

Employment and Unemployment Distributions of Low Wage Workers

Using the *Survey of Income Program Participation* for 2000 to 2007, we calculate the distribution of spells of employment, unemployment and not in the labor force (NILF) status and compare the durations for those in the lower 30% of the wage and earnings distributions with the full distribution and those in the upper 40% of those distributions. There is little evidence that spells of unemployment vary meaningfully across these earnings groups.

PRELIMINARIES

This research investigates whether low income individuals are more affected by unemployment, have longer spells of unemployment, than those with higher income. The unit of observation is the individual; for each individual, we compute the mean length of spells for each type of labor market status (unemployed, not-in-the-labor-force, and employed). To examine the heterogeneity of duration by earnings groups, we divide the sample into low, middle and high earning segments, computing and comparing the duration of distributions for each segment, as well as for the full sample.

Categories of labor force status: This study uses three standard measures of labor force status: employment, unemployment and NILF. These measures follow BLS definitions: an individual is employed if they have a job and are working or are temporarily away due to sickness or other temporary cause, they are unemployed if they do not have a job but are actively seeking employment, NILF is the residual category for those whose age and health place them in the potential labor force but are not employed or actively seeking employment. Labor force status is measured on a monthly basis with questions determining the respondent's status.

Measures of earnings used to stratify the sample: The SIPP has several measures of wages and earnings for individuals, households and families. As labor market status is an individual outcome, we focus on measures of individual wages and earnings: hourly wages, hourly earnings and monthly earnings. Hourly wages are the individual's straight time hourly wage. These data are available only for workers paid by the hour. Monthly earnings are the individual's monthly income from employment, and is collected for all employees. Hourly earnings are individual's earnings per hour, calculated as monthly earnings divided by monthly hours (i.e., weekly hours *4.38). We use each of these measures to compute the maximum level of earnings that define the lower 30% and the minimum earnings that define the upper 40% of the wage and earnings distributions. This in turn is used to define the samples from which we

derive the distributions of mean spell length by labor market status. We convert the reported wages and earnings into its real January 2007 value. As we have multiple observations on each individual, we average the monthly value over all months in which there are non-zero values and use this to determine an individual's place in the wage and earnings distributions. Of course, only those with at least one month of employment during their period in the SIPP sample are included in this analysis.

What is a spell? A spell is the number of months an individual remains in a particular labor force status. For example, an individual who leaves the labor force in November, 2003 and then enters employment in March, 2004 has a four month NILF spell. Individuals are observed monthly for up to four years, 48 months.

Censoring: An issue in computing spell lengths with the SIPP, as well as other longitudinal data sets, is the censoring of employment status. The SIPP does not provide data on an individual's employment status before or after the 48 observed months. We cannot know how long the respondent has been in their particular employment status when they are observed in their first month in the SIPP. Likewise, we do not know how long they remain in the labor force status they were in during the 48th month of the SIPP. For example, an individual who becomes employed in the 45th month since entering the SIPP sample, and then becomes unemployed in the 55th month since entering the SIPP has a 10-month employment spell, but the SIPP only records the first four months. The issue with not knowing the length of the first or the last labor market status observed in the SIPP is referred to as censoring. Every individual has a left censored spell (the first spell on entering the SIPP) and a right censored spell (the last spell of their time in the SIPP sample).¹

Censoring makes the computation of the length of some spells tricky. There is no way to overcome the unavailability of data on the length of censored spells; we know a minimum length of a spell but may not know the

¹ Finally, in addition to the inevitable censoring at the beginning and end of the sample period, some censoring within the sample period is also present as individuals enter the or leave the sample after a SIPP panel has begun or before it has ended.

actual length. Our approach is to compute the duration distributions for all spells, for all of a respondent's uncensored spells, for all left censored spells, for all right censored spells and for all doubly censored spells. Comparison of the distribution of spell lengths across spell types provides some insight into whether the length of censored spells is random, and therefore similar to uncensored spells, or is downward biased by censoring.

Seam Bias: A second issue, more readily resolved than the first, is seam bias in reporting (changes in) labor market status. Respondents to the SIPP are interviewed every four months and asked about their labor market status in each of the prior four months (called a wave). The seam refers to the moment between two survey periods, the 4th month of one wave and the 1st month of the next. Seam bias is the term for the phenomenon of substantially more than 25% of changes in labor market status occurring across the seam, that is between the last month of one wave and the following month, the first month covered of the next wave. If changes occurred randomly, one would expect about 25% of changes in reported labor force status to occur between 1st and 2nd months of waves, 2nd and 3rd months, 3rd and 4th months, and the 4th month of one wave and the 1st month of the next. If there is a calendar month in which an unusually large number of individuals are in a different status than in the prior calendar month, this will have occurred between the 1st and 2nd month of a wave for one group of respondents, the 2nd and 3rd months for another group, the 3rd and 4th months for yet another group, and, for the last group, between the 4th month of one wave and the 1st month of the next. Because the survey groups are all approximately the same size, this large number of changes in labor force status should be distributed across all the survey months and not appear to occur disproportionately across the seam. The presence of seam bias is strong evidence that many individuals take their labor force status in the most recent month asked about, the month just prior to when they are interviewed, and project it erroneously onto the entire four months of that wave.

Seam bias in the SIPP has been recognized for at least 2 decades, and we are aware of 3 proposed techniques for addressing the problem. One is to use only data from the fourth month of each wave, throwing out 75% of the available data (and introducing further measurement error). A second, useful in a regression context but not here, is to add a dummy variable for observations in the 4th month of a wave. We rely on the third, introduced by Hamm, Li and Shore-Sheppard (forthcoming). This involves creating three pairs of additional observations for each pair in the data

that indicates (the possibility of) seam bias: i.e., where one spell ends in the last month of one wave and the next begins in the 1st month of the following wave. The 1st pair of created observations extends the earlier spell by one month, to end in the 1st month of the following wave, and shortens the later spell by one month so that it begins in the 2nd month of the same wave. The 2nd pair extends the earlier spell by 2 months and shortens the later spell by 2 months. The 3rd pair extends the earlier spell by 3 months and correspondingly shortens the later spell by 3 months. Then all 4 pairs of observations, the original one that indicated the (possibility of) seam bias, and the three newly created pairs, are given weights that sum to one and, in the whole sample, have 25% of (weighted) spells ending in each of the 4 months of interview waves. The weights differ for each type of labor force status, and adjustments to this procedure are necessary when the later spell is so short that it would disappear altogether (e.g., if it is only 1 month long, then the first pair of created observations would reduce its length to zero).²

Introduction to results: Tables 1, 2, & 3 summarize our findings on earnings and spell distributions. They are organized by labor market status: Table 1 has the duration distributions for employment, Table 2 for unemployment and Table 3 for NILF. Data on the distribution of wages and earnings are at the top of each table. The first column is hourly earnings, the ratio of monthly earnings and monthly hours. There are 98,756 individuals in the sample where hourly earnings are used for the stratification. The second column is the straight time hourly wage. It is only defined for hourly employees and is observed for 89,277 respondents. The third column is monthly earnings and is collected for hourly and salary employees, of whom there are 129,028.

Turning to the data on the duration of employment spells, we present results for the full sample (all respondents) and for respondents in the lower 30%, the middle 40% and the upper 30% of earners. The division into lower earnings, middle and upper earnings samples allows for measuring differences in duration by earnings and for determining whether lower earning workers have less favorable outcomes than those with higher earnings. Depending on the measure used to define the subsamples, the lower 30% of earners is comprised of those with mean hourly earnings of no more than \$10.21, a mean straight time hourly wage of no more than \$9.06, or monthly earnings of no

² Our analysis of the SIPP data on duration finds that correction for seam bias has negligible effects on measured duration, on the order of 0 to 0.2 months. We do not include seam bias estimates in our tables but they are available from the authors.

more than \$1,542. The corresponding minima that define the upper 30% are mean hourly earnings of at least \$19.79, a mean straight time hourly wage of at least \$14.80 or mean monthly earnings of at least \$3,503. The middle 40% are those whose earnings fall between these two amounts.

Employment Spells

The tables for employment, unemployment and NILF are organized in the same fashion. We begin with a discussion of our results for spells of employment, Table 1. Each table has five horizontal panels (stacked one atop another), each comprised of results for samples that differ by the censoring of the data. The first panel is the full sample and includes all observations, censored and uncensored. The second panel has only uncensored observations. Panels three, four and five are comprised respectively of spells which are (only) left censored, spells which are (only) right censored and spells which are both left and right censored. There are three broad columns in each panel, each comprised by four narrow columns. The broad columns are organized by the earnings variable used to classify the individuals in the sample. The first broad column uses hourly earnings, the second hourly straight time wages, and the third monthly earnings. Within each broad column there are four narrow columns for, respectively, samples with all respondents, samples comprised of the bottom 30% of earners, samples comprised of the middle 40%, and samples comprised of the top 30% of earners.

The data in the body of the table is the length of a spell at the decile points of the duration distribution. Consider the top panel and left hand broad column of Table 1, Employment, All Spells, by Hourly Earnings and within those, the ALL narrow column. For individuals with valid observations of hourly earnings, the 20th percentile of the duration distribution for employment spells is 6.7 months, the 50th percentile is 16 months, and the 80th percentile is 36 months. Comparison of the lower and upper 30% columns shows, unsurprisingly, the employment spells of those in the low earnings sample are, decile by decile, considerably shorter than those in the high earnings sample. Again, considering the 20th, 50th and 80th percentiles, the employment duration of low earners is 4, 12, and 32 months, while the corresponding percentiles of the high earners' durations are 9, 28 and 48 months. The distribution of durations for the middle 40% of earners fall between those of the low and high earner distributions but are closer to those of the high earners.

Looking across the three broad columns, the column for samples of those with valid hourly earnings, with valid hourly wages and valid monthly earnings; durations are longer for the hourly earnings sample relative to hourly wage or monthly earnings; the differences are, however, modest. Considering the narrow columns for all individuals, the 20th percentile is 6.7 months for hourly earnings, 5 months for hourly wages and 5.5 months for monthly earnings; the 50th percentile is 16 months, 14 months, and 15.5 months respectively, while the 80th percentile is 36, 35 and 36 months.³ Similar small differences are found at other points in the distributions.

Comparisons between the bottom and top 30% and the middle 40%, show a similar pattern across the broad columns. For all the earnings variables, not just Hourly Earnings, durations are shortest for the bottom 30%, with the differences becoming larger in the higher deciles. Consider the pattern for the second broad column, the Hourly Wage rate. The 20th percentiles of durations are 4, 6 and 8 months for the bottom, middle and top earners. The corresponding 50th percentile figures are 8.3, 14 and 20 months; for the 80th percentile, they are 20, 36 and 36 months. Similar patterns are found in the Hourly Earnings and Monthly Earnings broad columns. Parallel to the results for the All Individuals columns, employment durations for the bottom, middle and top of the earnings distributions are longer for the Hourly Earnings sample than for the Hourly Wage or Monthly Earnings sample. Summarizing the extensive data on employment duration for the All sample (the top panel), the employment duration is shortest for those in the bottom 30% of the wage/earnings distribution and this is particularly true toward the upper deciles of the duration distributions.

Recall the discussion earlier in the memo of censoring and the problems it presents for estimating the duration distributions. While we cannot fix these problems, we can explore how samples of spells with different kinds of censoring differ in the duration distributions. The next panel is the distributions of Uncensored spells. The distribution of employment spells in the Uncensored sample is shorter than those in the All Spells sample. This reflects the nature of the sample – long spells are more likely to begin before the sample period or extend after the sample period, and so, are less likely to be included in the uncensored spell sample. The 20th, 50th and 80th percentiles of employment spell duration for All Spells of ALL individuals with valid observations of Hourly Earnings are 6.7 months, 16 months and 36 months, respectively; the corresponding values for Uncensored Spells are 3, 5.5 and 11.5 months. The differences in

³ Because the samples of individuals with valid observations differ for each of the earnings measures, so do the distributions.

spell length distribution across the bottom 30%, the middle 40% and the top 30% in the Uncensored Spells data are also, unsurprisingly, smaller in the Uncensored sample than in the All Spells sample. Comparing the bottom and top 30% of the Hourly earnings data, the 20th decile is identically 3 months, the 50th percentile is 5 and 6 months, respectively, and the 80th percentile is 11 and 12 months for the bottom and top 30%. Similar if smaller differences are found with the Hourly Wage Rate and Monthly Earnings data.

The third, fourth, and fifth panels are respectively left censored, right censored and double censored spells. Above the 20th percentile, spell lengths in the All narrow columns are considerably longer than in uncensored data. In Uncensored All hourly earnings, the 50th percentile is 5.5 months and the 80th percentile is 11.5 months. At the same points in the Left Censored data, spells are 10 and 22 months; in the Right Censored data, spells are 12 and 24 months; they are 23 and 36 months in the Double Censored data.

As with ALL spells, so to with the various type of censored spells when it comes to comparison of spell lengths of the bottom 30% of the wage/earnings distribution relative to the middle 40% and the upper 30%, particularly toward the upper end of the distributions. Initially considering the left censored hourly earnings data and again, focusing on the 20th 50th and 80th percentiles of the distributions, spells lengths are 4 months for 20th percentile for the bottom 30%, but 6 months for the top 30%. Average spells are 8 and 14 months at the 50th percentile and 20 and 26 months at the 80th percentile for the bottom and top 30 percentiles. Somewhat smaller differences are found for the Hourly Wages and Monthly Earnings sample (except perhaps high up in the durations distribution), but employment spells remain shorter for earners at the bottom of the earnings distribution compared to the top or middle earners. Although right censored durations tend to be slightly longer than left censored durations for each of the earnings groups, the patterns of differences between the top and bottom earners are similar to the left censored data.

Durations for the doubly censored data are considerably longer than those for the left and right censored data, the 60th percentile for the ALL doubly censored sample is 32 months; in comparison, the 60th percentile for the left and right censored columns are 13 and 15 months. Differences in individual-mean spell lengths between the bottom and top 30% of Hourly Earnings are notably greater in the doubly censored data than in any of the other subsamples. Even at the 20th percentile of Hourly Earnings, the difference is 4 months, rather than 0 to 2 months in the others. At the 50th

percentile the corresponding values are 18 months and a range of 1 to 6 months. At the 80th percentile, however, the difference is 0 in the doubly censored data and a range of 1 to 6 months in the other subsamples. The previous pattern of differences re-emerges at the 90th percentile, 12 months for the doubly censored sample and 2 to 6 months in the others. Similar patterns are found with double censored data on Hourly Wage Rates and Monthly earnings.

Summarizing the employment durations results, individuals in the lower 30% of the wage and earnings distribution have shorter periods of employment than those in the upper 40% of the wage and earnings distributions. These differences are apparent above the 50th percentile and greatest toward the top of these distributions. The distribution of durations is similar if not identical across our wages and earnings classifications. An issue in assessing the difference in employment durations is whether the shorter durations represent more jobs held for shorter periods or whether those with low earnings spend more time without work.

Spells of Unemployment

Data on spells of unemployment, Table 2, are organized in the same fashion as in Table 1. Consider distribution of average unemployment durations for All individuals for Hourly Earnings -- the left hand table in the upper panel of Table 2. Three characteristics stand out. First, spells of unemployment are markedly shorter than the spells of employment reported in Table 1. Individual means of the lengths of employment spells ranged from 1 to 48 months, while those of unemployment spells range from 1 to 11 months. Second, the decile values for duration of unemployment of the lower 30% of earners are no greater than, and are often shorter than, those of the upper 30%. The differences are small, never more than 1 month. Third, there are no meaningful differences in the distribution of spells of unemployment across the samples classified by Hourly Earnings, Hourly Wages and Monthly Earnings. Again the largest difference between any pair of these samples is no more than 1 month.

In contrast to the employment durations, unemployment durations are not greatly affected by censoring. Uncensored durations are similar to the All Spells durations at all points in the distribution, varying by no more than 0.5 months in the Hourly Earnings sample. The Left and Right Censored panels also do not differ greatly from the All Spells panel at most points on the distribution. For example, consider mean spell duration for the top 30% of respondents in the hourly earnings sample. The 20th percentile of duration for all spells, for left censored and for right censored

samples is identically 1 month. At the 50th percentile, these are respectively 2.5, 3 and 3 months; at the 80th percentile, 4, 4 and 5 months.

Differences in duration between the bottom and top 30% are likewise small. There is no difference in duration at the 20th percentile between the uncensored, the left and the right censored samples. At the 50th percentile, the durations are either identical or slightly shorter for the lower 30%. Durations are an identical 4 months at the 80th percentile for the uncensored, left and right censored samples, except for individuals in the top 30% of two of the earnings variables who right censored unemployment spells: for each of these samples, the 80th percentile is 5 months. Differences in durations between the Hourly Earnings, Hourly Wages and Monthly Earnings data are modest, no more than a month across comparable narrow columns.

The doubly censored data is different from the other censored and uncensored data. Average durations are identically 4 months from the 20th to the 80th percentile for All individuals, as well as for the bottom 30%, the middle 40% and the upper 30% for Hourly Earnings, for Hourly Wages and for Monthly earnings.⁴

In summary, unemployment spells are relatively brief; at the 50th percentile, the average individuals spell length is 2.5 months, at the 80th percentile it is 4 months. Spells for the bottom 30% of earners are no longer, and at the upper end of the distribution, may be slightly shorter than those in the top 30%.

Spells Out of the Labor Force:

At issue in the analysis of NILF spells is whether employees with lower earnings spend more time out of the labor force than do those with higher earnings. Are lower earning employees more likely to spend time out of the labor force, and be exposed to its economic consequences, than those with higher earnings? Time spent out of the labor force is challenging to typify, it is a residual category and is comprised of several distinct behaviors. In some instances, NILF status signifies that the individual has decided not to pursue employment during the period. An example would be a student for whom studying is a sufficiently high priority as to exclude the possibility of employment, or a retiree who

⁴ This suggests that individuals in the small sample of those with doubly censored unemployment spells have a tenuous attachment to the survey, entering and exiting over the course of a single interview wave: perhaps entering and exiting the household that is in the survey, staying in it only for a brief period of need while unemployed.

has effectively left the workforce. In other cases, it may be due to a temporary or permanent disability. In yet other cases, it may be because an individual believes that suitable jobs not currently available. The latter individual is considered a discouraged worker.

The analysis of the distribution of NILF spells, Table 3, follows the organization of the employment and unemployment tables. As before, starting with the panel for All spells and the table for Hourly Earnings, the NILF spells for All individuals are longer than unemployment spells but shorter than spells of employment. The 50th percentile for the length of a NILF spell is 4 months: 7.5 months at the 80th percentile and 11 months at the 90th percentile. Comparable employment durations are 16, 36 and 40 months. Turning back to the NILF sample for all respondents (both censored and uncensored data), the only meaningful difference in durations occur above the 60th percentile. Durations for the lower 30% are 1.7 months longer at the 70th percentile, 1 month longer at the 80th, and 1 month shorter at the 90th percentile. Comparing the durations of the bottom and top earners in the Hourly Wage and Monthly Earnings broad columns for All observations, the durations for the bottom 30% are between 0.5 and 2 months longer than top earners in the Hourly Wage Sample, and from 0 to 3 months longer in the Monthly Earnings sample.

Turning to uncensored spells and again considering Hourly Earnings, the pattern is again one in which differences between the bottom 30% and upper 30% are similar at the 20th and 50th percentiles: 0 to 0.5 months difference in mean spell length. The spell lengths of the bottom 30% are 2 months longer at the 80th percentile, 6 months vs 4 for the top 30%. The difference falls to 0.5 months at the 90th percentile. Similar patterns are apparent in the Hourly Wage Rate and Monthly Earnings data. Durations for the bottom and top 30% are similar up to the 60th percentile. At and above the 80th percentile, spells for the lower 30% of earners are between 3 and 4 months longer than those of the top 30%.

Spells lengths for the bottom 30% of earners in the Left Censored data are similar to those of the top 30% up to the 70th percentile of the Hourly Earnings distribution. At the 70th and 80th percentiles, the duration for the bottom 30% is 1 to 2 months longer than for the top 30%, but durations are identical at the 90th percentile. Similar patterns are found for Hourly Wage Rates and for Monthly earnings, little difference in durations through the 40th percentile. Once at or above the 50th percentile, NILR spells for the bottom 30% are between 1 and 6 months longer than for the top 30%.

Right censored data show little to no difference in NILF durations for Hourly Earnings between top and bottom earners although durations become up to 4 months longer for the top earners above the 50th percentile. Parallel patterns are found for Hourly Wage Rates and for Monthly Earnings. Durations are virtually identical between the top and bottom earners for Hourly Earnings, Hourly Wage and Monthly Earnings in the doubly censored data.

In summary, the distribution of lengths of NILF spells falls between those for employment and unemployment. Broadly, the distribution of NILF spells is similar for the bottom and top earners up to the 50th percentile of the distributions of durations with the durations of the bottom earners being between 1.5 to 3 months longer than those of the top earners above the 50th percentile.

Summary of Results:

In summary, we find that individuals who are lower in the distribution of earnings have shorter spells of employment, but their spells of unemployment or out of the labor force are similar to or shorter than those further up the earnings distribution. This suggests that individuals lower in the earnings distribution move between jobs more often than those higher in the distribution, but are, with respect to other measures of labor force status, similar to other earners.

Wage Distributions

	Hourly Earnings	Hourly Wage Rate	Monthly Earnings
10th	\$6.69	\$7.10	\$705
20th	\$8.47	\$8.08	\$1,152
30th	\$10.21	\$9.06	\$1,542
40th	\$12.04	\$10.14	\$1,930
50th	\$14.14	\$11.34	\$2,352
60th	\$16.61	\$12.82	\$2,873
70th	\$19.79	\$14.80	\$3,503
80th	\$24.23	\$17.53	\$4,404
90th	\$32.07	\$22.44	\$6,073
NOBS	98,756	89,277	129,028

DURATION Distributions (months)

Percentiles of Duration Distribution	Hourly Earnings				Hourly Wage Rate				Monthly Earnings			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY WAGE RATE	BOTTOM 30% of HOURLY WAGE RATE	MIDDLE 40% of HOURLY WAGE RATE	TOP 30% of HOURLY WAGE RATE	ALL Individuals with valid MONTHLY EARNINGS	BOTTOM 30% of MONTHLY EARNINGS	MIDDLE 40% of MONTHLY EARNINGS	TOP 30% of MONTHLY EARNINGS
10th	4	4	4	4	4	3	4	4	4	3	4	4
20th	6.7	4	8	9	5	4	6	8	5.5	4	7	8
30th	9.5	6.5	11	14	8	5	8	12	8	5	9.5	13.3
40th	13.5	8.5	14	17.5	10.3	6.8	11.3	16	12	7	13	16
50th	16	12	18	28	14	8.3	14	20	15.5	9	16	24
60th	24	15	28	32	17	11.5	17.5	32	21	12	22.5	32
70th	32	20	32	36	27	14.5	28	36	32	16	32	36
80th	36	32	36	36	35	20	36	36	36	23	36	36
90th	40	36	40	48	36	32	36	46	36	36	36	48
NOBS	98,718	30,662	39,321	28,735	89,013	27,157	35,680	26,176	128,927	39,801	51,554	37,572

Percentiles of Duration Distribution	No Censoring				Left Censoring				Right Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS
10th	2	2	2	2	2	2	2	2	2	2	2	2
20th	3	3	3	3	2.5	2.5	2.5	3	2.5	2.5	3	3
30th	3.7	3.5	4	4	3	3	3	4	3	3	4	4
40th	4	4	4	4.5	4	4	4	4	4	4	4	4
50th	5.5	5	6	6	5	4.5	5	5	5	4.5	5	5
60th	7	6.7	7	7.5	6	6	6	6	6	6	7	7
70th	9	8	9	9.5	8	7	8	8	8	7	8	9
80th	11.5	11	12	12	10	9.5	10.5	11	10	9.5	11	12
90th	17	16	18	18	15	14	15	16	15	14	16	18
NOBS	9,043	5,801	2,459	783	14,791	7,982	5,161	1,648	16,249	10,571	4,480	1,198

Percentiles of Duration Distribution	Left Censoring				Right Censoring				Double Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS
10th	3	2	3	4	3	2	3	3	4	4	4	4
20th	4	4	4	6	4	4	4	4	4	3	4	5
30th	6	5	7	8	5	4	5	7	5	4	7	8
40th	8	7	8	10	7	6	8	8	8	6	8	9
50th	10	8	11	14	8	8	9	12	9	8	10	12
60th	13	11	14	17	12	9	12	15	12	10	12	16
70th	17	15	18	21	15	12	16	18	16	13	16	20
80th	22	20	23	26	20	16	20	23	20	18	21	24
90th	29	26	29	32	27	24	28	29	28	24	28	31
NOBS	17,064	7,777	6,618	3,269	20,754	7,299	8,845	4,610	25,476	10,526	10,105	4,845

Percentiles of Duration Distribution	Right Censoring				Double Censoring				Double Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS
10th	3	2	3	3	3	2	3	3	3	2	3	3
20th	4	4	4	4	4	3	4	4	4	3	4	4
30th	6	5	7	8	5	4	6	7	5	4	7	7
40th	8	7	10	11	7	6	8	9	8	6	9	10
50th	12	9.5	12	13	10	8	11	12	10	8	12	12
60th	15	12.5	16	16	12	10	14	16	13	11	16	16
70th	19	16	20	21	16	14	18	20	17	14	19	20
80th	24	21	25	27	21	18	24	24	23	19	24	26
90th	30	28	32	32	28	26	30	31	29	27	31	32
NOBS	20,908	10,328	7,443	3,137	25,913	11,101	10,422	4,390	30,573	14,730	11,449	4,394

Percentiles of Duration Distribution	Double Censoring				Double Censoring				Double Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS	MIDDLE 40% of HOURLY EARNINGS	TOP 30% of HOURLY EARNINGS
10th	4	4	4	4	4	4	4	4	4	4	4	4
20th	7	4	8	8	6	4	6	8	7	4	7	8
30th	12	7	12	14	10	6	9.333333015	13.5	10.66666698	6	11	14
40th	16	10	16	22	14	8	14	20	16	8	16	20
50th	23	14	24	32	20	12	20	32	22	12	22	32
60th	32	20	32	36	32	16	32	32	32	18	32	32
70th	36	32	36	36	36	24	36	36	36	32	36	36
80th	36	36	36	36	36	32	36	36	36	36	36	36
90th	48	36	48	48	48	36	48	48	48	36	48	48
NOBS	73,933	17,716	31,182	25,035	55,120	11,447	22,891	20,782	88,060	17,875	38,096	32,089

Wage Distributions

	Hourly Earnings	Hourly Wage Rate	Monthly Earnings
10th	\$6.60	\$7.10	\$705
20th	\$8.47	\$8.08	\$1,152
30th	\$10.21	\$9.06	\$1,542
40th	\$12.04	\$10.14	\$1,930
50th	\$14.14	\$11.34	\$2,352
60th	\$16.61	\$12.82	\$2,873
70th	\$19.79	\$14.80	\$3,503
80th	\$24.23	\$17.53	\$4,404
90th	\$32.07	\$22.44	\$6,073
NOBS	98,756	89,277	129,028

DURATION Distributions (months)

Percentiles of Duration Distribution	Hourly Earnings			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	1.3	1	1.5	1.5
40th	2	2	2	2
50th	2	2	2.5	2.5
60th	3	2.8	3	3
70th	3.5	3	4	4
80th	4	4	4	4
90th	5	5	6	6
NOBS	15,812	8,315	5,384	2,113

Percentiles of Duration Distribution	Hourly Wage Rate			
	ALL Individuals with valid HOURLY WAGE RATE	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution
	10th	1	1	1
20th	1	1	1	1
30th	1.5	1.25	1.5	2
40th	2	2	2	2
50th	2.5	2	2.5	3
60th	3	3	3	3
70th	4	3.3	4	4
80th	4	4	4	4.3
90th	5.7	5	6	6.25
NOBS	21,681	9,556	8,707	3,418

Percentiles of Duration Distribution	Monthly Earnings			
	ALL Individuals with valid MONTHLY EARNINGS	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	1.5	1.5	1.7	2
40th	2	2	2	2
50th	2.5	2.3	2.5	3
60th	3	3	3	3
70th	4	3.5	4	4
80th	4	4	4	4
90th	6	5	6	6.5
NOBS	24,646	12,364	9,054	3,228

Percentiles of Duration Distribution	No Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	1	1	1	1
40th	2	1.5	2	2
50th	2	2	2	2
60th	2.7	2.5	3	3
70th	3	3	3	3.5
80th	4	4	4	4
90th	5	5	6	6
NOBS	11,552	6,268	3,827	1,457

Percentiles of Duration Distribution	Hourly Wage Rate			
	ALL Individuals with valid HOURLY WAGE RATE	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution
	10th	1	1	1
20th	1	1	1	1
30th	1	1	1	1.7
40th	2	1.75	2	2
50th	2	2	2	2.5
60th	3	2.5	3	3
70th	3	3	3.5	4
80th	4	4	4	4
90th	5.5	5	6	6
NOBS	16,468	7,472	6,474	2,522

Percentiles of Duration Distribution	Monthly Earnings			
	ALL Individuals with valid MONTHLY EARNINGS	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	1	1	1	1.5
40th	2	2	2	2
50th	2	2	2	2
60th	3	2.5	3	3
70th	3	3	3.7	4
80th	4	4	4	4
90th	5.5	5	6	6
NOBS	18,383	9,582	6,555	2,246

Percentiles of Duration Distribution	Left Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	1	1	1	2
40th	2	2	2	2
50th	3	2	3	3
60th	3	3	3	3
70th	4	4	4	4
80th	4	4	4	4
90th	5	5	5	6
NOBS	3,617	1,997	1,212	408

Percentiles of Duration Distribution	Hourly Wage Rate			
	ALL Individuals with valid HOURLY WAGE RATE	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution
	10th	1	1	1
20th	1	1	1	1
30th	2	2	2	2
40th	2	2	2	2
50th	3	3	3	3
60th	4	4	4	4
70th	4	4	4	4
80th	4	4	4	4
90th	6	6	6	7
NOBS	5,030	2,268	2,046	716

Percentiles of Duration Distribution	Monthly Earnings			
	ALL Individuals with valid MONTHLY EARNINGS	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	2	2	2	2
40th	2	2	2	2
50th	3	3	3	3
60th	4	4	4	4
70th	4	4	4	4
80th	4	4	4	4
90th	6	6	7	7
NOBS	5,752	2,916	2,174	662

Percentiles of Duration Distribution	Right Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	2	2	2	2
40th	2	2	2	2
50th	3	3	3	3
60th	4	4	4	4
70th	4	4	4	4
80th	4	4	4	5
90th	8	7	8	9
NOBS	2,540	1,292	856	392

Percentiles of Duration Distribution	Hourly Wage Rate			
	ALL Individuals with valid HOURLY WAGE RATE	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution
	10th	1	1	1
20th	1	1	1	1
30th	2	2	2	2
40th	2	2	2	2
50th	3	3	3	3
60th	4	4	4	4
70th	4	4	4	4
80th	4	4	5	4
90th	8	8	8	8
NOBS	3,440	1,495	1,389	556

Percentiles of Duration Distribution	Monthly Earnings			
	ALL Individuals with valid MONTHLY EARNINGS	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
	10th	1	1	1
20th	1	1	1	1
30th	2	2	2	2
40th	2	2	2	2
50th	3	3	3	3
60th	4	4	4	4
70th	4	4	4	4
80th	5	4	5	5
90th	8	8	8	9
NOBS	4,024	1,984	1,470	570

Percentiles of Duration Distribution	Double Censoring			
	ALL Individuals with valid HOURLY EARNINGS	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution
	10th	2	2	3
20th	4	4	4	4
30th	4	4	4	4
40th	4	4	4	4
50th	4	4	4	4
60th	4	4	4	4
70th	4	4	4	4
80th	4	4	4	4
90th	7	6	8	4
NOBS	290	138	101	51

Percentiles of Duration Distribution	Hourly Wage Rate			
	ALL Individuals with valid HOURLY WAGE RATE	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution
	10th	2	2	2
20th	4	4	4	4
30th	4	4	4	4
40th	4	4	4	4
50th	4	4	4	4
60th	4	4	4	4
70th	4	4	4	4
80th	4	4	4	4
90th	8	6	8	8
NOBS	478	198	205	75

Percentiles of Duration Distribution	Monthly Earnings			
	ALL Individuals with valid MONTHLY EARNINGS	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
	10th	4	2	4
20th	4	4	4	4
30th	4	4	4	4
40th	4	4	4	4
50th	4	4	4	4
60th	4	4	4	4
70th	4	4	4	4
80th	4	4	4	4
90th	8	8	8	8
NOBS	538	253	203	82

Wage Distributions

	Hourly Earnings	Hourly Wage Rate	Monthly Earnings
10th	\$6.60	\$7.10	\$705
20th	\$8.47	\$8.08	\$1,152
30th	\$10.21	\$9.06	\$1,542
40th	\$12.04	\$10.14	\$1,930
50th	\$14.14	\$11.34	\$2,352
60th	\$16.61	\$12.82	\$2,873
70th	\$19.79	\$14.80	\$3,503
80th	\$24.23	\$17.53	\$4,404
90th	\$32.07	\$22.44	\$6,073
NOBS	98,756	89,277	129,028

DURATION Distributions (months)

Percentiles of Duration Distribution	Hourly Earnings				Hourly Wage Rate				Monthly Earnings			
	ALL				ALL				ALL			
	ALL Individuals with valid HOURLY EARNINGS Distribution	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution	ALL Individuals with valid HOURLY WAGE RATE Distribution	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution	ALL Individuals with valid MONTHLY EARNINGS Distribution	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
10th	1	1	1	1	1	2	1	1	1	2	1	1
20th	2	2	2	2	2	2.5	2	2	2	3	2	2
30th	2.3	2.5	2	2.5	3	3.5	3	3	3	3.75	3	3
40th	3	3	3	3	4	4	4	3.5	4	4	3.3	4
50th	4	4	4	4	4	5	4	4	4	5.3	4	4
60th	4	4	4	4	5.7	6.3	5	4	6	7	4	4
70th	5	5.7	4	4	7.5	8	7	6.5	8	8.5	6	6.5
80th	7.5	8	7	7	10	11	9	9	10.5	12	8	9
90th	11	11	10	12	15	15.5	14	16	16	16	14.5	16
NOBS	24,393	12,653	8,009	3,731	34,850	16,455	12,906	5,489	42,153	22,781	13,627	5,745

Percentiles of Duration Distribution	No Censoring				No Censoring				No Censoring			
	ALL				ALL				ALL			
	ALL Individuals with valid HOURLY EARNINGS Distribution	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution	ALL Individuals with valid HOURLY WAGE RATE Distribution	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution	ALL Individuals with valid MONTHLY EARNINGS Distribution	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
10th	1	1	1	1	1	1	1	1	1	1	1	1
20th	1	1.5	1	1	2	2	1.5	1	2	2	1	1
30th	2	2	2	2	2	2.5	2	2	2	2.5	2	2
40th	2.3	2.5	2	2	3	3	3	2.5	3	3	2.5	2.5
50th	3	3	3	3	3.6	4	3	3	3.75	4	3	3
60th	4	4	4	4	4	4	4	4	4	4.3	4	4
70th	4	4	4	4	5	6	4	4	5	6	4	4
80th	5	6	4.5	4	7	8	6.5	5	7	8	5.3	4
90th	8	8	8	7.5	10	11	9	8	10	11	8	8
NOBS	13,282	6,970	4,446	1,866	18,721	8,711	7,157	2,853	21,440	11,575	7,146	2,719

Percentiles of Duration Distribution	Left Censoring				Left Censoring				Left Censoring			
	ALL				ALL				ALL			
	ALL Individuals with valid HOURLY EARNINGS Distribution	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution	ALL Individuals with valid HOURLY WAGE RATE Distribution	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution	ALL Individuals with valid MONTHLY EARNINGS Distribution	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
10th	1	1	1	1	1	1	1	1	1	1	1	1
20th	2	2	2	2	2	2	2	2	2	2	2	2
30th	2	2	2	2	3	3	3	3	3	3	3	3
40th	3	3	3	3	4	4	4	4	4	4	3	4
50th	4	4	4	4	4	5	4	4	4	5	4	4
60th	4	4	4	4	6	7	5	4	6	7	4	4
70th	5	6	4	4	8	8	7	7	8	8	6	5
80th	8	8	7	7	11	12	9	8	11.5	12	8	8
90th	12	12	10	12	17	18	16	16	17	19	15	13
NOBS	9,317	5,730	2,592	995	15,336	8,858	4,990	1,488	18,026	11,876	4,717	1,433

Percentiles of Duration Distribution	Right Censoring				Right Censoring				Right Censoring			
	ALL				ALL				ALL			
	ALL Individuals with valid HOURLY EARNINGS Distribution	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution	ALL Individuals with valid HOURLY WAGE RATE Distribution	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution	ALL Individuals with valid MONTHLY EARNINGS Distribution	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
10th	1	1	1	2	2	2	2	2	2	2	2	2
20th	2	2	2	3	3	3	3	3	3	3	3	3
30th	3	3	3	4	4	4	4	4	4	4	4	4
40th	4	4	4	4	4	4	4	4	4	4	4	4
50th	4	4	4	4	5	5	5	7	6	6	6	7
60th	6	6	6	7	8	8	8	8	8	8	8	9
70th	8	8	8	9	11	11	11	12	12	12	12	13
80th	12	12	12	13	16	15	16	18	16	16	16	18
90th	17	16	16	20	22	20	21	24	24	24	23	26
NOBS	7,044	3,834	2,085	1,125	11,675	5,797	4,024	1,854	14,559	8,571	4,033	1,955

Percentiles of Duration Distribution	Double Censoring				Double Censoring				Double Censoring			
	ALL				ALL				ALL			
	ALL Individuals with valid HOURLY EARNINGS Distribution	BOTTOM 30% of HOURLY EARNINGS Distribution	MIDDLE 40% of HOURLY EARNINGS Distribution	TOP 30% of HOURLY EARNINGS Distribution	ALL Individuals with valid HOURLY WAGE RATE Distribution	BOTTOM 30% of HOURLY WAGE RATE Distribution	MIDDLE 40% of HOURLY WAGE RATE Distribution	TOP 30% of HOURLY WAGE RATE Distribution	ALL Individuals with valid MONTHLY EARNINGS Distribution	BOTTOM 30% of MONTHLY EARNINGS Distribution	MIDDLE 40% of MONTHLY EARNINGS Distribution	TOP 30% of MONTHLY EARNINGS Distribution
10th	3	3	3	4	4	3	4	4	4	4	4	4
20th	4	4	4	4	4	4	4	4	4	4	4	4
30th	4	4	4	4	4	4	4	4	4	4	4	4
40th	4	4	4	4	4	4	4	4	4	4	4	4
50th	4	4	4	4	4	5	4	4	5	6	4	4
60th	4	4	4	4	8	8	7	8	8	8	8	8
70th	8	8	8	7	8	8	8	8	8	8	8	8
80th	8	8	8	8	12	12	12	12	12	12	12	12
90th	12	12	12	12	16	16	16	16	16	16	16	16
NOBS	1,677	859	526	292	3,267	1,600	1,170	497	4,193	2,290	1,272	631