



Are all Montanans Experiencing Wage Growth?

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Montana's wage growth has outpaced the national average for the last 10 years.

Wage growth has been an important element of the state's healthy economy, suggesting an increase in the standard of living for working Montanans and indicating future economic growth. Montana's strong wage growth has stemmed from a relatively strong demand for labor, coupled with worker shortages in particular areas of the state. While average wages in Montana have grown rapidly over the last 10 years, not all Montanans have seen the same increase in their wages. In order to maintain economic growth, it is important to understand whether wage growth has been concentrated in the hands of a few, or if the standard of living has improved for all Montanans regardless of their income level. This article evaluates Montana's wage growth since 2006 to determine whether the wage growth was broad-based and experienced by both high-wage and low-wage workers.

The Importance of Wage Growth in Montana

Wages make up the portion of an individual's income earned from employment. In 2013, the average annual wage in Montana was \$37,575, ranking 47th out of 50 states. Wages do not include income from owning a home or business, or income from financial assets. Although wages are only a part of income, they are the primary source of income for many Montanans, particularly young people, and are a good indicator of individual wellbeing.

In a competitive labor market, wages are determined by the supply and demand of labor. When a person first enters the labor market, their wages will be determined by employers' demand for their perceived skill set. Over time, a worker's wages grow as they gain proficiency in their job and obtain a more valuable skill set, or because of changes in macroeconomic forces that increase the demand for their particular skill set.

Wage growth is an important indicator of the health of an economy. Higher average wages can imply an increase in the standard of living for working Montanans. More wage income in the economy increases consumer spending, savings, and investment, all of which speed the rate of economic growth. However, if wage growth is concentrated within a particular subset of the population, then the positive impact of wage growth on the economy is dampened. Wage growth more effectively stimulates economic growth if it is broad-based because it enhances the economic participation of more people as consumers and investors. Further, broad-based wage growth benefits the most people.

Montana Wage Classes

This study uses wage information for Montana workers collected through the Unemployment Insurance (UI) program. Only wages an individual collects from their employer are included in these data. Wages from self-employment are not included. For the purposes of this study, annual wages are calculated as the sum of wages earned over four quarters, regardless of the number of quarters the individual worked, how many jobs they held, or how many hours they worked. This study considers only people who earned wages in at least one quarter of every year between 2006 and the 2nd quarter of 2014. By considering only this subset of the population, the data are a better representation of the permanent workforce in Montana.

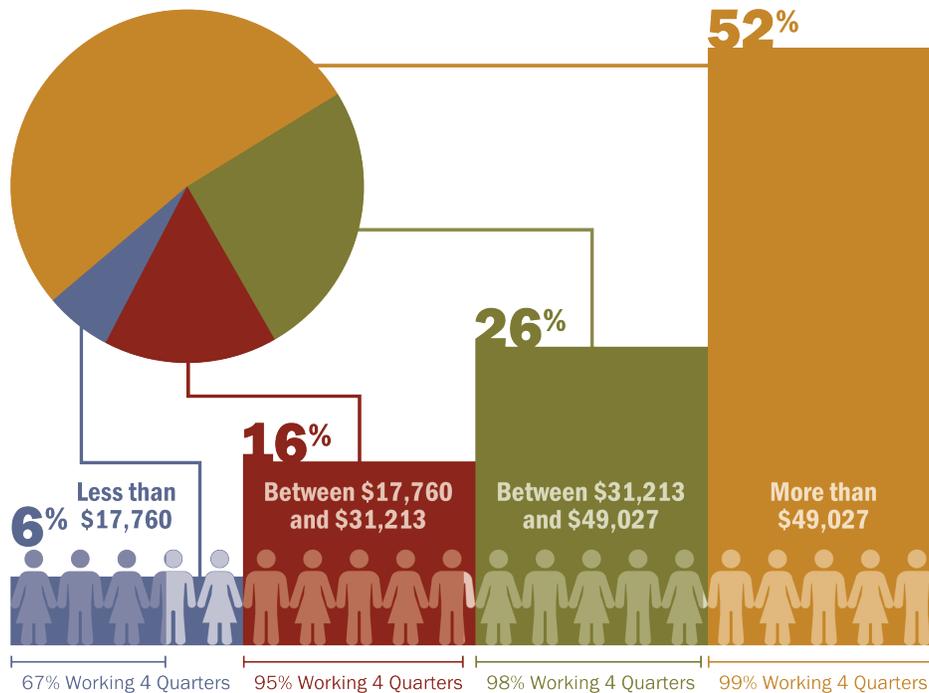
For each year between 2006 and 2014, individuals are grouped into four wage classes, each representing approximately 25% of the population. The wage classes are calculated every year based on the individual's wages in that year. Therefore, it is possible for an individual to change wage classes over time if their wages are increasing faster than their peers or if they experience a cut in their hours worked. However, the data suggest that mobility across wage classes is relatively low. Regardless of the wage class, approximately half of consistent wage

earners are in the same wage class in 2014 as they were in 2006. This study considers how wage growth has been distributed across wage classes, and not how any one particular worker's wages have changed over time.

On average, the lowest wage class earned no more than \$17,760 annually. This wage group includes those who work full-time, year-round at a minimum wage job (earning about \$16,750), but the average wage for workers in this category is around \$9,800, suggesting that many workers in this group work part-time. Over 67% of individuals in this lowest wage class worked all four quarters of the year, meaning that most workers in this wage class are not seasonal, but work year-round in part-time, low-wage positions. The mid-low wage class, representing another 25% of the population, earned between \$17,760 and \$31,213 annually. This wage class would include full-time, year-round workers earning between \$8.15 and \$15 per hour. Over 95% of workers in this group worked all four quarters, with few individuals in seasonal work. The mid-high wage class earned between \$31,213 and \$49,027 a year, and the highest wage class made over \$49,027 on average. Nearly all workers in the top two wage groups worked all four quarters of the year. Most individuals in the highest wage class of over \$49,027 are likely full-time working 40 hours per week or more.

Although each group includes 25% of the population, the higher wage earners earn a greater share of total wages. The distribution of total wages paid by wage class is shown in Figure 1. The distribution of total wages by wage class has been consistent since 2006. The consistent distribution suggests wage growth in Montana has been spread out across all wage classes. Among consistent wage earners, the highest wage earners have collected approximately 52% of the total wages paid in Montana consistently since 2006. The mid-high wage class has earned 26% of total wages, and 16% of total wages have gone to the mid-low wage class. The lowest wage class has earned 6% of the total wages paid in the state.

Figure 1. Distribution of Total Wages Paid by Wage Class



SOURCE: Montana Department of Labor and Industry Research and Analysis Bureau 2006 to 2014 Unemployment Insurance Claims Records.

While some of the differences in wage earnings by class can be attributed to seasonal versus year-round work, a majority of wage earners in all wage classes worked all four quarters. Seasonal work is only a factor for the lowest wage class, where only 67% of people in the lowest wage class worked all four quarters, compared to 95% or higher for the other classes. The disparity in wage earnings is due to differences in the number of hours worked (part-time versus full-time jobs) and pay rates.

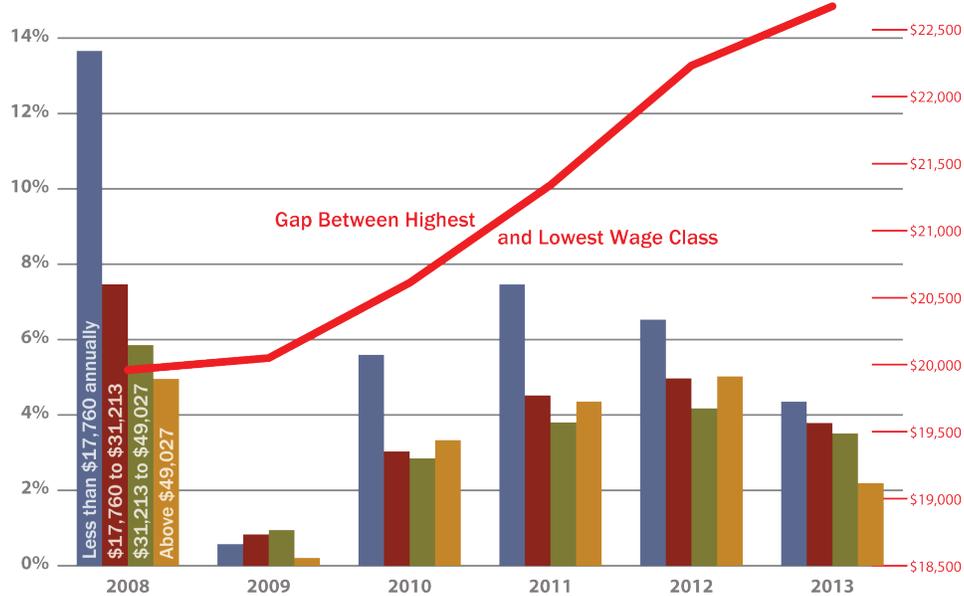
Mean Wage Growth by Wage Class

Mean wages have been growing across all wage classes in every year since 2006, suggesting the standard of living has improved for Montanans in all wage classes. As a percentage, the average wage has been growing the fastest for people in the lowest wage class. The lowest wage class has seen approximately 6.3% wage growth annually, compared to 4.2% for the mid-low wage class, 3.5% for the mid-high wage class, and 3.3% for the highest wage class. According to these data, there is a negative relationship between wages and wage growth

rates. Rapid growth among the lowest wage class could stem from an increase in available work hours exiting the recession, and the \$1.55 increase in the minimum wage between 2008 and 2015. Despite rapid percentage growth in the lowest wage class, the gap between the wages of the lowest and highest wage class has still widened over time. The gap has widened because a small percentage increase of a high wage remains a larger increase in dollar terms than a large percentage increase on a low wage. Figure 2 illustrates the growth of this gap and shows the annual wage growth rates of each wage class.

The difference in wages shown in Figure 2 represents the dollar difference between the highest and lowest quartile of wages in a given year. In 2008, the difference between the two quartiles was approximately \$19,960. By 2013, the difference had grown by \$2,716 to \$22,676. Although the lowest wage class had the most rapid wage growth, the starting base wage was small, resulting in a low increase in dollar terms. For the higher wage classes,

Figure 2. Mean Wage Growth in Dollars and Percent by Wage Class



SOURCE: Montana Department of Labor and Industry Research and Analysis Bureau 2006 to 2014 Unemployment Insurance Claims Records.

the percentage increase was lower than the low-wage classes, but because of their higher starting wage, the dollar increase was greater. While all wage classes have seen wage growth, the highest wage class has seen the largest gains in wage income.

Mean Wage Growth by Wage Class within Industries

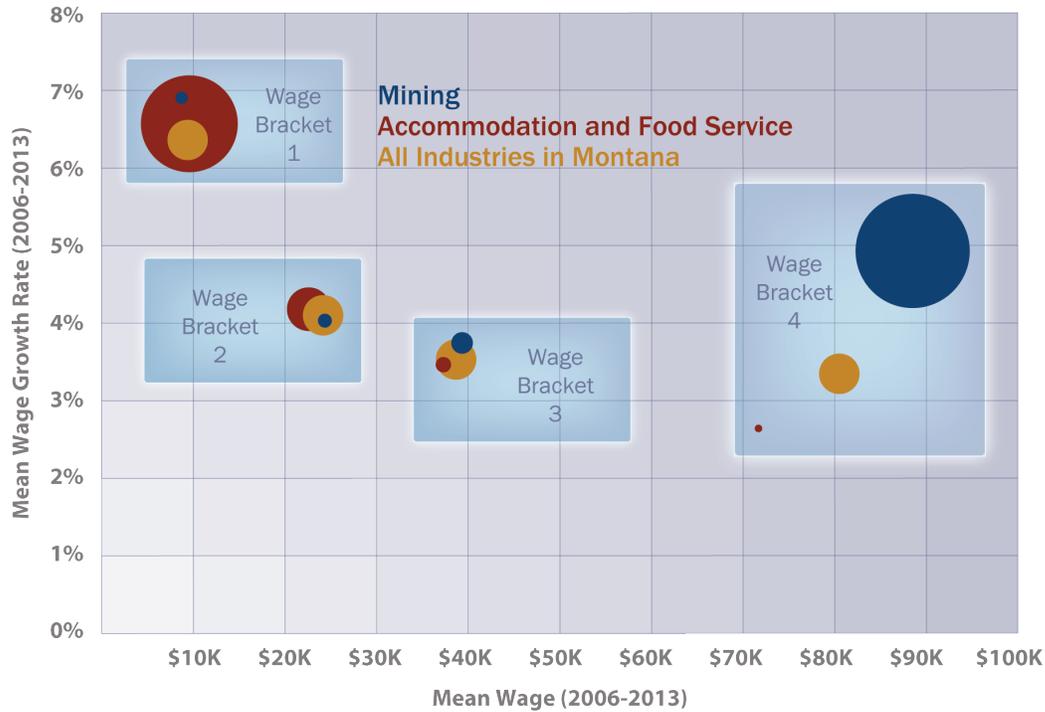
Some industries in Montana have seen more equitable wage growth across wage classes than others. To illustrate the variation by industry, Figure 3 highlights the difference in wage growth distribution between the high-wage mining industry and the low-wage accommodation and food service industry. The size of each point in Figure 3 represents the percentage of total industry employment that is concentrated within each wage bracket.

Across all industries, employment is evenly distributed among all wage classes, with each class representing 25% of the population. Most employment in the mining industry is concentrated in the highest wage bracket (70%), whereas most employment in the accommodation

and food service industry is concentrated in the lowest wage bracket (60%). Annual wages in the accommodation and food service industry are lower both because of the industry’s higher concentration of part-time workers and because of lower wage rates than other industries. The mining industry on the other hand, has experienced an increase in demand for labor in the Bakken, which has driven up wages. The increase in demand has resulted in faster wage growth than the state average and has increased the concentration of mining industry workers in the highest wage class.

Since 2006, wage growth rates in the mining industry have been fairly equitable among wage classes. The lowest wage class saw the highest average wage growth rate over this time, but most of the wage growth in this class occurred prior to 2009. Since the recession, wage growth in mining has been the highest for the highest wage class, both as a percentage and as a dollar change. In general, the mining industry has seen faster wage growth than the state average and has been a primary contributor to the rapid wage growth in Montana.

Figure 3. Comparison of Wage Distribution in Mining and Accommodation and Food Service



SOURCE: Montana Department of Labor and Industry Research and Analysis Bureau Unemployment Insurance Claims Records.

The accommodation and food service wage earners in the lowest wage class have experienced the greatest percentage wage growth in every year since 2006, except in 2013. Although wages in the lowest wage class have been growing the fastest within the industry, the growth has not kept up with the statewide growth for the lowest wage class, particularly coming out of the recession. In other words, workers in the accommodations and food service industry have been slipping behind their former cohorts, and the share of accommodation and food service in the lowest wage bracket has grown since 2006.

Mean Wage Growth by Number of Jobs Held

For an individual worker, one fast way to increase wages is to switch to a higher paying job or to find a second job. It takes time for individuals to find a good job and for employers to find qualified applicants. The costs of job searches for both workers and employers are referred to as search frictions in economic theory. Although search frictions cost money and time for workers and

employers, these costs are often necessary to create better job matches between employers and workers, ultimately increasing the efficiency of the labor market.

To illustrate how job searches influence wages and wage growth, consider three subsets of individuals; those who have held only one job since 2006, those who have held multiple jobs at once, and those who have switched jobs since 2006. Of individuals with wages in every quarter, single job holders had higher wages on average than people who held multiple jobs and those who switched jobs. Single jobholders are more likely to be working full-time jobs with established careers; therefore, they tend to have higher wages. The average wage for single job holders from 2006 to 2014 was \$53,555, compared to \$45,443 for job switchers, and \$35,990 for multiple job holders. The negative correlation between wages and number of jobs held suggests job turnover decreases as wages increase. These data support the idea that individuals in high wage jobs are more likely to remain

in those positions, whereas people in lower wage jobs are more likely to hold multiple jobs and have higher job turnover rates.

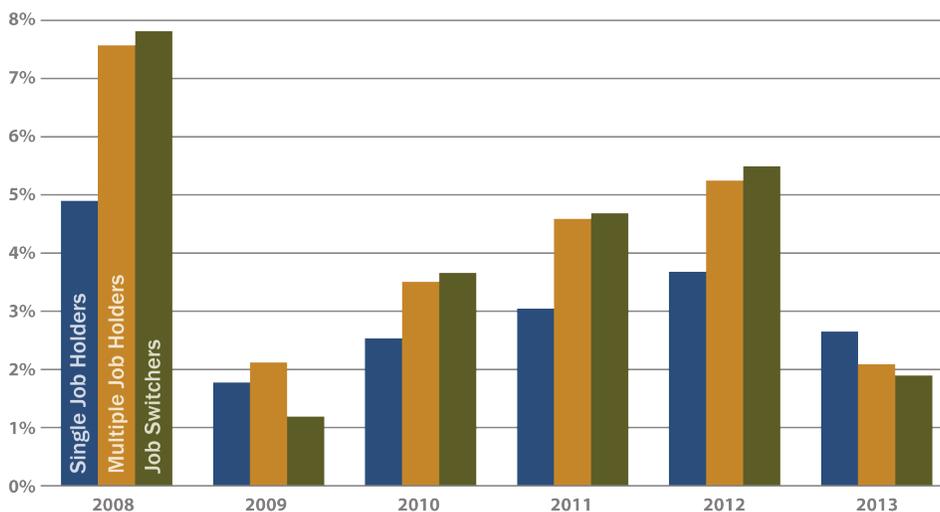
Although multiple jobholders and job switchers tend to have lower wages, their wages have been growing at a faster rate than single jobholders. Wages of multiple jobholders have grown by 3.5% annually from 2008 to 2013, compared to 3.13% for job switchers, and 2.73% for single jobholders. Figure 4 shows the wage growth rates of individuals from 2008 to 2013 based on the number of jobs they have held.

Multiple jobholders and job switchers are more likely than single jobholders to be younger workers, who are in the earlier stages of their career and still searching for a good job. Workers who are in the earlier stages of their career tend to move more quickly up the career ladder and see faster wage growth than established workers. People holding multiple jobs or who have switched jobs may have also seen faster wage growth because they represent a more mobile labor force. Labor force mobility can result in higher wages paid to individuals if they change jobs in order to pursue a more challenging position with higher pay.

Conclusion

Montana has experienced wage growth above the national average for the last 10 years. Wage growth has occurred across all wage classes, suggesting the standard of living has improved for all Montanans regardless of their income level. As a percentage, wages have been growing the fastest for people in the lowest wage class. Yet, despite rapid growth in the lowest wage class, the gap between the wages of the lowest and highest wage class has widened over time. Multiple jobholders and people who have switched jobs have lower wages, but faster wage growth than people who have only held one job. The negative relationship between wages and number of jobs held suggests that higher wages reduces job turnover. Wage growth is an important element of a healthy economy. Broad-based wage growth for Montanans drives increases in consumer spending, savings, and investment, all of which speed the rate of economic growth. Strong wage growth for all working Montanans, regardless of the wage class, is a signal of employment and GDP growth in the years to come.

Figure 4. Mean Wage Growth of Individuals by Number of Jobs Held



SOURCE: Montana Department of Labor and Industry Research and Analysis Bureau Unemployment Insurance Claims Records.