DAVID NEUMARK
University of California—Irvine, USA, and IZA, Germany

I Z A
World of Labor
Evidence-based policy making

Employment effects of minimum wages

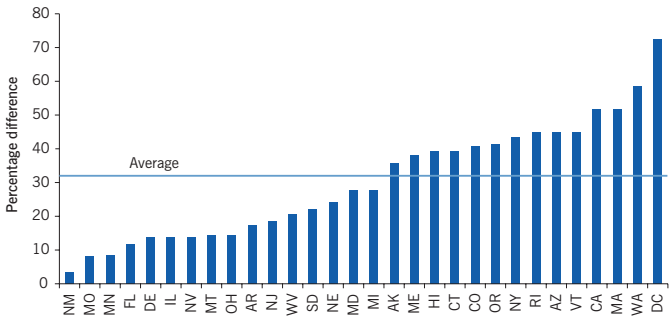
When minimum wages are introduced or raised, are there fewer jobs?

Keywords: minimum wage, employment effects

ELEVATOR PITCH

The potential benefits of higher minimum wages come from the higher wages for affected workers, some of whom are in poor or low-income families. The potential downside is that a higher minimum wage may discourage firms from employing the low-wage, low-skill workers that minimum wages are intended to help. If minimum wages reduce employment of low-skill workers, then minimum wages are not a "free lunch" with which to help poor and low-income families, but instead pose a trade-off of benefits for some versus costs for others. Research findings are not unanimous, but especially for the US, evidence suggests that minimum wages reduce the jobs available to low-skill workers.

Percentage differences between US state and federal minimum wages, 2018



Source: Minimum Wage Laws in the States, US Department of Labor. Online at: https://www.dol.gov/whd/minwage/america.htm.

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KEY FINDINGS

Pros

- Minimum wages may help policymakers address public demands to combat rising inequality.
- Minimum wages deliver earnings gains for some workers.
- Some of the workers who gain from minimum wages are in poor or low-income families.
- Some studies do not find that minimum wages lead to fewer jobs.

Cons

- Increasing amounts of evidence from the US indicate that higher minimum wage levels lead to fewer jobs.
- Studies that focus on the least-skilled workers find the strongest evidence that minimum wages reduce jobs.
- Targeted tax credits do a better job of reaching the poor than minimum wages do.
- Low-paying jobs requiring low skills are the jobs most likely to decline with increased minimum wages.
- In the US, most evidence does not indicate that minimum wages help poor or low-income families, or reduce most forms of public assistance.

AUTHOR'S MAIN MESSAGE

Higher minimum wages are becoming the norm in many countries. Although a minimum wage policy is intended to ensure a minimal standard of living, unintended consequences undermine its effectiveness. A good deal of evidence indicates that the wage gains from minimum wage increases are offset, for some workers, by fewer jobs. Furthermore, the evidence on distributional effects, though limited, does not point to favorable outcomes from minimum wage hikes, although some groups may benefit. Other mechanisms, such as earned income tax credits, appear more effective at helping low-income families.

MOTIVATION

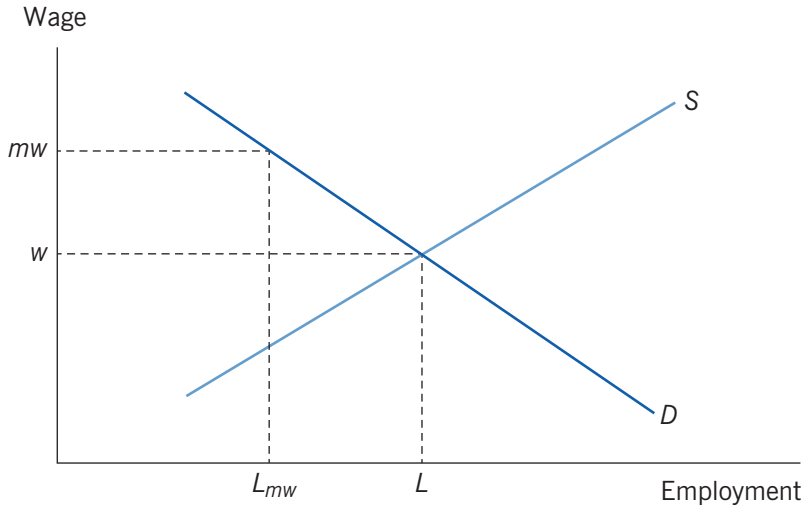
The main case for a minimum wage is that it helps poor and low-income families earn enough income. However, the potential downside is that it may discourage employers from using low-wage, low-skill workers. If minimum wages reduce employment for low-skill workers, winners and losers will emerge. Whether a minimum wage reduces poverty or helps low-income families then depends on where along the distribution of family incomes these winners and losers are located. Clearly, the effect on jobs is critical: if a higher minimum wage does not destroy jobs, then from the government's perspective it is a "free lunch" that helps reduce poverty, even if higher-income families also benefit. Labor economists have long studied whether minimum wages reduce employment. This article looks at the accumulated US evidence, and also at the reliability of the underlying research methods for estimating the effects of the minimum wage on jobs.

DISCUSSION OF PROS AND CONS

Theory

Textbook analyses of minimum wages portray a competitive labor market for a single type of labor, with an upward-sloping labor supply curve and a downward-sloping labor demand curve. With no minimum wage, there is an equilibrium wage, *w*, and an equilibrium quantity of labor employed, *L* (Figure 1).

Figure 1. Impact of minimum wages on competitive markets



S – Labor supply
D – Labor demand
mw – Minimum wage
w – Equilibrium wage
L – Equilibrium employment
L_{mw} – Employment under minimum wage

Source: Author's own illustration.

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With a "binding" minimum wage *mw* that is higher than *w*, fewer workers are employed, for two reasons. First, employers substitute away from the now more expensive labor and toward other inputs (such as capital). Second, because costs are higher with this new input mix, product prices rise, which further reduces labor demand. These two effects lead to lower employment—L_{mw} in Figure 1.

Of course, this model oversimplifies. One issue is that workers have varying skill levels, and minimum wages are unlikely to matter for higher-skill workers. Employers will substitute away from less-skilled workers toward more-skilled workers after a minimum wage increase. This "labor–labor" substitution has implications for empirical evidence on the employment effects of minimum wages. The employment declines might not appear to be large, even if the disemployment effect among the least-skilled workers is strong. This is relevant from a policy perspective. The minimum wage is intended to help the least-skilled workers. If their employment declines substantially (i.e. being put out of work; this can arise due to displacement from a current job or difficulty finding a new job), the policy is less likely to achieve its goal.

A more fundamental challenge to the competitive model is that it is simply the wrong model. Some argue that there can be "monopsony" in labor markets, i.e. where employers have some power over setting wages, in contrast to the competitive model, because of frictions that tie workers to specific firms. These frictions imply that when an employer hires another worker, the cost of existing workers also increases. As a consequence, market-determined employment can fall below the economically efficient competitive level. Moreover, in the monopsony model, a minimum wage can sometimes lead to higher employment.

Evidence

Economists describe the effect of minimum wages using the employment elasticity, which is the ratio of the percentage change in employment to the percentage change in the legislated minimum wage. For example, a 10% increase in the minimum wage reduces employment of the affected group by 1% when the elasticity is −0.1 and by 3% when it is −0.3.

Earlier studies finding disemployment effects

Through the 1970s, many early studies of the employment effects of minimum wages focused on the US. These studies estimated the effects of changes in the national minimum wage on the aggregate employment of young people, typically 16–19 year-olds or 16–24 year-olds, many of whom have low skills. The consensus of these first-generation studies was that the elasticities for teen employment clustered between −0.1 and −0.3.

Limited evidence from the 1990s challenged this early consensus, suggesting that employment elasticities for teenagers and young adults were closer to zero. But subsequent research, using more up-to-date methods for analyzing aggregate data, found stronger evidence of disemployment effects, in line with the earlier consensus. Using data through 1999, the best of these studies found teen employment elasticities of −0.12 in the short term (i.e. less than one year) and −0.27 in the longer term, thus apparently confirming the earlier consensus: minimum wages reduce employment of young (and hence unskilled) people, and the elasticity ranges between −0.1 and −0.3.

In the early 1990s, a second, more convincing wave of research began to exploit emerging variation in minimum wages across states within the US. Such variation provides more reliable evidence because states that increased their minimum wages can be compared with states that did not, which can help account for changes in youth employment occurring for reasons other than an increase in the minimum wage. A related literature focuses on specific cases of state minimum wage increases. This case study approach

offers the advantage of limiting the analysis to include one state where the minimum wage increases and another very similar state that is a reasonable comparator. Unfortunately, these results do not necessarily apply in other states and at other times.

An extensive review of this newer wave of evidence looked at more than 100 studies of the employment effects of minimum wages, assessing the quality of each study and focusing on those that are most reliable [1]. Studies focusing on the least skilled were highlighted, as the predicted job reduction effects of minimum wages were expected to be more evident in those studies. Reflecting the greater variety of methods and sources of variation in minimum wage effects used since 1982, this review documents a wider range of estimates of the employment effects of the minimum wage than was found in earlier—predominantly time-series—studies.

Nearly two-thirds of the studies reviewed estimated that the minimum wage had negative (although not always statistically significant) effects on employment. Only eight found positive employment effects. Of the 33 studies judged the most credible, 28, or 85%, pointed to negative employment effects. These included research on Canada, Colombia, Costa Rica, Mexico, Portugal, the UK, and the US. In particular, the studies focusing on the least-skilled workers find stronger evidence of disemployment effects, with effects near or larger than the consensus range in the US data. In contrast, few—if any—studies provide convincing evidence of positive employment effects of minimum wages.

Challenges to the consensus

Two recent meta-analyses challenge this conclusion [2], [3]. These analyses suggest that averaging across studies points to an estimate near zero. However, averaging across estimates from studies of minimum wage effects, as meta-analyses do, is problematic. First, the population studied varies; this and other factors can influence how binding the minimum wage is. This leads to variation in estimated effects, for which there is no reason to simply average. Second, meta-analyses often assign more weight to estimates that are more statistically precise [3], even though the most rigorous empirical methods are likely to be less precise because of more rigorous research designs. And yet, it is the studies that use the most rigorous methods—if valid—that should receive the most (if not all the) weight. Thus, attention should be paid to the best studies; even if researchers do not yet agree on which studies are best, it is more meaningful to try to resolve this question than to mechanically average across existing estimates in the literature.

The conclusions of the survey of studies above have been sharply contested in two more-recent studies [4], [5]. The authors of these studies assume that state minimum wages tend to increase in states and years when labor market conditions for less-skilled workers are in decline relative to other states, generating a spurious negative relationship between minimum wages and low-skilled employment. They also assert that restricting comparisons to nearby states, when minimum wages increase in one state but not its neighbors, solves this problem, because nearby states are subject to the same shocks that may be spuriously correlated with minimum wage increases. Using these "close comparisons," both studies find disemployment effects that are near zero. The first focuses on restaurant workers [4] and the second on teenagers [5].

Two recent re-analyses of these studies dispute many of the conclusions [6], [7]. Moreover, three studies using three different approaches to the problem of labor market shocks

correlated with minimum wage increases [8], [9], [10] find strong disemployment effects of minimum wages, with elasticities ranging from about −0.3 to −0.5 for teenagers, and near −1 for the very lowest-wage workers [9]. There are several reasons to find these other studies more convincing [11], not least of which is because the close-controls method used in the earlier studies may obscure the disemployment effects of minimum wages.

The key empirical takeaway is that the exceptions in recent work that find no evidence of employment effects [4], [5] generally come from one specific way of estimating the employment effects of minimum wages—focusing on geographically-proximate controls. Meanwhile, several other methods in the most recent research, which also confront the same potential limitation of prior research, find disemployment effects [8], [9], [10]. At a minimum, even if one has somewhat different views about these alternative studies, blanket statements claiming that there is no evidence that raising the minimum wage costs jobs are simply untrue.

Minimum wages in other countries

By far the largest number of studies use US data because state-level variation provides the best "laboratory" for estimating minimum wage effects. Many other countries, including Germany, have a national minimum wage. A national minimum wage poses greater challenges to social scientists, because it is difficult to estimate what would have happened in the absence of a minimum wage increase. This challenge is also reflected in the UK studies. Absent variation in minimum wages across regions in the UK, one recent study examines groups differentially affected by the national minimum wage, finding employment declines for part-time female workers, the most strongly affected group. A second study looks at changes in labor market outcomes at ages when the UK minimum wage changes—at 18 and 22—and finds a negative effect at age 18 and at age 21 (a year before the minimum wage increases, which the authors suggest could reflect employers anticipating the higher minimum wage at age 22). However, there are numerous UK studies that do not find disemployment effects (see Additional references).

Interpreting the magnitude of estimated disemployment effects

Many concede that the evidence is more consistent with disemployment effects of minimum wages, but suggest that these effects are small or modest. One way to gauge what "small" or "modest" means is to compare the employment elasticities to the value −1; even if negative, an elasticity smaller than −1 in absolute value has been interpreted as meaning that earnings gains from higher wages will far offset the earnings declines from job losses [12].

However, this is not the correct way to translate the employment elasticity from minimum wage studies. Most studies do not focus solely on affected workers, which means the job loss they estimate could be much higher as a percentage of workers who could potentially benefit from the higher minimum wage. In addition, elasticities estimated from most existing minimum wage studies overstate the wage gain, because they are computed in terms of the legislated increase in the minimum wage; however, typically, some affected workers are already earning more than the old minimum wage (but less than the new minimum wage), so the size of the average wage increase for them will be smaller than the minimum wage increase itself. It might be quite reasonable to think that adjusting for these factors could bring the elasticity close to −1, or even larger (in absolute value). Indeed, this is consistent with the estimated elasticity near −1 found for directly affected

workers [9], and with recent evidence on the effects of the Seattle minimum wage. The implication is that minimum wages may have little impact on earnings of affected workers, on average.

Distributional effects and impact on poverty—In brief

The main argument proffered in favor of a minimum wage is that it helps poor and low-income families. But because there are some disemployment effects, minimum wages create winners and losers. The winners get a higher wage with no reduction in employment (or hours), while the losers bear the burden of the disemployment effects—losing their job, having their hours reduced, or finding it more difficult to get a job. If the gains to the winners are large, if these winners are disproportionately from the low-income families that policymakers would like to help, and if the losses are concentrated among higher-income workers or other groups from whom policymakers are willing to redistribute income, then the losses experienced by the losers from a minimum wage increase may be deemed acceptable. However, research on the US fails to find evidence that minimum wages help the poor; they may actually increase the number of poor and low-income families.

The fundamental problem with using minimum wages to increase the incomes of poor and low-income families is that the policy targets low-wage workers, not low-income families, which are not necessarily the same. In the US, the link between low wages and low family income is quite weak, for three reasons. First, over half (57%) of poor families with heads of household aged 18–64 have no workers (calculations based on 2014 Current Population Survey data). Second, some workers are poor because of low hours rather than low wages; in the same data, 46% of poor workers have hourly wages above $10.10, and 36% have hourly wages above $12. And third, because teenagers are highly overrepresented in the minimum wage workforce, many low-wage workers are not in poor families. As a result, back-of-the-envelope calculations suggest that when the minimum wage is increased, assuming no job loss, far more of the increase in income goes to families in the top half of the income distribution than to families below the poverty line (Figure 2) [13].

Figure 2. Ratio of low-wage workers and US household income to needs, 2012

Ratio of income to needs	*Percentage of low-wage workers (earning less than 1/2 of average private-sector wage)*
<1	13
1 to 1.24	6
1.25 to 1.49	7
1.5 to 1.99	14
2 to 2.99	21
≥3	40

Note: "Needs" is the level of household income that puts a household of a given size and age structure at the poverty line (a ratio of 1).

Source: Sabia, J. "Minimum wages: An antiquated and ineffective antipoverty tool." *Journal of Policy Analysis and Management* 33:4 (2014): 1028–1036.

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Before-and-after studies that directly estimate the distributional effects of minimum wages are more decisive. There are far fewer such studies than there are studies of employment effects. However, most of the existing research finds no statistical evidence of reductions in poverty from a higher minimum wage.

In short, there is little compelling evidence of beneficial distributional effects of minimum wages in the US. Nonetheless, there are some open questions about the effects of minimum wages on poverty. Most of the point estimates of the effects of minimum wages on poverty are in fact negative, suggesting that it may be more likely than not that the distributional effects are in the direction of reducing poverty; a lack of statistically significant evidence does not imply that there is no effect. At the same time, looking across the employment and poverty results, one cannot appeal to a set of studies that fail to find a statistically significant negative effect of minimum wages on poverty to bolster the claim that minimum wages reduce poverty, while also appealing (more selectively) to a set of estimates of the effect of minimum wages on employment that are generally negative but statistically insignificant to argue that the minimum wage does *not* reduce employment.

Despite the absence of clear evidence that minimum wages reduce poverty, does a higher minimum wage reduce the dependence of poor and low-income families on government assistance? A recent comprehensive US study of spending on Medicaid, welfare, and many other programs did not find that higher minimum wages lower participation in public assistance programs, with the exception of the Supplemental Nutrition Assistance Program (SNAP), which has work requirements that could have been harder to fulfill owing to a higher minimum wage [14].

The inability to help poor and low-income families through a higher minimum wage is understandably frustrating for policymakers. In the US, however, a far more effective policy tool is the Earned Income Tax Credit (EITC) enacted in the 1970s. Some European countries (e.g. the UK, Belgium, France, and the Netherlands) have implemented similar policies. These programs pay subsidies to low-income workers, based on family income; the subsidies are phased out as income rises.

While the incentive effects of these subsidies are often complicated, the subsidies, handled correctly, unambiguously create an incentive to enter the labor market for many eligible individuals who were not working. Moreover, the subsidies depend on family income, thus creating incentives precisely for the families most in need of help. Poverty rates are very high for female-headed families with children, for example, and there is overwhelming evidence of the EITC's positive employment effects for single mothers. Moreover, the EITC helps families escape poverty not simply through the EITC subsidy, but also through the added labor market earnings generated because of the labor supply incentive effects of the EITC [15].

Combining the EITC with a higher minimum wage can lead to better distributional effects than the minimum wage alone, although it increases the adverse effects of the minimum wage on other groups [15]. That is because a higher minimum wage coupled with an EITC can induce more people who are eligible for the EITC to enter the labor market, while exposing people who are not eligible for the EITC to greater competition in the labor market, which can amplify the disemployment effects for them. An exploration of the interactions between higher state minimum wages in the US and the more generous state EITC programs finds that a combination of the two policies leads to more adverse employment effects on specific groups—like teenagers and less-skilled minority men—that are not eligible for the

EITC (or are eligible for a trivial credit), while finding positive employment and distributional effects for single women with children who are eligible. This research does not change the conclusion that minimum wages reduce employment; rather, it shows that the effects can vary across subpopulations—in this case because of interactions with another policy.

LIMITATIONS AND GAPS

There are three key gaps when it comes to understanding the effects of a minimum wage. The first is related to the interactions between minimum wages and other labor market institutions and policies, the structure of the minimum wage (such as whether there is a youth subminimum), and the ultimate disemployment effects. This question has been explored for countries within the OECD, but the analysis needs to be extended to developing countries as well, where the policy variation is greater.

The second concerns how minimum wages affect different groups and regions. For example, it would be helpful to be able to isolate the employment effects of minimum wages on poor, low-income, and other families to find out whether the negative effects are concentrated on low-wage workers in low-income families. If so, this would add to the weight of the evidence against higher minimum wages. If not, the fairly modest disemployment effects would need to be reconciled with no apparent beneficial distributional effects.

The third gap has appeared recently, with the emergence of very high minimum wages. The US is embarking on an experiment of using high minimum wages to try to increase incomes of workers and to reduce poverty. There are now 29 states (plus the District of Columbia) with minimum wages above the federal minimum wage, with an average difference across states of 30.2% (see the illustration on p. 1). As a result, the federal minimum wage now provides a floor for an increasingly narrow set of states, concentrated in the south. Moreover, California, Massachusetts, New York, Seattle, and Washington, DC have legislated either current or future minimum wages of $15. Other localities may follow suit, and a change in the national political alignment could result in a $15 national minimum. The same issues carry over to large minimum wage increases elsewhere, such as the recent introduction of a minimum wage in Germany in 2015, starting at a relatively high €8.50.

It is very hard to predict the effects of such high minimum wages. First, as discussed above, the question of the employment effects of past, smaller minimum wage increases is still contested. More important, even if one has a strong view of what the US literature says about the employment effects of *past* minimum wage increases, the literature on past increases may provide much less guidance in projecting the consequences of the high minimum wages that are now emerging, which will entail much larger increases than those studied in the prior literature. Predicting the effects of much larger minimum wage increases, based on research studying much smaller increases, is inherently risky. For example, the far greater share of workers affected could substantially constrain the ability of employers to adjust along other margins and hence mitigate potential job losses.

SUMMARY AND POLICY ADVICE

While low wages contribute to the dire economic straits of many poor and low-income families, the argument that a higher minimum wage is an effective way to improve their economic circumstances is not supported by the evidence.

First, a higher minimum wage discourages employers from using the very low-wage, low-skill workers that minimum wages are intended to help. A large body of evidence—although not all of it—confirms that minimum wages reduce employment among low-wage, low-skill workers.

Second, minimum wages do a bad job of targeting poor and low-income families. Minimum wage laws mandate high wages for low-wage workers rather than higher earnings for low-income families. Low-income families need help to overcome poverty. Research for the US generally fails to find evidence that minimum wages help the poor, although some subgroups may be helped when minimum wages are combined with a subsidy program, like a targeted tax credit.

The minimum wage is a relatively ineffective policy for achieving the goal of helping poor and low-income families. More effective policies are those that increase the incentives for members of poor and low-income families to work.

Acknowledgments

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Competing interests

The IZA World of Labor project is committed to the IZA Code of Conduct. The author declares to have observed the principles outlined in the code.

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