Minimum Wage Increases Have Little Effect on Prices of Food Away From Home

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Since the away-from-home food industry employs many workers at or near the minimum wage, policymakers question whether raising the minimum wage would significantly increase food prices at eating and drinking places. This article examines the possible effects that a higher minimum wage might have on food prices and suggests that any such effect would likely be minimal.

When President Clinton signed H.R. 3448, the "Small Business Job Protection Act of 1996," into law, he stated that "this legislation provides a badly needed pay raise for millions of Americans and their families who struggle to make ends meet while working at the minimum wage." The Act boosted the minimum wage in two steps, a 50-cent increase from $4.25 to $4.75 an hour that took effect October 1, 1996, followed by an additional 40-cent increase to $5.15 an hour on September 1, 1997. On February 12, 1998, President Clinton again proposed raising the minimum wage, this time by $1 in two 50-cent increments: 50 cents in January, 1999, and another 50 cents a year later. The Senate rejected a bill on September 22, 1998, that would have set the national wage floor at $6.15 by the year 2000. To examine the effects of a minimum-wage increase on food prices, we briefly review the changing patterns of employment and the changing cost structures of the food industry. Four key factors determine how a minimum-wage increase might affect the price of food away from home:

- The percentage increase in the minimum wage itself,
- The distribution of workers in the minimum wage bracket,
- The share of wages and salaries in the total cost of production,
- The share of wage and salary in total compensation (when the minimum wage is raised, it does not necessarily mean that other fringe benefits will increase as well).

Based on the Bureau of Labor Statistics' (BLS) occupational employment data, which classifies the work force into seven occupational divisions, eating and drinking places (SIC 58) have a large share of workers (83 percent) in the service occupations (table 1). The industry's

Table 1
Occupational Division of Employment in Eating and Drinking Places, 1996

Occupational categories	Employment	Distribution	Mean wage
	Workers	*Percent*	*Dollars*
Managerial & administrative	462,120	6.13	14.3
Professional	37,980	.5	11.8
Sales & related occupations	499,730	6.63	6
Clerical & administrative supports	128,220	1.7	10.1
Service occupations	6,225,010	82.62	6.1
Agricultural forestry, fishing, and other related	620	.001	8.1
Production, construction, and operations	181,070	2.4	6.4
Total	7,534,750	100	6.7

Source: BLS, Office of Employment and Unemployment Statistics, 1996.

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mean average wage rate was $6.70 per hour in 1996. Most jobs are either in sales and related occupations (averaging $6.00 per hour) or service occupations (averaging $6.10). While the data do not include the percentage employed under the minimum-wage level, food-related workers are in the service occupations, which confirms the conventional wisdom that the lowest paid occupations are in the foodservice industry.

We studied the changes in employment for the eating and drinking places, food and kindred sectors, and U.S. totals from 1972 to 1992 (table 2). Even though the structure of food and kindred and U.S. totals are very different from the eating and drinking places, we analyze them for comparative purposes despite the expected differences. These fluctuations in employment also reflect the trends of industry's output as the result of changing consumer demand. We selected these years to match with our Input-Output (I/O) analysis (see "How Estimates Were Made"). Employment in eating and drinking places steadily increased as more Americans have been dining out and as two individuals within the household, rather than one, work. Schluter, Lee, and LeBlanc report that "consumer spending for food consumed away from home has grown faster than consumer spending for food consumed at home, nearly twice as fast from 1980 to 1996."

Eating and drinking places had approximately 2.86 million jobs in 1972, which climbed to 7.5 million in 1996. Compared with the U.S. average, which shows 22.3-percent and 20.7-percent increases during the decade of 1972-82 and 1982-92 respectively, employment in eating and drinking places grew 68.8 percent and 36.9 percent, one of the fastest growing sectors in the economy during this period. The food and kindred industry showed slight increases from 1982 to 1992 (1.82 percent) after declining 6.16 percent during the years 1972-82.

The importance of labor costs to eating and drinking establishments can be seen by comparing its costs of production with other industries (table 3). As expected, the compensations to wage earners were far more in the eating and drinking industry than in the food and kindred industry (34 cents vs. 13.5 cents). The table also shows that the food and kindred industry uses the most intermediate inputs (inputs other than primary inputs such as labor and capital), 69.6 cents of a dollar price received followed by

Data Sources

Bureau of Labor Statistics classified seven occupational divisions:

- managerial and administrative occupations (OES Series 10000);
- professional, paraprofessional, and technical occupations (OES Series 20,000-30,000);
- sales, related occupations (OES Series 40000);
- clerical and administrative support of occupations (OES Series 50000);
- service occupations (OES Series 60000);
- agricultural, forestry, fishing, and related occupations (OES Series 70000); and
- production, construction, operations, maintenance, and material handling (OES 80000).

For this study, we used the BLS's earnings file, which is derived from the Current Population Earnings File Extract. This microdata file "consists of all records from the monthly quarter-samples of Current Population Survey households that were subject to having questions on hours worked and earnings asked during the year." The Annual Earnings File permits us to create a distribution of wage groups by the three-digit industry classification codes. This in turn allows us to examine the breakdown of how many people are making the minimum wage in each of the 991 industries covered in the AEF. We can then condense this 991-sector distribution into our 80-sector I/O model.

We included both full- and part-time workers, but excluded those who were self-employed, those employed without pay, and those who had never worked. This yielded a total work force from the AEF of approximately 112 million workers, which is consistent with BLS reports for 1992. We then took the usual earnings per week reported in the AEF and divided it by the usual hours per week worked to arrive at usual earnings per hour.

To more clearly deduce the effect of a minimum-wage increase we created five wage categories. The first wage classification consisted of those making less than or equal to the minimum wage for the year in question. For the next category, we added 50 cents to make the range $4.26 to $4.75. The third division went from $4.76 to $5.25, the fourth from $5.26 to $5.75, and the final was $5.76 and above. The distribution for 1997 is similar to that for 1992, except that the lower and upper levels of each range are indexed to 1992 dollars. For instance, the $5.15 minimum wage in 1997 is $4.50 in 1992 dollars. We condensed these wage distributions developed for the three-digit industry classifications into our 80-sector I/O model (table 4).

eating and drinking places (52 cents) and the United States as a whole (43.3 cents).

To examine the likely effect of an increased minimum wage, we used an Input-Output model to evaluate three different scenarios. In scenario 1, we increased the 1992 minimum wage by 12 percent (from $4.25 to $4.75). In scenario 2, we allowed 3-percent and 1-percent spillover effects into the next two wage categories in addition to scenario 1's minimum wage increase. Spillover effects occur because, when the wages of some workers increases as the minimum wage increases, some employers may choose to increase the wages of workers who were already earning slightly more than the minimum wage. However, because this is an individual firm's decision, there is no empirical evidence of specific rates of wage increases due to spillover effects. In scenario 3, we increased the 1997 minimum wage by 9.7 percent (from $5.15 to $5.65), and the same spillover conditions were imposed as in the case of scenario 2.

The scenarios can be summarized as follows:

Scenario 1: a 50-cent increase (12 percent) over the 1992 minimum of $4.25.

Scenario 2: scenario 1, plus additional 3- and 1-percent spillover effects into the next two wage categories.

Scenario 3: a 50-cent increase (9.74 percent) over the 1997 minimum of $5.15 and 3- and 1-percent spillover effects on the next two wage categories.

The results show that the minimum wage increases we analyzed only cause small increases in the costs of food purchased at eating and drinking places (table 4). The first column of table 4 shows the percentage increase in sector prices in the eating and drinking places when the minimum wage increased by 12 percent (50 cents) as in scenario 1. With full cost pass-through, the minimum wage increases prices at eating and drinking places by 0.89 percent. In 1992, the wage share of compensation was relatively large, 34 cents per dollar price (table 3), and the distribution of workers at or below the minimum wage range (table 5, figs. 1 and 2) was also relatively large, 23.4 percent.

Accordingly, the effects of a minimum wage increase in eating and drinking places is larger than other sectors in the economy. When 3- and 1-percent spillover effects are taken into account (scenario 2), the percentage change increases as the number of workers affected by the minimum wage increases. Prices in

Table 2
Change in Wage and Salary Employment, 1972-96

Sector	1972-82	1982-92	1972-92	1992-96
	Percent			
Eating and drinking	68.85	36.86	131.08	13.47
Food and kindred	-6.16	1.82	-4.45	1.82
U.S. total	22.26	20.74	47.62	9.71

Notes: Eating and drinking is service industry, while food and kindred is manufacturing. The U.S. total and food and kindred are used for purpose of comparison.
Source: BLS, with percentage changes calculated by ERS.

Table 3
Structure of Cost of Production, 1992

Sector	Share of intermediate inputs	Share of labor cost	Share of residual income	Total
	Percent			
Eating and drinking	0.5203	0.3393	0.1404	100
Food and kindred	.6963	.1351	.1686	100
U.S. total	.4334	.33	.2364	100

Note: Source: Aggregated from *The 1992 Benchmark Input-Output Accounts for the U.S. Economy,* BEA/USDC, 1998.

Table 4
Change in Prices Due to Minimum Wage Increases

Sector	Scenario 1	Scenario 2	Scenario 3
	Percent		
Eating and drinking	0.893	1.084	1.479
Food and kindred	.36	.405	.453

Notes: Scenario 1: A 50-cent increase (12 percent) over the 1992 minimum wage ($4.25). Scenario 2: Scenario 1 plus 3-percent and 1-percent spillover effects on the second and third wage categories. Scenario 3: Scenario 2 but wage increases over 1997 minimum wages ($5.15 ($4.50) to $5.64 ($4.94) and total (100 percent) compensations).

Table 5
Minimum Wage Distributions, 1992 and 1997 (in 1992 dollars)

1992	≤$4.25	$4.26-$4.75	$4.76-$5.25	$5.26-$5.75	$5.76 and up
Eating and drinking	0.2341	0.1734	0.1446	0.0637	0.3842
Food and kindred	.1058	.0248	.0519	.0274	.7901
1997	**≤$4.50**	**$4.50-$4.94**	**$4.95-$5.38**	**$5.39-$5.81**	**$5.82 and up**
Eating and drinking	0.3508	0.0751	0.1376	0.0556	0.3809
Food and kindred	.1210	.0147	.0516	.0250	.7877

Note: Data derived from the 1992 Current Population Survey earnings file.

eating and drinking places show a 1.08-percent increase. As scenario 3 portrays, the higher the minimum requirement, the larger the effect of an increase in the minimum wage on food prices.

These price increases of course assume that eating and drinking places continue to use the same level of employment in their production. As expected, all sectors show higher output prices necessary (the needed food price increase) to maintain their original residual incomes. A 50-cent increase in the 1992 minimum wage ($4.25) requires a 0.9-percent increase in food prices in eating and drinking places to maintain the original residual income in the sector. Allowing for wage spillover (increase) in adjoining wage categories raises the needed food price increase by 1.1 percent. A 50-cent increase in the 1997 minimum wage ($5.15) yields a 45-cent real wage increase in 1992 dollars (a 50-cent increase from $5.15 to $5.65 in 1992 dollars results in a move from $4.50 to $4.94). This raises the needed food price increase by 1.4 percent. Thus, a 50-cent increase in the minimum wage would have a minimal effect on food prices even though the effect is directly proportional to the minimum wage increases. As expected,

How Estimates Were Made

The Input-Output (I/O) model is an empirical representation of a special production economy. It is "special" because fixed proportions exist in all production processes. This fixed-proportion production function allows no substitution among the inputs. That is, it is assumed that in any given period of time, with existing production capacities, there is always one combination of resources that firms consider optimal. Therefore, the unit cost of production consists of the cost of fixed intermediate inputs and direct primary factor costs. Thus, the unit value of an output consists of the unit values of its commodity inputs, each weighted by the contribution to the output of the commodity plus the value of the labor and capital inputs per dollar of output.

If eating and drinking places perform as perfectly competitive markets, they set output prices equal to average costs and marginal costs; however, they may be able to vary output prices as a result of higher input costs due to minimum wage hikes. Commodity output prices are equal to unit factor costs (direct and indirect) and output prices and move hand in hand with factor costs.

Furthermore, if the workers between the current minimum wage and a proposed higher wage make up 10 percent of an industry's employment and wages are 80 percent of compensation, then increasing their average wage by 15 percent would increase industry total wage cost by 1.2 percent (=0.15*0.8*0.10). We then introduce this 1.2-percent increase in compensation into our I/O model to estimate both direct and indirect cost increases due to the minimum wage hikes.

The latest published U.S. I/O tables are for 1992 (U.S. Department of Commerce, Bureau of Economic Analysis). There are 525 sectors in the U.S. I/O economy. We aggregated them to 80 sectors for the analysis.

the largest effect would be in eating and drinking places, which have a larger share of workers in the minimum wage category than other sectors of the economy and relatively large labor costs (34 cents of each dollar taken in). Even in the eating and drinking sector, however, a 50-cent minimum wage increase would only raise prices about 1 percent.

Figure 1
Wage Distribution by Industry, 1992

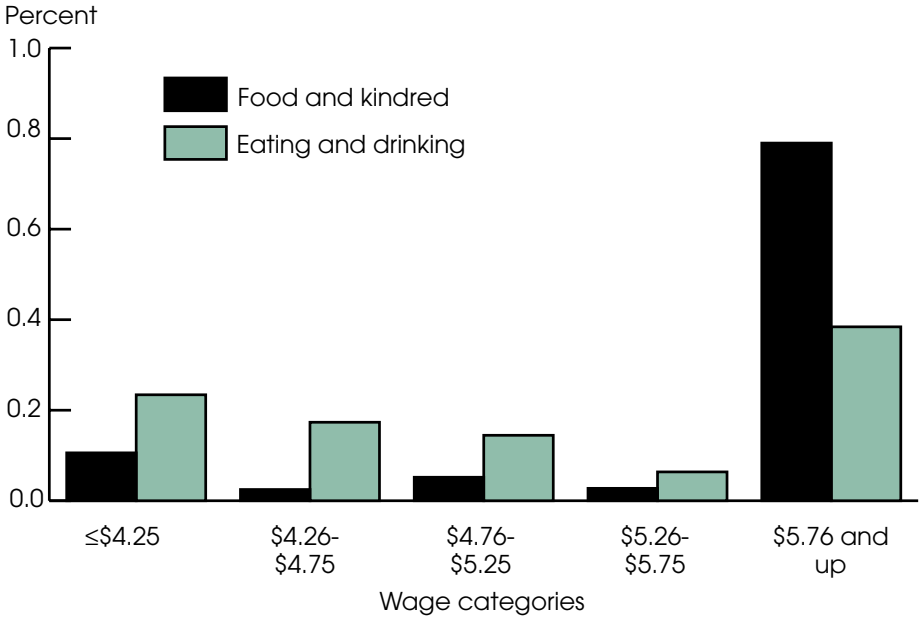
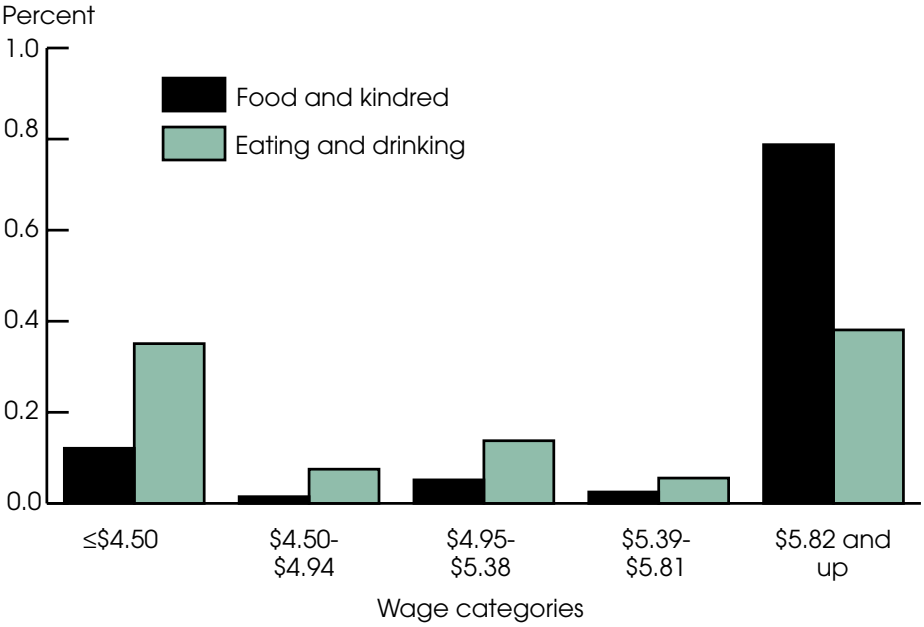


Figure 2
Wage Distribution by Industry, 1997 (in 1992 dollars)



Note: Data derived from the 1992 Current Population Survey earnings file.

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