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# Trends in Nebraska's Wage Distribution

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## TRENDS IN NEBRASKA'S WAGE DISTRIBUTION

By Thao Vu and Eric Thompson

### Introduction

**W**age growth has been a persistent challenge for the United States economy in recent decades (Mishel, 2013). Middle class wage growth has been weak while job polarization has widened the gap in wages between the highest and lowest paying jobs. Many argue that technological change and globalization are the two main economic factors behind these trends (Dietz, 2012). These problems have accelerated in the last decade, with U.S. real median wages lower in 2014 than in 2005.

These trends have also played out in Nebraska, including two main metropolitan areas, Lincoln and Omaha - Council Bluffs. In this report, these common trends are examined for the two main metropolitan areas in Nebraska, state of Nebraska, and the nation. Those occupational data are used in this report to determine (1) whether wages for higher skilled occupations increase by more than wages for lower skilled occupations, and (2) whether the real standard of living of workers increased by more than the Consumer Price Index for All Urban Consumers (CPI-U).

### Methodology

Wage distribution data (10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, and 90<sup>th</sup> percentile) were collected from the Occupational Employment Statistics (OES) survey from May 2005 to May 2014 for each area. The 10-year percentage change for each point in the wage distribution was calculated for Lincoln, Omaha, Nebraska, and the U.S., respectively. The OES survey is a semi-annual mail survey of non-farm establishments. The Bureau of Labor Statistics (BLS) produces the survey materials and randomly selects the establishments to be surveyed in order to obtain data from every metropolitan and nonmetropolitan region in every state, across all industries, and from varying sizes of establishments. The Bureau mails out all survey materials to selected establishments. After that, the Bureau uses follow-up calls to non-respondents to raise response rates.

Table 1 shows nominal and real median wages for the U.S., Nebraska, and the Omaha and Lincoln Metropolitan Areas. Real wages are calculated based on the Consumer Price Index for All Urban Consumers (CPI-U) in Table 2.

**Table 1-- Median Wages by Geography**

| Nominal             | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lincoln             | 13.45 | 13.99 | 14.28 | 14.65 | 14.81 | 14.99 | 15.26 | 15.67 | 16.15 | 16.52 |
| Omaha               | 13.77 | 14.23 | 14.67 | 15.01 | 15.38 | 15.62 | 15.93 | 16.02 | 16.28 | 16.48 |
| Nebraska            | 12.88 | 13.31 | 13.73 | 14.08 | 14.39 | 14.57 | 14.82 | 15.01 | 15.31 | 15.66 |
| The U.S.            | 14.15 | 14.61 | 15.1  | 15.57 | 15.95 | 16.27 | 16.57 | 16.71 | 16.87 | 17.09 |
| CPI Adjustments     | 0.825 | 0.852 | 0.876 | 0.909 | 0.906 | 0.921 | 0.950 | 0.970 | 0.984 | 1.000 |
| Real (2014 dollars) | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  |
| Lincoln             | 16.30 | 16.43 | 16.30 | 16.11 | 16.34 | 16.27 | 16.06 | 16.16 | 16.41 | 16.52 |
| Omaha               | 16.69 | 16.71 | 16.75 | 16.50 | 16.97 | 16.96 | 16.77 | 16.52 | 16.54 | 16.48 |
| Nebraska            | 15.61 | 15.63 | 15.68 | 15.48 | 15.88 | 15.82 | 15.60 | 15.48 | 15.56 | 15.66 |
| The U.S.            | 17.15 | 17.16 | 17.24 | 17.12 | 17.60 | 17.66 | 17.44 | 17.23 | 17.14 | 17.09 |

**Table 2: CPI for Inflation Adjustment Calculations**

|   | 2005  | 2006  | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2005-2014 |
|---|-------|-------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| CPI for Inflation Adjustment Calculations | 195.3 | 201.6 | 207.342 | 215.303 | 214.537 | 218.056 | 224.939 | 229.594 | 232.957 | 236.736 | 21.22%    |
|   | 0.825 | 0.852 | 0.876   | 0.909   | 0.906   | 0.921   | 0.950   | 0.970   | 0.984   | 1.00    |           |

**Results**

Figure 1 displays data from Table 1 on real median wages over the last ten years (2005-2014) in all four regions. The annual median wages have risen in nominal terms while inflation has also been present. During the Great Recession in 2007-2008 real median income fell significantly. Then, from late 2008 to early 2009, there was a big jump in real median wage in all four regions due to a decline in price levels during that year. After that, real median wages slowly declined. The Lincoln metropolitan area, and state of Nebraska followed a slightly different pattern from 2011-2014. Their real wages increased roughly by 2.86% and 0.38%, respectively, while those in Omaha and the U.S. decreased slightly.

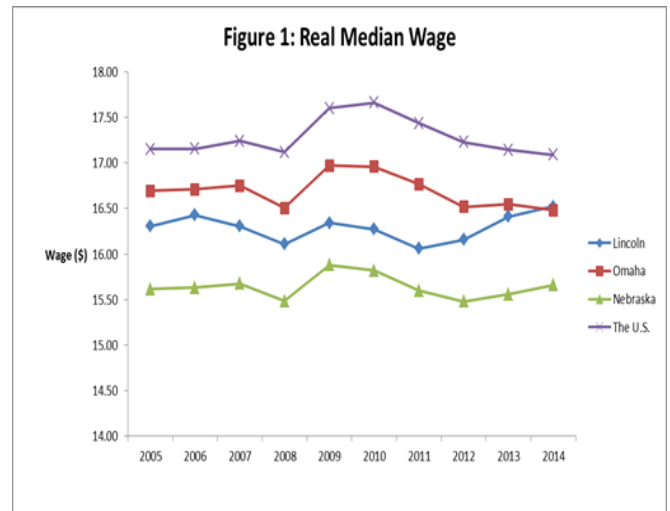
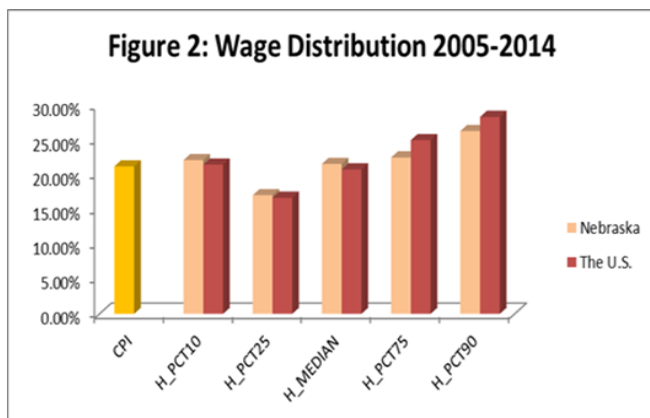
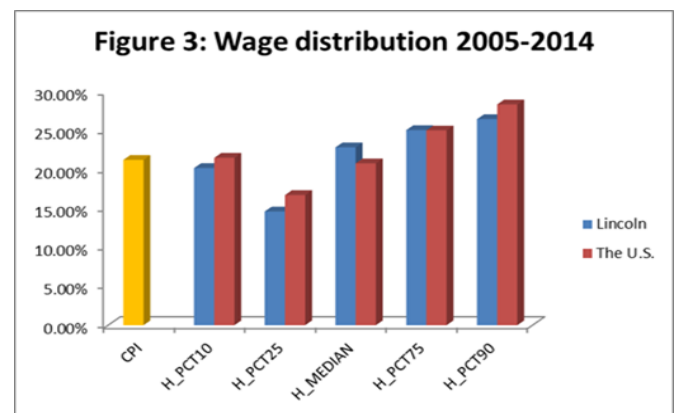


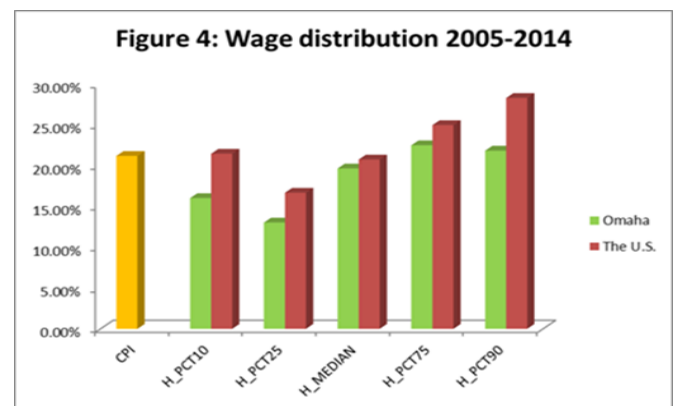
Figure 2 compares the increase in CPI with the increase in wages in Nebraska and the U.S. The bar graph shows the cumulative growth in nominal wages and inflation from 2005 to 2014. Results are reported for the median wage workers as well as for other key points in the wage distribution. These are the 10<sup>th</sup> percentile (H\_PCT10), the 25<sup>th</sup> percentile (H\_PCT25), the median (H\_MEDIAN), the 75<sup>th</sup> percentile (H\_PCT75), and the 90<sup>th</sup> percentile (H\_PCT90). For example, the 10<sup>th</sup> percentile worker earns more than 10 percent of workers but less than 90 percent of workers. The figure shows that prices grew more than 21% over the last 10 years, which means that worker income would need to increase by that amount in order to keep up with the price increases. From 2005 to 2014, the increase in wages of workers at 25<sup>th</sup> percentile in both Nebraska (17.07%) and nation wide (16.70%) could not keep up with the increase in prices (21.22%). During that same period, wages of workers at 50<sup>th</sup> percentile increased by 21.58% in Nebraska, and 20.78% in the U.S. As compared with 21.22% change in CPI, those workers at median point in the wage distribution can barely keep pace with increase in prices. The higher increase in the other three percentile wages compared to the increase in CPI shows that real wages in those three percentiles has been improved over the last 10 years.



Figures 3 and 4 show comparisons between Omaha, Lincoln, and the U.S.. The increase in wages of workers at low and lower-middle classes in both Lincoln and Omaha is less than the increase in prices. For example, over this 10-year period in Lincoln, the hourly wages increased only about 20.17% and 14.61% for workers at 10<sup>th</sup> and 25<sup>th</sup> percentile respectively, less than the 21.22% increase in prices. Similarly in Omaha, wages grew up around 16.04% and 13.04% for workers at 10<sup>th</sup> and 25<sup>th</sup> percentile respectively. In Omaha, even the median wage had not increased enough to keep pace with the CPI (19.68% vs 21.22%).



Across all four geographies, the increased in hourly wages of higher skilled workers who are at 75<sup>th</sup> and 90<sup>th</sup> percentile were more than that of lower skilled workers (those at 10<sup>th</sup> and 25<sup>th</sup> percentile). In particular, 75<sup>th</sup> percentile workers' wages grew up by 25.04% in Lincoln, 22.53% in Omaha, 22.50% in Nebraska, and 25.00% nationwide.



## Conclusions

Over the last decade, there were common trends in wage growth in Lincoln, Omaha, Nebraska overall, and the United States. The real median hourly wage in those areas has stagnated, and in many cases, declined. In particular, the increase in the wages of middle and lower middle workers have not kept up with price increases, and with the rise in wages for workers at the top of the wage distribution.

Growth in the wages of workers including in the lower middle and middle class in Omaha was the lowest compared to Lincoln, Nebraska overall, and the U.S. In particular, wages of people at 10<sup>th</sup> percentile in Omaha increased about 16.04% while those were 20.17%, 22.13%, and 21.49% in Lincoln, Nebraska, and the U.S. respectively. Similarly, at 25<sup>th</sup> percentile, wages grew up 13.04% in Omaha, while those were 14.61%, 17.07%, 16.70% in Lincoln, Nebraska, and nationwide respectively. Further in Omaha, the increase in wages of median workers (19.68%) could not keep up with the increase in prices (21.22%).

Overall, results show that in the last decade the U.S. economy has failed to provide real wage gains for workers in the middle and lower middle class. These trends may reflect both changes in the quality of the workforce as well as factors such as globalization and labor saving technology. Trends also may reflect the impact of the “Great Recession” of 2007 to 2009. However, it is also possible that wage growth will begin to improve as the economy continues to grow. The Bureau of Business Research will continue to monitor new wage growth across the distribution as data is released each spring.

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