Occupational wages in the fast-food restaurant industry

Employees of fast-food restaurants are predominantly teenagers who work part time, are on the job less than 1 year, and whose earnings are closely tied to the minimum wage

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The fast-food restaurant industry has been one of the fastest growing industries in the United States. Over the past 20 years, it has accounted for a larger proportion of food budgets, reflecting, among other reasons, greater spending power and changing lifestyles prompted by the increasing participation of women in the labor force and the rise of one-person households. In the 1970's, fast-food restaurant sales expanded an average of 20 percent annually before "slowing" to 10 percent in the 1980's.[1] The industry has grown to more than 100,000 stores and $60 billion in annual sales.[2] Fast-food businesses now constitute more than 40 percent of the Nation's restaurants.[3]

Employment also has grown rapidly: fast-food restaurants employ more than 2.3 million workers—more than 40 percent of the nearly 6 million employees who work at eating places.[4] Fast-food restaurants rely heavily for their work force on teenagers and others with little work experience, or those looking for part-time employment. Nearly 70 percent of employees are 20 years or younger, and the average work week is 29.5 hours. Turnover is high, with only a little more than half the work force remaining 1 year or longer. An analysis of the turnover rate among employees in fast-food restaurants reveals that 75 percent of employees remain 6 months, 53 percent remain 1 year, 25 percent stay 2 years; only 12 percent remain 3 years or longer. In addition, nearly two-thirds of employees are women, and 23 percent are nonwhite.[5] For many teenagers, a fast-food restaurant is their first work experience. For example, one researcher has estimated that the first job for 1 in 15 workers in the United States was at a McDonald's restaurant.[6]

Average earnings for fast-food workers ranged from $4.33 an hour in Puerto Rico to $5.70 in Honolulu, HI, according to surveys conducted by the Bureau of Labor Statistics from November 1992 to March 1993.[7] Earnings for fast-food shift leaders also were lowest in Puerto Rico ($4.64) and highest in Guam ($7.34). (See table 1.)

The surveys

The studies covered establishments employing 20 workers or more in fast-food restaurants, part of industry 5812, as defined in the 1987 edition of the *Standard Industrial Classification Manual*. For the purposes of this study, fast-food restaurants are establishments in which a limited menu is offered, food is prepared on the premises, waiter or waitress service is not available, alcoholic beverages are not served, and food is prepared in advance or almost immediately upon the order.

Two nonsupervisory occupations were studied: fast-food worker and fast-food shift leader.

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Fast-food workers perform one or more functions in preparing food, taking and filling orders, or collecting payment. Fast-food shift leaders performed the same tasks, and in addition, assisted management in directing other workers, controlling the amount and timing of food production, and opening and closing the restaurant.[8] Full- and part-time workers were included, although employees hired under the youth subminimum wage provisions were excluded.[9]

The two occupations studied make up the overwhelming majority of employees in fast-food restaurants. For example, restaurant employment in the San Diego metropolitan area was estimated at 12,849 in December 1990. The number of fast-food workers and fast-food shift leaders was estimated at 11,423—nearly 89 percent of total employment. The remaining workers were primarily managers and assistant managers in the restaurants, and office personnel in multi-unit restaurant chains.

The results of the surveys

1992–93 surveys. Data from the surveys, conducted from November 1992 to March 1993, are available for all survey areas, except for the Bremerton, WA, metropolitan area in which a high nonresponse rate prevented publication of data.[10] (See table 1.)

Earnings of fast-food workers were tied closely to the minimum wage. In nearly three-fourths of the areas, averages were within 50 cents of the minimum wage, with only 7 of 43 areas averaging more than $5 per hour. Hourly earnings were lowest in Puerto Rico ($4.33), where the minimum wage was $4.25 per hour, and were highest in Honolulu, HI ($5.70), where the minimum hourly wage was $5.25.

Earnings varied among shift leaders, particularly those outside the continental United States. Nearly all areas reported average hourly earnings of $5 or more for leaders, with a majority averaging $5.75 or more per hour. Lowest earnings were recorded in Puerto Rico, $4.64; the highest were in Guam ($7.34), followed by Honolulu, ($7.33) and Alaska ($6.91).

Shift leaders typically earned 15 percent to 35 percent more per hour than fast-food workers. The earnings differential between fast-food workers and fast-food shift leaders was narrowest in Puerto Rico (7.2 percent) and was widest in York County, VA (46.0 percent), and Guam (45.9 percent).

Employment of fast-food workers ranged from 175 workers in Island County, WA, to 10,600 in Dallas County, TX. The greatest number of fast-food shift leaders was in San Diego County, CA (1,282), and the smallest number was in York County, VA, and Monroe County, FL (12).

Exhibit 1. **Areas studied in wage surveys of fast-food restaurants**

Area	Definition of Area
Alameda County, CA	Part of Oakland, CA, PMSA
Alaska	State
Anne Arundel County, MD	Part of Baltimore, MD, MSA
Bell County, TX	Part of Killeen-Temple, TX, MSA
Bremerton, WA	MSA
Charleston County, SC	Part of Charleston, SC, MSA
Christian County, KY	Part of Clarksville-Hopkinsville, TN-KY, MSA
Colorado Springs, CO	MSA
Dallas County, TX	Part of Dallas, TX, PMSA
Duval County, FL	Part of Jacksonville, FL, MSA
El Paso, TX	MSA
Escambia County, FL	Part of Pensacola, FL, MSA
Guam	Territory
Hardin County, KY	Nonmetropolitan County
Harrison County, MS	Part of Biloxi-Gulfport, MS, MSA
Honolulu, HI	MSA
Island County, WA	Nonmetropolitan County
King County, WA	Part of Seattle, WA, PMSA
Kings County, CA	Nonmetropolitan County
Lake County, IL	PMSA
Lauderdale County, MS	Nonmetropolitan County
Leavenworth County, KS	Part of Kansas City, MO-KS, MSA
Monroe County, FL	Nonmetropolitan County
Montgomery County, MD	Part of Washington DC-MD-VA, PMSA
Montgomery County, TN	Part of Clarksville-Hopkinsville, TN-KY, MSA
Newport County, RI	Part of Fall River, MA-RI, PMSA, and Providence, RI, PMSA
Norfolk, VA	Part of Norfolk-Virginia Beach-Newport News, VA, MSA
Orange County, FL	Part of Orlando, FL, MSA
Orleans Parish, LA	Part of New Orleans, LA, MSA
Oxnard-Ventura, CA	PMSA
Panama City, FL	MSA
Philadelphia County, PA	Part of Philadelphia, PA-NJ, PMSA
Puerto Rico	Commonwealth
Riley County, KS	Nonmetropolitan County
San Diego, CA	MSA
San Francisco County, CA	Part of San Francisco, CA, PMSA
San Jose, CA	PMSA
Santa Rosa County, FL	Part of Pensacola, FL, MSA
Shelby County, TN	Part of Memphis, TN-AR-MS, MSA
Solano County, CA	Part of Vallejo-Fairfield-Napa, CA, PMSA
Southeastern Maine	Part of Lewiston-Auburn, ME, MSA and Portsmouth-Dover,-Rochester, NH-ME, MSA; all of Portland, ME, MSA
St. Mary's County, MD	Nonmetropolitan County
Washington, DC	Part of Washington, DC-MD-VA, MSA
York County, VA,	Part of Norfolk-Virginia Beach-Newport News, MSA

NOTE: Metropolitan statistical areas (MSA) and primary metropolitan statistical areas (PMSA) are defined by the U.S. Office of Management and Budget, 1984.

1990–91 surveys. Data were unavailable because of nonresponse rates in Alameda County, CA; Monroe County, FL; and San Francisco, CA. A Southeastern Maine survey was not conducted.

Nearly half of the areas reported average earnings for fast-food workers in the range of 25 cents of the minimum wage. Earnings ranged from $3.89 in Bell County, TX, to $5.35 in Honolulu, HI. The lowest earnings typically were in the deep South and the highest earnings were on the west coast. (See table 2.) Two high paying areas in the South—Anne Arundel County, MD, and Montgomery County, MD, are in the Washington-Baltimore metropolitan area.[11]

The relationship between the pay rate of fast-food shift leaders and workers was similar to that observed in the 1992–93 survey; leaders typi-

cally earned between 15 and 30 percent more than fast-food workers. The earnings for fast-food shift leader ranged from $4.37 in Bell County, TX, to $6.80 in Anne Arundel County, MD. The earnings differentials between fast-food shift leader and fast-food worker also were lowest in Bell County, TX (12.3 percent), and highest in Anne Arundel County, MD (38.2).

Employment patterns were similar to those found in the 1992–93 surveys. Again, employment was highest for fast-food workers in Dallas County, TX (10,287), and shift leaders in San Diego, CA (1,190). Island County, WA, reported the fewest fast-food workers (163); Newport County, RI, had the fewest shift leaders (11).

The impact of minimum wage changes

In both the 1990–91 and 1992–93 surveys, nearly two-fifths of the areas averaged wages of 20 cents

Table 1. **Average earnings of workers in fast-food restaurants, 43 areas, November 1992 to March 1993**

Area	Occupation		Differential[1]	
	Fast-food worker	Fast-food shift leader	Dollar	Percent
Hourly minimum wage: $4.25				
Puerto Rico	$4.33	$4.64	$ .31	7.2
Christian County, KY	4.34	—	—	—
Harrison County, MS	4.34	5.06	.72	16.6
Bell County, TX	4.35	4.98	.63	14.5
Montgomery County, TN	4.36	4.89	.53	12.2
Orleans Parish, LA	4.37	5.04	.67	15.3
El Paso, TX	4.37	5.14	.77	17.6
Kings County, CA	4.38	5.00	.62	14.2
Riley County, KS	4.39	5.03	.64	14.6
Lauderdale County, MS	4.39	5.55	1.16	26.4
Leavenworth County, KS	4.40	5.15	.75	17.0
Colorado Springs, CO	4.43	5.33	.90	20.3
Escambia County, FL	4.44	5.11	.67	15.1
Charleston County, SC	4.45	5.38	.93	20.9
Panama City, FL	4.45	5.50	1.05	23.6
Shelby County, TN	4.45	5.88	1.43	32.1
Hardin County, KY	4.46	5.83	1.37	30.7
Santa Rosa County, FL	4.51	5.47	.96	21.3
Duval County, FL	4.51	5.59	1.08	23.9
Island County, WA	4.52	5.98	1.46	32.3
Norfolk, VA	4.59	5.82	1.23	26.8
Dallas County, TX	4.59	5.86	1.27	27.7
Solano County, CA	4.61	5.91	1.30	28.2
Oxnard—Ventura, CA	4.62	5.95	1.33	28.8
Philadelphia County, PA	4.62	6.33	1.71	37.0
San Diego, CA	4.63	6.04	1.41	30.5
Orange County, FL	4.65	5.58	.93	20.0
Southeastern Maine	4.72	6.40	1.68	35.6
York County, VA	4.74	6.92	2.18	46.0
San Jose, CA	4.75	6.41	1.66	34.9
St. Mary's County, MD	4.76	5.65	.89	18.7
Lake County, IL	4.83	6.54	1.71	35.4
San Francisco County, CA	4.88	6.26	1.38	28.3
Alameda County, CA	4.89	6.50	1.61	36.0
Anne Arundel County, MD	4.94	6.76	1.82	36.8
King County, WA	5.05	6.57	1.52	30.1
Montgomery County, MD	5.12	6.63	1.51	29.5
Monroe County, FL	5.45	6.47	1.02	18.7
Hourly minimum wage: $4.45				
Newport County, RI	4.86	6.60	1.74	35.8
Hourly minimum wage: $4.50				
Guam	5.03	7.34	2.31	45.9
Hourly minimum wage: $4.75				
Washington, DC	5.10	6.50	1.40	27.5
Alaska	5.44	6.91	1.47	27.0
Hourly minimum wage: $5.25				
Honolulu, HI	5.70	7.33	1.63	28.6

[1] The differential indicates the difference in earnings between fast food workers and fast food shift leaders.

NOTE: Dashes indicate data did not meet publication criteria.

Table 2. **Average earnings of workers in fast-food restaurants, 40 areas, November 1990 to January 1991**

Area	Occupation		Differential[1]	
	Fast-food worker	Fast-food shift leader	Dollar	Percent
Hourly minimum wage: $3.80				
Bell County, TX	$3.89	$4.37	$ .48	12.3
Christian County, KY	3.90	—	—	—
Montgomery County, TN	3.90	4.55	.65	16.6
Harrison County, MS	3.90	4.78	.88	22.6
Puerto Rico	3.91	4.42	.51	13.0
Lauderdale County, MS	3.91	5.00	1.09	27.9
Orleans Parish, LA	3.92	4.59	.67	17.1
Escambia County, FL	3.93	4.83	.90	22.9
Panama City, FL	3.94	4.61	.67	17.0
Riley County, KS	3.95	4.74	.79	20.0
El Paso, TX	3.99	4.55	.56	14.0
Santa Rosa County, FL	3.99	—	—	—
Shelby County, TN	4.00	—	—	—
Colorado Springs, CO	4.01	4.60	.59	14.7
Hardin County, KY	4.01	5.20	1.19	29.7
Norfolk, VA	4.06	4.99	.93	22.9
Leavenworth County, KS	4.06	5.07	1.01	24.9
Duval County, FL	4.08	5.10	1.02	25.0
Charleston County, SC	4.14	5.10	.96	23.2
Dallas County, TX	4.22	5.21	.99	23.5
St. Mary's County, MD	4.30	—	—	—
York County, VA	4.36	—	—	—
Philadelphia County, PA	4.46	6.09	1.63	36.5
Lake County, IL	4.48	5.57	1.09	24.3
Orange County, FL	4.60	5.29	.69	15.0
Anne Arundel County, MD	4.92	6.80	1.88	38.2
Montgomery County, MD	5.21	6.63	1.42	27.3
Hourly minimum wage: $3.85				
Honolulu, HI	5.35	6.68	1.33	24.9
Hourly minimum wage: $4.00				
Guam	4.31	5.66	1.35	31.3
Hourly minimum wage: $4.25				
Kings County, CA	4.36	5.05	.69	15.8
Island County, WA	4.43	—	—	—
Bremerton, WA	4.49	5.56	1.07	23.8
Solano County, CA	4.50	5.53	1.03	22.9
San Diego, CA	4.56	5.81	1.25	27.4
San Jose, CA	4.63	5.94	1.31	28.3
Oxnard—Ventura, CA	4.69	6.14	1.45	30.9
Newport County, RI	4.99	6.49	1.50	30.1
King County, WA	5.05	6.48	1.43	28.3
Hourly minimum wage: $4.30				
Alaska	5.14	6.14	1.00	19.5
Hourly minimum wage: $4.75				
Washington, DC	5.10	6.05	.95	18.6

[1] The differential indicates the difference in earnings between fast food workers and fast food shift leaders.

Note: Dashes indicate data did not meet publication criteria.

within the applicable minimum wage. (See chart 1.) Similarly, about three-quarters of the areas had averages within 50 cents of the minimum wage.

During the two years between surveys, the Federal minimum wage, under the Federal Fair Labor Standards Act of 1989, increased from $3.80 to $4.25 per hour on April 1, 1991.

The impact of minimum wage changes on earnings of fast-food workers in the industry is apparent. Earnings of fast-food workers increased an average of 30 cents per hour in the 39 areas providing comparable data from both sets of surveys.[12] The eight areas with no change in the minimum wage registered, on average, only a .04-cent hourly rise in earnings. In contrast, the 28 areas in which the Federal minimum wage rose 45 cents averaged a gain of 37 cents. Areas with the lowest earnings in the 1990–91 surveys tended to show the largest earnings increases in 1992–93.[13]

The following tabulation shows average change in earnings of fast-food workers from 1990–91 to 1992–93:

	Average change
All 39 areas	$.30
8 areas with no change in minimum wage	.04
31 areas with change in minimum wage	.37
23 areas with 1990–91 wage rates equal to or less than $4.37*	.45
8 areas with 1990–91 wage rates more than $4.37*	.13

*$4.37 is 15 percent greater than the Federal minimum wage of $3.80.

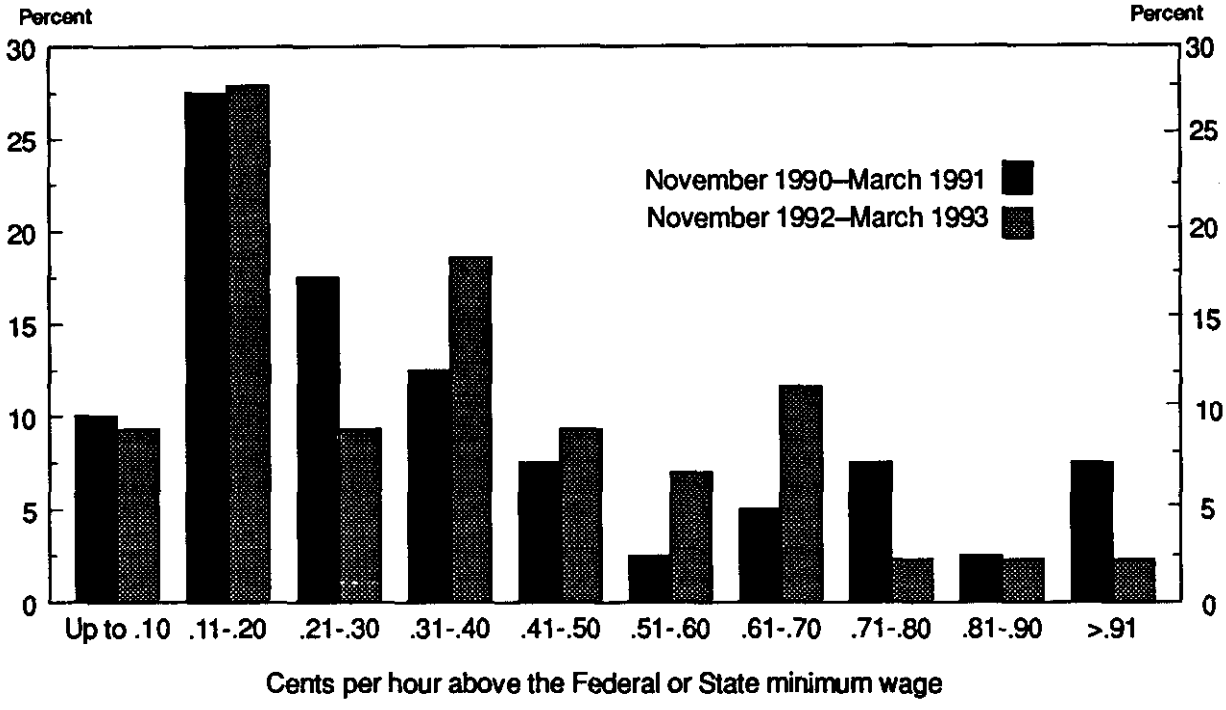
One effect of the minimum wage increase was to narrow the earnings gap between the highest and lowest paying areas. Because wage rates increased more in lower paying than in higher paying areas, differences among areas were less pronounced in 1992–93 than in 1990–91. The effect of the narrowing is demonstrated by comparing the distribution of area average earnings in the two periods. One method of measuring the dispersion of distributions is to compute a standard deviation, which is an indication of the degree to which individual values differ from the average of all observed values. The higher the standard deviation, the more dispersed the distribution.

In the 1990–91 period, the average earnings for fast-food workers was $4.34 an hour, with a standard deviation of 43 cents. In 1992–93, average earnings had risen to $4.67, but the standard deviation declined to 33 cents. (The average earnings in each period was computed by using an unweighted arithmetic average of all survey means.)

Other economic conditions also may have helped close the earnings gap among areas. The Northeast and west coast, which had the highest earnings of fast-food workers, were more severely affected by economic recession and higher unemployment than were the South and Midwest. For example, the average unemployment rate in California in 1992 was 9.1 percent. In contrast, unemployment in the Pensacola, FL, metropolitan area, which included Escambia County and Santa Rosa County, averaged 6.0 percent.[14]

Other studies have looked at the relationship between the minimum wage and earnings. Economists Lawrence F. Katz and Alan B. Krueger studied the impact of the increase of the Federal

Chart 1. **Distribution of survey areas by the average earnings above the minimum wage paid to fast food workers, November 1990–March 1991 and November 1992–March 1993**



minimum wage law in Texas.[15] A survey conducted in December 1990 found that 47 percent of restaurants were starting workers at exactly the minimum wage ($3.80). However, a follow-up survey in July and August 1991 found that 95 percent of restaurants increased the starting wage by the amount of the increase in the minimum wage, and 75.8 percent of the restaurants paid new hires exactly the minimum wage ($4.25).

Krueger joined economist David Card to evaluate the impact of the April 1992 rise in the New Jersey minimum wage from $4.25 to $5.05 per hour for more than 400 fast-food restaurants in both New Jersey and Pennsylvania.[16] The first survey conducted in late February and early March 1992 found the average starting wage in New Jersey to be $4.61, with 30.5 percent of restaurants paying new workers the minimum wage of $4.25. In Pennsylvania, the starting wage was $4.63, with 32.9 percent of restaurants hiring workers at the minimum wage.

A second survey conducted in November and December 1992 found that the average starting wage for entry-level workers in the fast-food industry rose to $5.08 in New Jersey. However, 85.2 percent of fast-food restaurants hired at the new minimum wage of $5.05. In Pennsylvania, where the minimum wage remained at $4.25, the average starting wage in the fast-food industry dropped to $4.62, but fewer restaurants hired workers at the minimum wage (25.3 percent).

In addition to measuring wages changed by the minimum wage, Katz and Krueger and Card and Krueger attempted to measure the impact on employment and prices. The results of both studies indicate that raising the minimum wage increased employment, rather than reduce it as might be expected. In the Krueger and Card study, prices increased more in New Jersey than in Pennsylvania, indicating that most of the cost of the higher minimum wage was passed on to the customer.

Wages of shift leaders. The changes in earnings for shift leaders followed a similar pattern for fast-food workers. In a comparison of the seven areas without a change in the minimum wage law, the average gain in earnings was 3.4 percent. Similarly, for the 23 areas with an increase of 45 cents, the increase in earnings was 9.1 percent.[17]

The narrowing of wages of shift leader earnings between the 1990–91 and 1992–93 periods also was not as pronounced as among fast-food workers. Average earnings in 1990–91 were $5.40 an hour, and had risen to $5.90 in 1992–93. The standard deviations in both periods were 73 cents and 70 cents.

IN SUM, the results of the BLS surveys of fast-food restaurants indicate that wages of most fast-food workers are tied closely to the minimum wage. In the surveys conducted in 1990–91, only 3 of 40 areas reported earnings of fast-food workers of more than $1 above the minimum wage laws; by 1992–93, only 1 area reported earnings of more than $1 above the minimum wage.

The change in the Federal minimum wage law in 1991 prompted a narrowing of earnings gaps among areas. Average earnings narrowed in 1992–93 as earnings in "lower wage" areas increased more rapidly than "higher wage" areas.

Fast-food shift leaders earned, on average, approximately 25 percent more than fast-food

Table 3. **Change in average earnings of workers in fast-food restaurants between the 1990–91 and 1992–93 surveys**

Area and change in minimum wage	Fast-food worker		Fast-food shift leader	
	Dollar	Percent	Dollar	Percent
No change:				
Oxnard-Ventura, CA	$–.07	–1.5	$–.19	–3.1
King County, WA	.00	.0	.09	1.4
Washington, DC	.00	.0	.45	7.4
Kings County, CA	.02	.5	–.05	–1.0
San Diego, CA	.07	1.5	.23	4.0
Island County, WA	.09	2.0	—	—
Solano County, CA	.11	2.4	.38	6.9
San Jose, CA	.12	2.6	.47	7.9
20-cent increase:				
Newport County, RI	–.13	–2.6	.11	1.7
45-cent increase:				
Montgomery County, MD	–.09	–1.7	.00	0.0
Anne Arundel County, MD	.02	0.4	–.04	–0.6
Orange County, FL	.05	1.1	.29	5.5
Philadelphia County, PA	.16	3.6	.24	3.9
Alaska	.30	5.8	.77	12.5
Charleston County, SC	.31	7.5	.28	5.5
Leavenworth County, KS	.34	8.4	.08	1.6
Lake County, IL	.35	7.8	.97	17.4
Dallas County, TX	.37	8.8	.65	12.5
El Paso, TX	.38	9.5	.59	13.0
York County, VA	.38	8.7	—	—
Puerto Rico	.42	10.7	.22	5.0
Colorado Springs, CO	.42	10.5	.73	15.9
Duval County, FL	.43	10.5	.49	9.6
Christian County, KY	.44	11.3	—	—
Harrison County, MS	.44	11.3	.28	5.9
Riley County, KS	.44	11.1	.29	6.1
Shelby County, TN	.45	11.3	—	—
Hardin County, KY	.45	11.2	.63	12.1
Orleans Parish, LA	.45	11.5	.64	9.8
St. Mary's County, MD	.46	10.7	—	—
Bell County, TX	.46	11.8	.61	14.0
Montgomery County, TN	.46	11.8	.34	7.5
Lauderdale County, MS	.48	12.3	.55	11.0
Escambia County, FL	.51	13.0	.28	5.8
Panama City, FL	.51	12.9	.89	19.3
Santa Rosa County, FL	.52	13.0	—	—
Norfolk, VA	.53	13.1	.83	16.6
50-cent increase:				
Guam	.72	16.7	1.68	29.7
$1.40 increase:				
Honolulu, HI	.35	6.5	.65	9.7

NOTE: Dashes indicate that data were not available from both surveys; thus, a change in earnings was not computed.

workers, with only a slight increase in the differential between the two survey cycles. The narrowing of earnings found for fast-food workers was less pronounced for shift leaders. □

Footnotes

[1] John Mariani, *America Eats Out* (New York, William Morrow and Co., Inc., 1991), p. 174.

[2] Marjorie Eberts and Margaret Gisler, *Opportunities in Fast-food Careers* (Chicago, NTC Publishing Group, 1989), p. 4.

[3] Mariani, *America Eats Out*, p. 174.

[4] *1987 Census of Retail Trade*, RC87-5-1 Subject Series: Establishment and Firm Size (Bureau of the Census, January 1990), table 6, pp. 1–26.

[5] Eberts and Gisler, *Opportunities in Fast-food Careers*, pp. 30–31.

[6] John Love, *McDonald's: Behind the Golden Arches* (New York, Bantam Books, 1986).

[7] The Bureau of Labor Statistics conducts occupational wage surveys under contract for the Employment Standards Administration (ESA) of the U.S. Department of Labor in administering the Service Contract Act of 1965. The legislation requires the Secretary of Labor to establish minimum rates of pay for establishments providing services valued at more than $2,500 to the Federal Government. Because many labor markets subject to the act are not surveyed, BLS, under contract to ESA, conducts cross-industry surveys of more than 120 areas. In addition, special industry studies with industry-specific occupations also are conducted to determine prevailing wages.

[8] Fast-food worker (crew person, team member, associate). A nonsupervisory full- or part-time worker in a fast-food restaurant who performs one or more repetitious and standardized tasks at an assigned station. Duties include one or more of the following: Preparing simple food items such as french fries, fish or chicken portions, hamburgers, and beverages in a highly standardized manner, often controlled by automatic or simple timing devices; taking customers' orders; filling orders; and collecting payment. May rotate among stations. May also clean equipment or premises.

Fast-food shift leader (crew chief, team leader). A nonsupervisory full- or part-time worker who performs the duties of a fast-food worker. In addition, from time to time after training, a fast-food shift leader performs other duties requiring a limited amount of discretion such as assisting management in directing other fast-food workers, controlling amount and timing of food production, and opening and closing restaurant.

[9] The youth subminimum provision of the Fair Labor Standards Amendments of 1989 permits employers, in certain circumstances, to pay employees under the age of 20 a "training wage" of at least 85 percent of the minimum wage for up to 90 days.

[10] The Federal minimum wage was $4.25 per hour. Surveys also were conducted in Alaska, Guam, Hawaii, Rhode Island, and the District of Columbia. In all these jurisdictions, laws authorizing a higher minimum wage superseded the Federal law.

[11] The Federal minimum wage was $3.80 per hour. In addition to the areas listed in footnote 7, a higher minimum wage was in effect in California and Washington. High nonresponse rates prevented publication of data from the November 1990 to January 1991 surveys for Alameda County, CA; Monroe County, FL; and San Francisco County, CA.

[12] The average earnings in each time period was computed by using a simple unweighted arithmetic average of all survey means (adding the average wage from each area and dividing by the number of areas).

[13] To determine how closely earnings levels and changes in earnings were related, a correlation, or measurement of how values vary together systematically, was computed. For the 39 areas allowing comparison, a correlation was computed, comparing the average earnings in 1990–91 to the change in earnings from 1990–91 to 1992–93. This analysis showed a correlation of -.784. In other words, the relationship was strong between low average earnings registered by the 1990–91 surveys and large increases in earnings reported by the 1992–93 surveys. (A correlation of +1.0 signifies a perfect positive relationship, a −1.0 indicates a perfect negative relationship.) The correlation value is different from zero at the .01 level of significance.

[14] *Employment and Earnings* (Bureau of Labor Statistics, May 1993), p. 178.

[15] Lawrence F. Katz and Alan B. Krueger, "The Effect of the Minimum Wage on the Fast-Food Industry," *Industrial and Labor Relations Review*, October 1992.

[16] David Card and Alan B. Krueger, *Minimum Wages and Employment: A Case Study of the Fast-food Industry in New Jersey and Pennsylvania*, Working Paper 315 (Princeton, NJ, Princeton University, Industrial Relations Section, March 1993).

[17] An analysis of the relationship between the level of earnings and the change in earnings computed for fast-food workers also was calculated for fast-food shift leaders employing the same methodology. A correlation between the average earnings of shift leaders in 1990–91 and the change in earnings from 1990–91 to 1992–93 was -.352. Although the minimum wage had an impact on shift leaders, it was not as strong as with fast-food workers. The correlation value is significantly different from zero at the .05 level.