12 MILLION SALARIED WORKERS ARE MISSING

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Evidence from Current Population Surveys, various cohorts of the National Longitudinal Surveys, and the Panel Study of Income Dynamics suggests that the fraction of American employees who were paid salaries held constant from the late 1960s through the late 1970s, and continued to hold constant or perhaps fell slightly thereafter through the late 1990s. An analysis that accounts for the changing industrial, occupational, demographic, and economic structure of the work force shows that this fraction was 9 percentage points below what would have been expected in the late 1970s. This shortfall is not explained by growth in the temporary help industry, declining unionization, institutional changes in overtime or wage payment regulation, the increasing openness of American labor and product markets, or convergence of nonwage aspects of hourly and salaried employment. The author suggests several alternative explanations.

You can tell the difference between hourly and salaried—the salaried guys hustle.

—Jay Leno, *The Tonight Show,* May 12, 2000

Every American professor is salaried in his or her main job, with pay that is denominated per month or per year; yet at one time today's professors held jobs that were paid hourly, with earnings denominated per hour. Many Americans are still paid hourly and labor under the widely held view, consistent with the epigraph to this study, that hourly workers are generally undesirable workers and hourly jobs are undesirable jobs. The author of one textbook on personnel relations defined *salary* as a term "used to designate monetary payments to clerical, supervisory, managerial or professional employees" (McFarland 1968). Another noted that "salary status is usually reserved (along with a parking space) for management, and nonmanagement employees (except clerical workers) are usually paid on an hourly basis" (Schuler 1987). Yet another, acknowledging these views, predicted, "Undoubtedly, the pressure for a salaried status for

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blue-collar workers will grow, as automation and other changes in our labor force reduce the distinctions which have persisted in the past" (Pigors and Myers 1973). Methods of time-rated pay distinguish groups of workers, and hourly pay connotes an inferior job. In an increasingly professional, white-collar economy with more educated workers, one might expect a decline in the fraction of time-rated jobs that are paid hourly.

Pay scheduling in the United States is a much more complex issue than is generally recognized. Laws in most states (so-called wage payment laws) impose a maximum duration between paychecks, thus affecting the frequency of receipt of pay.[1] Since 1938 the Fair Labor Standards Act has required premium pay for non-exempt employees subject to this Act, who may be hourly or salaried workers, thus affecting the structure of pay for many workers, and presumably its level as well as various aspects of the demand for employment and hours (Trejo 1991; Hamermesh and Trejo 2000). These regulations on the structure of payment mechanisms may impinge on the decision whether to classify a worker as hourly or salaried; but that classification is at least a somewhat independent issue, related to employers' and workers' views of the nature of the bond between them.

Even though formal incentive pay systems are relatively rare in the United States, there has been an immense outpouring of economic research on the theory and empirical aspects of such systems (see Brown 1990 and, for a summary, Lazear 1998).[2] With the exceptions of Goldfarb (1987) and Fama (1991), there has been no theoretical examination, formal or informal, of the determinants of the type of time-rated pay that is offered. Empirical examination of these determinants appears to be completely lacking, and only one study (Haber and Goldfarb 1995) has presented evidence documenting changes in the prevalence of hourly pay (for the first half of the time period examined here). This research gap is surprising given the ubiquity of this distinction in the American workplace and its importance in workers' minds. In this paper I document some simple facts about the evolution of hourly pay in the United States in the past 30 years, analyze several readily testable explanations for them, and, finally, present several alternative hypotheses of my own.

Simple Facts about Time-Rated Pay in the United States, 1967–1997

Measuring the changing extent of hourly pay among U.S. employees is possible on a continuous and representative basis only since 1979, when the question, "Is … paid by the hour on this job?" was added to the monthly Current Population Survey. Annual calculations of the fraction of workers paid by the hour from the Outgoing Rotation Groups of the CPS are presented in Figure 1. Not surprisingly, the fractions paid hourly are higher among all workers than among full-time workers only. But for both sexes, and for all employees as well as full-time employees, the figure shows slight upward trends from 1979 through 1993 in the fraction that are paid by the hour. The fraction is procyclical (notice the drops in 1981, 1982, and 1991), the unsurprising result of the greater cyclicality of employment for production workers (many of whom are paid hourly) than for nonproduction workers (relatively few of whom are paid hourly).[3]

[1]For example, the Texas Payday Act requires nonexempt private-sector employees to be paid at least semi-monthly. This is the most common requirement of state Wage Payment Acts.

[2]Data from the NLSY for 1990 show that only 3.6% of respondents reported being on a formal piece-rate system. While 22.7% reported a link between earnings and performance, for 40% of these the link was only to a bonus that constituted a small fraction of their total earnings.

[3]Beginning in 1994, with the redesign of the CPS, the questions used to infer method of pay were changed. Workers who stated that it was easier to report their earnings on an hourly basis were assumed to be hourly paid. Workers who gave a different answer to that question were then explicitly asked

One might also wonder whether the surprising absence of a negative trend in hourly pay is due to differential changes in the public and private sectors, and to changes in their relative importance. The separate estimates in Table 1 for the end-points of this sample show that this is not the case. While none of the 18-year changes is large, all are positive. For men the bigger effect is among government employees, while among women the effects in the private and public sectors are roughly the same. The basic result remains that, quite contrary to the decline that the experts expected, the fraction of workers paid hourly actually rose by nearly 3 percentage points among female workers, and by over 1 percentage point among men, over this nearly 20-year period.

Basic information on the method of time-rated pay is available from the May Supplements to the CPS from 1973 through 1978. The data (BLS 1982, Tables A–9, C–22) are not comparable to those on which Figure 1 is based (see Mellor and Haugen 1986:26). They do suggest, however, that the fraction paid hourly in 1973 (when the aggregate unemployment rate was 4.9%) was almost identical to that in 1978 (when it was 6.1%), although, as in subsequent recessions, that fraction fell sharply from its cyclical peak (in 1973) to its trough (in 1975).

While broad-based random samples of the population are unavailable for this purpose before 1973, we can obtain some additional insights into this issue by examining various cohorts of employees from the National Longitudinal Surveys. For women, the first set of columns in Table 2 presents calculations from the National Longitudinal Survey of Mature Women (NLSMW) for 1967, the National Longitudinal Survey of Young Women (NLSYW) for 1980, and the National Longitudinal Survey of Youth (responses of young women) in 1996.[4] From

if they were paid by the hour, with positive answers to that question also assumed to indicate an hourly paid worker. The initial question beginning in 1994 is, "For your (MAIN) job, what is the easiest way for you to report your total earnings BEFORE taxes or other deductions: hourly, weekly, annually or on some other basis?" The follow-up question is, "Even though you told me it is easier to report your earnings (. . .), are you PAID AT AN HOURLY RATE on (this) job?" Assuming that the cyclical expansion of the mid-1990s led to a continuing rise in the fraction paid hourly, the redesign added less than 1 percentage point to this fraction.

[4]Among the original NLS cohorts, the determination of payment status is made from answers to the question, "… how much do you usually earn at this job before deductions? … per hour, OR … per (day, week, and so on)?" In the NLSY the determination is based on the questions, "… how much do you usually earn at that job?" and "Was that per hour, per day, per week, or what?"

Table 1. Sample-Weighted Mean Fractions of Workers Paid Hourly, CPS-ORG, 1979 and 1997.

	Male			*Female*		
Year	*All*	*Private*	*Government*	*All*	*Private*	*Government*
			All Employees			
1979	.573	.605	.403	.615	.662	.427
1997	.595	.611	.495	.641	.684	.454
			Full-Time Employees			
1979	.544	.574	.379	.550	.601	.348
1997	.565	.580	.471	.587	.633	.393

the NLSMW I use the largest group whose average age was below that of women in the NLSY in 1996; the average age of the entire group in the NLSYW is below that of NLSY respondents. The purpose of these choices is to ensure that the most recent data describe a group that is no younger than members of the earlier cohorts, since there is strong evidence (see the next section) that the probability of being paid hourly is U-shaped in age, with a minimum at or above age 40. Using the full NLS Young Men cohort in 1981 and all men in the NLSY in 1996 assures that this requirement is met for men.

The calculations for women show that there was little change, or a decline, in the fraction of workers paid hourly between 1967 (a year of very low unemployment) and 1980 (a year of high and rising unemployment). This change may have been owing partly to cyclical factors and partly to the expected secular decline in the extent of hourly pay. What is surprising is the tremendous leap in the fraction paid hourly among these young women between the cohorts observed in 1980 and 1996. This extremely sharp rise is mirrored by a similar increase among young adult men over essentially the same period. Here too, and in contrast to the comparison between the mid-1960s and 1980, a small part of the increase may be due to the cyclical recovery from the 1980–82 recession. Given the small drop during that recession (Figure 1), most of this rise must be real.

The huge increase shown by the NLS data in the fraction paid hourly between 1980 and 1996 is astounding, especially compared to the very small (though still surprising) increase observed in the CPS data over this period among workers *of all ages*. It may be that the slight changes in the nature of the questions asked of the respondents between the early NLS cohorts and the NLSY are responsible for these huge differences. If we take exactly the same years and age ranges from the CPS as from these NLS cohorts, however, the results look somewhat less outlandish. Among full-time (all) female employees of these ages, the fraction paid hourly rose from 0.501 to 0.574 (0.554 to 0.617) over the period 1980 to 1996. Among men, the fraction of full-time (all) employees in these age ranges who were paid hourly rose from 0.481 in 1981 to 0.549 (0.490 to 0.562) in 1996. Thus, there was a 7-percentage-point rise for each sex.

An additional check on these estimates is provided by data from the Panel Study of Income Dynamics describing white male household heads. The final column of Table 2 lists the fraction paid hourly in 1977 and 1992, years of almost identical aggregate unemployment. In this data set too there is no evidence of a decline in the prevalence of hourly pay; if anything, there was a small increase in hourly pay in this demographic group, corroborating the results found in the CPS and NLS data over this period.

Several different sets of evidence are qualitatively consistent in showing that, rather than dropping, as predictions based

Table 2. Sample-Weighted Mean Fractions of Workers Paid Hourly, National Longitudinal Surveys, 1967–96; PSID, 1977, 1992.

	NLS Data				*PSID Data*
	Female		*Male*		
	All	*Full-Time*	*All*	*Full-Time*	*White Male Household Heads*
Year	**1967**				
Age Range	30–39				
Fraction Hourly	.360	.295			
N	1,702	1,226			
Year	**1980**		**1981**		**1977**
Age Range	26–36		28–38		
Fraction Hourly	.332	.270	.203	.197	.459
N	2,548	1,941	2,756	2,652	1,990
Year	**1996**		**1996**		**1992**
Age Range	31–38		31–38		
Fraction Hourly	.514	.448	.407	.402	.471
N	3,208	2,249	3,389	2,911	2,358

on the growing education and professionalization of the American work force led experts in the late 1960s and 1970s to expect, in fact the fraction of employees who were paid hourly stayed steady or even rose beginning in the early 1980s. Surprisingly, the American work force has clearly not become more likely to be paid on a salaried basis.

Detailed Analysis of the Changing Fraction Paid Hourly

The very slight upward trends shown in the previous section may hide changes in the distributions of workers along various demographic and economic dimensions, as well as changes in the propensities of employers to pay otherwise identical workers on an hourly basis rather than to offer them salaries. In this section I examine whether changes in observable characteristics of workers and their jobs can account for the absence of a downward trend in the fraction of workers paid hourly.

As a first cut at this question, consider the mean fractions of workers classified by major occupation who are paid hourly in the 1979 and 1997 CPS, presented in Table 3. Only in the less skilled of the traditional blue-collar occupations, operatives and laborers, did the fraction of workers paid hourly not rise over this period. In every other major occupation, including professionals and managers, there were sharp increases in the fractions paid hourly. Indeed, in every occupation except operatives and laborers, those increases are greater than the aggregate increases presented in Figure 1.

Both these breakdowns by occupation and the evidence for a particular age group (young adults) presented in the previous section suggest that the rise in hourly pay has been much larger than is indicated by the aggregate data. To examine this issue in detail, we need to account for as many determinants of the type of time-rated pay as we can. Having done so, we can then ask two questions: (1) If the determinants of hourly pay had remained unchanged over the 1979–97 period, what would have been the change in the fraction paid hourly over those years? (2) How does the predicted change compare to what actually occurred? To make this decomposition, we need to specify a model of the determinants of hourly pay.

There is no existing theory to guide the specification of an estimating equation. I

Table 3. Sample-Weighted Mean Fractions of Full-Time Employees Paid Hourly by Occupation, CPS-ORG, 1979 and 1997.

	Male		*Female*	
Occupation	*1979*	*1997*	*1979*	*1997*
Professional and Technical	.194	.219	.300	.328
Managerial	.132	.181	.267	.328
Clerical and Sales	.382	.466	.514	.659
Service Occupations	.589	.736	.709	.785
Farm Workers	.431	.681	.654	.772
Craft and Precision Workers	.752	.775	.761	.822
Operatives and Laborers	.842	.841	.900	.895

assume that those characteristics that make someone an attractive worker generally also signal the employer that the worker will perform well if salaried. Also, to the extent that salaried status is viewed as desirable, workers with higher full earnings (with more human capital) will use them to "purchase" salaried status. Additional human capital, in the form of greater schooling or (to a point) more experience, will be associated with a greater probability of being salaried. To the extent that employers discriminate based on race or ethnicity, we can assume that underlying the discrimination is a belief that members of the minority group cannot be trusted to work hard if they are salaried. Similarly, given the evidence on pay differentials by marital status (for example, Korenman and Neumark 1991), it is reasonable to suppose that employers view salaried married men as more likely than salaried single men to be productive. Married women, whose attachment to the labor force, especially in the earlier years of the sample, was weaker than that of married men, may be viewed as less likely to be productive than single women, in the absence of direct supervision. Thus I expect a higher probability of hourly pay for single men than for married men and for married women than for single women.

Estimates of linear models describing the probability of being paid hourly in 1979 and 1997 are presented for all employees, and for full-time employees in the private sector only, in Table 4.[5] In addition to the variables whose coefficients and standard errors are presented, the equations also contain vectors of indicators for region, industry, and occupation.[6] The human capital measures have the predicted effects on the probability that a worker is paid hourly. Each additional year of education shifts about 3% of workers to salaried status, even within major occupation and industry groups. Additional experience reduces the incidence of hourly pay up to a point. Among men, the impact of experience on the propensity to be paid hourly begins rising at around age 41 in the 1979 data (36 in the 1997 data), for women somewhat later (62 in the earlier year, 46 in 1997).

Table 4 also presents the estimated effects of other interesting demographic variables. African-Americans with characteristics otherwise identical to those of non-Hispanic whites were about 5 percentage points more likely to be paid hourly in 1979, and 6 percentage points more likely in 1997. Hispanics differed little from non-Hispanic whites in their hourly/salaried status. What is most interesting among these demographic factors is the impact of marital status. In both the late 1970s and the late 1990s there is a sharp distinction between married and single men, with the former about 5 percentage points more likely to be salaried. Among women the opposite was true in 1979; but by 1997 the difference by marital status had reversed, with married women less likely to be paid hourly than single women with the same

[5]Additional estimates based on all full-time employees differ little from those presented in Table 4.

[6]Data on method of pay are not reported for self-employed workers, so those workers are excluded from all the analyses. In 1979, 14.3% of male and 5.2% of female full-time workers were self-employed; in 1997, the corresponding figures were 12.2% and 6.1%.

Table 4. Sample-Weighted Linear Probability Estimates of the Probability of Being Paid Hourly, CPS-ORG, 1979 and 1997.

	Male		*Female*	
Variable	*All Employees*	*Private Full-Time Employees*	*All Employees*	*Private Full-Time Employees*
		1979		
Education	–.0296	–.0314	–.0307	–.0318
	(.0006)	(.0007)	(.0008)	(.0012)
Experience	–.0102	–.0102	–.0059	–.0068
	(.0003)	(.0004)	(.0004)	(.0006)
Experience^2/100	.0123	.0126	.0047	.0065
	(.0007)	(.0008)	(.0008)	(.0013)
African-American	.0470	.0541	.0328	.0558
	(.0045)	(.0058)	(.0049)	(.0076)
Hispanic	.0032	–.0159	–.0014	–.0143
	(.0058)	(.0070)	(.0075)	(.0106)
Married	–.0465	–.0454	.0150	.0240
	(.0032)	(.0039)	(.0034)	(.0048)
Adj. R^2	.379	.393	.256	.237
N	96,026	62,275	77,093	35,925
		1997		
Education	–.0302	–.0311	–.0436	–.0492
	(.0007)	(.0009)	(.0008)	(.0011)
Experience	–.0086	–.0082	–.0058	–.0069
	(.0004)	(.0005)	(.0004)	(.0006)
Experience^2/100	.0121	.0110	.0063	.0078
	(.0008)	(.0011)	(.0009)	(.0013)
African-American	.0642	.0697	.0425	.0652
	(.0049)	(.0061)	(.0047)	(.0067)
Hispanic	.0022	–.0064	–.0228	–.0232
	(.0048)	(.0058)	(.0056)	(.0079)
Married	–.0610	–.0598	–.0134	–.0182
	(.0034)	(.0040)	(.0033)	(.0045)
Adj. R^2	.326	.340	.237	.210
N	77,382	52,792	75,897	39,892

Note: Also included in the equations are sets of 3 variables for major region, 16 indicator variables for industry, and 7 indicators of major occupation (and, in the estimates for all sectors, indicators of major sector). Indicators of race, Hispanic, and marital status are also included, as are total usual weekly hours of work.

education and total experience and in the same broad occupation and industry. One might view this as striking evidence of how employers have recognized the changing role of married women in the labor force. It is inconsistent with the impact of selectivity into the labor force, since unobservably higher-quality married women presumably constituted a greater proportion of participants when the overall female participation rate was lower.

The chief purpose in estimating these linear-probability models is to provide the basis for decomposing the changes in the aggregate fractions of workers who are paid hourly. To do so I calculate $p^*_{97} - p_{79}$, where

$$p^*_{97} = \alpha_{79} X_{97}. \tag{1a}$$

The α_{79} are the coefficients from the linear-probability models estimated for 1979, and the X_{97} are the variable means in 1997. I then calculate $p_{97} - p^*_{79}$, where

(1b) $$p^*_{79} = \alpha_{97} X_{79},$$

defined analogously to the terms in (1a). The difference $p^*_{97} - p_{79}$ measures what the change in the fraction paid hourly would have been if the coefficients of the equations for 1979 had remained unchanged but the means had changed, while the difference $p_{97} - p^*_{79}$ measures what the change would have been using the coefficients of the equations for 1997.

The results of the decompositions, calculated separately by sex and separately for all employees and for private full-time employees only, are presented in Table 5.[7] The actual increases in the fractions paid hourly are between 0.5% and 3.3%. Based on the changes in the economic and demographic characteristics of workers and their industry and occupation between 1979 and 1997, however, we would have expected declines of between 5.6% and 7.1% among men, and between 8.5% and 9.8% among women, depending on the sample definitions and on whether the base or final year's coefficients are used. Subtracting these expected changes from the actual changes observed, the fraction of men paid hourly in 1997 was 5.7 to 8.8 percentage points higher than one should have expected based on the determinants of pay status at a point in time and the changes in workers' characteristics, while among women it was 11.1 to 13.1 percentage points higher. Taking the middle figures for each sex, and estimates of wage and salary employment in 2000, the results imply that there were almost 12 million fewer salaried workers in 2000 than would have been expected in 1979.[8]

One might imagine that much of the expected decline in the fraction of workers who are paid hourly is due to changes in the distribution of workers by industry and occupation. The bottom portion of Table 5 presents the expected and unexpected changes in the fraction paid hourly computed under the assumption that the distributions of workers by major industry, occupation, and sector had remained unchanged between 1979 and 1997. The results make it very clear that most of the expected decline in hourly work does not stem from shifts in the distribution of workers across industries and occupations. Instead, it is due partly to changing demographics and partly to shifts in the intercept terms (within industry and occupation).[9]

Why Are the Salaried Workers Missing?

The previous section went as far as is possible in drawing inferences from the available CPS data about reasons for the non-growth of the salaried work force. From that review, it is absolutely clear that standard explanations for change in the American labor market—an aging and better educated work force, a shift away from manufacturing employment, a move toward higher-skilled occupations—all would have

[7]Another set of decompositions estimated using only non-Hispanic white full-time private employees yielded results essentially identical to those presented in Table 5.

[8]After most of the work on this project was completed, I obtained the CPS-ORG data for 1999. In order to maintain the greatest comparability with the NLS data used here, the main calculations are for 1997. Nonetheless, it is worth noting that there was a slight decrease in the fraction paid hourly between 1997 and 1999. Among all female (male) employees the decrease was 0.7 (1.1) percentage points, and among full-time female (male) employees the decrease was 0.7 (0.8) percentage points. The continuing shifts in the economy toward tertiary industries and the increased experience of American workers reduce even further the changes in the effects on the adjusted percentages paid hourly when we use 1999 instead of 1997.

[9]The set of industry/occupation indicators included in the regressions is relatively narrow. Because the coding changed somewhat beginning in 1983, I cannot use a finer set of indicators in this analysis. However, an analysis that pools the 1983 and 1997 data, and uses first 3-digit industry indicators and then 3-digit occupation codes, suggests that the results would be unchanged: the fraction paid hourly in 1997 was around 7% higher among men and 11% higher among women even after adjustment for these detailed indicators of industry/occupation and for all the other variables in the regressions underlying Table 4.

Table 5. Decompositions of the Sample-Weighted Change in the Fraction Paid Hourly between 1979 and 1997.

	Male		*Female*	
Variable	*All Employees*	*Private Full-Time Employees*	*All Employees*	*Private Full-Time Employees*
		Means:		
1979	0.5733	0.5736	0.6153	0.6008
1997	0.5949	0.5805	0.6407	0.6334
		Changes:		
Actual:				
$p_{97} - p_{79}$	0.0216	0.0069	0.0254	0.0326
All Characteristics Changing:				
Expected				
$p^*_{97} - p_{79}$	–0.0666	–0.0710	–0.0973	–0.0985
$p_{97} - p^*_{79}$	–0.0564	–0.0566	–0.0853	–0.0884
Unexpected				
Using α_{79}	0.0882	0.0779	0.1228	0.1311
Using α_{97}	0.0780	0.0566	0.1107	0.1210
No Changes in Industry or Sector Means:				
Expected				
$p^*_{97} - p_{79}$	–0.0312	–0.0344	–0.0560	–0.0482
$p_{97} - p^*_{79}$	–0.0290	–0.0278	–0.0530	–0.0495
Unexpected				
Using α_{79}	0.0527	0.0413	0.0815	0.0808
Using α_{97}	0.0506	0.0347	0.0785	0.0821

led us to expect a decline in the hourly work force. In this section I examine a series of possible explanations for why the share of the work force comprising salaried workers failed to grow by the roughly 9 percentage points that would have been expected based on the changing industrial, economic, and demographic structure of the economy.

Institutional and Other Exogenous Changes

Consider first institutional changes, particularly the well-known decline in unionization that occurred over this period. Because data on union status were not included in the CPS-ORG until 1983, I could not include them in the regressions in Table 4. Reestimates of those equations for 1997, however, change the coefficients of the variables included in Table 4 only slightly. The impact of union membership on the propensity to be paid hourly is quite large: in the four samples shown in Table 4 for 1997, the estimated coefficients of the indicator variable for union status were 0.125 (s.e. = 0.004), 0.163 (s.e. = 0.005), 0.026 (s.e. = 0.005), and 0.094 (s.e. = 0.009).

Between 1979 and 1997 the percentage of wage and salary workers who were unionized dropped from 24.1 to 14.1 (Hirsch and Macpherson 1999). Assume that the impact of union status on the propensity to be classified hourly, other things equal, was the same in 1979 as in 1997, and assume for simplicity that that average impact was 0.10, based on the estimates for 1997. Then the effect of the 10 percentage-point decline in union membership over the two decades was to *raise* the fraction of salaried workers by 1 percentage point. Had I been able to account for the decline in the institution of trade unionism, I would have concluded

that the fraction of missing female (male) salaried workers was 13% (8%). As an explanation for the unexpected failure of salaried employment to rise, the decline in unionization goes in the wrong direction.

While method of payment (time-rated or piece-rated, hourly or salaried within time-rated) is not explicitly linked to frequency of payment, it is possible that a linkage exists, and possible that institutions affecting the frequency of payment of earnings affect workers' pay status. In 2000, 35 of 51 jurisdictions required at least some employees to be paid semi-monthly or more frequently. These regulations, however, changed very little between 1979 and 1997, with a few states expanding exemptions for executive, administrative, and professional workers, and only one state (Massachusetts in 1993) changing the mandated maximum frequency of payment (from weekly to bi-weekly).[10] Thus, while it may be the case that wage payment laws affect a worker's hourly status, the absence of important changes in the institution suggests that it could not have been responsible for changes in the relative importance of hourly pay in the American work force over these two decades.

It is difficult to infer how changes in the coverage of the Fair Labor Standards Act might affect employers' and workers' incentives to have workers classified as hourly or salaried. Federal and state laws mandating premium pay for overtime work are not explicitly linked to workers' classification by type of time-rated pay. Both hourly and salaried workers can be subject to the overtime provisions of the FLSA, although the fraction subject is much higher among hourly workers (since executive, professional, and administrative employees are exempt). We do know that between 1978 and 1996 the percentage of private-sector employees subject to the overtime provisions of the FLSA declined from 67.8% to 60.1%, mainly because the percentage of workers in these exempt occupations rose.[11] That being the case, it is difficult to see how any changes in the regulations governing overtime could account for the absence of a decline in payment by the hour.

The growing internationalization of the American economy may have contributed to the rise in the (adjusted) fraction of workers who are paid hourly, both through direct international labor mobility and through product-market competition from abroad. Like unionization, international labor mobility is a compositional issue (although it presumably works in the opposite direction from the change in unionization): might the rise in the fraction of immigrants in the work force account for part of the adjusted increase in the prevalence of hourly pay? While there is no regular information on immigrant status in the CPS until 1994, the 1997 data suggest that the failure to account for immigrant status in the decompositions is unimportant. Immigrants were only 3 percentage points more likely in 1997 to be paid hourly than were otherwise identical native workers. With an increase in the share of immigrants in the U.S. work force of less than 5 percentage points between 1980 and 1997, the impact of immigration on pay status is surely tiny.

It is possible that growing import competition worked indirectly to lead American employers to classify as hourly many workers who otherwise would have been salaried, in order to maintain stricter controls on costs in an increasingly open economy. This explanation is completely inconsistent with the changes by major occupation that were shown in Table 3: the least positive changes are among craft/precision

[10]The information is from Nelson (1998) and from Nelson's other articles in the same publication (*Monthly Labor Review*) every year from 1980 through 1998. Current information is from www.dol.gov/esa/public/programs/whd/state/payframe2.htm.

[11]Computed from U.S. Department of Labor, Employment Standards Administration, *Minimum Wage and Maximum Hour Standards under the Fair Labor Standards Act* 1979, Table 12, and *Idem., Minimum Wage and Overtime Hours under the Fair Labor Standards Act* 1998, Table 3d.

workers and operatives/laborers, precisely those occupations that are most prevalent in export-sensitive manufacturing industries. It is also inconsistent with the slight drop in the prevalence of hourly pay among full-time workers in manufacturing between 1979 and 1997, from 67.5% to 66.1%.

More detailed evidence is available from regressions that are similar to those in Table 4 but include only private full-time employees outside of agriculture, mining, manufacturing, and finance–insurance–real estate, the sectors that might have been most exposed to increased import competition. The weighted mean fractions of (all) employees paid hourly were 0.606 and 0.645 among women in 1979 and 1997 (0.543 and 0.565 among men). Estimates based on this reduced sample suggest, just as in the previous section, that the adjusted increases in the fraction paid hourly, 0.115 among women in these industries and 0.065 among men, are far larger than the raw changes. The changes in this reduced sample differ little from those in the entire sample. Just as our wages are not set in Beijing (Freeman 1995), so too it seems unlikely that our methods of time-rated pay are determined there.[12]

More Complex Changes

Several other changes may have been associated with the sharp rise in the (adjusted) fraction of workers who are paid hourly. These changes cannot be viewed as exogenous, but may instead result from some underlying ultimate cause that has generated them and the change in the classification of workers by pay status. All we can do is examine whether these other changes are large enough to account for the change in the fraction paid hourly.

Before doing this, however, it is worth examining whether the phenomenon noted here is artificial: perhaps the nominal classification of hourly work has not changed, but hourly work has become more like salaried work in its characteristics. Many of the aspects of salaried work, such as more attractive employment benefits and more freedom, may now be associated with hourly work but may not have described hourly work in the 1970s. Hourly work may in part have been redefined to look the same as salaried work.

The broadest information available to test this conjecture on cohorts of workers with relatively unchanging labor-force attachment is in the young male cohorts of the NLS. In particular, among men age 29–39 in 1981 and 31–38 in 1996, identical questions were asked about ten different nonwage aspects of work, mostly on whether the worker had a particular employment benefit. I concentrate on the more important of these aspects of work in terms of the share of labor costs they represent—access to health insurance; paid vacations; paid sick leave; a retirement plan (other than Old Age and Survivor's Insurance); and flexible hours. The samples are similar in size to the samples of full-time employees for which the fraction paid hourly was reported in Table 2.[13] The average percentages of workers receiving these benefits are shown in the upper panel of Table 6. In both years, the results corroborate the impression that hourly workers are less likely than salaried workers to receive each of the benefits.

To uncover the impact of the possibly changing definition of hourly work and adjust for workers' observable characteristics, I estimate probits describing

[12]Yet another possibility is that technology-induced changes in employers' scale of operation might have altered the fraction of workers paid hourly. Probits based on the NLSYM for 1981 and men in the NLSY for 1996 suggest, however, that there is essentially no relationship, other things equal, between plant size and the propensity to be paid hourly. Thus, even if average scale has changed, it could not have contributed to a rise in the fraction of workers paid hourly.

[13]The 10% drop in numbers of observations compared to Table 2 is caused by the requirement for information on the variables included in the linear-probability models describing the presence of the particular employee benefits.

Table 6. Comparisons of Probabilities of Having Various Employee Benefits, NLSYM 1981, NLSY (Men) 1996, Weighted, Full-Time Employees.

	Health Insurance	*Paid Vacation*	*Paid Sick Leave*	*Retirement Plan*	*Flexible Hours*
			Means		
Hourly:					
1981 (N = 442)	0.864	0.796	0.573	0.693	0.218
1996 (N = 1,177)	0.782	0.787	0.491	0.521	0.623
Not Hourly:					
1981 (N = 1,909)	0.921	0.881	0.797	0.726	0.370
1996 (N = 1,522)	0.852	0.853	0.749	0.645	0.713
			Probits Describing the Probability of Receiving the Benefit		
Ind. Variable:					
Indicator 1996	–.030	.005	–.007	.016	.305
	(.010)	(.012)	(.019)	(.020)	(.021)
Paid Hourly	–.009	–.030	–.112	.023	–.062
	(.016)	(.019)	(.027)	(.030)	(.032)
Paid Hourly in 1996	.024	.036	.010	–.046	.099
	(.015)	(.018)	(.030)	(.036)	(.037)

Notes: The coefficients in the probit estimation show the impact of a one-unit increase in the indicator variable. Standard errors of these responses are in parentheses. The probits also include continuous measures of education, years of total experience (and its square), and months of job tenure (and its square). Indicators of marital and union status, location in the South, and African-American are included, as are indicators for one-digit industry and occupation. The sampling weights from both cohorts are used.

$$(2) \qquad \Pr\{\text{Benefit} = 1\} = \beta X + \gamma_1 D96 + \gamma_2 \text{HRLY} + \gamma_3 D96 \cdot \text{HRLY} + \upsilon,$$

where the β and γ_i are parameters to be estimated, X is a vector of variables determining whether a particular benefit is received, $D96$ indicates that the observation is from 1996, HRLY indicates that the worker is paid hourly, and υ is an error term. The sign and magnitude of γ_3 show the direction and size of any relative change in the incidence of the benefit between hourly and salaried younger men between 1981 and 1996. In particular, if $\gamma_3 > 0$, we may infer that hourly work and salaried work became more similar over this period (since for all five measures the benefit was less prevalent among hourly workers in 1981).

The estimates of the marginal effects of the variables in (2) are shown in the lower panel of Table 6. Included in the vector X are all the variables that one might include in equations describing earnings, such as education, total experience, and job tenure, indicators of demographic characteristics, location, and union status, and indicators of one-digit industry and occupational attachment. Since actual earnings and benefits are partly determined by the workers' full earnings, these are the appropriate variables to include. For the major pecuniary nonwage benefits that workers receive, the estimates of γ_3 present a mixed picture. There was a small but statistically significant relative shift in the 1980s and the first half of the 1990s toward hourly workers receiving paid vacations, and smaller, statistically insignificant shifts toward their receiving employer-paid health insurance and paid sick leave. But the relative probability that an hourly employee had an employer-paid retirement plan fell (albeit not statistically significantly).

The one major change is in the relative probability of having flexible work hours on one's job, the results for which are shown

in the final column of Table 6.[14] The relative incidence of flexible hours among hourly paid workers rose nearly 10 percentage points across these two cohorts. Along this one dimension hourly work did become more like salaried work. This is the only indication that the failure of the fraction paid hourly to fall reflects a redefinition of the nature of hourly work.[15] This finding, coupled with the small and conflicting changes on all the other dimensions of working conditions, suggests little reason to conclude that there was a sharp convergence in the nature of salaried and hourly work.[16]

One might view the growth of temporary help supply services as a possible explanation for the surprising absence of any diminution in the importance of payment by the hour. It is true that the temporary help supply industry grew over the period in question. Estevao and Lach (2000) suggested that its share in nonfarm employment rose from 0.5% in 1979 to 2.2% in 1996; Autor (2003), using different underlying data sources, found that the number of temporary help supply employees rose from 433,000 in 1979 to 2.8 million in 1998, that is, from 0.4% to 2.1% (my calculations). Both studies suggest a rise of 1.7 percentage points in the fraction of employees in this industry over the roughly two decades that have been the focus in this study.

In estimates for 1997 that expand on those in Table 4 by including an indicator for employment in Census industry 731, Personnel Supply Services, the coefficients are 0.238 and 0.182 for male and female full-time workers, respectively. Even making the extreme assumption that the entire 1.7 percentage-point increase in the share of this industry in total employment is comprised of workers who otherwise would have had the same propensity to be paid hourly as the average worker in 1979, the phenomenal growth of temporary employment accounts for less than 0.4 percentage points of the roughly 9 percentage-point shortfall in the salaried work force. As implied at the start of this subsection, even this upper bound is high if one considers the growth of the temporary help industry as an economic change that is endogenous to the labor market. Among the reasons for the substitution of (presumably) hourly paid temporary help workers for employees who might otherwise have been salaried permanent workers may be the same factors that generated the increased prevalence of hourly pay.

While the decompositions in Table 5 are based on changes in methods of payment for workers with particular *observable* characteristics, they cannot capture differential changes in behavior within the cells defined by the n-dimensional vector of characteristics for which the estimates control. It is well known that, for whatever underlying reasons, the distribution of earnings in the United States widened beginning in the late 1970s even within human-capital and demographic cells (see DiNardo et al. 1996), and there was a concomitant rise in inequality in the distribution of nonmonetary returns to work (Hamermesh 1999). One might therefore predict that the unexpected increase in the probability of being paid hourly has been especially concentrated among workers with unobservably

[14]The question asks, "Which of the fringe benefits on this card does your employer make available to you? … Flexible work hours?"

[15]One might argue that it is inappropriate to account for the changing industrial and occupational structures of the labor force, as those changes may be determined simultaneously with changes in the probability of hourly pay. When I reestimated equations (2) without the industry and occupation indicators, however, although all of the estimated γ_3 were more negative than those generated by the full model, the declines never exceeded 0.01.

[16]Another change that, if it occurred, might imply the illusoriness of the "loss" of salaried workers is the replacement of pay—salary or hourly—by stock options differentially by type of time-rated pay. There is very little information on this, but a 1999 Bureau of Labor Statistics survey (BLS 2000) makes clear that only 1.7% of all employees received any kind of stock option—and these were almost all high-paid, presumably salaried workers. It thus seems highly unlikely that any growth in the prevalence of stock options since 1979 can account for much of the phenomenon. (I am indebted to Brooks Pierce for making these data available to me.)

Table 7. Weighted Averages of Residuals of the Probability of Hourly Pay, by Percentile of the Distribution of Residuals of Ln(Earnings), Private Full-Time Employees, CPS, 1979 and 1997.

Percentile of the Distribution of Ln (Earnings) Residuals	*Male*		*Female*	
	1979	*1997*	*1979*	*1997*
0–5	.0414	.0867	.0203	.0782
5–10	.0573	.1170	.1200	.1346
10–25	.0463	.0927	.0922	.1192
25–50	.0274	.0320	.0472	.0610
50–75	–.0043	–.0286	–.0026	–.0132
75–90	–.0441	–.0760	–.0620	–.0994
90–95	–.0886	–.1109	–.1323	–.1684
>95	–.1460	–.1224	–.1831	–.2178
$\Delta_{\|\varepsilon i\|}$: Entire Distribution:	.0242		.0229	
Bottom Half	.0133		.0388	

few labor-market skills, and that those with unobservably large skill endowments have been increasingly likely to be salaried. Finding such a pattern would not demonstrate a cause of the change in pay classification, but it might indicate that the change is connected to the same underlying changes that have generated increasing earnings inequality in the United States.

To examine this additional cut of the data for 1979 and 1997, I estimate log-earnings equations separately for private full-time male and female employees. The residuals from these equations are then arrayed in ascending order. Within each quantile of the distribution of earnings residuals I next calculate the average residual from the estimates of the probability of being paid hourly for the private full-time employees presented in Table 4. The average residuals, ε_t, t = 1979, 1997, from the linear-probability estimates in Table 4 are listed in Table 7 for various ranges of the distribution of the quantiles of the residuals of these log-earnings equations. They can be interpreted as the fractions by which an employee's probability of being paid hourly departs from the regression line describing method of pay, as a function of the residual of his or her earnings. Moving down each column, we observe the unsurprising result that the workers whose earnings are unexpectedly low are also those who are unexpectedly likely to be paid hourly, while those workers with unexpectedly high earnings are unexpectedly likely to be salaried.

The penultimate row of the table presents, for each sex,

$$\Delta_{|\varepsilon i|} = \Sigma w_i [|\varepsilon_{i97}| - |\varepsilon_{i79}|], \quad (3)$$

where i subscripts the quantile of the earnings residuals, and the weights w_i are proportionate to the widths of the quantiles listed in the left-hand column of Table 7. The estimated $\Delta_{|\varepsilon i|}$ are positive for both sexes. This implies that, after adjusting for individuals' economic and demographic characteristics, the distribution of the probability of being paid hourly widened over this 18-year period in a way correlated with the widening distribution of returns to workers' unobservable characteristics. Moreover, as the last row of the table shows, slightly more than half of this change is concentrated in the lower half of the distribution of earnings residuals among men, and over 100% of the change among women is in the lower half. Most of the widening of the unexplained distribution of hourly pay is associated with changes that occurred in the bottom half of the distribution of unobservable characteristics that generate differences in earnings.

Table 8 summarizes the welter of calculations presented in this and the previous section. In each case I tabulate the "best guess" from the discussion in the text (leaving out only the discussion of the results in Table 6, which are incommensurable with the other data). Clearly, standard explanations do not account for more than a small fraction of the unexpected failure of hourly pay to become less prevalent. Something more than can be inferred from simple analyses of changes in the effects of readily measurable demographic and economic variables and proxies for technology is required.

Some Alternative Explanations

The previous section showed that a host of potential explanations account for at most only a small fraction of the adjusted increase over the past two decades in the propensity of American workers to be paid on an hourly basis. In this section I briefly suggest two other possibilities. These alternatives are somewhat more inchoate, so I leave the task of testing them to others. Any valid alternative must explain the rise in the fraction paid hourly. A reasonably general way of viewing that rise, and one that is implicit in the discussion thus far, is that it reflects changing equilibria in the system of relative demand/supply equations:

$$(4a) \quad E^h/E^s = D(W^h/W^s, \delta),\ D_1 < 0,\ D_2 > 0;$$

$$(4b) \quad E^h/E^s = S(W^h/W^s, \theta),\ S_1 > 0,\ S_2 > 0,$$

where E^i and W^i denote aggregate employment and wages of workers paid according to method i, δ are factors that shift the relative demand function (and increase the employer's cost advantage from paying hourly), while the θ are any factors that increase workers' desire to be paid hourly (at a given ratio of hourly to salaried pay). Clearly, the human-capital augmenting variables presented in Table 4, education, and (up to a point) experience can be viewed as decreasing θ, since rising full incomes increase workers' desire to join the salaried ranks. The growth of the temporary help industry, although itself no doubt endogenous in the macroeconomy, is one example of something that employers will view as a positive shock to δ.

The relative demand-supply system (4) suggests examining what has happened to the pay differential for otherwise identical hourly or salaried workers, since that is the second endogenous variable in the system. Table 9 presents estimates of log-earnings equations using the same CPS data that underlie the results in Table 4. For each year and sector, I present the earnings premium (actually, penalty) for hourly work adjusted for all the CPS demographic variables plus indicators for detailed industry. The results make it absolutely clear that the adjusted relative earnings of hourly paid workers fell substantially and significantly over these two decades. Any theory, formal or informal, must explain *both* the rise in the adjusted fraction of workers paid hourly and the fall in the adjusted hourly/salaried pay differential.

Table 8. Decomposition of the Changing Probability of Being Paid Hourly, 1979–97.

Change	*Effect (in percentage points)*
Observed	+2
Due to Change in:	
Measurable Factors in CPS 1979 and 1997	−7
Unionization	−1
Hours Laws	≤ 0
Immigration	+0.15
Increased Openness of Product Markets	≤ 0
Related to Measurable Change in:	
Temporary Work Force	< +0.4

One possible explanation is that there has been a secular change in the trustworthiness of the American labor force and in the willingness of workers to commit themselves to their employers. One might interpret this as a decline in the willingness of the marginal (along the margin of determination of method of pay) worker to supply effort without monitoring. If this is the case, then at the margin employers will shift an increased fraction of workers to hourly pay; and the extra costs generated by monitoring must be compensated for in competitive product markets by lower relative wages paid to hourly workers. In terms of the model in (4), one might view a fall in workers' willingness to commit or in their trustworthiness as a rise in θ. This hypothesis does not appear to be testable with any of the large data sets used here (or used generally in labor economics), nor is it clear how one would test it satisfactorily.

Table 9. Adjusted Wage Premia for Hourly Work, 1979 and 1997 (Based on Weighted CPS Data).

	Male		*Female*	
	All Employees	*Private Full-Time Employees*	*All Employees*	*Private Full-Time Employees*
1979	–.119	–.134	–.168	–.133
	(.004)	(.004)	(.004)	(.004)
1997	–.197	–.175	–.259	–.225
	(.005)	(.005)	(.005)	(.006)
Difference	–.078	–.041	–.091	–.092
	(.006)	(.007)	(.006)	(.007)

Notes: The estimates are of coefficients from regressions that contain all the variables included in the estimates in Table 4 plus indicators for each of over 200 industries. Standard errors are in parentheses.

It is, however, consistent with the empirical prerequisites outlined in this section.[17]

Another possibility is that employers have faced an increase in the litigation brought by employees unhappy about their failure to receive overtime pay for work that they view as meriting premium pay, and that employers have reduced total costs by classifying more workers as exempt than they otherwise would have. Essentially the increase in the costs of potential litigation also represents a rise in θ, and as such is consistent with the two basic empirical prerequisites. Its difficulty is that it also implies a rise in the fraction of non-exempt workers under the FLSA, whereas we have already seen that the prevalence of non-exempt status decreased substantially over the same period in which hourly pay became slightly more widespread.[18]

Conclusions and Extensions

Given the nature of post-1970s changes in the structure of the American work force and jobs, it would be reasonable to expect to find a sharp increase in the fraction of workers who were salaried over those years. No such change occurred. Indeed, the fraction salaried may actually have fallen slightly between the late 1970s and late 1990s. This shortfall was not due to the decline of unionism, to increased immigration, or to increasing international product-market competition. Nor did it arise from changing overtime and wage-payment regulations that might be linked to workers' classification as salaried or hourly, or from the growth of the temporary help industry. During this same period the adjusted relative wage of hourly paid workers fell sharply. Both facts may be consistent with a number of explanations, including declining trustworthiness of American workers and increasing costs of litigation over pay status. Constructing and testing these and other explanations for these phenomena should be a fruitful avenue for future research, both for labor economists and for students of personnel relations. No doubt one can construct other stories that are consistent with these two basic facts, but satisfying that requirement is not as easy as it might appear.[19]

[17]The General Social Surveys provide some evidence of a decrease in the trustworthiness of American respondents over the period analyzed in this study (Hamermesh 2000). (See Auriol et al. 2002 for an analysis of how declining trustworthiness/commitment alters employment and wage outcomes in a generalized model of firm-worker investment and bargaining.)

[18]The data on exempt status are aggregates. It is possible, although highly unlikely, that a decomposition analysis would show an equally large adjusted increase in the fraction of workers who are non-exempt if data on the control variables were available.

[19]One might consider explaining the findings by pointing to technological shocks that increase the

One potentially useful route for analyzing these phenomena is to look at international evidence that might indicate whether they are peculiar to the United States. The only industrialized country besides the United States in which hourly pay is fairly common is Australia, where so-called casual workers are typically paid hourly. Interestingly, between 1984 and 1999 the percentage of full-time employment accounted for by casual workers rose from 5.7% to 11.1% in Australia.[20] (Among part-timers the incidence was unchanged at 65%.) Whether this reflects the same phenomenon that underlies the American experience or is due instead to changes that have interacted with a loosening of labor-market restrictions or the changing role of unions in Australia is unclear. There is no postwar tradition of hourly paid jobs in Western Europe. In many Western European countries, however, fixed-duration employment contracts have grown in importance since the early 1980s. Much of the growth has been attributed to the rigidity imposed on those labor markets by restrictive legislation, but direct tests of the effects of such legislation have often yielded very weak results (Abraham and Houseman 1994). Absent the institution of hourly paid jobs in Western Europe, one might instead view these contracts as reflecting the same causes that underlie the failure of salaried work to become more prevalent in the United States.

That salaried employment has unexpectedly failed to grow substantially in importance should be disturbing to labor economists and economists generally. For labor economists, this phenomenon and the evidence that it is correlated with widening returns to workers' unobservable (to the econometrician) characteristics suggest that the difficulties that have generated greater inequality in the returns to work have also affected the nature of workplace arrangements. For other economists, and for the public generally, the absence of a decline in the fraction of workers who are in jobs that lack the prestige of salaried work should be disturbing in its implications for economic growth, economic equality, and social cohesion.

temporal variability of workers' weekly hours. These will lead workers to seek the additional income that hourly pay status and its concomitant overtime premium would provide; but they would also lead workers in a competitive equilibrium to be compensated for the increasingly risky hours of work through relatively higher pay, an outcome that is inconsistent with the decline in the relative pay of hourly workers.

[20]The earlier data are unpublished. Mark Wooden of the University of Melbourne generously provided all of these data.

REFERENCES

Abraham, Katharine, and Susan Houseman. 2000. "Does Employment Protection Inhibit Labor Market Flexibility? Lessons from Germany, France, and Belgium." In Rebecca Blank, ed., *Social Protection versus Economic Flexibility: Is There a Trade-off?* Chicago: University of Chicago Press, pp. 59–93.

Auriol, Emmanuelle, Guido Friebel, and Lambros Pechlivanos. 2002. "Career Concerns in Teams." *Journal of Labor Economics,* Vol. 20, No. 2 (April), pp. 289–307.

Autor, David. 2003. "Outsourcing at Will: The Contribution of Unjust Dismissal Doctrine to the Growth of Employment Outsourcing." *Journal of Labor Economics,* Vol. 21, No. 1, forthcoming.

Brown, Charles. 1990. "Firms' Choice of Method of Pay." *Industrial and Labor Relations Review,* Vol. 43, No. 3 (February), pp. 165S–182S.

DiNardo, John, Nicole Fortin, and Thomas Lemieux. 1996. "Labor Market Institutions and the Distribution of Wages, 1973–1992: A Semiparametric Approach." *Econometrica,* Vol. 64, No. 5 (September), pp. 1001–44.

Estevao, Marcello, and Saul Lach. 2000. "The Evolution of the Demand for Temporary Help Supply Employment in the United States." In Françoise Carre, Marianne Ferber, Lonnie Golden, and Stephen Herzenberg, eds., *Non-Standard Work: The Nature and Challenges of Emerging Employment Arrangements.* Ithaca, N.Y.: Cornell University Press.

Fama, Eugene. 1991. "Time, Salary, and Incentive Payoffs in Labor Contracts." *Journal of Labor Economics,* Vol. 9, No. 1 (January), pp. 25–44.

Freeman, Richard. 1995. "Are Your Wages Set in Beijing?" *Journal of Economic Perspectives,* Vol. 9, No. 3 (Summer), pp. 15–32.

Goldfarb, Robert. 1987. "The Employer's Choice of Paying Wages or Salaries." *Proceedings of the Fortieth Annual Meetings* (Dec. 28–30). Madison, Wis.: Industrial Relations Research Association, Vol. 40 (December), pp. 241–47.

Haber, Sheldon, and Robert Goldfarb. 1995. "Does Salaried Status Affect Human Capital Accumulation?" *Industrial and Labor Relations Review,* Vol. 48, No. 2 (January), pp. 322–37.

Hamermesh, Daniel. 1999. "Changing Inequality in Markets for Workplace Amenities." *Quarterly Journal of Economics,* Vol. 114, No. 4 (November), pp. 1085–1124.

____. 2000. "12 Million Salaried Workers Are Missing." NBER Working Paper No. 8016.

Hamermesh, Daniel, and Stephen Trejo. 2000. "The Demand for Hours of Labor: Direct Evidence from California." *Review of Economics and Statistics,* Vol. 82, No. 1 (February), pp. 38–47.

Hirsch, Barry, and David Macpherson. 1999. *Union Membership and Earnings Data Book.* Washington, D.C.: BNA.

Korenman, Sanders, and David Neumark. 1991. "Does Marriage Really Make Men More Productive?" *Journal of Human Resources,* Vol. 26, No. 2 (Spring), pp. 282–307.

Lazear, Edward. 1998. *Personnel Economics for Managers.* New York: Wiley.

McFarland, Dalton. 1968. *Management: Principles and Practices.* New York: Macmillan.

Mellor, Earl, and Steven Haugen. 1986. "Hourly Paid Workers: Who They Are and What They Earn." *Monthly Labor Review,* Vol. 109, No. 2 (February), pp. 20–26.

Nelson, Richard. 1998. "State Labor Legislation Enacted in 1997." *Monthly Labor Review,* Vol. 121, No. 1 (January), pp. 3–21.

Pigors, Paul, and Charles Myers. 1973. *Personnel Administration: A Point of View and a Method,* 7th Edition. New York: McGraw-Hill.

Schuler, Randall. 1987. *Personnel and Human Resource Management.* St. Paul, Minn.: West.

Trejo, Stephen. 1991. "The Effects of Overtime Pay Regulation on Worker Compensation." *American Economic Review,* Vol. 81, No. 4 (September), pp. 719–40.

U.S. Bureau of Labor Statistics. 1982. *Labor Force Statistics Derived from the Current Population Survey,* Bulletin 2096. Washington, D.C.: GPO.

____. 2000. "Pilot Survey on the Incidence of Stock Options in Private Industry in 1999." Press Release, October 11.