The Job Loss Impact of a $17 Minimum Wage

AS MANY AS 1.2 MILLION JOBS LOST

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Senator Bernie Sanders has proposed raising the federal minimum wage to $17 per hour, despite failing to receive support from members of his own party in 2021 for a nationwide $15 minimum wage bill. A large majority of economic research and American labor economists agree this proposal would have significant negative consequences for minimum wage employment.

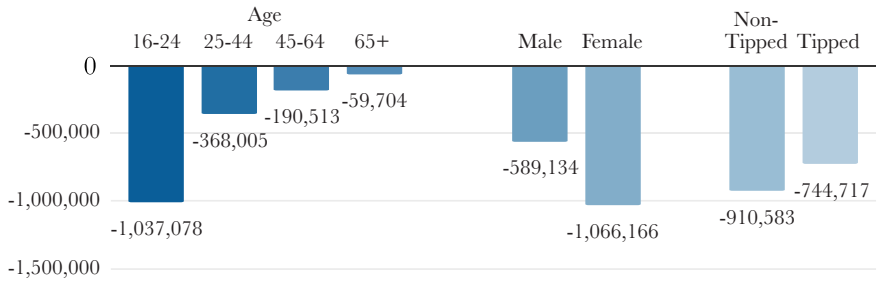
Using methodology developed by the nonpartisan Congressional Budget Office, a $17 federal minimum wage is estimated to have the following negative impacts on employment:

- The nation can expect to **lose over 1.2 million jobs**. Sixty-two percent of job losses will be among women, and 63% percent will be lost among 16-24 year olds.
- The **restaurant and bar industry will account for 40% of total job losses**, and a quarter of these will be jobs held by tipped workers.
- Adding federal tip credit elimination to a $17 minimum wage, raising the current tipped minimum wage by 700%, would **kill an additional 447,000 jobs**, bringing **total job loss to 1.65 million jobs.**

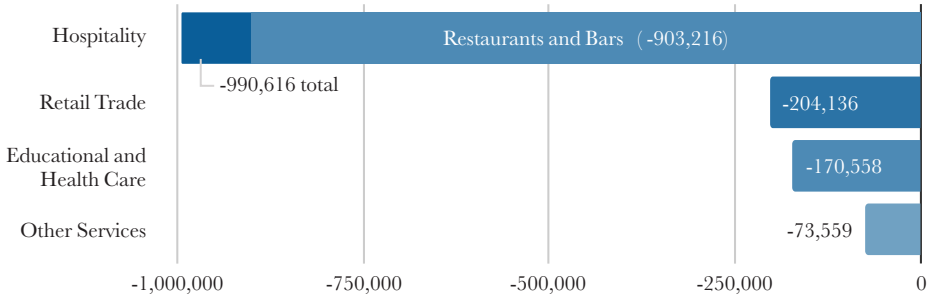
THE IMPACT NATIONWIDE:

- A 134% increase to the federal minimum wage
- 1.2 million jobs lost
- 5.4% of total restaurant industry jobs lost
- 8.8% of total tipped jobs lost

$17 Minimum Wage Job Loss by Demographic



Job Loss in Top 5 Industries



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Job Losses By State

State	Projected Job Loss: $17 Reg and $2.13 Tipped	Projected Job Loss: $17 Reg and $17 Tipped
USA	1,208,262	1,655,300
TX	245,741	337,088
PA	103,041	130,059
NC	78,491	98,316
GA	72,210	97,375
IN	57,443	76,998
WI	51,754	67,020
OH	55,880	66,662
TN	47,781	58,489
LA	45,261	55,212
VA	12,196	49,702
SC	40,325	49,702
MI	29,074	49,146
KY	41,503	47,759
OK	36,691	45,700
AL	37,688	44,723
FL	32,640	38,888
KS	26,646	34,919
MS	26,842	33,884
UT	26,611	30,550
IA	19,930	24,642
IL	13,518	21,483
NJ	2,192	18,858
MO	9,466	18,344
ID	12,437	16,727
MD	4,338	13,918

State	Projected Job Loss: $17 Reg and $2.13 Tipped	Projected Job Loss: $17 Reg and $17 Tipped
AR	9,156	12,891
WV	10,628	12,676
NM	5,825	10,833
MN	10,082	10,751
NH	7,415	10,327
NV	8,908	10,235
NE	631	9,906
MA	2,119	9,236
WY	4,659	5,731
DE	2,031	5,379
MT	4,435	5,052
ND	4,005	4,544
RI	1,206	4,080
SD	2,268	3,496
NY	92	3,056
AZ	1,493	2,588
CO	1,492	2,274
CT	0	2,145
ME	533	1,665
AK	1,025	1,149
VT	378	810
OR	186	240
HI*	0	73
CA*	0	0
DC*	0	0
WA*	0	0

*Technical Note: This analysis estimates job losses due to a $17 minimum wage beginning in 2028, when the wage will be fully implemented. Some states currently have laws in effect that are set to exceed this rate in this timeframe, and thus would not exhibit job losses specifically due to a federal minimum wage hike of this kind.

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Technical Appendix

Written by Dr. William Even and Dr. David Macpherson

This study uses methodology similar to that employed by the Congressional Budget Office (CBO) in their 2019 analysis of the consequences of an increase in the federal minimum wage to examine the impact of proposed legislation that would increase the hourly minimum wage to $15.00.[i] We investigate the impact of proposed legislation that would increase the federal hourly minimum wage to $17.00, and either leave the federal tipped minimum at $2.13 or increase it to $17 by 2028.

The data and methodology used to estimate the number of people affected and the job loss are described below. While it was not possible to obtain all of the specific assumptions and methods used by the CBO, the methods and assumptions used here are constructed to match the CBO as closely as possible given the details in their report. We update the original CBO methodology by using the most recent CBO forecasts of future economic conditions that were released in February 2023.[ii]

The data are from the Outgoing Rotation Groups (ORGs) from the Current Population Surveys (CPS) between May 2021 and April 2023. This provides 24 months of data and makes use of the most recent available release of the CPS available at the time of this writing. Unlike the CBO's 2019 study which used one year of data, we use two years of CPS data to improve the sample sizes for providing estimates of the employment effects at the state level and for various subgroups (e.g. by industry, age, or race). To combine the two years of data, we adjust the earnings weights in 2021 through 2023 to reflect CBO estimates of employment growth over that period.

In determining who is affected by a change in the minimum or tipped minimum wage, we must first estimate their wage levels and then forecast what their wages would be in the absence of the new law. For non-tipped workers reporting they are paid by the hour, we use the reported hourly wage. For workers who do not report an hourly wage and for tipped workers, we estimate their hourly wage by dividing their reported usual weekly earnings (including tips, overtime, and commission) by their usual weekly hours.[iii] Like the CBO, we adjust reported usual hours to correct for outliers in the data and to adjust for reporting errors in usual hours prior to estimating wages using weekly earnings.[iv] We also follow the CBO process for trimming usual weekly hours to reflect reporting errors inherent in the CPS.[v] For tipped workers, we estimate their cash wage (i.e. their wage before tips) as their reported hourly wage.[vi] In order to comply with minimum wage laws, tipped workers must be paid a cash wage that is at or above the tipped minimum wage and an hourly wage (including tips) that exceeds the minimum wage.

We merge the data on hourly earnings with data on the minimum wage and the tipped minimum wage for the 2021-2023 sample period state and month.[vii] For each worker in the data, we compare their current hourly wage to the worker's applicable minimum in the relevant month. Following the CBO methodology, if an untipped worker's hourly wage is more than $0.25 below the state's minimum wage minus $0.25, we assume the person is not covered by the Fair Labor Standards Act (FLSA).[viii] For tipped workers, we compare their hourly wage rate to the state's tipped minimum wage

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and consider them not covered by FLSA if their hourly wage is more than $0.25 below the state's tipped minimum wage.[ix] Like the CBO, we assume all workers who are judged to be not covered by the FLSA are not affected by changes in the federal minimum wage law.

To forecast the impact of a minimum wage law that becomes fully effective in 2028, we assume that employment will increase at 0.523% per year between 2023 and 2028 based on February 2023 CBO forecasts.[x] Also, we assume that nominal wages would grow by 3.51% per year based on CBO projections of growth in the Employment Cost Index between 2023 and 2028.[xi] If a worker covered by the FLSA has a wage (or tipped wage for tipped workers) in 2028 that is below the state-specific minimum wage forecast for 2028, we boost the estimate to match the level required by state law.

To estimate the number of workers affected by a minimum wage in 2028, we perform separate calculations for tipped and non-tipped workers. For non-tipped workers, we estimate the number of people with a predicted wage in 2028 lying between the forecast of the state-specific minimum wage for 2028 and the proposed 2028 minimum of $17.00. For tipped workers, we estimate the number of people whose cash wage (i.e. the hourly wage paid by the employer, excluding tips) is between the state's forecasted tipped minimum wage and the proposed tipped minimum wage in 2028. We also check whether a tipped worker's full wage (including tips) is between the state's minimum wage and the proposed minimum wage. A tipped worker is defined as affected if either condition holds.

After estimating which workers are affected by the proposed minimum or tipped minimum wage, we estimate the increase in the hourly cost to the employer. For non-tipped workers, the increase in the cost is the difference between the proposed $17.00 minimum wage and the wage we predict for the worker in 2028. For tipped workers affected by the new law, the increase in cost is estimated as the greater of (1) the increase in the cash wage due to a change in the tipped minimum wage; or (2) the increase in the full wage (including tips) required by the increase in the minimum wage.

The estimated job loss uses elasticities identical to those used by the CBO for their analysis of a $15 minimum wage. For the $17.00 minimum wage, we assume the elasticity for affected teenagers (workers aged 16-19) is -0.829, and for affected adults, the elasticity is -0.269.[xii] The estimated job loss is calculated by summing across all affected workers the product of the relevant elasticity, the percentage increase in the hourly cost to employers resulting from the proposed change, and the worker's earnings weights adjusted to reflect employment in 2028.

In the attached tables, we provide estimates of the number of workers affected and the job loss associated with a minimum wage increase to $17 beginning in 2028. One set of tables is provided for a $17 minimum wage and no change in the federal tipped minimum wage ($2.13) in 2028. A separate set of tables is provided for a $17 minimum wage combined with a $17 tipped minimum wage in 2028. The forecast is that in 2028 wage and salary employment would be 145.9 million. With a $17 minimum and no change in the tipped minimum, 12.8 million workers would be affected by the minimum wage increase and 1.2 million workers would lose jobs. If the minimum and tipped minimum wage were both increased to

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$17, we estimate 13.6 million workers would be affected and 1.7 million would lose jobs. Separate tables are provided showing the forecast of the 2028 minimum by state in the absence of changes in federal law; how the number affected and job loss associated with the new minimum wage laws varies by state, industry, worker age, sex, race, and industry; and whether the worker is a tipped or non-tipped worker.

[i] Congressional Budget Office. "The Effects on Employment and Family Income of Increasing the Federal Minimum Wage." July 2019.

[ii] See Congressional Budget Office, "The Budget and Economic Outlook: 2023 to 2033." The economic forecasts released in February 2023 are available at www.cbo.gov/publication/58848.

[iii] If a worker reports variable hours, we use a regression to estimate hours worked and divide weekly earnings by the prediction of their weekly hours. The regression includes controls for female and year interacted with hours worked last week, full-time status, education (5 categories), age, age squared, age cubed, age quartic, and race/ethnic status (3 categories). In addition, the model controls for female, year, and full-time status interacted with one-digit broad occupation.

[iv] Using the regression estimates of usual hours worked (see prior footnote for details), we estimate the standard error of the regression residual. All observations on hours are trimmed so that in the trimmed data no one's regression error exceeds 1.96 standard errors.

[v] See Harley Frazis and Jay C. Stewart, "Is the Workweek Really Overestimated?" Monthly Labor Review (June 2014), http://go.usa.gov/xWPZW

[vi] For tipped workers without a reported hourly wage, we use a regression to estimate their hourly wage. The regression controls for occupation, gender, age, and age squared and the sample is restricted to tipped workers.

[vii] Like the CBO, our analysis does not adjust for city-specific minimum wage laws.

[viii] For example, if a state's minimum wage is $7.25, non-tipped workers earning less than $7.00 per hour are considered not covered by FLSA, and if a state's tipped minimum wage is $2.13, tipped workers earning a cash wage less than $1.88 per hour (excluding tips) are considered not covered. These adjustments are designed to address the possibility that respondents round answers when reporting hourly earnings. The CBO methodology compared tipped worker's wage to $2.00 to account for rounding which is quite sensible given the federal tipped minimum of $2.13. However, many states have tipped minimums different than $2.13 and we found evidence of heaping at the nearest quarter (e.g. if the tipped minimum is $5.67 there is heaping at $5.50). Hence, we allow a person's hourly wage to be up to $.25 below the state's tipped minimum and still consider the worker covered by the law.

[ix] Following the CBO, we define tipped workers as anyone who reports one of the following occupations: massage therapists; bartenders; waiters and waitresses;, hosts and hostesses, restaurant, lounge, and coffee shop; barbers; hairdressers, hairstylists, and cosmetologists; miscellaneous personal appearance workers; personal care and service workers, all other; taxi drivers and chauffeurs; and Food preparation and serving related workers, all other including dining room and cafeteria attendants and bartender helpers in the other amusement, gambling, and recreation industries or traveler accommodation industry or restaurants and other food services industries.

[x] The CBO report allowed for employment and earnings growth rates that varied by age, sex, education and race. We were unable to obtain the assumed growth rates used by CBO and chose to use the same growth rates across sub-groups of the population.

[xi] The assumed earnings and employment growth are based on CBO forecasts released in February 2023. Congressional Budget Office, "The Budget and Economic Outlook: 2023 to 2033." Available at www.cbo.gov/publication/58848.

[xii] The CBO derives the long-run minimum wage elasticities by multiplying the CBO estimate of the short-run elasticities (-0.1475 for adults and -0.4550 for teens) times 1.5 (-0.2213 for adults and -0.6825 for teens). These long-run elasticities are then scaled upward to account for larger increases in the minimum wage and to account for the fact that the federal minimum wage would be indexed to inflation. The elasticities are scaled slightly downward to account for three -year adjustment period. For details, see https://www.cbo.gov/system/files/2019-11/55681-cbo-code-for-employment-elasticities.zip.