

EPI BRIEFING PAPER

ECONOMIC POLICY INSTITUTE • DECEMBER 17, 2009 • BRIEFING PAPER # 251

FIX IT AND FORGET IT Index the Minimum Wage to Growth in Average Wages

BY HEIDI SHIERHOLZ

On a Saturday in June 1938, President Franklin Roosevelt signed a landmark law in the nation’s social and economic development, the Fair Labor Standards Act (FLSA). The Depression-born legislation was designed to put “a floor below wages and a ceiling over hours” (Roosevelt 1938) by establishing a national minimum wage, setting a 40-hour work week, and prohibiting most child labor. Its broad objective was to create labor standards necessary for the health, efficiency, and well-being of the nation’s workers. The minimum wage specifically was intended to play a crucial role in a strategy to reward work and reduce poverty in America and to ensure that growth in the economy is broadly shared across the workforce.

Now, more than 70 years later, the minimum wage remains an essential labor market protection for the country’s lowest-paid workers, the vast majority of whom are adults whose families depend on their earnings to make ends meet. However, over the last 40 years, the inflation-adjusted value of the minimum wage has been allowed to erode dramatically, so that its value in 2009, at \$7.25, is roughly 20% lower than its peak real value in the late 1960s. Workers earning the minimum wage must literally wait for an act of Congress to get a raise.

TABLE OF CONTENTS

- The rise and erosion of the minimum wage since 1938**2
- Research on the impact of the minimum wage**4
- Bringing the minimum wage into the overall wage structure**7
- Who would benefit from an increase in the minimum to 50% of average wages?**9
- The minimum wage and income growth for low-income families** 14
- The minimum wage and wage inequality** 14
- Can we afford a minimum wage pegged to average wages?** 15
- Conclusion**..... 18
- Appendix A: The minimum wage and the states**..... 19
- Appendix B. Benefits far outweigh costs under any scenario** 22
- Appendix C. The minimum wage and wage inequality**... 23

**AGENDA FOR
SHARED
PROSPERITY**

The Economic Policy Institute initiative for solutions that match the scale of the problems.

www.SharedProsperity.org

The minimum wage needs to be restored to a value where it can ensure a healthy standard of living, and it needs to be indexed going forward so that its value relative to the wages of other workers no longer erodes over time simply because prices rise. Specifically:

- The FLSA should be amended so that on April 1, 2012, the minimum wage is set at 50% of the previous year's average wage of production and non-supervisory workers. This formula would likely result in a minimum wage of around \$9.80 in 2012 (or around \$9.00 in 2009 dollars).
- On each April 1 thereafter, the minimum wage should be adjusted by the percent change in the average wage during the preceding year, in other words, indexed to the average wage.
- Making the policy change effective in 2012 allows for intermediate steps to increase the wage in 2010

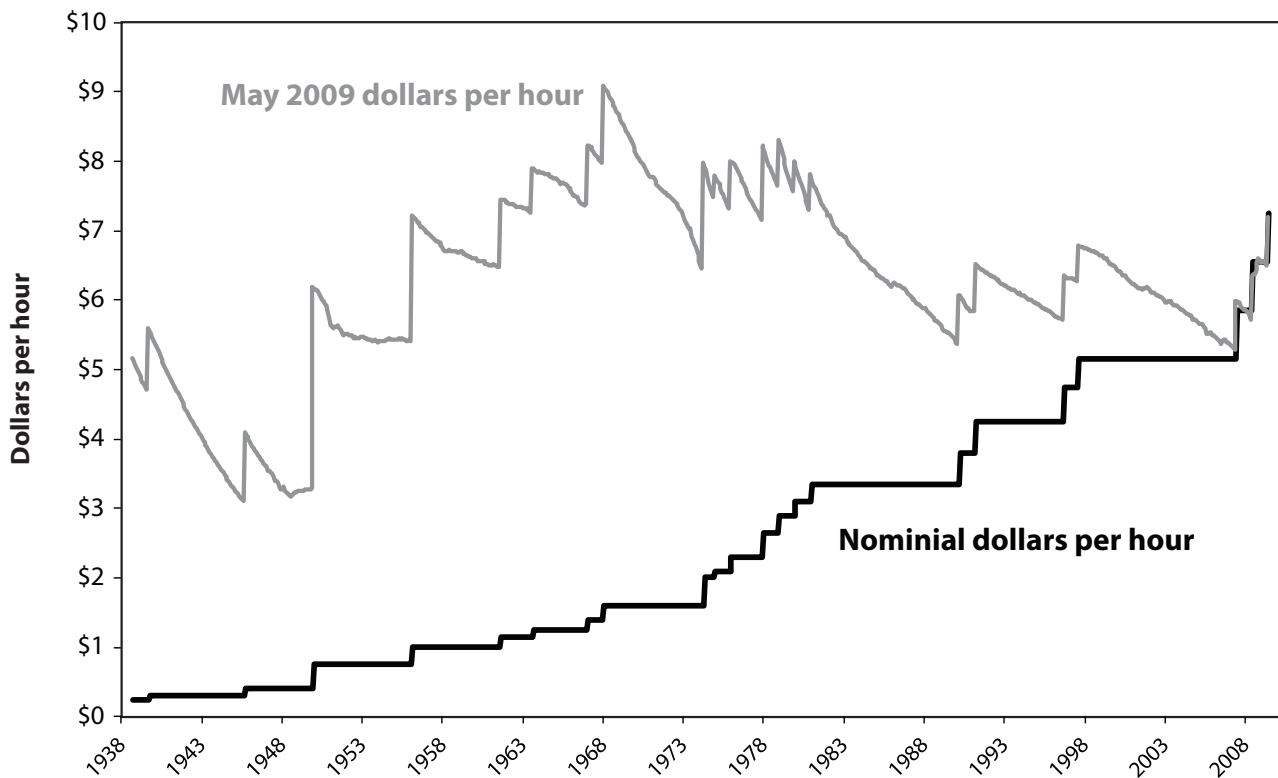
and 2011 as a phase-in period. These near-term wage increases will provide crucial economic stimulus at a time when the economy will likely be in the middle of a rocky recovery.

The rise and erosion of the minimum wage since 1938

In the 71 years since the Fair Labor Standards Act established the first federal minimum wage at 25 cents per hour, nine legislated increases, or about one every eight years, has raised its value to \$7.25 per hour in 2009. But the steady rise in nominal terms masks the bumpy ride that minimum wage earners have experienced in real life. **Figure A** shows both the nominal and the inflation-adjusted value of the minimum wage since its creation in 1938. The minimum wage reached its highest real value—\$9.08 per hour (in May 2009 dollars)—in February 1968. Since then its value has eroded dramatically: the five legislated increases

FIGURE A

The Federal minimum wage, nominal and real value, 1938-2009



SOURCE: U.S. Department of Labor Wage and Hour Division. Real value deflated using the CPI-U-RS.

FIGURE B**The minimum wage as a percentage of the average wage**

SOURCE: EPI analysis of Bureau of Labor Statistics data. The average wage is the average hourly wage of production and non supervisory workers.

since the late 1960s have never been large enough to bring the real minimum wage back to that level—and even that summit is only about enough to ensure a poverty-level living standard for a family of three today.

This erosion in compensation has occurred while the value of workers in the economy has increased. Average hourly productivity has grown by 112% since the minimum wage peaked in 1968, demonstrating the failure of the minimum wage to keep pace with workers' capacity to produce goods and services.

Furthermore, workers earning the minimum wage have seen not only an erosion of the real value of their paychecks, they have also seen an erosion of their wages relative to others in the economy. The minimum wage has failed to keep pace with the growth of the wages of typical workers. **Figure B** shows the minimum wage relative to the average wages of the roughly 80% of the workforce who are either production workers in manufacturing or nonsupervisory workers in other sectors (in other words,

these are the wages of factory workers, construction workers, and a wide variety of service-sector workers ranging from restaurant, hotel, and clerical workers to nurses and teachers; left out are higher-paid managers and supervisors, as well as CEOs). For all of the 1950s and 1960s, the minimum wage hovered around 50% of the average wage of production and nonsupervisory workers—in 1968, at its peak, the minimum wage was 53% of the average wage. Since that time, as other production and nonsupervisory workers have seen their real wages rise (albeit at a much slower pace than before), workers earning the minimum wage have seen their wage status decline. At its current value of \$7.25, the minimum wage is less than 40% of the average wage.

A full-time worker earning the minimum wage makes \$14,962 a year

The erosion in the value of the minimum wage means that full-time minimum wage work does not provide a

decent standard of living. **Figure C** contrasts the annual income (before taxes and transfers) of a full-time, full-year worker earning the minimum wage and the official poverty threshold for a family with one parent and two children. At its peak in 1968, a full-time worker earning the minimum wage made \$18,890 in May 2009 dollars, enough to keep a family of three over the poverty line. With a minimum wage of \$7.25, a full-time worker earning the minimum wage will make \$14,962, about a \$4,000 pay cut from the 1968 level and well below the poverty threshold.

The inability of today's minimum wage to alleviate poverty is even more striking when one considers that poverty researchers regard the poverty threshold as currently calculated to be vastly outdated and an inadequate measure of the income needed to make ends meet. Poverty experts often use *twice* the poverty line as a more accurate threshold for material deprivation. Another measure,

developed by the Economic Policy Institute, is the “basic family budget,” or the amounts a family needs to feed, shelter, and clothe itself, get to work and school, and subsist in 21st century America. It is a paycheck-to-paycheck no-frills budget that includes no savings for retirement or college, no restaurant meals, and no funds for emergencies. A typical basic family budget for a family with one parent and two children is \$40,273, about three times the income of a full-time minimum-wage worker.¹

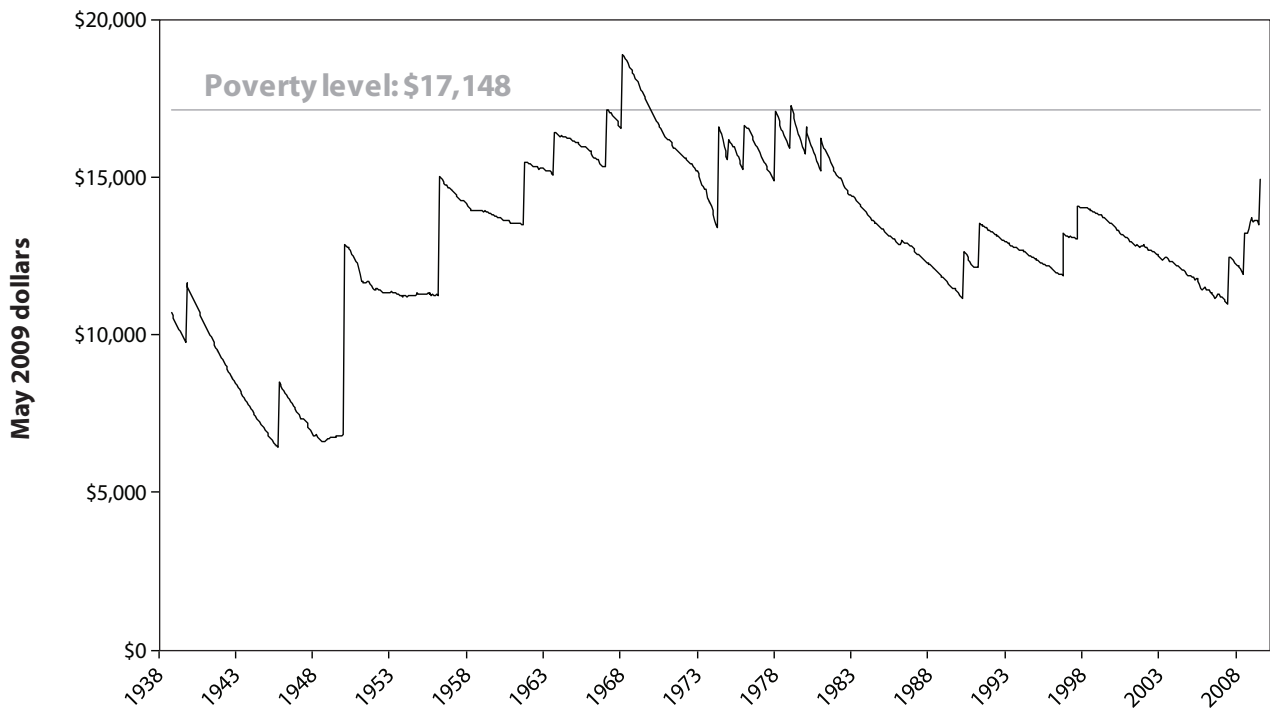
By just about any measure, the minimum wage has lost its effectiveness as a tool for rewarding work and reducing poverty.

Research on the impact of the minimum wage

Early minimum wage research conducted in the 1970s and early 1980s consisted entirely of time series analysis, which attempts to measure the effects of the minimum

FIGURE C

Annual minimum wage earnings and poverty level for a family of three



SOURCE: Poverty threshold for 2008 for family of three (one adult and two children) from U.S. Census Bureau, deflated to May 2009 dollars using CPI-U-RS. Note: 2008 poverty threshold for two-adult, one-child family is roughly the same, at \$17,132 in May 2009 dollars. Minimum wage from the U.S. Department of Labor Wage and Hour Division, deflated using CPI-U-RS. Annual minimum wage earnings calculated by multiplying hourly minimum wage by 2,080, the number of hours a full-time (40 hours per week), full-year (52 weeks per year) worker works in a year.

wage on employment over time and, specifically, before and after increases. Research using this method found increases in the minimum wage to have significant negative employment effects. These studies seemed to confirm the simple supply-and-demand model of competitive labor markets, which predicts that an increase in the minimum wage above a certain rate (the “equilibrium market-clearing rate”) will lead to unemployment. This apparent tradeoff—some getting an income boost while others lose their jobs—led Congress in 1977 to create the Minimum Wage Study Commission to aid in assessing proposed changes in the minimum wage. The commission’s final report included a literature review (subsequently published as Brown, Gilroy, and Kohen (1982)), that summarized the previous two decades of minimum wage research as finding unambiguous negative effects on teenage employment. (Although they make up a tiny segment of the labor force, teenagers are the subject of a lot of minimum wage research because they are the “lowest-skilled” workers and are therefore most likely to be affected by changes to the minimum wage.) Specifically, the review of the research concluded that a 10% increase in the minimum wage resulted in a 1-3% decrease in teen employment. This report was seen at the time as the economics profession’s consensus on the minimum wage, and further research largely ground to a halt.

In 1991, however, a new time series analysis of the minimum wage by Wellington (1991) cast doubt on the research analyzed by the congressional commission. Congress had declined to raise the minimum wage during the 1980s, thus allowing inflation to erode its value and blunt its effectiveness as a wage floor. Wellington extended her analysis to include these new data, and incorporated new methodology that accounted for criticisms leveled on the earlier time series studies. Her updates of the earlier research still showed a statistically significant impact of the minimum wage on employment, but one that was much smaller than the prior consensus: a 10% increase in the minimum wage would reduce teen employment by less than 1%. Her finding brought renewed interest to the study of the minimum wage.

The minimum wage research of the early 1990s shifted away from pure time series models in favor of panel data, which allow economists to track *individuals’* earnings and

employment status, among other variables, over time and across localities. Card (1992) used panel data from individual states to study the effects of the 1990 increase in the federal minimum wage. Although Congress never adjusted the minimum wage during the 1980s, many states enacted their own wage floors. Card realized that this state-level variation in minimum wages could be useful for examining the effect of minimum wages on employment and wages. He found a significant positive effect of the minimum wage on wages *with no associated decrease in teenage employment*.

In contrast to Card, another panel study conducted at about the same time found significant negative employment effects from an increase in the minimum wage. Using state-specific panel data to estimate the effects of the minimum wage on teenagers (age 16-19) and a broader category of young adults (age 16-24), Neumark and Wascher (1992) found that a 10% increase in the minimum wage causes a decline in employment of 1-2% among teenagers and 1.5-2% among young adults.

In addition to panel data studies, another strand of new minimum wage research focused on case studies of specific industries or states. Katz and Krueger (1992) were one of the first to employ this technique in their study of the effect of the increase in the federal minimum wage on the fast food industry in Texas. In December 1990 and in August 1991—before and after an increase in the federal minimum wage in April 1991—they interviewed managers or assistant managers of 100 fast food establishments to obtain information on wages, hours, and number of employees. Katz and Krueger found a large, statistically significant *positive* impact—an increase in the minimum wage *raised* employment for the fast food industry in Texas. Though it may seem counterintuitive in the context of simple supply-and-demand models, increasing the minimum wage can lead to increased employment through a number of channels, including cost savings from reduced job turnover (hiring and firing is expensive for employers), the attraction of higher-quality employees through higher wages, and increased productivity as a result of better worker morale (Bernstein and Schmitt 1998). There may also be a demand-side impact as workers earning the minimum wage, now having higher incomes, increase their patronage of fast food restaurants. (See the accompanying box for a

HOW THE MINIMUM WAGE BOOSTS THE ECONOMY

In addition to increasing the wages of affected workers, increasing the minimum wage is also an effective way to boost spending and stimulate the economy. A recent study by economists at the Federal Reserve Bank of Chicago (Aaronson et al. 2008) finds that increasing the minimum wage by \$1 an hour results in an increase in spending by affected families of \$800 per quarter. The authors find that the additional spending, which far exceeds the \$300 per quarter most families would expect from an increase in the minimum, goes largely to collateralized debts to finance durable goods purchases, in particular automobiles. Furthermore, the study finds that spending increases quickly, within the first quarter after a minimum wage increase. Kai Filion of the Economic Policy Institute uses these numbers to estimate that an increase in the minimum wage to 50% of the average wage would translate into roughly \$57 billion in consumer spending. An increase to 50% of average wages phased in three steps in 2010, 2011, and 2012 would, especially in the first two steps, provide a needed boost to the economy during what is expected to be a slow and shaky recovery.

discussion of the evidence that an increase in the minimum wage increases spending among affected workers.)

In a similar study, Card and Krueger (1994) conducted telephone surveys of fast food establishments in New Jersey before and after the state raised its minimum wage in 1992; they also conducted telephone surveys of fast food establishments in nearby eastern Pennsylvania, where there was no minimum wage increase. Their findings revealed that employment and wages rose at the fast food establishments in New Jersey after the minimum wage increase, while in fast food restaurants in Pennsylvania employment declined.

The new minimum wage research of the early 1990s represented an improvement in methodology and precision over earlier research, but it also received its share of criticism. Neumark and Wascher were criticized for their use of a school enrollment variable and how they classified enrollment, and also for their use of a particular minimum wage variable (Card et al. 1994). Card's panel data study was criticized for not controlling for the lagged effects of the minimum wage (Neumark and Wascher 2006); Katz and Krueger and Card and Krueger were criticized for using unofficial, self-collected data rather than official government statistics (Welch 1995). In general, later studies by these authors and others corrected the perceived flaws in their earlier studies, but came to roughly similar conclusions.

Subsequent studies employed the techniques used in the new minimum wage research and extended them to incorporate more recent data on minimum wage increases and their effects in other industries, and applied them to other industrialized and even developing countries. Bernstein and Schmitt (1998) of the Economic Policy Institute examined the effect of the 1997 federal minimum wage increase on employment and found significant increases for low-skilled workers. Burkhauser et al. (2000) found significant negative effects on teen employment of the 1996 and 1997 federal minimum wage increases.

A pattern has emerged in the post-1990 minimum wage research. Studies employing panel data have tended to find small statistically significant negative employment effects associated with the increase in the minimum wage. Research utilizing state- and industry-specific case studies—"natural experiments"—tend to find employment effects ranging from small and negative to small and positive. In other words, despite the volume of empirical work on the minimum wage, there is no consensus whether the employment impact is positive or negative, just that it is small. So, while the question about whether the effect is slightly below zero, at zero, or slightly above zero may be an important one among econometricians, for policy makers it is hard to avoid the conclusion that the benefits far outweigh the costs. Even

if one accepts the estimates of a negative impact on employment, the low-wage workforce still sees a net gain, since the total increase in wages is far greater than the total decrease in wages due to a decline in hours worked (see Appendix B for an example). This fact helps explain why the weight of opinion among economists has shifted toward the belief that the minimum wage improves the lives of low-wage workers without the adverse effects some critics have claimed, and why in 2006 more than 650 economists, including five Nobel laureates, called for an increase in the minimum wage.

Bringing the minimum wage into the overall wage structure

The intention of the minimum wage is to maintain a minimum living standard for low-wage workers both in an absolute sense and in relation to other workers. To achieve this goal, adjustments to the wage must be designed to track broad movements in the living standards of typical workers. The current approach to managing the federal minimum wage—setting it at a certain dollar value every few years and having its real value erode over each interim period—does not consistently achieve this goal. But another approach would: pegging the minimum wage to the average wage, specifically, the average hourly wage of production and nonsupervisory workers on private nonfarm payrolls. This is the wage series that captures broad changes in the living standards of the typical worker.

Data on the average wage are released each month by the Bureau of Labor Statistics and are obtained from the Current Employment Statistics program, which conducts a monthly survey of about 150,000 business and government agencies. Production and nonsupervisory workers, i.e., production workers in goods-producing industries like manufacturing and construction, and nonsupervisory workers in service industries—comprise 82% of total employment. By excluding higher-wage managers and supervisors, growth over time in this series roughly tracks the growth in wages of the middle, or typical, worker. This series is therefore unaffected by the changing dynamics shaping compensation at the very top of the wage distribution, which are arguably not appropriate determinants in setting a wage floor.

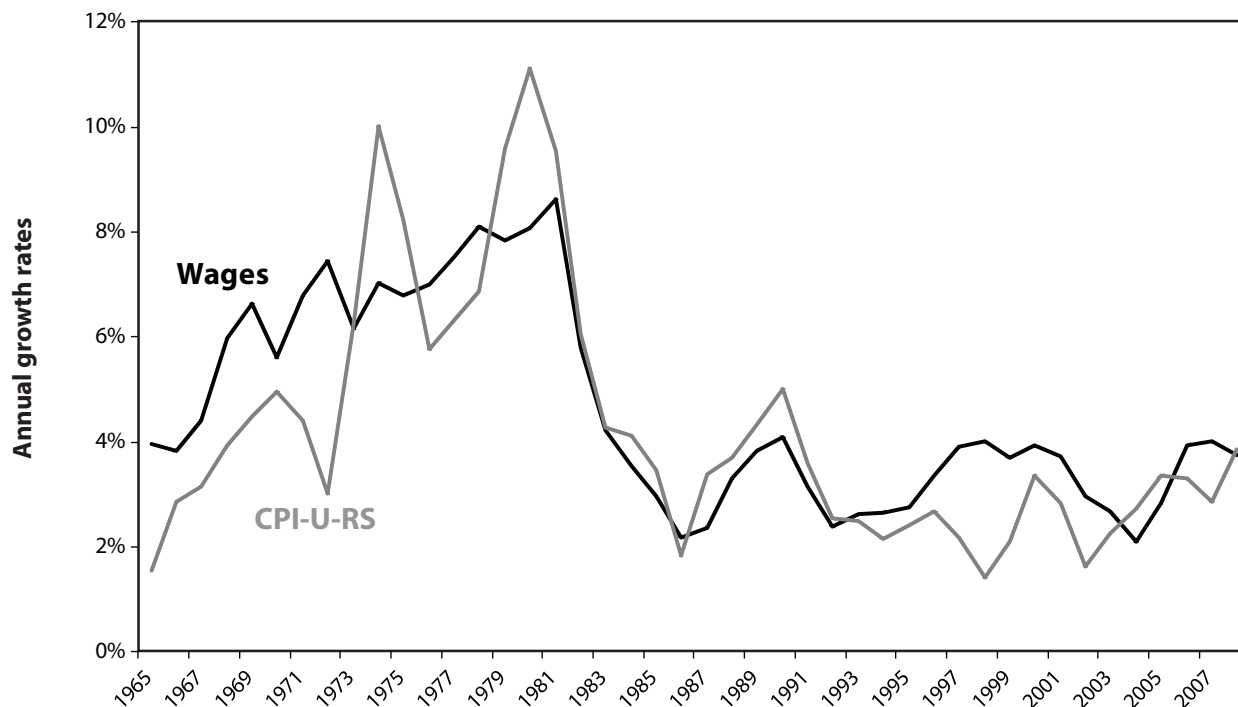
Wage benchmarks are commonly used to establish labor standards

There is strong precedent for using benchmarks like average wages in state and federal labor market standards. Their use indicates a wider understanding that average wages provide the relevant point of reference in labor market policy.

- **Unemployment insurance.** State unemployment insurance programs generally provide benefits based on a percentage of an individual's earnings over a recent 52-week period, up to a maximum benefit level. In order to keep the maximum benefit level from eroding over time, 35 states and the District of Columbia index it to their state's average weekly wages.
- **Workers' compensation.** At the federal level, the Longshore and Harbor Workers' Compensation Act, which provides workers' compensation benefits to those injured on the navigable water of the United States, uses the average weekly earnings of production or nonsupervisory workers on private nonfarm payrolls to set minimum and maximum benefit levels each year. At the state level, as with unemployment insurance benefits, 45 states' workers' compensation laws use state average weekly wages to establish maximum and/or minimum compensation rates each year for workers who are disabled on the job.
- **Social Security.** Social Security benefits are adjusted using changes in both average wages and prices. A retiree's base benefits (benefits established at retirement) are determined using a progressive benefit schedule with income brackets indexed to the national average wage level. The Social Security Administration explains that "this automatic adjustment ensures that benefit levels for successive generations of eligible workers will keep up with rising earnings levels, thereby assuring consistent rates of earnings replacement from one generation of beneficiaries to the next" (Social Security Administration 2008). Once a retiree starts collecting benefits, however, they are adjusted each year for inflation, not for changes in wages. As discussed below, this means that, while

FIGURE D

Growth of wages and prices, 1965-2008



SOURCE: Bureau of Labor Statistics.

new retirees' benefits track broad shifts in living standards, once a retiree begins collecting benefits his or her real benefit level is frozen.

Indexing to inflation would not maintain relative living standards

A commonly proposed approach for managing the minimum wage is to index it to prices, i.e., annually adjust it for inflation using the consumer price index. This approach, however, means the real (inflation-adjusted) minimum wage is frozen in time. For example, if the federal minimum wage is \$7.25 in 2009, and inflation raises prices in the next year, workers earning the minimum wage might make, say, \$7.40 in 2010, but that would still be \$7.25 in 2009 dollars. Going forward, workers earning the minimum wage would always earn \$7.25 in 2009 dollars; their real wage would be frozen. But the real wages of typical workers are not frozen in time. Sometimes the typical worker sees real wage gains, sometimes real wage losses. If the real minimum

wage is frozen, it cannot track broad changes in the wage structure.

The only approach to indexing the minimum wage which ensures that those earning it see real wage gains when typical workers see real wage gains is to index it directly to wages.

Wages are less volatile than prices

An important technical advantage of indexing to wages instead of prices is that wages tend to be less volatile (Figure D). Wages tend to have more inertia than prices for a number of reasons. For instance, employers often maintain internal wage ladders that tend to be slow to change; they also rarely cut nominal wages, instead instituting wage freezes that allow their wage costs to erode over time. The CPI, on the other hand, is directly subject to unpredictable changes in such items as energy and food prices. Low volatility is a desirable trait for indexing, because it means employers and employees alike will face stable, predictable changes in wages from one year to the next.

TABLE 1

Wage and price growth, 1947-2008

	Average annual nominal wage growth	Average annual price growth	Average annual real wage growth	Average annual productivity growth
1947-2008	4.5%	3.6%	0.9%	2.2%
<i>1947-73</i>	4.8	2.6	2.2	2.8
<i>1973-2008</i>	4.3	4.3	0.0	1.8
<i>1973-79</i>	7.4	7.8	-0.4	1.1
<i>1979-89</i>	4.5	5.1	-0.6	1.4
<i>1989-2000</i>	3.3	2.7	0.6	2.1
<i>2000-07</i>	3.2	2.7	0.5	2.6
<i>2007-08</i>	3.8	3.8	-0.1	1.8

SOURCE: EPI analysis of BLS data.

Historically, wages of typical workers rise faster than prices

Growth in the wage of the typical worker generally outpaces growth in prices over time; if it didn't, living standards would never rise. **Table 1** shows that since 1947 wages have grown 4.5% annually on average, prices 3.6%, and so real wages have grown at an average annual rate of 0.9%. The growth rate in real wages has varied over time. It averaged 2.2% a year from 1947 to 1973, but it has been zero for the last 35 years: modest increases in the 1990s and 2000s just exactly made up for modest declines in the 1970s and 1980s.

The final column in **Table 1** shows average annual productivity growth, which is the growth over time in the average real value of goods and services that are produced in an hour. The difference between the growth in real wages and the growth in productivity is a blunt measure of how much of the overall growth in the economy is reaching the typical worker. When growth in average productivity far outpaces growth in real wages, workers are getting less than a proportionate share of the economic growth of the country. The 1947-73 period was fairly good for the typical worker: real wages grew 2.2% annually, not far behind 2.8% average annual productivity growth. But over the business cycle of the 1980s, workers were 1.4% more productive every year but saw their real wages decline each year by 0.6%. Likewise, over the 2000-07 business cycle productivity growth was relatively strong—2.6% annually—but real wages grew only 0.5% per year. The failure of

the typical worker to receive a fair share of the economic growth of the country has coincided with increasing inequality (discussed in more detail below).

Who would benefit from an increase in the minimum to 50% of average wages?

The 22.9 million workers who would be affected by an increase in the minimum wage to 50% of the average wage are mainly adults who work many hours, have a total family income of less than \$40,000, and provide a significant portion of their family's income. **Table 2** details demographic characteristics for these workers, broken down into two groups: the 15.9 million workers who would be directly affected by the increase because they earn less than the new minimum wage, and the 7.0 million who would be indirectly affected because they earn close to but above the new minimum and would likely see a wage increase as employers preserve internal wage ladders (the "spillover" effect). As a point of comparison, **Table 2** also shows the same characteristics for the entire workforce. (**Table A1** in Appendix A shows affected workers by state.)

The overwhelming majority—83.4%—of those affected by the increase are at least 20 years old. Full-time workers make up 56.7% of the total, and only 14.4% work fewer than 20 hours. In other words, these workers are not teen part-timers; only 6.4% of the affected workers are teenagers who work less than 20 hours per week.

TABLE 2

Workers affected by a minimum wage increase, by demographic groups

	Directly affected	Indirectly affected	Total affected	Total workforce
Number of workers (in millions)	15.9	7.0	22.9	129.1
Percent of workforce	12.0%	5.0%	18.0%	100.0%
<hr/>				
Number of children whose parents would get a raise (in millions)	7.3	3.9	11.2	74.4
Percent of all children	9.8%	5.3%	15.0%	100.0%
<hr/>				
Age				
16-19	20.5%	7.8%	16.6%	4.2%
20 +	79.5	92.2	83.4	95.8
<hr/>				
Work hours				
<i>Full time (35+)</i>	50.9%	69.8%	56.7%	81.9%
Age 16-19	3.8	3.0	3.5	1.1
Age 20+	47.1	66.9	53.2	80.7
<i>Mid-time (20-34)</i>	31.8	22.3	28.9	12.8
Age 16-19	8.3	2.9	6.7	1.6
Age 20+	23.5	19.4	22.2	11.2
<i>Part time (less than 20)</i>	17.3	7.9	14.4	5.3
Age 16-19	8.4	1.9	6.4	1.5
Age 20+	8.9	6.0	8.0	3.8
<hr/>				
Gender				
<i>Female</i>	59.4%	56.3%	58.4%	48.3%
16-19	11.0	3.8	8.8	2.2
20+	48.3	52.5	49.6	46.2
<i>Male</i>	40.6	43.7	41.6	51.7
16-19	9.5	4.0	7.8	2.1
20+	31.2	39.7	33.8	49.6
<hr/>				
Family status				
<i>Parent</i>	24.9%	29.8%	26.4%	34.8%
Married parent	15.8	21.0	17.4	28.3
Single parent	9.1	8.8	9.0	6.5
<i>Married, no children</i>	16.7	21.4	18.1	27.5
<i>Single, no children</i>	58.5	48.8	55.5	37.8

cont. on page 11

TABLE 2 (CONT.)

Workers affected by a minimum wage increase, by demographic groups

	Directly affected	Indirectly affected	Total affected	Total workforce
Race/ethnicity				
<i>White, non-Hispanic</i>	57.9%	55.4%	57.1%	67.9%
<i>Black, non-Hispanic</i>	14.9	16.6	15.4	11.2
<i>Hispanic, any race</i>	21.6	22.0	21.7	14.4
<i>Asian, non-Hispanic</i>	3.6	4.3	3.8	4.9
<i>Other</i>	2.0	1.8	2.0	1.6
Education				
<i>Less than high school</i>	29.8%	19.3%	26.6%	10.5%
<i>High school</i>	34.7	38.4	35.8	28.8
<i>Some college</i>	23.3	23.9	23.4	19.6
<i>Associates degree</i>	5.9	8.5	6.7	9.8
<i>Bachelors degree or higher</i>	6.4	10.0	7.5	31.3
Occupation				
<i>Service occupations</i>	37.8%	32.7%	36.2%	17.1%
<i>Sales and related occupations</i>	21.3	15.1	19.4	10.6
<i>Office and administrative support occupations</i>	12.2	16.8	13.6	14.5
<i>Other occupations</i>	28.7	35.4	30.8	57.8
Industry				
<i>Retail trade</i>	24.5%	19.7%	23.1%	11.7%
<i>Leisure and hospitality</i>	24.2	15.1	21.4	9.0
<i>Education and health services</i>	17.8	20.8	18.7	23.0
<i>Other</i>	33.5	44.3	36.8	56.3

NOTE: Directly affected are those earning between 0.9 times the state minimum in 2008 and \$8.72 (what the minimum wage would have been in 2008 under our proposal). Indirectly affected are those earning between \$8.72 and the smaller of \$9.72 or \$8.72 + (\$8.72 minus the state minimum at end of 2008). Due to rounding error, some numbers will not sum to 100%.

SOURCE: 2008 CPS ORG.

The increase would disproportionately benefit women. Though they make up 48.3% of the workforce, 58.4% of affected workers are women; half of affected workers are adult women age 20 or over.

Over a quarter (26.4%) are parents, not that different from the share in the workforce overall (34.8%). If the minimum wage were increased to 50% of the average wage, 11.2 million children—15.0% of all children—would see at least one parent get a raise.

The increase would also disproportionately benefit minority workers. Over two-fifths of affected workers

(42.9%) are members of racial and ethnic minority groups, though they comprise just roughly a third (32.1%) of the total workforce. Non-Hispanic blacks make up 15.4% of affected workers, Hispanics 21.7%.

The majority (59.2%) of affected workers have a high school degree and perhaps some post-secondary education or training, but no higher degree. Affected workers typically hold service jobs, sales jobs, or office and administrative support jobs. By industry, affected workers are concentrated in retail trade, leisure and hospitality, and education and health services, though it is important to

note that more than a third (36.8%) of affected workers are in other industries. A minimum wage at 50% of average wages would lead to a robust minimum wage that would for the first time in decades substantially raise pay scales across the entire lower end of the economy, not just in traditionally low-wage industries.

Table 3 shows total family income for affected workers and the extent to which families rely on earnings of these workers to make ends meet. These families tend to be poorer: roughly a third (31.9%) of affected workers live in a family where the total family income is less than \$25,000, while only 13.4% of the total workforce lives in families with income this low. More than half (53.2%) of affected workers have total family incomes less than \$40,000, and nearly two-thirds (62.6%) have incomes less than \$50,000. Only 10.3% live in families with incomes greater than \$100,000. Thus, the vast majority of the benefits of a minimum wage increase to 50% of average wages would go to working-class families who

face a daily struggle to pay for child care, health care, gas, food, and housing.

Furthermore, the earnings from the minimum wage are not generally inconsequential “extra spending money,” but instead make up a significant portion of family income. On average, the families of affected workers rely on those workers for nearly half (45.9%) of their income. This is less than but not far behind the share of income that the average worker contributes to his or her family, 60.4%. In other words, just like all workers, these low-wage workers provide significant support to their spouses, partners, and children. Moreover, over a quarter (26.0%) of families with an affected worker have no other income and so rely entirely on the earnings of those workers.

To sum up, the gains from an increase in the minimum wage to 50% of average wages will go primarily to low-income families who greatly depend on the earnings from minimum wage workers to make ends meet.

TABLE 3

Workers affected by minimum wage increase, by income

	Directly affected	Indirectly affected	Total affected	Total workforce
Family income	100%	100%	100%	100%
<i>Less than \$50,000</i>	62.9%	62.6%	62.8%	38.9%
<i>Less than \$25,000</i>	33.2	29.1	31.9	13.4
<i>\$25,000-\$39,999</i>	20.9	22.3	21.3	16.0
<i>\$40,000-\$50,000</i>	8.8	11.2	9.6	9.4
<i>Greater than \$50,000</i>	37.1%	37.4%	37.2%	61.1%
<i>\$50,000-\$99,999</i>	26.4	28.2	26.9	38.3
<i>\$100,000+</i>	10.7	9.2	10.3	22.8
Reliance on affected worker earnings				
<i>Of families with affected workers, average share of total family wage and salary income provided by affected worker</i>	43.9%	50.6%	45.9%	60.4%
<i>Percent of families with affected workers who rely solely on the earnings from those workers</i>	25.4%	27.3%	26.0%	--

NOTE: Directly affected are those earning between 0.9 times the state minimum in 2008 and \$8.72 (what the minimum wage would have been in 2008 under our proposal). Indirectly affected are those earning between \$8.72 and the smaller of \$9.72 or \$8.72 + (\$8.72 minus the state minimum at end of 2008). Due to rounding error, some numbers will not sum to 100%.

SOURCE: 2008 CPS ORG.

MORE PRODUCTIVE, BETTER EDUCATED, PAID LESS

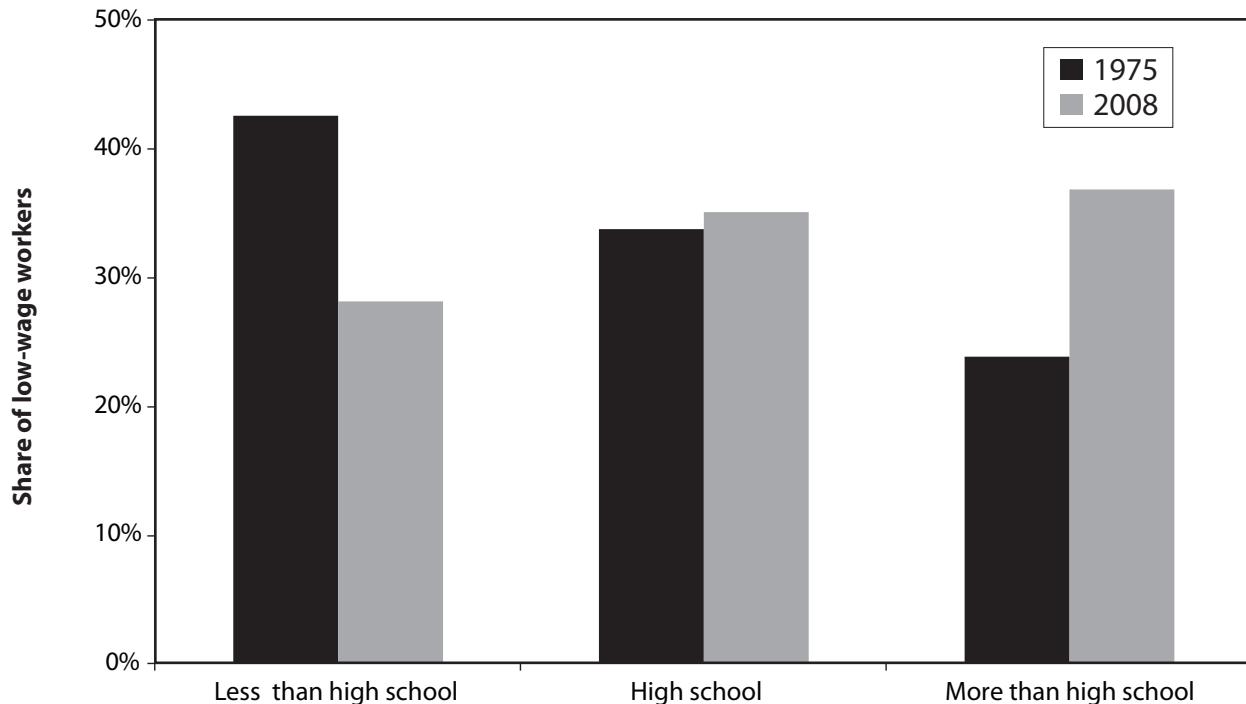
Today's labor force is more productive than ever in terms of the average amount of goods and services produced in an hour. From 1968 to 2008, the productivity of workers in the United States grew by 112%, translating into an average increase in the amount produced per hour of 1.9% yearly for the last 40 years. Higher productivity should translate into higher wages, yet workers' paychecks have not kept pace with their capacity to produce: the real average wage of production workers grew by only 0.2% per year on average over this period.

The situation has been even more dire for minimum wage workers, whose real wages declined by 0.9% per year on average over this period, even as they have become more productive and more educated over time.

Improved training is correlated with higher productivity. Even as the value of the minimum wage declined during and since the 1970s, low-wage workers have been enhancing their educational credentials. In 1979, 43% of low-wage workers (those earning 50% of average wages or less) hadn't finished high school; in 2008 that was true of only 23% (**Figure E**). Only about a quarter (22%) had any education above high school in 1979, compared to nearly twice as many (40%) in 2008. But neither increased productivity nor more education has managed to stem the decline in wages.

FIGURE E

Rising education levels of low-wage workers



SOURCE: EPI analysis of 2008 Current Population Survey.

The minimum wage and income growth for low-income families

As the value of the minimum wage has fallen, families at the bottom end of the income distribution have seen their incomes stagnate. As **Figure F** illustrates, from 1948 to 1973 (these years were selected because they are the closest business cycle peaks bracketing the period when the minimum wage was around 50% of average wages), the average real family income of the bottom 20% of the income distribution grew at an average annual rate of 3.4% per year, compared to 3.0% for the middle 20% and 2.8% for the top 20%. In other words, during this period low-income families saw substantial real increases in their incomes. By comparison, from 1973 to 2007 (the business cycle peaks bracketing the period of erosion of the minimum wage), the average real family income of the bottom 20% of the income distribution was basically flat; it grew at an average annual rate of 0.1% per year, in contrast to the 0.6% annual income growth of the middle 20% and the 1.4% growth enjoyed by the top 20%. While all quintiles of the income distribution saw

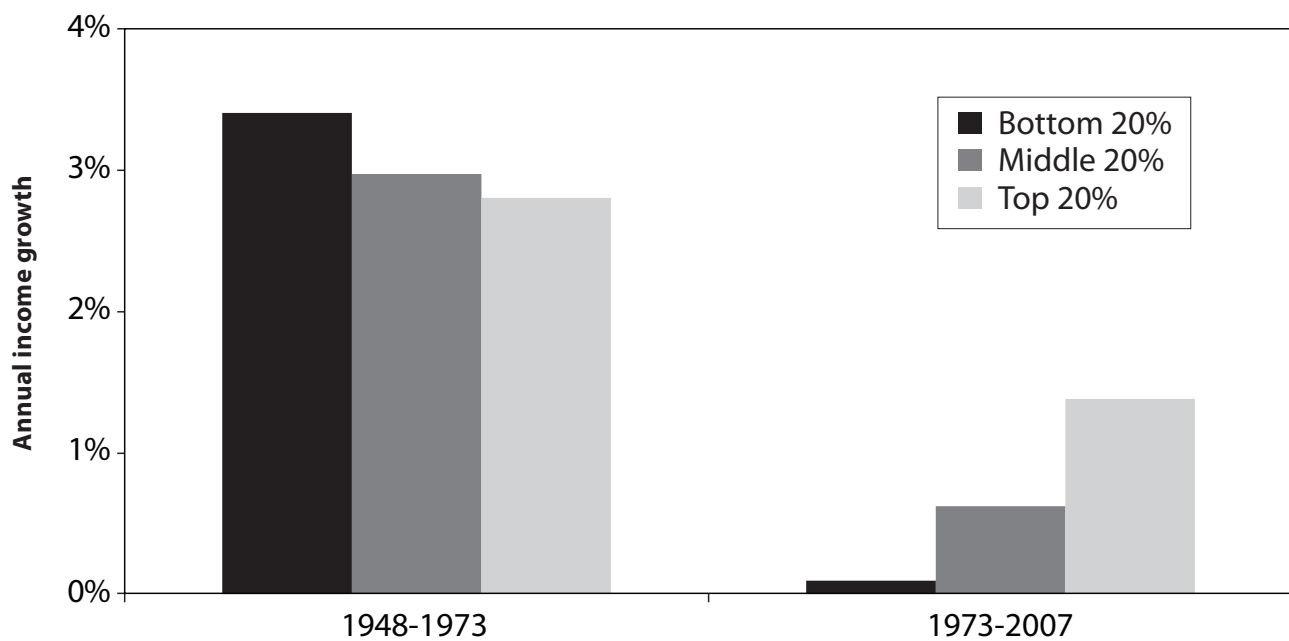
slower growth in the later period, the change in the *relative* growth rates is stark: when the minimum wage was strong, from 1948 to 1973, families at the low end of the income distribution saw their incomes grow at a rate that actually exceeded the rate at the middle and upper end of the income distribution; as the minimum wage eroded, low-income families saw their growth rates fall far behind those of higher-income families. As the minimum wage has eroded, so have the chances of low-income families to share in the economic growth of the country.

The minimum wage and wage inequality

A good way to measure economic inequality is to look at the ratio of the wages of top earners to the wages of those at the bottom. If the top starts to pull away, then inequality is growing. In 1973, the 90/10 wage ratio, which compares workers at the 90th percentile of the wage distribution (high wage) to those at the 10th percentile of the wage distribution (low wage), was 3.7 to 1; by 2007 it had risen to 4.6 to 1. The increase has not

FIGURE F

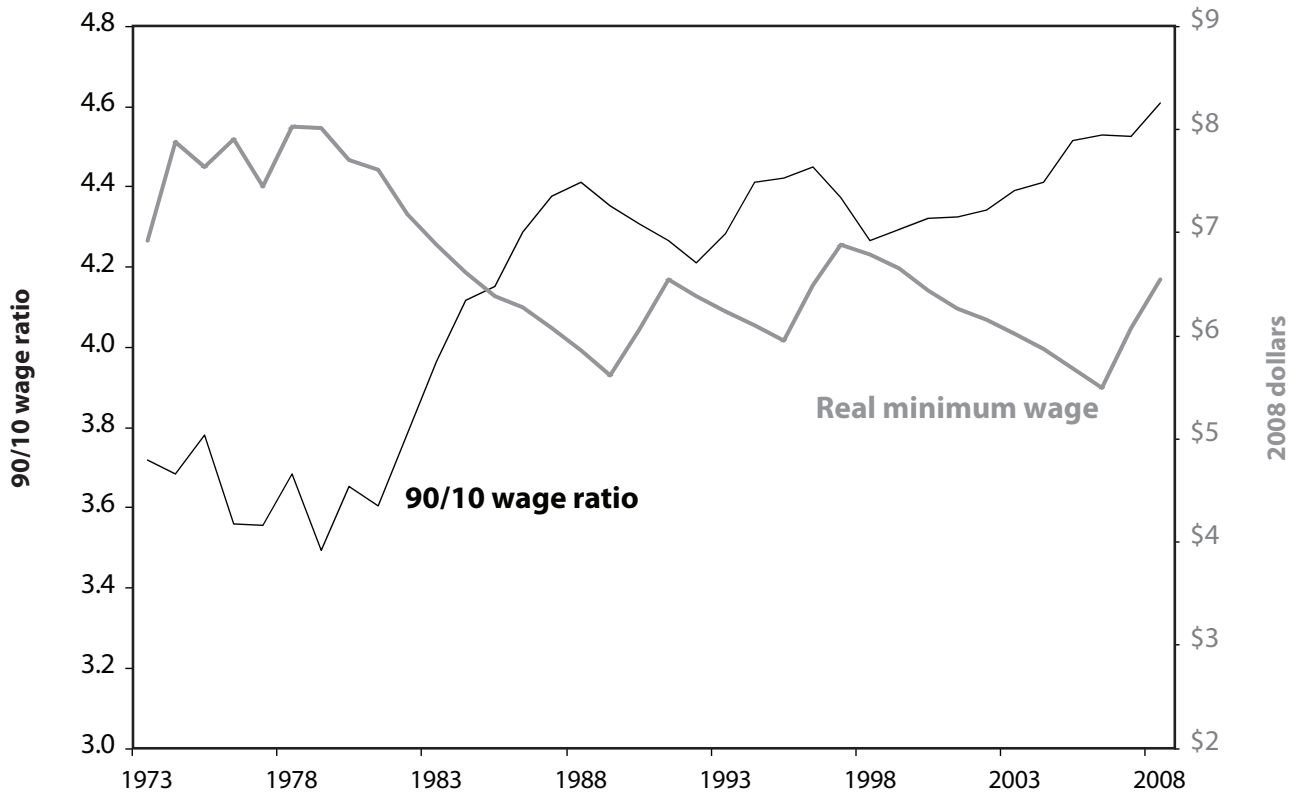
Average annual family income growth for bottom, middle, and top quintiles, 1948-2007



SOURCE: EPI analysis of U.S. Census Bureau data.

FIGURE G

The real minimum wage and 90/10 wage ratio, 1973-2008



SOURCE: EPI analysis of 2008 Current Population Survey.

been steady over this period, and fluctuations have coincided with fluctuations in the real value of the minimum wage, as illustrated by the opposite direction of the two trends shown in **Figure G**. Particularly during the 1980s, when the minimum wage eroded dramatically, low-wage workers lost wage status relative to high-wage workers.

Research on wage inequality (see, for example, Autor et al. 2008) attributes much of the increase in inequality in the 1980s to the decline during that period in the real value of the minimum wage. By the 1990s, the minimum wage had declined so far that it covered only a small percent of the labor force and so played a less important role in the overall wage distribution. Furthermore, most of the increase in inequality in the 1990s and 2000s occurred in the upper part of the wage distribution, i.e., wages of workers at the top pulled away from the wages of workers in the middle. These workers are unaffected by changes in the minimum wage, and therefore the minimum wage is not a plausible explanation for increasing

wage inequality over this period. Appendix C covers this issue in more depth.

An important point underscored by this analysis is that, for the minimum wage to have an effect on wage inequality, it must cover a non-trivial portion of the labor market. As Table 2 shows, roughly 18% of the labor force will be directly or indirectly affected by an increase in the minimum wage to 50% of average wages. A minimum wage affecting this significant share of the workforce will restore its ability to play a role in reducing wage inequality.

Can we afford a minimum wage pegged to average wages?

A minimum wage at 50% of average wages is consistent with strong employment growth and broadly shared prosperity

A comparison of two very different periods—the 1960s and the 2000s—illuminates this issue. **Table 4** presents a variety of economic indicators for the 1960-69 business

TABLE 4

Employment, productivity, and the value of the minimum wage, 1960s and 2000s

	Average minimum wage as a percent of average wages	Average annual employment growth	Average annual productivity growth	Average annual real median family income growth	Average annual real 20th percentile family income growth
1960-69	47.8%	2.9%	2.8%	3.6%	4.3%
2000-07	33.6	0.6	2.6	0.1	-0.5

SOURCE: EPI analysis of BLS and Census Bureau data.

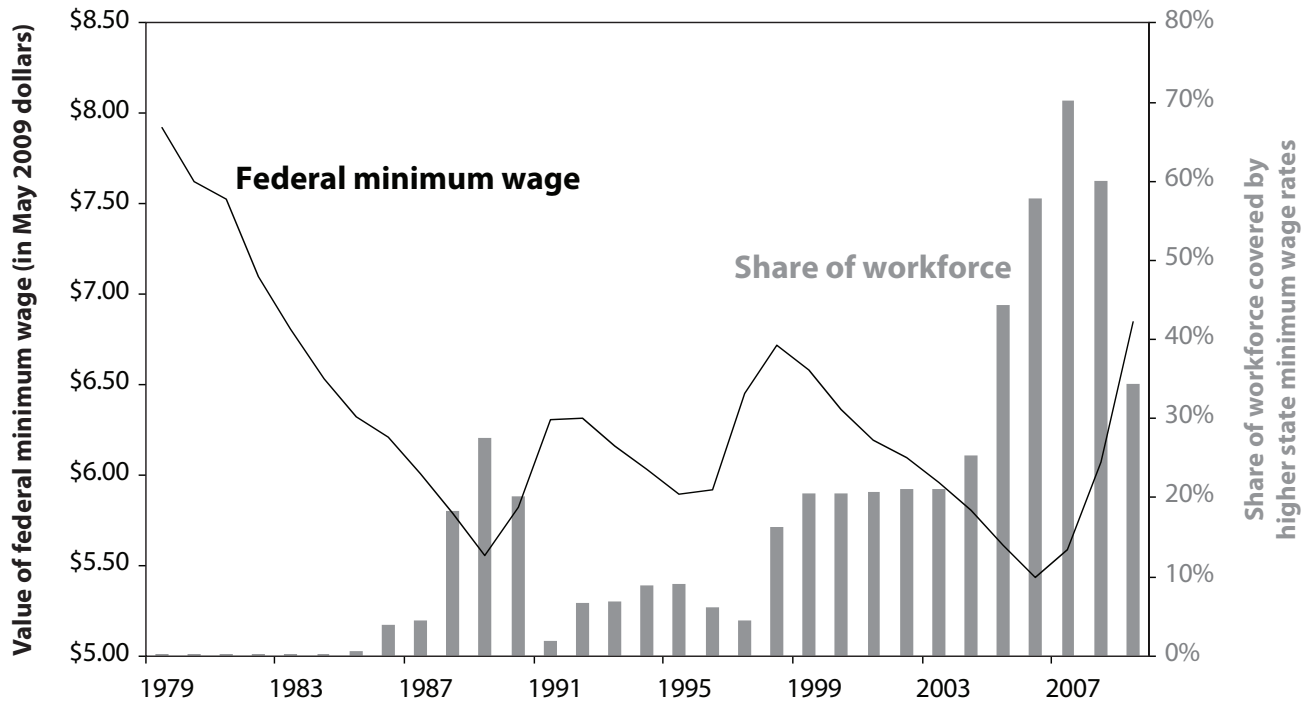
cycle and the 2000-07 cycle. In the 1960s, when the minimum wage was close to 50% of average wages (it averaged 47.8% of average wages over the period), employment and the economy grew strongly, and economic growth reached down the income distribution. By contrast, in the 2000s, when the minimum wage averaged just 33.6% of average wages, employment growth was weak and relatively strong productivity growth did not reach down the income scale. Low-income families lost ground.

It is time for the federal government to re-emerge as a minimum wage leader

By allowing the minimum wage to languish over two generations, Washington has effectively ceded to the states the good sense to shore up the living standards of the American workforce. Today 14 states and the District of Columbia, together home to 34% of the U.S. workforce, have minimum wages greater than the federal minimum wage. Another four states covering an additional 10% of

FIGURE H

Value of federal minimum wage compared to share of workforce covered by higher state minimum wages, 1979-2009



SOURCE: EPI analysis of U.S. Department of Labor data. Where the minimum wage increased each year, a weighted average of the new and old minimum wage was used.

the workforce have either legislated future increases or have inflation adjustments that will eventually push their minimum wage above the federal level (see Table A2 in Appendix A).

Figure H shows the real value of the minimum wage along with the share of the workforce that resides in states with higher state minimums. In 2007, when the first increase in the federal minimum wage in 10 years took effect, 70% of the labor force was covered by a higher state minimum wage. Today, under the federal system for establishing a wage floor, 34% of the workforce, soon to be 44%, and later, if history repeats itself, perhaps 70% or more, will live in a state whose lawmakers have demonstrated to Congress and the White House what it means to adhere to the goals of the Fair Labor Standards Act. It's time for the federal government to re-emerge as a leader in establishing a minimum wage that guarantees decent living standards.

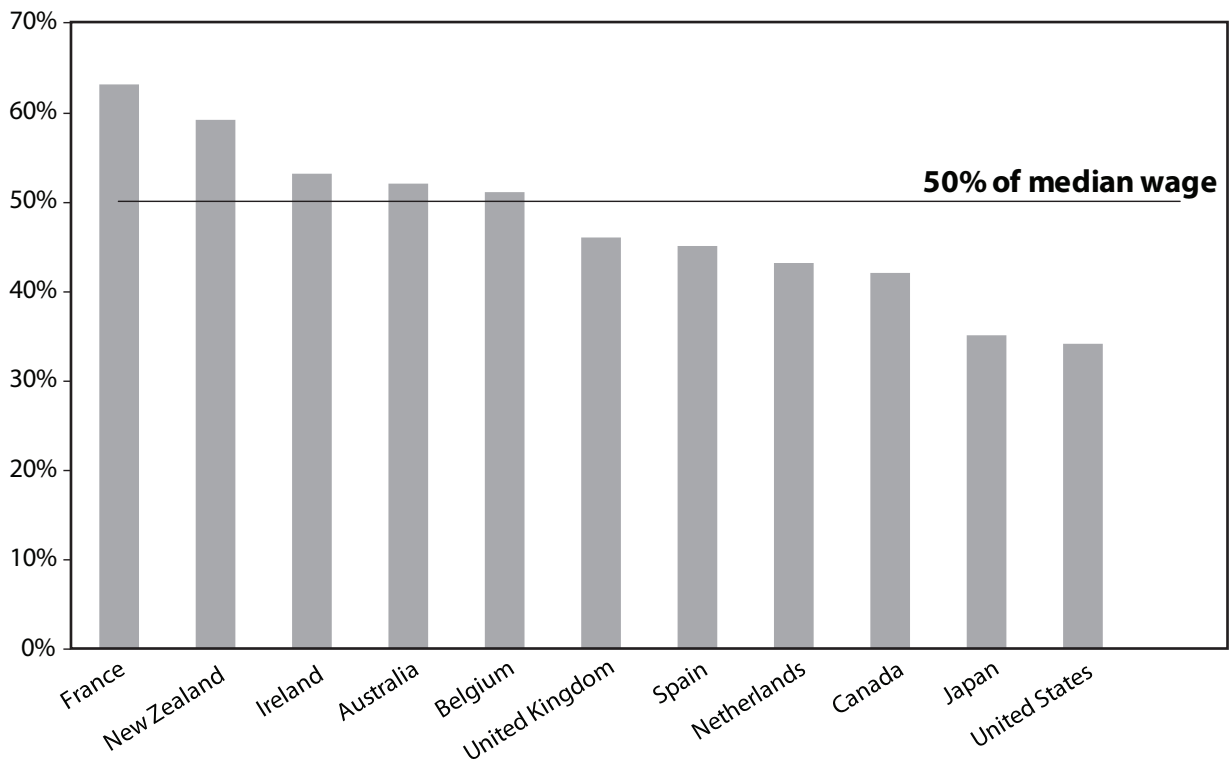
The U.S. is last among its peers

Other industrialized countries have successfully used the minimum wage as a means to raise living standards for low-skilled workers and make work pay. Twenty-two of the 30 countries in the Organization for Economic Cooperation and Development (OECD) have a statutory minimum wage, and the eight countries without one—Germany, Italy, Austria, Switzerland, and the Scandinavian countries—have highly regulated labor markets in which individual sectors, covering most of the labor force, are governed by collectively bargained minimum wages.

As of 2008, the United States had the lowest ratio of the minimum wage to the median wage of any OECD country with a statutory minimum.² **Figure I** shows the ratio for the United States and the 10 other wealthiest countries (as measured by income per capita) that also have more than a few million people. A minimum wage in the United States at 50% of the average wage would place the United States

FIGURE I

International comparisons of ratio of minimum wage to median wage, 2008



SOURCE: OECD 2008.

firmly in the middle of the pack of this group of peer countries, hardly a competitive disadvantage.

Conclusion

Since its inception during the Great Depression, the minimum wage has provided an essential labor market protection for this country's lowest-paid workers. However, the erosion of its real value over the last four decades has reduced its effectiveness as a tool for rewarding work and reducing poverty. A minimum wage set at 50% of the average production worker wage simply restores it to where it was 40 years ago, and allows it to once again

help lift the living standards of working families and reconnect their economic fortunes to those of the rest of America's workforce.

Further, indexing the minimum wage to average wages is the surest way to ensure that the minimum wage maintains its value relative to the overall wage structure moving forward. It will help to reverse the trends toward increasing inequality and to restore income growth for millions of working families. These new steps for the minimum wage are a crucial component in the effort to ensure that the benefits of economic growth are shared broadly across the workforce.

EPI is grateful to Steve Silberstein for his generous support of this research.

Appendix A: The minimum wage and the states

TABLE A 1

Workers affected by minimum wage increase, by state

	Directly affected	Indirectly affected	Total affected	Total workforce
UNITED STATES	15,868,450	7,011,476	22,879,925	129,113,150
NORTHEAST				
<i>New England</i>				
Maine	66,158	30,957	97,115	573,065
New Hampshire	59,963	25,628	85,591	633,385
Vermont	23,843	15,939	39,782	283,057
Massachusetts	165,738	124,646	290,385	2,904,925
Rhode Island	53,706	24,064	77,770	470,074
Connecticut	125,125	68,846	193,971	1,620,897
<i>Middle Atlantic</i>				
New York	843,797	411,865	1,255,661	8,152,542
New Jersey	357,228	202,882	560,110	3,836,765
Pennsylvania	662,186	258,725	920,911	5,494,839
MIDWEST				
<i>East North Central</i>				
Ohio	706,284	300,776	1,007,061	5,038,379
Indiana	381,508	161,321	542,829	2,811,233
Illinois	696,649	296,048	992,697	5,651,369
Michigan	519,516	204,010	723,526	4,084,703
Wisconsin	357,148	117,077	474,225	2,636,609
<i>West North Central</i>				
Minnesota	261,069	100,526	361,596	2,423,764
Iowa	182,820	79,518	262,338	1,436,700
Missouri	390,590	134,770	525,360	2,539,977
North Dakota	46,320	21,338	67,657	307,197
South Dakota	53,251	22,880	76,131	367,969
Nebraska	114,090	57,758	171,848	838,152
Kansas	194,404	75,854	270,258	1,272,738

cont. on page 20

TABLE A1 (CONT.)

Workers affected by minimum wage increase, by state

	Directly affected	Indirectly affected	Total affected	Total workforce
SOUTH				
<i>South Atlantic</i>				
Delaware	40,184	18,441	58,625	390,055
Maryland	246,498	104,579	351,077	2,605,719
District of Columbia	15,963	6,253	22,216	288,023
Virginia	398,506	174,741	573,247	3,592,117
West Virginia	155,867	36,968	192,835	734,205
North Carolina	568,373	216,311	784,684	3,788,798
South Carolina	282,891	91,952	374,843	1,790,596
Georgia	482,449	223,837	706,287	4,076,452
Florida	861,279	469,918	1,331,197	7,546,500
<i>East South Central</i>				
Kentucky	277,551	107,034	384,585	1,699,937
Tennessee	354,258	177,175	531,433	2,529,405
Alabama	313,455	143,129	456,584	1,853,825
Mississippi	217,949	62,716	280,665	1,088,762
<i>West South Central</i>				
Arkansas	209,704	84,282	293,986	1,152,758
Louisiana	281,488	113,023	394,511	1,721,420
Oklahoma	258,070	87,469	345,539	1,527,575
Texas	1,723,284	662,575	2,385,859	9,961,342
WEST				
<i>Mountain</i>				
Montana	53,539	28,775	82,315	388,426
Idaho	93,315	40,044	133,359	599,359
Wyoming	33,699	11,339	45,038	240,624
Colorado	195,780	85,778	281,558	2,247,293
New Mexico	110,371	52,827	163,198	803,736
Arizona	289,153	152,969	442,122	2,576,076
Utah	162,952	63,169	226,121	1,175,270
Nevada	119,325	70,346	189,671	1,191,873
<i>Pacific</i>				
Washington	207,777	71,364	279,141	2,905,080
Oregon	165,417	53,890	219,307	1,561,006
California	1,414,330	831,611	2,245,941	14,852,970
Alaska	17,696	11,313	29,009	288,196
Hawaii	55,932	22,219	78,151	557,415

SOURCE: EPI analysis of 2008 Current Population Survey data.

TABLE A 2

State minimum wages greater than the federal minimum wage

State	2009 state minimum wage	Planned 2010 state minimum wage
United States	\$7.25	\$7.25
<i>California</i>	8.00	8.00
<i>Colorado</i>	7.28	Inflation adjusted
<i>Connecticut</i>	8.00	8.25
<i>District of Columbia</i>	8.25	8.25
<i>Maine</i>	7.50	7.50
<i>Illinois</i>	8.00	8.25
<i>Massachusetts</i>	8.00	8.00
<i>Michigan</i>	7.40	7.40
<i>Nevada</i>	7.55	Inflation adjusted
<i>New Mexico</i>	7.50	7.50
<i>Ohio</i>	7.30	Inflation adjusted
<i>Oregon</i>	8.40	Inflation adjusted
<i>Rhode Island</i>	7.40	7.40
<i>Vermont</i>	8.06	Inflation adjusted
<i>Washington</i>	8.55	Inflation adjusted
State minimum wages at or below the federal minimum but indexed to inflation		
<i>Arizona</i>	\$7.25	Inflation adjusted
<i>Florida</i>	7.21*	Inflation adjusted
<i>Missouri</i>	7.25	Inflation adjusted
<i>Montana</i>	6.90*	Inflation adjusted

* Until inflation pushes the inflation-indexed minimum wages of Florida and Montana above the federal minimum wage of \$7.25, \$7.25 is the effective minimum wage in these two states, as it is in all 36 states that do not currently have a state minimum wage that is higher than the federal minimum wage.

SOURCE: EPI analysis of state minimum wage laws.

Appendix B. Benefits far outweigh costs under any scenario

A simple exercise underscores the fact that, because the employment effects of minimum wage increases, whether positive or negative, are small, the benefits to low-wage workers far exceed the costs *even if the worst-case estimates for jobs loss are correct.*

In this exercise, we calculate the total wages earned by workers earning 50% of average wages or less, both before and after an increase in the minimum wage to 50% of average wages, under various assumptions about the employment effects of the increase. Before the increase, the total wages earned by workers earning 50% of average wages or less is \$187 billion. If the employment effects are negligible, i.e., if all of these workers get a raise to 50% of average wages and continue working the same number of hours, the total wages earned by these workers would be \$211 billion, a 12.8% increase in the total wages going to these low-wage workers as a group.

But now, consider what happens under various predictions about employment effects. Most of the elasticities estimated in reasonable empirical studies range from -0.3 to 0.1. In other words, a 10% increase in the minimum

wage is estimated by academic experts to lead anywhere from a 3% decrease in employment to a 1% increase in employment. First consider the positive scenario, where factors like increased productivity, reduced turnover, and stimulus spending dominate any potential negative effects and the employment effect of the minimum wage increase is at the upper end of this range (that a 10% increase in the minimum wage leads to a 1% increase in employment). In that case, the total wages earned by directly affected workers would be \$214 billion, a 14.3% increase in the total wages going to these low-wage workers when both the minimum wage increase and an increase in total hours worked are factored in.

But now, assume the worst—that a 10% increase in the minimum wage leads to a 3.0% decrease in employment. Under this scenario, factoring in both the minimum wage increase and the most pessimistic predictions for a decrease in total hours worked, the total wages earned by directly affected workers would be \$203 billion, still an 8.3% increase in the total wages going to these low-wage workers as a group. In other words, even in the bleakest scenario, the benefits of an increase in the minimum wage to 50% of average wages far outweigh the costs to low-wage workers.

Appendix C. The minimum wage and wage inequality

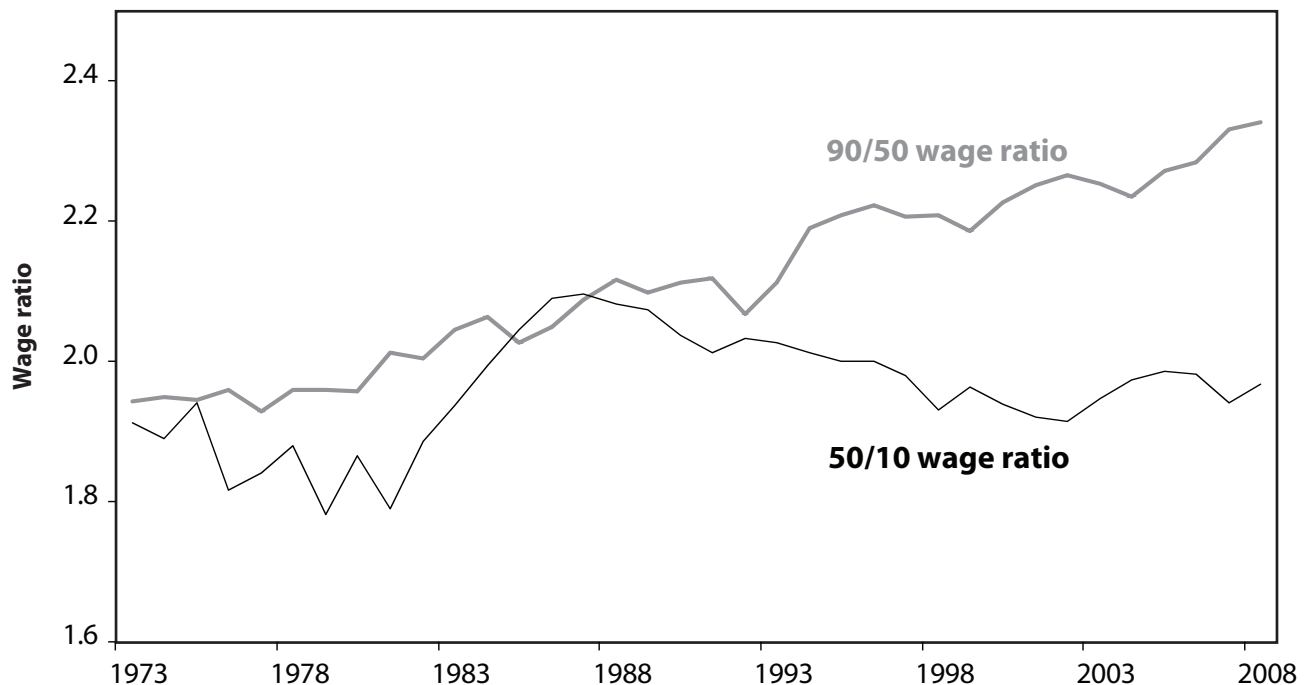
As mentioned in the text, research on wage inequality attributes much of the increase in inequality in the 1980s to the decline during that period in the real value of the minimum wage. After that period, the minimum wage declined so far that it covered only a small percent of the labor force and so played a less important role in the overall wage distribution. Furthermore, most of the increase in inequality in the 1990s and 2000s occurred in the “upper tail” of the wage distribution, i.e., among workers with wages above the median. These workers are unaffected by changes in the minimum wage, and therefore the minimum wage is not a plausible explanation for increasing wage inequality over this period.

To look at this issue more closely, **Figure C1** presents the 90/50 wage ratio, which shows how high-wage workers—workers at the 90th percentile of the wage distribution—fare compared to middle-wage workers—workers at the 50th percentile, or median, of the wage distribution.

Increases in the 90/50 wage ratio mean that high-wage workers are gaining relative to middle-wage workers, i.e., “upper tail” inequality is increasing. The figure also presents the 50/10 wage ratio, which shows how middle-wage workers fare compared to low-wage workers. Increases in the 50/10 wage ratio mean middle-wage workers are gaining relative to low-wage workers, i.e., “lower tail” inequality is increasing. It is with lower-tail inequality that we would expect the minimum wage to have an impact. The increase in the 50/10 wage ratio in the 1980s shows that lower-tail inequality grew substantially as the minimum wage eroded. After that period, when the minimum wage had declined to such an extent that it had little effect on the wage distribution, other factors took over as drivers of lower-tail inequality. In fact, due largely to sharply decreasing unemployment over the 1990s, lower-tail inequality actually decreased, though some of those gains eroded in the weak labor market of the 2000s. The steady upward climb of the 90/50 wage ratio shows that upper-tail inequality increased over the entire period.

FIGURE C1

Wage inequality



SOURCE: EPI analysis of Current Population Survey.

Endnotes

1. The Economic Policy Institute's basic family budget calculator can be accessed at http://www.epi.org/content/budget_calculator. For the technical documentation, see Bernstein and Lin (2008).
2. The OECD tracks standardized ratios of the minimum wage to the median wage in all 22 countries that have a statutory minimum. The average wage of nonsupervisory and production workers used in this paper is not the same as the median wage but, as mentioned above, it tracks the median wage series relatively well over time; thus, cross-country ratios of the minimum wage to the median wage provide a valuable comparison of the relative position of the minimum wage in the United States compared to other advanced industrialized nations.

References

- Aaronson, Daniel, Sumit Agarwal, and Eric French. 2008. *The Spending and Debt Response to Minimum Wage Hikes*. Working Paper 2007-23. Chicago, Ill.: Federal Reserve Bank of Chicago.
- Autor, David H., Lawrence F. Katz, and Melissa S. Kearney. 2008. Trends in U.S. wage inequality: Revising the revisionists. *Review of Economics and Statistics* 90(2): 300-23.
- Bernstein, Jared, and James Lin. 2008. "2008 Economic Policy Institute Family Budgets Technical Documentation." Washington, D.C.: Economic Policy Institute. http://www.epi.org/page/-/old/datazone/fambud/2008_epi_family_budgets_tech_doc.pdf
- Bernstein, Jared, and John Schmitt. 1998. *Making Work Pay: The Impact of the 1996-97 Minimum Wage Increase*. Washington, D.C.: Economic Policy Institute.
- Brown, Charles, Curtis Gilroy, and Andrew Kohen. 1982. The effect of the minimum wage on employment and unemployment. *Journal of Economic Literature* 20(2): 487-528.
- Burkhauser, Richard V., Kenneth A. Couch, and David C. Wittenberg. 2000. A reassessment of the new economics of the minimum wage literature with monthly data from the Current Population Survey. *Journal of Labor Economics* 18(4): 653-80.
- Card, David. 1992. Using regional variation in wages to measure the effects of the federal minimum wage. *Industrial and Labor Relations Review* 46(1): 22-37.
- Card, David, Lawrence F. Katz, and Alan B. Krueger. 1994. Comment on David Neumark and William Wascher, 'Employment effects of minimum and subminimum wages: Panel data on state minimum wage laws. *Industrial and Labor Relations Review* 47(3): 487-96.
- Card, David, and Alan B. Krueger. 1994. Minimum wages and employment: A case study of the fast food industry in New Jersey and Pennsylvania. *American Economic Review* 84(5): 772-93.
- Economic Policy Institute. 2006. "Hundreds of Economists Say: Raise the Minimum Wage." Letter. Washington, D.C.: EPI. http://epi.3cdn.net/88c6aac4ee16915866_ldm6iie11.pdf
- Filion, Kai. 2009. *A Stealthy Stimulus*. Issue Brief 255. Washington, D.C.: Economic Policy Institute.
- Katz, Lawrence F., and Alan B. Krueger. 1992. The effect of the minimum wage on the fast food industry. *Industrial and Labor Relations Review* 46(1): 6-21.
- Martin, John, and Herwig Immervoll. 2007. The minimum wage: Making it pay. *OECD Observer* No. 261 (May). Paris: Organization for Economic Cooperation and Development. <http://www.oecdobserver.org/news/fullstory.php/aid/2217/>
- National Employment Law Project. 2009. "Memorandum on Precedents for Indexing Labor Standards to Average Wages." Washington, D.C.: NELP, June. http://nelp.3cdn.net/e18f9a4abcc9148e19_psm6bh8js.pdf
- Neumark, David, and William Wascher. 1992. Employment effects of minimum and subminimum wages: Panel data on state minimum wage laws. *Industrial and Labor Relations Review* 46(1): 55-81.
- Neumark, David, and William Wascher. 2006. *Minimum Wages and Employment: A Review of Evidence From the New Minimum Wage Research*. Working Paper 12663. Cambridge, Mass.: National Bureau of Economic Research.
- Roosevelt, Franklin. 1938. "On Party Primaries." Radio address. Washington, D.C., June 24.
- Social Security Administration. 2008. "Annual Statistical Supplement to the Social Security Bulletin." Washington, D.C.: SSA.
- Wellington, Alison. 1991. Effects of the minimum wage on the employment status of youths: An update. *Journal of Human Resources* 26(1): 27-46.