

Oklahoma Job Quarterly Earnings Percentile Changes

All Industries for Years 2012 to 2022



OKLAHOMA

Oklahoma Employment Security Commission
Economic Research and Analysis Division

Oklahoma Job Quarterly Earnings Percentile Changes:
All industry, Mining, Manufacturing and Health for Years 2012 to 2022
(An update of five previous 10-year reports)

I. Introduction

A time series analysis of earnings and earnings change is an important economic indicator of the relative health of Oklahoma’s businesses, as well as our workforce well-being. While we have always been able to measure the change in average earnings by using administrative records, we have not viewed these changes in earnings across the income spectrum. To address this, we have used our agency administrative earnings records to construct a 10-year history and recent year changes in earnings as measured by percentiles. In short, this analysis uses percentile ranking of the job quarterly earnings of individual jobs, from lowest to highest to report job earnings changes and to determine important earnings changes by income level.

The data set is by job not individual. Consequently, if a person works two part-time jobs, then the two part-time jobs would each show up separately. In addition, we excluded any job with earnings of less than \$300 for the reference quarter. The data for second job quarter earnings for the years 2012 and 2022 as well as several years in between are included. The data set does not include federal jobs.

This report is an update of five previous year 2005 to 2015, 2006 to 2016, 2007 to 2017, 2008 to 2018 and 2009 to 2019 annual reports, and as such, provides new 10-year, 3-year and 1-year percentile earnings for the four NAICS industry sectors: NAICS 00 Total, All Industries, (‘all industry’); NAICS 21 Mining, Quarrying, and Oil and Gas Extraction, (‘mining’); NAICS 31-33 Manufacturing, (‘manufacturing’); and NAICS 62 Health Care and Social Assistance, (‘health’), comparing them with the two previous time series analysis earnings and earnings change findings and the findings of each category with the three others.”

II. Industry Percentile Job Quarterly Earnings: 10-Year Changes - Years 2012 to 2022

Table 1 shows the quarterly earnings and percentile change of an aggregate of all industries between the 2nd quarter 2012 and the 2nd quarter 2022.

**Table 1. All Industry Percentage Change of Quarterly Job Earnings by Percentile,
in 10-Year Interval: 2012 to 2022**

Percentile	2012	2022	Numeric Change	Percent Change
5th	\$650	\$731	\$81	12.5
10th	\$1,086	\$1,280	\$194	17.9
20th	\$2,202	\$2,748	\$546	24.8
25th	\$2,873	\$3,642	\$769	26.8
30th	\$3,558	\$4,655	\$1,097	30.8
40th	\$4,947	\$6,625	\$1,678	33.9
50th	\$6,365	\$8,458	\$2,093	32.9
60th	\$7,988	\$10,435	\$2,447	30.6
70th	\$10,006	\$13,000	\$2,994	29.9
75th	\$11,316	\$14,670	\$3,354	29.6
80th	\$12,936	\$16,659	\$3,723	28.8
90th	\$17,685	\$22,743	\$5,058	28.6
95th	\$22,877	\$29,730	\$6,853	30.0
99th	\$44,495	\$57,334	\$12,838	28.9
Total Jobs	1,673,232	1,777,668	104,436	6.2

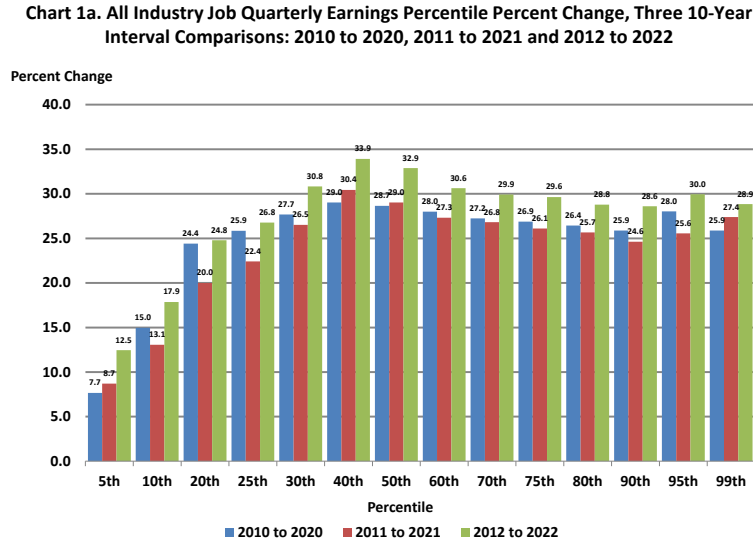
Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Table 1 shows that for all industries, the ten-year interval has the highest percent change in the 40th and

50th percentiles.

Chart 1a shows a comparison of three ten-year intervals of all industry quarterly earnings percentile percent change.



All three ten-year intervals are the largest percent change in the 40th and second largest change in the 50th percentiles. In the 2010 to 2020 interval the 40th percentile changed is 29.0 percent change and in the 50th percentile the change is 28.7 percent. In the 2011 to 2021 interval the 40th percentile changed is 30.4 percent change and in the 50th percentile the change is 29.0 percent. In the 2012 to 2022 ten-year interval the 40th percentile changed the largest for the three intervals with a 33.9 percent change and in the 50th percentile the change second largest of the three intervals with a 32.9 percent change.

Table 2. Mining Percentage Change of Quarterly Job Earnings by Percentile, in 10-Year Interval: 2012 to 2022

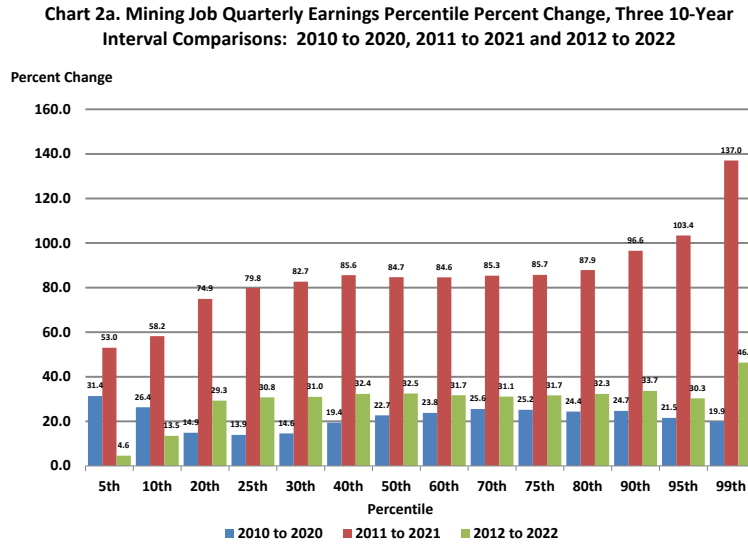
Percentile	2012	2022	Numeric Change	Percent Change
5th	\$1,691	\$1,769	\$78	4.6
10th	\$3,244	\$3,682	\$438	13.5
20th	\$6,261	\$8,095	\$1,834	29.3
25th	\$7,543	\$9,864	\$2,321	30.8
30th	\$8,677	\$11,368	\$2,691	31.0
40th	\$10,718	\$14,186	\$3,468	32.4
50th	\$12,749	\$16,890	\$4,141	32.5
60th	\$15,000	\$19,756	\$4,756	31.7
70th	\$17,837	\$23,383	\$5,546	31.1
75th	\$19,581	\$25,782	\$6,201	31.7
80th	\$21,797	\$28,846	\$7,049	32.3
90th	\$29,584	\$39,547	\$9,963	33.7
95th	\$40,279	\$52,486	\$12,207	30.3
99th	\$72,731	\$106,463	\$33,732	46.4
Total Jobs	67,480	43,669	-23,811	-35.3

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Table 2 displays that for the 2012 to 2022 10-year mining interval the larger two percentile percent earnings changes occur in the 99th and the 90th percentiles, with the largest earnings percent change of 46.4 percent in the former and 33.7 percent in the second.

The 2012 to 2022 mining 10-year interval is compared 2010 to 2020 and 2011 to 2021 in Chart 2a.



The mining 10-year interval of 2010 to 2020 has its two largest earnings percentiles change at the lower end of the percentile range, while the other two 10-year intervals has the two largest percentile earnings change in the lower end of the percentile range. The 5th percentile has the largest earnings change of 31.4 percent and the 10th percentile has the second higher change of 26.4 percent in the 2010 to 2020 10-year interval. The 99th percentile has the largest earnings change of and amazing 137.0 percent and the 95th has the second largest earnings change of 103.4 percent in the 2011 to 2021 10-year interval. The 2012 to 2022 10-year interval has its largest earning change also in the 99th percentile of 46.2 percent, but its second largest earnings change in the 90th percentile of 33.7 percent. Overall, the middle 10-year interval of 2011 to 2021 has 2 or 3 times the earnings change or more than their percentile counterpart in the other two 10-year intervals.

Table 3 below, shows the percentile earnings and earnings change for manufacturing, for the 10-year interval of 2012 to 2022.

Table 3. Manufacturing Percentage Change of Quarterly Job Earnings by Percentile, in 10-Year Interval: 2012 to 2022

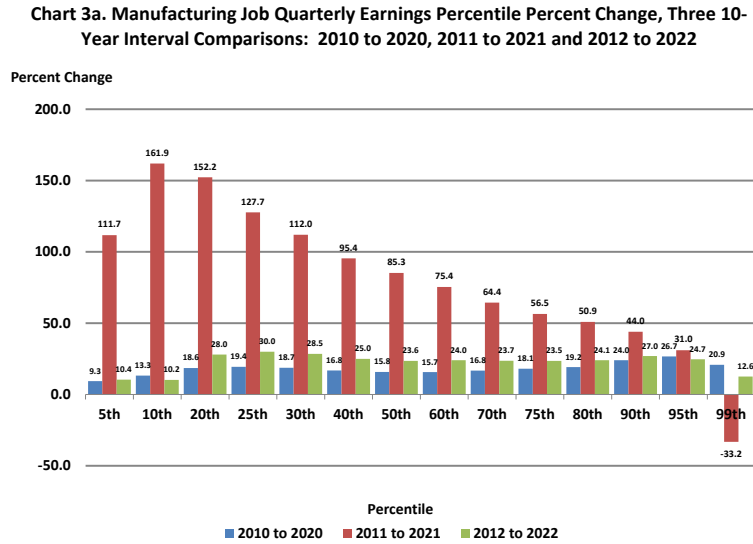
Percentile	2012	2022	Numeric Change	Percent Change
5th	\$1,458	\$1,610	\$152	10.4
10th	\$2,983	\$3,288	\$305	10.2
20th	\$5,324	\$6,813	\$1,489	28.0
25th	\$6,053	\$7,871	\$1,818	30.0
30th	\$6,719	\$8,631	\$1,912	28.5
40th	\$8,037	\$10,044	\$2,007	25.0
50th	\$9,426	\$11,649	\$2,223	23.6
60th	\$10,959	\$13,593	\$2,634	24.0
70th	\$12,940	\$16,003	\$3,063	23.7
75th	\$14,135	\$17,461	\$3,326	23.5
80th	\$15,494	\$19,224	\$3,730	24.1
90th	\$19,868	\$25,223	\$5,355	27.0
95th	\$24,879	\$31,032	\$6,153	24.7
99th	\$44,217	\$49,800	\$5,583	12.6
Total Jobs	149,642	151,925	2,283	1.5

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Manufacturing earnings change for the two 10-year intervals shown in Table 3, is the largest in the 25th percentile, the second largest in the 30th percentile and the third largest in the 20th percentile.

Below, Chart 3a shows manufacturing 2012 to 2022 percentile changes in comparison to 2010 to 2020 and 2011 to 2021.



The 10-year interval 2010 to 2020 have the largest job earnings change in the 95th percentile with 26.7 percent change and the second largest earnings change in the 90th percentile of 24.0 percent. The 10th percentile has the largest earnings change of 161.9 percent in the 2011 to 2021 interval, with the 20th percentile having the second largest change of 24.0 percent in this same 10-year interval. In the 2012 to 2022, the percentile with the largest earnings change is the 25th percentile of 30.0 percent and the second largest earnings change in the 30th percentile of 28.5 percent. The middle 2011 to 2021 10-year interval has the higher earnings change, than their counterparts in the other two 10-year intervals.

Table 4 below, shows the percentile earnings and earnings change for health, for the 10-year interval of 2012 to 2022.

Table 4. Health Percentage Change of Quarterly Job Earnings by Percentile, in 10-Year Interval: 2012 to 2022

Percentile	2012	2022	Numeric Change	Percent Change
5th	\$746	\$828	\$82	11.0
10th	\$1,292	\$1,450	\$158	12.2
20th	\$2,608	\$3,087	\$479	18.4
25th	\$3,340	\$4,107	\$767	23.0
30th	\$4,015	\$5,115	\$1,100	27.4
40th	\$5,128	\$6,891	\$1,763	34.4
50th	\$6,250	\$8,442	\$2,192	35.1
60th	\$7,665	\$10,146	\$2,481	32.4
70th	\$9,681	\$12,724	\$3,043	31.4
75th	\$11,038	\$14,564	\$3,526	31.9
80th	\$12,594	\$16,786	\$4,192	33.3
90th	\$17,308	\$23,414	\$6,107	35.3
95th	\$23,585	\$31,616	\$8,031	34.1
99th	\$75,000	\$88,264	\$13,264	17.7
Total Jobs	187,664	228,222	40,558	21.6

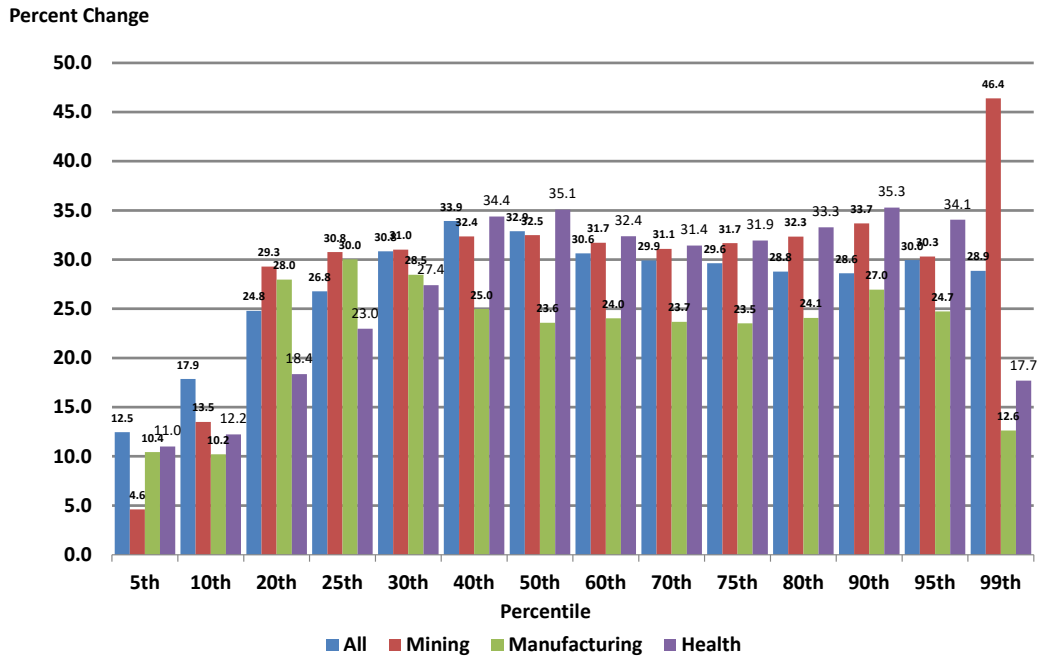
Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

On the previous page, Table 4 for health reveals that the 90th percentile has the largest percent earnings change of 35.3 percent, the 50th percentile has the second largest change of 35.1 and with the 40th percentile 3rd largest percent earnings change of 34.4 percent.

Below, Chart 4a compares the 10-year 2012 to 2022 percentile changes of all industry, manufacturing, mining, and health.

Chart 4a. All Industry, Mining, Manufacturing and Health Job Quarterly Earnings Percentile Percent Change, 10-Year Interval Comparisons: 2012 to 2022



Comparing the 10-year 2012 to 2022 intervals of the four industries we have examined, in rank order the percentile earnings percent change tended to be smallest in manufacturing percentiles (also on Table 3 page 3), next smallest in mining (Table 2 page 2) percentiles, next to the largest in mining (Table 2 page 2) percentiles and are typically largest in the percentile counter parts in health (above and in Table 4 on page 4).

Chart 4b below, compares health’s change in the 2010 to 2020, 2011 to 2021 and 2012 to 2022 intervals.

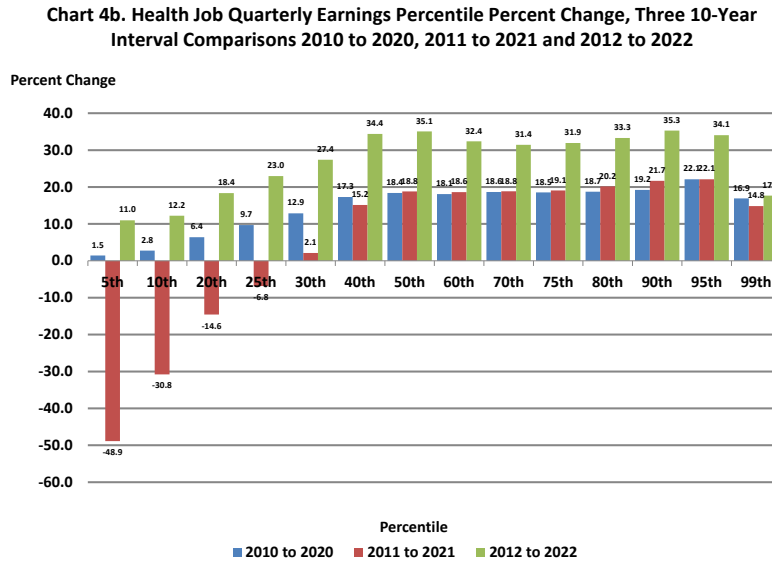


Chart 4b on health earnings displays that the largest earnings change in the 2011 to 2021 is a negative percent change of -48.9 percent in the 5th percentile, with the second largest earnings change of -30.8 percent in the 10th percentile. The largest two positive earnings change in the 2010 to 2020 10-year interval, is the 95th percentile having earnings change of 22.1 percent and the 90th percentile having the second largest positive earnings change of 19.2 percent. The 2012 to 2022 10-year interval having the largest percentile earnings change of a positive 35.3 percent in the 90th percentile and positive earnings change of 35.1 percent in the 50th percentile.

III. Industry Percentile Job Quarterly Earnings: 3-Year Changes - Years 2013 to 2022

Table 5 shows the 3-year job quarterly earnings and earnings change by percentile of an aggregate of all industries between the 2nd quarter 2013 and the 2nd quarter 2022.

Table 5. All Industry Percentage Change of Quarterly Job Earnings by Percentile, in 3-Year Intervals: 20013 to 2022

Percentile	2013	2016	2019	2022	2013-2016 % Change	2016-19 % Change	2019-22 % Change
5th	\$651	\$671	\$685	\$731	3.1	2.1	6.7
10th	\$1,093	\$1,140	\$1,174	\$1,280	4.3	3.0	9.0
20th	\$2,220	\$2,347	\$2,471	\$2,748	5.7	5.3	11.2
25th	\$2,908	\$3,068	\$3,259	\$3,642	5.5	6.2	11.8
30th	\$3,614	\$3,861	\$4,130	\$4,655	6.8	7.0	12.7
40th	\$5,052	\$5,408	\$5,865	\$6,625	7.0	8.5	13.0
50th	\$6,531	\$6,948	\$7,522	\$8,458	6.4	8.3	12.4
60th	\$8,192	\$8,639	\$9,394	\$10,435	5.5	8.7	11.1
70th	\$10,281	\$10,770	\$11,794	\$13,000	4.8	9.5	10.2
75th	\$11,636	\$12,127	\$13,289	\$14,670	4.2	9.6	10.4
80th	\$13,275	\$13,804	\$15,116	\$16,659	4.0	9.5	10.2
90th	\$18,182	\$18,884	\$20,672	\$22,743	3.9	9.5	10.0
95th	\$23,751	\$24,863	\$26,906	\$29,730	4.7	8.2	10.5
99th	\$46,200	\$48,000	\$51,083	\$57,334	3.9	6.4	12.2
Total Jobs	1,704,091	1,701,877	1,759,690	1,777,668	-0.1	3.4	1.0

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

On the previous page, Table 5 for all industries displays that the 2019 to 2022 3-year interval has the larger earnings change compared to most other same percentiles in the other two 3-year intervals, with the 2016 to 2019 ranking second and the 2013 to 2016 ranking 3rd, in this regard. The three largest earning change in the 2013 to 2016 3-year interval is in the 30th to 50th percentiles, in the 2016 to 2019 interval is in the 70th to 90th percentiles and in the 2019 to 2022 3-year interval the three largest earnings change is in the 30th to 50th percentiles.

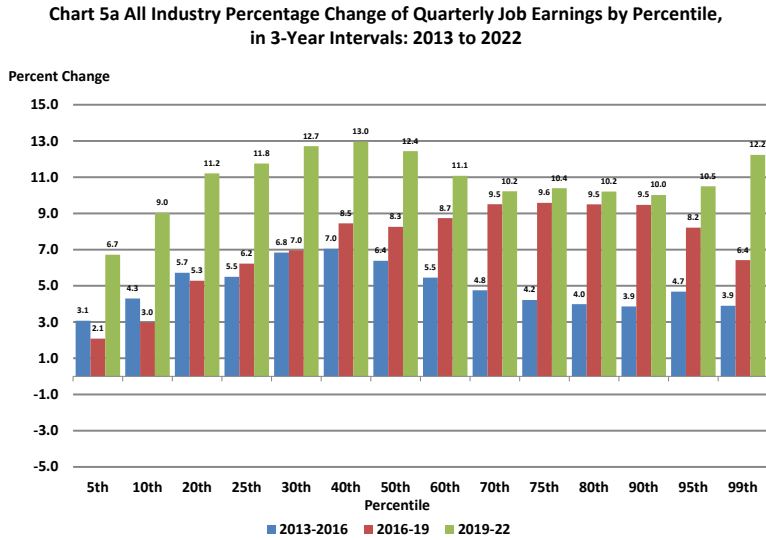


Chart 5a for all industry exhibits that the largest earnings change for the 2013 to 2016 3-year interval is 7.0 percent in the 40th percentile, with 6.8 percent in the 30th percentile the second largest earnings change. In the 2016 to 2019 3-year interval all industry’s largest earnings change is 9.6 in the 75th percentile, with the 70th, 80th, and 90th percentiles tying for second largest earnings change of 9.5 percent. The most recent 2019 to 2023 3-year interval displayed the largest earnings change in the 40th percentile of 13.0 percent, and the 30th percentile the second largest with 12.7 percent earnings change. Below, Table 6 shows the same 3-year interval earnings and earnings change for mining.

Table 6. Mining Percentage Change of Quarterly Job Earnings by Percentile, in 3-Year Intervals: 2013 to 2022

Percentile	2013	2016	2019	2022	2013-2016 % Change	2016-19 % Change	2019-22 % Change
5th	\$1,675	\$2,101	\$2,058	\$1,769	25.4	-2.0	-14.0
10th	\$3,347	\$4,182	\$4,156	\$3,682	24.9	-0.6	-11.4
20th	\$6,960	\$7,832	\$8,400	\$8,095	12.5	7.3	-3.6
25th	\$8,287	\$9,100	\$9,971	\$9,864	9.8	9.6	-1.1
30th	\$9,426	\$10,268	\$11,360	\$11,368	8.9	10.6	0.1
40th	\$11,674	\$12,391	\$14,000	\$14,186	6.1	13.0	1.3
50th	\$13,878	\$14,759	\$16,488	\$16,890	6.4	11.7	2.4
60th	\$16,350	\$17,307	\$19,028	\$19,756	5.9	9.9	3.8
70th	\$19,262	\$20,363	\$22,276	\$23,383	5.7	9.4	5.0
75th	\$21,182	\$22,396	\$24,409	\$25,782	5.7	9.0	5.6
80th	\$23,550	\$24,988	\$27,000	\$28,846	6.1	8.1	6.8
90th	\$31,692	\$34,626	\$35,707	\$39,547	9.3	3.1	10.8
95th	\$42,601	\$47,500	\$47,018	\$52,486	11.5	-1.0	11.6
99th	\$77,063	\$96,878	\$89,329	\$106,463	25.7	-7.8	19.2
Total Jobs	66,750	47,597	55,200	43,669	-28.7	16.0	-20.9

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Comparing the mining median 50th percentile earnings changes in Table 6 with those for all industry in Table 5, reveals that the largest 3-year earnings change for mining of 11.7 percent occur in the 2016 to 2019, while for all industry the largest earnings change of 12.4 percent is in the 3-year interval of 2019 to 2022, for this percentile.

Below, Chart 6a illustrates these 3-year earnings changes for mining.

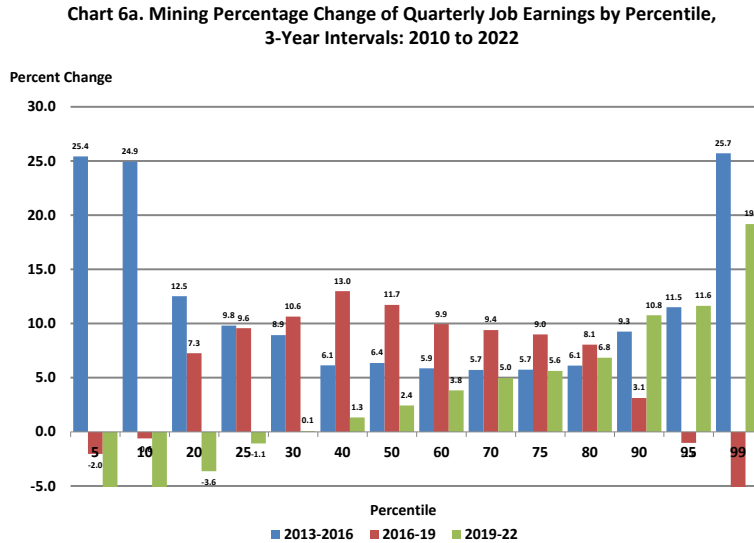


Chart 6a reveals that, as in all industry, in mining the different 3-year intervals have a different section of the percentile range with the higher earnings change. The 2013 to 2016 3-year interval has the four larger earnings percentile changes in lower 5th through 20th and the highest 99th percentile. The 2016 to 2019 has the four larger earnings percentile changes in middle 30 through 60th percentiles, with the 2 lowest and 2 highest percentiles showing a decline. The 2019 to 2022 3-year interval has the largest four earnings percentile changes in the top 80th through 99th percentiles, with the 5th through 25th percentiles exhibiting declines.

Below, Table 7 displays the 3-year earnings and earnings change for manufacturing.

Table 7. Manufacturing Percentage Change of Quarterly Job Earnings by Percentile, in 3-Year Intervals: 2013 to 2022

Percentile	2013	2016	2019	2022	2013-2016 % Change	2016-19 % Change	2019-22 % Change
5th	\$1,568	\$1,704	\$1,717	\$1,610	8.7	0.8	-6.2
10th	\$3,213	\$3,502	\$3,574	\$3,288	9.0	2.1	-8.0
20th	\$5,510	\$5,843	\$6,435	\$6,813	6.0	10.1	5.9
25th	\$6,287	\$6,607	\$7,315	\$7,871	5.1	10.7	7.6
30th	\$6,978	\$7,271	\$8,078	\$8,631	4.2	11.1	6.8
40th	\$8,253	\$8,558	\$9,513	\$10,044	3.7	11.2	5.6
50th	\$9,627	\$9,984	\$11,022	\$11,649	3.7	10.4	5.7
60th	\$11,212	\$11,663	\$12,754	\$13,593	4.0	9.4	6.6
70th	\$13,287	\$13,692	\$14,983	\$16,003	3.0	9.4	6.8
75th	\$14,567	\$15,000	\$16,323	\$17,461	3.0	8.8	7.0
80th	\$16,005	\$16,508	\$17,991	\$19,224	3.1	9.0	6.9
90th	\$20,740	\$21,800	\$23,301	\$25,223	5.1	6.9	8.2
95th	\$26,124	\$27,853	\$29,668	\$31,032	6.6	6.5	4.6
99th	\$46,948	\$46,307	\$49,057	\$49,800	-1.4	5.9	1.5
Total Jobs	149,349	139,624	150,148	151,925	-6.5	7.5	1.2

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Comparing the median 50th percentile of the 3-year earnings income change of manufacturing in Table 7 on the previous page with that of all industry in Table 5 on page 5 and the 50th percentiles of mining in Table 6 on page 7 reveals that manufacturing, and all industry have their largest earnings change in the 2016 to 2019 interval; while mining has the largest 3-year earnings change in the 50th percentile in the 2010 to 2013 interval. Chart 7a below, shows manufacturing’s 3-year earnings changes.

Chart 7a. Manufacturing Percentage Change of Quarterly Job Earnings by Percentile, in 3-Year Intervals: 2013 to 2022

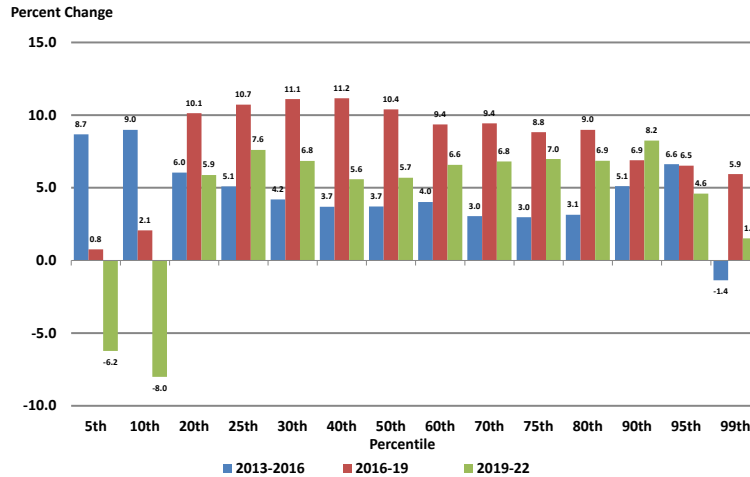


Chart 7a for manufacturing also displays that each of the three 3-year intervals has different sections of the percentile ranges with the four larger percentile earnings change. For the 2013 to 2016 3-year interval the lower 5th through the 20th percentiles and the higher 95th have the four largest percent earnings change. The 2016 to 2019 3-year interval has their four largest increases in percent earnings in the mid-lower 25th through 50th percentiles. The 2019 to 2022 3-year interval has the four largest manufacturing percentile earnings size percent change, in the upper 75th percentile to the 90th percentile and mid-lower 25th percentile, with the lower 5th and 10th percentiles declining by -6.2 and -8.0, respectively.

Table 8. Health Percentage Change of Quarterly Job Earnings by Percentile, in 3-Year Intervals: 2012 to 2022

Percentile	2013	2016	2019	2022	2013-2016 % Change	2016-19 % Change	2019-22 % Change
5th	\$790	\$808	\$794	\$828	2.3	-1.7	4.3
10th	\$1,384	\$1,441	\$1,419	\$1,450	4.1	-1.5	2.2
20th	\$2,861	\$3,018	\$3,077	\$3,087	5.5	2.0	0.3
25th	\$3,619	\$3,871	\$4,000	\$4,107	7.0	3.3	2.7
30th	\$4,288	\$4,612	\$4,884	\$5,115	7.6	5.9	4.7
40th	\$5,411	\$5,877	\$6,376	\$6,891	8.6	8.5	8.1
50th	\$6,566	\$7,130	\$7,733	\$8,442	8.6	8.5	9.2
60th	\$8,018	\$8,694	\$9,423	\$10,146	8.4	8.4	7.7
70th	\$10,109	\$11,011	\$12,042	\$12,724	8.9	9.4	5.7
75th	\$11,501	\$12,447	\$13,750	\$14,564	8.2	10.5	5.9
80th	\$13,071	\$14,201	\$15,672	\$16,786	8.6	10.4	7.1
90th	\$17,940	\$19,662	\$21,689	\$23,414	9.6	10.3	8.0
95th	\$24,600	\$28,228	\$30,737	\$31,616	14.7	8.9	2.9
99th	\$77,911	\$86,451	\$94,273	\$88,264	11.0	9.0	-6.4
Total Jobs	186,551	185,235	186,570	228,222	-0.7	0.7	22.3

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

When comparing health median 50th percentile earnings change in these four discussed industries, Table 8 shows that health has the larger size percentile earnings change in the 2019 to 2022 3-year interval. Table 6 on page 7 shows that mining has its largest earnings change in the 2016 to 2019 3-year interval. Table 5 on page 6 shows that all industry experienced its largest change in the 2019 to 2022 interval, with Table 7 on page 8 displaying that manufacturing has its largest earnings percent change in the 2016 to 2019 3-year interval.

IV. Industry Percentile Job Quarterly Earnings: 1-Year Changes - Years 2019 to 2022

Table 9 shows three 1-year job quarterly earnings and percentile change of an aggregate of all industries between the 2nd quarter 2019 and the 2nd quarter 2022.

Table 9. All Industry Percentage Change of Quarterly Job Earnings by Percentile, in 1-Year Intervals: 2019 to 2022

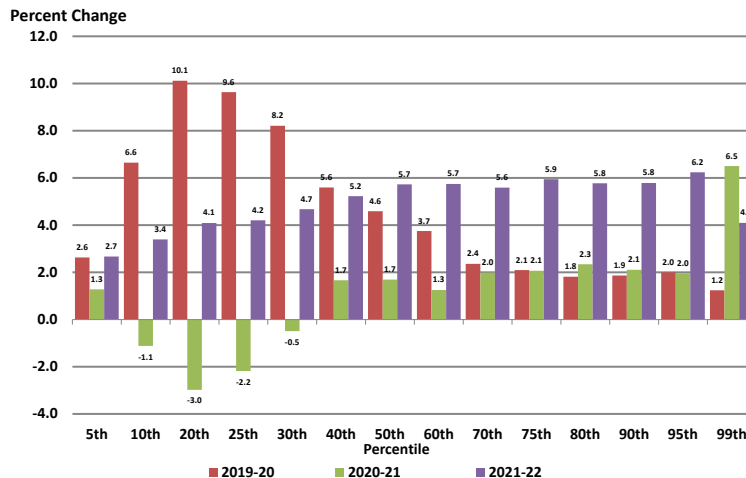
Percentile	2019	2020	2021	2022	2019-20 % Change	2020-21 % Change	2021-22 % Change
5th	\$685	\$703	\$712	\$731	2.6	1.3	2.7
10th	\$1,174	\$1,252	\$1,238	\$1,280	6.6	-1.1	3.4
20th	\$2,471	\$2,721	\$2,640	\$2,748	10.1	-3.0	4.1
25th	\$3,259	\$3,573	\$3,495	\$3,642	9.6	-2.2	4.2
30th	\$4,130	\$4,469	\$4,447	\$4,655	8.2	-0.5	4.7
40th	\$5,865	\$6,193	\$6,296	\$6,625	5.6	1.7	5.2
50th	\$7,522	\$7,867	\$8,000	\$8,458	4.6	1.7	5.7
60th	\$9,394	\$9,746	\$9,868	\$10,435	3.7	1.3	5.7
70th	\$11,794	\$12,072	\$12,312	\$13,000	2.4	2.0	5.6
75th	\$13,289	\$13,567	\$13,847	\$14,670	2.1	2.1	5.9
80th	\$15,116	\$15,390	\$15,750	\$16,659	1.8	2.3	5.8
90th	\$20,672	\$21,057	\$21,500	\$22,743	1.9	2.1	5.8
95th	\$26,906	\$27,445	\$27,984	\$29,730	2.0	2.0	6.2
99th	\$51,083	\$51,717	\$55,078	\$57,334	1.2	6.5	4.1
Total Jobs	1,759,690	1,640,097	1,715,582	1,777,668	-6.8	4.6	3.6

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Table 9 displays the all industry 1-year earnings change that has occurred in 2019 to 2022 years, showing that there are four earnings declines in the lower middle 2020 to 2021 percentiles. Comparing the median 50th percentile for the three intervals reveals that with 5.7 percent earnings change, the 2021 to 2022 interval is the largest.

Chart 9a. All Industry Percentage Change of Quarterly Job Earnings by Percentile, in 1-Year Intervals: 2019 to 2022



On the previous page, Chart 9a displays that in the three 1-year intervals, all industry experienced earnings declines in the 10th through 30th in the 2020 to 2021 interval. This same interval has the largest positive change of 6.5 percent in the top 99th percentile and the second largest positive change of 2.3 percent in the 80th percentile. In the 2019 to 2020 1-year interval the largest change is in the 20th percentile of 10.1 percent and the second largest change in the 25th percentile with 9.6 percent earnings change. 2021 to 2022 has its largest change in the 95th percentile of 6.2 percent and the second largest change in the 75th percentile with 5.9 percent change. Table 10 displays the same three 1-year change for mining.

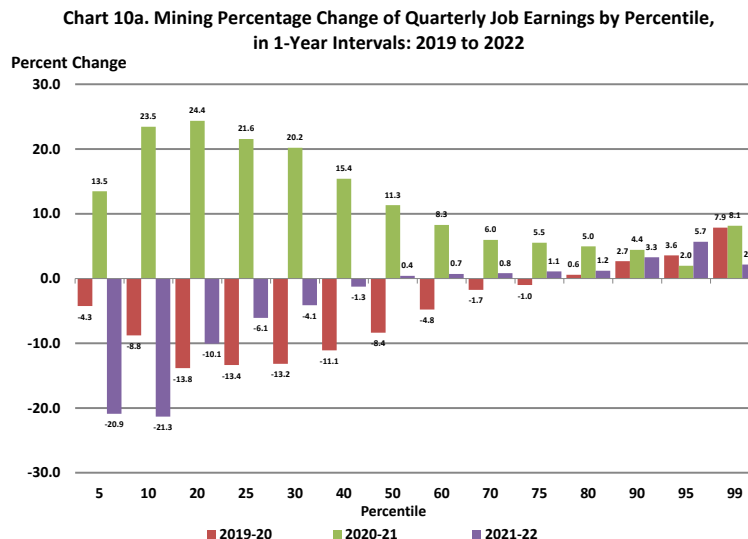
Table 10. Mining Percentage Change of Quarterly Job Earnings by Percentile, in 1-Year Intervals: 2019 to 2022

Percentile	2019	2020	2021	2022	2019-20 % Change	2020-21 % Change	2021-22 % Change
5th	\$2,058	\$1,971	\$2,236	\$1,769	-4.3	13.5	-20.9
10th	\$4,156	\$3,791	\$4,680	\$3,682	-8.8	23.5	-21.3
20th	\$8,400	\$7,237	\$9,000	\$8,095	-13.8	24.4	-10.1
25th	\$9,971	\$8,640	\$10,502	\$9,864	-13.4	21.6	-6.1
30th	\$11,360	\$9,864	\$11,856	\$11,368	-13.2	20.2	-4.1
40th	\$14,000	\$12,447	\$14,366	\$14,186	-11.1	15.4	-1.3
50th	\$16,488	\$15,108	\$16,819	\$16,890	-8.4	11.3	0.4
60th	\$19,028	\$18,117	\$19,617	\$19,756	-4.8	8.3	0.7
70th	\$22,276	\$21,887	\$23,191	\$23,383	-1.7	6.0	0.8
75th	\$24,409	\$24,163	\$25,499	\$25,782	-1.0	5.5	1.1
80th	\$27,000	\$27,155	\$28,503	\$28,846	0.6	5.0	1.2
90th	\$35,707	\$36,666	\$38,287	\$39,547	2.7	4.4	3.3
95th	\$47,018	\$48,702	\$49,663	\$52,486	3.6	2.0	5.7
99th	\$89,329	\$96,358	\$104,202	\$106,463	7.9	8.1	2.2
Total Jobs	55,200	39,469	33,589	43,669	-28.5	-14.9	30.0

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Comparing the median 50th percentile in Table 10 shows that in mining the 1-year interval of 2020 to 2021 experienced the largest earnings change of the three 1-year intervals of 11.3 percent change, followed by the 2021 to 2022 1-year interval's change of 0.4 percent and the 2019 to 2020 1-year interval's median 50th percentile earnings decline of -8.4 percent. This same 2019 to 2020 1-year interval has earnings declines in ten percentiles, while the 2021 to 2022 1-year interval has earnings declines in 6 of the fourteen percentiles. Below, Chart 10a illustrates these 1-year earnings changes for mining.



On the previous page, Chart 10a for mining displays that for the 2019 to 2020 1-year interval the top high four 80th through 99th percentiles have the larger change. In the 2020 to 2021 1-year interval, the four larger percentile changes are the lower 10th through the 30th percentiles. Finally, the 2021 to 2022 1-year interval has the percentiles with the four larger mining earnings percent change are the top 80th through 99th percentiles. As noted previously, the 2019 to 2020 and the 2021 to 2022 1-year intervals experience a significant number of percentiles with earnings decline. Table 11 displays the same three 1-year change for manufacturing.

Table 11. Manufacturing Percentage Change of Quarterly Job Earnings by Percentile, in 1-Year Intervals: 2019 to 2022

Percentile	2019	2020	2021	2022	2019-20 % Change	2020-21 % Change	2021-22 % Change
5th	\$1,717	\$1,653	\$1,615	\$1,610	-3.7	-2.3	-0.3
10th	\$3,574	\$3,403	\$3,455	\$3,288	-4.8	1.5	-4.8
20th	\$6,435	\$6,021	\$6,740	\$6,813	-6.4	11.9	1.1
25th	\$7,315	\$6,897	\$7,719	\$7,871	-5.7	11.9	2.0
30th	\$8,078	\$7,610	\$8,537	\$8,631	-5.8	12.2	1.1
40th	\$9,513	\$8,915	\$10,008	\$10,044	-6.3	12.3	0.4
50th	\$11,022	\$10,298	\$11,604	\$11,649	-6.6	12.7	0.4
60th	\$12,754	\$11,927	\$13,414	\$13,593	-6.5	12.5	1.3
70th	\$14,983	\$14,088	\$15,845	\$16,003	-6.0	12.5	1.0
75th	\$16,323	\$15,542	\$17,226	\$17,461	-4.8	10.8	1.4
80th	\$17,991	\$17,336	\$19,052	\$19,224	-3.6	9.9	0.9
90th	\$23,301	\$23,148	\$25,031	\$25,223	-0.7	8.1	0.8
95th	\$29,668	\$29,649	\$30,825	\$31,032	-0.1	4.0	0.7
99th	\$49,057	\$49,092	\$49,416	\$49,800	0.1	0.7	0.8
Total Jobs	150,148	138,562	138,850	151,925	-7.7	0.2	9.4

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

Examining the median 50th percentiles in Table 11 reveals that manufacturing also has its largest positive earnings changes in the 1-year interval of 2020 to 2021, as did mining. However, both manufacturing and mining have some percentiles in this period that declined in earnings, with manufacturing it is also the 2019 to 2020 interval with the most percentile declines, the same as for mining. As shown in Table 9 on page 10, all industry has four percentiles with earnings percent declines, in the 2020 to 2021 1-year interval. Chart 11a below illustrates these earnings changes for manufacturing.

Chart 11a. Manufacturing Percentage Change Job Quarterly Earnings by Percentile, in 1-Year Intervals: 2019 to 2022

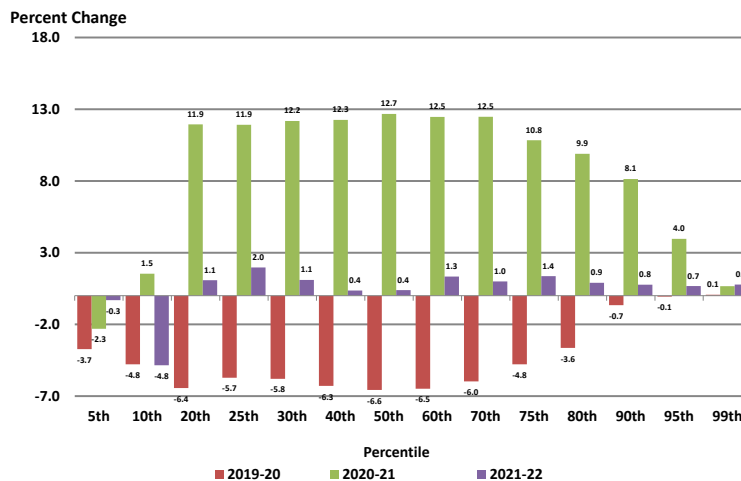


Chart 11a visually displays for manufacturing the large number of percentiles in the three 1-year intervals, with earnings declines, thirteen in the 2019 to 2020, one in the 2020 to 2021 interval and 2 in the 2021 to 2022 1-year interval, for a total of 16 percentiles. Comparing the three 1-year intervals 50th percentiles, shows that with 12.7 percent, the 2021 to 2022 interval has the largest earnings change, with .04 percent, the 2020 to the 2021 has the second largest change, and the 2019 to 2020 1-year interval has a -6.6 percent earnings decline. Table 12 shows the 1-year interval changes for health.

Table 12. Health Percentage Change of Quarterly Job Earnings by Percentile, in 1-Year Intervals: 2019 to 2022

Percentile	2019	2020	2021	2022	2019-20 % Change	2020-21 % Change	2021-22 % Change
5th	\$794	\$765	\$390	\$828	-3.7	-49.0	112.3
10th	\$1,419	\$1,336	\$913	\$1,450	-5.8	-31.7	58.8
20th	\$3,077	\$2,793	\$2,283	\$3,087	-9.2	-18.3	35.2
25th	\$4,000	\$3,625	\$3,158	\$4,107	-9.4	-12.9	30.1
30th	\$4,884	\$4,434	\$4,112	\$5,115	-9.2	-7.3	24.4
40th	\$6,376	\$5,864	\$5,897	\$6,891	-8.0	0.6	16.9
50th	\$7,733	\$7,218	\$7,441	\$8,442	-6.7	3.1	13.5
60th	\$9,423	\$8,810	\$9,070	\$10,146	-6.5	3.0	11.9
70th	\$12,042	\$11,109	\$11,454	\$12,724	-7.7	3.1	11.1
75th	\$13,750	\$12,696	\$13,108	\$14,564	-7.7	3.2	11.1
80th	\$15,672	\$14,598	\$15,169	\$16,786	-6.9	3.9	10.7
90th	\$21,689	\$20,180	\$21,149	\$23,414	-7.0	4.8	10.7
95th	\$30,737	\$27,830	\$28,729	\$31,616	-9.5	3.2	10.0
99th	\$94,273	\$82,020	\$84,946	\$88,264	-13.0	3.6	3.9
Total Jobs	186,570	220,963	232,939	228,222	18.4	5.4	-2.0

Note¹: The unit of analysis is a job and earnings are second quarter job totals, excluding Federal jobs.

Note²: Cases where earnings are less than \$300 removed.

In Table 12, comparing the median 50th percentiles of each of the three intervals reveals that with 13.5 percent the 2021 to 2022 has the largest change, with 3.1 percent the 2020 to 2021 has the second largest change, and in the 2019 to 2020 has a decline in the median 50th percentile earnings percent change. A total of 19 percentiles decline in earnings in the 2021 to 2020 interval in the 2020 to 2021 1-year interval. Chart 12b illustrates three 1-year interval earnings changes for health.

Chart 12a. Health Percentage Change of Quarterly Job Earnings by Percentile, in 1-Year Intervals: 2019 to 2022

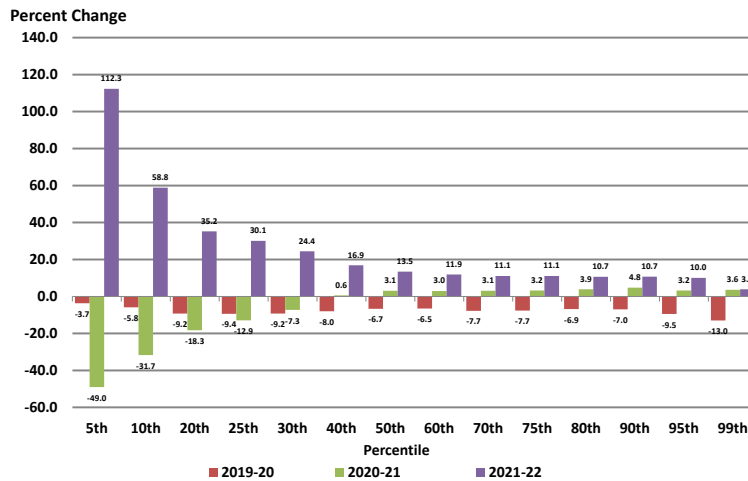


Chart 12a exhibits visually that all 14 percentiles decline in earnings in the 2019 to 2020 interval and five

percentiles in the 2020 to 2021 1-year interval. All 14 percentiles decline in earnings in the 2019 to 2020 interval and five percentiles in the 2020 to 2021 1-year interval has earnings declines. Comparing the 50th medians of the three 1-year intervals, the 2021 to 2022 1-year interval has the largest 50th earnings increase of 13.5 percent, the 2020 to 2021 interval has 3.1 percent, and the -6.6 percent decline.

V. Summary and Conclusions

This report's analysis examined percentile earnings and earnings change by an aggregate of all industries, and the three industries of mining, manufacturing, and health. These four industry categories were investigated for earnings and earnings change, by the 10-year, 3-year and 1-year intervals for the years 2012 through 2022. Each of the four industry categories' 10-year interval earnings changes were also compared for 2010 to 2020, 2011 to 2021 and 2012 to 2022.

In a comparison of all industry, mining, manufacturing, and health earnings change for the three 10-year intervals of 2010 to 2020, with 2011 to 2021 and 2012 to 2022 established the following. For all four industry categories, the median 50th percentile earnings percent change for 2012 to 2022 ranked in descending order are health, all industry, mining, and manufacturing. In the previous 2011 to 2021 10-year interval the rank in descending order is manufacturing, mining, all industry, and health. In the oldest of these three 10-year intervals, as measured by the median 50th percentile, the rank for these in the 2010 to 2020 interval in earnings change by descending order are all industry, mining, health, and manufacturing.

Comparing the four industry categories percentile earnings changes by the three 10-year intervals of 2010 to 2020, 2011 to 2021 and 2012 to 2022 also determined that health's two largest earnings change are in the higher percentile range for all three intervals with the four lowest percentiles declining in the middle 10-year interval. All industry's two largest earnings change percentiles are at or near the 50th percentile range for all three 10-year intervals. Mining's two higher percentiles are in the upper percentile range for 2011 to 2021 and 12 to 2022 intervals, while the oldest 2010 to 2020 10-year interval's two largest is in the lower percentile range. Manufacturing has almost the opposite earnings change arrangement as mining for the three 10-year intervals, with the two largest earnings percentiles in the 2010 to 2020 interval in the highest percentile range, in the next to the lowest percentile in the 2011 to 2021 interval and the mid-lowest in the 2012 to the 2022 3-year interval.

In this analysis, the four industry categories of all industry, mining, manufacturing, and health were examined for their earnings change for the three 3-year intervals of 2016 to 2019, 2019 to 2021 and 2021 to 2022, with the findings summarized as follows. Comparing the four industry categories by median 50th percentile range for the 2019 to 2022 3-year interval the decreasing order rank for the earnings percent change are all industry, health, mining, and manufacturing. When comparing the same for the four industry categories for the 2016 to 2019 interval the earnings decreasing order rank is mining, manufacturing, health, and all industry. Comparing by the four industry categories' median 50th percentiles for the 2013 to 2016 3-year interval the decreasing rank order is health ranked first, all industry and manufacturing tied for second, and mining ranked last.

Continuing the four industry three 3-year interval comparisons, mining displays its two larger earnings change percentiles in the highest and lowest percentiles in the 2013 to 2016 interval, in the middle percentile range in the 2016 to 2019 interval and the highest two percentiles in the 2019 to 2022 3-year interval. In health the two larger earnings change percentiles are the higher percentiles in 2013 to 2016 interval, the mid-high percentiles in 2016 to 2019 and in the median percentiles in the 2019 to 2022 3-year interval. In all industries the pattern of the two largest earnings percentile change is just below the 50th median in the 2013 to 2016, the mid-high percentiles range in the 2016 to 2019 intervals and the

middle percentile range in the 2019 to 2022 3-year interval. Manufacturing's distribution of its two highest percentile earnings change is in the lower percentiles in 2021 to 2016, just below the 50th median percentile in the 2021 to 2019 interval, and mid-high percentiles in the 2019 to 2022 3-year interval.

A comparison of all industry, mining, manufacturing, and health earnings change for the three 1-year intervals of 2019 to 2020, 2020 to 2021 and 2021 to 2022 using the median 50th percentile earnings percent change determined the industry descending size rank. In the 2021 to 2022 interval the descending rank is health largest, all industry second largest and manufacturing and mining tied for third largest. In the four industries in the 2019 to 2020 1-year interval all industry has the largest positive increase, mining has the largest decline, health has the second largest decline and manufacturing has the third largest earnings decline.

Continuing the comparison of the four industry categories by 1-year intervals has additionally determined that all industry has its highest two percentile earnings increases in the top half of the fourteen percentiles range in the 2020 to 2021 and 2021 to 2022 interval and in the mid-lower percentiles of the 2019 to 2020 1-year interval. Health has the two largest percentile earning changes in the lower percentiles in the 2021 to 2022 interval and the mid-upper percentiles in the 2020 to 2021 1-year interval. Manufacturing has its two largest percentile earnings in the mid-lower and mid-upper percentile range in the 2021 to 2022 interval and median and near-median percentiles in the 2020 to 2021 1-year interval. Mining has its two largest percentile earnings change in the highest percentile range in 2021 to 2022 and the lower percentile range in the 2020 and 2021 1-year interval. Mining has ten percentiles decline in earnings and health has fourteen percentiles decline in earnings in the 2019 to 2020 1-year interval.

As the analyses from our previous five reports have shown, this analysis allows three conclusions to be readily stated using the findings for all industry, mining, manufacturing and health for the 2012 to 2022 10-year interval comparisons and comparisons with the previous two 10-year findings, as well as the comparisons made of these four industry categories in their 10-year, 3-year and 1-year analysis comparisons. First, all three industry groups of mining, health, and manufacturing play an important role in the health and robustness of Oklahoma's economy. Second, these industries appear to 'jostle' for the lead position in their earnings contributions to the economy at different chronological times during the three 10-year intervals as well as in the 3-year and 1-year intervals. Third, an industry job percentile earnings and earnings change analysis provide much more information and specific detailed information, than does a normal evaluation using averages or median earnings.

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