

Job Growth from page 5

comply [a higher growth rate]. ... There's not a lot of slack where we can grow jobs as fast as we could in the past."

For some industries, returning to prerecession job levels is not necessarily a desirable goal. Hine cautioned that "we don't really want to get back to where we were" before the recession in terms of now-obvious job imbalances in the housing market and financial and real estate services.

At the same time, Hine believes that tight labor markets might eventually benefit workers by putting upward pressure on wages, another "Waiting for Godot" matter that has garnered considerable attention from workers and policymakers worried about persistently slow wage growth.

"It's been so many years since employers have had to really compete for workers," Hine said. "There's been this business mantra on limiting costs and wage growth" to stay competitive, and doing something different is difficult for firms, especially early adopters.

"But there have been anecdotes of wage pressure starting to build," Hine added, pointing to Wal-Mart's decision to push up its minimum company wage across the board. "Maybe it's a sign that [employers] are going to have to raise wages to attract labor ... much as was recognized by employers in North Dakota," a state that went from one of the lowest median incomes to the second highest in the country in the span of a decade in response to the huge demand for workers in the oil patch.

"It will become an economic necessity over the course of the next 15 years. There is such limited labor force growth; employers are competing almost for a fixed pool of job candidates. And that is sort of new territory," said Hine.

Though wage pressure is not yet showing up much in the data, there is talk of it. In manufacturing, for example, there are 5,000 job openings in Minnesota, according to Bob Kill, president and CEO of Enterprise Minnesota, a nonprofit consulting organization to manufacturers. Many of these openings go unfilled because of skill shortages among available workers.

As a group, Kill said, manufacturers "are optimistic because they feel they can compete with anyone ... and the challenge they have [in attracting labor] is under their control." In focus groups and polls over the past two years, manufacturing employers "say wages are going up, and they expect them to continue," said Kill. "More employers are getting more proactive" on wages to attract employees. "They have to think of careers for their employees." ■

## Down the rabbit hole of occupational job growth

*Occupational Employment Statistics offer cautious insights*



ILLUSTRATION BY JAMES O'BRIEN

By RONALD A. WIRTZ  
Editor

All data have limitations. They can tell a story, maybe even a good one, but they often offer only a partial perspective.

For example, job growth among major industries is useful for seeing trends and activity among different and important parts of the economy (see cover article). Yet despite this seeming breadth, industry-based data have limited insights because the data do not allow for any differentiation among workers in an industry.

For example, all employees at health care organizations have the same worker-bee label, despite the fact that certain health care organizations, like large hospitals, are often their own self-contained economies, with workers of virtually every stripe under one industry roof—doctors and nurses, of course, but also cooks, janitors, real estate professionals, helicopter pilots, executives, administrative assistants, technology professionals, graphic designers, communications specialists, heating and cooling engineers, plumbers, accountants—you get the idea.

Each of these jobs is a separate occupation, with its own pay scale and education requirements. And although health care employment might be growing, it might not be growing across the board in terms of these many occupations within a health care organization.

So looking at occupations offers another useful perspective on job growth. According to data from the Occupational Employment Statistics (OES)

from the U.S. Bureau of Labor Statistics (BLS), Minnesota saw strong job growth from 2007 to 2014 in lower-paying fields like personal care and service. But jobs also grew in computer/math and management, which are high-paying fields. Most occupations that saw a decline in jobs over this period were in the middle of the occupational wage distribution. Since the end of the recession, wages in most occupational groups have risen very little. This is generally true for all segments of earners within each occupational group—wages have been slow to rise for low, median and higher earners.

Just one (huge) caveat: OES data have considerable limitations in any occupational analysis that focuses on change over time. Think of the OES as the flashing yellow light of job databases. You may proceed, but there are risks, so use caution.

Some background: The OES is a database of more than 800 occupations, grouped conveniently into 22 major categories (the latter of which is the basis of this analysis). These data on jobs at non-farm establishments are compiled every six months via survey by the BLS. Annual occupation figures are a rolling tabulation of three years' worth of surveys (six in all). Among many uses, this information feeds estimates of current and future employment needs and job opportunities used to develop many education and workforce development plans.

On its website, the BLS calls the OES program "the only comprehensive source of regularly produced occupational employment and wage rate information" for national and state economies. Remember that little tid-

bit, because from here the analysis goes down the methodological rabbit hole to identify the source of caution.

The BLS notes that although the OES is designed to create detailed annual employment and wage estimates, "it is less useful for comparisons of two or more points in time" because of a variety of changes over the years—in methodology, survey execution, data definitions—that can affect survey results in a given year. For example, there have been periodic alterations to occupational and industrial classification systems that are the backbone of the OES. Considerable effort is made to harmonize classifications systems in any update, but perfect matches are elusive.

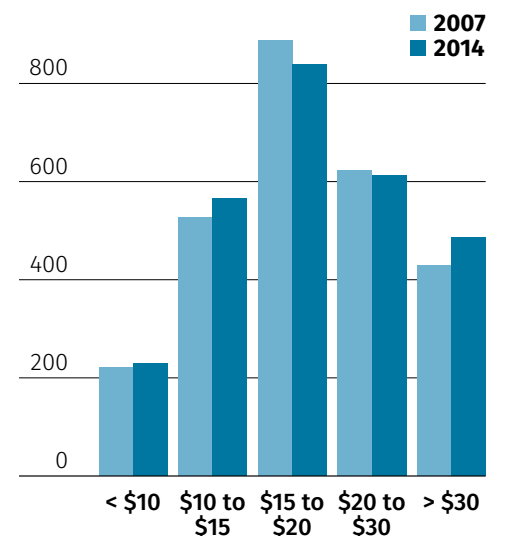
But a bigger issue is the survey methodology itself. Because OES data are the product of three years' worth of rolling surveys—six surveys with various amounts of sample overlap—the BLS strongly advises against the use of OES data for time-series comparisons that attempt to track annual changes over time.

However, OES data do allow for comparing two points in time, provided they are three or more years apart (the BLS itself has published research doing so). But because of these methodological matters, this is only a comparison of two

### Employment change by occupational median wage

Minnesota

1000 thousand



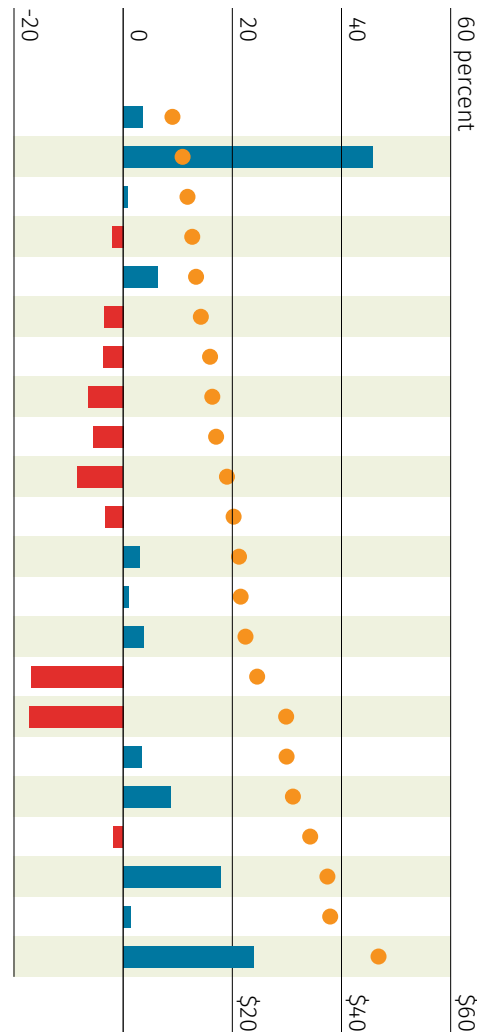
Source: Bureau of Labor Statistics, Occupational Employment Statistics

2 Minnesota employment change and median wage by occupational group

■ Employment change, 2007 to 2014 (top axis)  
● Median wage, 2014 (bottom axis)

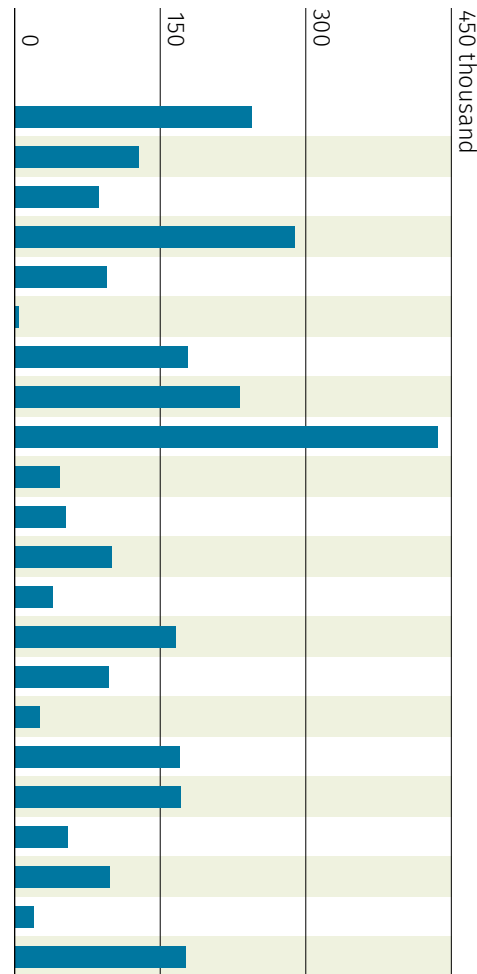
Occupational group

- Food preparation and serving related
- Personal care and service
- Building and grounds maintenance
- Sales and related
- Healthcare support
- Farming, fishing and forestry
- Transportation and material moving
- Production
- Office and administrative support
- Protective service
- Community and social services
- Installation, maintenance and repair
- Arts, entertainment and media
- Education, training and library
- Construction and extraction
- Life, physical and social science
- Business and financial operations
- Healthcare practitioner and technical
- Architecture and engineering
- Computer and mathematical
- Legal
- Management



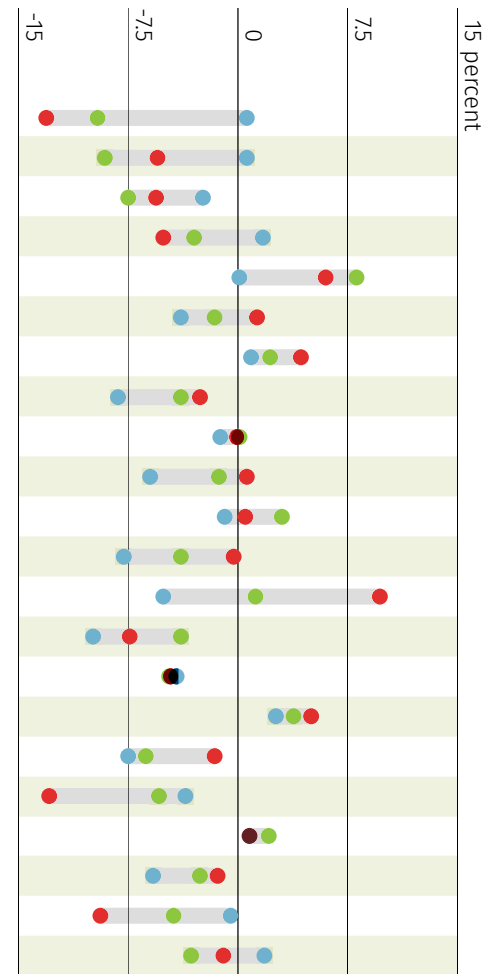
Source: Bureau of Labor Statistics, Occupational Employment Statistics

3 Minnesota employment by occupational group, 2014



4 Change in Minnesota hourly wages, 2009 to 2014, PCE adjusted

● 90th percentile of wages (high)  
● Median hourly wages  
● 10th percentile of wages (low)



data snapshots. Think of taking a photo of a nature scene and then returning several years later to document the change. You might go back to the same field, and you might notice and capture a lot of change. But you also might not be standing in exactly the same spot as the one where the first picture was taken, and as a result the camera angle might a bit different. You also don't know exactly when or how any change happened.

On its website, the BLS says it is considering methodological changes to the OES "that would make data useful for time-series comparisons, at least at more aggregated levels, but these are only in early stages of discussion."

Still, given these concerns, why use the OES data at all to look at occupational change?

"Because that's the best data we have. There is nothing else," said Oriane Casale, assistant director of the Labor Market Information Office of the Minnesota Department of Employment and Economic Development.

With these notable caveats, the *fedgazette* analyzed OES data on Minnesota to

gain insights into occupational job and wage changes since the Great Recession. Overall employment in the state grew by 1.6 percent from 2007 to 2014. But OES data suggest that only half of the 22 major occupational groups were above their 2007 employment levels (see Charts 1-3). The largest job increases, in terms of both absolute number and growth rates, were mostly in lower- and higher-paying occupations. Personal care and service occupations (which include jobs in home care, child daycare, funeral homes and other service industries) saw employment growth leap by 38,000 jobs (or 46 percent) over the seven-year period, easily the largest increase among all occupational groups. This set of occupations has the second-lowest median income among major occupational groups.

At the same time, two of the largest occupational job gainers—computer/math and management occupations—are among the top-paying occupations (by median wage); both groups are also in or very near the top half of occupations in total employment. Broadly speaking,

occupational growth was stronger (more positive) among both lower-paying and (especially) higher-paying occupations; those occupations still below prerecession employment levels—like construction—were most often in the comparative middle of median wages.

The OES also offers an opportunity to look more closely at wage behavior. Commonly referenced wage data—from the Quarterly Census of Employment and Wages, or the Current Employment Statistics—track wages at the industry level, which encompasses a stew of occupations. These databases also tabulate average wages, which are surely useful but gauge wage behavior only in the middle; they offer no insight into wage behavior over the whole distribution of workers, and particularly at the high and low end, where much of the public's attention currently is focused.

The OES does offer insights into wage behavior across the whole distribution of workers—albeit with all of the resident caveats that apply to occupational job counts, and then some. Ideally, any wage analysis should follow the same firms

over time "or at least firms with the same characteristics," according to Casale. But OES-based comparisons that should be at least three years apart give you a "fairly random draw" of firms with the exception of very large firms and government, she said.

With those provisos, OES wage data for 2009 and 2014 were gathered for 22 major occupation groups in Minnesota at the 10th (low), median and 90th (high) percentiles of wages. This allows for insights into how wages changed among and within occupational groups since the end of the recession.

These data suggest that, after adjusting for inflation, wages have been flat—or worse—throughout much of the wage distribution (see Chart 4). Among 22 occupations, there were nine occupational groups where inflation-adjusted wages fell at all three wage levels (10th/50th/90th percentile). Only four occupations saw inflation-adjusted wages rise over this period at all three levels. No wage level saw consistent wage growth among the 22 occupational groups. ■