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[Minimum Wage Working
Paper] [46 pages]

WORKING PAPER SERIES

MINIMUM WAGES AND
TRAINING REVISITED

David Neumark
William Wascher

Working Paper 6651

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.



<http://www.nber.org>

TO: Janet Yellen
Rebecca Blank

FROM: Amy Finkelstein

SUBJECT: Minimum Wage Estimates

DATE: February 11, 1998

Attached are some new disemployment estimates that Jon Gruber has done. These use the same methodology we used last time, but look at some different scenarios (e.g. 6.15 by 1999).

Also attached is a re-estimate that Sandy and I did of the states whose workfare programs could be effected by various increases in the minimum wage. There were some problems with the estimates we were given (miscalculation of food stamp benefits and required hours of work to meet work requirements). Our estimates suggest that even more states than previously estimated could have their workfare programs effected by minimum wage increases. I've sent these new estimates to NEC and Treasury.

These were done when Amy did
not know her way around
STATA and probably should be
redone.

Effect of Minimum Wage Increase on Cost of Workfare Program

Because workfare programs must pay participants the minimum wage, an increase in the minimum wage can increase the cost to states of complying with work requirements by enrolling states in workfare programs. (Of course, states can meet the work requirements by other means, such as caseload reductions, whose costs would not be directly effected by a change in the minimum wage).

The table below gives the number of states whose welfare benefits (plus food stamps¹) for a single parent with two children cannot support a minimum wage workfare job under the current requirement of a 20 hour work week and under the requirement of a 30 hour work week that begins in FY 2000.

States Whose Welfare Benefits Cannot Support a Minimum Wage Workfare Job for a Single Parent with Two Children.

Minimum Wage	20 hour work week required	30 hour work week required (FY 2000)
Current Minimum	1 (MS)	24
Increase of 50 cents (\$5.65)	2 (Above plus AL)	37
Increase of \$1 (\$6.15)	7 (Above plus TN, TX, LA, SC, AR)	42
Increase of \$2 (\$7.15)	13 (Above plus WV, KY, NC, GA, IN, MO)	50

¹Food stamp benefits are calculated assuming the standard deduction and 75% of the maximum excess shelter deduction (since one-quarter of the caseload receives section 8 vouchers and hence would not be eligible for the excess shelter deduction).

RAISE MIN WAGE TO \$6.00 IN 1999
(= \$5.73 IN 1997)

Effect of New Minimum								
	wage range		number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW-ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	0.0000	11.2%	0.0%	0
	\$5.00	\$5.24	4,534,000	\$5.15	0.0000	11.2%	0.0%	0
	\$5.25	\$5.49	2,195,000	\$5.29	-0.0250	8.3%	-0.2%	(4,540)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.0500	3.6%	-0.2%	(4,062)
	\$5.75	\$5.99	975,000	\$5.80	-0.0750	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00	\$11.24			-0.6000			
		16,379,000						(8,602)
MID-ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.2000	11.2%	-2.2%	(16,533)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.2000	11.2%	-2.2%	(101,711)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.2125	8.3%	-1.8%	(38,589)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.2250	3.6%	-0.8%	(18,279)
	\$5.75	\$5.99	975,000	\$5.80	-0.2375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.5000			
		16,379,000						(175,113)
HIGH-ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.4000	11.2%	-4.5%	(33,066)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.4000	11.2%	-4.5%	(203,423)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.4125	8.3%	-3.4%	(74,908)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.4250	3.6%	-1.5%	(34,527)
	\$5.75	\$5.99	975,000	\$5.80	-0.4375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.7000			
		16,379,000						(345,924)

RAISE MIN WAGE TO \$6.00 IN 2000
(= \$5.58 IN 1997)

Effect of New Minimum

	wage range		number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	0.0000	8.3%	0.0%	0
	\$5.00	\$5.24	4,534,000	\$5.15	0.0000	8.3%	0.0%	0
	\$5.25	\$5.49	2,195,000	\$5.29	-0.0250	5.4%	-0.1%	(2,978)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.0500	0.9%	-0.0%	(967)
	\$5.75	\$5.99	975,000	\$5.80	-0.0750	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00	\$11.24			-0.6000			
			16,379,000					(3,945)
MID- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.2000	8.3%	-1.7%	(12,223)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.2000	8.3%	-1.7%	(75,197)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.2125	5.4%	-1.2%	(25,312)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.2250	0.9%	-0.2%	(4,353)
	\$5.75	\$5.99	975,000	\$5.80	-0.2375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.5000			
			16,379,000					(117,086)
HIGH- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.4000	8.3%	-3.3%	(24,447)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.4000	8.3%	-3.3%	(150,395)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.4125	5.4%	-2.2%	(49,135)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.4250	0.9%	-0.4%	(8,222)
	\$5.75	\$5.99	975,000	\$5.80	-0.4375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.7000			
			16,379,000					(232,199)

RAISE MIN WAGE TO \$6.05 IN 1999
(= \$5.78 IN 1997)

Effect of New Minimum								
	wage range		number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW-ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	0.0000	12.1%	0.0%	0
	\$5.00	\$5.24	4,534,000	\$5.15	0.0000	12.1%	0.0%	0
	\$5.25	\$5.49	2,195,000	\$5.29	-0.0250	9.2%	-0.2%	(5,035)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.0500	4.4%	-0.2%	(5,043)
	\$5.75	\$5.99	975,000	\$5.80	-0.0750	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00	\$11.24			-0.6000			
		16,379,000					(10,078)	
MID-ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.2000	12.1%	-2.4%	(17,899)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.2000	12.1%	-2.4%	(110,116)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.2125	9.2%	-1.9%	(42,798)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.2250	4.4%	-1.0%	(22,693)
	\$5.75	\$5.99	975,000	\$5.80	-0.2375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.5000			
		16,379,000					(193,506)	
HIGH-ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.4000	12.1%	-4.9%	(35,798)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.4000	12.1%	-4.9%	(220,231)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.4125	9.2%	-3.8%	(83,078)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.4250	4.4%	-1.9%	(42,865)
	\$5.75	\$5.99	975,000	\$5.80	-0.4375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.7000			
		16,379,000					(381,973)	

RAISE MIN WAGE TO \$6.05 IN 2000
(= \$5.62 IN 1997)

Effect of New Minimum								
	wage range		number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	0.0000	9.2%	0.0%	0
	\$5.00	\$5.24	4,534,000	\$5.15	0.0000	9.2%	0.0%	0
	\$5.25	\$5.49	2,195,000	\$5.29	-0.0250	6.3%	-0.2%	(3,460)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.0500	1.7%	-0.1%	(1,922)
	\$5.75	\$5.99	975,000	\$5.80	-0.0750	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00	\$11.24			-0.6000			
		16,379,000						(5,382)
MID- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.2000	9.2%	-1.8%	(13,553)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.2000	9.2%	-1.8%	(83,381)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.2125	6.3%	-1.3%	(29,410)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.2250	1.7%	-0.4%	(8,651)
	\$5.75	\$5.99	975,000	\$5.80	-0.2375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.5000			
		16,379,000						(134,995)
HIGH- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.4000	9.2%	-3.7%	(27,107)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.4000	9.2%	-3.7%	(166,761)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.4125	6.3%	-2.6%	(57,090)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.4250	1.7%	-0.7%	(16,341)
	\$5.75	\$5.99	975,000	\$5.80	-0.4375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00	\$11.24			-0.7000			
		16,379,000						(267,299)

RAISE MIN WAGE TO \$6.15 IN 1999
(= \$5.87 IN 1997)

			Effect of New Minimum				
	wage range	number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	0.0000	14.0%	0.0%	0
	\$5.00 \$5.24	4,534,000	\$5.15	0.0000	14.0%	0.0%	0
	\$5.25 \$5.49	2,195,000	\$5.29	-0.0250	11.0%	-0.3%	(6,025)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.0500	6.2%	-0.3%	(7,005)
	\$5.75 \$5.99	975,000	\$5.80	-0.0750	1.2%	-0.1%	(893)
	\$6.00 \$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00 \$11.24			-0.6000			
		16,379,000					(13,923)
MID- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.2000	14.0%	-2.8%	(20,631)
	\$5.00 \$5.24	4,534,000	\$5.15	-0.2000	14.0%	-2.8%	(126,924)
	\$5.25 \$5.49	2,195,000	\$5.29	-0.2125	11.0%	-2.3%	(51,215)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.2250	6.2%	-1.4%	(31,522)
	\$5.75 \$5.99	975,000	\$5.80	-0.2375	1.2%	-0.3%	(2,828)
	\$6.00 \$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.5000			
		16,379,000					(233,120)
HIGH- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.4000	14.0%	-5.6%	(41,263)
	\$5.00 \$5.24	4,534,000	\$5.15	-0.4000	14.0%	-5.6%	(253,848)
	\$5.25 \$5.49	2,195,000	\$5.29	-0.4125	11.0%	-4.5%	(99,417)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.4250	6.2%	-2.6%	(59,541)
	\$5.75 \$5.99	975,000	\$5.80	-0.4375	1.2%	-0.5%	(5,210)
	\$6.00 \$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.7000			
		16,379,000					(459,279)

RAISE MIN WAGE TO \$6.15 IN 2000
(= \$5.72 IN 1997)

				Effect of New Minimum			
	wage range	number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	0.0000	11.0%	0.0%	0
	\$5.00 \$5.24	4,534,000	\$5.15	0.0000	11.0%	0.0%	0
	\$5.25 \$5.49	2,195,000	\$5.29	-0.0250	8.1%	-0.2%	(4,424)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.0500	3.4%	-0.2%	(3,833)
	\$5.75 \$5.99	975,000	\$5.80	-0.0750	0.0%	0.0%	0
	\$6.00 \$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00 \$11.24			-0.6000			
		16,379,000					(8,257)
MID- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.2000	11.0%	-2.2%	(16,214)
	\$5.00 \$5.24	4,534,000	\$5.15	-0.2000	11.0%	-2.2%	(99,747)
	\$5.25 \$5.49	2,195,000	\$5.29	-0.2125	8.1%	-1.7%	(37,606)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.2250	3.4%	-0.8%	(17,248)
	\$5.75 \$5.99	975,000	\$5.80	-0.2375	0.0%	0.0%	0
	\$6.00 \$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.5000			
		16,379,000					(170,814)
HIGH- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.4000	11.0%	-4.4%	(32,428)
	\$5.00 \$5.24	4,534,000	\$5.15	-0.4000	11.0%	-4.4%	(199,495)
	\$5.25 \$5.49	2,195,000	\$5.29	-0.4125	8.1%	-3.3%	(72,999)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.4250	3.4%	-1.4%	(32,579)
	\$5.75 \$5.99	975,000	\$5.80	-0.4375	0.0%	0.0%	0
	\$6.00 \$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.7000			
		16,379,000					(337,500)

CASE 1 -- RAISE MIN WAGE TO \$6.00 IN 2002 (KEEP PACE WITH INFLATION)
(= \$5.15 IN 1997)

				Effect of New Minimum			
	wage range	number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	0.0000	0.0%	0.0%	0
	\$5.00 \$5.24	4,534,000	\$5.15	0.0000	0.0%	0.0%	0
	\$5.25 \$5.49	2,195,000	\$5.29	-0.0250	0.0%	0.0%	0
	\$5.50 \$5.74	2,273,000	\$5.53	-0.0500	0.0%	0.0%	0
	\$5.75 \$5.99	975,000	\$5.80	-0.0750	0.0%	0.0%	0
	\$6.00 \$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00 \$11.24			-0.6000			
		16,379,000					0
MID- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.2000	0.0%	0.0%	0
	\$5.00 \$5.24	4,534,000	\$5.15	-0.2000	0.0%	0.0%	0
	\$5.25 \$5.49	2,195,000	\$5.29	-0.2125	0.0%	0.0%	0
	\$5.50 \$5.74	2,273,000	\$5.53	-0.2250	0.0%	0.0%	0
	\$5.75 \$5.99	975,000	\$5.80	-0.2375	0.0%	0.0%	0
	\$6.00 \$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.5000			
		16,379,000					0
HIGH- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.4000	0.0%	0.0%	0
	\$5.00 \$5.24	4,534,000	\$5.15	-0.4000	0.0%	0.0%	0
	\$5.25 \$5.49	2,195,000	\$5.29	-0.4125	0.0%	0.0%	0
	\$5.50 \$5.74	2,273,000	\$5.53	-0.4250	0.0%	0.0%	0
	\$5.75 \$5.99	975,000	\$5.80	-0.4375	0.0%	0.0%	0
	\$6.00 \$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25 \$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.7000			
		16,379,000					0

CASE 2 – RAISE MIN WAGE TO \$6.25 IN 2002 (OR \$6.00 IN 2000)
(= \$5.40 IN 1997)

				Effect of New Minimum				
wage range		number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost	
LOW- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	0.0000	4.9%	0.0%	0
	\$5.00	\$5.24	4,534,000	\$5.15	0.0000	4.9%	0.0%	0
	\$5.25	\$5.49	2,195,000	\$5.29	-0.0250	2.1%	-0.1%	(1,141)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.0500	0.0%	0.0%	0
	\$5.75	\$5.99	975,000	\$5.80	-0.0750	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
\$11.00 \$11.24				-0.6000				
								(1,141)
								16,379,000
MID- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.2000	4.9%	-1.0%	(7,155)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.2000	4.9%	-1.0%	(44,019)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.2125	2.1%	-0.4%	(9,699)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.2250	0.0%	0.0%	0
	\$5.75	\$5.99	975,000	\$5.80	-0.2375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
\$11.00 \$11.24				-0.5000				
								(60,874)
								16,379,000
HIGH- ELASTICITY ESTIMATES	\$4.25	\$4.99	737,000	\$5.15	-0.4000	4.9%	-1.9%	(14,311)
	\$5.00	\$5.24	4,534,000	\$5.15	-0.4000	4.9%	-1.9%	(88,039)
	\$5.25	\$5.49	2,195,000	\$5.29	-0.4125	2.1%	-0.9%	(18,828)
	\$5.50	\$5.74	2,273,000	\$5.53	-0.4250	0.0%	0.0%	0
	\$5.75	\$5.99	975,000	\$5.80	-0.4375	0.0%	0.0%	0
	\$6.00	\$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0
	\$6.25	\$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
\$11.00 \$11.24				-0.7000				
								(121,177)
								16,379,000

CASE 3 -- RAISE MIN WAGE TO \$6.75 IN 2002
(= \$5.82 IN 1997)

				Effect of New Minimum				
wage range		number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost	
LOW- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	0.0000	13.0%	0.0%	0	
	\$5.00 \$5.24	4,534,000	\$5.15	0.0000	13.0%	0.0%	0	
	\$5.25 \$5.49	2,195,000	\$5.29	-0.0250	10.0%	-0.3%	(5,498)	
	\$5.50 \$5.74	2,273,000	\$5.53	-0.0500	5.2%	-0.3%	(5,960)	
	\$5.75 \$5.99	975,000	\$5.80	-0.0750	0.3%	-0.0%	(252)	
	\$6.00 \$6.24	4,519,000	\$6.02	-0.1000	0.0%	0.0%	0	
	\$6.25 \$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0	
\$11.00 \$11.24				-0.6000				
		16,379,000					(11,710)	
MID- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.2000	13.0%	-2.6%	(19,176)	
	\$5.00 \$5.24	4,534,000	\$5.15	-0.2000	13.0%	-2.6%	(117,972)	
	\$5.25 \$5.49	2,195,000	\$5.29	-0.2125	10.0%	-2.1%	(46,732)	
	\$5.50 \$5.74	2,273,000	\$5.53	-0.2250	5.2%	-1.2%	(26,820)	
	\$5.75 \$5.99	975,000	\$5.80	-0.2375	0.3%	-0.1%	(798)	
	\$6.00 \$6.24	4,519,000	\$6.02	-0.2500	0.0%	0.0%	0	
	\$6.25 \$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0	
\$11.00 \$11.24				-0.5000				
		16,379,000					(211,499)	
HIGH- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.4000	13.0%	-5.2%	(38,353)	
	\$5.00 \$5.24	4,534,000	\$5.15	-0.4000	13.0%	-5.2%	(235,944)	
	\$5.25 \$5.49	2,195,000	\$5.29	-0.4125	10.0%	-4.1%	(90,715)	
	\$5.50 \$5.74	2,273,000	\$5.53	-0.4250	5.2%	-2.2%	(50,660)	
	\$5.75 \$5.99	975,000	\$5.80	-0.4375	0.3%	-0.2%	(1,471)	
	\$6.00 \$6.24	4,519,000	\$6.02	-0.4500	0.0%	0.0%	0	
	\$6.25 \$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0	
\$11.00 \$11.24				-0.7000				
		16,379,000					(417,142)	

**CASE 4 – RAISE MIN WAGE TO \$7.25 IN 2002
(= \$6.25 IN 1997)**

				Effect of New Minimum			
	wage range	number in range	average wage	cell elasticity	% increase in wages	% drop in employment	# of jobs lost
LOW- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	0.0000	21.4%	0.0%	0
	\$5.00 \$5.24	4,534,000	\$5.15	0.0000	21.4%	0.0%	0
	\$5.25 \$5.49	2,195,000	\$5.29	-0.0250	18.1%	-0.5%	(9,958)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.0500	13.0%	-0.7%	(14,797)
	\$5.75 \$5.99	975,000	\$5.80	-0.0750	7.8%	-0.6%	(5,673)
	\$6.00 \$6.24	4,519,000	\$6.02	-0.1000	3.8%	-0.4%	(17,265)
	\$6.25 \$6.49	1,146,000	\$6.30	-0.1250	0.0%	0.0%	0
	\$11.00 \$11.24			-0.6000			
		16,379,000					(47,694)
MID- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.2000	21.4%	-4.3%	(31,483)
	\$5.00 \$5.24	4,534,000	\$5.15	-0.2000	21.4%	-4.3%	(193,685)
	\$5.25 \$5.49	2,195,000	\$5.29	-0.2125	18.1%	-3.9%	(84,647)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.2250	13.0%	-2.9%	(66,587)
	\$5.75 \$5.99	975,000	\$5.80	-0.2375	7.8%	-1.8%	(17,966)
	\$6.00 \$6.24	4,519,000	\$6.02	-0.2500	3.8%	-1.0%	(43,163)
	\$6.25 \$6.49	1,146,000	\$6.30	-0.2625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.5000			
		16,379,000					(437,532)
HIGH- ELASTICITY ESTIMATES	\$4.25 \$4.99	737,000	\$5.15	-0.4000	21.4%	-8.5%	(62,967)
	\$5.00 \$5.24	4,534,000	\$5.15	-0.4000	21.4%	-8.5%	(387,371)
	\$5.25 \$5.49	2,195,000	\$5.29	-0.4125	18.1%	-7.5%	(164,314)
	\$5.50 \$5.74	2,273,000	\$5.53	-0.4250	13.0%	-5.5%	(125,775)
	\$5.75 \$5.99	975,000	\$5.80	-0.4375	7.8%	-3.4%	(33,095)
	\$6.00 \$6.24	4,519,000	\$6.02	-0.4500	3.8%	-1.7%	(77,694)
	\$6.25 \$6.49	1,146,000	\$6.30	-0.4625	0.0%	0.0%	0
	\$11.00 \$11.24			-0.7000			
		16,379,000					(851,216)

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An Evaluation of the Minimum-Wage Increase

By Jared Bernstein and John Schmitt

In the summer of 1996, Congress voted to increase the federal minimum wage from \$4.25 to \$5.15 per hour. On August 20, 1996, President Clinton signed the legislation, which implemented the increase in two stages: a \$0.50 per hour increase on October 1, 1996, followed by a \$0.40 increase on September 1, 1997. Supporters argued that the bill would raise the earnings of millions of low-wage workers and primarily benefit the poorest working families. Opponents claimed that the increase would lead to widespread job loss among the very workers the legislation was intended to help.

The first stage of the increase has been in effect for over six months, and it is now possible to investigate these claims. This paper examines data from the U.S. government's monthly Current Population Survey for the six months from October 1996 through March 1997 (and for the same period a year earlier) to assess the impact of the minimum-wage increase on the distribution of wages, the distribution of family income, and the employment opportunities of low-wage workers. While the analysis deals only with the first six months at the new wage level, these early results suggest clearly that:

- the higher minimum wage has substantially boosted the earnings of low-wage workers;
- the benefits of the minimum-wage increase went primarily to low-income working families; and
- employment opportunities for teenagers and young adults — groups that opponents of the minimum wage singled out as particularly vulnerable — were not adversely affected by the increase.

The following sections look at these three findings in detail.

Did the Minimum-Wage Increase Boost Wages?

The economic impact of the \$0.50 increase depends on the share of the workforce earning between \$4.25 and \$4.74 an hour. If few workers were affected by the increase, the impact should be negligible. But if many workers were affected, the impact on wages, incomes, and perhaps employment should be significant.

Economists traditionally use the economic impact of minimum-wage increases on teens and young adults as an indication of the probable impact on low-wage workers of all ages.¹ This study follows that procedure by focusing on the employment and earnings of teenagers age 16-19 and young adults age 20-24. Since these workers are just beginning their working lives, a large share of them earn low wages. This is not to say, however, that most minimum-wage workers are teenagers. While a disproportionate share of teenagers earn the minimum wage, most minimum-wage workers are adults. Prior to the increase in October, for example, 66% of workers earning between \$4.25 and \$4.75 were age 20 or older.

The \$0.50 increase in the minimum wage on October 1, 1996 had a substantial positive effect on the wages of teenagers and young adults. Table 1A displays the wage distribution for teenage and young adult workers in the six months immediately before the increase; Table 1B reports the same information for the six months immediately following the increase (see the data appendix for a full description of the wage information). The data in Table 1A show that, just prior to the increase, 9.8% of teenagers earned exactly \$4.25 (the old value of the minimum wage) and another 10.2% earned between \$4.26 and \$4.74. The data in Table 1B show that, after the increase, the share of teenage workers earning exactly \$4.25 fell to 2.7%, and the share earning between \$4.26 and \$4.74 declined to 5.5%. Over the same two periods, the share of teenage workers earning exactly \$4.75 (the new minimum wage) increased from 2.9% to 11.5%. The data for young adults show similar, but smaller, changes. The share of young adults in the wage range (\$4.25-\$4.74) affected by the October 1 increase fell from 6.7% to 3.0%, while the share at the new minimum wage of \$4.75 rose from 1.1% to 3.2%.²

The minimum wage had the biggest impact on the wages of black and Hispanic teenagers.³ Before the October 1 increase, 31.2% of black teens and 24.8% of Hispanic teens earned between \$4.25 and \$4.74. After the increase, the share of workers in this range fell to 14.3% for black teens and 5.2% for Hispanic teens. In the six months before the minimum-wage hike, only 3.9% of black teens earned \$4.75, but over the six months after the increase, the share climbed to 11.9%. For Hispanic teens, the share earning \$4.75 was 2.5% before October 1; it jumped to 14.8% after the increase.⁴

Some economists have argued that increases in the minimum wage will affect the wages of workers above the new \$4.75 level because employers will raise wages of these better-paid workers in order to maintain relative pay differences within the firm (see, for example, Spriggs and Klein 1994). The wage data show some signs of these "spillover" effects, especially for black male and Hispanic female teenagers. Table 1C reflects signs of such spillovers.⁵ For example, the share of black male teenagers earning exactly \$4.75 grew 9.1 percentage points after the increase. At the same time, the share earning between \$4.76 and \$5.14 per hour — a range above the level required by law — increased 12.7 percentage points; even the share of those earning \$5.15 or more rose 7.3 percentage points. Similarly, for Hispanic female teens, the share of workers earning \$5.15 or more jumped 9.6 percentage points after the October 1 increase.

TABLE 1A
Distribution of Wages by Demographic Characteristics,
April-September 1996

Type of Employees	Percent of Employees Earning						Number in Sample
	\$0.50 - \$4.24	\$4.25	\$4.26 - \$4.74	\$4.75	\$4.76 - \$5.14	\$5.15 +	
All	2.1	1.5	2.1	0.5	4.7	89.1	75,732
Teenagers (16-19)	7.2	9.8	10.2	2.9	20.5	49.4	4,482
Male	6.2	9.1	10.3	2.5	19.9	52.0	2,270
Female	8.3	10.5	10.2	3.3	21.1	46.6	2,212
White	7.1	9.1	9.6	2.8	20.3	51.1	3,608
Male	6.2	8.0	9.6	2.6	19.4	54.2	1,817
Female	8.1	10.2	9.7	3.0	21.2	47.9	1,791
Black	8.9	14.2	17.0	3.9	20.1	35.9	359
Male	7.1	18.3	21.3	1.8	17.2	34.3	169
Female	10.5	10.5	13.2	5.8	22.6	37.4	190
Hispanic	5.5	12.8	12.0	2.5	23.5	43.7	366
Male	5.0	10.9	9.5	1.8	25.0	47.7	220
Female	6.2	15.8	15.8	3.4	21.2	37.7	146
Young Adults (20-24)	3.1	3.0	3.7	1.1	9.1	80.1	7,368
Male	2.4	2.7	3.2	0.7	8.3	82.5	3,705
Female	3.7	3.2	4.1	1.4	9.9	77.7	3,663
White	2.8	2.3	3.2	1.0	8.3	82.4	5,470
Male	1.8	1.9	2.7	0.7	7.5	85.5	2,732
Female	3.8	2.8	3.7	1.4	9.1	79.4	2,738
Black	3.4	5.2	6.4	2.3	13.5	69.2	653
Male	3.8	6.9	4.8	2.8	13.5	68.2	289
Female	3.0	3.8	7.7	1.9	13.5	70.1	364
Hispanic	4.6	6.1	4.4	0.7	12.1	72.1	856
Male	4.8	5.4	5.2	0.2	10.9	73.4	497
Female	4.2	7.0	3.3	1.4	13.9	70.2	359

Source: EPI analysis of CPS ORG.

TABLE 1B
Distribution of Wages by Demographic Characteristics,
October 1996 to March 1997

Type of Employees	Percent of Employees Earning						Number in Sample
	\$0.50 – \$4.24	\$4.25	\$4.26 – \$4.74	\$4.75	\$4.76 – \$5.14	\$5.15 +	
All	1.9	0.4	1.1	1.6	4.4	90.6	76,745
Teenagers (16-19)	5.2	2.7	5.5	11.5	23.6	51.5	4,094
Male	4.2	2.4	5.1	11.1	23.7	53.4	2,034
Female	6.1	3.0	6.0	11.8	23.5	49.7	2,060
White	5.0	2.4	5.7	11.1	23.6	52.2	3,267
Male	4.2	2.0	5.5	10.6	23.6	54.2	1,637
Female	5.8	2.9	5.9	11.7	23.6	50.1	1,630
Black	6.8	5.4	8.9	11.9	27.1	39.9	336
Male	5.1	5.8	6.6	10.9	29.9	41.6	137
Female	8.0	5.0	10.6	12.6	25.1	38.7	199
Hispanic	5.5	2.9	2.3	14.8	24.3	50.1	345
Male	3.6	3.6	1.5	15.2	23.9	52.3	197
Female	8.1	2.0	3.4	14.2	25.0	47.3	148
Young Adults (20-24)	2.6	1.0	2.0	3.2	8.8	82.4	7,285
Male	2.1	1.1	1.9	2.6	7.5	84.8	3,694
Female	3.1	0.9	2.1	3.7	10.2	79.9	3,591
White	2.5	0.9	1.6	2.7	8.0	84.3	5,318
Male	2.1	0.9	1.5	1.9	6.6	86.9	2,672
Female	3.0	0.9	1.7	3.5	9.4	81.6	2,646
Black	4.4	1.9	3.6	3.3	11.7	75.1	676
Male	4.2	2.8	2.8	2.4	11.5	76.2	286
Female	4.6	1.3	4.1	3.8	11.8	74.4	390
Hispanic	2.5	1.3	2.8	6.5	11.8	75.1	906
Male	1.9	1.5	3.0	6.8	10.1	76.7	533
Female	3.5	1.1	2.4	6.2	14.2	72.7	373

Source: EPI analysis of CPS ORG.

TABLE 1C
Change of Distribution of Wages by Demographic Characteristics,
April-September 1996 to October 1996-March 1997

Type of Employees	Change in Percent of Employees Earning					
	\$0.50 – \$4.24	\$4.25	\$4.26 – \$4.74	\$4.75	\$4.76 – \$5.14	\$5.15 +
All	-0.2	-1.1	-1.0	1.1	-0.3	1.5
Teenagers (16-19)	-2.0	-7.1	-4.7	8.6	3.1	2.1
Male	-2.0	-6.7	-5.2	8.6	3.8	1.4
Female	-2.2	-7.5	-4.2	8.5	2.4	3.1
White	-2.1	-6.7	-3.9	8.3	3.3	1.1
Male	-2.0	-6.0	-4.1	8.0	4.2	0.0
Female	-2.3	-7.3	-3.8	8.7	2.4	2.2
Black	-2.1	-8.8	-8.1	8.0	7.0	4.0
Male	-2.0	-12.5	-14.7	9.1	12.7	7.3
Female	-2.5	-5.5	-2.6	6.8	2.5	1.3
Hispanic	0.0	-9.9	-9.7	12.3	0.8	6.4
Male	-1.4	-7.3	-8.0	13.4	-1.1	4.6
Female	1.9	-13.8	-12.4	10.8	3.8	9.6
Young Adults (20-24)	-0.5	-2.0	-1.7	2.1	-0.3	2.3
Male	-0.3	-1.6	-1.3	1.9	-0.8	2.3
Female	-0.6	-2.3	-2.0	2.3	0.3	2.2
White	-0.3	-1.4	-1.6	1.7	-0.3	1.9
Male	0.3	-1.0	-1.2	1.2	-0.9	1.4
Female	-0.8	-1.9	-2.0	2.1	0.3	2.2
Black	1.0	-3.3	-2.8	1.0	-1.8	5.9
Male	0.4	-4.1	-2.0	-0.4	-2.0	8.0
Female	1.6	-2.5	-3.6	1.9	-1.7	4.3
Hispanic	-2.1	-4.8	-1.6	5.8	-0.3	3.0
Male	-2.9	-3.9	-2.2	6.6	-0.8	3.3
Female	-0.7	-5.9	-0.9	4.8	0.3	2.5

Source: EPI analysis of CPS ORG.

Who Benefited From the Increase?

While it appears to be true that the minimum-wage increase raised the pay of low-wage workers, is it also true that these higher wages went to low-income families? **Figure 1** illustrates how the policy predominantly benefited low-income working families. (See the appendix for a discussion of the methods used in this figure.) In the case of all working families, including those with only one member, 55.6% of the gains from the increase went to families in the bottom 40%, and 71.2% of the gains went to families in the bottom 60%. Note that families in the bottom two-fifths received only 16.0% of all income, while families in the bottom three-fifths received 32.2% of all income. Families in the top fifth, with 45.0% of all income, received the smallest share of gains from the increase (13.5%). The patterns are similar for families of two or more individuals (bottom figure). In the end, most of the added earnings generated by the minimum-wage increase went to the low-income families who needed it most.

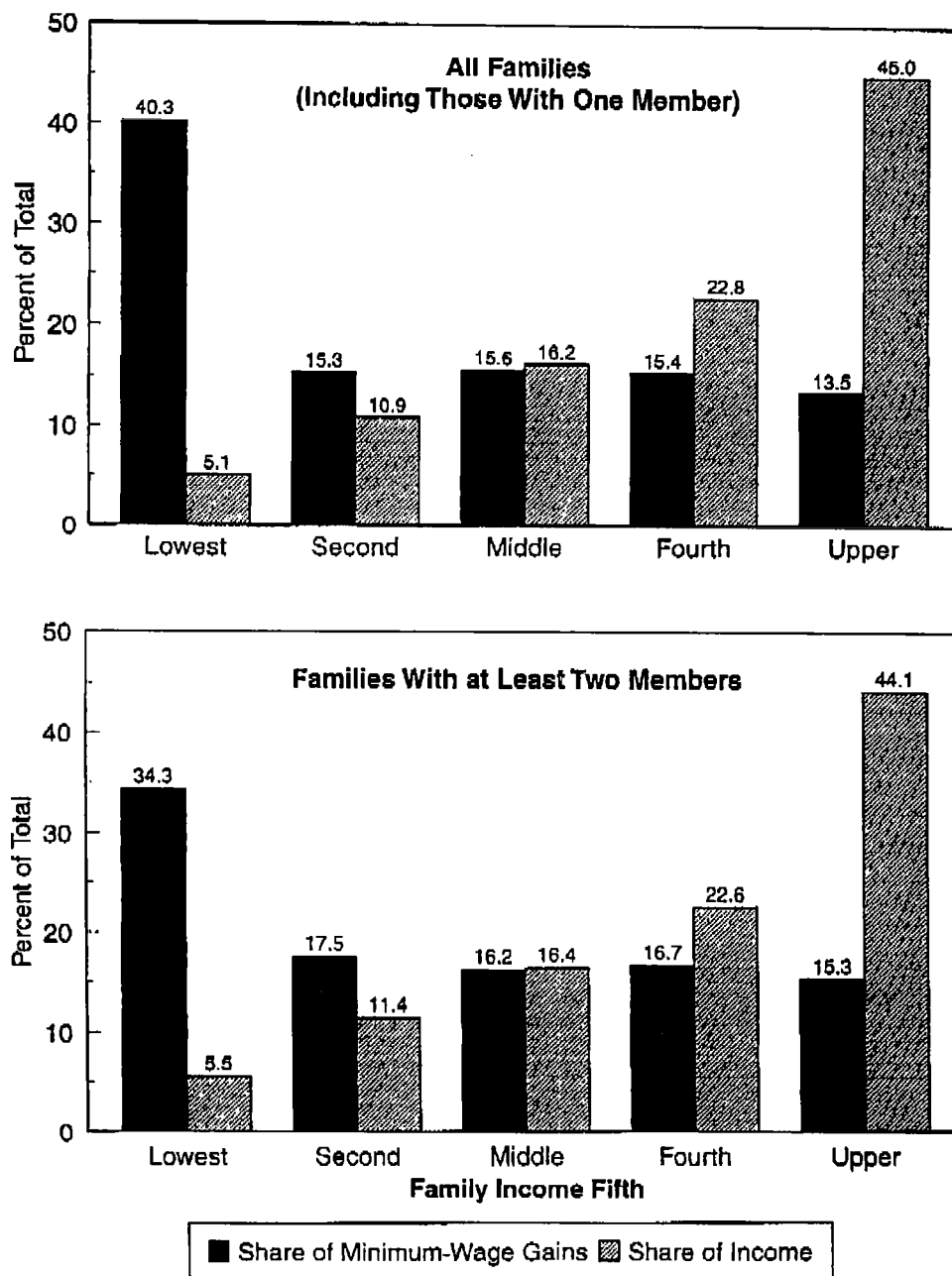
Did the Increase Cause Job Loss?

The potential for job loss is the most controversial aspect of the minimum-wage increase. Opponents of the increase have consistently contended that it lowers employment opportunities for teenagers (and to a lesser extent, young adults). Supporters of the increase have disagreed, citing much empirical research showing little or no "disemployment" effects.⁶

To determine if the minimum-wage increase led to declining job opportunities, we examined the trends in the employment rates (employment to population ratios) of teenage and young adult workers. Our examination takes into account three factors that can have an impact on the results: seasonal variations, economic growth, and regional trends. We find that *the minimum-wage increase had no significant effect on the employment of teens or young adults, one way or the other.*

Table 2 summarizes our analysis of the minimum-wage increase's impact on employment. Column 4 indicates the percentage of persons in each age group employed during the six-month period immediately before the October 1 minimum-wage increase. Among teenagers, for example, the employment rate was 46.6% in April-September 1996. Column 5 lists the percentage employed for the six-month period immediately after the increase went into effect (October 1996-March 1997). For teenagers, the employment rate in this most recent six-month period fell to 40.8%, a drop of 5.8 percentage points when compared to the preceding six months. But this analysis would fail to take into consideration the seasonal variations inherent in teenage employment trends, especially the temporary rise in teenage employment associated with summer vacation.

To control for the seasonal employment effect, we compare the change in employment between April-September 1996 and October 1996-March 1997 with the change between the same two periods a year earlier — when the minimum wage did not change. Columns 1 and 2, which show the employment rates for these earlier periods, indicate that, among all teenagers, the employment rate fell from 47.6% in the April to September period to 40.7% in the October to March period — a 6.9 percentage-point drop (see column 3). The decline in teenage employment after the minimum-wage increase went into effect, then, was 1.0 percentage point *lower* than a year earlier, when the minimum wage remained unchanged.

FIGURE 1**Distribution of Minimum-Wage Gains and Income Shares by Fifth, 1996**

Note: Families have at least one earner.

Source: EPI analysis of March CPS data (see data appendix).

TABLE 2
Estimated Change In Employment Associated
With the Minimum-Wage Increase In October 1996,
All, Teenagers, and Young Adults

	1995-96			1996-97			Difference-in-Difference		
	Apr-Sep (1)	Oct-Mar (2)	Difference (3)	Apr-Sep (4)	Oct-Mar (5)	Difference (6)	Raw (7)	Growth- Adjusted (8)	State & Growth Adjusted (9)
All	63.2	62.6	-0.7	63.6	63.2	-0.3	0.3	n.a.	n.a.
Teenagers (16-19)	47.6	40.7	-6.9	46.6	40.8	-5.8	1.0	0.5	0.4
Young Adults (20-24)	70.6	68.1	-2.5	70.9	69.4	-1.5	0.9	0.6	0.7

Note: This method of estimating the employment effect of the minimum-wage increase is explained in the text. None of the estimated employment changes in columns 7, 8, and 9 is statistically significant at standard levels.

Source: Economic Policy Institute analysis of CPS.

So, after controlling for the seasonal employment effect, the data suggest that teenage employment actually *increased* after the minimum wage rose, though this increase was not statistically significant. We observe a similar trend for young adults.

We must also account for the impact of economic growth, both nationally and within regions. The data in columns 8 and 9 adjust for these two factors.⁷ The "growth-adjusted" estimates in column 8 are less positive than the "raw" estimates derived above, indicating that economic growth was more rapid in the year that the minimum wage increased than it had been in the preceding year. The growth in teen employment, for example, falls from a 1.0 percentage-point increase to a smaller 0.5 percentage-point increase after controlling for overall growth. Further controlling for the different levels of economic growth within states (column 9) subtracts another 0.1 percentage point from the positive employment effect for teenagers. However, as with the employment gains found above, none of these results are statistically significant.

Table 3, which focuses only on the differences between the year-to-year periods (the complete table is in the appendix), builds on this analysis by examining the employment effects of the wage increase on groups organized by sex and race. White male teenagers saw employment rates increase after the minimum wage went into effect, even after controlling for overall economic growth and state differences in

TABLE 3
Differences-in-Differences in Employment Rates, All Groups

	Difference-in-Difference		
	Raw	Growth Adjusted	State & Growth Adjusted
All	0.3	n.a.	n.a.
Teenagers (16-19)	1.0	0.5	0.4
Male	0.7	0.4	0.4
Female	1.4	0.8	0.6
White	0.6	0.1	0.0
Male	0.8	0.5	0.4
Female	0.3	-0.0	-0.0
Black	-1.6	-2.1	-1.8
Male	-2.6	-2.9	-2.3
Female	-0.6	-1.4	-1.4
Hispanic	4.3	4.1	3.8 *
Male	0.5	0.7	0.7
Female	8.1	7.0	6.5 *
Young Adults (20-24)	0.9	0.6	0.7
Male	1.2	0.9	1.1
Female	0.6	0.5	0.7
White	0.5	0.2	0.4
Male	1.4	1.1	1.2
Female	-0.5	-0.5	-0.3
Black	-2.4	-2.7	-2.5
Male	-5.5	-5.8	-5.6 *
Female	0.2	0.4	0.5
Hispanic	5.6	5.0	5.1 *
Male	4.4	3.9	4.0 *
Female	6.1	6.4	6.4 *

*: statistically significant at the 0.10 level

*: statistically significant at the 0.05 level

Note: This method of estimating the employment effect of the minimum-wage increase is explained in the text.

Source: Economic Policy Institute analysis of CPS.

employment growth. This increase, however, was not statistically significant.⁸ Among black teenagers, employment rates appeared to fall, but these declines were also not statistically significant. Hispanic teenagers were the only group that experienced a statistically significant employment increase, even after adjusting for overall economic growth and state effects. This employment increase suggests that raising the minimum wage may have been responsible for this group's increased employment.⁹ Hispanic females experienced the largest employment jump.

Changes in the employment rates for male and female young adults and for white young adults were also positive but statistically insignificant. Employment rates for young adult black males were negative, but statistically significant only at a marginal (0.10) level. Shifts in the employment rates of Hispanic young adults were positive and significant (at the 0.05 level). As with teenagers, this result for Hispanics appears largely to reflect rising employment rates among young women. X

We advise against drawing strong conclusions from the results for minority subgroups since the employment data for these subgroups are volatile and produce substantial variations in both the size of the estimated employment effects and their statistical significance. For example, estimates of the size of the minimum wage's employment effect on black men, age 20-24, vary by a factor of two over the six-month period and are not consistently statistically significant.¹⁰ The high variance for this particular subgroup, and other minority subgroups, reflects both an underlying employment volatility and the relatively small sample sizes. }

The findings in this report raise a number of questions:

(1) Why use employment instead of unemployment rates?

Employment rates are typically used in the analysis of minimum-wage increases because they directly address the question of whether the increase has led to job loss. Unemployment rates are less reliable in this regard because they can rise due to an increase of job seekers entering the labor force. An increase in the minimum wage, for example, can draw additional workers into the labor force who are initially unemployed as they begin their job search. If this inflow causes the labor force to grow more quickly than job opportunities available to absorb the new workers, unemployment rates will rise faster than employment rates, even though no jobs have been lost. what about?

(2) Is six months long enough for the disemployment effects to materialize?

Job turnover rates in the U.S. economy are high, especially for low-wage workers. Six months is a reasonable amount of time to observe at least *some* impact. Those who argue otherwise should specify a time period after which their claims can be put to an empirical test.

(3) Isn't it likely that the disemployment effects will surface only after the full increase is in place?

The opposition based its arguments on the traditional textbook model which maintains that increasing the cost of low-wage labor will lead to disemployment. The staggered implementation of the increases does not alter this prediction. As this study shows, significant proportions of young workers' wages were raised by the first increase, and, according to the textbook theory of

disemployment, many of these workers should have lost their jobs. As with past increases in the minimum wage, this prediction proved incorrect.

Conclusion

This examination of the increase in the minimum wage shows that, so far, the policy has had the desired impact: it has raised the earnings of low-wage workers, lifted the incomes of their families, and, despite opponents' claims, has not led to job loss. This last finding is particularly important for future debates over raising the minimum wage. Given the statistically and economically insignificant (and mostly positive) employment effects of the change, it might be more useful if the next debate spends less time focusing on the cost of the increase and more time on the benefits to low-income families.

July 1997

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DATA APPENDIX

Tables 1A-C: Description of Wage Data

This study uses wage data from the Outgoing Rotation Group (ORG) of the Current Population Survey (CPS). The ORG sample consists of one-fourth of the people responding to the full monthly sample of the CPS (the data source for our examination of employment changes; see the notes for Table 2, below). Our sample includes all employees 16 years of age or older who earned between \$0.50 and \$100.00 per hour (in 1989 dollars).

Hourly earnings include tips, overtime, bonuses, and commissions for each worker. Calculation of hourly earnings involves several steps designed to cope with problems of (1) variable hours; (2) topcoding; and (3) tips, overtime, bonuses, and commissions. A description of the full procedure follows.

All non-topcoded, hourly paid workers who say that they do not receive tips, overtime, bonuses, or commissions are given the usual hourly wage from their survey response. All non-topcoded workers who are not paid by the hour are assigned an hourly wage calculated as their usual weekly earnings including tips, overtime, bonuses, and commissions divided by their usual number of hours worked per week.

Usual Hours

Beginning in 1994, the CPS allowed respondents to indicate that they did not have a "usual number of hours worked per week." Since the calculation in this study of hourly earnings for salaried employees and for hourly paid employees who receive tips, overtime, bonuses, and commissions depends on dividing usual weekly earnings by usual hours worked, we have been forced to estimate usual hours worked per week for about 7% of the sample who report that their hours vary. When necessary, we predict usual weekly hours for those reporting variable hours by using the results from a regression equation on the sample (by year, by sex) that reports usual and actual hours worked in the previous week. Specifically, we regress usual hours worked per week on actual hours worked in the reference week and full-time status, a dummy variable for married, five dummy variables for educational attainment, a quartic in age, three dummy variables for race and ethnicity, and 10 dummy variables for broad occupation (all interacted with full-time status). We then use the coefficients from this equation to estimate usual weekly hours for those workers who say that their hours vary.

Tips

About 20% of hourly paid workers received tips, overtime, bonuses, or commissions as part of their regular earnings. Since many workers who may have been affected by the minimum wage worked in industries where tipping is common, we have been careful to include these earnings in our calculation of usual hourly rates. The CPS survey first asks hourly paid workers to report their hourly wage excluding tips, overtime, bonuses, and commissions. Later, it asks if hourly paid workers receive tips, overtime, bonuses, or commissions. If these workers answer yes, then the survey asks for the worker's usual weekly earnings including tips, overtime, bonuses, and commissions. In these cases, we use the usual weekly earnings figure, divided by the usual hours worked per week (reported or estimated as above), to estimate the usual hourly earnings including tips, overtime, bonuses, and commissions.

Figure 1: The Distribution of Family Income and Wage Gains From the Increase

These data are derived from the March 1996 Current Population Survey (CPS). The March CPS includes a retrospective supplement wherein respondents are asked to provide information on the prior year's income. We took hourly wage data, however, from the March ORG, as described above, since we judged these wage data to more accurately reflect the wage structure over the period of interest. Information on annual income, however, is from 1995.

For workers whose earnings were in the affected range (\$4.25-\$4.74) in March 1996, we first calculated their hourly increase as a result of setting the minimum at \$4.75. We then multiplied this value by their annual hours worked in 1995. This product represents their annual gains from the increase (note the assumption of no hours reduction). We then divided families in quintiles based on their annual income, with an equal number of persons (not families) in each quintile. Finally, we calculated the share of income and wage gains that accrued to each quintile.

Table 2: Employment Rates

The data for this table come from the basic monthly files of the CPS, the primary source of labor market microdata on employment, unemployment, wage rates, and demographics. Each month the Census Bureau, under contract with

the Bureau of Labor Statistics (BLS), collects nationally representative data from approximately 50,000 households. Sample weights, which represent the inverse of the probability that a person with specific demographic and geographic characteristics will be sampled, are provided so the data can be "weighted up" to national levels. These data provide the basis for the monthly unemployment rate, released by BLS on the first Friday of each month.

The employment rates in Table 2 are calculated from the weighted sample over the time periods shown. For example, the 47.6% employment rate for teenagers in column 1 represents the average weighted employment levels from April to September 1995 divided by the average weighted population level over that same period.

One advantage to using the basic monthly files is that their sample sizes are large enough to allow for fairly reliable disaggregation by demographic group. For example, there were an average of around 7,000 unweighted cases per month of 16-19-year-olds, with about 5,000 white, slightly less than 1,000 African American, and 750 Hispanic teens. (Note that our racial/ethnic classifications, unlike those of BLS, are exclusive. In BLS data, Hispanics can be in other racial categories; in our data, they are in an exclusive category.)

Standard Errors

Large sample sizes are considered advantageous in quantitative analysis because statistical reliability rises with the size of the underlying sample. Nevertheless, any sampled data is prone to sampling error, and the extent of this error in Tables 2 and 3 is represented by asterisks (and given in column 9 of Appendix Table 2).

Given the nonrandom sampling framework of the CPS, the calculation of standard errors is not straightforward.¹¹ The calculation of the most reliable standard errors would call for the use of special sampling weights that are not included on the public use file. BLS publishes such standard errors for many of its estimates, but these rarely correspond to either our time frame or demographic groups. Therefore, we needed to derive an efficient and reliable method for estimating standard errors for the many categories in Table 2.

We began by using a slightly altered version of the general formula for the standard error of a rate:

$$\sqrt{(p_{wt} * (1 - p_{wt})) / n_{unwt}}$$

p in this case is the weighted rate, while n is the unweighted average of the population in question over the time period. Averages, instead of sums, are appropriate because 75% of the cases in the monthly CPS are in the sample one month to the next, due to the sample rotation procedure. We adjust this value by a factor provided by BLS for data over longer time periods. This factor, from various tables in the appendix to the monthly publication *Employment and Earnings*, deflates the standard error slightly due to the independence of 25% of the monthly cases. By calculating rates and standard errors for some of the same groups of persons published in *Employment and Earnings*, we determined that this method was acceptable for levels.

The same publication allows us to calculate BLS's standard errors for changes, and these revealed that our approach tended to overestimate standard errors of differences and thus introduce the possibility of incorrectly rejecting significant findings. In order to avoid this possibility, we further adjusted the standard errors of the differences by the ratio of the BLS standard errors of differences to our previously adjusted standard errors. Including both the deflation factor noted above (which lowers the standard error due to the inclusion of more independent cases) and the correction for the overestimate just noted, we derived an adjustment factor of 0.619.

Adjusting for Overall Growth and State Effects

As discussed in the text, we attempt to extract the effect of overall economic growth on our estimate of the impact of the minimum-wage increase on employment rates. The adjusted value appears in column 8 in Table 2. We produced this adjustment by regressing the time series of employment rates (prior to the increase) for the various groups in the table on the employment rates of workers 25 years old and over (by sex), a trend variable, and dummies for the summer months (since the employment data were not seasonally adjusted). We then multiplied the coefficient on the 25+ variable by the change in those adults' employment rates over the periods in question, and subtracted this value from the raw estimate in column 7 of Table 2. Since the growth in the employment rates of adults is a good proxy for overall labor market growth, this procedure should remove the effect of such growth.

In order to adjust for state effects (the different impact of state economies on the employment rates of teens and young adults), we estimated a weighted linear probability model (1=employed, 0=not employed) for the CPS microdata with dummy variables for each demographic group in each time period and for 50 of the 51 "states" (including the District of Columbia). Without a constant term, the coefficients on the dummies for each demographic group in each time period represent the employment rate of that group in that time period, controlling for "state effects."

APPENDIX TABLE 1
Distribution of Wages by Demographic Characteristics,
Differences-in-Differences, 1995/96 to 1996/97

Type of Employees	Change in Percent of Employees Earning					
	\$0.50 – \$4.24	\$4.25	\$4.26 – \$4.74	\$4.75	\$4.76 – \$5.14	\$5.15 +
All	0.08	-0.4	-0.2	0.6	-0.1	0.0
Teenagers (16-19)	-1.9	-6.4	-4.1	8.4	3.6	0.4
Male	-2.3	-6.0	-6.1	8.9	4.7	0.6
Female	-1.6	-6.6	-2.1	7.6	2.7	0.0
White	-2.1	-5.4	-3.4	7.8	3.6	-0.5
Male	-2.5	-5.3	-4.9	7.9	4.9	0.1
Female	-1.7	-5.3	-2.0	7.8	2.5	-1.4
Black	-4.2	-5.1	-7.0	6.6	5.4	4.2
Male	-3.6	-7.0	-16.2	9.5	13.5	3.7
Female	-5.1	-3.0	0.7	4.3	-1.1	4.1
Hispanic	4.4	-16.9	-7.7	13.8	5.4	0.8
Male	3.9	-9.3	-8.9	16.9	-0.2	-2.3
Female	5.2	-27.1	-6.8	9.7	13.2	5.7
Young Adults (20-24)	0.0	-2.5	-0.7	1.8	-0.3	1.6
Male	-0.1	-2.4	-0.7	1.8	-1.0	2.6
Female	0.3	-2.6	-0.7	1.9	0.5	0.5
White	0.0	-1.7	-0.8	1.4	-0.1	1.2
Male	0.3	-1.6	-0.4	1	-0.9	1.3
Female	-0.3	-1.9	-1.2	1.7	0.7	0.9
Black	1.4	-3.1	0.1	0.2	-0.6	2.1
Male	-1.0	-2.6	-0.9	-1.3	0.1	5.7
Female	3.5	-3.3	0.8	1.0	-1.6	-0.4
Hispanic	0.0	-7.3	0.0	5.6	-1.8	3.5
Male	-0.7	-6.5	-1.9	6.8	-3.8	6.3
Female	1.2	-8.2	2.7	4.1	0.9	-0.6

Source: EPI analysis of CPS ORG.

APPENDIX TABLE 2
Estimated Change in Employment Associated
With the Minimum-Wage Increase in October 1996

	1995-96			1996-97			Difference-in-Difference			
	Apr-Sep (1)	Oct-Mar (2)	Difference (3)	Apr-Sep (4)	Oct-Mar (5)	Difference (6)	Raw (7)	Growth- Adjusted (8)	State- Adjusted (9)	Standard Error (10)
All	63.2	62.6	-0.7	63.6	63.2	-0.3	0.3	n.a.	n.a.	0.2
Teenagers	47.6	40.7	-6.9	46.6	40.8	-5.8	1.0	0.5	0.4	0.7
Male	48.8	40.3	-8.5	47.5	39.8	-7.7	0.7	0.4	0.4	1.0
Female	46.3	41.0	-5.3	45.7	41.7	-4.0	1.4	0.8	0.6	1.0
White	54.8	47.0	-7.8	54.3	47.1	-7.2	0.6	0.1	0.0	0.9
Male	55.8	46.1	-9.7	54.5	45.7	-8.8	0.8	0.5	0.4	1.2
Female	53.7	47.9	-5.8	54.1	48.6	-5.5	0.3	-0.0	-0.0	1.3
Black	27.6	25.0	-2.6	28.6	24.4	-4.2	-1.6	-2.1	-1.8	1.8
Male	27.3	22.9	-4.4	28.3	21.3	-7.0	-2.6	-2.9	-2.3	2.6
Female	27.9	27.1	-0.8	28.9	27.4	-1.5	-0.6	-1.4	-1.4	2.5
Hispanic	37.3	31.4	-5.9	34.1	32.5	-1.6	4.3	4.1	3.8	2.1
Male	40.8	36.6	-4.2	39.9	36.1	-3.8	0.5	0.7	0.7	3.1
Female	33.6	26.0	-7.6	28.0	28.6	0.6	8.1	7.0	6.5	2.9
Young Adults	70.6	68.1	-2.5	70.9	69.4	-1.5	0.9	0.6	0.7	0.7
Male	77.1	72.8	-4.3	76.4	73.4	-3.0	1.2	0.9	1.1	0.9
Female	64.2	63.5	-0.7	65.6	65.5	-0.1	0.6	0.5	0.7	0.9
White	75.5	72.9	-2.6	76.0	73.8	-2.2	0.5	0.2	0.4	0.7
Male	80.7	75.9	-4.8	80.2	76.8	-3.4	1.4	1.1	1.2	1.0
Female	70.4	69.9	-0.5	71.8	70.8	-1.0	-0.5	-0.5	-0.3	1.1
Black	55.8	56.0	0.2	57.7	55.4	-2.3	-2.4	-2.7	-2.5	2.1
Male	60.4	60.2	-0.2	61.4	55.6	-5.8	-5.5	-5.8	-5.8	3.1
Female	52.0	52.5	0.5	54.5	55.2	0.7	0.2	0.4	0.5	2.7
Hispanic	64.8	61.5	-3.3	65.0	67.3	2.3	5.6	5.0	5.1	1.9
Male	78.6	74.5	-4.1	77.5	77.8	0.3	4.4	3.9	4.0	2.4
Female	49.3	47.1	-2.2	51.1	55.0	3.9	6.1	6.4	6.4	2.8

Source: EPI analysis of CPS.

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Endnotes

1. See, for example, Brown et al. 1982 and Card and Krueger 1995.
2. Note that some workers in Tables 1A and 1B earn less than the prevailing minimum wage (\$4.25 for Table 1A; \$4.75 for Table 1B). These workers (1) may not be covered by the federal minimum wage (family members working in a family-owned business, for example); (2) may work for employers who are not complying with the law; (3) may have inaccurately reported their hourly wage, usual hourly earnings, or usual weekly hours; or (4) may have been assigned an erroneous hourly wage as a result of the hours-imputation process used for workers who do not work a usual number of hours per week.
3. We use official Census terminology to refer to racial and ethnic minorities. Our categories, however, differ from the Census in that our white and black groups exclude Hispanics.
4. Among black teenagers, the wage effects were largest for males; among Hispanic teens, females received the largest boost.
5. The shift in the distribution could reflect ongoing nominal wage growth, but it seems more likely that most of the movement in the teen and young adult wage distribution responds to the minimum-wage increase. First, the overall wage distribution, which is both less responsive to the minimum wage and more responsive to average wage growth, changes little across the two six-month periods. Second, the pattern of changes in the distribution is consistent with the idea that it is the minimum wage, not nominal wage growth, that is behind the shift in the distribution. After the increase, many workers are "bunched" at exactly \$4.75.
6. For an excellent review of the previous literature on the minimum wage, see Card and Krueger (1996), chapters 6-9.
7. See the data appendix for an explanation of the methods used to adjust the raw employment rate changes.
8. White female teenagers appeared to experience a small (0.3 percentage point) increase in employment, but the rise disappears after controlling for economic growth.
9. Those differences marked with the # sign are statistically significant at the 0.10 level, that is, if we were to repeat the estimation procedure 100 times with a different random sample from the same population, we would expect that the confidence interval we construct would include the "true" employment change 90 times. Results marked with an asterisk are significant at the 0.05 level, that is, if we were to repeat the estimation procedure 100 times we would expect that the confidence interval we construct would include true value 95 times. In this sense, results marked * are more reliable than those marked #.
10. For instance, when we repeat the analysis using seven-month periods, the impact of the raw and growth-adjusted employment effect for black men, age 20-24, diminishes and is no longer statistically significant. The seven-month results for the other groups are not qualitatively different from those using the six-month periods in Table 2.
11. These issues are discussed in the BLS's monthly *Employment and Earnings*. See, for example, pp. 225-42 in the January 1997 issue.

References

- Brown, Charles, Curtis Gilroy, and Andrew Cohen. 1982. "The Effect of Minimum Wage on Employment and Unemployment." *Journal of Economic Literature*, Vol. 20, pp. 487-528.
- Card, David, and Alan B. Krueger. 1995. *Myth and Measurement: The New Economics of the Minimum Wage*. Princeton, N.J.: Princeton University Press.
- Spriggs, William E., and Bruce W. Klein. 1994. *Raising the Floor: The Effects of the Minimum Wage on Low-Wage Workers*. Washington, D.C.: Economic Policy Institute.

Notes to chart

**The Difference Between the Minimum Wage for 20 Hours a Week and the
Combined Maximum Food Stamps and TANF Benefits:
Key Points and Methodological issues**

- The attached tables illustrate that relatively few states will face additional monthly costs if they combine the maximum AFDC and Food Stamp benefits to pay the minimum wage for a 20 hour work week.
- The analysis calculates the effective wage rate for a 20 hour work week as required in FY 1997 for single parent families (25% of the caseload is required to work in FY 1997). While the number of hours required for participation increases to 30 in FY 2000, only 20 of those hours must be within the activities described in Sec. 407. As a result, states could place recipients in training for 10 of the 30 hours and not be required to pay the minimum wage for 10 hours of training. In addition, single parents with a child under 6, about 60% of the caseload, are required to participate for only 20 hours per week even when the hours requirement increases in later years. Relatively low benefit states that choose to require recipients to participate in work for all 30 hours may face additional costs. Finally, two-parent families are required to participate in work activities for 30 hours a week beginning in FY 1997. The additional hours required for two-parent families would result in more states being unable to pay the minimum wage by combining food stamp and TANF benefits.
- The analysis utilizes the maximum food stamp benefit calculated for a family that receives the maximum TANF benefit. Approximately 25% of the 1995 AFDC caseload received less than maximum benefits. While some of these families receive less benefits because of earnings (presumably at least at the minimum wage), a significant portion receive less benefits because of unearned income that would not count toward satisfying the minimum wage requirement. As a result, it is almost certain that each state would have some cases in which food stamp and TANF benefits combined would not meet the minimum wage, if the parent were required to work.
- Families that receive child support may receive less than the maximum benefit. As a policy matter, states may not want families to work off their child support benefits and therefore may have to provide additional compensation to meet the minimum wage.
- Most of the discussion has centered on the potential impact of the FLSA for a family of three, the average unit size of an AFDC family. However, 40% of those on AFDC have only two persons in the unit. Eight states including Texas would be unable to pay the minimum wage by combining TANF and food stamp benefits for a family of two.
- The table assumed a 100% excess shelter deduction. However, except for the lowest benefit states, if the excess shelter deduction were 0% the value of combined AFDC and food stamp benefits would be significantly reduced.

NO

but more bns?

add HHS

75%

20-30

2 parent

assume max

and 2-9

- The analysis assumes that states maintain the level of benefits offered under AFDC. To the extent that states increase their benefit levels, even fewer states would have be unable to meet the minimum wage by combining food stamp and TANF benefits. To the extent that states decrease their benefit levels, more states would be unable to meet the minimum wage simply by combining food stamps and TANF benefits.

For Illustrative Purposes Only

TABLE TWO: FAMILY OF TWO

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of two

State	Maximum Monthly AFDC Benefit July 1996 For a family of 2	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 20 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 20 hours/week for 4.3 weeks/mo.
Alaska	821	231	\$1,052	\$12.23	\$0
Hawaii	565	357	\$922	\$10.72	\$0
Vermont	533	172	\$705	\$8.20	\$0
Connecticut	513	178	\$691	\$8.03	\$0
New York	468	203	\$671	\$7.80	\$0
New Hampshire	481	188	\$669	\$7.78	\$0
California	479	188	\$667	\$7.76	\$0
Rhode Island	449	218	\$667	\$7.76	\$0
Massachusetts	474	190	\$664	\$7.72	\$0
Washington	440	218	\$658	\$7.65	\$0
Wisconsin	440	200	\$640	\$7.44	\$0
Minnesota	437	201	\$638	\$7.42	\$0
Oregon	395	218	\$613	\$7.13	\$0
South Dakota	380	218	\$598	\$6.95	\$0
Michigan	371	218	\$589	\$6.85	\$0
Iowa	361	218	\$579	\$6.73	\$0
Kansas	352	218	\$570	\$6.63	\$0
Montana	349	218	\$567	\$6.59	\$0
Utah	342	218	\$560	\$6.51	\$0
North Dakota	333	218	\$551	\$6.41	\$0
Pennsylvania	330	218	\$548	\$6.37	\$0
Dist. of Columbia	326	218	\$544	\$6.33	\$0
New Jersey	322	218	\$540	\$6.28	\$0
Wyoming	320	218	\$538	\$6.26	\$0
Maine	312	218	\$530	\$6.16	\$0
New Mexico	310	218	\$528	\$6.14	\$0
Virginia	294	218	\$512	\$5.95	\$0
Nebraska	293	218	\$511	\$5.94	\$0
Maryland	292	218	\$510	\$5.93	\$0
Nevada	289	218	\$507	\$5.90	\$0
Colorado	280	218	\$498	\$5.79	\$0
Ohio	279	218	\$497	\$5.78	\$0
Illinois	278	218	\$496	\$5.77	\$0
Arizona	275	218	\$493	\$5.73	\$0
Delaware	270	218	\$488	\$5.67	\$0
Idaho	251	218	\$469	\$5.45	\$0
Virgin Islands	180	281	\$461	\$5.36	\$0
Florida	241	218	\$459	\$5.34	\$0

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TABLE TWO: FAMILY OF TWO

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of two

State	Maximum Monthly AFDC Benefit July 1996 For a family of 2	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 20 hrs/wk/mo + 26¢	Additional Monthly Cost/Case of Minimum Wage for 20 hours/week for 4.3 weeks/mo.
Oklahoma	238	218	\$456 478	\$5.30 5.56	\$0
North Carolina	236	218	\$454 476	\$5.28 5.53	\$0
Georgia	235	218	\$453 475	\$5.27 5.52	\$0
Missouri	234	218	\$452 474	\$5.26 5.51	\$0
Indiana	229	218	\$447 469	\$5.20 5.45	\$0
Kentucky	225	218	\$443 465	\$5.15 5.41	8st \$0
West Virginia	201	218	\$419 441	\$4.87 5.13	\$24
Texas	163	218	\$381 403	\$4.43 4.69	\$62
Arkansas	162	218	\$380	\$4.42	\$63
South Carolina	159	218	\$377	\$4.38	\$66
Tennessee	142	218	\$360	\$4.19	\$83
Louisiana	138	218	\$356	\$4.14	\$87
Alabama	\$137	218	\$355	\$4.13	\$88
Mississippi	96	218	\$314	\$3.65	\$129

Notes:

1. This table uses the maximum monthly AFDC benefits as of July 1996. States have more flexibility under TANF to determine benefit levels and may choose to provide higher or lower benefits than suggested in this table. Food Stamp benefits have increased slightly since 7/96 (\$2 for a family of 3).
2. The maximum food stamp benefit assumes 100% excess shelter, no child support, no medical deductions etc.
3. The min. wage is currently \$4.75 an hour but will increase to \$5.15 on 9/1/97. The tables use \$5.15 as the wage
4. While the number of hours required for single parent participation does not increase to 30 until FY 2000, only 20 of those hours must be within the activities described in Sec. 407. As a result states could place recipients in training for 10 of the 30 hours and not be required to pay the minimum wage for the 10 hours of training.
5. Families may receive less than the maximum benefit for several reasons. While the table lists no additional costs for many states, it is likely that each state will have some cases in which food stamp benefits combined with TANF benefits would not meet the minimum wage.
6. AFDC benefits are calculated by the Congressional Research Service.

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TABLE ONE: FAMILY OF THREE

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of three

State	Maximum Monthly AFDC Benefit July 1996 for a family of 3	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 20 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 20 hours/week for 4.3 weeks/mo.
Alaska	\$923	\$321	\$1,244	\$14.47	\$0
Hawaii	\$712	\$471	\$1,183	\$13.76	\$0
Connecticut	\$636	\$236	\$872	\$10.14	\$0
Vermont	\$633	\$237	\$870	\$10.12	\$0
Rhode Island	\$554	\$299	\$853	\$9.92	\$0
New York	\$577	\$270	\$847	\$9.85	\$0
California	\$596	\$248	\$844	\$9.81	\$0
Washington	\$546	\$289	\$835	\$9.71	\$0
Massachusetts	\$565	\$257	\$822	\$9.56	\$0
New Hampshire	\$550	\$262	\$812	\$9.44	\$0
Minnesota	\$532	\$267	\$799	\$9.29	\$0
Wisconsin	\$517	\$272	\$789	\$9.17	\$0
Oregon	\$460	\$313	\$773	\$8.99	\$0
Michigan	\$459	\$300	\$759	\$8.83	\$0
Kansas	\$429	\$313	\$742	\$8.63	\$0
Montana	\$438	\$295	\$733	\$8.52	\$0
New Jersey	\$424	\$307	\$731	\$8.50	\$0
North Dakota	\$431	\$298	\$729	\$8.48	\$0
South Dakota	\$430	\$298	\$728	\$8.47	\$0
Utah	\$426	\$299	\$725	\$8.43	\$0
Iowa	\$426	\$299	\$725	\$8.43	\$0
Pennsylvania	\$421	\$301	\$722	\$8.40	\$0
Maine	\$418	\$301	\$719	\$8.36	\$0
Dist. of Columbia	\$415	\$302	\$717	\$8.34	\$0
New Mexico	\$389	\$310	\$699	\$8.13	\$0
Illinois	\$377	\$313	\$690	\$8.02	\$0
Maryland	\$373	\$313	\$686	\$7.98	\$0
Nebraska	\$364	\$313	\$677	\$7.87	\$0
Wyoming	\$360	\$313	\$673	\$7.83	\$0
Colorado	\$356	\$313	\$669	\$7.78	\$0
Virginia	\$354	\$313	\$667	\$7.76	\$0
Nevada	\$348	\$313	\$661	\$7.69	\$0
Arizona	\$347	\$313	\$660	\$7.67	\$0
Ohio	\$341	\$313	\$654	\$7.60	\$0
Delaware	\$338	\$313	\$651	\$7.57	\$0
Virgin Islands	\$240	\$402	\$642	\$7.47	\$0
Idaho	\$317	\$313	\$630	\$7.33	\$0
Oklahoma	\$307	\$313	\$620	\$7.21	\$0

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TABLE ONE: FAMILY OF THREE

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of three

State	Maximum Monthly AFDC Benefit July 1996 for a family of 3	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 20 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 20 hours/week for 4.3 weeks/mo.
				+36¢	
Florida	\$303	\$313	\$616	\$7.16	\$0
Missouri	\$292	\$313	\$605	\$7.03	\$0
Indiana	\$288	\$313	\$601	\$6.99 7.35	\$0
Georgia	\$280	\$313	\$593	\$6.90 7.26	\$0
North Carolina	\$272	\$313	\$585	\$6.80 7.16	\$0
Kentucky	\$262	\$313	\$575	\$6.69 7.05	\$0
West Virginia	\$253	\$313	\$566	\$6.58 6.94	\$0
Arkansas	\$204	\$313	\$517	\$6.01 6.37	\$0
South Carolina	\$200	\$313	\$513	\$5.97 6.33	\$0
Louisiana	\$190	\$313	\$503 534	\$5.85 6.21	\$0
Texas	\$188	\$313	\$501 532	\$5.83 6.19	\$0
Tennessee	\$185	\$313	\$498 529	\$5.79 6.15	\$0
Alabama	\$164	\$313	\$477 508	\$5.55 5.91	\$0
Mississippi	\$120	\$313	\$433 464	\$5.03 5.40	\$10
Puerto Rico	\$180	NA	NA	\$0.00	NA

Notes:

1. This table uses the maximum monthly AFDC benefits as of July 1996. States have more flexibility under TANF to determine benefit levels and may choose to provide higher or lower benefits than suggested in this table. Food Stamp benefits have increased slightly since 7/96 (\$2 for a family of 3).
2. The maximum food stamp benefit assumes 100% excess shelter, no child support, no medical deductions etc.
3. The min. wage is currently \$4.75 an hour but will increase to \$5.15 on 9/1/97. The tables use \$5.15 as the wage
4. While the number of hours required for single parent participation does not increase to 30 until FY 2000, only 20 of those hours must be within the activities described in Sec. 407. As a result states could place recipients in training for 10 of the 30 hours and not be required to pay the minimum wage for the 10 hours of training.
5. Families may receive less than the maximum benefit for several reasons. While the table lists no additional costs for many states, it is likely that each state will have some cases in which food stamp benefits combined with TANF benefits would not meet the minimum wage.
6. AFDC benefits are calculated by the Congressional Research Service.

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TABLE THREE: FAMILY OF FOUR

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of four

State	Maximum Monthly AFDC Benefit July 1996 For a family of 4	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 20 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 20 hours/week for 4.3 weeks/mo.
Hawaii	859	567	\$1,426	\$16.58	\$0
Alaska	1,025	399	\$1,424	\$16.56	\$0
Connecticut	741	289	\$1,030	\$11.98	\$0
New York	687	325	\$1,012	\$11.77	\$0
Vermont	711	298	\$1,009	\$11.73	\$0
California	707	299	\$1,006	\$11.70	\$0
Rhode Island	632	365	\$997	\$11.59	\$0
Washington	642	349	\$991	\$11.52	\$0
Massachusetts	651	316	\$967	\$11.24	\$0
Minnesota	621	325	\$946	\$11.00	\$0
Wisconsin	617	326	\$943	\$10.97	\$0
Oregon	565	377	\$942	\$10.95	\$0
New Hampshire	613	327	\$940	\$10.93	\$0
Michigan	563	352	\$915	\$10.64	\$0
Kansas	497	383	\$880	\$10.23	\$0
Montana	527	353	\$880	\$10.23	\$0
Maine	526	353	\$879	\$10.22	\$0
North Dakota	517	356	\$873	\$10.15	\$0
Pennsylvania	514	357	\$871	\$10.13	\$0
Dist. of Columbia	507	359	\$866	\$10.07	\$0
New Jersey	488	373	\$861	\$10.01	\$0
Utah	498	361	\$859	\$9.99	\$0
Iowa	495	362	\$857	\$9.97	\$0
South Dakota	478	367	\$845	\$9.83	\$0
Maryland	450	391	\$841	\$9.78	\$0
New Mexico	469	370	\$839	\$9.76	\$0
Nebraska	435	380	\$815	\$9.48	\$0
Colorado	432	381	\$813	\$9.45	\$0
Virgin Islands	300	511	\$811	\$9.43	\$0
Ohio	421	385	\$806	\$9.37	\$0
Illinois	414	392	\$806	\$9.37	\$0
Arizona	418	385	\$803	\$9.34	\$0
Virginia	410	388	\$798	\$9.28	\$0
Nevada	408	388	\$796	\$9.26	\$0
Delaware	407	389	\$796	\$9.26	\$0
Wyoming	390	394	\$784	\$9.12	\$0
Idaho	382	396	\$778	\$9.05	\$0

For Illustrative Purposes Only

TABLE THREE: FAMILY OF FOUR

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of four

State	Maximum Monthly AFDC Benefit July 1996 For a family of 4	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 20 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 20 hours/week for 4.3 weeks/mo.
Oklahoma	380	397	\$777	145¢ \$9.03	\$0
Florida	364	397	\$761	\$8.85	\$0
Indiana	346	397	\$743	\$8.64	\$0
Missouri	342	397	\$739	\$8.59	\$0
Georgia	330	397	\$727	\$8.45	\$0
Kentucky	328	397	\$725	\$8.43	\$0
West Virginia	312	397	\$709	\$8.24	\$0
North Carolina	297	397	\$694	\$8.07	\$0
Arkansas	247	397	\$644	\$7.49	\$0
South Carolina	241	397	\$638	\$7.42	\$0
Louisiana	234	397	\$631	\$7.34	\$0
Tennessee	226	397	\$623	\$7.24	\$0
Texas	226	397	\$623	\$7.24	\$0
Alabama	\$194	397	\$591	\$6.87	\$0
Mississippi	144	397	\$541	58¢ \$6.29 6.74	\$0

Notes:

1. This table uses the maximum monthly AFDC benefits as of July 1996. States have more flexibility under TANF to determine benefit levels and may choose to provide higher or lower benefits than suggested in this table. Food Stamp benefits have increased slightly since 7/96 (\$2 for a family of 3).
2. The maximum food stamp benefit assumes 100% excess shelter, no child support, no medical deductions etc.
3. The min. wage is currently \$4.75 an hour but will increase to \$5.15 on 9/1/97. The tables use \$5.15 as the wage
4. While the number of hours required for single parent participation does not increase to 30 until FY 2000, only 20 of those hours must be within the activities described in Sec. 407. As a result states could place recipients in training for 10 of the 30 hours and not be required to pay the minimum wage for the 10 hours of training.
5. Families may receive less than the maximum benefit for several reasons. While the table lists no additional costs for many states, it is likely that each state will have some cases in which food stamp benefits combined with TANF benefits would not meet the minimum wage.
6. AFDC benefits are calculated by the Congressional Research Service.

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**The Difference Between the Minimum Wage for 30 Hours a Week and the
Combined Maximum Food Stamps and TANF Benefits:
Key Points and Methodological issues**

- The attached tables illustrate that a number of states will have difficulty paying the minimum wage by combining the maximum AFDC and Food Stamp benefits for a 30 hour work week as required for two parent families in FY 1997 and at state option for some single parent families beginning in FY 2000.
- The analysis calculates the effective wage rate for a 30 hour work week. While two parent families must participate for 35 hours per week beginning in FY 1997, only 30 of those hours must be in work activities as described in Sec. 407. Similarly, while single parent families must participate for 30 hours a week beginning in FY 2000, only 20 of those hours must be within the activities described in Sec. 407. States could place recipients in training for 10 of the 30 hours and not be required to pay the minimum wage for 10 hours of training. In addition, single parents with a child under 6, about 60% of the caseload, are required to participate for only 20 hours per week even when the hours requirement increases in later years. Relatively low benefit states that choose to require recipients to participate in work for all 30 hours may face additional costs.
- The analysis utilizes the maximum food stamp benefit calculated for a family that receives the maximum TANF benefit. Approximately 25% of the 1995 AFDC caseload received less than maximum benefits. While some of these families receive less benefits because of earnings (presumably at least at the minimum wage), a significant portion receive less benefits because of unearned income that would not count toward satisfying the minimum wage requirement. As a result, it is almost certain that **each state** would have some cases in which food stamp and TANF benefits combined would not meet the minimum wage, if the parent were required to work.
- Families that receive child support may receive less than the maximum benefit. As a policy matter, states may not want families to work off their child support benefits and therefore may have to provide additional compensation to meet the minimum wage.
- Most of the discussion has centered on the potential impact of the FLSA for a family of three, the average unit size of an AFDC family. However, 40% of those on AFDC have only two persons in the unit. Almost forty states would be unable to pay the minimum wage by combining TANF and food stamp benefits for a family of two for a 30 hour work week.
- The table assumed a 100% excess shelter deduction. However, except for the lowest benefit states, if the excess shelter deduction were 0% the value of combined AFDC and food stamp benefits would be significantly reduced.

- The analysis assumes that states maintain the level of benefits offered under AFDC. To the extent that states increase their benefit levels, even fewer states would have be unable to meet the minimum wage by combining food stamp and TANF benefits. To the extent that states decrease their benefit levels, more states would be unable to meet the minimum wage simply by combining food stamps and TANF benefits.

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TABLE TWO: FAMILY OF TWO

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of two

State	Maximum Monthly AFDC Benefit July 1996 For a family of 2	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 30 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 30 hours/week for 4.3 weeks/mo.
				+26¢ - 2001 FS max	
Alaska	821	231	\$1,052	\$8.16	\$0
Hawaii	565	357	\$922	\$7.15	\$0
Vermont	533	172	\$705	\$5.47 <u>5.73</u>	\$0
Connecticut	513	178	\$691	\$5.36 <u>5.62</u>	\$0
New York	468	203	\$671	\$5.20 <u>5.41</u>	\$0
New Hampshire	481	188	\$669	\$5.19 <u>5.45</u>	\$0
California	479	188	\$667	\$5.17 <u>5.43</u>	\$0
Rhode Island	449	218	\$667	\$5.17 <u>5.43</u>	\$0
Massachusetts	474	190	\$664	\$5.15 <u>5.41</u>	\$0
Washington	440	218	\$658	\$5.10 <u>5.31</u>	\$6
Wisconsin	440	200	\$640	\$4.96 <u>5.22</u>	\$24
Minnesota	437	201	\$638	\$4.95 <u>5.21</u>	\$26
Oregon	395	218	\$613	\$4.75 <u>5.01</u>	\$51
South Dakota	380	218	\$598	\$4.64	\$66
Michigan	371	218	\$589	\$4.57	\$75
Iowa	361	218	\$579	\$4.49	\$85
Kansas	352	218	\$570	\$4.42	\$94
Montana	349	218	\$567	\$4.40	\$97
Utah	342	218	\$560	\$4.34	\$104
North Dakota	333	218	\$551	\$4.27	\$113
Pennsylvania	330	218	\$548	\$4.25	\$116
Dist. of Columbia	326	218	\$544	\$4.22	\$120
New Jersey	322	218	\$540	\$4.19	\$124
Wyoming	320	218	\$538	\$4.17	\$126
Maine	312	218	\$530	\$4.11	\$134
New Mexico	310	218	\$528	\$4.09	\$136
Virginia	294	218	\$512	\$3.97	\$152
Nebraska	293	218	\$511	\$3.96	\$153
Maryland	292	218	\$510	\$3.95	\$154
Nevada	289	218	\$507	\$3.93	\$157
Colorado	280	218	\$498	\$3.86	\$166
Ohio	279	218	\$497	\$3.85	\$167
Illinois	278	218	\$496	\$3.84	\$168
Arizona	275	218	\$493	\$3.82	\$171
Delaware	270	218	\$488	\$3.78	\$176
Idaho	251	218	\$469	\$3.64	\$195
Virgin Islands	180	281	\$461	\$3.57	\$203
Florida	241	218	\$459	\$3.56	\$205

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TABLE TWO: FAMILY OF TWO

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of two

State	Maximum Monthly AFDC Benefit July 1996 For a family of 2	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 30 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 30 hours/week for 4.3 weeks/mo.
Oklahoma	238	218	\$456	\$3.53	\$208
North Carolina	236	218	\$454	\$3.52	\$210
Georgia	235	218	\$453	\$3.51	\$211
Missouri	234	218	\$452	\$3.50	\$212
Indiana	229	218	\$447	\$3.47	\$217
Kentucky	225	218	\$443	\$3.43	\$221
West Virginia	201	218	\$419	\$3.25	\$245
Texas	163	218	\$381	\$2.95	\$283
Arkansas	162	218	\$380	\$2.95	\$284
South Carolina	159	218	\$377	\$2.92	\$287
Tennessee	142	218	\$360	\$2.79	\$304
Louisiana	138	218	\$356	\$2.76	\$308
Alabama	\$137	218	\$355	\$2.75	\$309
Mississippi	96	218	\$314	\$2.43	\$350

Notes:

1. This table uses the maximum monthly AFDC benefits as of July 1996. States have more flexibility under TANF to determine benefit levels and may choose to provide higher or lower benefits than suggested in this table. Food Stamp benefits have increased slightly since 7/96 (\$2 for a family of 3).
2. The maximum food stamp benefit assumes 100% excess shelter, no child support, no medical deductions etc.
3. The min. wage is currently \$4.75 an hour but will increase to \$5.15 on 9/1/97. The tables use \$5.15 as the wage
4. While the number of hours required for single parent participation does not increase to 30 until FY 2000, only 20 of those hours must be within the activities described in Sec. 407. As a result states could place recipients in training for 10 of the 30 hours and not be required to pay the minimum wage for the 10 hours of training.
5. Families may receive less than the maximum benefit for several reasons. While the table lists no additional costs for many states, it is likely that each state will have some cases in which food stamp benefits combined with TANF benefits would not meet the minimum wage.
6. AFDC benefits are calculated by the Congressional Research Service.

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TABLE ONE: FAMILY OF THREE

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of three

State	Maximum Monthly AFDC Benefit July 1996 for a family of 3	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 30 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 30 hours/week for 4.3 weeks/mo.
				<u>136¢</u>	
Alaska	\$923	\$321	\$1,244	\$9.64	\$0
Hawaii	\$712	\$471	\$1,183	\$9.17	\$0
Connecticut	\$636	\$236	\$872	\$6.76	\$0
Vermont	\$633	\$237	\$870	\$6.74	\$0
Rhode Island	\$554	\$299	\$853	\$6.61	\$0
New York	\$577	\$270	\$847	\$6.57	\$0
California	\$596	\$248	\$844	\$6.54	\$0
Washington	\$546	\$289	\$835	\$6.47	\$0
Massachusetts	\$565	\$257	\$822	\$6.37	\$0
New Hampshire	\$550	\$262	\$812	\$6.29	\$0
Minnesota	\$532	\$267	\$799	\$6.19	\$0
Wisconsin	\$517	\$272	\$789	\$6.12	\$0
Oregon	\$460	\$313	\$773	\$5.99	\$0
Michigan	\$459	\$300	\$759	\$5.88	\$0
Kansas	\$429	\$313	\$742	\$5.75	\$0
Montana	\$438	\$295	\$733	\$5.68	\$0
New Jersey	\$424	\$307	\$731	\$5.67	\$0
North Dakota	\$431	\$298	\$729	\$5.65	\$0
South Dakota	\$430	\$298	\$728	\$5.64	\$0
Utah	\$426	\$299	\$725	\$5.62	\$0
Iowa	\$426	\$299	\$725	\$5.62	\$0
Pennsylvania	\$421	\$301	\$722	\$5.60	\$0
Maine	\$418	\$301	\$719	\$5.57	\$0
Dist. of Columbia	\$415	\$302	\$717	\$5.56	\$0
New Mexico	\$389	\$310	\$699	\$5.42	\$0
Illinois	\$377	\$313	\$690	\$5.35	\$0
Maryland	\$373	\$313	\$686	\$5.32	\$0
Nebraska	\$364	\$313	\$677	\$5.25	\$0
Wyoming	\$360	\$313	\$673	\$5.22	\$0
Colorado	\$356	\$313	\$669	\$5.19	\$0
Virginia	\$354	\$313	\$667	\$5.17	\$0
Nevada	\$348	\$313	\$661	\$5.12	\$3
Arizona	\$347	\$313	\$660	\$5.12	\$4
Ohio	\$341	\$313	\$654	\$5.07	\$10
Delaware	\$338	\$313	\$651	\$5.05	\$13
Virgin Islands	\$240	\$402	\$642	\$4.98	\$22
Idaho	\$317	\$313	\$630	\$4.88	\$34
Oklahoma	\$307	\$313	\$620	\$4.81	\$44

For Illustrative Purposes Only

TABLE ONE: FAMILY OF THREE

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of three,

State	Maximum Monthly AFDC Benefit July 1996 for a family of 3	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 30 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 30 hours/week for 4.3 weeks/mo.
Florida	\$303	\$313	\$616	\$4.78	\$48
Missouri	\$292	\$313	\$605	\$4.69	\$59
Indiana	\$288	\$313	\$601	\$4.66	\$63
Georgia	\$280	\$313	\$593	\$4.60	\$71
North Carolina	\$272	\$313	\$585	\$4.53	\$79
Kentucky	\$262	\$313	\$575	\$4.46	\$89
West Virginia	\$253	\$313	\$566	\$4.39	\$98
Arkansas	\$204	\$313	\$517	\$4.01	\$147
South Carolina	\$200	\$313	\$513	\$3.98	\$151
Louisiana	\$190	\$313	\$503	\$3.90	\$161
Texas	\$188	\$313	\$501	\$3.88	\$163
Tennessee	\$185	\$313	\$498	\$3.86	\$166
Alabama	\$164	\$313	\$477	\$3.70	\$187
Mississippi	\$120	\$313	\$433	\$3.36	\$231
Puerto Rico	\$180	NA	NA	\$0.00	NA

Notes:

1. This table uses the maximum monthly AFDC benefits as of July 1996. States have more flexibility under TANF to determine benefit levels and may choose to provide higher or lower benefits than suggested in this table. Food Stamp benefits have increased slightly since 7/96 (\$2 for a family of 3).
2. The maximum food stamp benefit assumes 100% excess shelter, no child support, no medical deductions etc.
3. The min. wage is currently \$4.75 an hour but will increase to \$5.15 on 9/1/97. The tables use \$5.15 as the wage
4. While the number of hours required for single parent participation does not increase to 30 until FY 2000, only 20 of those hours must be within the activities described in Sec. 407. As a result states could place recipients in training for 10 of the 30 hours and not be required to pay the minimum wage for the 10 hours of training.
5. Families may receive less than the maximum benefit for several reasons. While the table lists no additional costs for many states, it is likely that each state will have some cases in which food stamp benefits combined with TANF benefits would not meet the minimum wage.
6. AFDC benefits are calculated by the Congressional Research Service.

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+31
÷ 86 hours = 36¢/hr

For Illustrative Purposes Only

TABLE THREE: FAMILY OF FOUR

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of four

State	Maximum Monthly AFDC Benefit July 1996 For a family of 4	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 30 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 30 hours/week for 4.3 weeks/mo.
Hawaii	859	567	\$1,426	\$11.05	\$0
Alaska	1,025	399	\$1,424	\$11.04	\$0
Connecticut	741	289	\$1,030	\$7.98	\$0
New York	687	325	\$1,012	\$7.84	\$0
Vermont	711	298	\$1,009	\$7.82	\$0
California	707	299	\$1,006	\$7.80	\$0
Rhode Island	632	365	\$997	\$7.73	\$0
Washington	642	349	\$991	\$7.68	\$0
Massachusetts	651	316	\$967	\$7.50	\$0
Minnesota	621	325	\$946	\$7.33	\$0
Wisconsin	617	326	\$943	\$7.31	\$0
Oregon	565	377	\$942	\$7.30	\$0
New Hampshire	613	327	\$940	\$7.29	\$0
Michigan	563	352	\$915	\$7.09	\$0
Kansas	497	383	\$880	\$6.82	\$0
Montana	527	353	\$880	\$6.82	\$0
Maine	526	353	\$879	\$6.81	\$0
North Dakota	517	356	\$873	\$6.77	\$0
Pennsylvania	514	357	\$871	\$6.75	\$0
Dist. of Columbia	507	359	\$866	\$6.71	\$0
New Jersey	488	373	\$861	\$6.67	\$0
Utah	498	361	\$859	\$6.66	\$0
Iowa	495	362	\$857	\$6.64	\$0
South Dakota	478	367	\$845	\$6.55	\$0
Maryland	450	391	\$841	\$6.52	\$0
New Mexico	469	370	\$839	\$6.50	\$0
Nebraska	435	380	\$815	\$6.32	\$0
Colorado	432	381	\$813	\$6.30	\$0
Virgin Islands	300	511	\$811	\$6.29	\$0
Ohio	421	385	\$806	\$6.25	\$0
Illinois	414	392	\$806	\$6.25	\$0
Arizona	418	385	\$803	\$6.22	\$0
Virginia	410	386	\$798	\$6.19	\$0
Nevada	408	388	\$796	\$6.17	\$0
Delaware	407	389	\$796	\$6.17	\$0
Wyoming	390	394	\$784	\$6.08	\$0
Idaho	382	396	\$778	\$6.03	\$0

For Illustrative Purposes Only

TABLE THREE: FAMILY OF FOUR

The Difference Between the Minimum Wage and the
July 1996 Monthly Maximum Benefits for a family of four

State	Maximum Monthly AFDC Benefit July 1996 For a family of 4	Maximum Monthly Food Stamps Benefit July 1996	Combined AFDC and Food Stamps Benefits	Effective Hourly Wage Rate of Combined Benefits for 30 hrs/wk/mo	Additional Monthly Cost/Case of Minimum Wage for 30 hours/week for 4.3 weeks/mo.
Oklahoma	380	397	\$777	\$6.02	\$0
Florida	364	397	\$761	\$5.90	\$0
Indiana	346	397	\$743	\$5.76 6.21	\$0
Missouri	342	397	\$739	\$5.73 6.18	\$0
Georgia	330	397	\$727	\$5.64 6.09	\$0
Kentucky	328	397	\$725	\$5.62 6.07	\$0
West Virginia	312	397	\$709	\$5.50 5.95	\$0
North Carolina	297	397	\$694	\$5.38 5.83	\$0
Arkansas	247	397	\$644	\$4.99 5.44	\$20
South Carolina	241	397	\$638	\$4.95 5.40	\$26
Louisiana	234	397	\$631	\$4.89 5.34	\$33
Tennessee	226	397	\$623	\$4.83 5.28	\$41
Texas	226	397	\$623	\$4.83 5.28	\$41
Alabama	\$194	397	\$591	\$4.58 5.03	\$73
Mississippi	144	397	\$541	\$4.19	\$123

Notes:

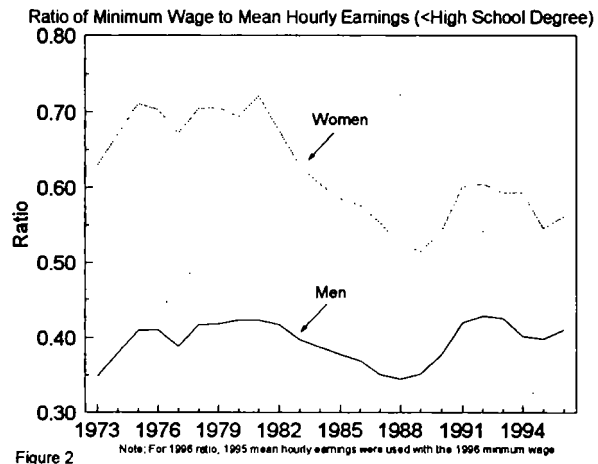
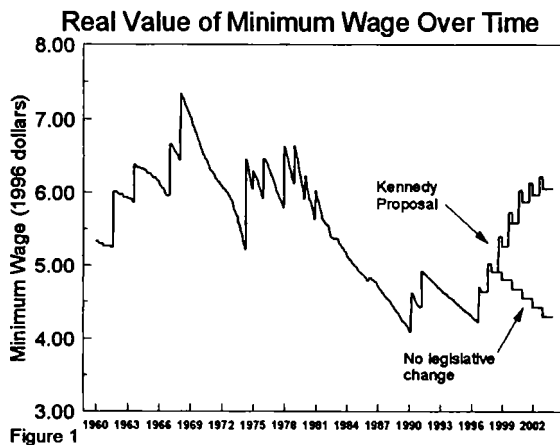
1. This table uses the maximum monthly AFDC benefits as of July 1996. States have more flexibility under TANF to determine benefit levels and may choose to provide higher or lower benefits than suggested in this table. Food Stamp benefits have increased slightly since 7/96 (\$2 for a family of 3).
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6. AFDC benefits are calculated by the Congressional Research Service.

436 - 2001

+39 ÷ 86 hrs = 45¢/hr

ANALYSIS OF POSSIBLE INCREASES IN THE MINIMUM WAGE

The minimum wage was raised in October 1996 from \$4.25 to \$4.75, and again in September 1997 from \$4.75 to \$5.15. Senator Kennedy has proposed further raising the minimum wage, in several stages, to \$7.25 by 2002. The current minimum wage is, in real terms, about the level it was in the mid-1980s. The Kennedy proposal would return the real minimum wage close to its high levels in the late 1970s by 2002; without any legislative changes, inflation will erode the real minimum wage by 2002 to about the level it was at prior to the 1996-1997 increases. (See Figure 1.)



Since the effect of the minimum wage depends upon where in the wage distribution it hits, it is useful to calculate the minimum wage relative to earnings of less-skilled workers. Because less-skilled men's earnings have fallen, the minimum wage relative to earnings of men with less than a high school degree is currently higher than it was in the mid-1980s, and almost at its 25-year peak. In contrast, the minimum wage relative to earnings of women with less than a high school degree is now substantially lower than in the mid-1980s. (See Figure 2.)

GROUPS AFFECTED BY FURTHER INCREASES

A key question with minimum wage increases is which groups of workers are affected by the increase. If the minimum wage were increased to \$7.25, about one-seventh of those newly covered would be poor, about quarter would be teenagers, about two thirds would have a high school degree or less, and about one-seventh would be single adults with children. Figures 3-6 examine the characteristics of workers who are in different wage brackets above the minimum wage.¹ As the minimum wage moves above \$5.15/hour, these charts show that the group of workers affected is increasingly less poor, better educated, and less likely to be teenaged. (See attached).

¹Because the data are from the March 1997 CPS, they are based on labor market information before the last minimum wage increase was enacted in September 1997.

All numbers are preliminary. Do not cite or circulate.

ARGUMENTS FOR AND AGAINST RAISING THE MINIMUM WAGE

Arguments for an increase

- **Decreases wage inequality.** By providing a floor for wages, the minimum wage may compress wages in the lower tail of the wage distribution, offsetting declines in wages among less-skilled workers; if the beneficiaries of the minimum wage are mostly low-income families, the reduced wage inequality will also reduce family earnings inequality. Most evidence suggests that recent minimum wage increases had a substantial impact on compressing wages at the bottom decile, but less of an impact of family earnings inequality.
- **May decrease poverty.** By raising wages at the bottom, an increase in the minimum wage may help reduce the poverty gap and the poverty rate. At the current minimum wage, with the EITC, a single adult with two children working full-time year-round just clears the poverty threshold; but for two adults with two children, the minimum wage would have to be over \$6.00 per hour for one full-time year-round worker earning the minimum wage with the EITC to raise the family above the poverty line.

Empirical evidence on the effect of minimum wage increases on poverty rates is mixed. Part of the reason why the minimum wage may be an ineffective instrument for combating poverty is that many poor adults do not work. In addition, many minimum wage workers are in higher-income families; for example, the median family income of those earning around the minimum wage is over \$30,000, almost 200 percent of poverty for a two adult, two-child family (see Figure 7).

- **Firms may use labor more productively.** Raises in the minimum wage and hence the cost of labor increase incentives for employers to use their labor as productively as possible.
- **Raises income without budgetary implications.** A raise in the minimum wage provides a way of raising income without affecting government revenue or spending
- **Complements and reinforces EITC.** Increases in the minimum wage, like the large increases in the EITC, are a way to 'make work pay.'
- **Political support.** Minimum wage increases typically receive strong support from labor groups and other progressive lobbying groups.

Arguments against an increase

- **Not well targeted.** Increases in the minimum wage are a rather blunt way of helping low-

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wage workers. Over half of the workers affected by any further increase will be in families with income above 200 percent of the poverty line. The larger the increase, the less targeted will be the impact of the increase on the working poor; in 1996, almost 20 percent of the workers earning under \$5.15 per hour were poor, but this percentage falls to 12 percent for workers earning \$6.00-\$7.00 per hour (See Figure 6). As mentioned above, median family income of those earning around the minimum wage is around 200 percent of poverty. (See Figure 7).

- **Potential disemployment effects.** Workers working at the minimum wage benefit from an increase in the minimum wage, if they remain employed. Workers who become unemployed as a result of a minimum wage increase lose out. The employment effects of an increase in the minimum wage depend on its current level, the magnitude of the increase, where the new minimum wage falls in the income distribution, and who is covered by the new minimum wage. Research suggests that employees whose hiring is highly sensitive to wages -- particularly teenagers -- are most likely to be adversely affected.

There remains a controversy over the magnitude of the disemployment effects caused by increases in the minimum wage. A number of credible studies of minimum wage increases in 1990 and 1991 show little adverse effects on employment. However the increases studied were small, and occurred at an historic low point in the real value of the minimum wage. There are other studies that show larger effects, and all economists agree that the disemployment effects will increase at higher levels of the minimum wage.

- **Lack of current information.** There is little information available to judge whether the minimum wage is currently at a level where further increases are likely to produce large adverse employment effects. Indeed, one important caution against further increases is that we have recently had two major increases in the minimum wage and do not yet have any analysis of the employment effects of these changes. If the recent increase was large enough to adversely affect employment, further increases now are likely to produce even greater adverse effects. The effects of the recent increases should be studied before enacting further increases.
- **Potential impact on consumers through increased prices.** There is some evidence that increases in the minimum wage result in higher prices; indeed, prices may rise by about the amount needed to cover the higher cost of labor associated with the rise in the minimum wage. This price increase is felt by all consumers, while the benefit of a higher minimum wage accrues almost entirely to workers who were working below the new minimum.
- **Effect on non-wage benefits.** One way for employers to raise wages without reducing employment is by reducing non-wage benefits like health insurance or worker training. However, there is not much evidence that employers reduce such non-wage benefits to offset a minimum wage increase. (Indeed, few minimum wage workers receive large

All numbers are preliminary. Do not cite or circulate.

amounts of non-wage compensation, so it is hard to adjust along this dimension.)

- **Political opposition.** Minimum wage increases are opposed by small businesses, low-wage industries, and low-wage states. Given the recent increases, further significant rises in the minimum wage may face intense opposition from these groups.

ALTERNATIVE POLICY OPTIONS

Alternatives to enacting further minimum wage increases in the near future include:

- Leave the minimum wage unchanged and wait until we have information about the effects of the 1996 and 1997 increases.
- Consider indexing the minimum wage to inflation, so that it maintains its real value over time. This would avoid the steady erosion in the minimum wage which has occurred in the past when no new minimum wage legislation is enacted.
- We have at times in the past enacted different minimum wages for teenagers and adults. If particularly concerned about the disemployment effects of higher minimum wages on teenagers, one could consider differential increases in the minimum wage for teens versus adults. However, this does create incentives for firms to utilize more teenage labor than they would otherwise, leaving fewer low-wage jobs for adults.

All numbers are preliminary. Do not cite or circulate.

Education by wage category

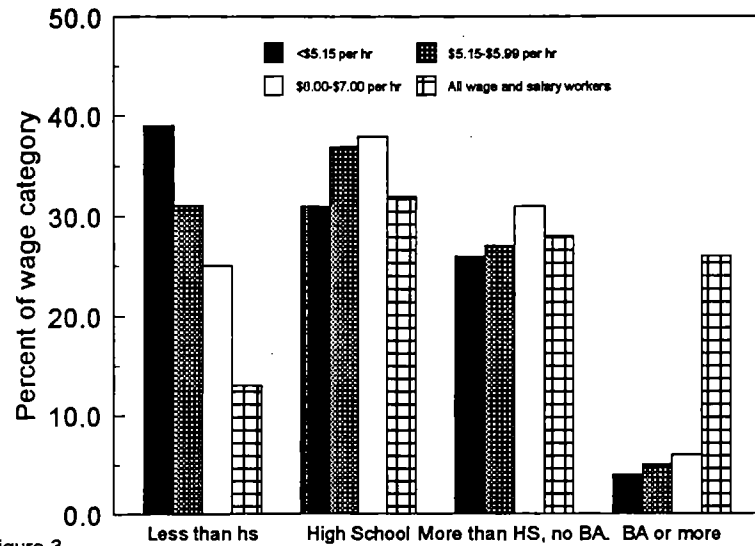


Figure 3

Family Status by wage category

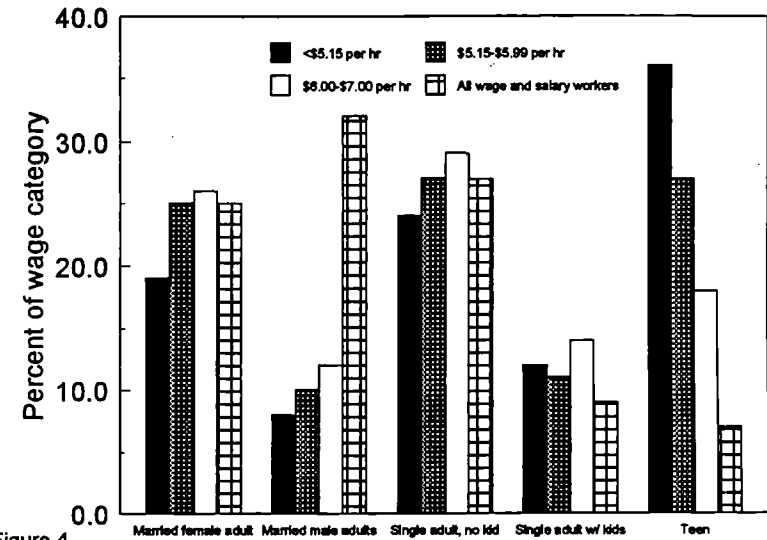


Figure 4

Race and Ethnicity by wage category

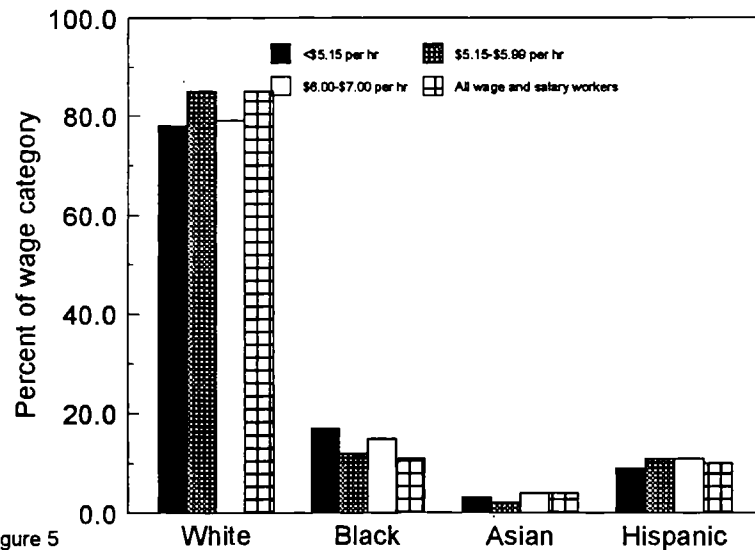


Figure 5

Poverty by wage category

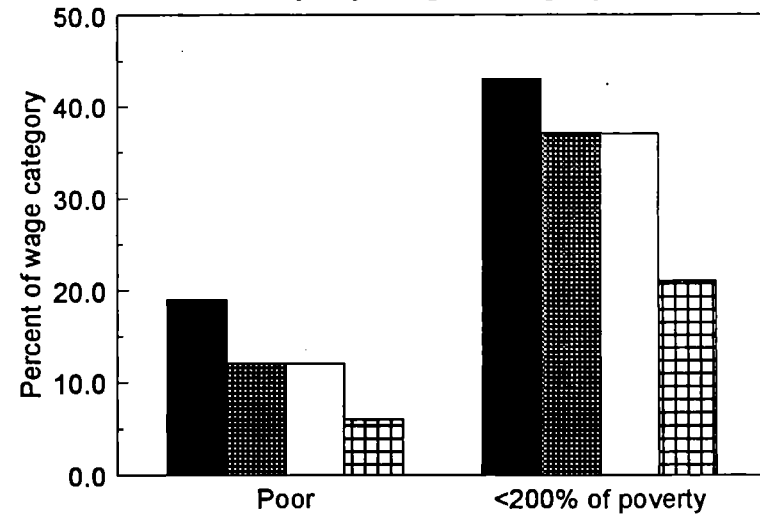
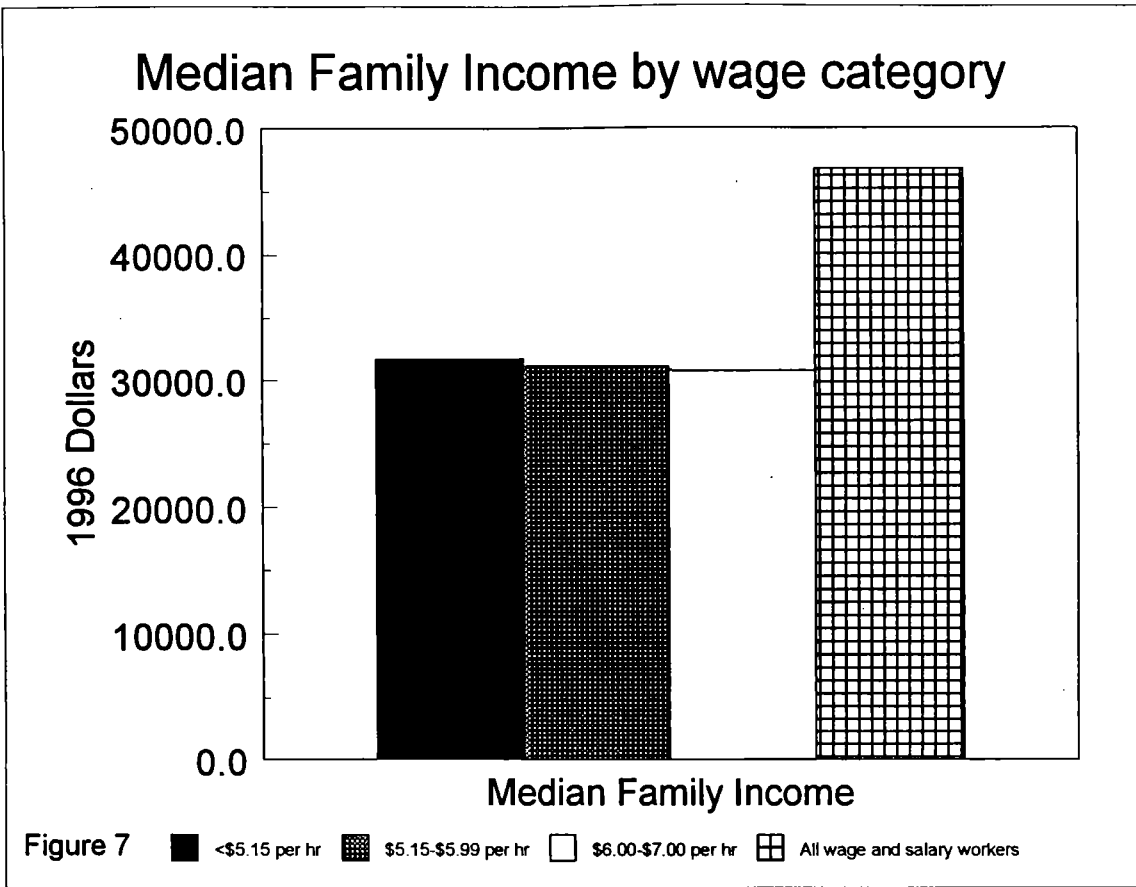


Figure 6



Who Is Affected By Increases in the Minimum Wage?

We examine the demographic characteristics of workers likely to be affected by two different increases in the minimum wage. Under one scenario, the minimum wage is increased roughly in line with expected inflation, reaching \$6.00 per hour by 2003. The other scenario examined is Senator Kennedy's proposal, which would increase the minimum wage in 50 cent increments, reaching \$7.25 per hour by September 2002.

Real wages have been roughly constant at the bottom of the income distribution over the last 10 years. We therefore assume constant real wages at the bottom of the income distribution through 2003. Consequently, we assume that those affected by an increase in the minimum wage to \$6.00 per hour by 2003 are those who are currently earning the \$5.15 per hour minimum wage. Those affected by an increase in the minimum wage to \$7.25 per hour in 2002 are those currently earning \$6.40 per hour or less (\$7.25 in 2002 dollars deflated to 1997 dollars is \$6.40).

Table 1 presents the number of people likely to be affected by a minimum wage increase. Column 1 presents the numbers affected by an increase to \$6.00 by 2003; column 2 presents the numbers affected by an increase to \$7.25 by September 2002. Since the increase to \$6.00 by 2003 is roughly an adjustment for inflation, and we are assuming constant real wages, we do not consider any disemployment effects from this increase. However, the increase to \$7.25 by September 2002 represents a 24 percent increase in the real minimum wage. Economic studies of past increases in the minimum wage find disemployment effects ranging from zero to a 3 percent decrease in employment for teens (a group likely to suffer the largest disemployment effects) for every 10 percent increase in the minimum wage.

The last column of Table 1 presents the numbers affected by the increase to \$7.25 assuming this 3 percent decrease in employment for all groups for every 10 percent increase in the minimum wage; with disemployment effects, the increase to \$7.25 by 2002 increases wages for about 17.7 million workers and costs about 700,000 workers their jobs. Although a 3 percent disemployment effect for every 10 percent real increase in the minimum wage is an upper bound from past studies of disemployment estimates for a group (teenagers) who are likely to have relatively large disemployment effects, we consider it a reasonable approximation of potential disemployment effects from an increase to \$7.25 by September 2002 for three reasons. First, the increase to \$7.25 is larger, in real terms, than previous increases studied. Second, the increase to \$7.25 would cut higher into the distribution of wages for low-skilled men than previous increases have. And third, a group likely to be adversely affected by the increase is women moving from welfare to work; this group, like teenagers, is expected to have relatively large disemployment effects.

Absent any legislative changes, the real value of the minimum wage would erode by 2003 to \$4.50 in 1997 dollars; this decrease in the real value of the minimum wage could boost employment in the same way that an increase in the real value of the minimum wage might decrease employment. Again, using the range of disemployment effects found in past studies, we find that relative to no legislative change, increasing the minimum wage to \$6.00 by 2003 could

have an effect on employment ranging from zero to a decrease in employment of about 460,000. Increasing the minimum wage to \$7.25 could have a maximal disemployment effect of about 1.2 million.

Table 2 presents the characteristics of those affected by the two different minimum wage increases; it also presents the characteristics of all wage and salary workers for comparison. For example, if the minimum wage is raised to \$6.00 by 2003, about 38 percent of those affected by the increase would have less than a high school education; 35 percent of those affected by an increase to \$7.25 by 2002 would have less than a high school education, compared with 13 percent of all wage and salary workers have less than a high school education. Table 2 thus reveals that, under either scenario for a minimum wage increase, those affected are disproportionately low-skilled, black, hispanic, female, teenagers, not the primary earner in the family, and poor. The proportion of the affected group that has a given set of characteristics is roughly similar under the two scenarios for a minimum wage increase. For example, 16 percent of those affected by an increase to \$6.00 by 2003 are black, compared with 14 percent of those affected by an increase to \$7.25 by 2002.

About 16% of those affected by either minimum wage increase are the sole breadwinner in their family. The average affected worker contributes about half of his or her family's earnings.

Table 3 indicates what proportion of various demographic groups would be affected by a minimum wage increase. For example, if the minimum wage is raised to \$6.00 by 2003, 16 percent of all teenagers would be affected, whereas only 4 percent of the total population would be affected.

Table 1: Numbers of people affected.

	Increase to \$6.00 by 2003	Increase to \$7.25 by Sept 2002	Increase to \$7.25 by Sept 2002 with disemployment effects	Estimated disemployment effect from increasing to \$7.25 by Sept 2002
Total	8,766,000	18,450,000	17,753,000	697,000
Education				
Less than High School	3,374,000	6,399,000	6,181,000	218,000
High School	2,732,000	6,133,000	5,888,000	245,000
More than High School, no BA	2,289,000	5,075,000	4,874,000	201,000
BA or more	371,000	846,000	812,000	34,000
Race/ethnicity				
black	1,412,000	2,673,000	2,582,000	91,000
white	6,952,000	14,970,000	14,393,000	577,000
asian	280,000	582,000	561,000	22,000
hispanic	1,198,000	2,885,000	2,764,000	121,000
Gender				
female	5,340,000	11,010,000	10,602,000	408,000
male	3,426,000	7,444,000	7,155,000	289,000
Family status				
Teen	2,935,000	5,215,000	5,051,000	164,000
Adults	5,831,000	13,240,000	12,707,000	533,000
Married adult female	1,786,000	4,138,000	3,969,000	169,000
Married adult male	795,000	2,047,000	1,957,000	90,000
Single adult, no children	2,165,000	4,794,000	4,605,000	189,000
Single adult with children	1,086,000	2,260,000	2,175,000	85,000
Primary earner in family	2,383,000	5,418,000	5,199,000	219,000
Gender/race				
White male	2,790,000	6,152,000	5,910,000	242,000
White female	4,162,000	8,817,000	8,482,000	335,000

Black female	930,000	1,700,000	1,645,000	55,000
Black male	482,000	974,000	938,000	35,000
Asian male	79,000	207,000	198,000	9,000
Asian female	201,000	375,000	363,000	13,000
Hispanic male	607,000	1,509,000	1,444,000	65,000
Hispanic female	591,000	1,376,000	1,320,000	56,000
Economic indicators				
Poor	1,685,000	2,983,000	2,890,000	93,000
Below 200 percent of poverty	3,892,000	7,643,000	7,373,000	270,000
Poor adults	1,252,000	2,284,000	2,209,000	74,000
Adults below 200 percent of poverty	2,879,000	6,004,000	5,779,000	225,000
Sole breadwinner of family	1,379,000	3,049,000	2,929,000	120,000
Mean contribution to family earnings	0.46	0.48		
Median family income	31,200	31,000		

Table 2: Demographic characteristics of those affected as a percent of wage category

Column 1 shows those earning the current minimum wage of \$5.15. Column 2 shows those currently earning less than \$6.40 (the real value of \$7.25 by September 2002). Column 3 shows all wage and salary workers for comparison.

	Increase to \$6.00 by 2003	Increase to \$7.25 by Sept 2002	All wage and salary workers
Education			
Less than High School	38	35	13
High School	31	33	33
More than High School, no BA	26	28	29
BA or more	4	5	25
Race/ethnicity			
black	16	14	12
white	79	81	84
asian	3	3	4
hispanic	14	16	10
Gender			
female	61	60	48
male	39	40	52
Family status			
Teen	33	28	7
Adults	67	72	93
Married adult female	20	22	26
Married adult male	9	11	31
Single adult, no children	25	26	27
Single adult with children	12	12	9
Primary earner in family	27	29	54
Gender/race			
White male	32	34	45
White female	48	48	40
Black female	11	9	6
Black male	6	5	5
Asian male	1	1	2

Asian female	2	2	2
Hispanic male	7	8	6
Hispanic female	7	7	4
Economic indicators			
Poor	19	16	6
Below 200 percent of poverty	44	41	21
Sole breadwinner of family	16	17	21

Table 3: Percent of demographic category affected

Each row shows the number of people in a group affected by the indicated minimum wage change, as a share of the total population in that group.

	Increase to \$6.00 by 2003	Increase to \$7.25 by September 2002
Total	4	9
Education		
Less than High School	8	15
High School	4	9
More than High School, no BA	4	10
BA or more	1	2
Race/ethnicity		
black	6	11
white	4	9
asian	4	8
hispanic	6	14
Gender		
female	5	10
male	4	8
Family status		
Teen	16	28
Adults	3	7
Married adult female	3	8
Married adult male	1	4
Single adult, no children	4	8
Single adult with children	7	14
Primary earner in family		
Gender/race		
White male	3	7
White female	5	10
Black female	7	13

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Black male	5	9
Asian male	2	6
Asian female	5	10
Hispanic male	6	15
Hispanic female	6	14
Economic indicators		
Poor adults	6	12
Adults below 200 percent of poverty	5	11

REEXAMINING METHODS OF ESTIMATING MINIMUM-WAGE EFFECTS[†]

Employment and the 1990–1991 Minimum-Wage Hike

By DONALD DEERE, KEVIN M. MURPHY, AND FINIS WELCH*

After nine years of fortuitous neglect, the federal minimum wage was increased more than 25 percent in two steps, from \$3.35 to \$3.80 on April 1, 1990, and then to \$4.25 on April 1, 1991.¹ Our purpose is to investigate the employment effects of these increases.

As evidence of potential effect we examine changes in the distribution of wages. Table 1 refers to employees aged 15–19 earning less than \$5.00 per hour for the years ending March 31, 1989, 1990, and 1991. In each period there is a sharp spike in the wage distribution that coincides with the applicable federal minimum; and there was a substantial shift from below \$4.25 to \$4.25 and higher that coincided with the increased federal minimum. During the year before the first increase, 76 percent of these low-wage employees reported earning less than \$4.25; two years later (i.e., in the year after the second increase), only 25 percent indicated an hourly wage below \$4.25. This shift is much larger than the 9 percent increase in overall average hourly earnings, and we view it as clear evidence that the increased federal minimum raises the cost of hiring relatively unskilled workers.

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¹At the time of the first increase, 12 states and the District of Columbia had minimums in excess of the \$3.35 federal level, but only two of them (Connecticut and California) had a minimum as high as \$4.25.

Table 2 reports employment/population ratios for youth aged 15–19 between 1985 and 1992. The employment rate is indexed to its 1985 value, and the employment index for men 35–44 years old is included for reference. Each year begins in April and goes through March, so that 1990 begins with the increase in the minimum to \$3.80 an hour, and 1991 begins with the increase to \$4.25. Teenage employment rates grew from 1985 through 1989 and then fell in 1990 and again in 1991, with a further, though less pronounced, drop in 1992.

Until recently there had been a consensus that the increase in wage rates documented in Table 1 and the employment changes depicted in Table 2 were essentially cause and effect. There was quibbling about the exact magnitude of the effect, but not much discussion about whether negative employment effects existed. This consensus appears to have been splintered by a series of recent studies (David Card, 1992a, b; Lawrence Katz and Alan Krueger, 1992; Card and Krueger, 1994), although other recent studies continue to find the more standard effect (e.g., David Neumark and William Wascher, 1992). We attempt to provide some glue that can be used to put the pieces back together again.

I. Analysis

The idea that we pursue is the obvious one that minimum-wage increases have the largest effects on employment where effects on wages are also largest, so we compare changes in employment rates of high- and low-wage populations. The high- versus low-wage partitions are demographic (by age, education, race, ethnicity, marital sta-

TABLE 1
AND AFI

Hourly wa
Less than :
\$3.35 exact
\$3.36–\$3.7
\$3.80 exact
\$3.81–\$4.2
\$4.25 exact
\$4.26–\$4.9 ^a

Total

Source: CP
dents, ages
\$5.00.

^aApril 1
ing year.

TABLE 2—
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Year ^a	Ag
1985	
1986	
1987	
1988	
1989	
1990	
1991	
1992	

Note: Empl.
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TABLE 1—WAGES OF HOURLY EMPLOYEES BEFORE AND AFTER THE APRIL 1, 1990 AND 1991 INCREASES IN THE FEDERAL MINIMUM WAGE

Hourly wages	Percentages ^a		
	1989	1990	1991
Less than \$3.35	10.8	9.4	9.7
\$3.35 exactly	16.9	3.3	0.5
\$3.36–\$3.79	23.5	9.6	3.9
\$3.80 exactly	0.8	10.8	0.8
\$3.81–\$4.24	24.1	34.2	10.2
\$4.25 exactly	7.0	10.0	36.3
\$4.26–\$4.99	16.9	22.7	38.6
Total	100.0	100.0	100.0

Source: CPS Outgoing Rotation Earner Study respondents, ages 15–19, paid by the hour with wages below \$5.00.

^aApril 1 of indicated year until March 31 of following year.

TABLE 2—TRENDS IN TEENAGE EMPLOYMENT RATES APRIL 1, 1985 THROUGH MARCH 31, 1992

Year ^a	Employment rate index (1985 = 100)		
	Ages 15–17	Ages 18–19	Men ages 35–44
1985	100.0	100.0	100.0
1986	104.4	99.6	99.8
1987	107.8	102.2	100.2
1988	108.6	104.6	101.0
1989	109.2	104.7	100.9
1990	97.8	99.6	100.1
1991	89.2	95.2	98.3
1992	86.6	94.7	97.7

Note: Employment rate index is the employment/population ratio, indexed to the 1985 value.

^aApril 1 of indicated year until March 31 of following year.

tus, and gender) and geographic (by state of residence). Within each partition we compare employment changes to the fraction of workers who earn low wages (less than or equal to \$4.25 in the year before the 1990 increase). When the population is divided on the basis of age, race, ethnicity, education, and marital status, we find that subgroups with more low-wage workers in 1989 experience larger declines in employment following the increase in the federal minimum. The other two partitions, by state and by gender, give the opposite result. The employment rate of women does not fall relative to the rate for men, and low-wage

employment does not fall more in low-wage states than in higher-wage states. The result for women is not surprising given their persistent employment growth over the past several decades. The result for states might seem surprising, but as we note, employment changes have not been neutral; employment for all workers (not just low-wage workers) grew significantly faster after 1989 in low-wage states than in the country as a whole.

The data are from the 1985 through 1993 CPS Outgoing Rotation Files. The monthly data are arranged into 12-month intervals that begin April 1, and we label each with the calendar year at the beginning of the interval. The arrangement is convenient since it allows for splits on dates when the minimum-wage hikes occur. Hourly wage data are calculated for all earner-study participants as usual weekly earnings divided by usual hours per week.²

Table 3 lists changes in employment rates relative to the 1989 levels. The employment changes appear alongside the incidence of low wages in 1989 for the indicated groups. The incidence of low wages is reported in the first column for men and in the third column for women. The second and fourth columns give the percentage change in employment between the 1989 baseline and 1991. The age comparisons show that employment declines are greatest for those aged 15–19 followed by the declines for those aged 20–24, two of the groups that have the highest incidence of low wages. Comparisons across racial groups show that blacks, the group with the highest low-wage incidence, experienced the largest employment losses; they are followed by whites and then Asians (exactly the order of the fractions of low-wage workers). The relationship between education and employment change is also monotonic and in the expected direction, and the groupings on Spanish ethnicity show the same pattern. The married populations, who have a much

²Workers with imputed values for the earner variables were excluded.

TABLE 3—FRACTIONS OF LOW-WAGE WORKERS AND THE PERCENTAGE CHANGE IN EMPLOYMENT/POPULATION RATIOS OVER LEVELS FOR APRIL 1, 1989–MARCH 31, 1990, BY SELECTED POPULATION CHARACTERISTICS

Group	Men		Women	
	Fraction low-wage	Employment change, 12 months beginning April 1, 1991	Fraction low-wage	Employment change, 12 months beginning April 1, 1991
Age:				
15–19	44.5	–15.4	51.8	–12.9
20–24	14.2	–5.6	19.0	–4.3
25–64	3.3	–2.5	8.8	–0.3
65–69	14.0	–4.3	21.0	+3.5
Race:				
Black	11.0	–4.8	16.9	–3.4
White	7.2	–3.1	13.0	–0.6
Asian	5.4	+0.7	9.3	–0.3
Spanish ethnicity:				
Mexican	15.6	–4.8	21.9	–5.5
Other Spanish	8.8	–3.3	16.4	–0.7
Non-Spanish	7.1	–3.2	12.9	–0.8
Years of school completed:				
Less than 12	20.7	–6.6	35.4	–7.3
12	6.0	–4.0	13.5	–2.2
More than 12	3.5	–2.8	6.4	–0.7
Marital status:				
Single	15.1	–4.4	18.4	–3.2
Married	2.7	–2.4	9.0	+0.7
States:				
10 lowest-wage	13.1	–1.5	23.7	+0.0
Middle-wage	7.9	–3.4	14.2	–0.7
10 highest-wage	3.5	–4.0	5.6	–2.9
All	7.5	–3.2	13.3	–1.1

Note: "Single" refers to all but married, spouse present.

lower incidence of low wages, also fared better in terms of employment losses between 1989 and 1991. As noted, the only exceptions are that employment grew relatively more in low-wage states than in high-wage states and that employment fell less for women (the group with higher low-wage incidence) than for men. The latter fact is easily dismissed based on long-standing trends.

The state results might seem curious, but they are likely to reflect a correlation between the fraction low wage and overall economic performance in the state. To illustrate, Figure 1 graphs the change in employment between 1989 and 1992 for prime-aged men with 13 or more years of schooling (a group we expect not to be directly influenced by the minimum wage) against the fraction of men in the state with low wages. The relationship is strong and positive, the fitted regression line shown in the figure has

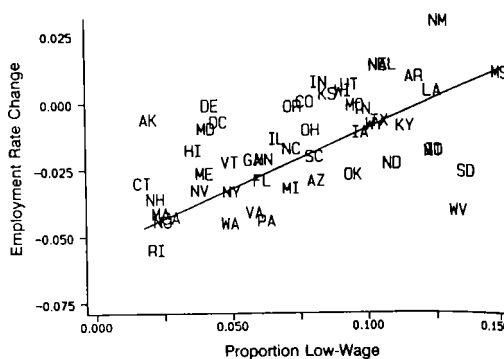


FIGURE 1. CHANGES IN EMPLOYMENT, MALES AGED 25–54 WITH 13 OR MORE YEARS OF EDUCATION

Note: The graph shows the employment rate changes, 1989–1992 plotted against the fraction of low-wage workers in the state in 1989.

a t ratio of 7.8 with only 51 observations. As is also true for gender, the general trend showing relatively more rapid employment growth in the low-wage states is not fully reversed by the increased federal minimum.

The results in Table 3 suggest a strong relationship between changes in employment after 1989 and the probability of being low-wage. It might be tempting to stop at this point and declare the impacts of the minimum wage to be obvious. However we resist this temptation since other changes in the economy (such as falling aggregate employment) might account for part of our findings. In Table 4 we use regression to adjust for changes in aggregate employment and examine the remaining changes in employment for six groups that have relatively high concentrations of low-wage workers. The data refer to employment by state and year.

Table 4 is organized by gender and race, with teenagers in the upper panel and adult (ages 20–54) high-school dropouts in the lower panel. The dependent variable is the natural logarithm of the employment/population ratio, which is regressed on the log of the employment rate for 15–64-year-old men (to control for cyclical movements), a set of state indicator variables, and indicators for the level of the federal minimum wage (with \$3.35 the omitted level). The

TABLE 4—REGR LOSSES FROM THE

Variable

Teenagers, Aged 15

Employment rate, men aged 15–64
Year effects
Minimum = \$3.8

Minimum = \$4.2

Test: other year eff
Pr > F

High-School Dropo

Employment rate, men aged 15–64
Year effects
Minimum = \$3.8

Minimum = \$4.2

Test: other year eff
Pr > F

Notes: Observation (1985–1992). Year effect is the natural ratio for the group variable reference logarithm. The minimum for 1990 (when \$4.25 applicable) that identifies the distinguishing between minimum-wage and The rows labeled refer to the alternative years has an that are restricted regressions for black men and women between them. All facts. Numbers in parentheses

first column regression second column the third column women. The regression a time trend, and include an indicator observation is a aggregate (the pooled across coefficients on

TABLE 4—REGRESSION ESTIMATES OF EMPLOYMENT LOSSES FROM THE 1990-1991 INCREASE IN THE FEDERAL MINIMUM WAGE

Variable	Men	Women	Blacks
<i>Teenagers, Aged 15-19:</i>			
Employment rate, men aged 15-64	3.29 (18.37)	2.27 (8.19)	4.76 (6.41)
Year effects			
Minimum = \$3.80	-4.78 (4.97)	-6.63 (3.73)	-7.47 (2.02)
Minimum = \$4.25	-7.29 (9.04)	-11.37 (4.80)	-10.00 (3.16)
Test: other year effects, $Pr > F$	0.87	0.32	0.88
<i>High-School Dropouts, Adults Aged 20-54:</i>			
Employment rate, men aged 15-64	1.19 (12.18)	1.66 (7.42)	1.32 (3.50)
Year effects			
Minimum = \$3.80	-1.49 (2.93)	-2.54 (1.80)	-4.43 (2.33)
Minimum = \$4.25	-3.13 (7.14)	-5.17 (2.72)	-6.66 (4.10)
Test: other year effects, $Pr > F$	0.19	0.924	0.39

Notes: Observations are aggregates by state and year (1985-1992). Years begin April 1. The dependent variable is the natural log of the employment/population ratio for the group indicated. The aggregate employment variable refers to men only and is also a natural logarithm. The minimum-wage variables are indicators for 1990 (when \$3.80 applied) and 1991 and 1992 (when \$4.25 applied). This specification has one indicator that identifies the 1990 observations and another that identifies the 1991 and 1992 observations without distinguishing between them. The coefficients on the minimum-wage indicators have been multiplied by 100. The rows labeled "Test: other year effects, $Pr > F$ " refer to the alternative hypothesis that each of the eight years has an independent effect. The regressions that are restricted to women include a trend term; the regressions for blacks include pooled observations for men and women with an indicator that distinguishes between them. All regressions also include state effects. Numbers in parentheses are t statistics.

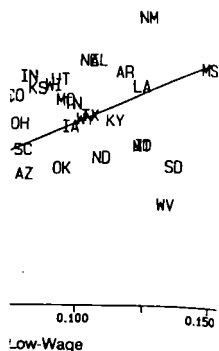
first column refers to men of all races, the second column to women of all races, and the third column to blacks, both men and women. The regressions for women include a time trend, and the regressions for blacks include an indicator for men. The unit of observation is a state-by-year by gender aggregate (the observations for blacks are pooled across gender) for 1985-1992. The coefficients on the aggregate employment

rate are elasticities, while the coefficients on the minimum-wage indicators have been multiplied by 100 to signify percentage changes.

The estimates for teenagers imply that teenage employment is quite sensitive to the aggregate employment of men, with elasticities of 3.3, 2.3, and 4.8 for men, women, and blacks, respectively. The minimum-wage variables show that teenage employment dropped sharply following the 1990 increase in the federal minimum and dropped again after the second increase in 1991. Compared to the employment level projected from the movement in aggregate employment with the \$3.35 federal minimum, teenage employment was 4.8-percent, 6.6-percent, and 7.5-percent lower in 1990 for men, women, and blacks, respectively, and 7.3-percent, 11.4-percent, and 10.0-percent lower in 1991-1992.

The estimates for adult high-school dropouts tell a similar story. Elasticities of employment with respect to aggregate employment are 1.2, 1.7, and 1.3 for men, women, and blacks, respectively. The minimum-wage variables show a decline in the employment of each group following the increase to \$3.80 and a further decline after the increase to \$4.25. Compared to the employment level projected from the movement in aggregate employment with the \$3.35 federal minimum, employment of adult high-school dropouts was 1.5-percent, 2.5-percent, and 4.4-percent lower in 1990 for men, women, and blacks, respectively, and 3.1-percent, 5.2-percent, and 6.7-percent lower in 1991-1992.

Table 2 showed a distinct time pattern to teenage employment during 1985-1992 with sizable increases from 1985 through 1989 followed by the steep declines from 1990 through 1992. A similar pattern holds for the employment of adult high-school dropouts. The minimum-wage variable for \$3.80 is an indicator for 1990, and the \$4.25 variable is an indicator for 1991 and 1992 jointly. We tested the alternative hypothesis that eight separate year effects are necessary to describe the time pattern of employment in each regression. The reported p values are for the test of this hypothesis



EMPLOYMENT, MALES
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Handwritten calculations:

$$\begin{array}{r} 3.35 \sqrt{335} \\ 3.35 \sqrt{50} \\ 3.35 \sqrt{670} \\ \hline 230 \end{array}$$

against the specification with only the aggregate employment and minimum-wage variables (and a time trend in the regressions for women). In every case, the controls for aggregate employment and time trend coupled with the minimum-wage effects are sufficient to describe the employment changes of teenagers. Evidently, the increases in employment prior to 1990 are no more than would be expected given the movement in aggregate employment, while the declines after 1989 are captured well by the minimum-wage variables.

While Table 4 shows that the minimum-wage effects for teenagers are large, due to their disproportionate representation among low-wage workers, it also shows significant negative employment effects of the minimum wage for adults with little education. Teenagers comprise a significant part of the low-wage population, but they are not a majority. Only 32 percent of those with low wages just prior to the 1990 increase in the federal minimum were ages 15-19, while 20 percent were of Spanish ethnicity, 16 percent were black, and 12 percent were women over the age of 19 with less than 12 years of schooling. Teenagers bear a significant part of the burden from minimum wages, but most will outgrow it. The remaining two-thirds of the low-wage population, which is disproportionately minority, female, and poorly educated, is less likely to be so lucky.

II. Summary

On March 31, 1990, the federal minimum wage was \$3.35 per hour; it was increased to \$3.80 the next day and to \$4.25 one year later. In the 12 months following the second increase, the employment/population ratio for teenage men fell 15.4-percent below the level for the 12 months prior to the first increase. For teenage women, the drop was 12.9 percent. Employment in the 20-24 age range also fell relative to older workers, who typically earn higher wages. In addition to the partitions based on age, we also divided the population on the basis of race, Spanish ethnicity, education, and marital status. In each of these partitions, we find that the group with the highest percentage

of low-wage workers is also the group whose employment shows the greatest drop. However, when we divide the population on the basis of gender, and when we distinguish between high- and low-wage states, the low/high-wage contrasts give seemingly anomalous results. Employment of women does not fall relative to employment of men, and we do not find sharper employment losses among low-wage workers in states with disproportionately large numbers of low-wage workers. We do not view our gender and state findings as refutation of the *law of demand*; instead we take them as a warning that minimum wages are not everything that affects employment and that other things must be considered before we can correctly assess the employment effects of minimum wages.

For the gender and geographic splits, we find that the minimum-wage responses are swamped by the broader trends of increasing labor-market participation of women and of employment expansion in the South and Southwest where wages are lower than in the Northeast, Upper Midwest, and West. It is true, however, that when men and women are viewed separately the minimum-wage increases coincide with shifts toward less employment for lower-wage workers. Similarly, employment of low-wage workers falls relative to those who typically earn more both in high-wage states and in low-wage states.

Our naive comparisons show relative employment reductions of low-wage workers in some cases but not in others. In the exceptions we find simple explanations of results that might otherwise appear to be surprising. It follows that the cases in which employment responses are not surprising ought also to be considered for alternative causes. The most likely candidate is the recession that began in 1990. Between the year preceding the first increase in the federal minimum wage and the year following the second, employment of men aged 25-64 fell 2.5 percent, and employment of women in the same age range fell 0.3 percent.

In regressions that control for changes at the state level in the aggregate employment of men, we consider the associated changes

in employment of disproportionately large groups. Three of the 15-19: men, women, and women). The school dropouts as men, women, women). In the minimum-wage wage workers group of others, but aggregate employment that these increases expected. This is not the minimum-wage there are reductions prime age range low-wage employment. During hourly minimum relative to projections based on the \$3. of teenage men and the corresponding women and teenagers and 7.5 percent adults (ages 20-24 school they are 1. 4.4 percent, respectively and blacks. Then was raised a second employment of low second time. The projections based on 7.3 percent, 11.4 for teenagers (men

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in employment of six groups with dispropor-
tionately large numbers of low-wage work-
ers. Three of the groups are teenagers, aged
15-19: men, women, and blacks (both men
and women). The other three are high-
school dropouts aged 20-54, also grouped
as men, women, and blacks (both men and
women). In the five years preceding the first
minimum-wage hike, employment of low-
wage workers grew relative to employment
of others, but the regression control for
aggregate employment and trend suggests
that these increases are no larger than ex-
pected. This is not true for the period after
the minimum-wage increases. Although
there are reductions of employment rates in
prime age ranges, the reductions among
low-wage employment are greater than pre-
dicted. During the year when the \$3.80
hourly minimum existed, we estimate that,
relative to projections of employment rates
based on the \$3.35 minimum, employment
of teenage men was reduced by 4.8 percent;
the corresponding reductions for teenage
women and teenage blacks are 6.6 percent
and 7.5 percent, respectively, while for
adults (ages 20-54) who did not finish high
school they are 1.5 percent, 2.5 percent, and
4.4 percent, respectively, for men, women,
and blacks. Then, when the minimum wage
was raised a second time to \$4.25 per hour,
employment of low-wage workers also fell a
second time. The reductions over the pro-
jections based on the \$3.35 minimum are:
7.3 percent, 11.4 percent, and 10.0 percent
for teenagers (men, women, and blacks, re-

spectively), and for high-school dropout
adults they are 3.1 percent, 5.2 percent, and
6.7 percent.

The regression estimates have no sur-
prises. When the cost of employing low-wage
laborers is increased, fewer low-wage labor-
ers are employed.

REFERENCES

- Card, David. "Using Regional Variation in
Wages to Measure the Effects of the Fed-
eral Minimum Wage." *Industrial and La-
bor Relations Review*, October 1992a,
46(1), pp. 22-37.
- _____. "Do Minimum Wages Reduce Em-
ployment? A Case Study of California." *Industrial and Labor Relations Review*,
October 1992b, 46(1), pp. 38-54.
- Card, David and Krueger, Alan B. "Minimum
Wages and Employment: A Case Study of
the Fast-Food Industry in New Jersey and
Pennsylvania." *American Economic Re-
view*, September 1994, 84(4), pp. 772-93.
- Katz, Lawrence F. and Krueger, Alan B. "The
Effect of the Minimum Wage on the
Fast-Food Industry." *Industrial and La-
bor Relations Review*, October 1992, 46(1),
pp. 6-21.
- Neumark, David and Wascher, William. "Em-
ployment Effects of Minimum and Sub-
minimum Wages: Panel Data on State
Minimum Wage Laws." *Industrial and
Labor Relations Review*, October 1992,
46(1), pp. 55-81.