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Who Benefits from the Minimum Wage? The Impact of Race, Gender, and Marital Status

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Abstract

The author estimates the impact of the 1978 increase in the minimum wage on the wages, incomes, and hours worked of six demographic groups: black and white wives, black and white female heads of households, and black and white male heads of households. These groups are further broken down into subminimum-wage workers, permanent subminimum-wage workers, and supraminimum-wage workers. Data from Waves XI and XII of the Panel Study of Income Dynamics show that increasing the minimum wage does little to reduce poverty. Female heads of households gain the most, while working wives actually experience a reduction of income. Hours worked are only slightly affected. Increases in the minimum wage do not cause massive displacements of workers.

Who Benefits from the Minimum Wage?
The Impact of Race, Gender, and Marital Status

I. INTRODUCTION

The minimum wage was first instituted through the Fair Labor Standards Act of 1938. Set at an initial level of $.25 per hour, it has risen to $4.25 per hour with the most recent increase in April of 1991. With the exception of the 1980s--no changes in the minimum took place between 1981 and 1990--the general pattern of minimum-wage legislation has been to update the minimum approximately every five years, with the real value of the minimum decaying in the interim due to inflation and rising productivity. The aim of these periodic updates has been to bring the minimum to approximately one-half of the average manufacturing wage, thereby providing a "minimum standard of living" for the working poor. (See Welch [1976] and Kaufman [1991]). It is therefore surprising that there is no consensus as to how it affects female or minority workers or to how well it alleviates poverty in general.

These issues have been largely ignored because most empirical studies of the minimum wage use aggregate data. (See Eccles and Freeman [1982] and Brown et al.[1982].) Thus when Gramlich [1976] and Parsons [1980] examine the impact of the minimum wage on a particular demographic group, they consider aggregate data for that group. As a result, they rely on techniques that limit their ability to compare the impact of the minimum on different demographic groups, as they cannot account for differences that may systematically appear across groups. Previous studies also fail to ask whether the minimum helps those it is supposed to help, as they cannot separate low-wage from high-wage workers. An overall increase in incomes that results from a higher minimum wage may therefore reflect gains to only one or both groups.

A unique perspective on the impact of the minimum wage is found in Linneman (1982). Not a labor economist himself, Linneman uses events studies methodology on micro-level data to simulate

what an individual's wages and hours of work would have been in the absence of the minimum wage. He computes individual gains and losses and aggregates them to determine the overall impact of the minimum wage on specific demographic groups. Linneman finds that youths, women, and workers whose wage would have been below the minimum (subminimum workers) are hurt by the minimum wage, as the decline in hours worked overwhelms any wage gains, while supraminimum workers, especially unionized workers, and men gain. There is no evidence of racial effects, as the gains to men and the losses to women are not distinguishable by race.

Not being a labor economist helped Linneman apply a new technique to the analysis of the minimum wage, but it also limited him. My contributions to the literature consist of taking a more complete account of the standard techniques of labor economists while retaining the events analysis framework. First, I break down the data set more finely so as to account more completely for differences between members of different demographic groups. Second, I recognize that not all workers who are predicted to have wages below the new minimum will be affected by it, as some experience wage gains well in excess of the higher minimum. Hence I distinguish between "subminimum workers," those who are predicted to earn less than the new minimum but who in fact may earn more, and "permanent subminimum workers," those subminimum workers who actually earn no more than the new higher minimum. Finally, I recognize that not all subminimum workers are equally needy by explicitly considering the impact of the higher minimum wage on <u>family</u> income.

Linneman accounts for racial and gender differences by employing dummy variables, ignoring systematic racial and gender differences in the structure of wages and labor supply behavior. Reimers (1983) and Oaxaca (1973) demonstrate that the Mincer wage equations differ in many dimensions. Using dummy variables thus creates specification error bias in the wage equations, which may invalidate the simulations. Similarly, the labor supply behavior of women, especially married women, is considerably more complex than the simple OLS format used by Linneman and requires

more sophisticated modeling than the labor supply behavior of men. (See, for example, Mroz [1987].) In this paper I estimate the impact of an increase in the minimum wage on six groups: black and white male heads of households, black and white female heads of households, and black and white wives. Separating the sample leads to a more appropriate econometric specification, and hence to more reliable simulations.

The finer breakdown of individuals may not, however, be fine enough, as identifying subminimum workers may still fail to identify the intended beneficiaries of the increased minimum wage. Due to transitory changes in earnings unrelated to the change in the minimum wage, a subminimum (supraminimum) worker may have much higher (lower) wages after the minimum is increased.

In addition, many subminimum workers may not be in families that are poor. As the family incomes of these groups vary widely, similar monetary gains or losses will not have the same impact on family utility. Spousal income, for example, may push family income above the poverty line. Splitting the sample while explicitly considering family incomes thus gives a more accurate picture of how changes in the minimum wage affect the poverty status of different households.

While incomes are the best available measure of who wins and who loses from an increase in the minimum wage, they do not accurately reflect the interaction of discrimination with a change in the minimum. Even if black men gain on average, they may be disproportionately displaced by a higher minimum wage. Those concerned about discrimination should therefore focus on how changes in the minimum wage affect hours of work.

In the next two sections, I discuss the data and empirical model for this study, paying particular attention to the specification differences between wives and heads of households. In section IV, I examine the impact of the increase in the minimum wage on individual and family incomes. I

discuss the impact of racial and gender discrimination in section V. Section VI contains the conclusions of this study.

II. DATA

Any microanalysis of an increase in the minimum wage demands a series of cross-sections that span the change. The Panel Study of Income Dynamics (PSID) does just this. I chose Waves XI and XII of the PSID, containing data from 1977 and 1978, because they bracket the increase in the minimum wage that went into effect on January 1, 1978. It is the most recent sizable change in the minimum wage (prior to the increase of 1991) that followed several years of relative stability in the nominal value of the minimum. The PSID also has the advantage of oversampling poor, and hence minority, households. This becomes important as I focus on increasingly narrow segments of the population; it also means that I must be careful to use weighted procedures to account for the oversampling. The only datum not taken from the PSID is the measure of inflation, which I take to be the change in the Consumer Price Index between 1977 and 1978. Sample means of relevant variables appear in Table 1.

The PSID for these years does have one major disadvantage. Instead of surveying wives directly in each year, it just asks husbands about their wives in some years. Hence, the questions concerning wives vary from year to year, and many of the data used here for heads of households (male and female) are not consistently available for wives. This creates three problems for estimations involving wives. First, because I must assume a constant structure of wages and hours, and hence a constant econometric specification across years, I use fewer variables in the estimates for wives even when data are available for one year.

Second, the lack of data for wives also limited my ability to eliminate self-employed wives. I sought to remove self-employed workers from the sample, as their pay would not be affected by

TABLE 1

Means of Relevant Variables Used in Measuring the Impact of the 1978 Increase in the Minimum Wage

Variable	Wives		Female Heads		Male Heads	
	White	Black	White	Black	White	Black
Age	36.72	35.60	40.92	39.87	38.51	38.11
Years of schooling	12.21	10.77	12.95	11.19	12.64	10.21
College degree	0.14	0.04	0.24	0.03	0.24	0.03
Mother went to college	0.07	0.02	0.18	0.13	--	--
Experience	8.81	10.02	14.90	17.69	18.76	18.46
Fraction of potential experience[a] spent working full-time	0.38	0.43	0.57	0.69	0.83	0.78
Number of children	1.41	2.03	0.49	1.18	1.32	1.81
Worked in 1977	0.60	0.68	0.97	0.95	0.98	0.99
Disabled	--	--	0.08	0.13	0.08	0.08
Veteran	--	--	0.01	0.00	0.48	0.29
Covered by union contract	--	--	0.20	0.30	0.35	0.41
Government employee	--	--	0.29	0.28	0.20	0.20
Non-labor income[b]	$1,460.5	$608.4	$1,648.7	$1,068.4	$1,203.4	$551.0
Currently married	--	--	0.02	0.01	0.93	0.81
Never married	--	--	0.33	0.25	0.04	0.10
Never married, no children	--	--	0.33	0.10	0.04	0.08

(table continues)

TABLE 1, continued

Variable	Wives		Female Heads		Male Heads	
	White	Black	White	Black	White	Black
Live in Northeast	0.22	0.05	0.24	0.10	0.21	0.05
Live in South	0.29	0.75	0.23	0.59	0.29	0.72
Conditional wage in 1977[c]	$4.87	$3.99	$5.61	$4.18	$7.82	$5.65
Conditional hours in 1977[c]	1,320.6	1,529.4	1,883.6	1,817.7	2,199.4	2,030.7

Source: Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

[a] Potential experience = age - years of schooling - 5.
[b] Non-labor income = asset income + dividend income + interest income + all transfer income (includes both spouses where relevant).
[c] Conditional on positive hours of work in 1977.

minimum-wage legislation. The PSID did not ask wives, however, whether they were self-employed in 1977. Thus, wives who were self-employed in 1977 but not 1978 could not be eliminated. The relatively small number of self-employed workers, however, suggests this is not a serious problem.

Third, a more serious problem stems from the lack of data for the hourly pay of wives. The wage for wives was computed by dividing total labor income by total hours worked. The sample therefore includes wives paid on a commission basis and other non-hourly standards. The computation also creates possible inaccuracies in cases where the wife worked more than one job. To ensure consistency, the same measure was used for heads of households. This does not seem to alter the results, as simulations using the direct measure for heads of households (not shown here) were very similar.

I also restricted the sample to individuals whose marital status was unchanged from 1977 to 1978. While this may bias the results by forcing me to select more stable households, allowing marital status to change precludes meaningful comparisons of a given household's well-being across years. Moreover, I limited the sample to individuals who were not yet 65 in 1978 to avoid complications involving retirement decisions.

III. METHODOLOGY

To evaluate the impact of changes in the minimum wage, I also use events analysis, comparing wages earned and hours worked after an increase in the minimum wage with wages and hours that would have prevailed had no change occurred.

To simulate the wage that an individual would receive in period $t+1$ without a policy change, I estimate an OLS wage equation using data prior to the change for all those who worked for pay in period t.

$$\ln(W_{it}) = \beta_t' X_{it} + \epsilon_{it} \tag{1}$$

where W_{it} is the wage earned by the ith individual in period t, X_{it} is a vector of socioeconomic variables, β_t is a vector of coefficients, and ϵ_{it} is a random error term.

If the structure of wages is invariant over time, then, forecasting out of the sample, the expected wage for period t+1 is

$$E[W_{t,i+1}] = \exp(\beta_t' X_{it} * (1+\pi)), \tag{2a}$$

where π is a measure of wage inflation. A more efficient predictor for those who worked in period t uses the information conveyed by W_{it}.

$$E[W_{i,t+1}] = \exp([W_{it} + \beta_t'(X_{i,t+1} - X_{it})] * (1+\pi)). \tag{2b}$$

Any individual for whom $W^m > E(W_{i,t+1})$, where W^m is the newly legislated minimum wage, is considered a subminimum worker.

I compute the expected number of hours worked by repeating the above process for labor supply. First, I estimate the hours equation for those who worked for pay in period t,

$$h_{it} = \gamma_t' Y_{it} + \eta_{it}, \tag{3}$$

where h_{it} is hours worked by person i in period t, Y_{it} is a vector of socioeconomic variables, γ_t is a vector of coefficients, and η_{it} is a random error term.

Next, I simulate hours worked in period t+1 as

$$E[h_{i,t+1}] = \gamma_t' Y_{i,t+1} \tag{4a}$$

for those who did not work for pay in period t and as

$$E[h_{i,t+1}]=h_{it}+\gamma_t'[Y_{i,t+1}-Y_{it}] \tag{4b}$$

for those who worked for pay in period t. If the wage appears in the hours equation (3), then one element of $Y_{i,t+1}$ in (4a) and (4b) is the simulated wage $E[W_{i,t+1}]$.

I can use these values to simulate income in period t+1 in the absence of a policy change as $E[W_{i,t+1}]E[h_{i,t+1}]$. The difference between this product and actual earnings yields the change in income resulting from the increased minimum:

$$\Delta Y_t=W_{i,t+1}h_{i,t+1}-E[W_{i,t+1}]E[h_{i,t+1}] \tag{5}$$

The estimation of equations (1) and (3) for married women is complicated by the fact that a substantial number of wives choose not to participate in the labor force. As seen in Table 1, only 60 percent of all white wives and 68 percent of all black wives worked for pay in 1977. This compares with 97 percent of all white female heads of households and 95 percent of all black female heads. Thus, standard OLS procedures are inappropriate for underlying regressions for wives of either race. Two standard alternatives are the Tobit procedure for censored data and the Heckman correction for selection bias. The Tobit estimation corrects for the censoring of wage and labor supply data for a substantial number of married women. The error term is not normally distributed for married women, as one cannot observe less than zero hours of work, effectively limiting the possible values of the error term for both the hours and wage equations, making OLS inappropriate.

The Heckman correction for selection bias also acknowledges the bias that accompanies censored data, treating the nonzero error term as a case of omitted variable bias. Adding the inverse Mills ratio, calculated from a probit regression of the decision to work, as a variable in the regression purges the error term of its nonzero element. Including the inverse Mills ratio accounts for the fact that, by working, married women reveal unique, unobservable qualities (e.g., intelligence or

diligence) that set them apart from wives who do not work. I first ran the Heckman model in a simultaneous wage-hours system. Because tests of simultaneity rejected the null hypothesis of a simultaneous system, the equations were estimated separately.

In practice, the Heckman correction proved more credible and is the only method shown for married women. The reason is that, unlike male or female heads of households, most wives who did not work in 1977 had not worked for a substantial portion of their lives and had little intention of working in the future. This is supported by the data in Table 1 which show that wives spent far less of their potential work-life working full-time than did heads of households. Such women naturally have undesirable market characteristics, resulting in a huge subminimum population for the Tobit simulations. Moreover, because wives were much more likely to report no hours of labor supply, observed earnings are likely to lie below the nonnegative predicted income. The Heckman correction provides more credible predictions as it restricts the sample to those who worked in 1977 and then corrects for selection bias.

IV. RESULTS

Separate simulations of wages, hours, and earnings were performed for each of the six demographic groups. The underlying wage and hours equations are in the appendix. Rarely, the simulations yielded negative predictions for wages or hours worked. Since observed wages and hours cannot be less than zero, I set the predicted values equal to zero when computing the effect of the change in the minimum wage.

I also performed separate simulations for wives and female heads of households who did not experience an increase in the number of children in the family unit between 1977 and 1978 to eliminate any bias that may result from changes in the allocation of time that may come with

childbearing. The results were very similar to those without such controls and hence are not shown here.

The impact of the increase in the minimum wage on individual earnings is shown in Table 2. The overall effect of the higher minimum varies considerably across groups. White wives lost almost $400 per year, while black wives gained a similar amount. Black male and female heads experienced even larger gains. In contrast, white male and female heads experienced small, statistically insignificant changes in earnings. Thus, while blacks clearly experienced greater overall gains than whites, gender had no clear impact.

When the data for each of the six groups are broken down into those in the subminimum and those in the supraminimum populations, the small overall change translates into a large gain for those in the subminimum population. The benefits accruing to subminimum workers were so large (over $72 per week for white men) that they merited a closer look. This revealed that many in the subminimum population experienced wage gains that were far too large to be attributed to changes in the minimum. Similarly, supraminimum workers frequently experienced a fall in wages, a fall that generally became more severe as 1977 wages rose. People at either extreme of the sample thus appeared subject to transitory shocks to their earnings in 1977 and/or 1978. As predicted by the permanent income hypothesis, individuals at either end of the income distribution tended to experience regression toward the mean. Such exogenous changes in earnings cannot be attributed to changes in the minimum wage.

I focus more clearly on the effect of the increase in the minimum by restricting my attention to those in the subminimum population who earned no more than the new statutory minimum of $2.65 in 1978. These workers would have continued to earn less than the new minimum in the absence of the legislation. Hence, changes in their status are far more likely to be due to the new legislation than to random changes in their work environment, as is the case for a worker whose wage rises far

TABLE 2

Simulated Change in Annual Earnings Resulting from the 1978 Increase in the Minimum Wage

	Wives		Female Heads		Male Heads	
	White	Black	White	Black	White	Black
Overall	$-390***	$371***	$175	$605***	$-232	$974***
Wage group						
Subminimum	687***	1,007***	2,114***	2,206***	3,746***	3,987***
Permanent subminimum	-187	-219	476**	1,536***	1,239	88
Supraminimum	-608***	191	11	362*	-278	691***

Source: Simulation by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

*Significant at 10% level.
**Significant at 5% level.
***Significant at 1% level.

above $2.65 per hour. I call this subset of the subminimum population, the "permanent subminimum population." Restricting the subminimum population to its permanent component vastly reduced the size of the sample. As seen in Table 3 about one-fifth of all wives were in the subminimum population but only one-tenth were in the permanent subminimum population. About one-tenth of female heads of households were in the subminimum population, but only 3 to 4 percent remained in the permanent subminimum population. Male heads of households fall from 1 percent for whites and 9 percent for blacks to under 1 percent for both. Gender (but not racial) differences in representation among subminimum workers are thus exaggerated when one restricts the sample to the permanent subminimum population.

As expected, the elimination of transitory wage effects greatly reduces the measured impact of the minimum wage. Table 2 shows that the only statistically significant increase in income among permanent subminimum workers comes for female heads of households, while the point-estimates of the impact on wives' incomes are negative. The reduction in the estimated impact of the minimum wage that comes from restricting the sample is by far greatest for male heads of households, especially black men. Previous studies, which failed to consider transitory impacts on earnings, may have overstated the impact of the minimum wage on men. Linneman, for example, may have been measuring transitory changes in income when he found that men were the main beneficiaries of the minimum wage. There is no clear racial or gender pattern to the impact of the change in the minimum on incomes. White male heads of households gained more than black men, though the difference is not statistically significant. Black female heads gained much more than white female heads, in fact benefitting more than any other group. Both black and white wives averaged a loss of about $200 per year from the increased minimum regardless of race.

TABLE 3

Percentage of the Population Predicted to Be in a Particular Wage Group, 1978

Wage group	Wives		Female Heads		Male Heads	
	White	Black	White	Black	White	Black
Subminimum	.17	.21	.08	.13	.01	.09
Permanent subminimum	.09	.10	.03	.04	.002	.01

Source: Simulation by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

Focusing on average dollar changes in income, while interesting, may obscure as much as it reveals. The loss of income by wives, and their disproportionate representation in the permanent subminimum population, suggest, for example, that great harm may have been done by the higher minimum. Table 4, which shows family income for each demographic subgroup, demonstrates, however, that the decline in the earnings of wives grossly overstates the impact of the higher minimum on family well-being. Average 1978 family incomes for wives in the permanent subminimum population (racial differences in the family earnings of the permanent subminimum population were minimal) were approximately double that for male or female heads of households. These families are far less likely to be below the poverty level and less likely to be severely hurt by the loss of about $4 per week in income that they experienced as a result of the higher minimum.

The significant increases in income accruing to female heads of households are likely to have had a much greater impact on their families' well-being. The changes in income were larger in magnitude and were added to a much smaller base, as female-headed families had the lowest level of family income.

The higher minimum reduced poverty if the probability that a member of the permanent subminimum population had been pulled out of poverty by the higher minimum exceeded the probability that his or her income had fallen as a result. (See Table 5.) No two-parent families were pulled out of poverty as the result of the increased income of a wife in the permanent subminimum population for two reasons: relatively few such families had incomes below the poverty line, and the higher minimum had a generally negative effect on wives' income. Surprisingly, while female heads of households benefitted the most from the higher minimum in average dollar terms, relatively few families headed by women in the permanent subminimum population were pulled out of poverty. Similar reasoning applies to families headed by white men in the permanent subminimum population, who also experienced large average gains in income which did little to affect their overall poverty

TABLE 4

Total Family Income by Subgroup, 1978

	Wives		Female Heads		Male Heads	
	White	Black	White	Black	White	Black
Overall	$24,356	$20,172	$12,139	$9,599	$23,568	$17,433
Subminimum	17,118	15,359	6,991	6,888	13,568	10,331
Permanent subminimum	15,488	14,336	6,389	6,240	7,655	7,772
Supraminimum	25,818	21,528	12,577	10,010	23,683	18,053

Source: Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

TABLE 5

Percentage of Permanent Subminimum Population Pulled out of Poverty and Harmed by the Increased Minimum Wage

	Wives		Female Heads		Male Heads	
	White	Black	White	Black	White	Black
Percentage pulled out of poverty	0.00*	0.00*	0.14	0.23	0.29	0.51
Percentage in poverty harmed	0.00*	0.00*	0.00*	0.03	0.00*	0.18
Percentage overall harmed	0.63	0.42	0.00*	0.21	0.63	0.48

Source: Simulation by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

*Less than 1% of relevant population.

rate. In only one case, households headed by black men, was a majority of families pulled out of poverty.

The higher minimum wage did not, however, do severe harm to families with heads or wives in the permanent subminimum population. Only families headed by black men or women in the permanent subminimum population experienced any measurable harm. Ironically, the most widespread harm was done to families headed by black men, the group which was most likely to be pulled out of poverty.

Overall, however, families with heads or wives in the permanent subminimum population were very likely to be harmed. In almost all cases, the sole exception being families headed by white women, the percentage of families hurt by the higher minimum rivaled or surpassed the percentage pulled out of poverty. While the great majority of these families were not in poverty as it is officially defined, Table 4 shows that these families had very low incomes. The success of the minimum wage in achieving its goal of helping low-income workers is therefore limited at best.

V. THE MINIMUM WAGE AND DISCRIMINATION

Previous studies of the minimum wage, based largely on aggregate data, have concluded, from examining changes in income, that a group gains or loses from changes in the minimum. One is therefore tempted to examine the interaction of discrimination and the minimum wage by also focusing on incomes, as did Linneman. This approach fails, however, to separate changes in wages from changes in hours worked. Victims of discrimination in the labor market, however, are likely to experience large increases in wages and reductions in hours as a result of an increase in the minimum wage. Only by looking specifically at hours worked can one discern the role of discrimination in the impact of the minimum wage.

Workers deemed undesirable by discriminatory employers face lower demand for their services than otherwise identical workers. (See Becker, 1971.) When discrimination exists in the presence of a minimum wage, minority and female workers are subject to greater displacement than white males because the minimum prevents women and minorities from selling their services to discriminatory employers at a price low enough to overcome their distaste for such workers.

Discrimination is therefore found in the displacement effect of the minimum wage. If the preexisting wage for women or minorities incorporates a discrimination coefficient, then those remaining employed will experience greater increases in hourly pay than majority workers.

The changes in hours worked, shown in Table 6, do not, however, indicate any interaction between discrimination and the minimum wage. Changes in hours worked roughly mirror the changes in income in Table 2. Hours worked by the supraminimum population are largely unaffected, changing less than a half-hour per week (the notable exception being black wives, who work about two hours more per week). Among the permanent subminimum population black male heads and both black and white wives average fewer hours as a result of the minimum. Female heads of households, particularly those who are black, and white male heads worked more. Perhaps most important is the fact that none of the changes in hours noted in Table 6 is statistically significant. Thus, there is little reason to fear massive displacement of workers, let alone disproportionate displacement of minorities or women, as a result of increases in the minimum wage.

VI. CONCLUSION

Increases in the minimum wage are frequently viewed as transfers from one demographic group to another. Parsons (1980) cites a transfer to women from young workers, while Linneman (1982) claims that men gain at the expense of women. The results presented here tell a more complex story. The simulations show that the minimum wage has a mixed impact. Among those in

TABLE 6

Simulated Change in Annual Hours Worked Resulting from the 1978 Increase in the Minimum Wage

	Wives		Female Heads		Male Heads	
Wage group	White	Black	White	Black	White	Black
Subminimum	-117	-145	119	122	-65	66
Permanent subminimum	-162	-144	118	261	210	-242
Supraminimum	-43	115	-25	16	1	29

Source: Simulation by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

the permanent subminimum population, the minimum significantly increases the incomes only of female heads of households. The incomes of wives, by far the most likely to be in the group the policy is designed to help, actually appear to fall.

The harm done to married women is, however, overstated by looking solely at changes in income. While married women are more likely to hold minimum-wage jobs, their overall family incomes are greater than those of either male or female heads of households. For married women, high overall income relative to own earnings suggests that the total impact on family welfare is relatively small for married women. By contrast, the increase in earnings of female heads of households in the subminimum population translates into a substantial increase in family well-being. Minimum wages fail, however, to move a large number of black female heads of household out of poverty and actually worsen the position of a nearly like number. This general pattern holds true for most of the groups considered. Increases in the minimum wage thus appear to do little to reduce poverty.

There is no significant race or gender difference in the impact of the increased minimum on the hours worked by heads of households. Thus, neither blacks nor women are displaced significantly more than white men by the increase in the minimum. These findings are in direct contrast to the textbook model of discrimination which relies on the existence of an equilibrium differential for the continued employment of women and minorities in an otherwise homogeneous labor market.

TABLE A.1

Probit and Underlying Wage Equation–Wives

Variable	Probit		Wage Equation	
	White	Black	White	Black
Constant	-1.387 (3.75)	-2.061 (3.19)	--	--
Schooling	0.140 (2.31)	0.123 (4.08)	-0.089 (2.72)	0.077 (8.79)
Schooling^2	-0.004 (1.39)	--	0.008 (5.59)	--
College degree	--	--	--	0.486 (3.41)
Mother attended college	--	--	-0.172 (2.68)	--
Experience	0.195 (12.99)	0.152 (6.73)	0.102 (5.91)	0.064 (3.94)
Experience^2	-0.004 (8.08)	-0.002 (3.72)	-0.002 (4.84)	-0.001 (3.25)
Age	0.037 (1.67)	0.082 (2.12)	0.034 (2.61)	--
Age^2	-0.001 (3.45)	-0.002 (2.95)	-0.001 (4.06)	-0.0002 (2.48)
Number of children in family unit	-0.156 (5.15)	--	-0.104 (5.12)	0.051 (3.01)
Non-labor income	-0.00004 (3.87)	--	--	--
Husband's earnings	-0.00002 (4.87)	-0.00003 (3.31)	--	--
% of potential experience[a] spent working full-time	-0.146 (1.66)	--	--	--

(table continues)

TABLE A.1, continued

Variable	Probit		Wage Equation	
	White	Black	White	Black
Live in Northeast	--	-1.095 (4.11)	--	-0.462 (2.35)
Live in South	--	--	-0.105 (2.88)	-0.281 (4.45)
Mother a college graduate	--	--	-0.084 (7.41)	0.096 (8.01)
Age	--	--	-0.069 (25.28)	.082 (35.88)
Age^2	--	--	-0.001 (25.49)	-0.001 (32.86)

Source: Computations by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

[a] Potential experience = age - years of schooling - 5.

TABLE A.2

Underlying Wage Equation--Female Heads of Households

Variable	White	Black
Constant	--	--
Schooling	-0.045 (5.30)	-0.069 (9.45)
Schooling^2	0.005 (12.53)	0.005 (14.73)
College degree	-0.108 5.24	--
Experience	0.009 (14.04)	--
Experience^2	--	.00004 (2.82)
% of potential experience[a] spent working full-time	--	--
Currently married	-0.304 (9.86)	0.159 (3.84)
Never married	-0.576 (1.93)	--
Never married, no children	0.474 (1.59)	0.049 (3.45)
Number of children in family unit	-0.056 (9.56)	-0.024 (7.12)
Covered by union contract	0.168 (15.05)	0.200 (23.69)
Government employee	--	0.118 (13.56)

(table continues)

TABLE A.2, continued

Variable	White	Black
Veteran	-	0.372 (6.36)
Disabled	-0.339 (19.07)	-0.149 (11.26)
Live in Northeast	-0.038 (3.32)	0.088 (6.35)
Live in South	-0.097 (8.85)	-0.170 (20.00)
Mother a college graduate	0.084 (7.41)	0.096 (8.01)
Age	0.069 (25.28)	.082 (35.88)
Age^2	-0.001 (25.49)	-0.001 (32.86)

Source: Computations by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

[a] Potential experience = age - years of schooling - 5.

TABLE A.3

Underlying Wage Equation--Male Heads of Households

Variable	White	Black
Constant	0.355 (15.91)	0.759 (34.98)
Schooling	0.118 (33.00)	0.020 (4.92)
Schooling^2	-0.003 (16.48)	0.002 (8.24)
College degree	0.172 (24.79)	0.110 (5.98)
Experience	0.027 (43.32)	0.023 (27.42)
Experience^2	-0.0003 (25.81)	-0.0003 (18.43)
% of potential experience[a] spent working full-time	0.038 (13.17)	-0.028 (9.04)
Currently married	0.194 (3.71)	-0.154 (13.51)
Never married	0.194 (3.71)	-0.154 (13.51)
Never married, no children	-0.178 (3.41)	--
Number of children in family unit	-0.007 (5.51)	0.034 (20.54)
Covered by union contract	0.206 (66.23)	0.360 (71.80)
Government employee	-0.097 (26.42)	-0.057 (9.79)

(table continues)

TABLE A.3, continued

Variable	White	Black
Veteran	0.086	0.063
	(27.42)	(11.17)
Disabled	0.027	-0.051
	(4.71)	(5.63)
Live in Northeast	--	0.037
		(3.19)
Live in South	-0.083	-0.109
	(25.54)	(18.27)

Source: Computations by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

[a]Potential experience = age - years of schooling - 5.

TABLE A.4

Underlying Hours Equation–Wives

Variable	White	Black
Constant	1366.34 (3.08)	1946.13 (16.67)
Schooling	-117.308 (1.94)	--
Schooling^2	5.879 (2.10)	--
College degree	-269.518 (2.46)	--
Mother attended college	--	--
Experience	40.716 (3.96)	-10.386 (2.45)
Experience^2	-0.577 (1.99)	--
Age	30.727 (1.80)	--
Age^2	-0.499 (2.31)	--
Number of children in family unit	-131.932 (7.20)	-
Husband's earnings	-0.004 (2.08)	-0.016 (2.89)
Non-labor income[a]	--	-0.064 (2.56)
% of potential experience[b] spent working full-time	270.957 (5.49)	186.315 (1.96)

(table continues)

TABLE A.4, continued

Variable	White	Black
Live in Northeast	-118.614 (2.52)	503.053 (2.51)
Live in South	--	--
Wage	-17.009 (3.00)	--
Lambda	--	-503.919 (3.58)

Source: Computations by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

[a]Non-labor income = asset income + dividend income + interest income + all transfer income (includes both spouses where relevant).
[b]Potential experience = age - years of schooling - 5.

TABLE A.5

Underlying Hours Equation--Female Heads of Households

Variable	White	Black
Constant	--	2488.640 (23.14)
Schooling	114.952 (14.54)	112.565 (9.12)
Schooling^2	-4.208 (13.31)	-6.122 (10.11)
College degree	--	154.812 (4.97)
Experience	37.131 (16.69)	35.539 (12.24)
Experience^2	-0.335 (6.91)	-0.739 (12.77)
% of potential experience[a] spent working full-time	-485.949 (21.90)	51.257 (12.62)
Currently married	-239.045 (8.03)	762.899 (16.60)
Never married	24.634 (2.02)	-49.853 (3.97)
Never married, no children	--	49.368 (3.11)
Number of children in family unit	--	--
Covered by union contract	-197.30 (17.71)	--
Government employee	202.62 (19.84)	20.513 (2.38)

(table continues)

TABLE A.5, continued

Variable	White	Black
Veteran	-79.101 (2.13)	-969.016 (16.26)
Disabled	46.049 (2.65)	-67.278 (5.09)
Live in Northeast	-34.008 (2.98)	-225.153 (17.28)
Live in South	25.524 (2.34)	--
Mother a college graduate	147.585 (13.36)	57.378 (4.64)
Age	71.459 (24.21)	-62.574 (12.20)
Age^2	-0.950 (26.79)	0.637 (10.91)
Non-labor income[b]	-0.069 (40.95)	-0.070 (27.46)
Wage	-29.131 (42.23)	--

Source: Computations by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

[a]Potential income = age - years of schooling - 5.
[b]Non-labor income = asset income + dividend income + interest income + all transfer income (includes both spouses where relevant).

TABLE A.6

Underlying Hours Equation--Male Heads of Households

Variable	White	Black
Constant	1589.062 (54.22)	1595.650 (88.50)
Schooling	70.984 (17.14)	--
Schooling^2	-1.655 (9.83)	1.633 (22.71)
College degree	--	-156.767 (8.07)
Experience	20.311 (23.42)	27.952 (27.65)
Experience^2	-0.379 (18.96)	-0.518 (25.24)
% of potential experience[a] spent working full-time	50.669 (12.78)	--
Currently married	67.962 (5.92)	201.085 (19.75)
Never married	--	401.155 (11.78)
Never married, no children	-83.428 (5.59)	-416.719 (12.29)
Number of children in family unit	32.363 (18.14)	-8.844 (4.31)
Covered by union contract	-69.673 (15.83)	-45.460 (6.90)
Government employee	20.221 (3.94)	-19.783 (2.78)

(table continues)

TABLE A.6, continued

Variable	White	Black
Veteran	-72.017 (16.41)	--
Disabled	-361.722 (44.44)	-101.657 (9.05)
Live in Northeast	-112.976 (21.92)	--
Live in South	50.924 (10.69)	-33.292 (4.82)
Non-labor income[b]	-0.026 (38.07)	-0.106 (43.05)
Wage	-30.564 (49.86)	-9.557 (7.20)

Source: Computations by author based on data from Waves XI and XII of the Panel Study of Income Dynamics, containing data from 1977 and 1978.

[a]Potential experience = age - years of schooling - 5.
[b]Non-labor income = asset income + dividend income + interest income + all transfer income (includes both spouses where relevant).

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