NELP National Employment Law Project

DATA BRIEF
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The Good Jobs Deficit:

A Closer Look at Recent Job Loss and Job Growth Trends Using Occupational Data

In this report, we update NELP's previous analyses of job loss and job growth trends during and after the Great Recession, drawing on more detailed data than previously available. Specifically, we analyze employment trends for 366 detailed occupations, ranked by their median wages into three groups: lower-wage, mid-wage and higher-wage occupations. We find that:

- **During the recession, employment losses occurred throughout the economy, but were concentrated in mid-wage occupations.** Of the net employment losses between the first quarter of 2008 and the first quarter of 2010, fully 60.0 percent were in mid-wage occupations, 21.3 percent were in lower-wage occupations, and 18.7 percent were in higher-wage occupations.
- **In the weak recovery to date, employment growth has been concentrated in lower-wage occupations, with minimal growth in mid-wage occupations and net losses in higher-wage occupations.** From the first quarter of 2010 through the first quarter of 2011, lower-wage occupations grew by 3.2 percent, with retail salespersons, office clerks, cashiers, food preparation workers and stock clerks topping the list. Mid-wage occupations grew by only 1.2 percent and higher-wage occupations declined by 1.2 percent.
- **The net result is that the current U.S. jobs deficit is not evenly distributed.** It is largest among mid-wage occupations (8.4 percent below pre-recession employment), compared to higher-wage occupations (4.1 percent below pre-recession employment) and lower-wage occupations (0.3 percent below pre-recession employment).
- **In addition, workers' real wages have shown no growth since the start of the recession.** Of greatest concern, workers in lower-wage occupations have seen a significant 2.3 percent decline in real wages – precisely the occupations that are generating the bulk of recovery employment growth.
- **Even before the Great Recession, the U.S. labor market was already seeing inadequate growth in mid-wage occupations.** From the first quarter of 2001 to the first quarter of 2008, lower-wage and higher-wage occupations saw significantly higher net employment growth than did mid-wage occupations.

We should emphasize that it is too early in the recovery to predict whether these trends will continue. But to date, the dominant growth in lower-wage occupations suggests that at the very least, workers currently navigating the U.S. labor market are facing a significant good jobs deficit. That deficit is not only due to the Great Recession, but is also a legacy of years of inadequate growth in mid-wage jobs well before the recession began.

Employment trends in occupations during and after the Great Recession

In what follows, we analyze data from the Current Population Survey (CPS), the main government survey providing information on wages, hours and earnings for U.S. workers (see Appendix for details on data and methods).

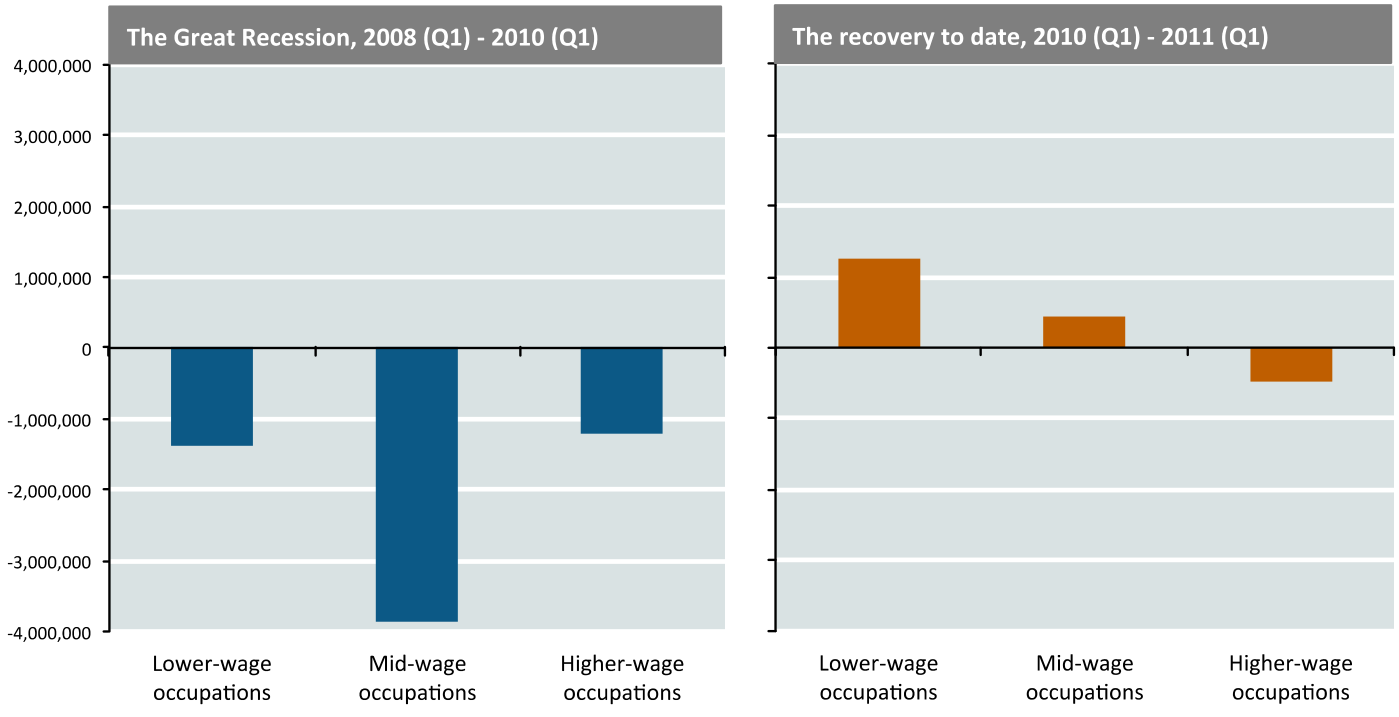
Specifically, we examine employment trends in 366 detailed occupations. In order to track trends over time in these occupations, paying attention to the wages they pay, we conducted the following analysis. We began with the first quarter of 2008, and ranked the 366 occupations by their median hourly wage. We formed three equal groups, each representing a third of U.S. employment:

Lower-wage occupations: median hourly wages range from $7.51 to $13.52 (in 2011 dollars)
Mid-wage occupations: median hourly wages range from $13.53 to $20.66 (in 2011 dollars)
Higher-wage occupations: median hourly wages range from $20.67 to $53.32 (in 2011 dollars)

We then tracked net employment changes in these three groups over time, as shown in Figure 1. The first panel shows net changes in employment from the first quarter of 2008 (employment peaked in January 2008) to the first quarter of 2010 (employment hit bottom in February 2010). The second panel shows net changes in employment from the first quarter of 2010 to the first quarter of 2011 (most recent quarter available).[1] The pattern is striking.

During the Great Recession, employment losses occurred across the board, but were concentrated in mid-wage occupations. Of the net losses during this period, 21.3 percent were in lower-wage occupations, 60.0 percent were in mid-wage occupations, and 18.7 percent were in higher-wage occupations. **But in the weak recovery to date, employment growth has been concentrated in lower-wage occupations, with minimal growth in mid-wage occupations and net losses in higher-wage occupations.**[2]

Figure 1. Net change in occupational employment during and after the Great Recession



Source: NELP analysis of Current Population Survey (EPI Outgoing Rotation Files)

An obvious question is which occupations have grown the most during the recovery to date. Unfortunately, this is not an easy question to answer with the 366 detailed occupations that are the focus of our analysis. The problem is that some jobs are highly disaggregated and scattered across multiple occupational categories, whereas others are combined into only one or two occupational categories and therefore dominate the analysis.[3] With this cautionary note, Table 1 lists the occupations with the biggest employment changes during the recovery, for the three occupational groups.

Table 1. Occupations with the biggest employment changes during the recovery

	Employment change, 2010 Q1–2011 Q1	Median hourly wage (2011 dollars)
Lower-wage occupations with the biggest growth		
Retail salespersons	281,523	10.72
Office clerks, general	184,168	13.21
Cashiers	179,677	8.83
Food preparation workers	148,436	8.84
Stock clerks and order fillers	142,197	10.82
Miscellaneous assemblers and fabricators*	138,900	13.24
Waiters and waitresses	102,301	7.51
Child care workers	92,353	9.60
Grounds maintenance workers	87,615	10.87
Chefs and head cooks	78,784	12.82
Mid-wage occupations with the biggest growth		
Machinists	158,546	17.38
Bookkeeping, accounting, and auditing clerks	150,269	15.61
Metalworkers and plastic workers, all other*	140,966	14.15
Food service managers	136,937	15.00
Preschool and kindergarten teachers	98,330	13.74
Telecommunications line installers and repairers	94,997	20.66
Bailiffs, correctional officers, and jailers	81,609	16.09
Sales representatives, services, all other	80,379	20.43
First-line supervisors/managers of production and operating workers	79,622	19.45
Other teachers and instructors	75,179	17.71
Higher-wage occupations with the biggest losses		
Managers, all other*	-189,505	28.30
Computer scientists and systems analysts	-183,315	29.15
Human resources, training, and labor relations specialists	-168,262	21.71
Registered nurses	-120,248	26.89
Accountants and auditors	-117,890	24.60
Police and sheriff's patrol officers*	-98,325	21.35
Chief executives	-96,635	41.62
First-line supervisors/managers of construction trades and extraction workers	-94,951	21.72
Electrical and electronic engineers	-76,507	36.37
Personal financial advisors	-71,087	29.56

Source: NELP analysis of Current Population Survey (EPI Outgoing Rotation Files)
** This category includes several smaller categories that were recoded into it because of small sample sizes.*

At this point it is important to remind readers that despite recent growth, the United States is still facing a severe deficit of 11 million jobs. Moreover, Table 2 shows that this jobs deficit is largest among mid-wage occupations (8.4 percent below pre-recession employment), compared to higher-wage jobs (4.1 percent below pre-recession employment) and especially lower-wage jobs (0.3 percent below pre-recession employment).

Table 2. Net change in occupational employment, as a percentage of starting employment

	During the recession 2008 Q1–2010 Q1	The recovery to date 2010 Q1–2011 Q1	Total change, 2008 Q1–2011 Q1
Lower-wage occupations	-3.4%	3.2%	-0.3%
Mid-wage occupations	-9.5%	1.2%	-8.4%
Higher-wage occupations	-2.9%	-1.2%	-4.1%
Total	-5.3%	1.1%	-4.3%

Source: NELP analysis of Current Population Survey (EPI Outgoing Rotation Files)

Finally, we should emphasize that it is too early in the recovery to predict whether these trends will continue. But these findings do show a stark, disproportionate loss in mid-wage occupations during the Great Recession – putting a heavy burden on the recovery to replenish the stock of mid-wage jobs. And yet to date, it has been lower-wage occupations that have seen the strongest growth, suggesting that workers currently navigating the U.S. labor market are facing a good jobs deficit.

Trends in workers' wages during and after the Great Recession

Our analysis to this point has focused on tracking changes in employment in lower-, mid-, and higher-wage occupations. In addition, there have been changes in the wages that those occupations pay. In Table 2, we show changes in real median wages, for workers in each of the three occupation groups.

The overall trends are well-known: real wages grew during 2008 because inflation was essentially flat, but thereafter lost ground. Averaged over the whole period, from the first quarter of 2008 to the first quarter of 2011, real wages actually show a mild decline. And this decline was not evenly distributed, with workers in lower-wage occupations seeing the largest drop in real wages, at 2.3 percent over the full period – a pattern that is of great concern, because it is precisely lower-wage occupations that have seen the bulk of recovery employment growth. Workers in mid-wage occupations saw more modest declines over the full period, while workers in higher-wage occupations actually saw slight gains in real wages.

Table 3. Change in workers' real median wages since the start of the recession

	2008 Q1–2009 Q1	2009 Q1–2010 Q1	2010 Q1–2011 Q1	Total change, 2008 Q1–2011 Q1
Lower-wage occupations	0.4%	-1.1%	-1.5%	-2.3%
Mid-wage occupations	3.2%	-0.9%	-3.0%	-0.9%
Higher-wage occupations	1.9%	0.6%	-1.6%	0.9%
Total	2.5%	-0.5%	-2.5%	-0.6%

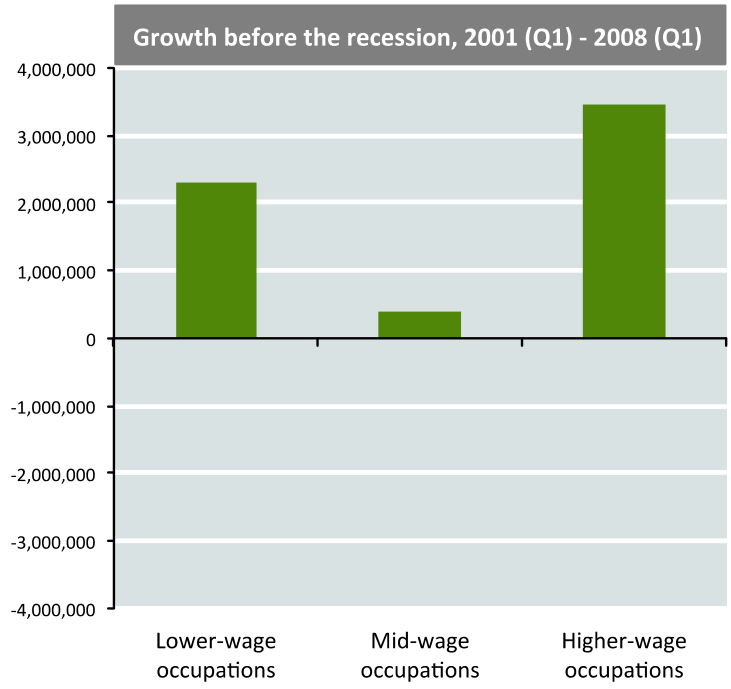
NELP analysis of Current Population Survey (EPI Outgoing Rotation Files)

Employment trends in occupations before the Great Recession

It is important to understand that even before the Great Recession, the U.S. labor market was already in trouble in terms of job quality. In Figure 2, we illustrate this longer-term trend by analyzing employment growth in occupations before the recent recession. Specifically, we look at job growth from the employment peak in February 2001 to the employment peak in January 2008, allowing us to highlight secular trends that are not confounded by variations in the business cycle.

The logic of the analysis is similar to the one above. Beginning with the first quarter of 2001, we ranked the 366 occupations by their median hourly wage. We formed three equal groups, each representing a third of U.S. employment, and tracked net employment growth through the first quarter of 2008.[4] The pattern is again striking: lower-wage and higher-wage occupations saw significantly higher employment growth than did mid-wage occupations during this period. In fact, mid-wage occupations only constituted 6.2 percent of net employment growth during this period.

Figure 2. Net change in occupational employment before the Great Recession



Source: NELP analysis of Current Population Survey (EPI Outgoing Rotation Files)

We present this analysis because up until now, policymakers have understandably been focused on the immediate goal of simply getting the U.S. economy back to where it was before the recession, in terms of job creation and economic growth. But Figure 2 underscores that even if we succeed in this short-term goal, workers will still be confronting the longer-term loss of good jobs and the growth of an hourglass economy. In future research on the recession and trends in job quality, it will therefore be important to incorporate broader trends in the U.S. labor market.

The relationship between occupations and industries

We conclude with a brief discussion of the relationship between this report's analysis of trends in occupational employment, and NELP's previous analysis of trends in industry employment. Both reports show strong bottom-heavy growth during the recovery following the Great Recession, and both show a distinct difference between where the jobs were lost and where they have been gained. The findings of the two reports do differ, however, for the patterning of employment losses during the recession itself.

Specifically, our previous industry analysis, based on Current Employment Statistics (CES) data, shows that the biggest recession employment losses occurred in higher-wage industries, whereas this report's analysis, based on the Current Population Survey (CPS), shows that the biggest losses occurred in mid-wage occupations. This is not surprising, since industries and occupations are not the same thing: as we described in our previous analysis, any given industry contains a wide range of occupations that often pay very different wages, and there is no inherent reason that an industry's employment losses or gains should be equally distributed across those occupations. For example, one could imagine that lay-offs in higher-wage industries such as finance and insurance were focused on mid-wage occupations rather than higher-wage occupations. (This type of fine-grained analysis is beyond the scope of the current report, but constitutes an important area for future research on jobs loss patterns during the Great Recession.) Finally, it is likely that differences between the two data sources are playing a role as well (for example, the CPS yields a somewhat different ranking of industries based on their wages compared to the CES, likely because the CPS is a worker survey and the CES is an establishment survey).

Endnotes

[1] Although the recession officially ended in June 2009, U.S. nonfarm employment continued to decline until February 2010. In this report, we use "recession" as short-hand for this entire period of net job loss, and "recovery" for the ensuing period of net employment growth. Also, readers should be aware that employment estimates from the Current Population Survey (CPS) differ from employment estimates from the Current Employment Statistics (CES) series; this difference is well-documented, and CES estimates are typically treated as the authoritative data source on overall employment levels. Our analysis of the CPS focuses on differences across different groups of occupations, rather than overall employment counts.

[2] We emphasize that we are calculating net employment changes for each of the three occupational groups; within any one group, there are individual occupations that have gained employment and occupations that have lost employment.

[3] The solution would be to aggregate to broader classes of codes. Unfortunately, the Census coding scheme only provides a highly aggregated set of 22 codes, which go too far in the other direction, grouping together different types of occupations, often with very different wages and employment trends.

[4] The results do not change appreciably when defining the three occupational groups in terms of 2008 Q1 employment instead of 2001 Q1 employment (the differential growth pattern is actually stronger).

Acknowledgements

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Appendix: Data and methods

The analyses presented in this Data Brief draw on the Current Population Survey (CPS), a representative monthly survey of about 50,000 households in the U.S. that gathers a wide range of demographic and labor force information on workers, including the occupations they worked in and the wages they earned. Specifically, we use the CPS Outgoing Rotation Files, prepared by the Economic Policy Institute for the Economic Analysis Research Network (EARN). For the analyses presented in this report, we included the civilian population, age 18-64, that was working for pay in the week prior to the survey (we exclude the self-employed).

The core of our analysis focuses on employment trends in 366 detailed occupations, coded according to the Census 2002 occupational classification system. In order to form a consistent series of occupation codes over the years analyzed in this report, minor recoding was necessary (resulting in the reclassification of 2.7 percent of cases) since some codes did not appear in every year. In addition, a revised coding system was introduced with the January 2011 CPS; we used the Census 2002-2010 crosswalk to recode 2011 data to the 2002 classification system. (The changes in the 2010 coding system were not nearly as dramatic as ones in past decades, meaning that a sound reconciliation was possible.)

For each occupation, we calculated the median hourly wage of respondents currently working in that occupation. A well-documented problem is that workers often round their hourly wages (i.e. to $10.00 when the actual wage might be $10.13) when responding to surveys, resulting in "heaps" in the wage distribution; we therefore smoothed hourly wages in each year before calculating median wages for each occupation. When comparing wages over time, we used the CPI-U to adjust for inflation.

In tracking employment changes at the occupational level over time, we used the following time points to correspond to peaks and troughs of the business cycle and to ensure that we were measuring employment levels at the same time of the year (since employment levels in particular occupations are strongly seasonal):

- First quarter of 2001 (peak U.S. nonfarm employment month was February 2001)
- First quarter of 2008 (peak U.S. nonfarm employment month was January 2008)
- First quarter of 2010 (trough month for U.S. nonfarm employment was February 2010)
- First quarter of 2011 (most recent quarter available)

In order to simplify the analysis, we collapsed the 366 occupations into three groups (lower-wage, mid-wage, and higher-wage). For Figure 1, occupations were ranked by their median wage from lowest to highest, weighted by occupational employment in Q1 2008; we formed three equal thirds, and then tracked net employment changes in these thirds over time. For Figure 2, occupations were similarly ranked by their median wage from lowest to highest, weighted by occupational employment in Q1 2001 and then grouped into three equal thirds. The substantive results do not change when using more disaggregated groupings of the occupations; we present thirds here for ease of understanding.