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Compliance with the Minimum Wage Law^{*}

Orley Ashenfelter
Princeton University

and

Robert Smith
School of Industrial and Labor Relations
Cornell University

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Orley Ashenfelter
Princeton University

and

Robert S. Smith
Cornell University

Despite its pedigree as one of the oldest anti-poverty programs, the federal minimum wage law has never received much support from economists because of the suspected adverse effects it has on employment and unemployment. In the midst of numerous studies intended to establish the quantitative effects of the minimum wage law, however, it is remarkable that no one has bothered to establish that this law actually affects wage rates.^{1/} The assumption that the statutory minimum wage is the actual minimum wage presumably reflects the belief that employers fully comply with this law. As with most government laws and regulations, however, compulsion is generally necessary to alter behavior that is induced by perceived self-interest. Regulation of the wage level or conditions of employment must therefore be accompanied by a system of worksite inspections and penalties in order to overcome the market incentives for employers to avoid compliance. While universal compliance could perhaps be achieved if inspections were widespread or penalties were harsh enough, government officials often feel restrained, and are sometimes legislatively constrained, from adopting extremely stringent compliance programs.^{2/}

^{1/}An exception is a study by Zucker [8], but it covered only a small fraction of the relevant work force and used data supplied voluntarily by employers to the Bureau of Labor Statistics.

^{2/}The point that the severity of government laws and regulations is as often varied by enforcement as by statute has been emphasized by George Stigler [2] for the benefit of economists, who perhaps need it.

In this paper we first examine the incentives for profit maximizing firms to comply with the minimum wage provisions of the Fair Labor Standards Act (FLSA). Our primary conclusion is that, if government enforcement is random, firms are naturally led to systematically violate the provisions of this law in such a way as to mitigate what would otherwise be its primary effects. This leads us to examine the actual penalties and government strategy for enforcement of the law. We conclude that the former are far from onerous, but that the latter is far from random. Finally, the force of our analysis is of interest only to the extent that actual penalties and inspections result in considerable noncompliance with the minimum wage law. As with most analyses of undetected illegal behavior, noncompliance can rarely be established without ambiguity. On the one hand, using data collected from employees, which may contain wage rate inaccuracies but where there is no incentive to understate violations, we find that only 64 percent of those workers who would otherwise have earned less are earning the minimum wage. On the other hand, using data collected from employers, where wages may be more accurately stated but where there is an incentive to understate violations, we find that 77 percent of those workers who would otherwise have earned less are earning the minimum wage. This clearly establishes the quantitative significance of the compliance issue, and hence leads us to a discussion of the implications of this finding for future research as well as some issues of public policy.

The Economics of Compliance

A conventional profit-maximizing employer who can sell output at the price p , obtain labor (L) at the wage rate w , and obtain other factors at the price r will operate where the value of the marginal products of

labor and other factors equal their respective prices. This implies an optimal rate of utilization of labor and other inputs and consequently a maximal profit level. Thus, for each combination of w , r , and p that the employer faces there is, after optimal adjustment of the use of labor and other inputs, a maximum profit level $\pi(w, r, p)$ that depends positively on p and negatively on w and r . It is a convenient and well known property of this profit function that its derivative with respect to the wage rate is the negative of the demand for labor, so that $\partial\pi/\partial w = -L(w, r, p)$. It follows immediately that, even after optimal adjustment in the rates of factor utilization, the imposition of a minimum wage of $M > w$ will reduce the employer's profit level by the amount $\pi(w, r, p) - \pi(M, r, p) > 0$. This implies that compliance with a minimum wage law will not come about voluntarily unless the government initiates inspections and penalties for noncompliance.

An employer deciding against compliance with the law faces the probability λ of being caught and incurring the penalty D , so that his expected profits are

$$E(\pi) = (1 - \lambda) \pi(w, r, p) + \lambda \pi(M, r, p) - \lambda D.$$

Since the employer may obtain the profit level $\pi(M, r, p)$ with certainty by compliance, the employer will decide against compliance if

$$(1) \quad E(\pi) - \pi(M, r, p) = (1 - \lambda) [\pi(w, r, p) - \pi(M, r, p)] - \lambda D > 0.$$

Some implications of this inequality may be obtained by approximating the bracketed term by a second-order Taylor series around the wage that would prevail in the absence of the minimum. Since $\partial\pi/\partial w = -L$ and $\partial^2\pi/\partial w^2 = -\partial L/\partial w$ it follows that

$$\pi(w, r, p) - \pi(M, r, p) \approx L(M - w) - 1/2 (\partial L/\partial w) (M - w)^2,$$

and therefore that the employer will choose to violate the law if

$$(2) \quad L(M - w) - (L/w) [1/2(M - w)^2 e] > [\lambda/(1 - \lambda)]D,$$

where $e = (\partial L/\partial w) (w/L) < 0$ is the elasticity of demand for labor and $\lambda/(1 - \lambda)$ are the "odds" of being caught. From inequality (2) it follows that employers will not comply with the law if the expected penalties are small either because it is easy to escape detection or because assessed penalties are small. Likewise, the incentive to comply is lower: (a) the lower is the market wage below the minimum wage, and (b) the larger is the elasticity of demand for labor (in absolute value). Thus, firms employing low wage workers and for whom wage changes produce large employment adjustments have the greatest incentives to violate the law, and these incentives provide a natural offset to what would otherwise be the primary effects of the law.

Although it is not possible to provide precise estimates of the likelihood of violation of the minimum wage law, it is possible to provide some indication of the incentive for violation by using inequality (2). In effect λD is the expected cost of violation, while $(1 - \lambda) L (M - w)$ is the expected fraction of the wage bill that would be saved by violation. Inequality (2) implies that it pays an employer to violate the law if

$$(3) \quad - 1/2 e (M - w)/w > [\lambda D - (1-\lambda) L (M-w)]/(1-\lambda) L (M-w).$$

That is, employers will violate the law if the proportionate employment decline resulting from the law is greater than twice the proportionate excess of expected penalties over expected wage bill savings. If the elasticity of demand for labor were zero a sufficient incentive to produce \longrightarrow

violation would be that the expected monetary costs of violation are less than the expected wage bill savings from violation. With an elasticity of demand for labor as large as -1.5 and a proportionate discrepancy between the minimum and the prevailing wage of .3, on the other hand, expected violation costs would have to exceed expected wage bill savings by 23 percent to ensure compliance.

The Enforcement of Compliance

Below we propose a simple scheme for estimating compliance with the minimum wage law and apply it to data for 1973 and 1975. In 1973 the minimum wage provisions of the FLSA covered roughly 76 percent of all nonsupervisory employees. The principal exclusions to the \$1.60 per hour minimum then in effect were among government workers, domestic workers, employees of small retailers, and farmworkers (half of whom were covered by a \$1.30 minimum.)^{3/} By 1975 coverage had been extended to roughly 90 percent of nonsupervisory workers and included government workers as well as most domestic workers. The new minimum of \$2.10 per hour applied only to workers covered prior to 1966, while government and other nonfarm workers under new coverage were required to be paid at least \$2.00 per hour.^{4/}

Since there are no clear voluntary incentives to produce compliance with the minimum wage law it is natural to inquire first as to the size and scope of the government's enforcement program. In 1973 there were roughly 880 compliance officers assigned to enforce the minimum wage, overtime, equal pay and child labor provisions of the FLSA, but this had been increased to

^{3/}[4, pp. 75-76].

^{4/}See [5, p. 1].

nearly 1,000 compliance officers by 1975. When a minimum wage violation is found the most typical procedure is to attempt a negotiated settlement in which the employer agrees to pay the affected employees the difference between the actual wage received and the appropriate minimum for up to two years of the past. In the average settlement about one-half of this payment is actually recovered.^{5/} The only cases in which punitive measures are taken are those where records have been falsified to hide violations^{6/}, where an employer repeatedly violates, or where the employer refuses to comply in the future. Punitive measures include encouragement of employee suits, court injunctions, fines, and (rarely) incarcerations.

There are two points to observe about the structure of this enforcement scheme. First, the requirement that a violating employer merely pay to employees a fraction of the difference between the minimum and the actual wage received does not constitute a penalty for noncompliance at all. Unless penalties for noncompliance exist in the form of sacrificed public or employee "goodwill" the term D in expression (1) is therefore zero for first-time violaters. Hence, we would expect compliance with the minimum wage law to exist primarily among employers who have already been inspected and who are therefore subject to the punitive measures reserved for repeat offenders. Unfortunately, we have not been able to produce the data with which to test this proposition.

Second, as we have shown above the economic incentives for violation of the minimum wage law are greatest in places and among groups for which the

^{5/} See [5, p. 13].

^{6/} An example of this behavior is the practice of "buying your check," whereby an employer issues a bonafide paycheck for the amount implied by payment of the minimum wage and then receives a cash payment of some fraction of the value of the paycheck from the employee. Although this behavior is more harshly penalized than simple violations, it is, of course, more difficult to detect.

prevailing wage rate is lowest so long as the probability of detection is not greater in such places or for such groups. Although two-thirds to three-quarters of actual inspections for suspected violations are based on employee complaints, other inspections are scheduled for firms where violations are considered most likely.^{7/} This suggests that the government is also aware of the natural incentives to produce violations of the law that we have pointed out above and does take some account of them in its compliance strategy. There is also some casual evidence that this is the case in the way in which compliance officers are allocated by region. For example, we find below that in 1973 some 37 percent of those covered employees paid less than the minimum wage were in the relatively low wage southern region, but roughly 50 percent of all government compliance officers were assigned to work in the south in that year. As we turn next to our measurements of actual compliance it is natural to wonder whether this conscious compliance strategy is enough to offset the natural incentives to violations that exist in the low wage sectors.

The Measurement of Compliance

The results of a 1965 study [6] of compliance with the minimum wage law conducted by the Department of Labor were summarized as implying that 99 percent of all covered workers in the U.S. were paid at least the minimum. Since the minimum wage is set at a rate that is in the far left-hand tail of the wage distribution this is hardly very surprising and, by itself, surely cannot be taken as evidence of employer compliance with the law. Simply counting the total number of workers earning the minimum wage or more after

^{7/}[5, p. 14].

enactment of the law is deficient because it takes no account of the fact that most of these workers would have earned the minimum wage or more in any case.

An ideal measure of compliance would instead ascertain the proportion of workers earning below the minimum wage before enactment of the law who earned at least the minimum or who lost their jobs in the covered sector after enactment.^{8/} Since it is desirable to base any actual measure of compliance on the observed distribution of the wage rates of employed workers, however, it must be understood that any actual measure of compliance will be related to, but not identical with, this ideal measure of compliance.

To make things concrete let us denote by π and π^0 the number of covered workers earning less than the statutory minimum wage in the presence and absence of the minimum wage law, respectively. Likewise, suppose that η and η^0 denote the number of covered workers earning exactly the minimum wage in the presence and absence of the minimum wage law. An appropriate measure of compliance, C^* , would then be $C^* = (\eta - \eta^0 - \Delta L) / \pi^0$, where ΔL is the (presumably negative) change in covered employment resulting from enactment of the law. Since $\Delta L / \pi^0$ is a compliance weighted average of the product of the elasticities of demand for labor in covered firms and the proportionate change in the wage rates such firms face, we may write $\Delta L / \pi^0 = C^* \bar{e} (\ln M - \ln w^*)$, where \bar{e} is the average elasticity of demand amongst

^{8/}As modern analyses of the minimum wage law by Welch [7] and Mincer [1] have emphasized, workers who lose their jobs in the covered sector may become unemployed, leave the labor force, or become employed in the uncovered sector. It was, in fact, Welch who emphasized to us the importance of including all these possibilities in an ideal measure of compliance.

complying firms and $\ln w^*$ is (the logarithm of) the average (elasticity-weighted) pre-enactment wage in such firms.^{9/} Defining $\alpha = \eta^0 / (\eta^0 + \pi^0)$ and $C = \eta / (\eta + \pi)$ it then follows that we may write $\eta / \pi^0 = [C / (1 - \alpha)] [1 + (1 - \alpha) C^* \bar{e} (\ln M - \ln w^*)]$ and $\eta^0 / \pi^0 = \alpha / (1 - \alpha)$ for the other two components of the compliance measure C^* . Combining these expressions and simplifying gives

$$(4) \quad C^* = [(C - \alpha) / (1 - \alpha)] [1 + \bar{e} (\ln M - \ln w^*) (1 - C)]^{-1}$$

$$= C' [1 + \bar{e} (\ln M - \ln w^*) (1 - C)]^{-1},$$

where

$$(5) \quad C' = (C - \alpha) / (1 - \alpha).$$

Of course, neither \bar{e} or $\ln w^*$ is known. Moreover, if firms are rational in their choice about compliance we have seen that this will generate a selection mechanism whereby \bar{e} and $\ln w^*$ are likely to differ from what conventional measures would indicate. This suggests basing a measure of compliance on the quantity $C' = (C - \alpha) / (1 - \alpha)$. Of course, as (4) indicates, $C' < C^*$ because $[1 + \bar{e} (\ln M - \ln w^*) (1 - C)] < 1$. In effect, workers who must leave the covered sector because of the passage of the minimum wage have been ignored when we use C' to estimate C^* , but if the additional information is available it is possible to adjust the estimate of C' using equation (4).

Unfortunately, α is also generally unobservable so that still further assumptions are necessary for measurement. A natural procedure is simply to use C , the post-enactment fraction of covered workers earning the minimum wage or less who earn exactly the minimum wage, as a measure of compliance. C is observable

^{9/}More formally, $\Delta L / \pi^0 \approx C^* \sum e_i (\ln M - \ln w_i) (C_i / C^0)$, where e_i , $\ln w_i$, and C_i are the elasticity of demand, (logarithm of) the pre-enactment wage rate, and the pre-enactment employment level in the i th complying firm and $C^* = C^0 / \pi^0$, $C^0 = \sum C_i$. It follows that $\Delta L / \pi^0 \approx C^* \bar{e} (\ln M - \ln w^*)$, where $\bar{e} = \sum e_i (C_i / C^0)$ and $\ln w^* = \sum (e_i / \bar{e}) (C_i / C^0) \ln w_i$.

and would equal C' if α , the fraction of workers earning exactly the minimum wage in the absence of the law, were negligible. Nevertheless, it should be understood that as a measure of compliance C contains two offsetting biases. On the one hand, failure to account for those workers forced to leave the covered sector because of the minimum wage tends to bias down our measure of compliance, C . On the other hand, failure to recognize that $\alpha \neq 0$ and that some workers would have earned exactly the minimum wage even in the absence of the law tends to bias up our measure of compliance, C . It will be necessary, therefore, to investigate the possible magnitude of these biases.

Estimates of Compliance

The wage distribution required to estimate the compliance rate C for 1973 was generated from the May 1973 Current Population Survey, when for the first time in such a Survey hourly paid workers were queried regarding their straight-time hourly wage. Since our estimates of compliance rates may be sensitive to measurement error we did not include any workers in our sample who answered "no" to the question "Are you paid by the hour?" We also took considerable care to include in the sample only those individuals known to be working in an industry or occupation that in 1973 was completely covered by the minimum wage regulations. The classifications of workers excluded from the sample on these grounds are provided in Table 1.^{10/} Eliminating these workers from our sample implies that we have not calculated compliance rates

^{10/} Those groups of workers that have been indicated by an asterisk in Table 1 contain only a very few workers that were not covered by the minimum wage regulations in 1973. To see whether our (somewhat) arbitrary exclusion of these groups from the sample used to compute compliance rates was of any quantitative significance we also computed compliance rates for 1973 that included these groups of workers. The results were virtually identical to those given in Table 2.

TABLE 1

LIST OF INDUSTRIES AND
OCCUPATIONS NOT COMPLETELY COVERED
BY FEDERAL MINIMUM WAGE LEGISLATION
(CENSUS CODES IN PARENTHESES)

Self-Employed Workers

Government Workers

Students

Workers with Disabilities

Industries:

Retail (601-699)
*Logging (107)
*Newspaper (338)
*Tobacco (299)
Theaters (807)
Private Households (769)
Hotels, Lodging Places (777, 778)
Misc. Entertainment (809)
Public Administration (907-999)
Agriculture (017-029)

Occupations:

Executive and Sales Workers (201-299)
Professional Workers (001-199)
Fishermen (752)
Seamen (661)
*Switchboard Operators (385)
Domestic Workers (980-989)
Farm Workers (801-899)

*These groups contain only a small fraction of workers who were not covered by minimum wage legislation in 1973. See footnote 10 in the text.

from a completely random sample of covered workers because some of these excluded workers are, in fact, covered by the minimum wage regulations. Nevertheless, given the available information we thought it better to exclude these workers from the sample than to arbitrarily bias downward our estimates of compliance rates.

Table 2 contains the estimated values (and standard errors) of C calculated separately by age, region, race, and sex as well as our estimate, π^* , of the fraction of all covered workers earning less than the minimum wage. For the country as a whole our point estimate of the compliance rate is 69 percent, although a conventional confidence interval would include the range 63 to 75 percent. This overall estimate masks important (and statistically significant) variations in compliance by region, race, and sex, however. First, leaving age differences aside for the moment, compliance tends to be highest among groups whose wage rates would be lowest in the absence of a minimum wage. For example, compliance is 18 percentage points greater in the South than in the North, while it is 16 percentage points greater among females than males and 12 percentage points greater among nonwhites than whites. This suggests that although employers of these lower wage workers have the greatest incentive to violate the law this incentive may be more than fully offset by the higher probability of government detection that results from the government's enforcement strategy. Second, the exception to this general finding is younger workers, where compliance rates are uniformly lower than among adult workers. This suggests that the implicit or explicit target groups for government enforcement efforts may simply be low wage adult workers and that the effects of the law, whether harmful or beneficial, are most likely to be concentrated on these groups.

TABLE 2

COMPLIANCE RATES, FULLY COVERED
WORKERS, BY AGE, REGION, SEX AND RACE
MAY, 1973

	Ages 17-19			Ages 20-24			Age > 24			All Ages		
	Π^*	C	σ	Π^*	C	σ	Π^*	C	σ	Π^*	C	σ
South	.039	.68	.08	.011	.78**	.07	.007	.81*	.04	.010	.78*	.03
Non-South	.030	.53	.07	.010	.57**	.09	.004	.66*	.06	.007	.60*	.04
Male	.018	.62	.09	.007	.57	.11	.002	.52*	.10	.005	.57*	.06
Female	.056	.58	.07	.016	.73	.07	.010	.79*	.04	.016	.73*	.03
White	.028	.63**	.06	.011	.62*	.07	.005	.71*	.04	.008	.67**	.03
Non-White	.091	.36**	.14	.004	.92*	.08	.003	.90*	.06	.009	.79**	.06
All	.033	.59	.06	.010	.68	.06	.004	.74	.03	.008	.69	.03

1/ Π^* = Fraction of all workers earning less than the minimum wage (\$1.60 in 1973).

C = The compliance rate as defined in the text.

σ = Estimated standard error of C.

2/ The differences between the two compliance rates within each age, region, sex, and race category were subjected to tests of statistical significance.

* indicates the rates were significantly different at the .05 level.

** indicates significant difference at the .10 level.

3/ The South includes the states of Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas and the District of Columbia.

There are three important possible sources of bias in these estimates of compliance with the minimum wage law and we turn next to an analysis of these. First, there is the question of whether C is an upward biased estimate of C' because of the likelihood that some workers would have earned precisely the wage rate at which the statutory minimum was set even in the absence of the law. One way to analyze this issue is to calculate values of C for those workers who were not covered by the minimum wage regulations in 1973 and use these as estimates of α in equation (5). Table 3 contains the calculated estimates of compliance in the uncovered sector obtained from this procedure using the same source of data as for the covered sector. The striking conclusion that may be drawn by comparing this table with Table 2 is that the minimum wage regulations have clearly changed the structure of wages in the covered sector compared to the uncovered sector. Taking the estimate of $\alpha = .14$ from the overall results in Table 3 and using it in equation (5) suggests that our overall estimate of compliance should be revised downward by only five percentage points to around 64 percent. The bias in the estimates of compliance for the various age, race, and sex groups vary slightly from this figure, but they cluster around it and certainly do not change our former conclusions about the patterns of compliance.

A second possible source of bias in the compliance estimates may result from any remaining measurement error in the wage data we have used. The basic problem is that if the true wage distribution has a spike at the minimum wage, then random measurement error will generally bias downward our measure of compliance because it will be more likely that people earning the minimum wage will be recorded as earning less than that those earning less will be recorded

TABLE 3

CALCULATIONS OF C FOR NON-COVERED
SUBSAMPLE 1/ 2/
MAY 1973

	Ages 17-19			Ages 20-24			Age > 24			All Ages		
	Π^*	C	σ	Π^*	C	σ	Π^*	C	σ	Π^*	C	σ
<u>3/</u> South	.432	.24	.09	.132	(a)	(a)	.173	.07	.03	.190	.10	.03
Non-South	.355	.18	.05	.116	.17	.08	.071	.14	.04	.113	.16	.03
Male	.186	.27	.09	.048	.30**	.14	.049	.17*	.05	.067	.22*	.04
Female	.567	.17	.05	.247	.05**	.05	.205	.07*	.02	.263	.10*	.02
White	.383	.16*	.04	.113	.16	.07	.095	.13*	.03	.132	.14	.02
Non-White	.263	.50*	.16	.150	(a)	(a)	.149	.05*	.03	.156	.12	.04
All	.372	.20	.04	.120	.13	.06	.105	.11	.03	.137	.14	.02

1/ Π^* = Fraction of all workers earning less than the minimum wage (\$1.60 in 1973).

C = The compliance rate as defined in the text.

σ = Standard deviation of C.

2/ The differences between the two compliance rates within each age, region, sex, and race category were subjected to tests of statistical significance.

* indicates the rates were significantly different at the .05 level.

** indicates significant difference at the .10 level

(a) No one in cell earned exactly \$1.60, hence C = 0.

3/ See note 3, Table 2.

as earning exactly the minimum. We examined two different schemes for analyzing the extent of this bias. First, we simply re-defined the compliance measure so that workers earning approximately the minimum were counted as if earning exactly the minimum.^{11/} However, this measure yielded results nearly identical with those in Table 2.

As a second method for handling measurement error bias we compared our estimates of compliance for 1973 with similar measures that we calculated from an April 1970 survey (by mail) of employers [3].^{12/} The advantage of a survey of employers is that such data are usually based on payroll records and may be more accurate than the data collected from employees that we have thus far used. The disadvantage of the employer data for our purposes, however, is that by reporting the payment of wage rates below the statutory minimum the employer is acknowledging violation of the law, and there may be obvious hesitation to do this even when this information is supposed to be confidential. Nevertheless, the calculations of compliance from the data provided by employers that are contained in Table 4 still show considerable non-compliance with the minimum wage law and the same pattern of greater compliance in low wage areas. Although the basic compliance estimate from the employer data in Table 4 is 12 percentage

^{11/} In particular, we calculated the measure of compliance as the fraction of workers earning $M + \Delta$ or less whose wage rate was in the interval $M + \Delta$, where M is the minimum wage rate and Δ was taken to be \$.05.

^{12/} Since the employer data were available in tabular form only it was necessary to define our compliance measure as the fraction of those workers earning $M + \Delta$ or less whose wage rate was in the interval M to $M + \Delta$, where M is the minimum wage rate and Δ was \$.04. To keep the estimates of compliance comparable between the two data sources in Table 4 we calculated the compliance measures from the employee data by the same procedure for the purposes of this table. This accounts for the slight discrepancy between the compliance estimates calculated from the employee data in Tables 2 and 4.

TABLE 4

COMPARISON OF C FROM EMPLOYER
AND HOUSEHOLD SAMPLES, BY REGION
AND COVERAGE (ESTIMATED STANDARD
ERROR IN PARENTHESES)

	<u>Covered Sector</u>		<u>Uncovered Sector</u>	
	<u>Employer Data (1970)</u>	<u>Employee Data (1973)</u>	<u>Employer Data (1970)</u>	<u>Employee Data (1973)</u>
South	.90	.79 (.03)	.16	.10 (.03)
Non-South	.73	.61 (.04)	.21	.16 (.03)
U. S.	.82	.70 (.03)	.19	.14 (.02)

points higher than from the employee data, the adjusted compliance rate using equation (5) and the data from the non-covered sector in Table 4 implies an overall compliance rate from the employer data of only 77 percent. In view of the fact that there is considerable evidence internal to the employer survey that suggests that the compliance rate may be overstated in these data, it seems very unlikely that our employee based data on compliance is seriously biased downward by measurement error.^{13/}

A third possible source of bias in our estimates of compliance with the minimum wage law is, of course, our failure to account for workers who may have left the covered sector as a result of even an imperfectly enforced minimum wage law. In principle equation (4) provides a method for correction of such bias. For example, with $\bar{e} = -1.0$ and $\ln M - \ln w^* = .2$, the data from the employee survey that imply $C' = .64$ also imply $C^* = .68$, which is obviously a small bias. Unfortunately, reliable estimates of the necessary information to provide a more convincing analysis is simply unavailable at this time, so that our estimates of compliance must remain to some extent suspect until there is further research on this issue.

Finally, there is always the question of whether the level and patterns of compliance we have observed are relatively stable or merely the accident of

^{13/}The internal evidence to support the argument that the employer data may give upward biased estimates of the compliance measure stems from the fact that the discrepancies between the 1970 employer data and the 1973 employee data are confined to the wage rates at or below the statutory minimum wage. The 1970 data show 3.5 percent of all workers earning \$1.65 or less, while the 1973 data show a decline in that percentage to 2.7 percent that is presumably explained by the general rise in wage rates over the three year period. However, while the 1970 employer data show .6 percent earning less than \$1.60 the 1973 employee data show .8 percent earning less than \$1.60. These results suggest that employer wage surveys may be less reliable for gauging compliance with the minimum wage law than the readily available household surveys.

a single year's data. To examine this issue we calculated values of the compliance measure C from the May, 1975 Current Population Survey. Between 1973 and 1975 the minimum wage rate was raised from \$1.60 to \$2.10 and coverage was extended to virtually all non-professional workers. In order not to compound the effects on compliance of changes in the group of workers covered with changes in the minimum wage rate we calculated the compliance rates for 1975 in Table 5 for precisely the same groups of workers as were included in the 1973 compliance measures. Of course, our previous analysis suggests that with unchanged penalties or government inspection efforts the incentive for an employer to violate the law will be increased by an increase in the statutory minimum wage rate. On the other hand, as we also pointed out, the amount of government effort devoted to the enforcement of the law was increased between 1973 and 1975, so that the actual impact on the compliance rate is ambiguous. As can be seen from Table 5 our estimate of C is only 60 percent for 1975 and is some nine percentage points lower than for 1973. Moreover, it still remains true in 1975 that compliance is greater in the South than the North, greater among females than males, and greater among non-whites than whites, although differences in compliance among age groups are much attenuated in the 1975 data. This suggests that both the level and structure of compliance with the minimum wage law is relatively stable, at least over periods as short as two years.^{14/}

^{14/} Unfortunately, the very broad coverage of the minimum wage law by 1975 makes it difficult to calculate our compliance measure for uncovered workers in 1975 so as to estimate α and correct for upward biases in C . As an approximation we calculated C for newly covered workers and workers whose coverage status was questionable for 1975. Our overall estimate of C for this group was .22 (with estimated standard error of .01). Using equation (5) this implies $C' \approx .49$.

TABLE 5

COMPLIANCE RATES, FULLY-COVERED
SUBSAMPLE, BY AGE, REGION, SEX AND RACE
MAY, 1975 ^{1/}/_{2/}

	Ages 17-19			Ages 20-24			Age > 24			All Ages		
	Π^*	C	σ	Π^*	C	σ	Π^*	C	σ	Π^*	C	σ
South	.061	.66	.09	.022	.74**	.07	.028	.63*	.04	.028	.66	.03
Non-South	.034	.53	.13	.015	.52**	.10	.007	.46*	.07	.009	.49*	.05
Male	.046	.35*	.12	.015	.40*	.11	.008	.29*	.06	.011	.33*	.05
Female	.046	.78*	.08	.027	.78*	.07	.026	.70*	.04	.027	.73*	.03
White	.041	.66	.07	.019	.61*	.07	.013	.57	.07	.015	.59	.03
Non-White	.115	(a)	(a)	.009	.90*	.10	.017	.65	.09	.020	.66	.07
All	.047	.61	.07	.019	.66	.06	.013	.59	.05	.015	.60	.01

^{1/} Π^* = The fraction of all workers earning less than the minimum wage (\$2.10 in 1975).
 C = The compliance rate as defined in the text.
 σ = The standard deviation of C .

^{2/} The differences between the two compliance rates within each age, region, sex, and race category were subjected to tests of statistical significance.

* Indicates the rates were significantly different at the .05 level, and
 ** Indicates significant difference at the .10 level.

(a) There were only three non-white teenagers in the "covered" sample earning less than \$2.10 per hour, and none earning exactly \$2.10. Hence, C and σ were not calculated.

^{3/} See note 3, Table 2.

Conclusions

While substantial, compliance with the minimum wage law is anything but complete. This implies that the most useful future analyses of the effects of this law will incorporate a thorough analysis of the compliance issue. Indeed, the failure to do so can (and has) lead economists to public policy predictions that are simply silly, as in recent suggestions that the extension of statutory coverage of the law to private household workers or babysitters would lead to the virtual demise of these occupations. Moreover, the sometimes ambiguous empirical results in studies of the effects of both increases in the statutory minimum wage and the extent of its coverage may be due wholly or in part to the neglected consideration of this issue. Our finding that even incomplete compliance with the minimum wage law changes the structure of wages between the covered and uncovered sectors also has implications for more general empirical analyses of low wage labor markets. In particular, our results imply that the structure of wages in this sector will not be fully understood without reference to the interaction between legal and economic behavior.

Finally, our analysis of compliance with the minimum wage law raises the question of whether future normative discussions of the general form of this legislation might not usefully include the government's compliance strategy as an instrument of public policy. Minor modifications in the effects of this legislation on special groups, for example, might be more easily accomplished by intelligent guidance of the government's enforcement strategy than by comprehensive changes in the legislation that it enforces.

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