A study attempted to identify low-wage workers in the United States by providing a statistical portrait of all workers who made less than $6.25 per hour in 1993. Data for the analysis were gathered from a cross-section of the Merged Outgoing Rotation Group File--Current Population Survey (CPS) for 1993 and panel data from the National Longitudinal Survey of Youth (NLSY). The study found that, in 1993, 19 percent of working men and nearly 29 percent of working women made less than $6.25 per hour. The study also found, however, that low-wage workers are often weakly attached to work and often are not the sole source of support for themselves or their families. More than half of low-wage workers are either working part time, in school, or living with their parents. In addition, most low-wage workers do not have a record of continuous full-time employment over a substantial period of time. Low-wage workers also are less likely to have finished high school and more likely to hold a General Educational Development (GED) certificate rather than a regular high school diploma. They are also are likely to have lower reading, writing, and mathematics skills. The study concluded that the vast majority of low-wage workers are not working 40 hours per week, year after year, in a futile effort to support themselves or their families. Future research should address why so many low-wage adults are weakly attached to full-time work. (Data are reported for males and females and displayed on eight graphs.) (KC)
Who Are The "Low-Wage" Workers?

Derek Neal
University of Chicago

July 1996
The Employment Policies Institute is a non-profit research organization dedicated to studying public policy issues surrounding employment growth. In particular, EPI research focuses on issues that affect entry-level employment. Among other issues, EPI research has quantified the impact of new labor costs on job creation, explored the connection between entry-level employment and welfare reform, and analyzed the demographic distribution of mandated benefits. EPI sponsors nonpartisan research which is conducted by independent economists at major universities around the country.
Director’s Perspective

Policy makers at all levels of government are seeking new ways to ease the burden on low-income earners. These lawmakers are concerned that the men and women earning low wages are not earning a livable wage and therefore are unable to adequately provide for their families. To assess the qualities of this population, a closer look was needed.

Derek Neal studied the low-wage work force and identified key characteristics that impact work force advancement. These individuals possess striking similarities in their backgrounds and work histories which may preclude them from qualifying for higher paying positions.

What Are The Characteristics Of Low-Wage Earners?

Not surprisingly, there is a strong relationship between unskilled workers and low-wage rates. More than 44 percent of working men and 64 percent of working women who dropped out of high school can be classified as low-wage earners.

While the data show that 64 percent of male, low-wage workers and 74 percent of women at this income level have finished high school, there is more to the story. Many of these high school graduates passed the General Educational Development (GED) test instead of actually completing the regular course work.

Researchers have previously concluded that there is only a minor difference between GED recipients and high school dropouts with relation to their contributions to the labor force. When examining the individuals who have completed high school, it is evident that less than 60 percent of low-wage men and 70 percent of low-wage women actually hold a regular high school diploma.

What is most significant about low-wage earners is their failure to master the simple skills of reading, writing and arithmetic. Remarkably, nearly 70 percent of low-wage men score below average when tested on basic skills.

While Dr. Neal does not study this point directly, it is clear that a large percentage of the low-wage work force would likely be denied admission to the armed forces based on their failure to master these fundamental skills. With the inability to adequately perform basic functions, these workers are the most vulnerable to being priced out of the job market whenever a higher mandated wage rate is required.

What Is the Work History of Low-Wage Earners?

About 76 percent of male and 85 percent of female low-income earners do not have a record of continuous full-time employment. This is in stark contrast to employment continuity among other workers. While about 75 percent of high-wage men are employed for at least 11 months a year, the majority of low-wage men are not. Based on the evidence, Neal concludes that low-wage male workers typically have not been steadily employed on a full-time basis.
What Are The Personal Responsibilities of Low-Wage Workers?

Contrary to popular opinion, the average low-wage worker does not have the sole responsibility for taking care of a family. More than half of these individuals are either working part-time, living with their parents, or are students.

Conclusion

Dr. Neal concludes that "the vast majority of low-wage workers are not working forty hours per week, year after year, in a futile effort to support themselves or their families. Most low-wage workers are young and single, and a large fraction even live with their parents. Further, most low-wage workers do not have a lengthy record of continuous full-time employment."

Given Neal’s findings, we believe that increasing mandatory wage requirements would simply hinder the ability of uneducated, inexperienced workers to obtain an entry-level position. With few marketable skills and a very weak work force attachment, it is not surprising that these workers will be the most adversely impacted by a minimum wage increase. Ironically, the mandated wage hike accomplishes a goal contrary to that sought by social policy makers.

Richard B. Berman
Executive Director
Employment Policies Institute

About The Data

The data used in Dr. Neal’s analysis are composed of a cross section of the Merged Outgoing Rotation Group File - Current Population Survey (CPS) for 1993 and panel data from the National Longitudinal Survey of Youth (NLSY).
I. Introduction

It is well established that the distribution of wages in the United States has become more dispersed during the past fifteen years. Further, it is clear that median wages have not increased much during this period. Therefore, the increased dispersion in wages implies that workers at the top of the wage distribution have enjoyed wage gains while workers at the bottom of the distribution have suffered wage losses.\(^1\)

Primarily because of this downward trend in wages, many recent policy proposals target assistance to low-wage workers. Numerous existing training programs and other proposals for training programs are designed to raise wages by raising skill levels among disadvantaged groups. The Clinton Administration's response has been a proposal to raise the minimum wage.

The current public focus on the wages of less skilled workers and the policy proposals surrounding this issue raise an important empirical question: Who are the low-wage workers of America? This report attempts to answer this question by providing a statistical portrait of all workers who made less than $6.25 per hour in 1993. I adopt this definition of a low-wage worker for two reasons. First, 1993 is the most recent year for which both panel and cross section data on wages and employment are available. Second, adjusting for inflation, $6.25 per hour in 1993 is roughly equivalent to the 1980 minimum wage of $3.10 per hour.

Several results stand out in the analyses described above. To begin, in 1993 a significant number of workers earned less than $6.25 per hour. Specifically, 19 percent of working men and nearly 29 percent of working women fell under my definition of a low-wage worker.

However, a closer examination reveals that low-wage workers are often weakly attached to work and often are not the sole source of support for themselves or their families. More than half of low-wage workers are either working part-time, in school, or living with their parents. In addition, most low-wage workers do not have a record of continuous full-time employment over a substantial period of time.

The following two sections of the report describe statistical results. Section II presents cross section results from the Current Population Survey (CPS) and the National Longitudinal Survey of Youth (NLSY). Section III summarizes results from the NLSY that document the work histories of low-wage workers. A concluding section summarizes the most important findings.

II. Cross Section Results

a.) Basic Facts About The Wage Distribution

For most of the empirical analyses presented in this paper, I use data from the Merged Outgoing Rotation Group File - Current Population Survey for 1993. After constructing hourly wages for each worker, I eliminate all workers from the sample who report earning less than $2.00 per hour. I assume

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\(^1\) See Murname and Levy (1992).
that these observations are coding errors or instances involving persons who are receiving significant nonpecuniary compensation. I then split the sample by sex. Throughout the paper, I will present results separately for males and females.

Table 1 illustrates why policy makers are so concerned about the decline in wages at the bottom of the wage distribution. The first row gives the fraction of workers by sex that actually earned less than $6.25 in 1993 — almost 19 percent of men and more than 28 percent of women are low-wage workers according to this definition. These are striking numbers because they imply that, in 1993, more than one in five workers worked for less than $6.25.

Table 1 also shows that the fraction of workers who classify as low-wage earners differs greatly across geographic areas of the country. Part of these differences across regions surely reflect differences in costs of living. Workers will be willing to work for less in locations where the cost of living is low. However, these differences may also reflect differences in worker productivity across regions. If two firms in different regions compete in the same product market but pay different wages, competitive equilibrium requires that the workers in the high-wage region be more productive than their low-wage counterparts in the other region.

Table 1 also begins a theme that I return to throughout the paper. There is a strong correlation between being a low-wage worker and being an unskilled worker. We see that 44 percent of male high school dropouts and 64 percent of female high school dropouts, who worked in 1993, worked for less than $6.25 per hour. In unreported analyses, I have computed similar statistics by age group. Among workers under 25 years of age, more than 77 percent of male dropouts and more than 87 percent of female dropouts are low-wage workers. It is clear that, in the labor force as a whole, young high school dropouts are the workers who are most likely to work for low wages. However, there are people working for low wages who are not young and are not uneducated. The remainder of this section is devoted to describing the characteristics of the low-wage worker.

### b.) The Skills of Low-Wage Workers

Tables 2 and 3 demonstrate a pattern that is expected. The average low-wage worker is much younger and also less educated than the average worker. Among males earning less than $6.25 an hour, the average age is 30. Among other working males, the average age is 39. Among females the age gap is smaller, but the average age of 34 for low-wage females is still more than five years younger than the average age among other female workers.

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2 This rule eliminates less than .005 of the sample.
With respect to education, only 64 percent of low-wage, male workers have finished high school. Further, this figure may overstate the academic achievement of this group. Here, the category “finished high school” includes both regular diploma recipients and those who passed the General Educational Development (GED) test, but work by Cameron and Heckman (1993) indicates that the latter are not as skilled as regular diploma recipients and also do not fare as well in the labor market. In fact, with respect to labor market outcomes, there are only small differences between dropouts and those who passed the GED.

I examined NLSY data on persons between 29 and 36 in 1993 and found that in this age group, 72 percent of low-wage men have finished high school, but only 57 percent of low-wage men hold a regular diploma. The corresponding figures for low-wage women are 78 and 67 percent. Given these results, it is relatively safe to assume that less than 60 percent of low-wage men, in the CPS sample described in Table 2, actually hold a regular high school diploma. Further, given the results in Table 3, it is clear that less than 70 percent of low-wage women hold regular diplomas.

Labor economists commonly use education and experience as measures of human capital. The results in Tables 2 and 3 indicate that skill levels among low-wage workers are quite low compared to skill levels among other workers. This is especially true in the male sample. However, data on age and education do not tell the full story.

Figures 1, 2, 3, and 4 supplement these analyses by presenting measured skill distributions for low-wage and other workers. The data for these figures come from the NLSY, which provides yearly observations from 1979 to 1993 on a sample of young persons who were born between 1957 and 1964. The data set is unique because respondents were given a battery of standardized tests in the second year of the panel, 1980. The U.S. Department of Defense used the NLSY sample to norm their enlistment and placement exams. A subset of these exams, known as the Armed Forces Qualifying Test (AFQT), is used by the military as a summary test of basic reading, writing, and math skills and relied on to determine

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eligibility for service in the armed forces. Here, I use AFQT scores as a skill measure. Since the AFQT score represents learned skills, I adjust the AFQT scores for the age of the respondent at the time of the test. For comparability, the scores are then standardized to have a mean of zero and a standard deviation of one. Distributions of these adjusted scores are presented in the figures.

For the entire sample (not graphed) only two percent record a normalized score more than two standard deviations below the mean, while no one reports a score two standard deviations above the mean. Similarly, only 20 percent of the sample scores more than one standard deviation below the mean, while 19 percent score at least one standard deviation above the mean.

The gap in median scores between low-wage and other workers is striking. A comparison between Figures 1 and 2 shows that the median score among low-wage males is more than one standard deviation lower than the median score for males earning more than $6.25 an hour. The corresponding gap among females is roughly .75 standard deviations.

Overall, low-wage workers show a much higher concentration of scores at the lower end of the AFQT range. 69 percent of low-wage males have scores below average, compared to only 38 percent for those males earning above $6.25 an hour.

Two points should be made about these figures. First, they illustrate that there are real skill deficits among low-wage workers. These figures do not provide information about educational credentials but rather about the ability to read, write, and do simple math. Further, while these figures illustrate distributions that include workers of all education levels, a similar pattern emerges in samples restricted to workers of a given education class. For example, if we restrict our analysis to those men who never finished high school, we find that the average AFQT score for low-wage males is 1.15 standard deviations below the mean, while the average score for other male workers is only .57 standard deviations below the mean. Thus, even in a sample consisting entirely of high school dropouts, low-wage workers score, on average, one-half of a standard deviation below other workers.

c.) Activities and Responsibilities of Low-Wage Workers

The results in Tables 2 and 3, as well as those in Figures 1 through 4, should not come as a surprise to those who have followed recent research on the distribution of wages. Numerous studies
provide results that show less-skilled workers doing poorly. In contrast, the results in Tables 4 and 5 address an issue that has received less attention. These tables provide information about the activities and responsibilities of low-wage workers. Table 1 indicates that, in 1993, roughly one in five workers earned less than $6.25 per hour. However, Tables 4 and 5 show that the representative low-wage worker is not a full-time worker who is the sole provider for either himself, herself, or a family. Among males, 39 percent of low-wage workers are working part-time, defined here as less than 35 hours per week. Further, 40 percent are living with their parents. Fully 57 percent are in one or more of the following categories: living with parents, in school, working part-time, or beyond retirement age (over 62). For low-wage women, the corresponding figure is 60 percent.

In short, the cross section results indicate that low-wage workers are different from other workers on two important dimensions. First, low-wage workers are much less skilled than other workers. Second, for many low-wage workers, work is neither their primary activity nor their sole means of support.

 Nonetheless, more than half of all low-wage workers are working full-time jobs and many of these are adults living apart from their parents. Therefore, the next section attempts to provide some insight into whether or not full-time work at low wages is a temporary or permanent state in today’s labor market.

III. Work History Results

One of the most troubling prospects raised by the recent rise in wage inequality is that there may be many workers who not only begin their careers at low-wage jobs but also go on to work steadily for years without any significant wage growth. Here, I use NLSY data to explore this possibility. I examine the employment histories of workers who were between 29 and 36 in 1993, and I construct a measure of average weeks worked per year over the period 1989 to 1993. I base each estimate of average weeks worked only on data from years where a valid interview was conducted and the respondent was not in the military.

Figures 5 and 6 give cumulative distributions of average weeks worked for male workers. Figure 5 provides the distribution for workers earning less than $6.25 per hour in 1993. Figure 6 provides the distribution for workers earning more than $6.25 in 1993. It is important to realize that, in the NLSY coding scheme, weeks worked is defined by employment status, not by actual activity. Therefore, persons who are employed the whole year, with no weeks unemployed or out of the labor force, receive credit for 52 weeks of work. This holds regardless of time spent on vacation. Therefore, in what follows, the reader may wish to think of “weeks worked” as “weeks employed.”

It is clear in Figure 5 that most low-wage, male workers are not continuously employed. Roughly half are not employed for an average of two months per year. Recall that this average is taken over a period when the respondents in the sample ranged in age from 25 to 36. These are years when labor force participation is quite high among men. Figure 6 shows that the distribution of weeks worked for high-wage men is quite different. More than half of high-wage men are employed for an average of 52 weeks per year, and roughly three-fourths are employed for an average of at least 11 months.

The results for female workers exhibit a similar pattern. More than half of low-wage women are employed an average of nine months per year or less, while median months employed among high-wage women is more than 11. Both high- and low-wage females work less than their male counterparts, but this is to be expected given the age of the sample.

A careful examination of the data used to construct Figure 5 reveals that 32 percent of low-wage,
male workers averaged 50 weeks of employment per year. Further, more than 90 percent of this 32 percent are working full-time jobs. Therefore, although low-wage workers in the NLSY sample as a whole cannot be described as full-time workers with a strong attachment to work, it is true that roughly one-third of the male NLSY sample fits this description.

This result may seem alarming to some, but it is important to remember that this result does not imply that one in three low-wage males is a full-time, full-year worker. The NLSY sample of low-wage workers is in no way representative of low-wage workers as a whole. In 1993 this sample ranged in age from 29 to 36. In the CPS sample described above, only 15 percent of low-wage, male workers fall in this age range. Further, 60 percent of low-wage males are younger than 29 and can be expected to be less firmly attached to the work force. In addition, only 12.5 percent of low-wage males in the NLSY sample work part-time jobs. Table 4 shows that the comparable figure for low-wage males as a whole is 39 percent. Taking all these factors into account, one expects that, across all low-wage, male workers, far less than one in three is characterized by a history of steady employment and a full-time job.

Full-year, full-time employment is less common among low-wage, female workers in the NLSY sample. In the sample of low-wage workers used to construct Figure 7, fewer than one in five report both full-time employment and average weeks of employment equal to 50 or more. Further, in this sample, only 28 percent report working part-time. This compares to 50 percent for low-wage females as a whole.

IV. Conclusions

The results presented above show that the vast majority of low-wage workers are not working forty hours per week, year after year, in a futile effort to support themselves or their families. Most low-wage workers are young and single, and a large fraction even live with their parents. Further, most low-wage workers do not have a lengthy record of continuous full-time employment. In sum, while 20 percent of the work force still earn less than $6.25 an hour, very few of these workers are actually adults supporting families, working steady, full-time jobs.

Future research should address why so many low-wage adults are weakly attached to full-time work. One disturbing possibility is that those who have chosen not to work continuously in full-time jobs may be those for whom steady work experience would pay few dividends in terms of wage growth. On the other hand, declines in the real value of the minimum wage may have increased employment opportunities for persons who do not want to work continuously in full-time jobs. If this is true, the recent increase in the number of low-wage workers may be viewed, in part, as an expansion of opportunities in the work place.

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3 In the CPS sample, more than 18 percent of all male workers earned less then $6.25 per hour. In the NLSY sample, fewer than 12 percent fall into this category.
References


Figure 1
Cumulative Distribution of AFQT Scores: Males
Hourly Wage < $6.25

Figure 2
Cumulative Distribution of AFQT Scores: Males
Hourly Wage > $6.25
Figure 3

Cumulative Distribution of AFQT Scores: Females
Hourly Wage < $6.25

Figure 4

Cumulative Distribution of AFQT Scores: Females
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Figure 5
Cumulative Distribution of Average Weeks Worked: Males Hourly Wage < $6.25

Figure 6
Cumulative Distribution of Average Weeks Worked: Males Hourly Wage > $6.25
Figure 7
Cumulative Distribution of Average Weeks Worked: Females
Hourly Wage < $6.25

Figure 8
Cumulative Distribution of Average Weeks Worked: Females
Hourly Wage > $6.25
Author’s Biography

Dr. Derek Allen Neal

Dr. Derek Neal is a labor economist and an Assistant Professor in the University of Chicago’s Economics Department. He has studied a variety of wage and income issues, including the relationship between race, basic skills, and earnings. Neal’s work appears in numerous prestigious journals, including the *Journal of Political Economy* and the *Journal of Labor Economics*.

Neal completed his doctoral and masters work at the University of Virginia and received his Bachelor of Science from Shorter College in Rome, Georgia, where he graduated Summa Cum Laude. Among his many academic honors, Neal has been a John M. Olin Faculty Fellow, an Earnhart Fellow, and a President’s Fellow at the University of Virginia.

Neal currently serves as a Fellow at the National Bureau of Economic Research in Cambridge, Massachusetts and as a Research Associate at the Center for Social Program Evaluation in Chicago. He is now working on a survey of theories of labor earnings and income distribution that will be published in 1997.
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