

THE ECONOMICS OF A \$15 FEDERAL MINIMUM WAGE BY 2025

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INTRODUCTION

The Raise the Wage Act of 2021 (HR 603) would increase the federal minimum wage in five annual steps, from \$7.25 to \$15 in 2025, with annual increases thereafter indexed to the median wage. The new floor would increase pay for nearly 32 million workers, about 21 percent of the U.S. workforce (Cooper, Mokhiber, & Zipperer, 2021). Nearly one-third of Black workers and one-fourth of Hispanic workers would receive increases. The annual pay increase for year-round full-time workers would average about \$3,300 and no full-time worker would earn a poverty wage.

These impressive numbers suggest that a \$15 federal minimum wage would constitute a bold policy innovation. It would exceed the previous peak minimum wage—which was about \$11.50 (in 2019 dollars), reached in the late 1960s, and equal about 80 percent of the median wage in the lowest-wage states. On the other hand, the current federal minimum lies 37 percent *below* that previous peak, and about 18 percent *below* its value in 2009, the year of the last federal increase.

Critics of a federal \$15 floor claim that one size does not fit all—\$15 might be right for San Francisco or New York City, but not for Charleston, WV or Jackson, MI. But the minimum wage was intended to be a *living wage* for families—not a poverty wage, and not a rung on the ladder for teens in their first jobs.¹ Here's FDR in 1933: “no business which depends for existence on paying less than living wages to its workers has any right to continue in this country.... by living wages, I mean more than a bare subsistence level—I mean the wages of decent living.” Yet, as Table 1 illustrates, \$15 is insufficient for the expenses of a bare bones living wage budget, even in low-cost states.² At the same time, states and many cities with higher living costs can and have raised their wage floors above the federal minimum. They could continue to do so with a \$15 federal standard.

Critics also claim that \$15 is so far out of our range of previous experience that it could create risky consequences; others claim that any minimum wage increase creates negative consequences for businesses and for jobs. In response, I will show that the increases implied by a phased minimum wage to \$15 by 2025 do lie within the range of our previous experience. Extant academic literature does therefore

¹ Teens constitute only 10 percent of the workers who would receive pay increases (Cooper, Mokhiber, & Zipperer, 2021).

² Living wage levels are only slightly lower in poor rural areas. For example, in Butler County (MO), the living wage is \$24.06 for a single adult with a child and \$15.09 for two working adults with two children.

Table 1. Comparison of wages with living expenses.

City	Hourly		Monthly	
	Min Wage (2021) (1)	Living Wage (2)	Housing Costs (3)	Child Care Costs (4)
Household Type: 1 Adult 1 Child				
Birmingham, AL	\$7.25	\$26.24	\$986	\$309
Jackson, MS	\$7.25	\$25.60	\$911	\$262
Charleston, WV	\$8.75	\$25.42	\$832	\$411
Household Type: 2 Working Adults 2 Children				
Birmingham, AL	\$7.25	\$16.47	\$986	\$618
Jackson, MS	\$7.25	\$15.97	\$911	\$523
Charleston, WV	\$8.75	\$16.44	\$832	\$823

Notes: All values are for 2021. Columns (3) and (4) come from the MIT Living Wage Calculator database. Housing costs are determined by HUD's Fair Market Rent Index. Childcare costs are from a market survey. Column (2) adjusts the MIT calculator to recognize that childcare costs diminish from ages 5 and higher (and assumes that children ages 5 to 14 only need 10 hours of care during school weeks, and that school lasts 75 percent of the working year); and recalculates federal income taxes to include a \$2,000 child tax credit. State taxes are not taken into account; they would result in higher required wages. Calculations assume that adults work 2,000 hours per year.

provide a useful guide to the likely employment effects of a \$15 floor.³ Next, I summarize the best academic research evidence, which shows that moderate minimum wage increases have at worst a minimal negative effect on employment—and that the same holds for a gradual increase to \$15. I then turn to explaining why minimum wages as high as \$15 have minimal disemployment effects. Finally, I look beyond employment to the benefits of higher minimum wages on children’s and adults’ health and well-being.

THE SIZE OF THE INCREASE

Prior to the pandemic, consumer prices were projected to increase at about 2.5 percent per year from 2019 to 2025.⁴ \$15 in 2025 is thus equivalent to about \$13.07 in 2019 dollars. This increase in real levels amounts to an 83.9 percent increase over five years, which translates into annual increases of about 17 percent per year.

Such increases are substantial, but not unprecedented. In 1950 the federal minimum wage increased by 87.5 percent *in a single year*. The 1966 minimum wage amendments immediately increased wages by 35 percent (over the extant average wage) in newly covered industries (Derenencourt & Montialoux, 2020). The federal increases enacted in 2007 raised the minimum wage by 41 percent over three years; the average annual increase was just under 14 percent. Since then, multiple cities in California have increased local minimum wages by 25 percent and more, some in one step. And 10 states have already enacted \$15 floors.

The Increases in Low-Wage States

While 30 states have enacted minimum wages above the federal level, approximately 40 percent of the U.S. population resides in the 20 states with a \$7.25 floor. However, the actual wage increases in these states will not be as large as the mandated increases, since entry-level wages for unskilled jobs in many of these states already exceed \$9. Amazon, Walmart, and other companies with higher voluntary minimum wages employ workers in these states. And Bureau of Labor Statistics (BLS) employer surveys in states such as Mississippi show that entry-level (25th percentile) pay in three low-paying occupations (janitors, childcare workers, and food prep workers) averaged \$8.34 in 2020. Since pre-pandemic nominal wages were rising at about 2.5 to 3 percent per year, 2025 entry-level wages in these occupations would approach \$10.60 by 2025, even without a minimum wage increase.

If Mississippi is already on a path to a \$10.60 entry-level wage, \$15 amounts to an additional increase of just under 50 percent over five years, or about 10 percent per year. By comparison, state minimum wage increases in the past 35 years ranged up to 10 percent. Moreover, entry-level wages are higher in other \$7.25 states. In Georgia and Pennsylvania, for example, entry-level wages are about \$1 to \$2 higher than in Mississippi, indicating the increases in other states would be more modest.

Projected higher real wage attributable to HR 603 thus lie within the range of many previous state and federal increases. Studies of these experiences are germane for assessing the employment effects of HR 603.

EMPLOYMENT EFFECTS

Modern economic theory recognizes that employers and workers adjust to economy-wide minimum wage increases in ways that can both reduce and increase the

³ For other recent reviews of this literature, see Belman and Wolfson (2014), Dube (2019) and Manning (2021).

⁴ See <https://www.cbo.gov/about/products/budget-economic-data#4>.

employment of less-skilled workers. The potential negative employment effects come from automation, reductions in operating hours or staffing, reductions in sales if companies raise prices, reductions in benefits, faster work pace and irregular schedules, and substitution of skilled workers for unskilled workers, and relocation of economic activity to other areas. Potential offsetting effects come from price increases, savings for employers in labor recruitment and retention costs because of reduced employee turnover and increases in workers' labor supply. As I discuss below, many of these mechanisms have been investigated empirically. In any case, since minimum wages can have both negative and positive effects on employment, abstract theorizing is insufficient to identify the actual net effect.

Research on Teens and Restaurant Workers

With over 160 federal, state, and local minimum wage increases in the U.S. in the past 35 years, economists have a considerable number of events to study the policy. Importantly, some recent studies of minimum wages use methods that are much improved over those of previous decades.

Earlier empirical studies focused on two groups of workers with low wage levels: teens and restaurant workers. Early teen studies (Neumark & Wascher, 2008) typically found job losses for teens of 1 to 3 percent for every 10 percent increase in the minimum wage. Note, however, that the wage gains for low-wage teens would exceed the loss in the number of jobs.

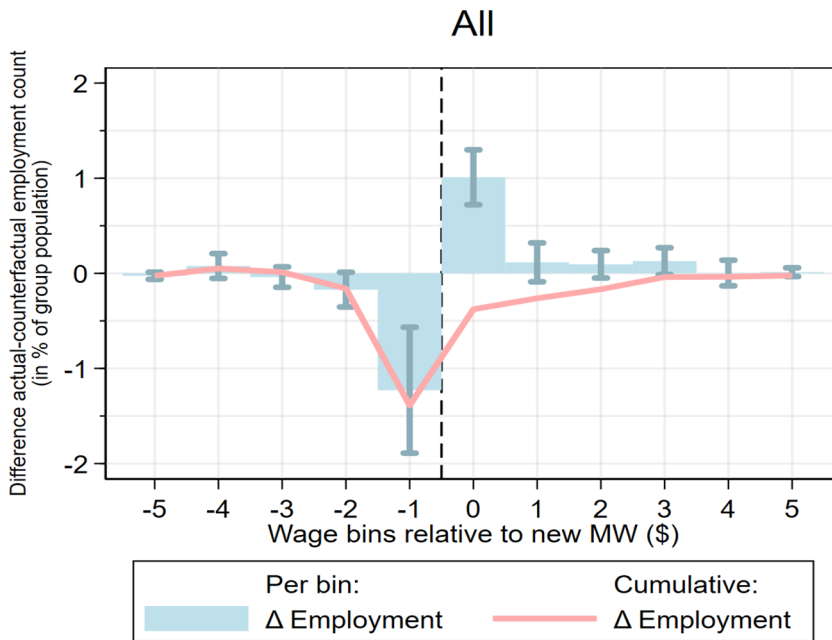
Moreover, workers who lose their jobs are not condemned to long-term unemployment. In low-wage labor markets, remarkably high rates of worker turnover co-exist with relatively short unemployment spells. A reduction in the number of jobs will likely increase somewhat the duration of unemployment spells between jobs, rather than sending low-wage workers into long-term unemployment. As a result, some workers may end up working fewer hours *per year*. But since hourly wage increases are greater than reductions in annual hours worked, even pessimistic minimum wage studies indicate that the effects on annual earnings are positive.

In any case, the early teen studies assumed, incorrectly, that states with higher minimum wages were similar in all other respects to states that did not have higher minimum wages, thereby attributing employment effects to minimum wages that arose from confounding forces.

A newer set of studies, which control for such confounding forces, finds that a 10 percent minimum wage increase lowers teen employment by between 0.5 percent and zero (Allegretto, Dube, & Reich, 2011; Allegretto et al., 2017). Careful causal studies of the restaurant industry also suggest that a 10 percent increase in the minimum wage affects restaurant employment somewhere between -0.5 percent and zero (Dube, Lester, & Reich, 2010, 2016).

Research such as these teen and restaurant worker studies visibly shifted the economics profession away from its prior consensus that minimum wages create substantial disemployment. In 2013, the University of Chicago's Booth School of Business asked a panel of 41 prominent economists about the desirability of raising the minimum wage to \$9 an hour, as then proposed by President Obama.⁵ Only one-third of the panel agreed that the minimum wage hike "would make it noticeably harder for low-skilled workers to find employment." The panel supported the Obama proposal by a three to one margin. In 2015, the panel was asked a similar question for a \$15 an hour federal minimum wage. Only 26 percent of the panel agreed that \$15 would cause substantial job loss.

⁵ See <http://www.igmchicago.org/surveys/minimum-wage>.



Source: Godoey, Reich, and Wursten (forthcoming).

Notes: Bars show the change in employment in each bin, with 95 percent confidence intervals. The solid line shows the cumulative change in employment. Bins are \$.25 wide. CPS data for 1980 to 2015.

Figure 1. The Effects of Minimum Wages on the Distribution of Jobs.
[Color figure can be viewed at wileyonlinelibrary.com]

Studies of All Low-Wage Jobs

Teens and restaurant workers together account for only about half of the workers affected by minimum wages. In the past few years, some researchers have shifted focus to examining the effects on *all* jobs. For example, Cengiz et al. (2019) examine 138 federal and state minimum wage changes over the period 1979 to 2016. Comparing the change in the number of all jobs with wages below the new minimum wage to the change in the number of jobs above it, they do not detect disemployment effects of minimum wage.⁶ Figure 1 provides an illustration of this method.

Cengiz et al. (2019) also find that the highest minimum wage policies do not have more negative employment effects than smaller ones, that some previous studies did not adequately control for changes in business cycle conditions, that effects are no greater after five years, and that some previous studies spuriously find negative employment effects where they should not, such as among professionals and other highly paid workers.

The Cengiz et al. (2019) study constitutes the most definitive examination of minimum wage employment effects of the past two decades. However, their sample includes minimum wages that range up to only 59 percent of state median wages,

⁶ Wursten and Reich (2021) and Godoey, Reich, and Wursten (forthcoming) also apply this method, with similar results.

while a \$15 minimum wage would reach 80 percent of the median in the lowest-wage states. Godoey and Reich (2021) study the effects of state minimum wages in the lowest-wage counties in the U.S., where the ratio of the minimum wage to the median wage often exceeds 80 percent. They also do not find adverse employment effects. Dube and Lindner (2021) obtain similar results in their study of local-area minimum wage policies, many of which have already reached \$15 levels. Nadler et al. (2019) obtain similar results; they also do not detect any substitution to more-educated workers.

In summary, while some studies continue to find substantial negative employment effects (Neumark & Shirley, 2021), the more rigorous studies do not. Recent literature reviews and meta-studies of these careful causal studies also conclude that disemployment effects are somewhere between minimal and zero (Dube, 2019; Manning, 2021; Wolfson & Belman, 2019).

WHY MINIMUM WAGES HAVE SMALL EMPLOYMENT EFFECTS

Price Adjustments

Price adjustments provide the principal adjustment mechanism for minimum wage increases: higher labor costs are passed through in small higher prices in restaurants. Price increases are also detectable for grocery stores (Renkin, Montialoux, & Siegenthaler, 2020), but not in other industries. The effect on inflation is therefore extremely small. Cooper, Luengo-Prado, and Parker (2020) provide the most careful study of the price effects of minimum wages. Using data for 27 metro areas, Cooper et al. (2020) show that restaurants absorb the costs of higher minimum wages entirely through slightly higher restaurant prices. A 10 percent increase in the minimum wage increases costs and restaurant prices about 0.5 percent. Since the demand for restaurant meals is price-inelastic, small price increases have little negative effect on restaurant sales.

Reduced Employee Turnover and Productivity Growth

Modern models of the labor market recognize the costs to employers and employees of job search and matching. In these models, employers choose between two equally profitable strategies: a low-wage/high-turnover human resource management model or a high-wage/low-turnover model. Higher minimum wage mandates move low-wage employers closer to the high-wage model. These employers then save on vacancy, recruitment, and retention costs and have greater incentives to provide training to their workers. Dube, Lester, and Reich (2016) and Ruffini (2021) find that minimum wage increases do indeed reduce turnover. This adjustment mechanism absorbs about 15 percent of the increased costs of minimum wage increases.

Increases in employee experience also can generate more on-the-job learning and improvements in work quality. Ruffini's study of nursing homes finds exactly such outcomes.

Automation

Reductions in the cost of technology and minimum wage increases have each fueled automation in low-wage industries. Aaronson and Phelan (2020) studied minimum wage effects on automation and low-wage employment. They find that minimum wages reduce the number of low-paid jobs intensive in cognitive routine tasks (cashiers, hotel clerks, pharmacy aides), but less so in jobs intensive in manual routine tasks (baristas, food prep workers). Other nonroutine low-wage jobs grow,

especially those intensive in interpersonal tasks (home care aides, childcare workers). Aaronson and Phelan (2020) conclude that minimum wage-related automation had small net negative effects on low-wage employment.

Labor Supply

Minimum wages can *increase* labor supply and employment, especially among vulnerable groups. Godoey, Reich, and Wursten (forthcoming) find that minimum wage increases make childcare more affordable, thereby *raising* employment rates among low-educated mothers of young children. Borgschulte and Cho (2020) find that higher earnings lead older workers to postpone their retirements. These positive supply-side effects provide another explanation of why minimum wages can have such small employment effects: Negative demand and positive supply effects somewhat offset each other.

Effects in Low-Wage States

Could \$15 per hour wages make low-wage manufacturing uncompetitive and lead to their relocating elsewhere? Most low-wage manufacturing jobs left Mississippi—and the U.S.—decades ago (Rafter, 2012). Seven Southern states, including Mississippi, are home to 14 motor vehicle assembly plants. Aircraft assembly plants for Airbus and Boeing are also located in these states. These jobs are heavily automated and already pay well above \$15.

About 40,000 Mississippi manufacturing jobs are in two relatively low-wage industries: wood furniture and food processing. However, weekly pay in both industries (\$610 in food manufacturing and \$661 in wood furniture) already average somewhat higher than \$15 per hour. \$15 would have only a minor effect on employment in these industries.

BENEFITS OF HIGHER MINIMUM WAGES

Minimum wage increases, such as income increases from other sources (e.g., the EITC) generate substantial benefits for children and adults. Studies that use modern causal identification methods, such as checking for treatment effects and pre-trends and using evidence from quasi-experimental variation, find beneficial effects on self-reported health, obesity, mental health and suicides, health-related absenteeism from work, child neglect, and criminal recidivism (Godoey & Jacobs 2021). For example, Dow et al. (2020) find that a 10 percent increase in the minimum wage leads to 770 fewer suicides each year. And Komro et al. (2018) found that a \$1 minimum wage increase reduced post-neonatal mortality by 4 percent. Minimum wage increases also reduce dependence upon food stamps, the EITC, and Medicaid. These results are consistent with the widely accepted finding that minimum wages reduce adult and child poverty (Godoey & Reich, 2021). They suggest that minimum wage policy should be evaluated on broader criteria than the employment effects.

SUMMARY

The Raise the Wage Act of 2021 would gradually increase the federal minimum wage to \$15 by 2025. The proposed increase in the \$7.25 states lies within the range of our previous minimum wage policy experience. Studies of past minimum wage increases thus provide a guide to the effects of \$15 on employment.

The best research on minimum wage-employment effects finds small to negligible effects on teens and on restaurant workers. Newer studies using improved methods

also find that minimum wage policies have had minimal negative effects on overall employment.

These results make sense, as minimum wages can offset employer power that suppresses wages, as small price adjustments in a few industries shift most, if not all, the costs of minimum wages from employers to affluent consumers who can afford slightly higher prices, and as those higher minimum wages reduce employee recruitment and retention costs. Higher minimum wages might seem to be more of a threat in industries that can relocate to other countries. However, the proportion of low-wage U.S. employment in these industries has become quite small. Finally, new research is demonstrating that minimum wages have beneficial effects on the health and well-being of children and adults. These benefits should be included in any assessment of minimum wage policy.

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