The Broad Benefits of a Higher Minimum Wage: Interstate Impacts along Wage Contours

by Oren Levin Waldman

Between September 1997 and January 2007 the federal minimum wage remained at $5.15. When it was finally raised to $5.85 in 2007, legislators claimed their aim was to restore some of its purchasing power lost due to the price increases of the 1990s. However, the net effect of nearly a decade of an unchanged wage floor was that – even at the new $5.85 level – minimum-wage workers still earned 12 percent less inflation-adjusted pay than in 1997.[1] During the 1960s the real value of the minimum wage was sufficient to maintain a family of three above the federal poverty line. At least until 1979, the minimum wage continued to hover around the federal poverty line, but by 1989 it was only at 70.5 percent of the poverty line. Even following the 1990-91 increases (passed over the objections of then-President Bush) and the subsequent increases in 1996-97, the minimum wage remained below the poverty rate. As Figure 1 shows, its real purchasing power has continued to decline, in large measure because there is no mechanism in place for automatic adjustment.[2]

The 2007 legislation is a classic example of policymakers taking advantage of a window of opportunity following the 2006 midterm elections that swept Democrats back into power in the House of Representatives. Among their promises of swift legislative action in the new Congress' first 100 hours was the minimum wage. But the impetus for action really came from the states. In the 2006 midterm election, several states that had never had a state minimum wage passed them through public referenda. Well before that, a growing number of states had begun to increase their own minimum wages. To the extent that states have beaten the federal government to the punch, the new federal minimum wage will really have little impact. And yet, for an issue which most mainstream economists tell us is really inconsequential because so few actually earn the statutory minimum, it draws considerable political acrimony. We can only infer that the impacts are much wider ranging than predicted by standard economic models.

Critics, of course, maintain that the minimum wage is inefficient because it causes disemployment effects. They also claim it is poorly targeted because most minimum wage earners are not poor. But increasing evidence over the years has called into question the efficacy of the so-called conventional wisdom, otherwise known as the "neoclassical synthesis." On the contrary, new research suggests that there may be some larger macro economic benefits to the extent that the minimum wage bolsters wages at the bottom of the distribution and lessens wage inequality. Unexplored, however, is the extent to which the minimum wage might also serve

the interests of the broader middle class because a minimum wage increase is likely to affect the wages of those workers earning more than the minimum wage. That is, others may benefit if the effect of raising the statutory minimum wage is to force wage increases for those earning in "wage contours" above the legal minimum.

Higher minimum wages may not only have a broader reach, but also may have positive so-called welfare effects. In evaluating policy choices, economists often ask whether a policy change is "Pareto efficient." By this yardstick, a policy that provides assistance to some can be beneficial if it does not have a deleterious effect on the welfare of others. When economists speak about welfare effects they mean that an action designed to benefit one group cannot make either everybody else, or even another group, worse off. For policy to be Pareto-optimal it essentially has to be win-win. In other words, a policy that is zero-sum isn't Pareto-optimal. But what if overall welfare is enhanced because wage inequality has declined, in large measure because the wages of those at the bottom into the lower-middle class are no longer stagnant?[3]

In this article, I conduct statistical analysis with a large government data set, the Current Population Survey, to assess increases in the minimum in 2003–2006 in three states where minimum wages were increased. New York raised its minimum wage from $5.15 an hour to $6.00 an hour in 2005 and then again to $6.75 an hour in 2006. Connecticut, with the highest minimum wage, increased its minimum wage from $6.70 to $6.90 an hour in 2003, and then hiked it twice more to $7.10 an hour in 2004 and $7.40 an hour in 2006. I compare each of these with nearby Pennsylvania as a control, since that state has not adopted a minimum wage as of the time of this writing. I find that – contrary to the adverse consequences predicted by most economics textbooks – when constructing wage contours the minimum wage does have positive welfare effects. That is, the minimum wage has the potential to improve the overall well-being of the larger community.

Wages in Textbooks vs. Reality

According to the standard textbook account of the minimum wage, market clearing wages in competitive markets occur when the quantity of labor demanded by employers is exactly equal to the quantity of labor that workers are willing to supply. In such a market, there is no such thing as long-term unemployment because wages either rise or fall until the demand for labor is exactly equal to the supply of labor. At the wage at which demand equals supply, all those willing and able to work at that wage will be employed. More people willing to work results in a wage that falls further, thereby inducing firms to hire more workers, with the result being that the supply of labor once again equals the demand. Conversely, when firms are unable to hire as many workers as they would like, the wage rises to induce additional people to enter into the workforce until supply and demand are once again equal.

A legal minimum wage floor prevents the cost of labor from dropping below that minimum. When the minimum wage is higher than the equilibrium wage, fewer workers will be hired than are willing to work, with the result being unemployment. A policy that artificially raises wages to help some at the expense of others is simply inefficient, because an economy forced to lay off workers as a function of artificially inflated wages isn't

utilizing its full labor capacity. Each worker in a competitive market receives the value of his or her marginal revenue product – the amount of increase in the output revenue that results from an increase in a given unit of labor. Firms are said to typically use the marginal revenue product of labor as a criterion for determining how many more workers to hire because they are able to calculate how much more output can be expected based on how many labor units they add. As the cost of labor is increased (due to a mandated minimum wage above the market-clearing wage), firms hire fewer workers and employment drops. A minimum wage, then, benefits some – those who will be paid more money – at a cost to others – those who will either lose their jobs and/or not be able to find other jobs because employers do not believe their value to be worth the new minimum wage. Even if there is some outward appearance of benefit to be derived from an increase in the wage floor, there will invariably be a cost to be borne whether in the form of job loss, lost opportunity for jobs, lost benefits or increased output per man hour – the demand for higher productivity. In so doing, it violates Pareto optimality – a central tenet of welfare economics.[4]

The Pareto optimality standard holds social welfare to be achieved through efficiency, defined as the effective use of scarce resources. Nobody, it is assumed, can be made better off without making somebody else worse off. "Otherwise, if someone's welfare can be improved without harming someone else, the current situation is wasteful (inefficient) and scarce resources are not being utilized as effectively as they could be."[5] A minimum wage, if it is effective, does one of two things: either it results in lower employment or it results in higher productivity. The higher productivity only results because employers will have substituted labor-saving technology because the presumed investment costs of the technology is lower that the mandated higher labor costs.[6]

Most of the literature on employment consequences focuses on the teen labor market. According to this literature, raising the minimum wages results in disemployment effects among teenagers.[7] According to a much-cited federal Minimum Wage Study Commission report in 1981, a 10 percent increase in the minimum wage led to a 1-3 percent reduction in employment, especially among teenagers. Therefore, to the extent that the theoretical construct serves as the basis of the orthodoxy, this orthodoxy was long buttressed by the 1981 findings. When applied to competitive labor markets in the real world, however, the disemployment effects predicted by the model were quite variable. They depended on which segment of the labor market is being observed and the nature of the methodology being employed. The observed effects for the teen labor market, however, did not hold for adults. There, employment effects were found to be relatively small.[8]

These earlier conclusions, however, have been challenged by more recent findings. In studies of the fast food industry Card and Krueger found that higher minimum wages had no disemployment effect at all. On the contrary, employment in New Jersey restaurants was actually found to have risen after the state pay floor rose. They also found there to be no substitution effect, and even though the minimum wage increase did lead to price increases for meals, there was no evidence that prices rose faster in New Jersey stores that were most affected by the wage increase. Moreover, the minimum wage increase did not negatively affect the number of store

openings.[9]

The fast food industry, however is a monopsony to the extent that it is the principal employer of minimum wage workers, and therefore it is not representative of most industries. Because they are the only firms willing to employ minimum-wage workers, these workers have no other choice but to accept those low wages that they are offered. In a monopsony market, minimum wage increases may actually result in employment gains, largely because the market clearing wage is still below that of a perfectly competitive market. As an increase in the minimum wage is still likely to be less than the market-clearing wage of a perfectly competitive market, the minimum wage in a monopsony is likely to result in greater employment and efficiency because it will still be less than the equilibrium wage in a perfectly competitive market.[10] Kevin Lang and Shulamit Kahn even go so far as to suggest that higher minimum wages, contrary to the effects claimed by those who argue the youth disemployment effects, actually shift employment towards youth and students, especially in the fast food industry.[11]

Employment may also increase because employers engage in rescheduling. While wage increases will lower employment in the standard model, minimum wages in an alternative model can actually increase employment because the wage floor increases the relative costs of hours, in which case the employer has greater incentive to increase the mix of jobs relative to hours. The key point being that the wage rate is used to determine hours, as opposed to clearing the labor market. Therefore, the minimum wage can increase employment.[12] Employment can increase because the number of hours per worker may actually decline. As the cost of employing hours per workers increases, employers have greater incentive to reduce the work week and hire more workers. This is simply another form of substitution. Thomas Michl explored this rescheduling scenario by presenting a simple model of the demand for workers and weekly hours per worker in which wage increases in principle induce firms to hire more workers while simultaneously reducing the workweek. Using data from both Card and Krueger, and also from David Neumark and William Wascher, Michl has suggested that a case can be made that – to the extent that the New Jersey minimum wage increase had any impact on labor demand – it was to reduce the number of weekly hours per worker. Hours in New Jersey restaurants declined by around 6 percent or by about an hour and fifteen minutes per week.[13]

Even barring this type of substitution, Card and Krueger have not been alone with findings that challenge the existing orthodoxy. In two separate national studies of small business across industry type, Levin-Waldman found that most small businesses had not been affected by the last increase in the minimum wage (in July 1997). Moreover, most would not be affected were the minimum wage to be increased to $6.00 an hour and even $7.25 an hour, although at the latter the percentage of firms not affected would decrease. Even controlling for those businesses paying the minimum wage as their entry-level wage, over 60 percent indicted that they still would not be affected by an increase to $6.00 an hour. And of those who would be affected by an increase in the minimum wage, only 15.3 percent and 18.2 percent of businesses indicated that they would be forced to either lay workers off or reduce hours were the minimum wage increased to $6.00 and $7.25 respectively. Rather

among the options, hiring fewer total workers had the largest percentage of responses, with 47.2 percent and 42.7 percent indicating that they would hire fewer total workers were the minimum wage to be increased to $6.00 and $7.25 respectively. Employment consequences, in other words, would be felt by future workers; not by current ones.[14]

Welfare Benefits and New Thinking

More recent research suggests a direct link between rising income inequality and the deterioration of labor market institutions such as unions and the minimum wage.[15] Increasingly, it has come to be recognized that the rise in income inequality is as much a function of changes in wage-setting institutions and social norms. Researchers have found that when wage setting is centralized by institutions, there tends to be greater equality. So, deterioration in institutions has led to increases in inequality. Such institutions have included unions, minimum wage councils in Britain, and the statutory minimum wage in the U.S.[16] As the U.S., for instance, experienced a sharp ideological shift towards a preference for competitive market outcomes and solutions, this shift had direct effects on bargaining in the workplace.[17] Therefore, to the extent that the decline of these institutions may be a contributing factor in the rise of income inequality, the corollary might then also be true: that a strengthening of these institutions would result in less income inequality – or at least greater equality among the bottom tail of the distribution.

The corollary, of course, is that strengthening the minimum wage and other labor market institutions could have the benefit of bolstering wages, particularly those at the bottom of the distribution. Moreover, to the extent that macro welfare benefits may exist, minimum wage hikes could serve the interests of the middle class by potentially arresting wage stagnation through wage contour effects. The neoclassical model always assumed the minimum wage to be inefficient and hence bad public policy because it would result in disemployment and effectively hurt those who were intended to be helped. The inefficiency of this was only underscored by the smallness of the labor market actually earning the statutory minimum wage. But what the neoclassical model has failed to address is why a seemingly trivial issue should elicit the level of political opposition that it does. Small businesses claim that increases in the minimum wage only force them to pay others – those earning in intervals above them – higher wages.[18] In other words, the genuinely political opposition would appear to be alluding to the effects of wage contours.

Much of what we do know about wage contours has been theoretical. The classic model of the wage contour was developed by John Dunlop to explain how a firm's internal wage structure might be as much affected by external forces as internal ones. Wage contours were to be defined as a group of workers with similar characteristics working in similar industries and earning similar wages. And for each group there would be a group of rates surrounding a key rate, and these group rates would be affected by changes in the key rate. Within an industry, the key rate would essentially be defined as any rate serving as the reference point for that industry. Since key rates were specific to industries, they could also vary from industry to industry. Perhaps the

essential point of wage contour theory is that to the extent that certain wage rates serve as reference points for wages around them, there is nothing necessarily natural about wage rates. On the contrary, wage rates are determined more by institutions than the market place.[19]

William Spriggs and Bruce Klein note that many firms simply view the minimum wage as a reference point for what starting wages should be. Therefore, the minimum wage's greatest import is its function as a reference point for wages around it.[20] Similarly, David Gordon argued that a decline in the real value of the minimum wage would also affect those earning in between the point where the statutory minimum wage used to be and the point where it is at the end of the dip. An increase in the minimum wage, then, might lead to an upward pressure on wages because employers might be "pressured to pay more to their employees, even if they're not directly affected by the statutory increase, simply to ensure that they're able to continue hiring and employing the quality of workers they prefer."[21] The real importance of the minimum wage, then, lies in its impact on wages in the range from the statutory minimum to some point above.

More to the point, however, one could not even begin to measure more accurately the size of the minimum wage population unless the minimum wage was looked at in real terms rather than statutory terms. This, of course, would imply that as the statutory minimum wage increases, so too does the starting wage, thereby shifting upward the general wage structure. David Neumark, Mark Schweitzer and William Wascher. too acknowledge the so-called wage contour effects of the minimum wage, particularly for those earning immediately above the minimum wage. And yet, despite low-wage workers seeing their wages bumped up, they concluded that low-wage workers were worse off because they were hurt through a reduction in work hours.[22] Still, the fact remains: workers' wages fall into wage ranges or contours, and that a shift in one is going to result in a shift in others.

On the basis of decennial U.S. Census data for 1940-2000, Levin-Waldman argued that the effects of a minimum wage increase would generally be greater than commonly supposed because the population earning around the wage was actually substantially larger than usually supposed. Therefore, the effective minimum wage population would have to be defined as those earning around the minimum wage, i.e. wage contours. Wage institutions like unions and minimum wage laws did make a difference, particularly in explaining wage differentials between different regions of the country.[23] This also underscores that wage institutions like unions and the minimum wage also serve as key rates of change in particular wage contours, and that the focus on only those earning the statutory minimum is simply too narrow to make a determination regarding the utility of the minimum wage as a policy tool for both assisting low-wage workers and potentially narrowing the wage gap between the bottom and the top. Looking at state minimum wages from 1960 to 2000, Thomas Volscho estimated that each $0.81 increase in the minimum wage would result in a 35.5 percent ceteris paribus reduction in the Gini coefficient. Moreover, state wages on average had the effect of reducing the degree of income concentration in the top quintile, thereby lending support to the "ripple effect," or what we might otherwise refer to as wage contours.[24] In the remainder of the paper, I test the effects of state minimum wage increases on

wage contours.

Minimum Wage Earners

     Data for this study is drawn from the Census Bureau's IPUMS Current Population Survey for 2004-2007. Each file measures the year preceding it. Therefore, I am looking at the calendar years 2003-2006. Because my primary focus is those workers earning around the minimum wage, I only look at those actively engaged in the labor force. In each year I then divide the low-wage population into three contours, which range from the statutory minimum wage to 25 percent above the statutory minimum wage in each state. Successive contours pick up where the preceding contour left off and ranges to 25 percent above. The sum total is that those earning in the first three contours above the statutory minimum wage are earning up to roughly 91 percent above the statutory minimum wage in their respective states. When attempting to measure how many people are earning the statutory minimum wage, the data produces no measure at all, as if though nobody at all earns the statutory minimum wage. And yet, when a contour is constructed around the statutory minimum wage – the first contour – the data produces a significant measure.

     Generally more than 4 percent of the labor market earns in the first contour. When the second and third are added to the first, the percentage of the labor force earning up to 91 percent over the statutory minimum wage hovers around 16-17 percent. In all years when the federal minimum wage is just $5.15 an hour, the median wage for the first contour is around $5.77 an hour, which for all intents and purposes could be defined as the "effective" minimum wage. A raise in state statutory minimum wages can be expected to raise the median wage of the first contour. But as Table 1 shows, following state increases, the median wages in the second and third contours also rose. And although for the purposes of this paper I only focus on the first three contours, there may perhaps be reason to speculate that the effects extend beyond

     As Table 1 makes clear, between 2003 and 2006 when there was no increase in the federal minimum wage, the median wage in all three contours remained the same. This was also true for Pennsylvania where there also was no corresponding increase in the state's minimum wage. And yet, it becomes clear that when the minimum wage was increased in both New York and New Jersey, the median wages in all three contours rose. New York first hiked the state minimum wage in 2005, then raised it again in 2006. In both cases the median hourly wages in all three contours rose. Similarly, New Jersey increased its minimum wage in 2006, and again the median hourly wages in all three contours increased. In Connecticut where modest scheduled increases occurred in 2003, 2004 and 2006, there were again increases in the median hourly wages, but particularly so at the bottom of the distribution – what we could simply refer to as the "effective minimum wage population." Looking at the share of the labor market in each contour, particularly the first, it appears that following big increases, especially in New York in 2005 and New Jersey in 2006, the share of the labor force earning "effective" minimum wage was actually larger. This may suggest supply-side effects – that a higher minimum wage, and one that keeps up with inflation, may attract more people into the labor market.

Table 1 also suggests that effective minimum wage earners are not "primary" earners given that they are living in households where income may be at least three times as much and more. And yet, it would be a far cry to claim, as much of the conventional wisdom does, that their income is not essential to their household's maintenance. A household income of $42,000 to $46,000 in New York State really does not go terribly far, especially in New York City. Moreover, a look at selected demographics for just the first contour (the effective minimum wage population) calls into question the conventional refrain of critics that most minimum wage earners are simply teenagers.

The largest percentage of effective minimum wage earners fall into the 25-44 age range, particularly in New York. Intuitively one might expect these workers to by and large have less than a high school education, but the data actually shows that the greatest number do have a high school degree. Interestingly, a large percentage of effective minimum wage earners are immigrants, and this is especially so in New York and New Jersey. Although the percentage of foreigners earning effective minimum wage is higher in Connecticut than in Pennsylvania and the U.S. overall, it is not nearly as high as in New York or New Jersey. The majority of these workers are women, which may speak to their status as secondary earners in their households. That most effective minimum wage earners are adult women runs counter to opponents' claims that the minimum-wage workforce is dominated by teenagers who use their pay for nonessentials. Given the range of household incomes that these women workers find themselves in, it is hard to believe that their households could be as comfortable without their so-called secondary incomes.

The common popular image of the typical minimum wage earner is a retail trade employee in fast food type restaurants or convenience stores. While there are large percentages working in drug stores and eateries, the largest share appear to work in professional and related industries. And while many are clerical workers, the largest percentage appear to be non-household service workers. This is consistent with the finding of a high proportion working in professional and related industries.

The key issues, however, are the impact of increases in the minimum on unemployment and whether there are larger macro economic welfare benefits. In terms of unemployment, there is no way to be sure whether these increases might have been in any way responsible for disemployment effects. By the conventional wisdom, one might expect unemployment to increase, specifically among the effective minimum wage contour. But here the percentages actually vary. Connecticut in 2003, had both the highest state minimum wage and the lowest unemployment rate. And yet, following Connecticut's 2.9 percent increase in its minimum wage (from $6.90 an hour to $7.10 an hour) unemployment almost doubled among this contour, from 4.9 to 8.9 percent. Meanwhile, the unemployment rates in the other states dropped. Nevertheless, it cannot be established from this data that the rise in the unemployment rate among this contour was due to the higher wage floor. It might be tempting to infer as much because the unemployment rate among this contour actually dropped in 2005 when there was no minimum wage hike, then rose again in 2006 when there was. But the real interesting stories are in New York and New Jersey. Following New York's minimum wage increase from $5.15 to $6.00 an hour in

2005 the unemployment rate among this contour actually rose 6 percent (from 5.0 to 5.3 percent). But following its subsequent increase from $6.00 to $6.75 an hour in 2006, the unemployment rate actually dropped by a steep 49 percent (from 5.3 percent to 2.7 percent). And in New Jersey, where the state's minimum wage increased to $6.15 an hour in 2006, the unemployment rate among this contour dropped 12.7 percent (from 5.5 percent to 4.8 percent). Unlike Connecticut's small percentage phased increases over several years, these were legislated increases –radical responses to the moment – that meant that earners in this contour were receiving substantial increases.

If the so-called radical increases had no effect, the conventional wisdom would argue that it was because the new minimum wage rates were still considerably below market-clearing wages. But raising the minimum wage beyond a certain point – the tipping point – could have adverse consequences.[25] Intuitively, especially given the language of tipping points, one would expect that following large percentage increases in the minimum wage there could be an increase in unemployment because of some disemployment effect. Meanwhile, in 2005–2006 in the U.S. overall and Pennsylvania in particular, where there were no minimum wage increases, unemployment rates among this contour slightly rose.

Given that in some cases unemployment rose and in others it declined, it cannot be stated with any certainty that there are employment consequences, adverse or otherwise. What the data does not measure are changes in the economic climate that might have a greater impact on employment than wage rates. The effects on employment, however, can be tested.

Statistical Analysis

To test whether there are adverse employment consequences due to minimum wage increases in each contour. The logit regression analysis used here essentially tests the probability that certain explanatory factors are more likely than others to have an independent effect on the likelihood of unemployment. Each variable is set to a value of either 1 or 0. The minimum wage variable is set to a value of 1 in each contour if it exceeds the median hourly wage of that contour in a given year, but otherwise it is set to 0. The analysis is only for those years that the minimum wage was increased in a given state. The question is which factors are more likely to result in an individual being unemployed. Given that, it made sense to test the effects of having low educational attainment, i.e. a 12th-grade education with no diploma or less. But it also made sense to test for the effects of gender and race, as well as to control for industry of employment. These controls allow one to net out the possible impacts on unemployment caused not by the minimum wage itself, but rather by the cyclicality of retail jobs (where there are more likely to be concentrations of "effective" minimum wage earners) compared to manufacturing and other industries less likely to have many such workers. I also tested for the effects of being in specific age cohorts, both the 18–24 and the 25–34 age cohorts, with the following question in mind: "Are younger workers more vulnerable to losing their jobs than older ones?" Lastly, because New York and New Jersey in particular have high concentrations of immigrants, I tested for the effects of being foreign born, on the

assumption that they might be more vulnerable to losing their jobs.[26]

My findings here reveal a consistent, statistically significant and very strongly negative association between higher minimum wages and the likelihood of unemployment. That is, those earning an hourly wage above the median in their contour were less likely to be unemployed. And in some cases the negative effect was even stronger as one moved from the first contour to the second and even into the third. Only in New Jersey in 2006 did the negative effect weaken slightly, but started out very strongly negative in the first. The variables that had the strongest effects for being unemployed were: having less than a high school degree and being African American. Also being in the 18–24 age cohort in Connecticut in 2004 (at least through the first two contours) and in both New York and New Jersey throughout the three contours in 2006 had strong effects for being unemployed. Of course, we don't know whether they are more likely to be unemployed because they were laid off or because they were voluntary job leavers who simply did not care to remain in their particular jobs for whatever reasons. However, in only two instances, in Connecticut's first contour in 2003 and in New York's second contour in 2005, did being in the 25-34 age cohort have a positive effect for being unemployed that was statistically significant. Industry impacts varied, but generally were either not statistically significant or, when significant, were strongly negative. Although on the basis of Table 2 we are likely to see "effective" minimum wage earners in certain industries, that is not likely to determine whether one will wind up being unemployed. Rather, certain variables, like low educational attainment, and being in the 18–24 age cohort are more closely associated with unemployment. However, wage rates do not appear to be. Therefore, the statistical analysis suggests that a wage higher than the median is not likely to be associated with a disemployment effect. Those who lacked education, were black and were in the 18–24 age cohort were more likely to be unemployed. Of course, this says nothing about why they are more likely to be unemployed.

Wage Inequality Impacts

If recent minimum wage increases have had no obvious adverse employment consequences, opportunities might then exist to experiment with the minimum wage as a policy tool intended to achieve other societal objectives.[27] But what about the impact of these state minimum wage increases on wage inequality? Tables 4 and 5 show the ratios of the top fifth of the income distribution to the first contour. Table 4 shows the median wages and Table 5 shows the mean wages. On the basis of mean wages, there is greater wage inequality, but both nonetheless suggests that there may be some benefits in terms of reduced wage inequality.

Inequality will generally be lower when the growth in income at the bottom of the distribution is relatively greater than the growth in income at the top of the distribution.[28] When looking at median wage comparisons to mean wage comparisons, there are a couple of different interpretations. But a plausible case can be made on the basis of both that wage inequality has generally been lower following minimum wage increases, although in varying degrees. On the basis of median wage comparisons, Connecticut where there has consistently been a higher minimum wage than elsewhere, there has tended to be lower wage inequality at least

prior to these states' minimum wage increases, and for the exception of New Jersey in 2006 it was still lower than in the other states. Between 2003 and 2006, where wage inequality rose by 10.5 percent in the U.S. and by 5.6 percent in Connecticut, it dropped by 10.7 percent in New York and by 15.9 percent in New Jersey following their respective increases.

On the basis of mean wage comparisons, wage inequality dropped by 9.3 percent in New York following its two increases and by 4.9 percent in New Jersey. Meanwhile, wage inequality rose by 13.7 percent in the U.S. and by 12.9 percent in Connecticut. Although inequality did drop in Pennsylvania, both in terms of mean and median wages, where there was no increase in the minimum wage, the decrease was significantly less than in both New York and New Jersey where significant increases occurred. In Connecticut wage inequality gradually increases both in terms of median wages and mean wages. This observation would suggest that for the minimum wage to have a wage inequality reducing effect, it must be used as a blunt instrument to raise the wages of those at the bottom. But this may not be the best means of protecting low-wage workers from the type of inflation that will erode the value of their wages. Rather, to protect against eroding value, the best approach might be to adopt a schedule similar to Connecticut's. Although the wages of those at the top of the distribution might continue to rise at a higher percentage rate than the wages of those at the bottom, the bottom still continues to receive increases. In the end, this may be less disruptive to the economy overall.

Conclusion

On the basis of this analysis, a case can be made that the minimum wage may achieve a measure of Pareto optimality. Wage inequality appears to be reduced and unemployment does not appear to be increased as a result of higher wage floors. More importantly, minimum wage increases do appear to have contour effects. While the conventional wisdom might be inclined to view them as inflationary, an argument could also be made that we are forced to reconceive how we view the minimum wage. To the extent that there are wage contour effects, the minimum wage may reclaim its original status as a labor-management issue. Moreover, it also becomes very much a middle class issue. Therefore, insofar as there may be wage contour effects, it should be viewed positively as opposed to negatively. Increasing the minimum wage shouldn't be about helping the poor per se, but about shoring up the middle class. When the minimum wage population is constructed as an "effective" minimum wage population rather than the statutory minimum wage population, it stands to reason that those who derive benefits from increases to the statutory minimum wage through wage contour effects will be much greater. By thinking in terms of wage contours, the minimum wage can effectively be redefined as a middle class issue, whose political impact is distributive as opposed to either regulatory or redistributive.[29] Moreover, it might just enable us to enhance the nature of the debate. Jerold Waltman, for instance, argues that the problem with the current minimum wage debate is that it has been suffused with the traditional politics of individualism, and consequently has lost touch with what he refers to as the political economy of citizenship which draws on the civic republican tradition. At the center of the debate would be what is constitutive of the

Figure 1: Real Value of Minimum Wage in 2008 Dollars
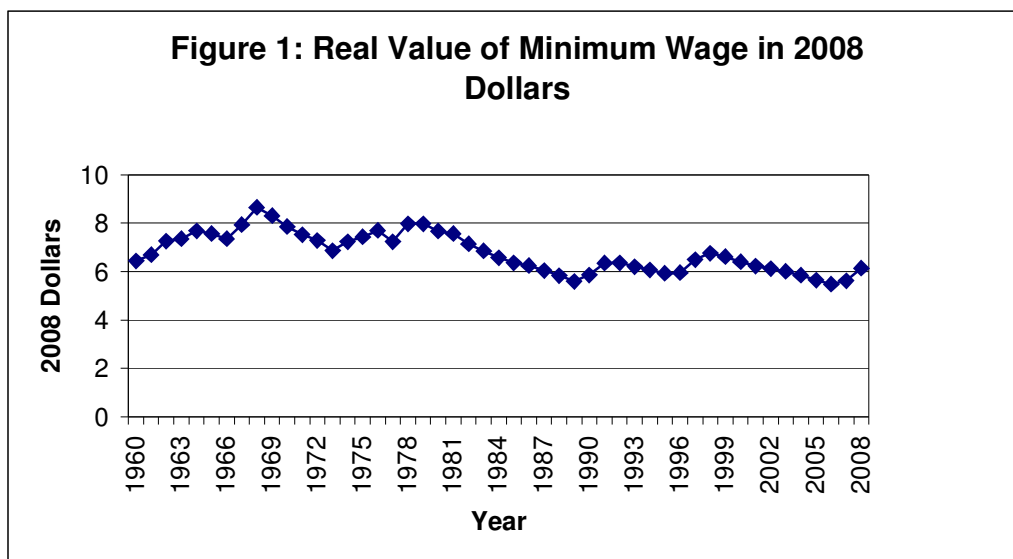
public interest, which would also place the social value of work and how it relates to citizenship on the public agenda. As a political community, we would be forced to a address the political implications of inequality, because civic republicanism creates a number of places where citizens meet as equals, unaffected by money or status.[30]

Research demonstrating that employment consequences as predicted by the traditional economic textbook model are overstated certainly opens the door to other areas of exploration with regards to the minimum wage. And it may well be the first step towards achieving Waltman's ideal. A minimum wage that has a macro-economic welfare benefit of reducing wage inequality is one that can also serve the goal of achieving a more equitable society, even if only through small steps.

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Table 1. Comparative Median Individual and Household Income by Contour

	U.S			New York			New Jersey			Connecticut			Pennsylvania		
	1st	2nd	3rd	1s	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
2003															
Median Hourly	$5.77	$7.21	$9.12	$5.77	$7.21	$9.10	$5.77	$7.21	$9.13	$7.50	$9.61	$12.23	$5.77	$7.21	$9.13
Median Household	$39000	$40535	$44028	$42000	$46578	$44272	$43116	$53001	$53720	$50034	$60000	$63842	$44265	$43000	$50620
2004															
Median Hourly	$5.77	$7.21	$9.13	$5.77	$7.21	$9.13	$5.77	$7.21	$9.13	$7.69	$9.62	$12.50	$5.77	$7.21	$9.13
Median Household	$40000	$42615	$46639	$42000	$40960	$46084	$48939	$46000	$53000	$48939	$51078	$58210	$49010	$43330	$49000
2005															
Median Hourly	$5.77	$7.21	$9.13	$7.05	$8.57	$10.33	$5.77	$7.21	$9.19	$7.69	$9.61	$12.01	$5.77	$7.21	$9.37
Median Household	$41292	$43000	$46209	$41376	$38883	$53534	$55630	$49460	$62449	$49040	$57950	$64672	$49873	$55000	$48248
2006															
Median Hourly	$5.77	$7.21	$9.13	$7.21	$9.61	$12.01	$7.21	$8.65	$10.58	$8.41	$10.58	$13.46	$5.77	$7.21	$9.13
Median Household	$44333	$45000	$46649	$46100	$43000	$52192	$49215	$55600	$67242	$59512	$56085	$68050	$47642	$55025	$50000

Share of Labor Market Earning in Each Contour (Percentage)

2003	4.3	5.4	7.5	4.0	4.6	6.2	3.9	4.8	6.5	4.1	5.7	7.5	4.2	4.7	6.5
2004	4.1	5.3	7.4	2.7	4.6	5.9	4.1	4.7	6.7	5.3	5.6	5.7	3.6	4.7	8.0
2005	3.9	5.2	7.4	5.0	5.2	7.6	3.8	4.9	7.3	5.5	6.6	6.6	3.3	4.2	7.5
2006	3.7	5.0	7.1	4.8	5.4	7.5	5.3	4.6	7.3	4.4	5.8	8.6	4.4	4.3	7.0

Table 2. Selected Characteristics of Effective Minimum Wage Earners

	2003					2006				
	U.S	NY	NJ	CT	PA	U.S	NY	NJ	CT	PA
Age										
18-24	22.4	17.5	12.2	27.2	25.5	22.6	13.9	16.2	14.3	20.8
25-34	23.5	22.2	12.6	21.0	22.3	23.0	23.8	21.9	28.6	23.2
35-44	21.8	27.0	18.9	25.9	25.5	20.7	21.5	24.8	19.4	27.2
45-54	18.7	22.2	20.7	13.6	17.2	18.2	26.0	19.0	23.5	16.0
55-64	8.8	7.9	16.2	6.2	5.7	10.0	11.2	6.7	10.2	8.8
Education										
Less than H.S.	21.2	24.7	27.3	14.8	6.4	19.7	22.0	22.9	25.5	6.4
H.S. Degree	38.2	35.4	40.5	33.3	59.2	36.5	40.8	37.1	32.7	55.2
Some College, AA Degree	28.1	23.8	18.0	33.3	17.8	30.5	25.0	22.9	28.6	29.5
B.A. degree	9.1	9.0	11.8	16.0	12.7	10.3	11.7	12.4	9.2	12.0
Employment Status										
Employed	92.3	91.5	90.1	95.1	93.6	94.3	97.3	95.2	93.9	95.2
Unemployed	7.5	8.5	9.9	4.9	6.4	5.7	2.7	4.8	6.1	4.8
Sex										
Male	38.9	38.6	41.4	39.5	33.1	34.3	33.6	34.3	37.8	33.6
Female	61.1	61.4	58.6	60.5	66.9	65.7	66.4	65.7	62.2	66.4
Race										
White	80.1	71.4	73.9	85.2	86.0	79.3	70.4	72.4	87.8	89.6
Black	12.1	17.5	18.9	11.1	10.2	12.3	14.8	18.1	10.2	8.8
Citizenship										
U.S. born	1.1	0.5	1.8	1.2	1.0	0.7	0.9	0	0	0
Naturalized Citizen	5.4	14.3	13.5	4.9	1.3	5.2	18.4	10.5	10.2	3.2
Not Citizen	15.3	24.9	24.3	14.8	5.1	15.3	25.1	26.7	16.3	1.6

Table 2. Selected Characteristics of Effective Minimum Wage Earners (cont.)

	2003					2006				
	U.S	NY	NJ	CT	PA	U.S	NY	NJ	CT	PA
Industry										
Agric., Forestry, Fishing	3.7	3.8	1.8	0	2.5	3.1	.9	1.9	4.1	1.6
Mining	.3	0	0	0	0	.1	0	0	0	.8
Construction	6.8	5.9	4.5	7.4	5.7	5.1	5.4	5.8	4.1	4.8
Manufacturing	8.5	8.1	5.4	12.3	7.0	8.7	12.1	10.6	9.2	9.6
Transport, Commctn, Utilities	3.1	2.7	6.3	3.7	4.5	3.0	4.5	6.7	7.1	7.2
Wholesale Trade	1.8	0	0	2.5	3.8	1.3	1.3	1.9	0	2.4
Retail food, five-ten stores	9.2	9.2	15.3	2.5	12.7	9.3	6.7	7.6	9.2	9.6
Shoe stores	0.1	0	0	0	0	0.2	0	0	0	0
Furniture Stores	2.4	2.2	0.9	3.7	2.5	2.7	0.9	2.9	2.0	5.6
Drug Stores, eating and drinking places	12.1	15.9	15.3	13.6	12.1	3.0	12.1	18.1	9.2	8.8
Hardware, lumber,liquor, retail florists, jewelry stores	1.4	1.1	1.0	2.5	0	1.5	0.9	1.9	0	0
Fuel & misc. retail	2.4	1.6	0.9	0	0	2.8	0.9	2.9	1.0	0
Finance, Insur., Real Est.	3.8	4.2	2.7	8.6	3.8	3.4	4.0	5.7	5.1	3.2
Business & Repair	7.5	6.9	8.1	3.7	10.2	7.0	5.4	7.6	7.1	6.4
Personal Services	5.1	5.3	5.4	1.2	3.2	5.6	4.5	4.8	7.1	4.0
Entertainment & Recreation	2.8	2.6	5.4	2.5	3.2	2.5	2.7	1.0	1.0	5.6
Professional	26.8	29.7	23.1	32.1	28.0	28.3	35.9	19.0	29.6	28.0
Public Administration	1.7	0.9	2.5	0.6	0	1.8	1.3	1.0	2.0	2.4
Occupation										
Professional	13.6	15.3	12.6	18.5	16.6	15.0	17.5	10.5	17.3	14.4
Farmers	0.3	0.5	0	0	0	0.2	0	0	0	0
Managers, Officials, Proprietors	4.7	3.7	2.7	3.7	3.8	5.2	3.1	4.8	3.1	4.8
Clerical	19.7	21.2	18.0	22.2	26.8	20.7	22.0	26.7	22.4	20.0
Sales Workers	6.3	6.9	12.6	6.2	5.1	6.4	3.1	7.6	8.2	5.6
Craftsmen	6.5	4.8	5.4	11.1	5.1	6.1	5.8	3.8	6.1	8.8
Operatives	11.7	11.6	6.3	14.8	10.8	10.9	12.1	12.4	14.3	13.6
Service	2.7	2.6	2.7	2.5	0.8	2.7	2.2	1.0	4.1	1.6
Service–non-household	26.3	24.9	29.3	17.3	22.9	25.4	30.9	28.6	16.3	22.4
Farm Laborers	8.1	8.5	7.2	3.7	8.3	7.5	3.1	4.8	8.2	8.8

Table 3. Impact Estimates of Minimum Wage on Likelihood of Unemployment

2003   Connecticut
1st Contour   2nd Contour   3rd Contour

-1.663	-1.485	-1.645
(.000)	(.000)	(.000)

2004   Connecticut
1st Contour   2nd Contour   3rd Contour

-1.116	-1.235	- 1.645
(.000)	(.000)	(.000)

2005   New York
1st Contour   2nd Contour 3rd Contour

1.531	-1.552	-1.637
(.000)	(.000)	(.000)

2006   Connecticut
1st Contour   2nd Contour   3rd Contour

-1.458	-1.499	-1.749
(.000)	(.000)	(.000)

                New Jersey
1st Contour   2nd Contour   3rd Contour

-1.968	-1.887	-1.704
(.000)	(.000)	(.000)

                New York
1st Contour   2nd Contour   3rd Contour

-1.374	-1.440	-1.375
(.000)	(.000)	(.000)

Note: Logit Regression Coefficients (standard errors in parentheses). Only those years in which a state minimum wage increase occurred are presented.

Table 4. Ratio of Top Fifth (Median) of Income Distribution to Bottom Contour

	2003			2006			
	Bottom	**Top**	**Ratio**	**Bottom**	**Top**	**Ratio**	**% Change**
U.S	$12,000	$68,811	5.7	$12,000	$75,000	6.3	10.5
New York	12,000	90,000	7.5	15,000	100,000	6.7	-10.7
New Jersey	12,000	75,000	6.3	15,000	80,000	5.3	-15.9
Connecticut	15,600	85,000	5.4	17,500	100,000	5.7	5.6
Pennsylvania	12,000	75,000	6.3	12,000	74,000	6.2	-1.6

Table 5. Ratio of Top Fifth (Mean) of Income Distribution to Bottom Contour

	2003			2006			
	Bottom	**Top**	**Ratio**	**Bottom**	**Top**	**Ratio**	**% Change**
U.S	$12,074	$88,262	7.3	$12,053	$100,225	8.3	13.7
New York	12,100	116,868	9.7	15,670	137,605	8.8	- 9.3
New Jersey	12,103	98,956	8.2	14,449	113,078	7.8	- 4.9
Connecticut	15,771	109,950	7.0	17,412	137,892	7.9	12.9
Pennsylvania	12,048	95,463	7.9	12,070	94,450	7.8	- 1.3

NOTES

1. The 2007 law phased-in an increase in the federal minimum to $6.55 in July 2008 and to $7.25 in July 2009.

2. Oren M. Levin-Waldman, *The Case of the Minimum Wage: Competing Policy Models* (Albany: State University of New York Press, 2001), pp. 121-123

3. As is well known in the economics literature, Pareto efficiency is a very limited welfare measure. By itself, it does not always necessarily result in a socially desirable distribution of resources. The definition of efficiency is limited to a strict cost-benefit analysis. If group A is forced to bear higher costs for the benefit of group B, the measure is simply inefficient on the assumption that resources aren't being allocated in the most efficient manner. But who is to say that workers being paid a wage lower than what they may need to subsist isn't also in effect incurring other costs for society.

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13. Thomas R. Michl,"Can Rescheduling Explain the New Jersey Minimum Wage Studies?" *Eastern Economic Journal* 26,3 (Summer 2000):265-276; also see David Neumark and William Wascher, "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania: Comment" *American Economic Review*. 90,5 (December 2000):1362-1396.

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26. A table with full regression results is available from the author upon request**.** The variables for this analysis are as follows:
Female = 1 if female, 0 if male; LoEd = 1 if attained less than a 12th grade education, 0 otherwise; Black = 1 if African Americans, 0 otherwise; Foreign = if non-US citizen, 0 otherwise; LoAge = 1 if 18-24 age cohort, 0 otherwise; LoAge2 = 1 if 25-34 age cohort, 0 otherwise; Manufac = 1 if working in the manufacturing industry, 0 otherwise; Retlfood = 1 if working in the retail food industry, 0 otherwise; Retleat = 1 if working in drug stores, eating and drinking places, 0 otherwise; Mnwage = 1 if working at an hourly wage above the median of their particular contour, 0 otherwise..

27. See Oren M. Levin-Waldman, "Policy Orthodoxies, the Minimum Wage, and the Challenge of Social Science," *Journal of Economic Issues* 38, 1 (March 2004):139-154

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