This report examines the extent to which high unemployment brought on by the Great Recession and job polarization are connected. The question is particularly relevant as policymakers debate how best to create more jobs. If high unemployment increased job polarization, then structural factors such as a “mismatch” between worker skills and job requirements may have grown. If that is the case, then the United States may require new active labor market policy solutions, such as more effective job training programs, to reduce skill mismatch.

If, on the other hand, abnormally high unemployment and job polarization are largely unrelated, then unemployment will abate only when demand for goods and services increases. In this case, further fiscal stimulus may be an effective tool to reduce unemployment. However, even in this case the natural rate of unemployment may gradually increase with greater skill mismatch; unemployment may fall with new fiscal stimulus but settle at a higher level than before the recession, arriving at a “new normal.” Moreover, job polarization will likely remain a long-term challenge for the earnings prospects of middle-skill workers, regardless of whether it accelerated during the recession.

To assess whether the Great Recession accelerated the trend in job polarization, this brief analyzes data tracking workers’ wages and employment status over time, during periods of both economic expansion and contraction. In particular, we compare the labor market performance over three years of three groups of workers: those who initially earned “low,” “middle,” or “high” hourly wages in a year prior to the Great Recession. We use hourly wages at the start of the observation period, which we refer to as the “initial wage” for a worker.

Growth in unemployment during the Great Recession and job polarization appear to be distinct economic phenomena. Still, policymakers will have to grapple the long-term challenges faced by middle-skill workers.
periods as proxies for worker skill level because higher skills are generally rewarded by higher wage rates in the labor market.

Our approach to job polarization and the Great Recession is novel because we use data that allow us to track the same workers over time across jobs and spells of unemployment. We thereby avoid confounding changes in market supply and demand with other factors such as the changing composition of the workforce, which is a concern when analyzing data from year-to-year snapshots of the working population.

We explore the likelihood of unemployment, long-term unemployment, wage growth, and fringe benefit receipt over two separate three-year periods. The first three-year period covers the expansion of 2004 through 2007 (referred to hereafter as the 2004 panel). The second three-year period covers the Great Recession and its aftermath, 2008 through 2011 (referred to hereafter as the 2008 panel). Using both panels, we determine whether job polarization appears any different during periods of high and low unemployment.

We find that job polarization did not increase during the Great Recession. That is, there is little evidence that middle-wage workers disproportionately suffered wage or job losses during the Great Recession as compared to middle-wage workers before the recession. Workers of all wage groups experienced proportional increases in the three-year incidence of unemployment from 2008 to 2011. There are two notable exceptions to that pattern, however.

First, when compared with higher-wage workers, middle-wage workers experienced a larger decline in employer-provided health insurance coverage during the Great Recession than during the earlier expansion from 2004 to 2007. Second, among workers who experienced an unemployment spell and were subsequently reemployed, middle-wage workers suffered proportionately greater wage losses relative to other groups during the Great Recession than during the expansion.

With record-long unemployment spells still underway, a substantial number of those who became unemployed during the recession have not yet found jobs, and it is impossible to know what their reemployment wages will be. Those long-term unemployed workers may suffer additional wage penalties because of their extended joblessness; alternatively, their prolonged job search may land them higher-paying jobs than those who became reemployed quickly. As such, the declining wages (on average) of reemployed workers merely suggest possible future increases in polarization of the labor market.

Data
We use the 2004 and 2008 panels of the Survey of Income and Program Participation (SIPP) for our analysis. The SIPP is a nationally representative survey designed to track monthly household income, labor force connection, and program participation over several years. We measure workers' initial characteristics in the first month of each panel and then measure outcomes over the next 31 months.3 Our sample is restricted to wage and salary workers age 25 to 57 who are employed full-time in the first month of the survey.

We use workers' hourly wage rates to group them into three categories (low-, middle-, and high-wage workers) each representing one-third of all the workers.4 Workers are subsequently classified as unemployed if they do not have a job but are actively looking for work for at least one calendar month between month 1 and month 32. Long-term unemployment is defined as workers being unemployed in at least six consecutive calendar months, regardless of their current state in month 1 or month 32. Some of the long-term unemployed may become reemployed or become discouraged workers by the end of the panel.

The Risk of Unemployment
Middle-wage workers, who are presumed to be most adversely affected by job polarization, have experienced about the same increase in unemployment risk as have

Exhibit 1. Risk of Workers Experiencing Unemployment over 32 Months

<table>
<thead>
<tr>
<th>Initial wage-percentile group</th>
<th>2004</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>5.4</td>
<td>10.2</td>
</tr>
<tr>
<td>Middle</td>
<td>8.6</td>
<td>13.9</td>
</tr>
<tr>
<td>High</td>
<td>13.3</td>
<td>21.4</td>
</tr>
</tbody>
</table>

Percent

Source: Authors’ calculations based on Survey of Income and Program Participation, 2004 and 2008 panels.
high-wage workers between the expansionary years of the 2004 panel and the recession years of the 2008 panel. Exhibit 1 shows that middle-wage workers are always at greater risk of unemployment than high-wage workers but face less risk than low-wage workers. Changes in unemployment risk do not show any pattern of increased risk of unemployment by initial wage group. For low-wage workers, the probability of experiencing unemployment rose from 13 percent for the 2004 panel to 21 percent for the 2008 panel. It also rose from 9 percent to 14 percent for middle-wage workers and from 5 percent to 10 percent for high-wage workers. In other words, all workers experienced a substantial rise in the risk of unemployment.

Similarly, changes in long-term unemployment fail to coincide with the standard job polarization story. The dramatic rise in long-term unemployment has been a defining characteristic of the Great Recession regardless of initial wage level. Low-wage workers have seen the risk of long-term unemployment increase from 3 percent to 10 percent, middle-wage workers from 2 percent to 7 percent, and high-wage workers from 1 percent to 4 percent (see exhibit 2).

**Wage Growth**

In a weak labor market, even those fortunate enough to have a job may suffer slower wage growth than they would during economic expansions. Exhibit 3 examines the pace of real median wage growth across skill groups.5 To ease interpretation, it is helpful to explore the “baseline” pattern of wage growth in the 2004 panel. Real wages actually declined most for high-wage workers with more modest declines for middle-wage workers. Low-wage workers experienced substantial wage growth. Some of this pattern may simply reflect regression to the mean, where relatively high wages are followed by relatively low wages after three years, either because of economic shocks or measurement error in wage reporting. Regression to the mean does not, however, explain changes in wage growth patterns between the 2004 and 2008 panels.

Changes in the pattern of wage growth do not suggest any acceleration in polarization during the recession. Growth for middle-wage workers changes from negative 4 percent for 2004 to barely positive for 2008, while high-wage workers have continued to experience even weaker wage growth—negative 8 percent for 2004 and negative 1 percent for 2008. Low-wage workers have performed relatively best, with 8 percent
growth for 2004 and 10 percent for 2008. These results may seem surprising because all wage groups appear to perform better during the Great Recession than they did before it. However, the substantial increases in unemployment during the Great Recession likely mean that the least-skilled workers within each group are excluded from these wage group calculations, which will overstate each group’s wage growth in 2008. This will not necessarily bias the relative wage growth patterns.\(^6\)

Evidence for changes in the rate of polarization in wage rates may be obscured by differences in unemployment between wage groups during the expansion and the recession. Consequently, we split our sample of workers into two groups—those who were continuously employed during the 32-month study periods and those who experienced at least one period of unemployment.

Among continuously employed workers, we find no evidence of disproportionate wage losses for middle-wage workers during the Great Recession.\(^7\) Wage changes again show a pattern similar to that observed for all workers, with real wage growth better in 2008 than in 2004 for all continuously employed workers (see exhibit 4). Continuously employed middle-wage workers experienced median wage change of negative 2 percent in 2004 and positive 2 percent in 2008. Low-wage workers experienced median wage growth of 8 percent in 2004 and 11 percent in 2008. For high-wage workers, median wage change was negative 5 percent in 2004 and negative 1 percent in 2008.

However, for workers who do experience unemployment, the story is very different.\(^8\) Workers in the middle-wage group who were ever unemployed over the 30 months between the first wage observed and the last have real median wage growth substantially lower in 2008 than in 2004. In contrast, high-wage workers and low-wage workers have higher median real wage growth in 2008 than in 2004 (exhibit 5). If polarization has increased during the recession, it is only among the reemployed that we see evidence of the trend in declining wages.

**Health Insurance**

Wages are not the only form of compensation. Fringe benefits play an important role, especially employer-sponsored health insurance. As wage inequality has increased, broader measures of compensation that include access to employer-provided health insurance, pensions, and paid leave have followed a similar trajectory.\(^9\)
Dramatic net losses of employer-sponsored health insurance (from own employment or from a spouse’s or another person’s employment) accelerated between 2004 and 2008 (exhibit 6), and these losses were not offset by other sources of coverage in 2008 to the degree they were in 2004 (exhibit 7). This is particularly the case for low- and middle-wage workers.

**Conclusion**

Following groups of workers over two separate three-year periods, we find little evidence that job polarization has increased during the Great Recession. The Great Recession led to uniformly higher unemployment and long-term unemployment for all wage groups. We do find some evidence of larger wage losses (relative to pre-recession changes) for middle-wage workers who experience unemployment during the Great Recession as well as larger declines in employer-sponsored health insurance. Overall, we conclude that the growth in unemployment during the Great Recession and polarization are largely distinct economic phenomena. Still, given that job polarization shows no signs of stopping, policymakers will have to grapple with the long-term challenges faced by middle-skill workers in addition to the pressing challenge of high and prolonged unemployment.
Job Polarization and the Great Recession

Notes


2. Previous studies that explore the mismatch and aggregate demand explanations for high unemployment include Elsby et al. (2011), Mian and Sufi (2012), Mishel, Shierholz, and Edwards (2010), and Neumark and Valletta (2012).

3. Because of the way the SIPP conducts interviews, data for the 2004 panel run from October 2003 to May 2006 for the first group interviewed and from January 2004 to August 2006 for the last group interviewed. Data from the 2008 panel run from May 2008 to December 2010 for the first group interviewed and from August 2008 to March 2011 for the last group interviewed.

4. The hourly wage is constructed as total real monthly earnings divided by total hours worked in the month; wages are deflated by the Consumer Price Index Research Series. To limit the influence of outliers, we exclude observations with initial real hourly wages below the 5th percentile and above the 95th percentile. Low-wage workers have real hourly rates of $5.08 to $14.19 in 2004 and $5.01 to $13.51 in 2008 (in December 2011 dollars). Middle-wage workers’ real wage rates fall between $14.19 and $21.62 in 2004 and $13.51 and $22.83 in 2008; high-wage workers’ real wage rates fall between $21.62 and $56.28 in 2004 and $22.83 and $55.25 in 2008 (in December 2011 dollars).

5. To measure a change in wages, we restrict the sample to those employed at both the start and end months of the SIPP panel.

6. One factor that may contribute to wage growth for low-wage workers is increases in the minimum wage. The federal minimum wage increased from $5.85 to $7.25 during 2007–2009, after a period of stagnation from 1997 to 2007. Several states also raised their minimum wage between 2004 and 2006 (Florida, Illinois, Minnesota, New York, and New Jersey, by at least a dollar), or between 2008 and 2010 (though the states mostly kept pace with the new federal minimum—only Connecticut, Oregon, Washington, and the District of Columbia ended 2010 with a minimum at least a dollar higher than the federal minimum.

7. The sample is restricted to workers who were not out of work for one calendar month during the 31-month interval. Workers did not need to remain at the same employer.


References


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Unemployment and Recovery Project

This brief is part of the Unemployment and Recovery project, an Urban Institute initiative to assess unemployment’s effect on individuals, families, and communities; gauge government policies’ effectiveness; and recommend policy changes to boost job creation, improve workers’ job prospects, and support out-of-work Americans.

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