43.1	.0	56.9	37	1.32	.00	43.9	3.4	52.7
200–249	36.0	2.8	61.2	70	1.78	.05	55.6	4.2	40.2
250–299	44.9	2.7	52.5	127	1.23	.05	60.8	2.9	36.3
300–399	52.2	4.8	43.0	297	.92	.11	62.6	7.0	30.5
400–499	60.1	2.7	37.2	410	.66	.07	66.6	6.5	26.9
500–599	63.9	4.8	31.3	448	.56	.15	71.9	7.9	20.3
600–749	69.8	5.0	25.3	564	.43	.20	73.0	7.8	19.1
750–899	68.5	7.8	23.7	501	.46	.33	76.6	8.9	14.5
900 and more	76.2	6.8	16.9	1,372	.31	.40	…	…	…
Female	68.5	10.0	21.6	3,773	.46	.46	67.2	10.9	21.9
Less than $150	62.4	2.2	35.4	126	.60	.06	55.6	5.0	39.4
150–199	66.3	2.5	31.1	94	.51	.08	66.6	7.4	26.9
200–249	56.0	4.5	39.6	122	.79	.11	66.6	12.2	21.2
250–299	63.4	4.1	32.6	165	.58	.12	66.2	14.1	19.7
300–399	68.8	5.0	26.2	350	.45	.19	72.6	11.9	15.5
400–499	68.5	7.8	23.8	382	.46	.33	75.7	12.4	11.9
500–599	73.8	9.1	17.2	336	.36	.53	72.0	15.2	12.8
600–749	70.4	13.8	15.8	330	.42	.88	73.2	13.9	12.9
750–899	76.0	12.7	11.4	266	.32	1.11	63.6	22.0	14.6
900 and more	67.6	20.9	11.4	413	.48	1.83	…	…	…

[1] The numerator of the mismatch ratio is the sum of overemployment plus underemployment, and the denominator is the proportion that prefers the "same hours" they currently have.

[2] The overemployment ratio is the overemployment rate divided by the underemployment rate.

NOTE: Earnings are reported only by the CPS Outgoing Rotation Group. Also, Shank's (1986) top income category was $750 and more.

SOURCE: May 2001 CPS Supplement on Work Schedules and Work at Home.

to the type of occupation, however. Those on an irregular ("other") shift have a reduced probability of being underemployed, but are no different from evening shift workers regarding overemployment. Perhaps surprisingly, the incidence of overemployment is associated positively, rather than negatively, with having a flexible work schedule (having an ability to alter either the daily starting or ending times of the work day). Similar is the effect of having location flexibility (the opportunity to work from home), although when controlling for industry of employment, working at home does somewhat reduce the likelihood of underemployment. However, working at home is associated with greater risk of overemployment. The findings suggest that the timing of work, even when at the discretion of the employee, does not alleviate overemployment and indeed, even seems to exacerbate it. Thus, neither daily work scheduling flexibility nor work at home appear to be solutions to overemployment. This dual face of flexibility lends support to the notion that the interference of work hours with efforts to balance work-life-family is wholly independent of flexibility of work schedule.[27]

Job characteristics: occupations and industries. The major occupational classifications that exhibit relatively greater overemployment are managerial and professional jobs, even when controlling for their generally higher education requirements and longer hours.[28] In general, the higher the pay (skill or preparation) level of the job, the greater is the tendency toward overemployment and lesser toward underemployment. Blue-collar production, service, and transportation occupation employees are all more likely to be underemployed and less likely to be overemployed.

Table 5. **Overemployment by detailed occupational classification, 2001**

Occupation	Overemployment rate, rank	Over-employ-ment ratio[1]	Mean usual hours in main job	Number of cases
Total	…	0.25	36.3	42,956
Correlation coefficient, overemployment rate with hours	0.53	...	…	…
Standard deviation among occupations	3.43	…	…	…
Health diagnosing	20.1	1.87	43.6	229
Lawyers and judges	14.3	.88	44.3	222
Natural scientists	12.4	.71	40.9	180
Health assessment and treatment	11.8	.89	34.8	1,164
Other executive, administrative. and managerial	11.0	.68	41.6	4,166
Engineers	9.5	.56	40.7	728
Management related occupations	9.5	.51	39.3	1,715
Supervisors, administrative support	9.4	.40	40.4	264
Health technologists and technicians	9.2	.43	35.4	630
Mathematical and computer scientists	9.1	.53	40.5	659
Computer equipment operators	8.9	.64	37.7	122
Supervisors and proprietors, sales	8.9	.44	41.6	1,241
Secretaries, stenographers, and typists	8.9	.52	35.6	1,052
Sales representatives, finance and business services	8.8	.35	38.7	764
Technicians, excluding health, engineer and science	8.3	.49	36.9	451
Teachers, college and university	8.2	.50	33.1	382
Financial records processing	8.0	.36	34.9	694
Other professional specialty occupations	7.9	.42	36.2	1,529
Teachers, except college and university	7.9	.39	36.1	1,981
Other administrative support, including clerical	7.2	.27	34.9	3,981
Sales representatives, commodities, excluding retail	7.2	.36	39.5	490
Engineering and science technicians	6.6	.24	37.6	447
Officials and administrative, public administrative	6.4	.43	39.2	349
Mail and message distributing	6.4	.20	36.1	320
Other precision production, craft, and repair	5.8	.19	40.4	1,336
Personal service	5.8	.16	27.6	773
Motor vehicle operators	5.6	.19	36.6	1,383
Sales workers, retail and personal service	4.8	.12	28.3	2,137
Private household service	4.7	.12	23.7	200
Cleaning and building service	4.7	.13	32.5	1,055
Mechanics and repairers	4.6	.16	39.4	1,583
Health service	4.6	.13	33.0	961
Farm workers and related occupations	4.5	.11	34.0	680
Other transportation and material moving	4.4	.13	38.3	474
Protective service	4.2	.14	38.3	867
Freight, stock and materials handlers	4.2	.10	30.0	698
Fabricators, assembers, inspectors, samplers	3.9	.11	39.1	833
Machine operators and tenders, excluding precision	3.8	.11	37.3	1,412
Other handlers, equipment cleaners, helpers, laborers	3.7	.09	35.5	733
See footnotes at end of table.				

Table 5.	Continued—Overemployment by detailed occupational classification, 2001				
Occupation	Over-employ-ment rate	Over-employ-ment ratio[1]	Mean usual hours in main job	Number of cases
Food service	3.2	.07	27.1	2,181
Construction trades	2.8	.08	38.3	1,605
Construction laborers	2.5	.05	34.9	285

[1] The overemployment ratio is the overemployment rate divided by the underemployment rate.

NOTES: Sales related occupations (n=23) are included in "Sales workers, retail and personal service." Farm operators and managers (n=25) are included in "Management related occupations." Forestry and fishing occupations (n=34) are included in "Farm workers and related occupations."

SOURCE: May 2001 CPS Supplement on Work Schedules and Work at Home.

When controlling for occupation types, the effect of all the other variables remains the same in terms of their size and significance.

Some industries stand out for a markedly greater likelihood of overemployment. Utilities and sanitary services and hospitals have a higher likelihood of overemployment. So does the transportation industry, although this appears attributable to the occupational mix of that industry. The industry findings are not surprising, given the greater incidence of mandatory overtime work in the telecommunications, public utilities, and hospital sectors.[29] Thus, it appears that certain jobs and sectors have more stringent minimum hours constraints than others, and/or that workers in these jobs and sectors have stronger preferences for shorter hours than for the existing length of hours.

Gender patterns and differences. Given the strong gender difference uncovered, it would be worthwhile to separate the sample into women and men. Among women, aging through the life cycle heightens the preference for fewer hours. (See endnote 26.) However, this appears entirely due to the number (and shift) of their work hours. Somewhat in contrast, men exhibit a positive association of age with overemployment, but this is partly because of their work hours. The effects of children present in the household are generally stronger for women. Women with children up through age 5 have a greatly heightened likelihood of overemployment. Quite symmetrically, they have a much reduced likelihood of being underemployed, as well. Moreover, when controlling for women's (shorter or longer) hours of work, the preference for fewer hours exists among mothers whose youngest child is age 13 or younger. In strong contrast, men with school-aged children become less likely to be overemployed, regardless of their work hours. When the youngest child is very young,

however, men do harbor less interest is seeking more hours. Nevertheless, once the youngest child reaches age 3, men are less likely to be overemployed, and when their youngest child reaches school age, become more likely to be underemployed. At first glance, women also appear to be less likely to be overemployed and more likely to be underemployed when their youngest child reaches high-school age. However, the reduced overemployment among mothers of teens may be attributable largely to their number of work hours and their greater underemployment is entirely attributable to their level of education.

The influence of work hours on expressed hours preferences is most salient. Women with fewer than 35 work hours exhibit less likelihood of being overemployed and women working more than 41 and more than 50 hours experience a statistically significant 4 percent to 6 percent higher likelihood, respectively, of being overemployed. Moreover, if women part-timers' hours vary, this slightly reduced their likelihood of preferring fewer hours, although this also exacerbates the likelihood of being underemployed. This is in contrast to men working part-time hours, where having variable hours slightly increases their risk of overemployment as well as underemployment. Men have greater likelihood of overemployment when they work 50 or more hours a week (as is true for women), although the magnitude is slightly lower than that for women. Their overemployment risk is not statistically significantly elevated when working 41 to 49 hours. Working 40 or more hours quite strongly reduces the likelihood of men being underemployed. That this includes workers who work exactly 40 hours counters the expectation that such workers would prefer more hours to earn the premium pay, but are denied the opportunity because of its deterrent effect on employers.

Work shift time has little bearing on either the likeli-

Table 6. Overemployment by detailed industry, 2001			
Industry	Overemployment rate	Overemployment ratio[1]	Number of cases
Total	6.94	0.25	42,956
Correlation of overemployment with work hours	.02	…	…
Standard deviation among industries	2.06	…	…
Utilities and sanitary services	10.6	.55	518
Hospitals	10.6	.59	1,848
Other professional services	9.5	.51	1,860
Manufacturing-paper and allied products	9.4	.43	216
Manufacturing-professional and photo equipment, watches	9.1	.45	254
Insurance and real estate	9.0	.38	1,372
Health services, excluding hospitals	8.7	.37	2,165
Other public administration	8.0	.46	797
Manufacturing-printing, publishing and allied industries	7.9	.31	581
Wholesale trade	7.9	.30	1,666
Communications	7.8	.34	781
Educational services	7.8	.33	4,148
Manufacturing-chemicals and allied products	7.6	.35	436
Manufacturing-machinery, excluding electrical	7.6	.31	860
Manufacturing-miscellanous and n.e.c. manufacturing industries	7.6	.31	286
Banking and other finance	7.4	.36	1,379
Manufacturing-electrical machinery, equipment supplies	7.3	.29	707
Manufacturing-textile mill products	7.3	.23	165
Transportation	7.0	.27	2,045
Business services	6.8	.23	2,206
Administration of human resource programs	6.8	.37	306
Social services	6.7	.23	1,066
Personal service, excluding private households	6.6	.20	912
Manufacturing-motor vehicles and equipment	6.5	.24	405
Automobile and repair services	6.3	.22	545
Goods producing-agricultural services	6.3	.13	365
Other retail trade	6.2	.19	4,820
Manufacturing-rubber and miscellaneous plastic products	5.9	.24	296
Manufacturing-other transportation equipment	5.9	.23	192
Manufacturing-aircraft and parts	5.8	.30	145
Manufacturing-lumber and wood products, exluding furniture	5.4	.18	192
Manufacturing-primary metals	5.3	.17	273
Manufacturing-food and kindred products	5.2	.20	560
Entertainment and recreation services	5.1	.14	834
Private household services	5.0	.13	226
Goods producing other agricultural	4.9	.16	317
Manufacturing-furniture and fixtures	4.8	.15	206
National security and internal affairs	4.5	.27	238
Manufacturing-appeal and other finished textile products	4.4	.10	197
See footnotes at end of table.			

Table 6.	Continued—Overemployment by detailed industry, 2001			
Industry	Overemployment rate	Overemployment ratio[1]	Number of cases
Construction	4.4	.13	2,480
Justice, public order and safety	4.2	.18	900
Mining	4.1	.20	196
Eating and drinking places	4.0	.09	2,255
Manufacturing-fabricated metals	3.9	.12	490
Manufacturing-stone, clay, concrete, glass products	3.2	.11	195

[1] The overemployment ratio is the overemployment rate divided by the underemployment rate.

Notes: Manufacturing-petroleum and coal products (n=57) had no overemployed. Manufacturing-fabricated metals includes manufacturing-not specified metals Industries (n=4). Miscellaneous manufacturing includes three other industries with small sample size —manufacturing-leather products and tobacco (n=26 for each) and manufacturing-toys, amusement and sporting goods (n=50), which had a high rate of 12.6 percent. Forestry and fishing, with an overemployment rate of 16.2 percent, is included in agricultural production—other. n.e.c.= not elsewhere classifled.

Source: May 2001 CPS Supplement on Work Schedules and Work at Home.

hood of overemployment or underemployment, although working on an irregular ("other") shift somewhat reduces men's likelihood of underemployment. Similarly, the surprisingly positive effect of working on a flexible daily work schedule on overemployment is about triple the size for women as for men. This bodes ill, particularly for women seeking to use flexible scheduling arrangements to reduce the pressures associated with overemployment. There is no impact either way, however, of flexible daily scheduling on the likelihood of underemployment for either gender.

For both men and women, local government employment is associated with reduced likelihood of overemployment, as is State government employment for women and slightly so for men. Being employed in a private nonprofit facility has no effect on overemployment, but does reduce somewhat the likelihood of seeking more hours, particularly among men. The effects of industry on employment differ in a few instances by gender. The probability of overemployment is highest in utilities and hospitals for both, but unlike for men, it is higher for women in wholesale trade. Unlike women, men in the transportation industry have a higher likelihood of overemployment. Men (but not women) employed in construction seek more, rather than fewer, hours. By occupation, women in managerial jobs are somewhat more prone to overemployment and also less likely to face underemployment. Both women and men in managerial and professional (and men in technical) jobs are considerably less likely to prefer more hours, while those in protective services are more likely.

Both men and women in most blue-collar type production and service (and women in clerical) jobs seek more hours and income. In sum, the sector and type of employment impacts on preferences of both genders, sometimes similarly, other times in ways peculiar to one gender.

Hourly versus salary pay and union membership status. Work hours mismatches for union members show no apparent differences with nonunion workers.[30] However, employees paid by the hour, relative to those on salary, are somewhat less likely to be overemployed and far more likely to be underemployed, as expected. Among men, perhaps surprisingly, overemployment is greater for hourly paid men once taking into account their number of work hours. Nevertheless, men are far more likely to express a preference for more hours and income if they are paid on an hourly basis.

When controlling for hourly salaried pay status, the industries with the greater risk of overemployment for women are utilities and wholesale trade and the lowest risk is in communications, while women in educational services tend to be the most underemployed. Among men, the overemployment risk is reaised only in the hospitals sector. Even given their salary status, women managers have greater overemployment, but not so among men. Among men, given pay status, being a professional reduces the risk of both overemployment and underemployment, whereas being in protective services jobs raises both. In sum, men paid hourly are generally more likely

to experience hours mismatches than are others, except those employed in professions.

Implications of the results

Overemployment and underemployment are created when workers face binding constraints from the employer side of the labor market that produce a gap between workers' actual and preferred hours. The preference to trade income for fewer work hours occurs among a relatively lower yet nontrivial proportion of the overall employed, at least 7 percent. However, it is measurably higher among certain job types, sectors, and stages of workers' life cycle. It is more prevalent for the employed who are women, married, and mothers of very young children. This supports the hypothesis that constraints are more binding at certain points along workers' life cycle. It is also disproportionately concentrated among those who have both higher earnings and education and those enrolled in school. The explanatory power of the model is roughly doubled when work factors are added to the standard demographic characteristics of workers. Thus, work factors account for at least as much as demographic factors. Overemployment is higher for workers with longer than standard workweeks and salary pay status. Interestingly, there does not appear to be an unfulfilled desire for additional (overtime) work hours for those working the standard 40 weekly hours. Indeed, the generally preferred workweek lies between 35 and 40 hours. Workers with flexible daily work scheduling and work at home are actually more likely to express a preference for fewer hours. Overemployment is also relatively higher for those who work in health, utilities, transportation, and in some manufacturing industries, and in managerial-administrative-supervisory positions, the health, law and science-related professions, and some technical and sales occupations. It is lower in blue-collar production and service jobs and in local government employment. The relatively low incidence of overemployment in many occupations and industries suggests that hours constraints need not be considered an inevitable feature of all labor markets and workplaces.

The rate, and to a large extent, the distribution of over-employment and underemployment has remained remarkably similar in the United States to that last observed in 1985. This stablility occurred despite the dramatic changes in workplace technology, the labor force, job structure, and work flexibility. This supports the continued importance of labor demand-side hours constraints in the labor market, but begs for further explanation. In 1986, Susan Shank had interpreted the positive association between earnings and a preference for fewer hours as support for the backward-bending labor supply hypothesis, where income effects are stronger or prevail at high earnings levels. In this light, however, growth in workers' wage rates since 1985 would suggest that a larger share of the work force would now prefer to supply fewer hours.[31] It has not, and actually has weakened among men. (See table 4.) This suggests that while the quantity of labor supply desired at each given wage rate might well have declined, the entire labor supply curve may be shifting outward, offsetting any potential income effects. A wedge between actual and desired hours would not widen if either (a) average hours supplied per worker have become shorter or (b) preferred hours per worker have increased. Regarding the former, actual average hours in the private sector (which includes part-time employees) are an hour shorter in 2001 than they were in the second quarter of 1985 (33.9 versus 34.9 hours per week). In 1985, however, 20 percent reported working longer than 40 hours per week whereas 29 percent did so in 2001.[32] Thus, the slight decrease in the average masks the rising proportions of workers employed for longer than "standard" hours and also at shorter hours at the other end of the spectrum.[33] In addition, hours demanded per worker were likely shorter than usual in 2001 for cyclical reasons. In the second quarter of 2001 (including the May survey date), the economy was in the midst of a recession, while in 1985 was in rapid expansion. This all implies that preferences for income and time may be adaptive rather than stable over time. Thus, the wedge has not widened apparently because workers' preferred hours of labor supply on average may be longer now than it might have been in 1985.[34]

Unfortunately, such dynamics cannot be observed directly with just two snapshots. However, it could be with more frequent and precise measurement of overemployment, for example, if the CPS Supplement work hours choice question were included following each March CPS Supplement regarding households' income. Future research could then endeavor to establish the extent to which underemployment is more of a substitute (over the cycle) or complement (for structural reasons). It might also further investigate the extent of any age cohort effect of hours of work, to determine whether overemployment rates track generations through their life cycle. Finally, the longitudinal feature of the CPS could be analyzed to determine what becomes of an overemployed worker's hours in future months or years, to discern whether they change their hours or their jobs, or neither, testing the notion of adaptive work hours preferences.

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hours of work, regulations to deter long hours would simply constrain more workers and inhibit firm performance. However, the findings herein suggest that overemployment exists and persists, especially in certain pockets, even among those workers who are presumed to have relatively more bargaining leverage vis-à-vis their employers to control working time, such as older and higher educated, skilled, and paid employees.[35] Employment beyond one's usual hours has been found elsewhere to be associated with risks and symptoms of overwork, via greater fatigue and stress levels.[36] To the extent that overwork has spillover costs not only on individuals themselves, but family relationships and social capital formation, there is a case for targeted intervention to curb overemployment.[37] There is

much support among the majority of the public for some sort of legal restrictions on hours of work in certain industries and occupations, particularly when public health and safety is concerned.[38] The findings suggest that improving net individual and social welfare may involve aimed restraint of hours in particular industries and occupations with the highest overemployment ratios, such as hospitals and utilities industries and managerial-supervisory and professional jobs, and to facilitate time transfers from the overemployed to underemployed.[39] This also includes targeting efforts toward workers who are at the most vulnerable points of their life cycle when nonmarket worktime appears to become most valuable, such as workers with very young pre-school dependent children.[40] □

Notes

[1] René Böheim and Mark P. Taylor, "Actual and Preferred Working Hours," *British Journal of Industrial Relations*, 2004, vol. 42, no. 1, pp. 149-66. L. F. Dunn, "Loss Aversion and Adaptation in the Labor Market: Empirical Indifference Functions and Labor Supply," *Review of Economics and Statistics*, August 1996, pp. 441–50; Peter Feather and Douglass Shaw, "The Demand for Leisure Time in the Presence of Constrained Work Hours," *Economic Inquiry*, 2000, vol. 38, no. 4, pp. 651–62; Kevin Lang and Shulamit Kahn, "Hours Constraints: Theory, Evidence and Policy Implications," in G. Wong and G. Picot, eds., *Working Time in a Comparative Perspective, Volume 1* (Kalamazoo, MI, Upjohn Institute for Employment Research, 2001). R. Drago, Y.-P. Tseng, and M. Wooden, "Usual and preferred working hours in couple households, *Journal of Family Studies*, vol. 11, pp. 46–61. The self-reporting of hours constraints has been validated by the finding that workers who preferred fewer hours and changed their job actually did lower their hours by 2 per week, while those job changers who preferred more hours raised hours by more than 3 hours per week (Joseph Altonji and Christina Paxson, "Labor Supply Preferences, Hours Constraints and Hours-Wage Trade-Offs," *Journal of Labor Economics*, vol. 6, no. 2, April 1988, pp. 254–76).

[2] Better matching between preferred and actual hours status is associated with in-role and extra-role performance of employees. Overemployment may lead to work behaviors antithetical to productivity, including greater absenteeism, tardiness, use of sick-time, or on-the-job leisure (Jackie Krasas Rogers, "There's No Substitute: The Politics of Time Transfer in the Teaching Profession," *Work and Occupations*, February 2001, pp. 64–92; Brooks Holtom, Simon Tidd, and Thomas Lee, "The Relationship Between Work Status Congruence and Work-Related Attitudes and Behaviors," *Journal of Applied Psychology*, October 2002, pp. 903–23; I. J. H. Van Emmerikand and Karin Sanders, "Mismatch in Working Hours and Effective Commitment," *Journal of Managerial Psychology*, 2005, vol. 20, no. 8, pp. 712–26).

[3] Joachim Merz, "Time and Economic Well-Being—A Panel Analysis of Desired versus Actual Working Hours," *The Review of Income and Wealth*, vol. 48, no. 3, September 2002, pp. 317–46; Kea Tijdens, "Employees' and Employers' Preferences for Working Time Reduction and Working," *Acta Sociologica*, 46, 2003, pp. 69–82; Michael Hout and Caroline Hanley, "Working Hours and Inequality, 1968–2001 (University of California Berkeley Survey Research Center, March 2003). (Harold Bielinski, Gerhard Bosch, and Alexandra Wagner, *Europeans Work Time Preferences,* European Foundation for the Improvement of Living and Working Conditions, Dublin, 2002; Alfonso Sousa-Poza and Fred Henneberger, "An Empirical Analysis of Working Hours Constraints in Twenty-One Countries," *Review of Social Economy*, 2002, vol. 60, no. 2, pp. 209–42 ; Lars Osberg, "Understanding Growth and Inequality Trends: The Role of Labour Supply in the U.S.A. and Germany," *Canadian Public Policy*, 2002, vol. 28; Alberto Alesina, Edward Glaeser, and Bruce Sacerdote, "Why Do Americans Work So Hard? *Public Policy Research*, 2005, vol. 12, no. 3, pp. 148–58; Colette Fagan, "Time, Money and the Gender Order: Work Orientations and Working-Time Preferences in Britain," *Gender, Work and Organization,* 2001, vol. 8, no. 3, pp. 239–66).

[4] There are exceptions, such as Heldrich Center for Workforce Development, "Who will let the Good Times Roll? A National Survey on Jobs, the Economy," *Work Trends Survey*, 1999, vol. 1, pp. 16 (table 1), where preferring fewer hours was almost twice the proportion that preferred more hours). Roper-ASW polls consistently find somewhat stronger general preference for money over time. In 2003, 34 percent of North Americans "would prefer more time to more money" about the same rate found in 2001 and 2000.

[5] More than 60 percent of workers' "actual" exceeded their "ideal" workweek by 5 hours in 1992 and 11 hours in 1997 (Ellen Galinsky and J. T. Bond, eds., *The National Study of the Changing Work Force*, New York, Families and Work Institute, 1998; Jerry Jacobs, and Kathleen Gerson., "Who Are the Overworked Americans?" in L. Golden and D. Figart, eds., *Working Time: International Trends, Theory, and Policy Perspectives,* New York, Routledge, 2001, pp. 89–105).

[6] See Peter Hart and Associates, *Imagining the Future of Work* (New York, Alfred P. Sloan Foundation, 2003).

[7] See Tijdens, "Preferences for Working Time Reduction." Moreover, surveys tend to query only those employed, whereas many of the overemployed may be between jobs, via layoff or quit, or outside the labor force. See Bluestone and Sharpe, eds., *Toward a New Architecture*

for Labor Market Statistics (University of Chicago Press, 2007).

[8] Workers employed in cyclically sensitive or downsizing industries or insecure jobs may "prefer" longer hours as a hedge against anticipated future income reduction or future layoff (Barry Bluestone and Stephen Rose, "Macroeconomics of Work Time," *Review of Social Economy*, 1998, vol. 56, no. 4, pp. 425–41). In addition, more workers might prefer to spend "a bit less time" than "much less time" at work, and these combined are far greater proportions than indicated by the more general "work less" option (J. Schor, "Trading Income for Leisure Time, Is There Public Support for Escaping Work-and-Spend?" in V. Bhaskar and Andrew Glyn eds., *The North, the South and the Environment, Ecological Constraints and the Global Economy,* Earthscan Publications, United Nations University Press, 1995).

[9] For example, Simon Rottenberg, "The Regulation of Work Hours and Its Externalities Defenses," *Journal of Labor Research*, January 1995, pp. 98–109.

[10] Shulamit Kahn and Kevin Lang, "The Causes of Hours Constraints: Evidence from Canada," *Canadian Journal of Economics*, 1995, vol. 28, pp. 914–28; and François Contensou and Radu Vranceanu, *Working Time: Theory and Policy Implication* (Cheltenham UK, Edward Elgar, 2000); and Marcus Rubin and Ray Richardson, *The Microeconomics of the Shorter Working Week* (Aldershot, U.K, Ashgate, 1997).

[11] James Rebitzer and Lowell Taylor, "Do Labor Markets Provide Enough Short-Hour Jobs? An Analysis of Work Hours and Work Incentives," *Economic Inquiry,* 1995, vol. 33, pp. 257–73. Compensating wage differentials for inflexible, inconvenient, or mandatory overtime hours are not found empirically (Ronald Ehrenberg and Paul Schumann, "Compensating Wage Differentials for Mandatory Overtime," *Economic Inquiry*, 1984, vol. 22, no. 4, pp. 460–78; and Altonji and Paxson, "Labor supply preferences").

[12] More technically, the cost to employers of a mismatch where a worker's actual hours (h) exceed desired hours (h^*) (at their current wage and job) is:

$$\lambda \ (h - h^*)^\theta \quad given \quad \lambda > 0; \quad \emptyset > 1$$

This gap may persist so long as employers' administrative costs associated with adjusting each employee's h to their $h^*(\lambda)$ is sufficiently large, or, the perceived long-term costs ($\emptyset$) associated with overemployment are sufficiently small or discounted (is near one). Workers may settle for overemployment if absenteeism risks discharge (R. Landers, J. Rebitzer, and L. Taylor, "Rat Race Redux: Adverse Selection in the Determination of Work Hours in Law Firms," *American Economic Review*, 1996, vol. 86, pp. 3229–48. The lack of health insurance coverage for short-hour jobs increases worker seeking of positions with full-time hours (T. Buchmueller and R. Valletta, "The Effect of Health Insurance on Married Female Labor Supply," *Journal of Human Resources*, winter 1999, pp. 42–70).

[13] Dale Belman and Michael Belzer, "The Regulation of Labor Markets: Balancing the Benefits and Costs of Competition," in Bruce Kaufman, ed., *Government Regulation of the Employment Relationship*, Industrial Relations Research Association, 1998, pp.178–219; Dora Costa, "Hours of Work and the Fair Labor Standards Act: A Study of Retail and Wholesale Trade, 1938–1950," *Industrial and Labor Relations Review*, July 2000, pp. 648-64; and 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.

[14] As with unemployment, because of frictions, overemployment can never reach a rate of zero. Estimates of overemployment may be biased downward, if overemployment eventually leads to worker absences, quits, and even labor force withdrawal.

[15] Jeremy Reynolds, "When Too Much Is Not Enough: Overwork and Underwork in the U.S. and Abroad," *Sociological Forum,* March 2004, pp. 89–120; and Charles Kerwin Kofi and Philip Decicca, "Hours Flexibility and Retirement," *Economic Inquiry*, 2007, 45 no. 2, pp. 251–67.

[16] More than one-third of dual career couples are working longer than their "preferred" work hour arrangements (Marin Clarkberg and Phyllis Moen, "Understanding the Time-Squeeze: Married Couples' Preferred and Actual Work-Hour Strategies," *American Behavioral Scientist*, 2001, vol. 44, pp. 1115–36).

[17] Clarkberg and Moen, "Time-Squeeze."

[18] This presumes underemployment is negative in the real wage, particularly at low wage levels.

[19] Landers, et al, "Rat Race"; Bluestone and Rose, "Work Time"; Wayne Eastman, "Working for Position: Women, Men, and Managerial Work Hours," *Industrial Relations*, 1998, vol. 37, pp. 51–66; Bell and Freeman, "Working Hard"; Jeanne Brett and Linda Stroh, "Working 61 Plus Hours a Week: Why Do Managers Do It?" *Journal of Applied Psychology*, February 2003, pp. 67–78; Peter Kuhn and Fernando Lozano, "The Expanding Workweek? Understanding Trends in Long Work Hours Among U.S. Men, 1979–2004," IZA Discussion Paper no. 1924, Institute for the Study of Labor, 2006; and Jeremy Reynolds, "You Can't Always Get the Hours You Want: Mismatches between Actual and Preferred Work Hours in the United States," *Social Forces*, 2003, vol. 81, no. 4, pp. 1171–99.

[20] Jeremy Reynolds, "Mismatches between Actual and Preferred Work Hours." Some jobs provide incumbents a great deal of autonomy and flexibility, but not necessarily an ability to control the number or scheduling of work hours, including high-status occupations such as surgeons or judges. See Shelley MacDermid and Chiung Ya Tang, "Flexibility and Control: Does One Necessarily Bring the Other?" draft, Families and Work Research Conference, Brigham Young University, Mar. 20–22, 2006.

[21] Because 2001 was a recession year, jobs with cyclical hours, such as construction and durables manufacturing, will likely exhibit relatively low overemployment and high underemployment. See Ronald Hetrick, "Analyzing the upward surge in overtime hours," *Monthly Labor Review*, February 2000, pp. 30–33.

[22] Unions tend to restrain average work hours (John Earle and John Pencavel, "Hours of Work and Trade Unionism," *Journal of Labor Economics,* January 1990, pp. S15–S174; and Stephen Trejo, "Overtime Pay, Overtime Hours, and Labor Unions," *Journal of Labor Economics* 1993, vol. 11, pp. 253–78). Unionized workers are considerably less likely to prefer more time over more money, but slightly more likely to prefer that their overtime work be compensated in the form of pay rather than future time off (Will Friedman and Jill Casner-Lotto, *Time is of the Essence: New Scheduling Options for Unionized Employees*, New York, Work in America Institute, 2003).

[23] Bringing work home is much more common among salaried, nonproduction, and supervisory type employees, which considerably increases their relative average daily and weekly hours of work (Lucy Eldridge and Sabrina Pabilonia, "Are Those Who Bring Work Home Really Working Longer Hours?" BLS Working Paper no. 406, May 2007). For evidence on the association of the duration of hours and flexible work schedules, see Lonnie Golden, "The Flexibility Gap: Employee Access to Flexibility in Work Schedules," in I. U. Zeytinoglu, ed., *Flexibility in Workplaces: Effects on Workers, Work Environment and the Unions* (Geneva, IIRA/ILO, 2005, pp. 1–19). For the effects of nontraditional shift time working on hours preferences and outcomes, see Harriet Presser and Janet Gornick, "The female share of weekend employment: a study of 16 countries," *Monthly Labor Review*, August

2005, pp. 41–53; and John Schmitt and Dean Baker, *Bad Times: The Impact of Changes in Work Schedules on Productivity Growth* (Washington DC, Center for Economic Policy Research, November 2004).

[24] The 1985 CPS Supplement asked: "If you had a choice would you prefer to work: The same number of hours and earn the same money? Fewer hours at the same rate of pay and earn less money? More hours at the same rate of pay and earn more money?" Because the CPS questions were revised in 1994, most relevant being the questions pertaining to the number of work hours, some of the differences between the findings in 1985 and 2001 may reflect these changes (see Anne Polivka and Jennifer Rothgeb, "Overhaul of the Current Population Survey: redesigning the questionnaire," *Monthly Labor Review,* September 1993, pp. 10–28).

[25] The CPS often uses proxy answers for residents who are not home at the time of the interview, but for a "subjective preference" regarding the fewer hours versus more money question, only self-reports are used (as in S. Shank, "Preferred hours of work and corresponding earnings," *Monthly Labor Review*, November 1986, pp. 40–44). Thus, more than 19 percent of the sample is "unreported" for this question. Also note that the proportion of workers who usually work part time, but in the CPS survey week worked 35 hours or more was at least 4 percent of the usual part-time work force.

[26] Appendix tables showing the results of these estimates are available on request to the co-author, Lonnie Golden. E-mail: Lmg@psu. edu.

[27] See Virginia Major, K. Klein, and M. Ehrhart, "Work Time, Work Interference with Family and Psychological Distress, *Journal of Applied Psychology*, 2002, vol. 87, pp. 427–36.

[28] At the major occupation level, both managerial and professional categories are statistically significant when the highly correlated variable, work-at-home, is omitted. The reference occupation is sales jobs. In unreported regression results using detailed occupational classifications, the specific professional jobs most likely to exhibit a preference for reduced hours are, in order of magnitude, engineers, health diagnosing occupations, natural scientists, math/computer scientists, health assessment and treatment, lawyers/judges, and management-related occupations. Two technician jobs, health and those other than health, science or engineering, other administrative support and to a slight extent, computer equipment operators, are also positive. Overemployment is relatively higher among private sector (but not public sector) managers and administrators.

[29] See Lonnie Golden and Barbara Wiens-Tuers, "To Your Happiness? Overtime Work, Worker Happiness and Satisfaction," *Journal of Socio-Economics*, April 2006, pp. 382–97. In unreported results from observations at the detailed industry level (relative to the construction industry), two manufacturing industries are associated with significantly greater overemployment: paper and toys/sporting goods. On the other hand, being employed in social services, construction, agriculture, private household, justice/public order, and stone/glass manufacturing significantly reduces overemployment.

[30] Hourly pay and union membership status are asked only of the CPS outgoing rotation group (ORG), about a quarter of the overall supplement sample. A table showing the results are available on request to the co-author, Lonnie Golden. E-mail: Lmg5@psu.edu.

[31] See Robert Drago, D. Black and Mark Wooden, "The Existence and Persistence of Long Work Hours," IZA Discussion Paper 1720, August 2005. This focus on labor supply curve "shifters" is warranted by evidence that real wages are often found to have little empirical impact on the quantity of labor supply (Mark Bryan, "Free to Choose? Differences in the Hours Determination of Constrained and Unconstrained Workers," *Oxford Economic Papers*, 2007, vol. 59, no. 2, pp. 226–52).

[32] Moreover, the incidence of having paid vacation has decreased over the last two decades, to 77 percent of workers among all establishments (Bureau of Labor Statistics, *National Compensation Survey: Employee Benefits in Private Industry in the United States, March 2005,* Summary 05–01, August). Workers might not respond affirmatively to options of a reduced workweek if their preference for shorter work time is annual hours, in the form of more vacation days or weeks.

[33] For further evidence of this polarization or time divide, see Jacobs and Gerson, "Overworked Americans"; Drago, Black, and Wooden, "Long Work Hours."

[34] A fuller theoretical behavioral consideration of overemployment would help illuminate why the aggregate rate of overemployment might stay constant across time periods (see Morris Altman and Lonnie Golden, "Alternative Approaches to Analyzing Hours of Work Determination and Standards," in M. Oppenheimer and N. Mercuro, eds., *Alternative Approaches in Law & Economics*, Armonk, NY, M.E. Sharpe, 2004, pp. 286–307). Indeed, any preference for hours reduction is more in the future than current period (Hart and Associates, "Imagining the Future of Work"). The constancy also may reflect a greater aversion to income loss than the benefit expected from an equivalent income gain (Dunn, "Loss Aversion and Adaptation in the Labor Market"). A combination of labor market, workplace, and consumption arena pressures may lead workers to adjust upward their preferred work hours. One factor is that a reduction in hours to reach one's desired workweek may entail a more than proportional drop in compensation, particularly by going to part-time status, which involves not only lower wage rates but less likelihood of benefit coverage and lower earnings trajectory (Dale Belman and Lonnie Golden, "Nonstandard and Contingent Jobs: Dispersion and Contrast by Industry, Occupation and Job Type," in F. Carre, M. Ferber, L. Golden, and S. Herzenberg, eds., *Nonstandard Work: The Nature and Challenge of Changing Employment Arrangements*, Cornell University Press, 2000, pp. 167–212; and Marianne Ferber and Jane Waldfogel, "Long-term consequences of nontraditional employment," *Monthly Labor Review*, May 1998, pp. 3–12). Among managerial employees, workplace norms and relative positional concerns may alter initial preferences, perhaps toward hours norms or co-workers (Schor, "Trading income"; and Eastman, "Working for Position"). A greater dispersion of pay grades within an occupation motivates workers to exceed the hours of their co-workers as a positive signaling tactic (Bell and Freeman, "Working Hard"). Reinforcing this may be income targeting behavior, when higher income leads individuals to perpetually seek fulfillment of new, unsatisfied material wants rather than more time (Morris Altman, "Preferences and Labor Supply: Casting Some Light into the Black Box of Income-Leisure Choice," *Journal of Socio-Economics*, 2001, vol. 30, pp. 199–219). Also, a spell of overemployment creates time scarcity and more earnings, shifting household preferences from self-produced to market-produced goods and services and from time-*using* toward time-*saving* goods and services, which requires even further work to purchase (Kurt Rothschild, "A Note on Some of the Economic and Welfare Aspects of Working Time Regulations," *Australian Economic Papers*, 1982, vol. 21, pp. 214–18). Finally, more individuals may seek more work hours in order to sustain their relative position in consumption levels or emulate the most wealthy (Samuel Bowles and Y. Park, "Emulation, inequality, and work hours: Was Thorsten Veblen right?" *The Economic Journal*, November 2005, pp. F397–F412).

[35] Peter Berg, Eileen Appelbaum, Tom Bailey, and Arne Kalleberg, "Contesting Time: Control over Working Time in Seven Industrialized Countries," *Industrial and Labor Relations Review*, 2004, vol. 57, no. 3, pp. 531–49. However, many workers may not avail themselves of existing options (David Maume, "The Overworked American or The Time Bind? Assessing Competing Explanations for Time Spent in Paid La-

bor," *The American Behavioral Scientist*, March 2001, pp. 1137–57).

[36] Such risks are intensified if additional work is not strictly voluntary (E. Galinsky, J. T. Bond, S. Kim, L. Backon, E. Brownfield, and K. Sakai, *Overwork in America: When the Way We Work Becomes Too Much*, New York, Families and Work Institute, 2005; and Golden and Wiens-Tuers, "Overtime").

[37] R. Barnett, K. Gareis, and R. Brennan, "Fit as a Mediator of the Relationship Between Work Hours and Burnout," *Journal of Occupational Health Psychology*, 1999, vol. 4, pp. 307–17; Rudy Fenwick and Mark Tausig, "Scheduling Stress: Family and Health Outcomes of Shift Work and Schedule Control," *American Behavioral Scientist,* 2001, vol. 44, no.7, pp. 1179–98; and M. Van Der Hulst, "Long Work Hours and Health," *Scandanavian Journal of Work Environment Health*, 2003, vol. 29, no. 3, pp. 171-88. Anne Spurgeon, *Working Time: Its Impact on Safety and Health*, Seoul, Korea, International Labor Organization and Korean Occupational Safety and Health Research Institute, 2003; and Allard Dembe, J. Erickson, R. Delbos, S. Banks, "The Impact of Overtime and Long Work Hours on Occupational Injuries and Illnesses: New Evidence from the United States," *Occupational Environment Medicine* 2005, vol. 62, pp. 588–97. Foregone nonmarket time also tends to create negative spillovers to family, marriage quality, children's well-being, social capital (Moen and Clarkberg, "Time-Squeeze"; Major, et al, "Work Interference"; and E. J. Hill, N. T. Mead, L. R. Dean, D. M. Hafen, R. Gadd, A. A. Palmer, and M. S. Ferris, "Researching the 60-Hour Dual-Earner Workweek: An Alternative to the "Opt-Out Revolution," *American Behavioral Scientist*, May 2006, pp. 1184–1203). The most direct estimates are that 26 percent report recently "feeling overworked" and more than half of workers feeling so sometime in the past 3 months (Galinsky, et al, "Overwork").

[38] In particular for pilot, police officer, and truck driver occupations (National Sleep Foundation, *2002 Sleep in America Poll*). Long-haul truck drivers' average weekly hours are among the longest (Daniel Hecker, "How hours of work affect occupational earnings," *Monthly Labor Review*, October 1998, pp. 8–18; and Dale Belman and Kristen Monaco, "The Effects of Deregulation, De-Unionization, Technology and Human Capital on the Work and Work Lives of Truck Drivers," *Industrial and Labor Relations Review*, 2001, no. 2A, pp. 502–24.

[39] See Rogers, "There's No Substitute." In other post-industrial countries, the extent of legal limitations on the duration of working hours reflects a combination of not only working time preferences among men and women, but also the cultural, economic, and institutional context (Haya Stier and Noah Lewin-Epstein, "Time to Work: A Comparative Analysis of Preferences For Working Hours," *Work and Occupations*, August 2003, pp. 302–26). The only institutional restraints on hours of work in the United States are the Fair Labor Standard Act's (FLSA) overtime regulations enforced by the U.S. Department of Labor, requiring premium pay for hours worked in excess of 40 in a given week for workers not exempt by their duties. For example, drivers covered by U.S. Department of Transportation Hours of Service regulations (limiting driving hours to no more than 11 hours per 24-hour period and 60 hours per week) and youth labor.

[40] The U.K.'s 2002 Right to Request Flexible Working law, following similar Dutch and German Acts in 2000 facilitates requests from working parents for reduced hours arrangements with their employer (Ariane Hegewisch, *Employers and European Flexible Working Rights*: *When the Floodgates Were Opened,* University of California Hastings School of the Law, Issue Brief, Work Life Law, fall 2005).

Table A-1.	Multinomial logistic regression estimates for all workers 16 years and older, by preference of work hours							
Prefer fewer hours	**Model 1**		**Model 2**		**Model 3 (with occupation)**		**Model 4 (with industry)**	
	Coef.	z	Coef.	z	Coef.	z	Coef.	z
Age	0.003	5.000	0.002	2.670	0.002	2.630	0.002	2.320
Age squared	−.00003	−3.800	−.00001	−1.230	−.00001	−1.180	−.00001	−.900
Female	.033	14.660	.043	18.730	.041	16.350	.040	15.650
African American	−.026	−6.070	−.020	−4.920	−.019	−4.730	−.020	−4.790
Married	.024	6.250	.022	6.020	.021	5.800	.021	5.690
Divorced/separated/widowed	−.003	−.670	−.006	−1.280	−.006	−1.330	−.006	−1.430
Child, 0–2 years	.019	3.360	.019	3.530	.019	3.550	.019	3.530
Child, 3–5 years	.010	1.970	.012	2.320	.012	2.340	.012	2.360
Child, 6–13 years	−.004	−1.120	−.001	−.420	−.001	−.390	−.001	−.430
Child, 14–17 years	−.011	−3.060	−.009	−2.420	−.008	−2.340	−.008	−2.380
Enrolled in school (16–24 year–olds only)	.007	.900	.028	3.690	.029	3.870	.030	3.970
Less than high school	−.037	−6.500	−.030	−5.490	−.023	−3.960	−.021	−3.720
High school	−.010	−3.240	−.007	−2.360	−.004	−1.160	−.003	−.950
College degree (BA, BSc,….)	.018	5.710	.010	3.080	.006	1.800	.006	1.950
Post graduate (MA, PhD, MD,…)	.021	5.410	.008	2.010	.003	.620	.004	.830
Work at home			.016	5.450	.014	4.780	.016	5.250
Work hours, 20 a week			−.041	−6.040	−.040	−5.800	−.039	−5.770
21–34			−.012	−1.920	−.011	−1.740	−.011	−1.830
40			−.003	−.550	−.003	−.540	−.003	−.670
41–49			.020	3.420	.019	3.350	.018	3.200
50 and more			.038	7.210	.037	6.960	.036	6.830
Day shift			.013	2.350	.009	1.610	.010	1.840
Night shift			.011	1.260	.010	1.190	.009	1.030
Other shift			.009	1.360	.008	1.130	.008	1.100
Flexible schedule			.010	4.070	.009	3.560	.008	3.510
Federal Government			−.008	−1.160	−.011	−1.700	−.012	−1.480
State government			−.014	−2.690	−.017	−3.110	−.013	−1.880
Local government			−.016	−3.860	−.018	−4.250	−.014	−2.470
Private nonprofit			.002	.570	−.000	−.080	−.002	−.510
Major occupations								
Executive, administrative and managerial					.005	1.330	.006	1.470
Professional speciality					.006	1.480	.005	1.260
Technicians and related support					.006	.950	.003	.430
Private household					−.008	−1.740	−.007	−1.420
Protective services					−.023	−1.180	−.032	−.690
Services, except protective and household					−.010	−.960	−.008	−.760
Precision production, craft and repair					−.017	−3.290	−.018	−3.430
Machine operators, assemblers and inspectors					.014	−2.680	−.013	−2.370
Transportation and material moving					−.024	−3.530	−.023	−3.280
Handlers, equipment, cleaners, helpers, laborers					−.002	−.270	−.005	−.650
Farming, forestry and fishing					−.008	−1.040	−.008	−.990
Administrative support, including clerical					−.006	−.540	−.010	−.680
Pseudo R–squared	.049	...	.062	...	.066	...	.068	...

NOTE: Results for industry, prefer more hours, gender split, and log-likelihoods are all available by request. Reference occupation is sales. n=42,956.