

Utah Jobs:



Quantity vs. Quality



February 2015

Acknowledgements

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Voices for Utah Children is the Utah affiliate of the State Priorities Partnership, a consortium of independent nonprofit research and policy organizations in 40 states that use evidence and analysis to advance public policies and investments that reduce poverty and give all people the opportunity to achieve the American dream.

Since 1985, Voices for Utah Children has worked to make Utah a place where all children thrive. We start with one basic question: "Is it good for kids?" At Voices for Utah Children, we believe that every child deserves the opportunity to reach his or her full potential.




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Utah Jobs: Quality vs. Quantity

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Summary of Findings

Evaluating the performance of Utah's economy from the perspective of Utah's families and children is a matter of examining both the quantity and quality of jobs created since the state's Great Recession employment trough in January 2010.

The principal findings of the report are as follows:

QUANTITY OF JOBS:

- **Relative to population growth, Utah's rate of job creation in the recovery has lagged slightly behind that of the nation as a whole.** Utah's jobs-to-population ratio has fallen from 48.2% in 2007 to 45.2% in 2014, a steeper decline than that of the national economy. Utah's ratio of new-jobs-to-new-population during 2011-2014 was 88% (148,958 new jobs compared to 168,556 new population during those four years), while for the nation as a whole, the ratio was 92% (8,766,917 new jobs compared to 9,509,999 new population).

QUALITY OF JOBS:

- **Utah wages have recovered from the Great Recession more quickly than the nation as a whole but remain below pre-recession levels.** Averaged across all occupations, the real (inflation-adjusted) median wage in Utah was 2.7% lower in 2013 than it was in 2009, the peak year for wages. At the national level, things are even worse, with wages down by 3.4%.
- **Wage inequality has grown in Utah.** In both Utah and the U.S., lower-wage occupations saw significantly larger declines in their real median wages than did mid-wage and higher-wage occupations, comparing 2009 to 2013. Occupations in the top three quintiles saw their median wages decline by about 1-1.5%. By contrast, occupations in the bottom two quintiles saw their median wages decline by 4-6%, and by more in Utah than nationally.
- **New jobs in Utah pay much less than the ones they replaced.** Jobs lost in Utah from 2008 Q1 to 2010 Q1 had an average wage of \$53,277 while jobs gained from 2010 Q2 to 2014 Q2 had an average wage of \$41,342, a decline of about 22%. This is largely due to the fact that higher-wage construction and manufacturing sectors saw significant job losses during the recession, while the

fastest growing job sectors since then have included lower paying industries such as health care and retail trade.

- **Encouraging news on full-time/part-time:** The share of the labor force working part time has dropped from a post-recession peak of 26% in 2012 to about 21% in 2014, which is below pre-recession levels. Involuntary part time levels, though, are still slightly higher than pre-recession levels at roughly 3% last year.
- **Productivity up, but wages down:** Along with the nation as a whole, Utah is experiencing a troubling gap between productivity growth and wage growth. While the real median wage in Utah remains below its pre-recession peak, Utah saw 2.5% annual growth in private sector productivity over the time period 2009-2012.

OVERALL ECONOMIC OUTPUT:

- **Recovery in overall economic output per capita in Utah remained behind the national recovery as of the end of 2013, the last year for which this data is available.** Per capita real GDP peaked in Utah at \$45,652 in 2007 and reached \$45,165 in 2013, while for the nation as a whole, the comparable figures are \$49,213 in 2007 and \$49,115 in 2013. Thus, in 2013, the US was at 99.8% of the pre-recession level, while Utah was at 98.9%. Utah ranked 35th among the states by this measure of economic recovery.

Introduction

In 2011, Utah Governor Gary Herbert made recovery in the state's employment situation a focus by pledging to create 100,000 jobs in 1,000 days.¹ Since then the Utah economy has met and surpassed that goal.² Over the course of 2014, for example, employment grew 3.9%, translating into 50,700 new jobs in the state, reaching total non-farm payroll employment of 1,366,700. Over the same year, U.S. employment grew by only 2.2%. Utah's unemployment rate ended 2014 at 3.5%, compared to 5.6% for the nation as a whole. Moreover, Utah's total non-farm employment of 1.367 million in December 2014 was a full 6.7% higher than the pre-recession employment high of 1.281 million in December, 2007, vs. a comparable national figure of just 1.5%.³

Thus, by these measures, Utah's economy appears to have recovered from the Great Recession more quickly than the rest of the nation. But there is a significant statistical problem with these comparisons: They do not control for differences in population growth rates. From 2007 to 2014, Utah's population grew by over 13%, more than double the national rate of less than 6%.

In order to ensure the most meaningful comparison, this report compares Utah's job growth to the nation's while controlling for the very large difference in population growth rates.

But the quantity of jobs by itself is not the only measure of economic recovery. What about the quality of those jobs, particularly as measured by the wages that they pay? This is an area where there has been insufficient public attention in Utah. At the national level, however, several studies have shed light on the quality of jobs created since the recession ended. This report applies the methodologies developed in some of those national studies to Utah in an effort to provide a more detailed and nuanced understanding of the post-recession Utah economy. We analyze the quality of jobs created during the current economic expansion cycle in three major areas:

1. Wage levels of jobs before and after the recession
2. Change in part-time share of the workforce
3. Comparison of wage growth to productivity growth

Voices for Utah Children is committed to fostering a strong and vibrant Utah economy where every child has the opportunity to achieve his or her full potential. We hope that this report will be of value to policymakers and the general public in shaping the best possible future for our state.

Quantity of Jobs: Comparing Job Growth While Controlling for Differences in Population Growth

Utah's population grows at one of the fastest rates in the nation, regularly ranking second or third by this measure. This rapid population growth creates an interesting challenge for judging the effectiveness of the state's economic growth strategies and policies. Because rapid population growth both fuels job growth and requires more of it to maintain the same standard of living, it is generally not going to be sufficient to say that Utah's job growth is faster than the nation's. If Utah ranks second for population growth, as it did in the 2000-2010 decennial Census data, Utah will have to maintain one of the highest job growth rates just to keep up with its rapidly growing workforce. But how much job growth is enough? Evaluating the success of economic policies requires judging the results without allowing Utah's relatively high population growth rate to distort the picture.

To compare job creation performance while controlling for differences in population growth, we compared Utah and the U.S. on the basis of two simple ratios:

- The ratio of jobs to population before the Great Recession and today.
- The ratio of job growth to population growth during the four years of job growth experienced following the recession in Utah and nationally -- 2011 through 2014.

These are not by any means perfect measures, because, while they control for population growth, they do not control for other factors such as the significant demographic differences between Utah and the U.S. (For example, Utah's workers are younger, whiter, and more male than the national workforce, and the working age share of Utah's population is smaller than elsewhere due to the high share of the population that is under 18. In future research we hope to examine whether these ratios differ based on the ratio of jobs to just the working age population and other variations.) Nonetheless, these measures allow for a more meaningful comparison of job creation performance than measures that compare Utah to the nation without making any attempt to control for the very large difference in population growth rates.

The ratio of jobs to population before the Great Recession and today

The table below presents the raw data for job and population growth in Utah and the U.S. from 2007, the peak of the economic expansion prior to the Great Recession, through 2014.

Table 1: Raw job and population data from US and Utah, 2007-2014

<u>YEAR</u>	<u>US Jobs</u>	<u>US Population</u>	<u>Utah Jobs</u>	<u>Utah Population</u>
2007	137,936,250	301,231,207	1,253,250	2,597,746
2008	137,169,917	304,093,966	1,252,508	2,663,029
2009	131,232,833	306,771,529	1,188,833	2,723,421
2010	130,275,167	309,347,057	1,182,508	2,774,346
2011	131,841,917	311,721,632	1,207,692	2,815,324
2012	134,103,750	314,112,078	1,250,367	2,855,194
2013	136,391,500	316,497,531	1,289,858	2,902,787
2014	139,042,083	318,857,056	1,331,467	2,942,902

(Population data from U.S. Census Bureau July 1 estimates, updated December 2014. Non-farm, non-seasonally adjusted annual job data from U.S. Bureau of Labor Statistics Current Employment Statistics data at www.BLS.gov updated February 6, 2014.)

Table 2: The Ratio of Jobs to Population has fallen more in Utah than in the US, 2007-2014

<u>Year</u>	<u>US</u>	<u>Utah</u>
2007	45.8%	48.2%
2014	43.6%	45.2%
Change in percentage points	-2.2	-3.0

Table 2 is derived directly from Table 1, simply comparing the ratios of jobs to population for the US and Utah for those two years. What we see is that both the US and Utah have seen a sharp drop in the number of jobs available on a per capita basis, but Utah's drop has been larger: 3 percentage points vs. 2.2 percentage points. This finding is consistent with what we present in Table 3 below about labor force participation rates—they have also fallen sharply at both the state and national levels – but more at the state level.

Table 3: Labor Force Participation Rates (LFPR) have fallen more in Utah than in US, 2007-2014

	<u>US</u>	<u>Utah</u>
2007	66.0%	72.2%
2014	62.9%	68.6%
Percentage point change in LFPR	-3.1	-3.6

Source: LFPR data from <http://www.bls.gov/webapps/legacy/cpsatab1.htm> for US and from <http://www.bls.gov/lau/ststdnsadata.txt> for Utah.

Nonetheless, Utah continues to have a higher ratio of jobs-to-population than the nation as a whole and a higher labor force participation rate.

Finally, Table 4 below displays the ratio of new jobs created during 2011-2014 to population growth during those same four years, based on the raw data from Table 1.

Table 4: The Ratio of Job Growth to Population Growth for the four-year period 2011-2014 shows Utah just slightly behind the national recovery

	<u>US</u>	<u>Utah</u>
New Jobs	8,766,917	148,958
New Population	9,509,999	168,556
Ratio of Job Growth to Population Growth	92.2%	88.4%

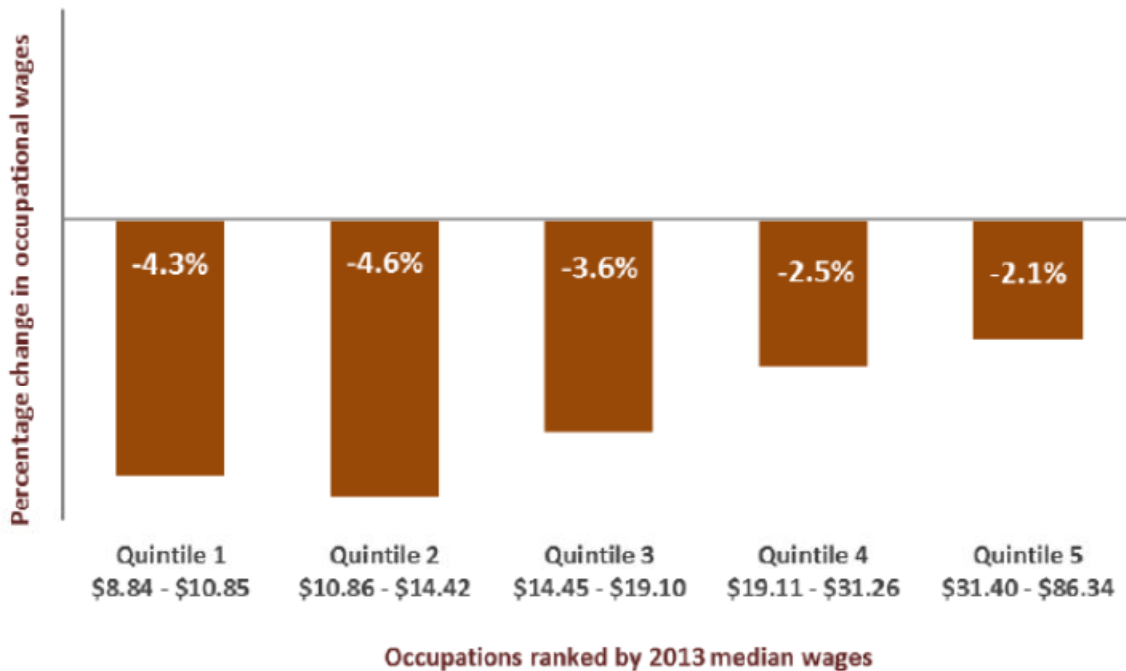
Thus, what we see from the data in Table 4 is that Utah's job creation relative to population has been very close to that of the national economy as a whole over the four year period 2011-2014.

Quality of Jobs: Wage Levels in Utah before and after the Great Recession

Methodology #1: Occupational Wages by Quintile

The National Employment Law Project (NELP) has originated a methodology for analyzing Occupational Employment Statistics (OES) data from the federal Bureau of Labor Statistics by quintile ranked by wage levels. Figure 1 shows their finding that, in the U.S. economy as a whole from 2009 to 2013, lower-wage and mid-wage occupations saw significantly larger declines in their real wages than did higher-wage occupations. Occupations in the top two quintiles saw their median wages decline by less than 2% on average. However, occupations in the bottom three quintiles saw their median wages decline by 3% or more.⁴

Figure 1: The Decline in Real Occupational Wages, National, 2009-2013

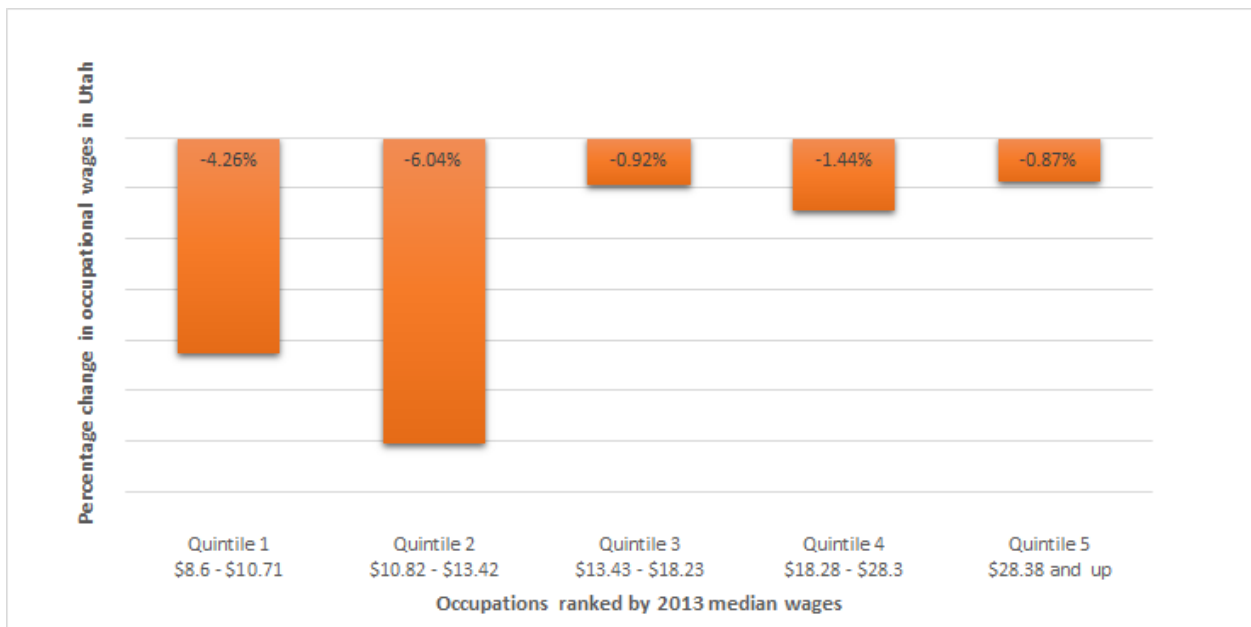


Source: NELP analysis of Occupational Employment Statistics
Median hourly wages are shown for the lowest and highest-paid occupations within each quintile.

In Figure 2, we analyzed the same source data at the state level for Utah by replicating NELP’s methodology. We calculated the percentage change in real median hourly wages from 2009 to 2013 for 584 occupations, which were grouped into quintiles ranked by income, each representing one-fifth of total Utah employment in 2013.

Figure 2 shows our findings for Utah, which are similar to NELP’s for the national economy. Lower-wage occupations saw significantly larger declines in their real wages than did mid-wage and higher-wage occupations. Occupations in the top three quintiles saw their median wages decline by about 1-1.5%. By contrast, occupations in the bottom two quintiles saw their median wages decline by 4-6%. Compared to the US pattern, in Utah the bottom 40% did worse than the national findings, and the top 60% did better, indicating a pattern of growing inequality that is somewhat worse in Utah than for the nation as a whole.

Figure 2: The Decline in Real Occupational Wages in Utah, 2009-2013



As illustrated in Figure 3 below, we also analyzed the overall performance of occupational wages across all occupations in Utah and found that the real (inflation-adjusted) median wage in Utah was 2.7% lower in 2013 than it was in 2009, the peak year for wages. At the national level, NELP reported in their study that real median hourly wages over the same time period declined by 3.4% across all occupations nationally from 2009 to 2013.

Figure 3: Utah’s real median wages declined less than at the national level (2009-2013)

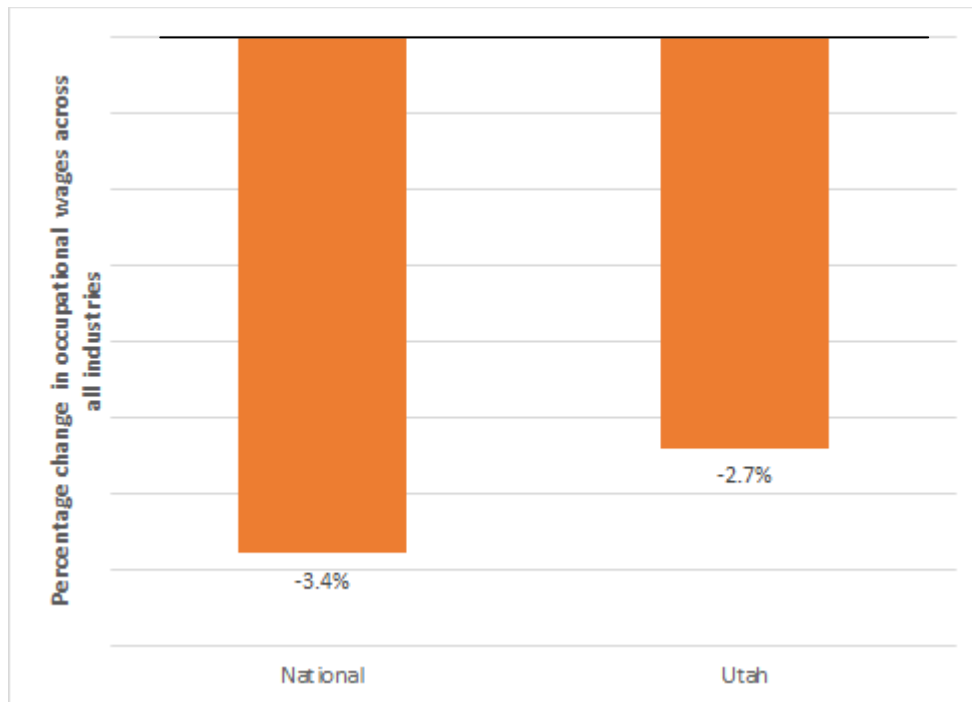


Table 5 shows the 10 largest lower-wage occupations in the bottom quintile, ranked by size from largest to smallest. Wage declines were largest, at 4% or worse, for janitors and cleaners; telemarketers; packers and packagers; stock clerks and order fillers; and waiters and waitresses.

Table 5: Wage Declines for the Top 10 Lower-Wage Occupations in Utah, 2009-2013

		2013 median hourly wage	Percentage change in real median hourly wage, 2009- 2013
1	Retail Salespersons	\$10.33	-3.9%
2	Combined Food Preparation and Serving Workers, Including Fast Food	\$8.60	-1.8%
3	Cashiers	\$8.95	-3.2%
4	Waiters and Waitresses	\$9.05	-4.7%
5	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$9.22	-10.9%
6	Stock Clerks and Order Fillers	\$10.61	-6.1%
7	Maids and Housekeeping Cleaners	\$9.16	-3.9%
8	Packers and Packagers, Hand	\$9.54	-6.1%
9	Food Preparation Workers	\$9.13	-0.8%
10	Telemarketers	\$10.71	-7.7%

Methodology #2: Comparing Wages of Jobs Lost vs. Jobs Gained

A different methodology for comparing pre- and post-recession wages was developed by IHS Global Insight for a report published by the U.S. Conference of Mayors.⁵ This methodology isolates and compares jobs lost during the recession with jobs created during the recovery. This study was conducted at the national level and included data about the wages of jobs lost and gained by major industry.

Table 6 below shows the findings of the national study by IHS Global Insight for the U.S. Conference of Mayors.

Table 6: Wages of jobs gained and jobs lost, 2008Q1 – 2014Q2, National (Results from Conference of Mayors August 2014 study conducted by IHS Global Insight)

Type of Jobs	Change in Employment	Average Annual Wage of Jobs Lost/Gained
Jobs Lost (2008Q1 – Trough)	-8,710,000	\$61,637
Jobs Gained (Trough – 2014Q2)	10,390,000	\$47,171

In Table 7 below, we replicated the methodology for Utah, using employment data at the state level from the State and Area Employment database published by the federal Bureau of Labor Statistics. This was combined with state level wage data by NAICS major industry from the Bureau of Economic Analysis.

Then, using 2010 Q1 as the trough for Utah employment, we calculated total jobs lost by industry from 2008 Q1 to the trough, and total jobs gained by industry from the trough to 2014 Q2. Using average real industry wages for those years, we then calculated the weighted average wage of jobs lost and jobs gained from 2008 to 2014 Q2.

Table 7: Wages of jobs gained and jobs lost, 2008Q1 – 2014Q2, Utah

Type of Jobs	Change in Employment	Average Annual Wage of Jobs Lost/Gained
Jobs Lost (2008Q1 – Trough)	-89,000	\$53,277
Jobs Gained (Trough – 2014Q2)	159,300	\$41,342

At the national level, jobs lost during the recession period had average annual wages that were \$14,446 higher than jobs that have been created during the recovery period. This represents a 23% reduction in annual wages between the jobs lost and the jobs gained.

The Utah economy has seen a similar gap in wages. The \$11,935 difference between wages of jobs lost and gained represents a 22% reduction of average annual wages, which is very close to the percentage reduction experienced at the national level.

In order to shed further light on the kinds of jobs that have been lost and created we list the major industries that saw the largest job losses during the recession. Then we list the industries that have seen the most growth since the trough in employment in early 2010.

Table 8: Top 5 Job Loss Industries, Utah 2008Q1 – 2010Q1

Top 5 Industries – Jobs Lost 2008Q1 – 2010Q1	Change in Employment	Average Annual Wage
Construction	-28,600	\$52,724
Durable Goods Manufacturing	-13,500	\$57,872
Retail Trade	-11,900	\$29,715
Accommodation and Food Services	-6,700	\$18,085
Government and Gov. Enterprises	-6,300	\$46,519
TOTALS	-67,000	\$45,627 is the average wage of the 67,000 jobs lost in the top five job-losing industries

Table 9: Top 5 job gain industries, Utah 2010Q2 – 2014Q2

Top 5 Industries – Jobs Gained 2010Q2 – 2014Q2	Change in Employment	Average Annual Wage
Government and Gov. Enterprises	20,600	\$42,381
Accommodation and Food Services	14,300	\$18,175
Professional, Science & Technical	13,800	\$67,252
Health Care and Social Assistance	12,200	\$39,992
Retail Trade	9,800	\$29,795
TOTALS	70,700	\$40,183 is the average wage of the 70,700 jobs gained in the top five job-gaining industries

Utah saw the largest job losses during the recession in relatively high wage industries, most notably construction and manufacturing. But jobs gained since 2010 Q1 have been largely in lower paying industries, such as accommodation and food services, health care and social assistance, and retail trade. Consistent with the findings presented earlier, the average wage of the 70,700 jobs gained in the top five job-gaining industries since the recession is considerably lower than that of the 67,000 jobs lost in the top five job-losing industries during the recession, \$40,183 vs. \$45,627.

Change in Part-Time Share of the Workforce

Wages cannot tell the whole story of economic recovery. We also compared the share of people working part time from the pre-recession period through 2014.

Using micro-data from the Current Population Survey (CPS) gathered from the IPUMS-CPS database, we calculated the percentage of the total workforce that is working part-time in Utah and the nation. After this, we also calculate the percentage of the workforce that is working part-time for economic reasons. These are people who would prefer to be working full-time, but cannot find such a job.

Figure 4: Share of labor force working part-time, 2007 – 2014

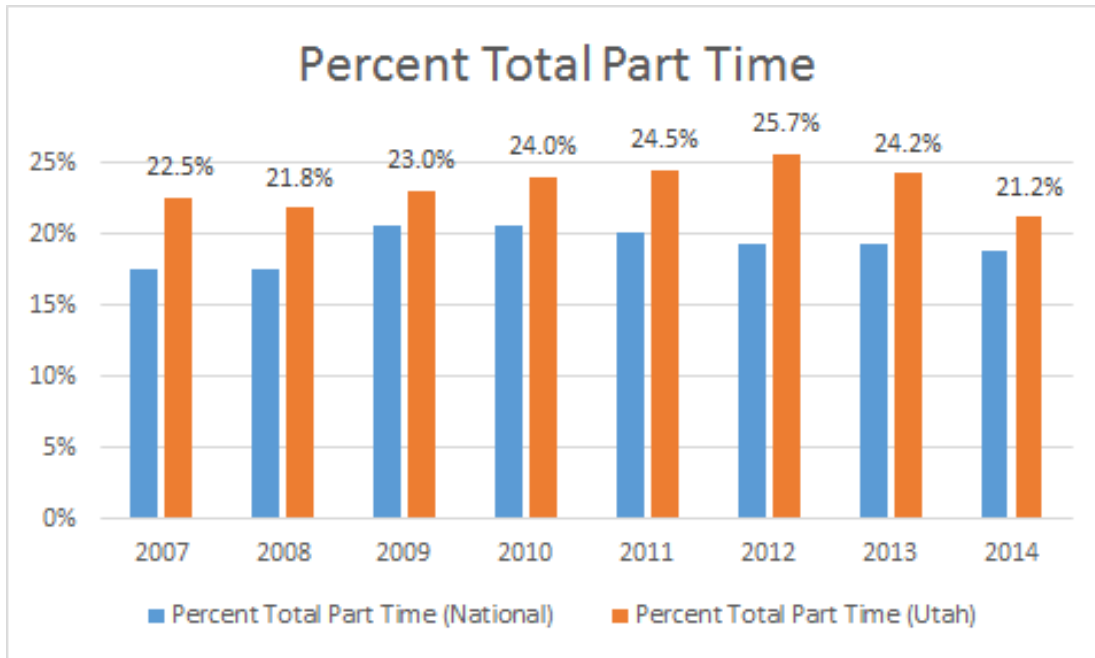
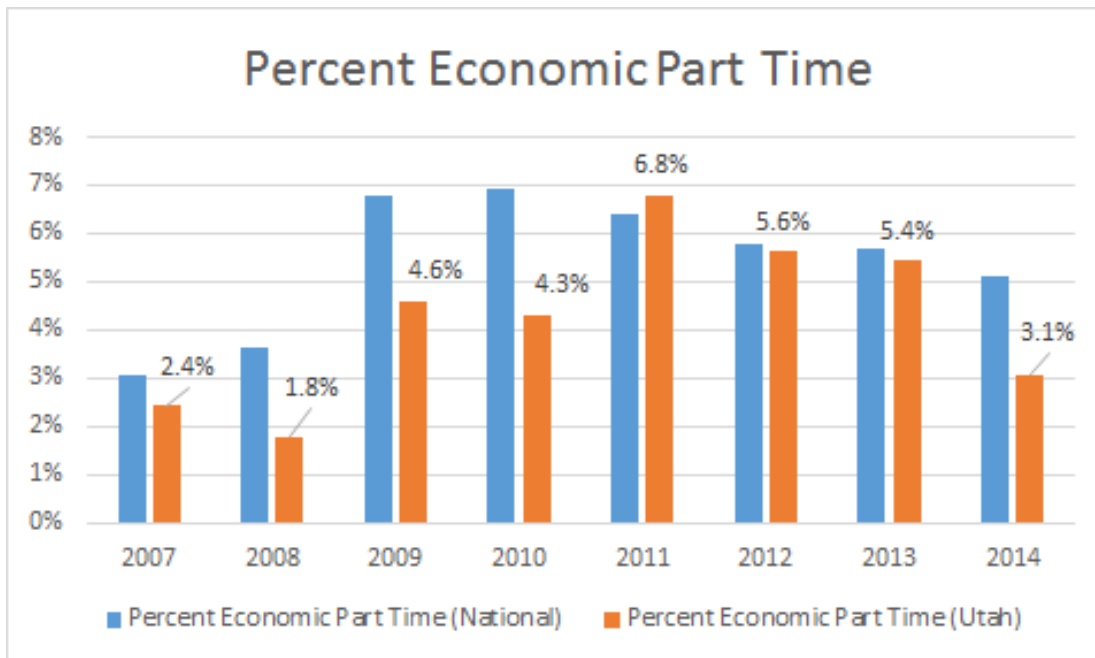


Figure 5: Share of labor force working part time for economic reasons



The above charts reveal that by 2014, the Utah economy had returned to its pre-recession levels of part-time employment. Indeed, only 21.2% of the Utah population was working part-time in 2014, lower than the pre-recession low of 21.8% in 2008. This return to pre-recession levels has been faster in Utah than the rest of the nation, which still has a consistently higher part-time rate.

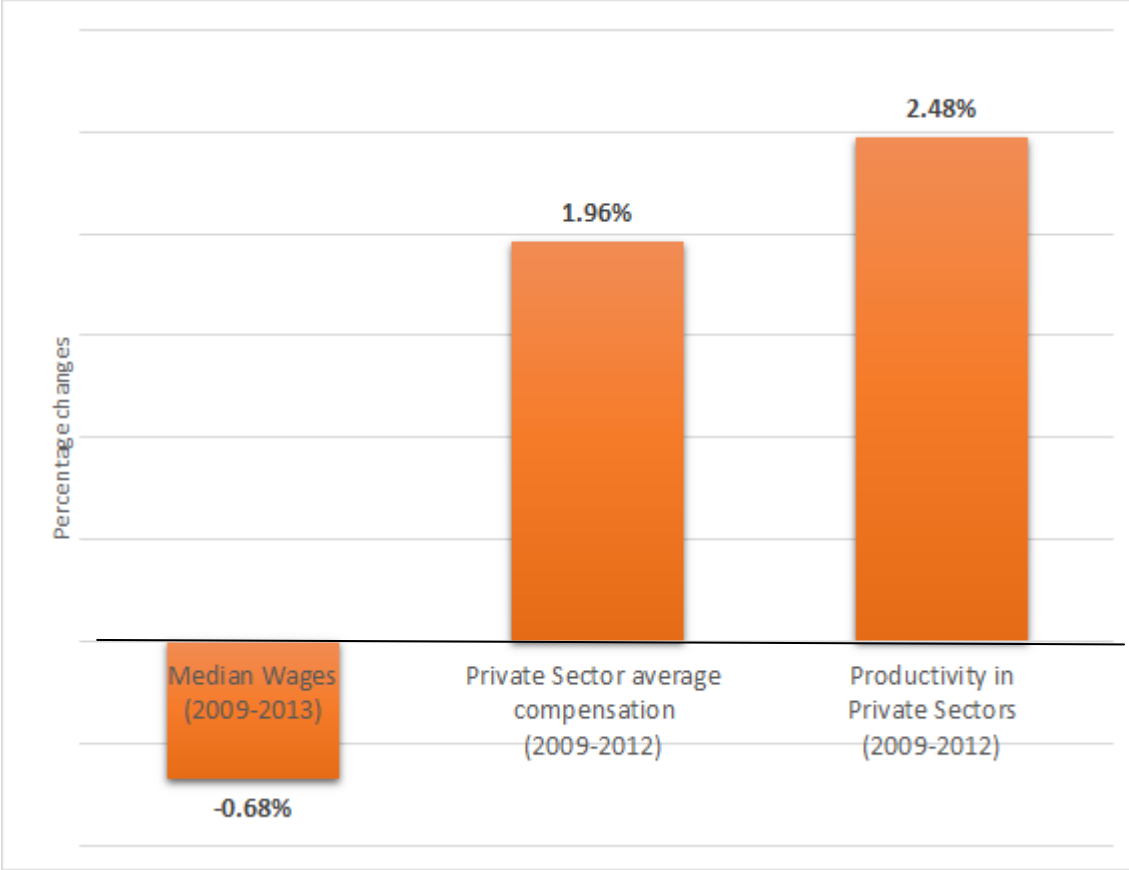
The percent economic part-time, which measures those working part-time because they are unable to find full-time jobs, tells a mostly similar story. Once again, percent economic part-time has decreased in Utah much faster than it has for the nation as a whole. However, the Utah economy still has a slightly higher percent economic part time than it did pre-recession.

Comparing Growth in Wages and Productivity

Another way to look at changes in wages is to compare them to changes in productivity. Productivity growth is a major source of wage growth and for many years they grew in tandem in the U.S. economy. But more recently there has been a debate among economists as to whether wages have become separated from productivity, as some studies have found that wages have become stagnant even as productivity growth has continued.⁶

In Figure 6 below, we compare the annualized growth rate in real median wages (2009-2013) from Figure 3 above with the annual real growth rates in average compensation and productivity. (The two latter figures are only available through 2012.)

Figure 6: Annual growth rates in real (inflation-adjusted) median wages (2009-2013), private sector real average compensation (2009-2012), and private sector productivity (2009-2012) in Utah



The chart above shows two separate and distinct gaps. The first gap is evident in the two bars on the right indicating a disconnect between private sector compensation and productivity growth for 2009-2012 in Utah. Compensation lagged 20% behind productivity growth over this time period.

The second and much larger gap is the one between both real average compensation and productivity on the one hand, both of which are rising, and real median wages, which have fallen over the time period examined here. We see three possible explanations of this gap:

1. Averages and medians can yield very different results, especially in the area of wages/compensation where there is a floor but no ceiling. In addition, it has been widely noted that most wage gains in recent decades have accrued to the top of the income scale, leaving the middle of the scale stagnant or falling, and this finding is consistent with that.

2. Compensation is a much broader term than wages, including not just financial remuneration but also health insurance, pension funds, and other benefits that have a dollar value but are not included in wages. For example, in recent decades it has been observed that one effect of the rising cost of health care is that it has tended to limit wage growth, as employers put gains from productivity growth into employees' health insurance rather than wages.
3. The median wage data includes all employees, while the compensation and productivity data from the Bureau of Economic Analysis Current Employment Statistics (CES) data includes only private sector workers, leaving out public sector employees, who make up about 15% of all jobs.⁷

Comparing Overall Economic Output Per Capita

For both Utah and the US, real per capita economic output peaked in 2007 and had not yet recovered as of 2013, the last year for which figures are available. Per capita real GDP peaked in Utah at \$45,652 in 2007 and reached \$45,165 in 2013, while for the nation as a whole, the comparable figures are \$49,213 in 2007 and \$49,115 in 2013. Thus, in 2013, the US was at 99.8% of the pre-recession level, while Utah was at 98.9%.

Table 10: Utah Slightly Behind US in Recovery of Real Per Capita GDP

	<u>US</u>	<u>Utah</u>
2007	\$49,213	\$45,652
2008	\$48,436	\$43,662
2009	\$46,706	\$42,018
2010	\$47,328	\$42,075
2011	\$47,720	\$42,714
2012	\$48,567	\$44,196
2013	\$49,115	\$45,165
2013 as a percent of 2007	99.8%	98.9%

Source: U.S. Department of Commerce Bureau of Economic Analysis from http://bea.gov/newsreleases/regional/gdp_state/gsp_newsrelease.htm and http://bea.gov/iTable/index_regional.cfm Last updated: June 11, 2014 - advance statistics for 2013 and revised statistics for 1997-2012. All figures in chained 2009 dollars.

While this data set does not relate directly to the job quality vs. quantity debate, it is of interest as an overall macro-level metric for comparing state and national economic performance in a way that relates directly to standard of living in terms of per capita economic output. Utah ranks 35th by this measure of recovery.

Table 11: Utah Ranks #35 in Recovery of Real Per Capita GDP to Pre-Recession Level

State Rank	State	Per capita real GDP in 2013 as a percent of 2007 (pre-recession) level
	United States	99.8%
1	North Dakota	154.0%
2	Oregon	115.6%
3	South Dakota	110.1%
4	West Virginia	109.7%
5	Nebraska	109.7%
6	Texas	107.3%
7	Vermont	106.8%
8	Oklahoma	106.3%
9	Arkansas	104.3%
10	Alaska	103.5%
11	Minnesota	103.5%
12	Wyoming	103.4%
13	Montana	103.1%
14	New York	103.1%
15	Massachusetts	103.0%
16	Louisiana	102.9%
17	Ohio	102.8%
18	Iowa	102.8%
19	Pennsylvania	102.2%
20	NH	102.2%
21	Rhode Island	101.9%
22	Kansas	101.9%
23	Maryland	101.5%
24	Kentucky	101.5%
25	Indiana	100.9%

26	Wisconsin	100.7%
27	Mississippi	100.3%
28	Colorado	100.3%
29	Tennessee	100.3%
30	Alabama	99.7%
31	Missouri	99.6%
32	Washington	99.6%
33	New Mexico	99.2%
34	Maine	99.0%
35	Utah	98.9%
36	Illinois	98.5%
37	Virginia	98.5%
38	Michigan	98.2%
39	Hawaii	98.1%
40	North Carolina	97.6%
41	California	97.3%
42	New Jersey	97.2%
43	Delaware	95.6%
44	South Carolina	95.5%
45	Idaho	94.4%
46	Georgia	93.1%
47	Connecticut	93.0%
48	Arizona	89.4%
49	Florida	87.7%
50	Nevada	84.1%

Source: U.S. Department of Commerce Bureau of Economic Analysis

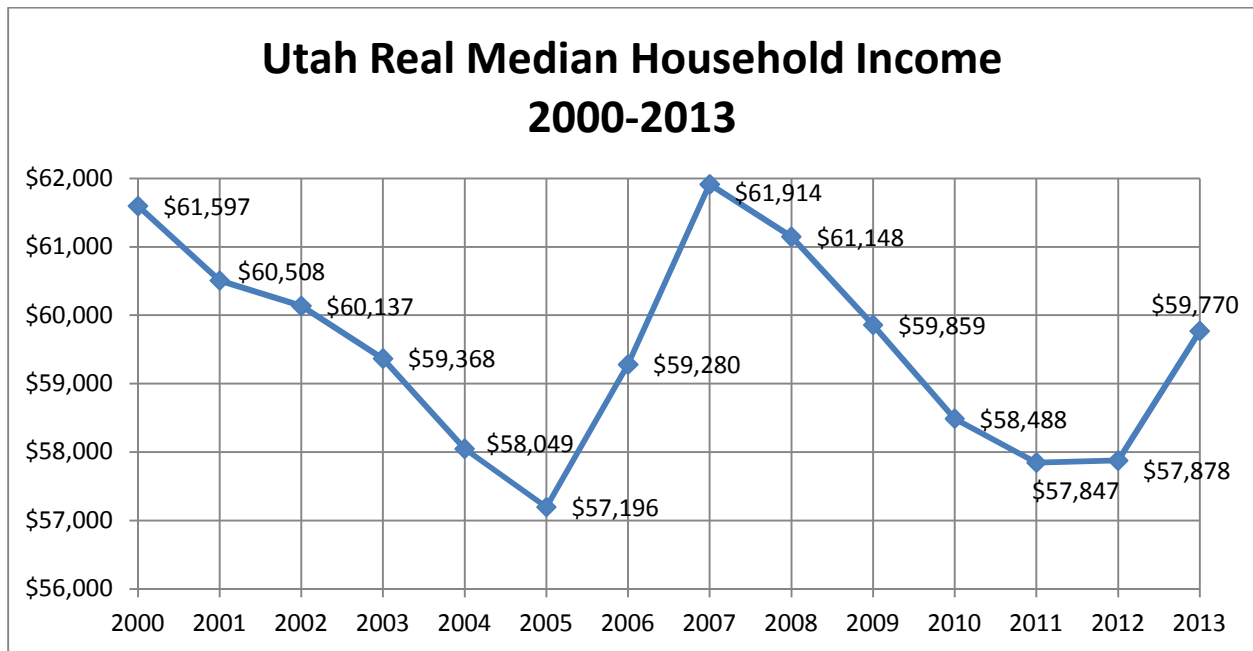
Implications of Findings

Our findings raise the surprising question of whether state policymakers may have been taking credit for the wrong side of Utah’s jobs picture – for quantity instead of quality of jobs. State leaders have been quick to claim credit for Utah’s rapid job growth. But one implication of our findings is that Utah has not outperformed the nation in job creation relative to population, but Utah’s wages have outperformed the national economy.

In terms of median wages, Utah stands out for having advanced toward recovery more quickly than the nation as a whole, even though wages remain substantially below pre-recession levels (as of 2013). This finding is consistent with the most recent data for median household income 2000-2013 presented below in Figure 7, which shows two things:

1. Incomes in Utah have not yet recovered to pre-recession levels.
2. Utah incomes jumped sharply in 2013 compared to 2012, a welcome development that saw Utah climb all the way to 11th place by that ranking, its best performance by that measure in the last decade and a half.

Figure 7: Utah Real Median Household Income, 2000-2013

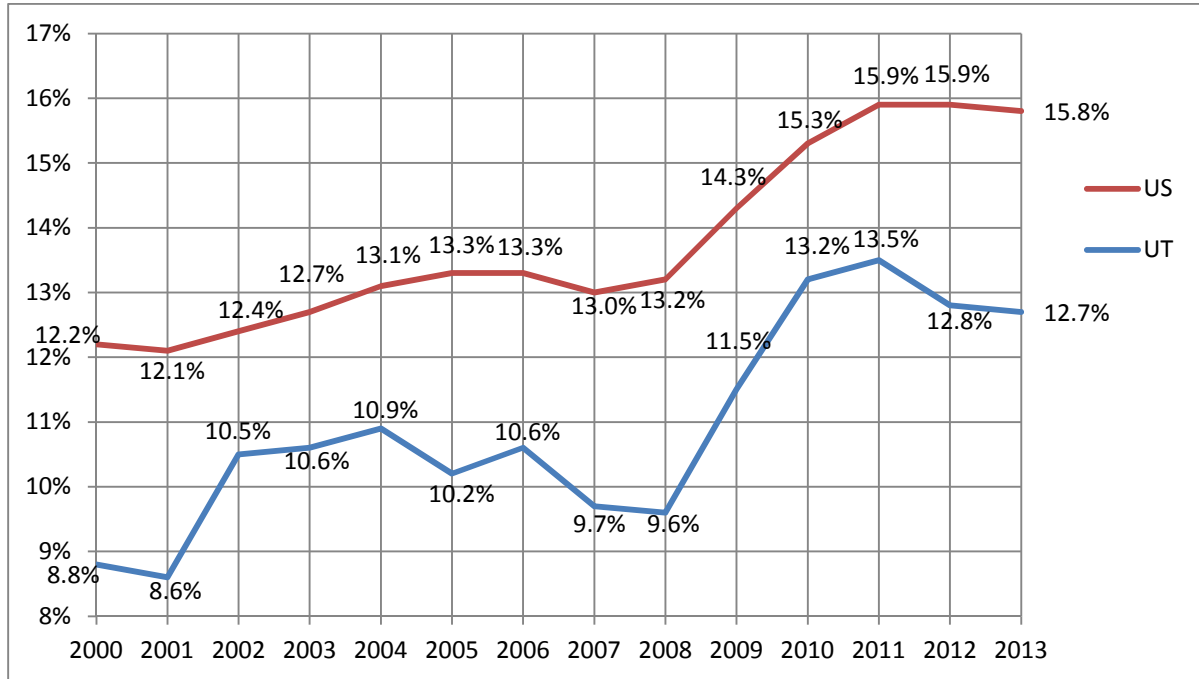


Source: American Community Survey data from factfinder.census.gov, adjusted for inflation with CPI-U-RS

But wage inequality has deepened in Utah. Even as Utah’s median wage has fallen less than the nation’s, wages for the bottom 40% of the workforce have fallen more than at the national level. This finding is consistent with the persistently elevated poverty rates that Utah has

suffered from since the end of the recession, relative to poverty rates at this stage in the previous economic expansion period that ended in 2008, as detailed in Figure 8.

Figure 8: Annual Poverty Rates for Utah Remain Higher Than A Decade Ago



Source: Census Bureau American Community Survey via factfinder.census.gov

One bright spot in that regard is in the recent Utah Economic Council’s *2015 Economic Report to the Governor*, citing research by the Utah Foundation finding that, while inequality and lack of social mobility for the poor has worsened in Utah in recent years, it remains less of a problem than in the nation as a whole.⁸ Unfortunately, the gap that we find between productivity and median wages, as well as our quintile wage gap analysis, are consistent with the thesis that the trend is currently toward greater inequality.

Finally, the data about overall per capita GDP raises the question of whether Utah’s recovery has been as strong as the nation’s, though this information must be taken with the caveat that the data is from 2013, and things may well have changed significantly in 2014. The 2014 data is expected to be released later this year.

Appendices

Survey of Relevant Studies

A survey of studies and publications dealing with post-recession job growth was conducted. This survey focused on reports specific to Utah, although information on methodologies and potential data sources was found through studies conducted in other states or at the national level. The results of this survey are listed below in reverse chronological order, with brief summaries of conclusions and data sources.

Title	Author / Publication	Date	Topic of Study	Conclusions	Data / Sources
Utah's Employment Summary October 2014	Utah Department of Workforce Services	Nov 2014	Current employment situation, including employment numbers by industry and occupation, growth by industry, and unemployment levels over the last year	Utah job growth continues at strong pace, gains in all major industries, unemployment below national level	Utah DWS, using statistics generated by BLS (CPS and CES)
Economic Summary	Utah State Data Center, Bureau of Economic and Business Research, Univ. of Utah	Sep 2014	A overview of Utah's economy by August, 2014.	Utah typically grows more rapidly than the nation after recessions, and this pattern is continuing in 2014.	Department of Workforce Services; Bureau of Economic Analysis; Bureau of Labor Statistics
2014 Employer Health Benefits Survey	Kaiser Family Foundation / Health Research & Educational Trust	Sep 2014	Status of employer health benefits in the US	As relative to this study, smaller firms much less likely to offer health care benefits, while large firms are almost guaranteed to offer benefits	Kaiser Family Foundation Employer Health Benefits Annual Survey
A Closer Look at the 100,000 Jobs in 1000 Days	Utah Department of Workforce Services, Blog	Aug 2014	Analysis of Governor's report and breakdown of 112000 jobs by industry	Growth spread pretty evenly b/w all major industries	BLS Current Employment Statistics
Beyond Recovery	Utah Department of Workforce Services, Blog	Aug 2014	Net Jobs gain since recovery, by industry	Construction and manufacturing were hit especially hard and have not recovered fully	QCEW
The Low-Wage Recovery: Industry Employment and Wages Four Years into the Recovery	National Employment Law Project	April 2014	Employment growth during the early recovery was heavily concentrated in lower-wage industries and occupations	There continues to be an imbalance between the industries where the recession's job losses occurred and the industries experiencing the greatest growth four years into the recovery. Private sector employment growth over the current recovery is stronger than it was following the 2001 recession, but job growth is more concentrated in lower-wage industries.	NELP analysis of Bureau of Labor Statistics data; CES; OES
Wage Adjustment in the Great Recession	National Bureau of Economic Research (NBER)	Sep 2013	Effect of Recession on wages in US and UK	Wages are very definitely pro-cyclical. Men's wages were more affected by 80's recession, while women's wages were strongly affected by the Great Recession	CPS March Survey 1978-2011
The Inequality of Declining Wages During the Recovery	National Employment Law Project	July 2013	Analyzing occupational wage trends during the recovery to 2013	From 2009 to 2012, real median occupational wages declined across all occupations. Lower-wage and mid-wage occupations suffered bigger declines in the period.	OES; NELP analysis of Occupational Employment Statistics
Utah part-time employment rate returning to historic highs	The Salt Lake Tribune	July 2013	Part-time employment in Utah in 2012	24.7 percent employed Utahns were working part time in 2012. 35 percent working Utah women has a part-time job. Large proportion of young population in Utah is a reason of high part-time employment in Utah.	DWS
Job to Job Flows in the Great Recession	Census Bureau / American Economic Review	Mar 2012	Wage changes from job-to-job or job-to-nonemployment-to-job transitions during the	Both kinds of changes led to much lower wage changes during Recession than before Recession, with workers suffering big losses in wages if they were unemployed between	Pilot database on job-to-job transitions developed by the Census Bureau

			Great Recession	jobs	
Job Loss In the Great Recession: Historical Perspective from the Displaced Workers Survey	National Bureau of Economic Research (NBER)	May 2011	Effects of job loss in the recent recession compared to previous recessions	Workers who became unemployed during the Great Recession lost an average of 17.5% of their wages (21.8% for full time job losers) and 20% of reemployed full-timers now have part time jobs (higher than other recessions)	Displaced Workers Survey (Addition to CPS, done every 2 years)
Preparing Utah's Workforce for 21st Century Jobs	Utah Foundation - Executive Summary	Mar 2010	Types of jobs predicted to high growth in job openings and wages in Utah	Education/Training, Computer, and construction are largest shares of good jobs	Utah DWS
Types of Jobs Lost and Gained 2001 - 2006	Conference of Mayors / IHS	Jun 2004	Wage and benefits gap between jobs lost and gained in 2001 recession and recovery	2001 recession also had significant wage gap. Also had a very large gap in benefits (14.5% gap in health care coverage, and similar loss in jobs providing retirement plans) This is largely because of type and industry of jobs lost and gained	Kaiser Foundation Employer Health Benefits, and BLS National Compensation Survey

Data Sources

United States Bureau of Labor Statistics. (2014). *Occupational Employment Statistics - OES (Utah)* [Data file]. Available from http://www.bls.gov/oes/current/oes_ut.htm

United States Bureau of Labor Statistics. (2014). *Current Employment Statistics - CES (National)* [Data file]. Available from <http://www.bls.gov/ces/>

United States Bureau of Labor Statistics. (2014). *State and Metro Area Employment, Hours & Earnings* [Data file]. Available from <http://www.bls.gov/sae/>

United States Bureau of Economic Analysis. (2014). *Quarterly State Personal Income*. [Data file]. Available from <http://www.bea.gov/itable/>

United States Bureau of Economic Analysis. (2014). *Compensation of Employees & Real GDP in Chained Dollars*. [Data file]. Available from <http://www.bea.gov/itable/>

IPUMS-CPS, University of Minnesota, www.ipums.org.

Methodology

This section provides methodological background only for sections where the methodology is not fully explained in the text.

1. “Methodology #1: Occupational Wages by Quintile”

In this part of the analysis, we replicate the methodology that the National Employment Law Project (NELP) used for the articles “An Unbalanced Recovery: Real Wage and Job Growth Trends” and “The Inequality of Declining Wages during the Recovery.” We used the most up-to-date Bureau of Labor Statistics’ Occupational Employment Statistics (OES) data from 2013 and compare with the OES data in 2009. Every year, OES produces detailed employment and wage estimates for approximately 800 occupations (nationwide) based on six semi-annual surveys covering 1.2 million establishments. Every six months, a new panel of data is added, and the oldest panel is dropped, resulting in a moving average staffing pattern. (<http://www.bls.gov/oes/tables.htm>)

Our analysis is based on 785 occupations classified according to the Standard Occupational Classification (SOC) system. Because a revised SOC was introduced in 2010, we use the SOC 2000 to 2010 crosswalk to recode 2009 and 2013 data to form a consistent series of occupation codes across years. In the course of this process, data for about 30,000 positions, representing 2.41% of total Utah employment in 2013, are lost due to inconsistencies between the two SOC classification systems.

In addition, the OES does not report hourly wage data for occupations with irregular work schedules (e.g., teacher, athletes, and legislators). We imputed median hourly wages for education-related occupations by dividing median annual earnings by 1,560 hours (9 months of full-time work), and divided by 2,080 hours (12 months of full-time work) for the remaining occupations. Occupations with imputed median hourly wages account for 4.82 percent of Utah 2013 employment; the analysis was not substantially changed by the imputation. In addition, the OES did not report median earnings data (hourly or annual) for four high-wage occupations (0.28 percent of 2013 employment). These occupations earn more than \$90 for their hourly wage according to the Bureau of Labor Statistics. In order not to have to delete these positions from the data, we assigned an hourly wage of \$90 in 2009 and \$98 in 2013, based on the assumption that the wages of these occupation grows at the rate of inflation.

For Figure 2, we ranked occupations in Utah from highest to lowest using their 2013 median hourly wage, weighted by 2013 employment, and then grouped the occupations into five approximately equal quintiles. For each quintile, we calculated the average of the percentage change in the median hourly wage for the occupations in that quintile. Similarly, the total percentage change is the weighted average percentage change for all occupations. To compare wages across years, we used the annual CPI-U to adjust for inflation.

2. “Methodology #2: Comparing Wages of Jobs Lost vs. Jobs Gained”

In order to isolate wages of jobs lost during the recession and jobs gained since, we follow a methodology utilized by IHS Global Insight in their national study conducted for the U.S. Conference of Mayors. Data on employment by industry at the monthly level were gathered from the BLS State and Metro Area Employment, Hours, and Earnings database. Monthly data was then combined into quarterly data.

Data on quarterly total wage disbursements by industry was collected from the Bureau of Economic Analysis’ Regional GDP and Personal Income database. This was then matched with the BLS employment data by 20 major industries in the NAICS industry classification (largely at the 2 digit level).

BLS total employment data shows that 2010 Q1 was the trough of employment for the Utah economy. Using this as a cutoff point, we created two time periods. 2008 Q1 to 2010 Q1 was classified as the recession period, and 2010 Q2 to 2014 Q2 was classified as the recovery period. We then calculated the total number of jobs lost per industry over the recession period and the total number of jobs gained per industry during the recovery period. We then calculated the weighted average wage of jobs lost during the recession period and of jobs gained during the recovery period. We used average wages for each industry over the whole period to calculate these weighted average wages.

Within each period we then ranked the 20 industries by total change in employment to get the five industries that lost the most jobs during the recession period and the five industries that gained the most jobs during the recovery period.

3. “Change in Part-time Share of the Workforce”

The analysis of part time workers in the Utah economy utilized microdata from the IPUMS-CPS database. As part of the Current Population Survey (CPS) individuals are asked whether they worked full or part time last year. Excluding people who were not in the workforce, we calculated the percentage of people who were working part-time (including economic part-time) per year. We then compared the results at the national level to the results for Utah.

The same question on the CPS includes economic part-time as an option. Using this, we then calculated the percentage economic part-time as a share of the total workforce. Then, like above, we compared national levels to Utah levels.

4. “Comparing Growth in Wages and Productivity”

First, we took the median wage growth trend data from Figure 3 for Utah, used CPI-U to adjust it for inflation, and then converted it to an annual rate.

Second, we analyze the productivity and total compensation situation of employees in private sectors in Utah. The compensation of employees data is from the Bureau of Economic Analysis Current Employment Statistics (CES) data. This time, we use the data of 2012 since the Compensation of Employees data is not available for 2013. Similarly, we calculate the real annual percentage growth of compensation by using the CPI-U to adjust for inflation. In order to compare the productivity situation, we use the Current Employment Statistics data that is available on the website of the Bureau of Labor Statistics. We use the Average Weekly Hours of All Employees data in private sectors in 2012 to match the compensation data in the CES. We multiply the average weekly input of hours and average total employment to calculate the total input of hours in private sectors in both 2009 and 2012. Then, in each year, we divide the total Gross Domestic Products in private sectors by the total input of hours to compare the growth of productivity from 2009 to 2012.

Endnotes

¹ McKittrick, Cathy. “Governor Gary Herbert pushes job-creation plan” *Salt Lake Tribune*, September 27, 2011.

Accessed at <http://www.sltrib.com/sltrib/money/52647402-79/function.mysql-query>

² Gorrell, Mike, “State topped Herbert’s goal with 112,000 new jobs” *Salt Lake Tribune*, August 20, 2014. Accessed at <http://www.sltrib.com/sltrib/mobile/58313567-68/herbert-jobs-state-com.html.csp>

³ <https://jobs.utah.gov/wi/press/press.html> and www.bls.gov

⁴ National Employment Law Project (NELP), “An Unbalanced Recovery: Real Wage and Job Growth Trends” August 2014 and “The Inequality of Declining Wages during the Recovery” July 2013.

⁵ US Conference of Mayors, “U.S. Metro Economies: Income and Wage Gaps Across the US.” Aug. 2014

⁶ http://www.ced.org/pdf/Wedges_Between_Growth_of_Productivity_and_Compensation_Mishel_2012.pdf

⁷ http://www.bls.gov/emp/ep_table_201.htm

⁸ Utah Economic Council, *2015 Economic Report to the Governor*, page 135 and Utah Foundation, “Climbing Toward the American Dream: A Second Analysis of Economic Mobility in Utah,” August 2013, accessed via <http://www.utahfoundation.org/reports/climbing-toward-the-american-dream-a-second-analysis-of-economic-mobility-in-utah/>