

# New Data for the Labor Market

Andrew Zehner

Research Fellow, Indiana  
Economic Development  
Council, Indianapolis



A new set of labor market data is available that employers, workers, and researchers will find quite useful. The new data describe the wages Hoosier workers earn in each of several hundred specific occupations. In addition to explaining these data and how they can be used, we shall discuss some limitations of wage analysis and recommend ways in which the new data relate to Indiana's current labor shortages.

Until recently, the office of Labor Market Information Services (LMIS) at Indiana's Department of Workforce Development produced a biennial report of wages for each of 150 occupations. The latest version covered 1994-95 and reported wages for each of Indiana's 16 service delivery areas. It also disclosed what six different industries paid for the same occupation. This wage survey was a good tool. Unfortunately, other states did not use the same methodology, so our rates could not be compared with them.

The Federal Bureau of Labor Statistics (BLS) has just released the first findings from a new wage survey that will make cross-state comparisons possible. The early release of the data is on the Internet at [http://stats.bls.gov/oes/oes\\_data.htm](http://stats.bls.gov/oes/oes_data.htm). This new BLS wage information is going to be the only source for most communities, because the state LMIS is discontinuing its survey.

## New Wage Data From BLS

The new Occupational Employment and Wage Data report covers three points of data for each of 476 occupations: (1) the estimated number of workers employed in the occupation; (2) the mean, or average, hourly wage; and (3) the median hourly wage. **Table 1** shows a small sample of the data.

The BLS will survey a rotation of employers every year and estimate wages from a combination of three years of data. Most forms of direct financial compensation will be included (except tips and overtime pay), but the value of fringe benefits will not be considered in the survey.

Much of what is revealed in these new data is not surprising. The highest-paid occupation is physi-

cians, at \$53.71 per hour. Dentists, lawyers, pharmacists, and engineering and science managers complete the top five. According to the BLS, the number of Hoosiers holding these jobs is 23,090. This means that one out of 130 working Hoosiers is in this group of top earners.

The five lowest-paid occupations are lunch counter workers, fast-food and short-order cooks, waiters and waitresses, parking lot attendants, and ushers and ticket-takers. Indiana has 87,430 workers in these occupations, so one in 35 Hoosier workers is employed in one of the five lowest-paying jobs.

Indiana workers earn less than their national counterparts in most occupations. According to the BLS, Indiana wages are about 92.8% of the national rate for the ten largest clerical occupations. Production wages are the exception. Indiana employers pay more for five of the ten largest production occupations. Hoosier assemblers and fabricators make \$10.88 per hour—more than a dollar per hour more than their national counterparts.

## Putting The New Data To Use

Accurate, detailed, and current occupational wage data are potentially useful for employers, job seekers, students, economic developers, and almost anyone else interested in the labor market. It is relatively easy to obtain anecdotal salary information about a specific job opening. It is much more difficult to get accurate information about the entire pool of workers in the occupation.

Economic developers will use the new data to show business prospects what they will have to pay to compete for workers with necessary skills. And because the survey is done the same way in every state, it will be easy to compare Indiana's labor costs to those of other locations. Workers and employers both can use the data when they are negotiating contracts.

Job seekers and students can consider wage rates when they are deciding where to look for work or what career to prepare for. It is hoped that when students see the low wage rates offered for some Indiana jobs, they will remember that the cost of living in Indiana is below the national rate. According to the American Federation of Teachers Index, Indiana's cost of living was 91.4% of the United States in 1995. Thus, a worker's actual purchasing power may be *greater* in Indiana despite lower nominal wages.

Providers of training services, welfare reformers, and other social mechanics may find these new data illuminating. A great national debate is bubbling as to whether there are enough jobs for welfare recipients who are moving into the work force. The new data set reports the number of Hoosier workers in each occupation.

**Table 1**  
New Occupational Employment and Wage Data: A Sample

Occupation Title	Employment	Mean Wage	Median Wage
Automotive mechanics	14,070	12.73	12.25
Automotive body and related repairers	6,060	13.04	12.12
Motorcycle repairers	160	10.36	10.30
Bus and truck mechanics and diesel engine specialists	6,900	13.46	12.94
Mobile heavy equipment mechanics	2,240	13.44	12.42

Source: Federal Bureau of Labor Statistics

The difference between the median and mean wage provides a glimpse at the potential for upward mobility within each occupation. When the median is significantly lower than the mean (as in Table 1, in which the median wage for Mobile Heavy Equipment Mechanics is 92.4% of the mean), most workers in the occupation earn relatively low wages, whereas a smaller number earn wages that are quite high. When the median and mean are very close (as with Motorcycle Repairers in Table 1), there are fewer low-end jobs in the occupation and fewer highly compensated career-track jobs.

### The Inexact Science of Setting Wage Rates

The new data will help employers set wage levels for their job offers, but it cannot make the task easy. Setting wages is not an exact science. The most rational strategy for an employer is to pay the lowest wage sufficient to attract, retain, and motivate an adequate number of workers with necessary qualifications. Employers who pay less than the sufficient wage often experience understaffing, high rates of turnover, or unmotivated and unproductive employees. Employers who pay more waste money.

Many employers around Indiana these days complain of having hiring problems. In particular, they speak of chronic understaffing, high rates of turnover, and unmotivated and unproductive employees. There is no doubt that the Indiana labor market is not working efficiently. Demand exceeds supply, and disequilibrium persists. Shop marquees that once described the wares available to customers now advise passersby of job opportunities within. Radio advertisements for restaurants proclaim not that you might want to *eat* there, but that you might want to *work* there. The voices of business—such as the Indiana Chamber of Commerce and the Indiana Manufacturers Association—have become active promoters of training and labor exchange improvement. Coping with the “labor shortage” is one of the top issues facing state and local public officials. But the problem is not purely a shortage of workers.

Indiana has more than 3,000,000 working people in its population. Seventy-one percent of all Hoosier adults are in the work force. And for nearly a decade there has been a stream of in-migrating workers from other states and countries. All this translates into a lot of working people! So the labor supply may not be due only to a genuine shortage of workers. It might be caused by faulty market signals. Employers who have persistent problems hiring and retaining workers must acknowledge that there are plenty of people who want to work, then ask themselves why those people don't especially want to work for them!

An employer who is in a bad location or has a bad reputation will be forced to pay more to attract

and keep workers, whereas a company with a good reputation will have no shortage of applicants. Companies that want to retain the most experienced or most skillful workers available will pay extra for them, whereas those that pay less will hire novices and lose experienced workers.

Wages are not the only form of compensation. Fringe benefits, such as health insurance, training allowances, and flex-time, are increasingly important in today's workplace. Some workers even prefer better benefits to higher pay. For these reasons, wage data alone cannot be an exact indicator of what an employer should pay or a worker should demand. Nevertheless, clear, detailed, and timely wage information can help labor market participants get a better handle on at least one part of the combination.

### The Meaning of the Mean

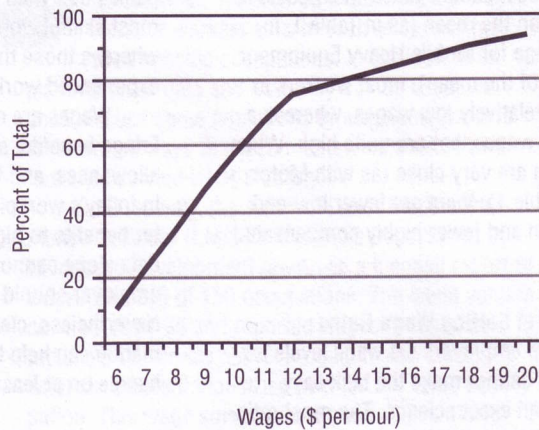
The new BLS wage data presents the mean (average) wage for each occupation. But although this is what most data customers ask for, mean wages are a weak indicator. First, the average for all workers is nearly

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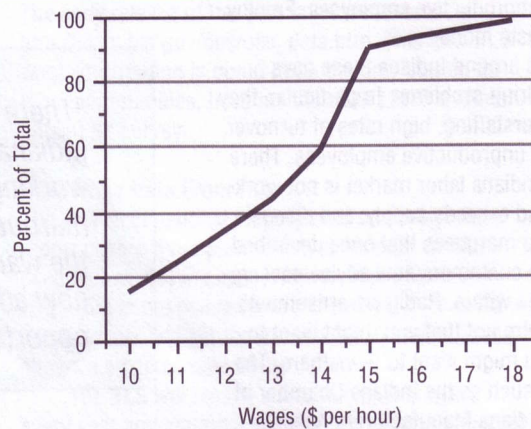
always higher than the starting wage employers expect to pay new hires. So even when a firm has an accurate and up-to-date indicator of the overall wage for the occupation, it will still be left guessing how much less to pay a beginner.

More important, the average does not provide any picture of the actual distribution of wages. Here is an example of the limited power of averages to describe groups. The average age in the author's household is 17 years, but no teenagers live there at all. Instead, there are three young children and two adults in their 30s. Thus, the numerical average is a good summary statistic for “central tendency” when the population is distributed in a bell curve. But it is often impossible, as in this example, to discern the real distribution from the average. Such is the case with wage distributions. Instead of being bell-shaped, the distribution of wages for most occupations is roughly linear.

**Figure 1**  
**Machine Operator Wages**



**Figure 2**  
**Electrical Repairer Wages**



**Figure 1** shows the cumulative distribution of wages for Machine Operators in 1994. The average wage was \$10.14, but some employers were paying \$4 per hour less and others were paying twice the average. In a bell-curve distribution, most workers would earn near the average, and few would earn significantly more or less than the average. But **Figure 1** shows that the number of workers is not clustered around the average. It is just one point along the line, with no more significance than any other point along the line.

**Figure 2** shows the wage distribution for Electrical Repairers. The curve grows steeper in the middle, indicating that an increment of pay attracts an increasing number of potential applicants in the \$13 to \$15 range. Above \$15, the supply slackens and the

number of new workers attracted by an increment of pay diminishes, just as it does at the high end of **Figure 1**. The flatness at the top end of both curves probably corresponds to the small subset of workers whose skill and seniority allows them to command premium wages.

The two preceding examples illustrate that employers can infer more about the labor market from the distribution than from the average wage. They can more clearly understand where their wages fit in the spectrum and can more reasonably anticipate how the pool of workers will respond to a new wage offer. An employer who boosts the wage for machine operators from \$10.50 to \$12.00 could expect to expand the pool of workers by 13%. But an employer who was paying \$12.00 and boosted the wage by the same \$1.50 increment would increase the pool by only 4%. In the case of electrical repairers, an employer paying \$12.00 would increase the labor pool by 15% by boosting wages \$1.50 per hour. But that same increment would expand the supply by a whopping 41% in the \$13.50 to \$15.00 range.

These wage curves show that the number of additional workers attracted by an increment of wages will change at points along the wage distribution. In neither case (nor in other occupations we at the IEDC have studied) are wages normally distributed around the mean wage.

When we say additional workers are "attracted" by an increment of wages, obviously we don't mean that the actual number of applicants turning up at the hiring desk will be regulated by the wage offer. But every employer is competing for a share of a finite pool of workers with particular skills. Employers who pay less than the top wage—which is most of them—are competing for a subset of the pool. In general terms, the higher the wage, the larger the pool of able and willing workers. An employer may choose to compete in any number of ways: offering flexible work conditions, free transportation, better benefits, and so on. Knowing the wage distribution can help the employer understand what part of the labor pool it is competing for.

### Making the Data User-Friendly

Wage distributions and industry-specific details are necessary for good wage analysis. Hoosiers will need occupational wage data that differentiates by region and industry. The BLS internet site does not currently provide that, and probably will not for several years to come.

Fortunately, the Indiana Department of Workforce Development's Office of Labor Market Information Services has been reporting wages by region and industry for years. LMIS should be encouraged to produce regional reports from the BLS data just as