

Johnson County's Economic Performance before and after the Minimum Wage Increase¹

Background and Timeline

Minimum wage laws were first established in the United States as State laws in the early 20th century. The Federal minimum wage was enacted in 1938, and set a minimum wage of \$0.25 per hour (equivalent to \$4.23 in 2015 dollars). Over time, the Federal minimum wage has been increased irregularly; it has been \$7.25 per hour since 2009. Since the Federal minimum wage is not indexed to inflation, its purchasing power has fluctuated over time, typically rising with each statutory revision and then declining with inflation until the next revision.

States can set their own minimum wage levels, as can local governments in a number of states; these have impact if the state or local minimum wage is higher than the Federal minimum wage, but the Federal law has precedence over a state or local law if the Federal minimum wage is higher. Forty-five states have a minimum wage; they range from \$5.15 to \$11.00 per hour, and 29 states now have a rate that exceeds the Federal. In addition, 18 states have indexed their minimum wage to inflation, and some have instituted a lower minimum wage for young workers or workers in training.

Iowa's minimum wage was increased to \$7.25 per hour in 2008 (ahead of the Federal increase) but has remained equal to the Federal minimum wage since 2009 and is not indexed to inflation. There is a separate minimum wage equal to 60 percent of the regular minimum (\$4.35 per hour) for workers who routinely earn tips.

On September 10, 2015, the Johnson County Board of Supervisors passed an ordinance establishing a Johnson County minimum wage; according to that ordinance, the minimum wage in Johnson County was raised in three steps: to \$8.20 per hour on November 1, 2015, to \$9.15 per hour on May 1, 2016, and finally to \$10.10 per hour on January 1, 2017. The minimum wage for tipped workers rose as well, since the county left in place the state rule setting it at 60 percent of the regular minimum. After June 30, 2018, the Johnson County minimum wage was to be indexed for inflation based on changes in the Consumer Price Index.

As allowed by law, some smaller jurisdictions within Johnson County voted to replace the county minimum wage with a city minimum wage equal to the state wage. The three largest cities (Iowa City, Coralville and North Liberty), accounting for the vast majority of jobs in the county, left the Johnson County minimum wage in effect within their borders. On March 30, 2017 the Governor of Iowa signed legislation eliminating the ability of jurisdictions within the

¹ This report was prepared by Peter Fisher, Ph.D. and John Solow, Ph.D. for the Johnson County Minimum Wage Advisory Board. Current members of the Board are Jesse Case (chair), Dromi Etsey, Peter Fisher, Rebecca Reedus, Ryan Semts, John Solow (vice-chair), Rod Sullivan (ex officio) and DaLayne Williamson. Former members of the Board are David Dickey, Rebecca Neades, Carlos Walker and Katie Wilson.

state to set a minimum wage above the State minimum wage, thereby rendering the Johnson County minimum wage ordinance unenforceable.

Potential effects of Raising the Minimum Wage

Economics predicts several primary potential impacts of increases in the minimum wage, and a host of other possible secondary impacts. Here, we will focus on the former, as the latter tend to be more difficult to measure. These included the desired effect of raising the wages and earnings of low-wage workers, against which must be counted the possible negative consequences of (1) reduced demand for and increased supply of labor, leading to increased unemployment, (2) reduction in business activity, including perhaps an increase in business failures and (3) higher prices. There is a great deal of debate about the magnitude of these effects among economists. Therefore, in trying to discern the impacts of the increase in the minimum wage in Johnson County we look first at key measures for the county economy overall – total employment, the size of the labor force, and the unemployment rate. We then zero in on the two largest low-wage sectors of the economy: the leisure and hospitality sector (eating and drinking establishments, hotels and motels) and the retail trade sector. Here is where we are most likely to find effects from the minimum wage, since these are the sectors where a substantial share of the jobs paid under \$10.00 before the wage increase. We consider total employment in these sectors, the number of business establishments, and wages.

Many factors influence the local economy, most of them beyond the control of local policy – national economic growth, university enrollment, and demand for the county's exports, for example. In the graphs that follow we compare Johnson County with three other counties: our neighbor Linn County, and Black Hawk and Story Counties, the other two counties in Iowa home to a state university. In the case of wage rates and the unemployment rate, we consider the state of Iowa as well. To see an effect from Johnson County's minimum wage, we look for a county that tracked Johnson County well in the period prior to the increase – 2006 through late 2015. That is, we look for long term trends, and periodic ups and downs, that are similar in the two counties. This would indicate that the two county economies have been affected similarly by broad economic factors in the recent past. If the two counties diverge in the period since the wage increase, that may indicate the influence of the local minimum wage, which took effect only in Johnson County (save for a brief period at \$8.25 in Linn County). In all the graphs there is a vertical line indicating when the wage increased.

Johnson County had a higher minimum wage than the state for 17 months, including 3 months at \$10.10. It is not known how many workers saw their wages drop after April 1 of this year, but we do know that many businesses who were affected by the local ordinance have maintained wages at \$10.10 or more despite not being required to by law.

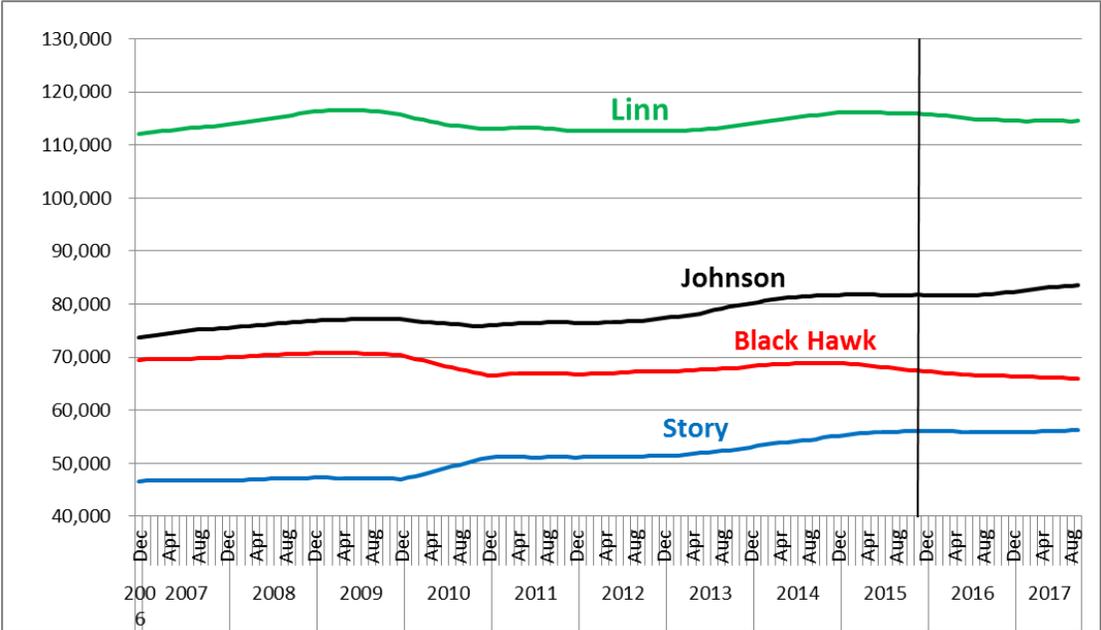
The data we use is either monthly or quarterly. In the graphs that follow this data is expressed as a 12-month rolling average or a 4-quarter rolling average. The reason for doing this is that all the economic measures we use are very seasonal – they rise and fall with the changing

seasons, due primarily to holiday shopping, summer vacations, and winter weather not conducive to construction activity or outside recreation. These large seasonal fluctuations produce wavy graphs that make it difficult to discern the long-term trends that we want to focus on. The 12-month rolling average begins with calendar 2006. The next period is Feb. 2006 through Jan. 2007, then March 2006 through Feb. 2007, etc. This removes all of the seasonal variation (since every 12-month period includes one of each of the calendar months) but still shows changes in the long-term trend, where each data point is identified by the last month in the 12-month average. Similarly, the rolling quarterly average drops the oldest quarter and adds a new one each period, so that we have four data points each year (denoted by the last quarter in the 4-quarter average) without the seasonal variation.

Overall Employment and Unemployment

The first chart shows the number of residents who were employed. (This means employed anywhere; it is not the same as the number of jobs in the county, many of which are held by residents of surrounding counties.) It is difficult to identify any clear change in trend after the wage increased. It appears that employment in three counties was rising at a similar rate from 2013 to 2015 (Black Hawk the exception), after which Johnson rose at a slightly faster rate than the other two, but the effect is not large and could well have been due to any number of other factors. We would not expect Johnson County resident employment rates to increase as a result of the wage; if anything, we might expect a decrease as more residents of neighboring counties compete for the higher paying jobs in Johnson County.

Figure 1. Number of County Residents Employed
12-month rolling average, 2006 through September 2017



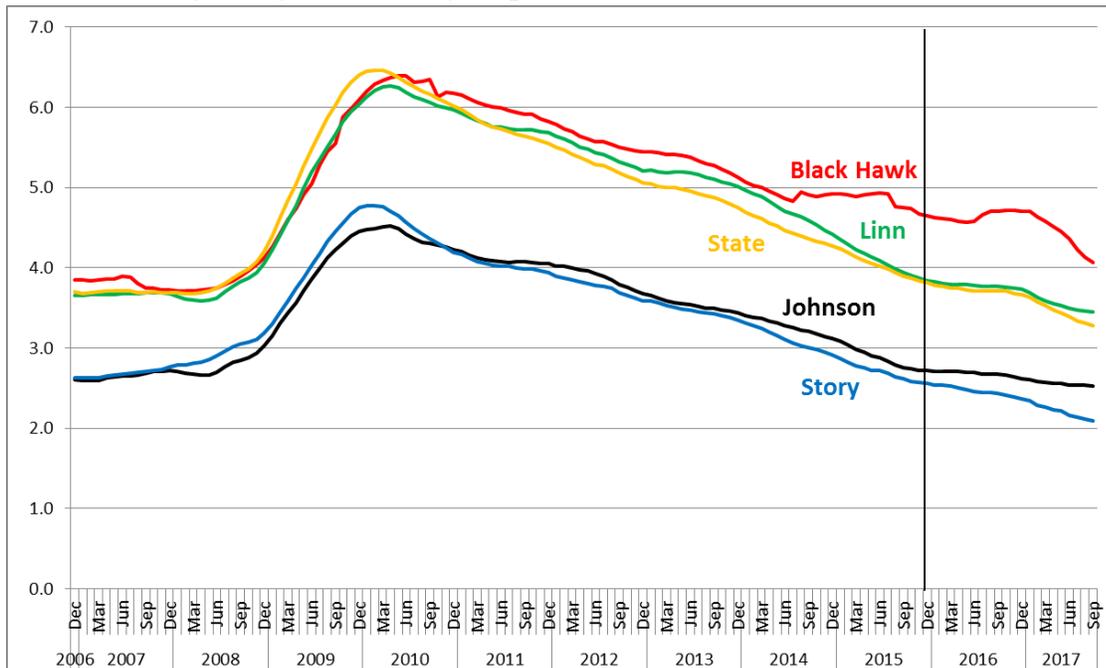
Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics <https://www.bls.gov/lau/>

The second chart depicts county unemployment rates. The unemployment rate is the number of persons unemployed as a percentage of the labor force. The labor force consists of persons age 16 and over who are working or looking for work.

The Johnson County unemployment rate tracked closely with the state rate and the rates in Story and Linn Counties from 2006 through late 2015. Since the minimum wage increase, the Johnson County rate has continued to decline, but at a slightly slower rate than in these comparison areas. Again, the change in trend is slight, and it would be difficult to draw any inferences from it. Interpreting changes in unemployment rates is challenging because they can run counter to expectations. For example, as the economy improves, some who had ceased looking for work are drawn back into the labor force, which increases the denominator in the unemployment rate and can actually make the rate go up, despite more people working, because the labor force has increased faster than employment.

Figure 2. Unemployment Rate

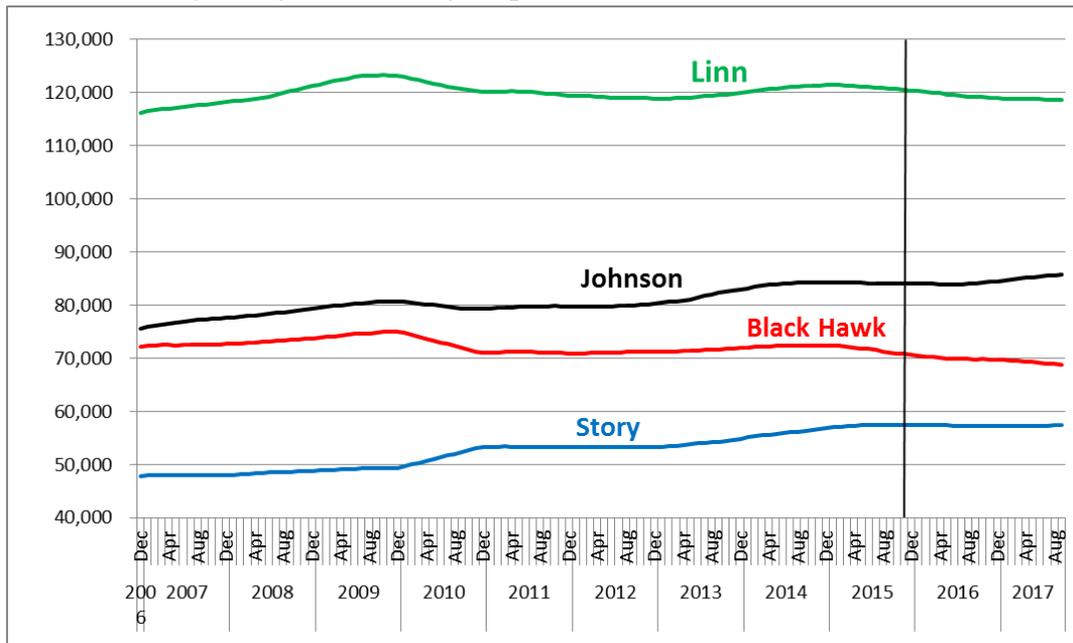
12-month rolling average, 2006 through September 2017



Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics <https://www.bls.gov/lau/>

The Johnson County labor force did in fact increase after the wage hike. Figure 3 shows that the Johnson County labor force did not track the others very closely for most of the period, though the trend was fairly similar in Story County. After the wage increase, the labor force in Johnson County rose more than in Story; it declined in the other two counties. Once again, it is difficult to draw any conclusions here because the difference in trend is not large.

Figure 3. Labor Force: Number of County Residents Employed or Looking for Work
12-month rolling average, 2006 through September 2017



Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics <https://www.bls.gov/lau/>

Jobs and Wages in Low-Wage Sectors

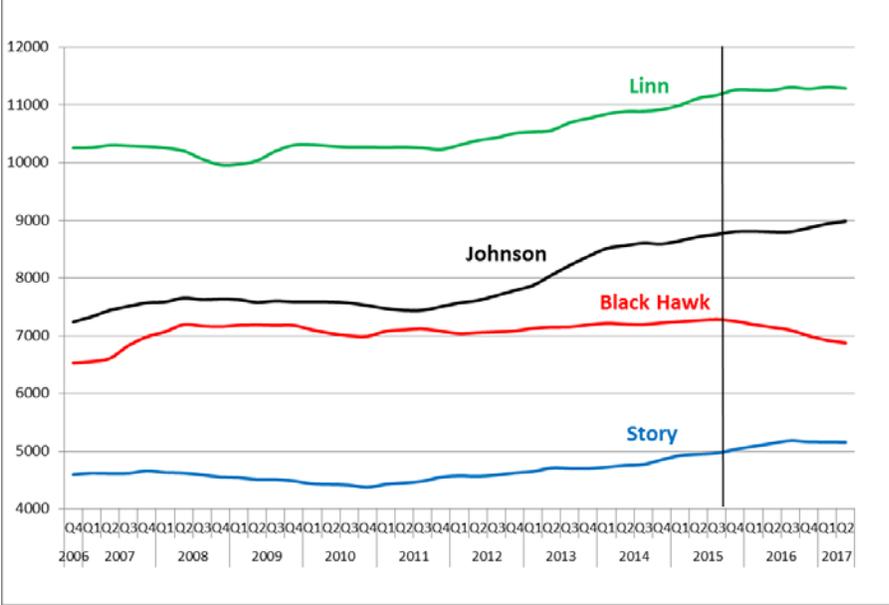
The sector with the largest share of workers who benefited from an increase in the minimum wage from \$7.25 to \$10.10 is called “Leisure and Hospitality.” This consists mostly of restaurants, bars, hotels, and motels, but also includes smaller employers such as movie theaters, golf courses, museums, bowling allies, and fitness centers. The retail trade sector also employs a large number of people in Johnson County, and a significant share earned less than \$10.10 in 2015.

The leisure and hospitality sector employed on average about 8,800 people in 2015, 16 percent of all private sector jobs. Average weekly earnings were \$274, compared to \$796 for all private sector jobs.¹ The median hourly wage (half of workers earn less) in the Iowa City Metropolitan area (Johnson and Linn Counties) was \$9.01 for food preparation and serving occupations in 2015.² Retail trade employed about 9,230, almost 17 percent of private sector jobs, with average weekly earnings of \$490.³ The median wage was \$10.14 for store clerks in 2015, \$8.90 for cashiers.⁴

The graphs for these two sectors that follow are based on a census of employers conducted quarterly. They represent jobs and businesses located in Johnson County (and the comparison counties), regardless of where the employees live, rather than the employment of those who reside in Johnson County, regardless of where they work, as in the previous section.

Figure 4 shows the number of jobs in leisure and hospitality. Johnson, Linn and Story counties have similar trends in jobs both in the period from 2006 through 2015, and in the period since the wage increase. In all three counties, employment has continued to grow since 2015. There is no discernible minimum wage effect causing the Johnson County trend to diverge.

Figure 4. Number of Jobs in Each County in the Leisure and Hospitality Sector
 Rolling average of four quarters, 2006 through the second quarter of 2017

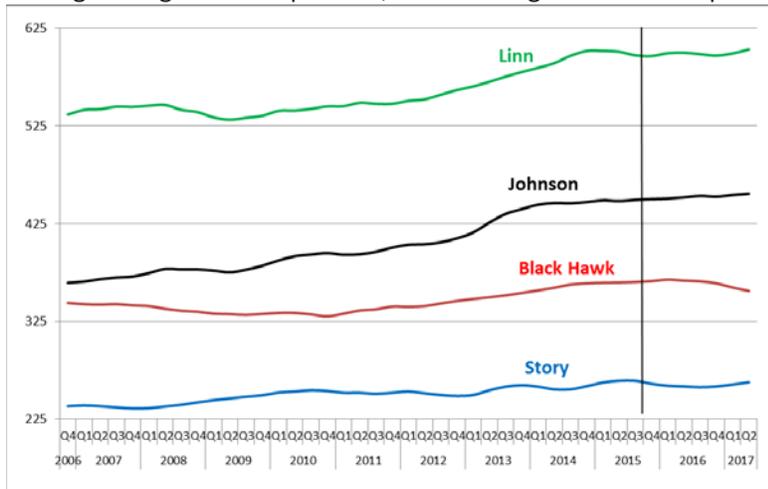


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
<http://www.bls.gov/cew/datatoc.htm>

Figure 5 shows the number of business establishments in leisure and hospitality. The trend in Johnson County mirrors Linn County fairly well throughout the period, though both saw more growth than Black Hawk or Story in the five years following the recession. Once again, there is no break in the trend after 2015, and thus no discernible minimum wage effect.

Figure 5. Number of Business Establishments

Rolling average of four quarters, 2006 through the second quarter of 2017



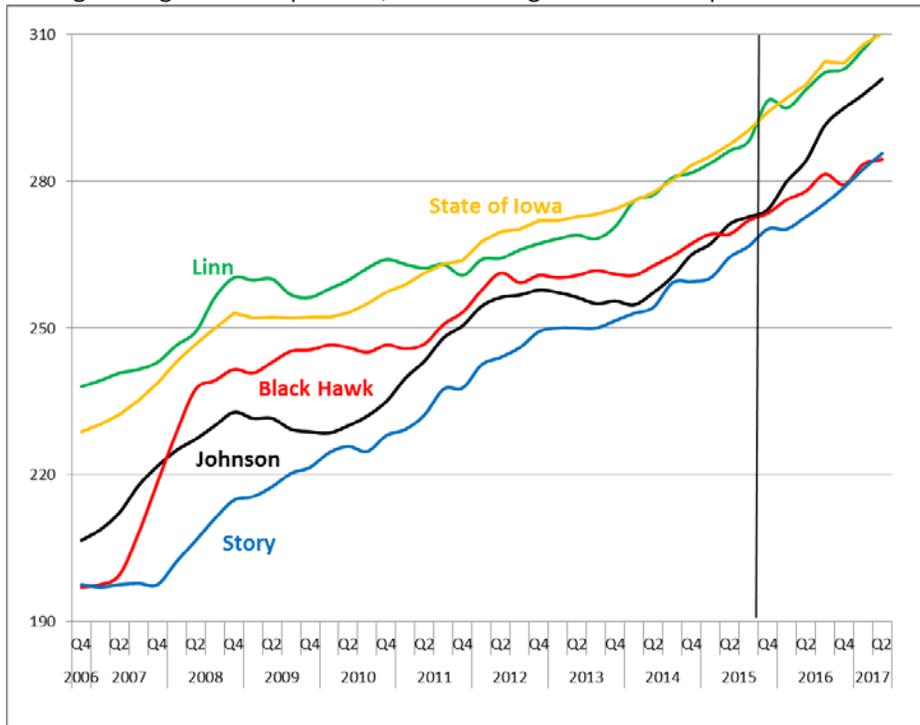
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

<http://www.bls.gov/cew/datatoc.htm>

Finally, we consider the wages earned by those working in the Leisure and Hospitality sector. The wage data is not the hourly wage (which is not available from this census of businesses) but rather the average weekly wage, or weekly earnings. (This is calculated as the total wages paid in a quarter divided by 13, the number of weeks in a quarter.) This measure has the advantage of taking into account both the increase in the hourly wage for those workers affected by the minimum wage increase and the average number of hours those workers put in each week. If a higher minimum wage resulted in employers cutting hours, the weekly earnings might not increase much, and could even decline.

Here for the first time we see a minimum wage effect. While weekly earnings in Johnson County followed only roughly the trend lines elsewhere from 2006 through 2012, from 2013 through 2015 Johnson County tracked the other areas fairly closely. After the last quarter of 2015, however, the Johnson County weekly wage rose much more rapidly than elsewhere. The fact that weekly earnings rose substantially indicates that higher hourly wages resulted in higher paychecks, and any reduction in hours that might have occurred was not large enough to offset the wage increase.

Figure 6. Average Weekly Earnings in the Leisure and Hospitality Sector
 Rolling average of four quarters, 2006 through the second quarter of 2017

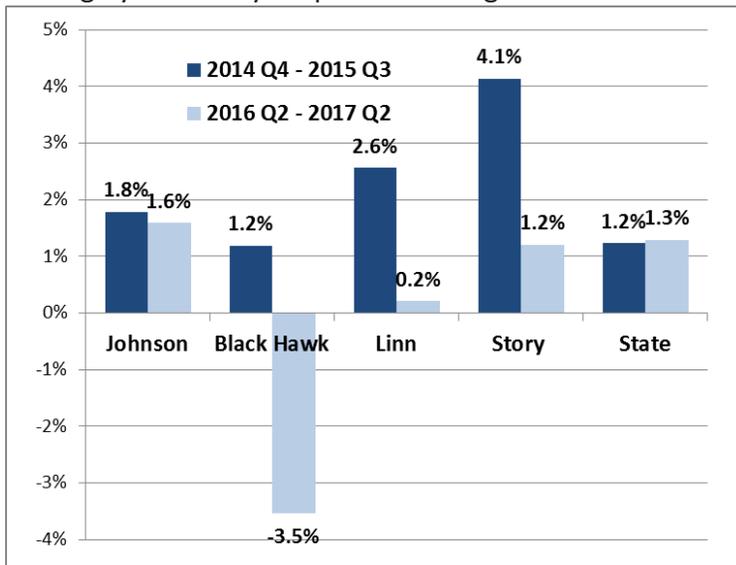


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
<http://www.bls.gov/cew/datatoc.htm>

A more precise way of looking at the trends in jobs and wages is to compute the actual growth rates prior to and after the increase in the minimum wage. Here we sought to find a time period prior to the wage increase where Johnson and at least some other counties had similar growth rates. We then looked at how those counties' growth rates compared to Johnson's after the minimum wage hike. For growth rates, we calculated year-over-year changes. For example, the year-over-year growth rate as of the first quarter of 2017 was the percent change in jobs or wages between the first quarter of 2016 and the first quarter of 2017. The growth rate for the last quarter of 2016 was the percent change from the last quarter of 2015 to the last quarter of 2016. Once again, we do not have seasonal effects confounding the data because we are always comparing the same quarters.

For jobs in the leisure and hospitality sectors, we considered growth rates from the fourth quarter of 2014 through the third quarter of 2015. The average annual growth rate in Johnson County for this period was somewhat similar to that of Black Hawk and Linn Counties, and the State of Iowa. In the period since the wage increase, growth rates in all the counties were lower, though Johnson County's rate of job growth fell by less than any of the other counties. The state's overall growth rate was higher in the later period, however. Again it is hard to draw a definitive conclusion from this comparison, but one can say that there is no evidence here of job loss due to the minimum wage in the sector most affected by higher wages.

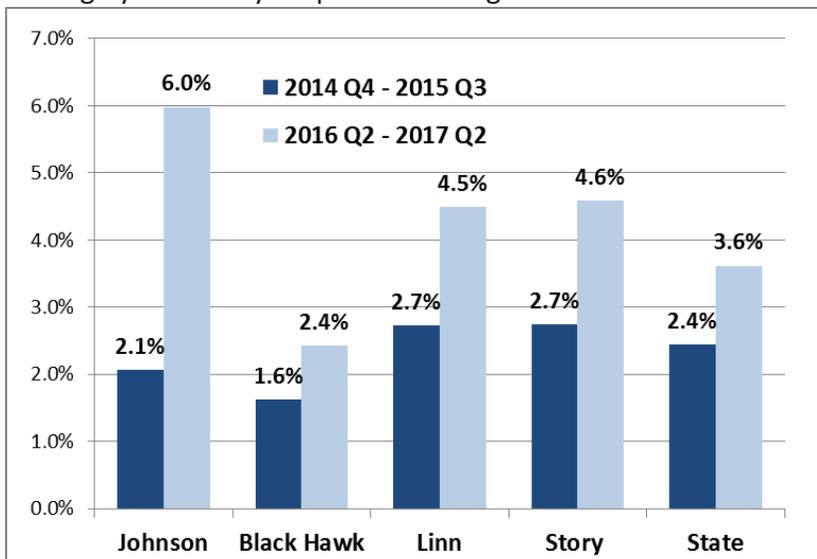
Figure 7. Jobs in Leisure and Hospitality Sector
Average year-over year percent change



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
<http://www.bls.gov/cew/datatoc.htm>

For the period 2012 through 2015, the growth rate of weekly earnings was fairly similar in Johnson County, the other three counties, and the state, with Johnson being a little lower than all except Black Hawk. For the period after the minimum wage increase, earnings growth was higher in all areas. But the growth rate in Johnson County nearly tripled, while the growth rates in the other areas increased considerably less.

Figure 8. Average Weekly Earnings in Leisure and Hospitality Sector
Average year-over-year percent change

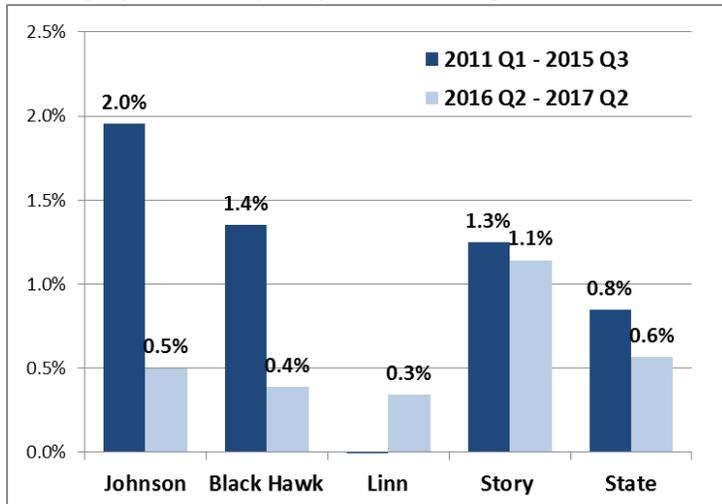


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
<http://www.bls.gov/cew/datatoc.htm>

When we turn to the retail trade sector, it is difficult to find a comparison period for jobs. For the five year period 2011-2015, jobs grew more rapidly in Johnson County than elsewhere. From 2016 to 2017, jobs continued to grow in Johnson County, but the growth rate was much lower, as it was in Black Hawk. The rate dropped off only slightly in Story and the state, and rose in Linn County. It is not clear from this overview what was going on in the retail sector.

Figure 8. Jobs in Retail Trade

Average year-over-year percent change

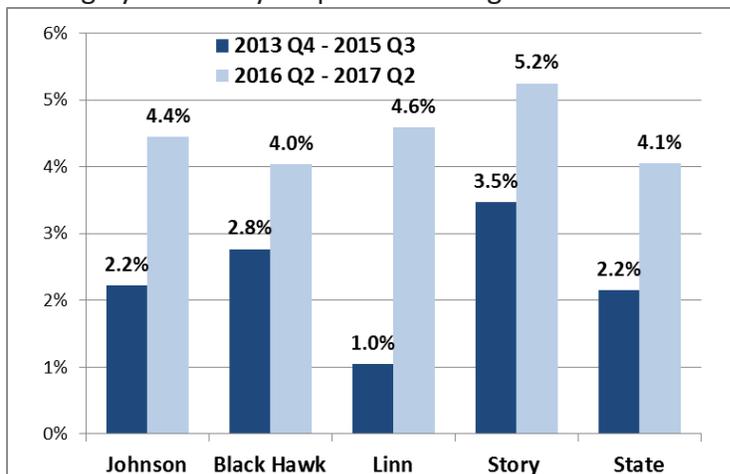


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
<http://www.bls.gov/cew/datatoc.htm>

When we consider weekly earnings, the growth rates were fairly similar among the counties both prior to and after the wage increase. In all areas, the earnings growth was much higher in the more recent period. The increase was especially pronounced in Linn County, which was also the only one experiencing much higher job growth in the previous chart.

Figure 9. Average Weekly Earnings in Retail Trade

Average year-over-year percent change



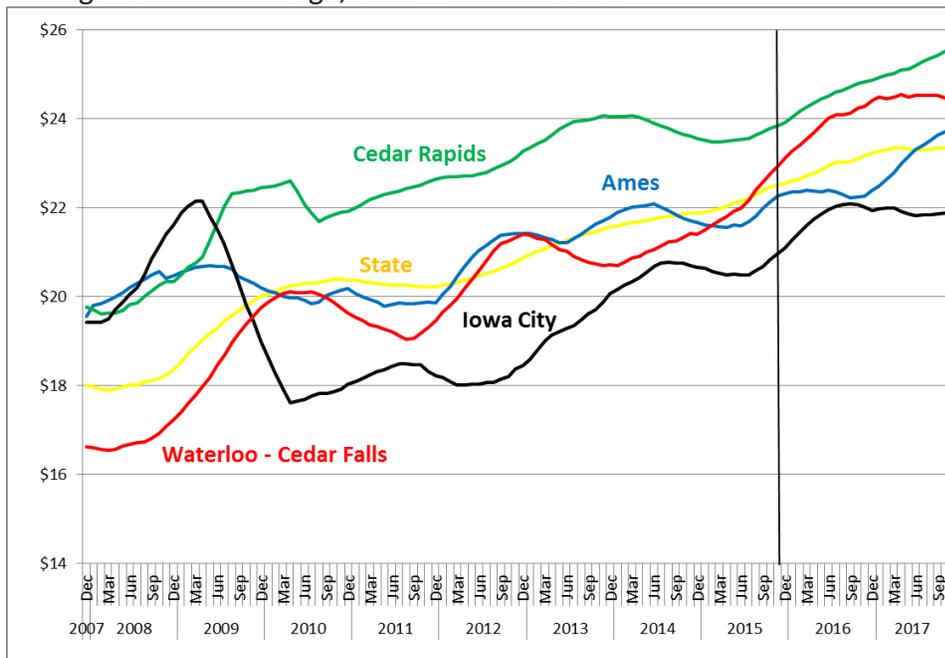
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Overall Wages and Hours

The average hourly wage and the average weekly hours worked for all private sector workers (not broken down by sector) is available for metropolitan statistical areas (MSAs), which are single or multi-county regions named after the central city in the region. The Iowa City MSA consists of Johnson and Washington counties. Here we compare growth rates in average weekly hours in the four comparison MSAs and the state for 82 months before the wage increase, and the 24 months since the wage increase (Nov. 2015 through Oct. 2017). The growth rate for August, 2017, for example, is the percentage increase in wages or hours comparing August 2017 with August 2016.

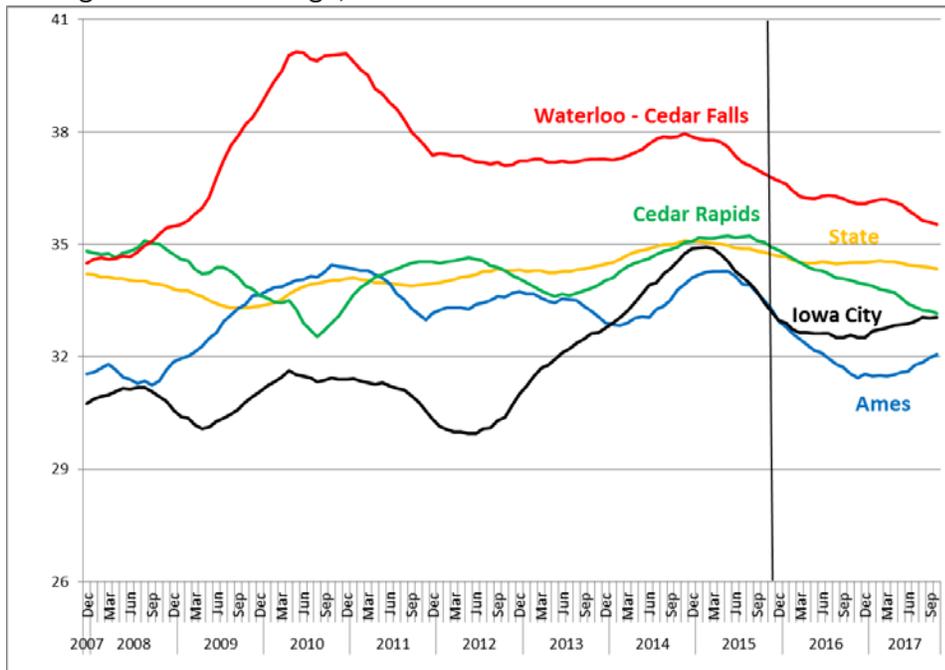
Prior to the wage increase, the average hourly wage grew much more slowly in Iowa City metro area than in the other MSA's or the state. Since the wage increase, wages have grown much more rapidly in the Iowa City MSA. Average weekly hours, on the other hand, had been growing more rapidly in the Iowa City area than in other areas prior to the wage increase. Since the wage increase, average weekly hours have been growing much more rapidly in Iowa City than previously, and than elsewhere.

Figure 10. Average Hourly Wage, All Private Sector Workers
Rolling 12-month average, 2007 – October 2017



Source: U.S. Bureau of Labor Statistics, "State and Area Employment, Hours and Earnings." Current Employment Statistics. <https://www.bls.gov/sae/>

Figure 11. Average Weekly Hours, All Private Sector Workers
 Rolling 12-month average, 2007 - October 2017

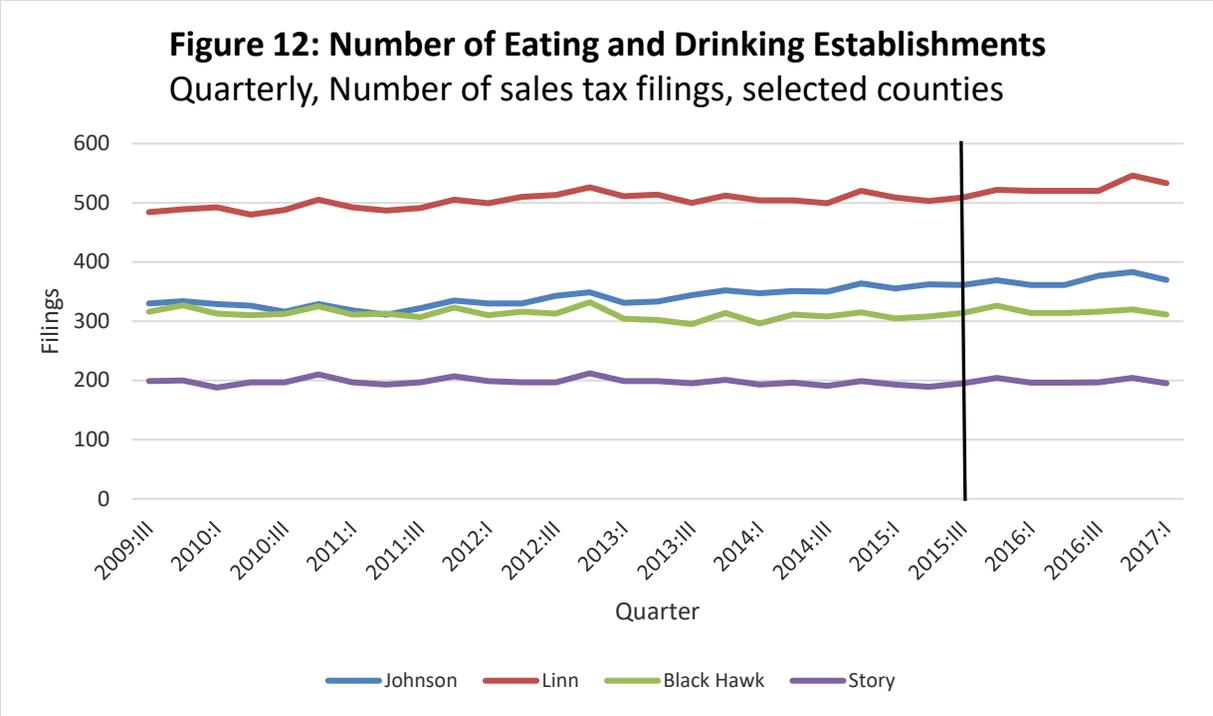


Source: U.S. Bureau of Labor Statistics, "State and Area Employment, Hours and Earnings." Current Employment Statistics. <https://www.bls.gov/sae/>

Business Activity: Eating and Drinking Establishments

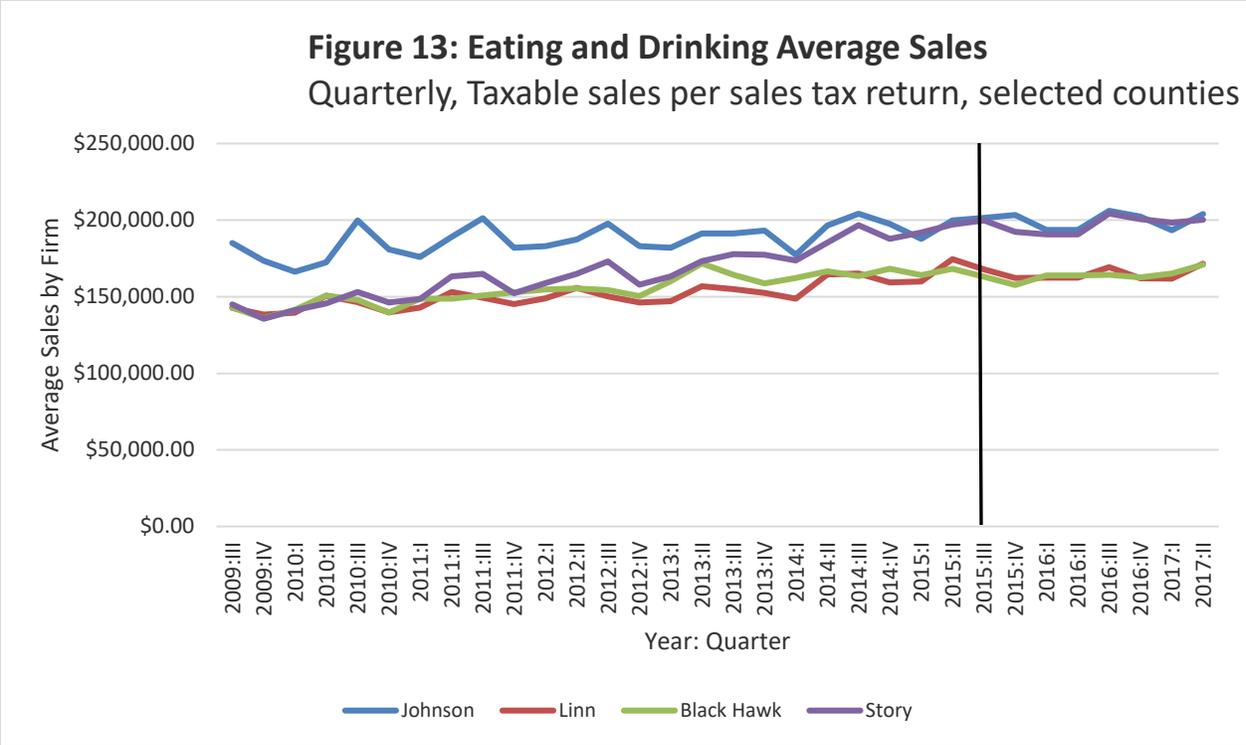
Eating and drinking establishments are a subset of the hospitality and leisure sector, which also includes other types of businesses (e.g., hotels and motels). Virtually all such establishments in Iowa are required to file and pay retail sales tax on a quarterly basis, which provides another source to examine for possible effects of the Johnson County minimum wage on business activity. Figures 12 and 13 show the number of Johnson County eating and drinking establishments filing retail sales tax returns with the Iowa Department of Revenue and the amount of taxable sales per tax return, as well as similar data for Black Hawk, Linn and Story counties.

Much like Figure 5 shows for the broader hospitality and leisure industry, Figure 12 shows the number of eating and drinking establishments growing slightly over the period; the 4-quarter rolling average used in Figure 5 smooths out some of the quarterly variation that appears in Figure 12. There is no discernable change following the Johnson County minimum wage increase, and number of eating and drinking establishments in Johnson County continued to grow faster than in the comparison counties even after the minimum wage increase. While this does not mean that no restaurants and bars exited the Johnson County market during this time, to the extent any did they were replaced with new restaurants and/bars so that the total number of establishments did not decline.



Source: Iowa Department of Revenue Sales Tax Quarterly Statistical Reports, various issues.
<https://tax.iowa.gov/report/Quarterly>

While the number of eating and drinking establishments in each county generally matches the populations of those counties, the volume of business done by the average establishment does not; although Linn County is the largest county in terms of population, its eating and drinking establishments in general do the lowest amount of business on average of the four counties. Johnson County has the eating and drinking establishments have generally done the largest volume of business, although the revenue per establishment has grown more rapidly in Story County than in any of the other counties and now matches that in Johnson County. From Figure 13, it is apparent that there is has been a seasonal pattern in the volume of business done by eating and drinking establishments, particularly in Johnson and Story counties, with peak sales occurring in the third quarter of each year; this may be the result of students returning to both the University of Iowa and Iowa State University campuses during that quarter. Again, there is no discernable change following the Johnson County minimum wage increase, and the pattern of eating and drinking establishment sales in Johnson County is quite similar to those in the comparison counties after the minimum wage increase.



Source: Iowa Department of Revenue Sales Tax Quarterly Statistical Reports, various issues.
<https://tax.iowa.gov/report/Quarterly>

Conclusion

It is difficult to draw strong conclusions about the impact of the Johnson County minimum wage ordinance; the increased minimum wage was only in place for six quarters, and was phased in over that time period. In addition, other forces that affect the economy of Johnson County were, as always, in play. Bearing that in mind, the data indicate that there was a larger increase in the average weekly earnings of Johnson County workers in the Leisure and Hospitality sector than in the comparison counties during the period after the minimum wage ordinance went into effect. On the other hand, there was little indication that employment or business activity in low-wage sectors or in the overall economy in Johnson County decreased, or grew more slowly, when compared with the other counties or the state of Iowa.

¹ U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Johnson County, 2015.
<https://www.bls.gov/cew/datatoc.htm>

² U.S. Bureau of Labor Statistics, Occupational Employment Statistics,
<https://www.bls.gov/oes/current/oessrcma.htm>

³ U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Johnson County, 2015.
<https://www.bls.gov/cew/datatoc.htm>

⁴ U.S. Bureau of Labor Statistics, Occupational Employment Statistics,
<https://www.bls.gov/oes/current/oessrcma.htm>