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COVID-19 Impact on the Economic Vitality Index of Ohio's 88 Counties

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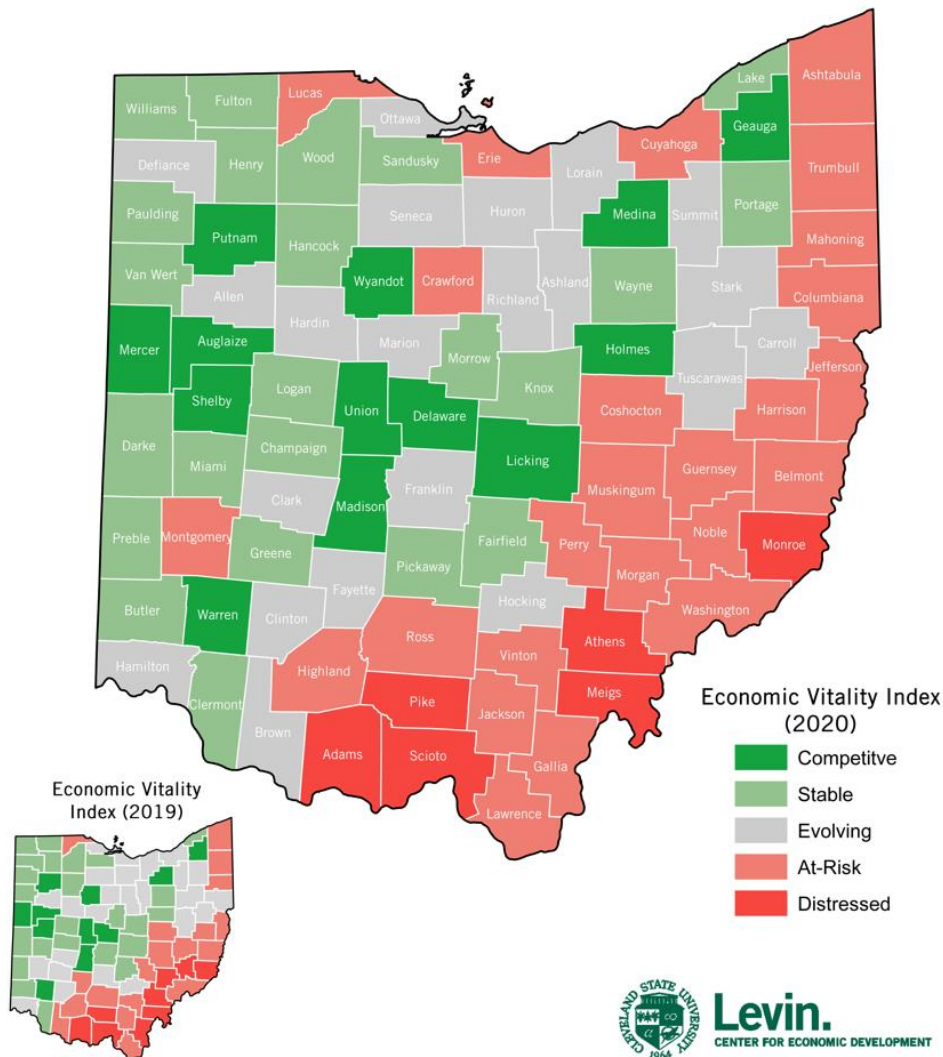
INTRODUCTION

As the world heads into its third year of the COVID-19 pandemic, which has created great economic hardship on thousands of businesses, the Center for Economic Development (Center) continues to track the overall economic vitality of Ohio's counties to assist in responding to the state's economic fall that began in 2020 alongside this pandemic. The first step was establishing a baseline evaluation of Ohio counties' performances prior to the start of the pandemic, which could later be used as a benchmark measurement to compare against post-pandemic data.¹ The

Economic Vitality Index (EVI) is single factor composite of six variables evaluated through statistical analysis. Following the statistical factor analysis, a map displaying each county's EVI score was generated, as seen in **Figure 1**.²

The goal of this brief is to illustrate the results of the updated 2020 EVI to understand the overall economic impact of the pandemic, including the role of the economic stimuli and related policy responses. This update of the 2019 EVI shows how Ohio's 88 counties have been affected by COVID-19. This score can be used to evaluate overall stability in each of the state's counties through one comparable score.

Figure 1: Economic Vitality Index score, 2020



¹ Ellerbrock, M., Whitman, C., Lendel, I., & Piazza, M. (2020). *Economic Vitality Index: Mapping Ohio's 88 Counties*. Urban Publications.

² Please refer to the above map (or visit <https://arccg.is/1Hfie1>) to view an interactive online map series of the Economic Vitality Index, all six associated variables, and related change-over-time maps that provide additional context.

METHODOLOGY AND VARIABLES

The research team used factor analysis results from 2019 to create the 2020 EVI and maintain the factor-loading weight from the 2019 results.³ Factor analysis is a data-reduction technique that finds commonalities across all selected data and then “weights” them by their importance to the factor. The six variables that make up the EVI were assembled from a variety of state and federal sources. In all, these six variables explained 44.9% of the data’s variance. Each variable’s factor loading weight is shown in parenthesis.

- **Percent below poverty threshold** (48.9%): Data from the U.S. Census Bureau,⁴ defined as family units with an annual income before taxes (and not including capital gains or noncash benefits) below federally identified poverty thresholds (e.g., \$13,011 for a single individual or \$25,926 for a household with two adults and two children). (Latest available data: 2019).
- **Unemployment rate** (19.2%): Data from the U.S. Bureau of Labor Statistics,⁵ defined as the total number of unemployed divided by the civilian labor force (all people aged 16 or older either working or looking for work). (Latest available data: 2020)
- **Median household income** (15.0%): Data from the U.S. Census Bureau,⁶ defined as the middle point of the combined income of the householder and all other individuals 15 years and older in the household in the past 12 months. (Latest available data: 2019)
- **Percent employed in select traded industries** (10.7%): The percent of total employed working in one of Ohio’s specialized traded industries, as defined by the U.S. Cluster Mapping Project⁷ and calculated using Moody’s Analytics 4-digit NAICS⁸ employment figures. Specialized traded clusters illustrate each regional economy’s distinct portfolio of strongly performing groups of related industries that serve markets beyond their region; they are the “engines” that drive economic performance. As of 2020, the project outlined 13 such industry clusters in Ohio. (Latest available data: 2020)
- **Change in average annual employment** (4.0%): Data from the U.S. Bureau of Labor Statistics,⁹ comparing 2020 annualized quarterly census data against the same data from 2019. Employment data reports those who worked during, or received pay for, the 12th day of the month. (Latest available data: 2020)
- **Net real estate taxes charged** (2.2%): Data from the Ohio Department of Taxation;¹⁰ compiled tax data on real estate and public utility property taxes charged. This data is viewed as a positive variable for this analysis – as property taxes, in part, support local schools and public programs. (Latest available data: 2020)

³ Ellerbrock, M., Whitman, C., Lendel, I., & Piazza, M. (2020). *Economic Vitality Index: Mapping Ohio’s 88 Counties*. Urban Publications.

⁴ U.S. Census Bureau. (2020). *2015-2019 American Community Survey 5-year estimates; Poverty status in the past 12 months, Table B17001 [Data]*.

⁵ U.S. Bureau of Labor Statistics. (2020). *Local area unemployment statistics, labor force data by county, 2019 [Data]*.

⁶ U.S. Census Bureau. (2020). *2015-2019 American Community Survey 5-year estimates; Selected economic characteristics, Table DP03 [Data]*.

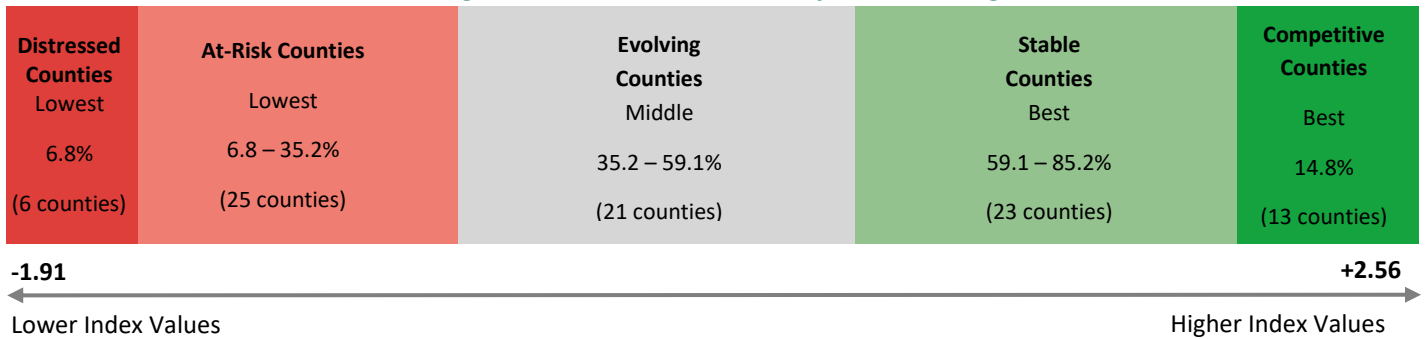
⁷ Institute for Strategy and Competitiveness. (2018). *Ohio | U.S. Cluster Mapping*. Harvard Business School.

⁸ The North American Industry Classification System (NAICS) is the standard used by federal statistical agencies to classify business establishments.

⁹ U.S. Bureau of Labor Statistics. (2020). *Quarterly census of employment and wages [Data]*.

¹⁰ Ohio Department of Taxation. (2020). *Real estate and public utility property taxes, Table PD23 [Data]*.

Figure 2: Ohio Economic Vitality Index rankings

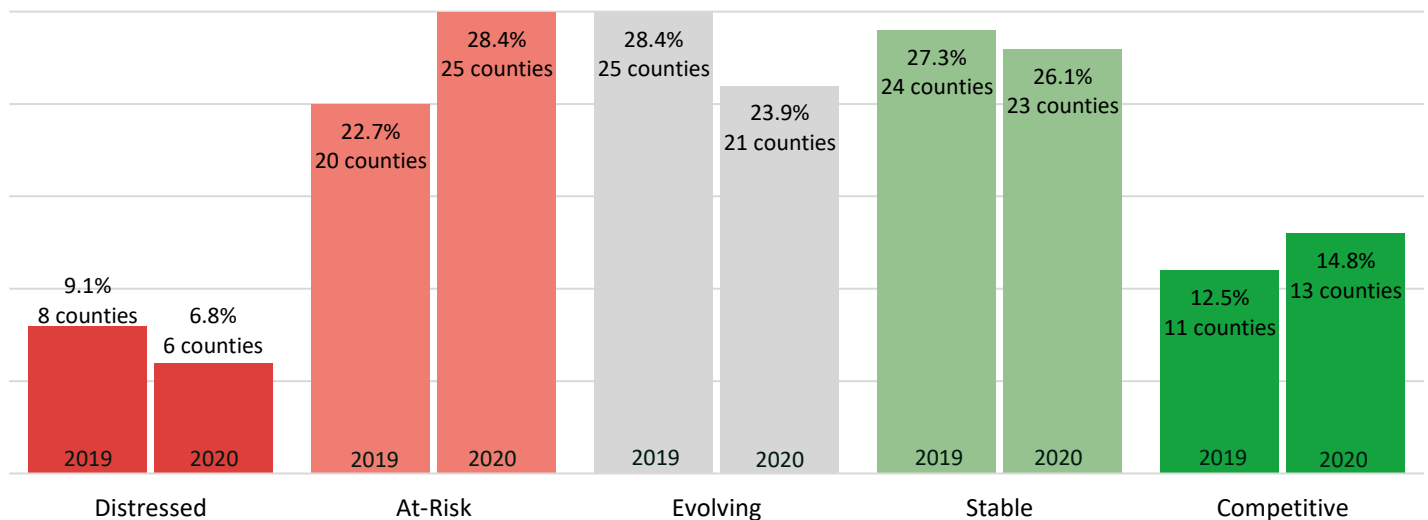


THE CLASSIFICATIONS OF THE EVI

The 2020 EVI ranks from as low as **-1.91** to as high as **+2.56** (A higher positive number indicated a greater economic vitality) and using the five intervals of the 2019 Economic Vitality Index as a benchmark score, the 88 counties were classified from lowest to highest as follows:

- Distressed counties** are those that have the lowest EVI scores compared to their peers (the bottom 6 counties – 6.8%). They often have a high unemployment rate, low representation in traded industries, and a large percentage of residents living below the poverty threshold
- At-Risk counties** have a higher EVI score than distressed counties but are below Ohio’s median EVI score (25 counties – 28%).
- Evolving counties** are at a crossroads in performance; with the right assistance programs in place, they may be able to bring their outlook in line with higher-performing counties (middle 21 counties – 24%).
- Stable counties** have EVI scores above the state median; and median household income (23 counties – 26%).
- Competitive counties** are the top-performing; these counties have great overall scores for many of the six variables, with low poverty levels and unemployment rates, high median household incomes, and employment in traded industries (the top 13 counties – 15%).

Figure 3: Ohio Economic Vitality Index histogram



POST-PANDEMIC EVI COMPARISON

After the pandemic, several indicators that make up the EVI shifted, which was evident in the results of the final score. In 2019, the largest category was “Evolving” (28.4% - 25 counties), followed by “Stable” (27.3% - 24 counties). In 2020, however, the largest category was “At-Risk” (28.5% - 25 counties), but this shift occurred, in part, from two counties moving up from the “Distressed” group, which shifted from 8 to 6 counties between 2019 and 2020. The second largest category remained “Stable” (26.1% - 23 counties), and the number of counties in this group decreased from 24 counties in 2019 to 23 counties in 2020.

The number of counties in the “Competitive” group increased by 2, from 11 to 13 counties. Defiance, Holmes, and Licking managed to move to the top-performing category despite the negative effects of the pandemic, while Delaware dropped from “Competitive” to “Evolving”.

Overall, 19 counties shifted categories between 2019 and 2020. Eight counties showed negative change, the most remarkable being the 5 counties that went from “Evolving” to “At-Risk”: Columbiana, Crawford, Cuyahoga, Erie, Montgomery. This change was mostly

led by substantial negative changes in employment rates since the onset of pandemic.

Nonetheless, 11 counties strengthened their position and moved categories in a positive direction. Defiance, Holmes, and Licking moved from “Stable” to “Competitive”; Gallia, Morgan, and Noble switched from “Distressed” to “At-Risk”; Brown and Fayette managed to move from “At-Risk” to “Evolving”; and Greene, Pickaway, and Portage grew from “Evolving” to “Stable.” In most instances, change was steered by a positive change in the average annual employment and a decrease in unemployment rates. A positive change in the average annual employment was particularly evident in Licking and Monroe counties. Despite the pandemic, companies in Monroe county increased their workforce during 2020. For example, American Heavy Plate Solutions hired 48 new employees and Litman Enterprises, LLC hired 21 people. These new jobs made a difference in smaller counties such as Monroe, which has a labor force just above 5,000 people.

All 88 Ohio counties and their scores across these six variables, as well as their final Economic Vitality Index score, can be seen in **Table 1**.

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Please share your comments with Dr. Iryna Lendel at i.lendel@csuohio.edu

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Table 1: Variables and final Ohio Economic Vitality Index score, 2020

County	Economic Vitality Index Factor (2019)	Economic Vitality Index Factor (2020)	EVI absolute change	Below Poverty Threshold	Unemployment Rate	Median Household Income	Employed in Select Traded Industries	Change in Average Annual Employment*	Net Real Estate Taxes Charged
Adams	-2.09	-1.57	0.52	20.7%	9.2%	\$39,079	7.0%	-1.6%	\$22.9 M
Allen	0.00	-0.20	-0.20	13.9%	8.5%	\$53,131	19.1%	-4.8%	\$114.9 M
Ashland	0.08	0.24	0.16	13.8%	6.5%	\$52,823	17.7%	-4.4%	\$76.6 M
Ashtabula	-0.69	-0.73	-0.04	19.9%	8.3%	\$46,700	22.2%	-7.0%	\$118.0 M
Athens	-2.19	-1.91	0.27	30.2%	7.3%	\$40,905	5.8%	-5.8%	\$77.5 M
Auglaize	1.52	1.33	-0.19	8.4%	6.9%	\$64,074	34.9%	-7.7%	\$53.6 M
Belmont	-0.83	-1.17	-0.33	12.3%	10.1%	\$50,904	5.5%	-10.8%	\$109.4 M
Brown	-0.68	-0.47	0.21	15.3%	8.2%	\$54,575	10.5%	-4.3%	\$34.8 M
Butler	0.87	0.82	-0.05	12.5%	7.2%	\$66,117	26.1%	-5.7%	\$555.9 M
Carroll	0.02	-0.20	-0.21	12.3%	8.8%	\$55,267	18.8%	-7.6%	\$49.7 M
Champaign	0.98	0.96	-0.02	10.1%	7.1%	\$60,112	31.6%	-6.6%	\$47.4 M
Clark	-0.13	-0.25	-0.12	14.9%	8.1%	\$50,873	20.6%	-7.0%	\$163.2 M
Clermont	0.75	0.82	0.06	9.0%	6.9%	\$66,968	15.5%	-5.2%	\$324.3 M
Clinton	-0.26	-0.30	-0.04	14.8%	8.3%	\$52,815	17.1%	-4.9%	\$46.1 M
Columbiana	-0.32	-0.60	-0.28	14.3%	9.4%	\$48,345	19.3%	-5.7%	\$105.7 M
Coshocton	-0.82	-0.72	0.10	14.4%	8.9%	\$46,606	15.5%	-7.5%	\$38.5 M
Crawford	-0.29	-0.66	-0.37	14.9%	9.4%	\$44,971	20.0%	-3.5%	\$59.4 M
Cuyahoga	-0.15	-0.87	-0.72	17.5%	10.4%	\$50,366	17.2%	-7.0%	\$2.8 B
Darke	0.38	0.59	0.22	10.5%	6.7%	\$55,620	20.4%	-4.5%	\$58.4 M
Defiance	0.40	2.56	2.15	10.2%	8.2%	\$59,931	19.5%	-6.7%	\$57.5 M
Delaware	2.30	0.28	-2.02	4.8%	5.3%	\$106,908	13.8%	-6.4%	\$656.2 M
Erie	-0.25	-0.79	-0.54	11.7%	10.5%	\$54,226	14.9%	-10.1%	\$143.9 M
Fairfield	0.54	0.71	0.16	9.2%	6.6%	\$67,609	9.5%	-4.4%	\$254.6 M
Fayette	-0.49	-0.34	0.15	16.2%	7.4%	\$47,308	16.9%	-4.7%	\$42.7 M
Franklin	0.43	0.28	-0.15	15.7%	7.4%	\$61,305	16.3%	-5.0%	\$2.5 B
Fulton	0.79	0.84	0.05	7.8%	7.9%	\$63,092	25.4%	-5.9%	\$75.8 M
Gallia	-1.54	-1.27	0.27	20.7%	8.0%	\$44,858	5.2%	-4.5%	\$35.5 M
Geauga	1.71	1.77	0.05	5.8%	6.7%	\$82,303	23.3%	-5.7%	\$230.6 M
Greene	0.29	0.53	0.24	11.6%	6.4%	\$68,720	6.0%	-3.6%	\$330.8 M
Guernsey	-1.08	-1.03	0.06	19.9%	8.7%	\$45,917	17.6%	-7.7%	\$52.0 M
Hamilton	0.04	-0.18	-0.22	15.8%	7.8%	\$57,212	12.8%	-6.4%	\$1.6 B
Hancock	0.93	0.85	-0.08	10.8%	6.8%	\$58,450	27.7%	-5.5%	\$101.4 M
Hardin	-0.12	-0.22	-0.11	13.9%	8.1%	\$50,506	17.8%	-4.6%	\$31.6 M
Harrison	-0.96	-0.82	0.14	16.0%	9.2%	\$49,689	15.9%	-7.8%	\$54.7 M
Henry	0.33	0.48	0.14	8.4%	8.1%	\$59,695	19.4%	-5.0%	\$58.0 M
Highland	-1.11	-0.94	0.17	19.4%	8.7%	\$44,169	15.1%	-1.6%	\$34.4 M
Hocking	-0.34	-0.04	0.30	13.3%	7.4%	\$52,363	12.5%	-1.6%	\$48.3 M
Holmes	0.91	1.57	0.66	10.0%	3.9%	\$63,753	18.7%	-1.5%	\$53.1 M
Huron	-0.35	-0.48	-0.13	13.2%	9.5%	\$52,560	18.9%	-7.0%	\$59.6 M
Jackson	-1.15	-0.76	0.38	18.8%	8.7%	\$47,550	15.3%	-0.5%	\$29.1 M
Jefferson	-1.13	-1.29	-0.16	17.5%	10.1%	\$46,581	11.0%	-4.5%	\$94.3 M
Knox	0.33	0.52	0.19	13.1%	6.2%	\$57,749	19.6%	-5.8%	\$82.3 M
Lake	0.95	0.57	-0.39	8.1%	8.4%	\$64,466	20.6%	-7.3%	\$470.6 M
Lawrence	-1.00	-0.96	0.04	18.1%	8.5%	\$45,118	7.4%	0.6%	\$50.2 M
Licking	0.93	1.28	0.35	10.5%	6.5%	\$64,589	20.5%	7.2%	\$298.1 M
Logan	0.79	0.55	-0.24	11.4%	8.3%	\$56,754	34.1%	7.4%	\$65.9 M
Lorain	0.18	-0.42	-0.59	13.5%	9.9%	\$58,427	18.3%	7.0%	\$510.7 M
Lucas	-0.65	-1.28	-0.63	18.7%	10.4%	\$48,736	16.3%	-8.4%	\$704.3 M

County	Economic Vitality Index Factor (2020)	Economic Vitality Index Factor (2020)	EVI absolute change	Below Poverty Threshold	Unemployment Rate	Median Household Income	Employed in Select Traded Industries	Change in Average Annual Employment*	Net Real Estate Taxes Charged
Madison	1.46	1.67	0.21	9.1%	5.9%	\$68,022	31.3%	-2.3%	\$59.5 M
Mahoning	-0.96	-1.31	-0.35	17.5%	10.2%	\$46,042	13.6%	-7.2%	\$308.9 M
Marion	-0.22	-0.18	0.04	14.8%	7.6%	\$47,498	21.6%	-6.4%	\$62.3 M
Medina	1.36	1.20	-0.16	6.0%	7.6%	\$76,600	19.1%	-7.0%	\$356.8 M
Meigs	-1.84	-1.67	0.17	19.6%	9.6%	\$44,899	3.3%	-5.5%	\$19.1 M
Mercer	1.31	1.56	0.24	6.4%	5.4%	\$62,952	24.3%	-3.9%	\$51.5 M
Miami	0.84	0.91	0.07	9.2%	7.0%	\$61,041	23.7%	-3.8%	\$128.7 M
Monroe	-1.90	-1.37	0.53	17.1%	10.6%	\$45,289	2.1%	6.9%	\$61.9 M
Montgomery	-0.27	-0.57	-0.30	16.6%	8.6%	\$51,542	15.0%	-6.1%	\$941.1 M
Morgan	-1.59	-1.26	0.33	19.2%	9.3%	\$42,341	14.5%	-5.2%	\$18.6 M
Morrow	0.38	0.38	0.00	9.7%	7.1%	\$59,452	12.6%	-5.2%	\$44.0 M
Muskingum	-0.83	-0.60	0.23	16.0%	7.8%	\$47,254	9.5%	-2.3%	\$100.2 M
Noble	-1.49	-1.16	0.33	15.6%	9.6%	\$46,897	7.6%	-5.2%	\$36.8 M
Ottawa	-0.17	-0.21	-0.03	10.1%	9.1%	\$59,099	11.4%	-6.3%	\$94.8 M
Paulding	0.51	0.66	0.15	9.9%	7.5%	\$55,330	25.1%	-2.4%	\$23.2 M
Perry	-0.68	-0.86	-0.18	19.1%	8.4%	\$50,150	17.4%	-10.0%	\$47.2 M
Pickaway	0.20	0.47	0.27	12.1%	6.8%	\$63,633	13.0%	-3.2%	\$84.3 M
Pike	-1.37	-1.43	-0.06	18.7%	9.4%	\$42,832	7.3%	-3.9%	\$23.6 M
Portage	0.26	0.33	0.07	12.8%	7.3%	\$57,618	21.0%	-6.1%	\$244.7 M
Preble	0.65	0.90	0.26	10.1%	6.7%	\$58,957	25.5%	-3.9%	\$43.2 M
Putnam	1.35	1.55	0.20	7.6%	5.6%	\$64,822	27.7%	-5.2%	\$41.5 M
Richland	-0.18	-0.39	-0.21	13.5%	9.0%	\$49,547	20.8%	-6.9%	\$165.7 M
Ross	-0.55	-0.69	-0.13	17.3%	8.0%	\$51,092	10.6%	-5.2%	\$72.8 M
Sandusky	0.46	0.41	-0.05	11.6%	8.1%	\$54,089	30.6%	-6.7%	\$90.1 M
Scioto	-1.93	-1.57	0.35	22.6%	8.7%	\$41,330	6.1%	-2.4%	\$61.7 M
Seneca	0.12	-0.08	-0.21	12.8%	8.1%	\$52,500	19.5%	-6.4%	\$78.1 M
Shelby	1.54	1.35	-0.19	8.8%	7.7%	\$63,806	41.4%	-6.4%	\$58.1 M
Stark	-0.12	-0.10	0.02	13.6%	8.1%	\$53,860	17.8%	-6.0%	\$539.5 M
Summit	0.13	0.04	-0.08	13.2%	8.2%	\$57,181	18.1%	-6.0%	\$984.4 M
Trumbull	-1.12	-1.25	-0.13	17.2%	10.4%	\$47,280	17.0%	-9.1%	\$234.5 M
Tuscarawas	0.10	0.09	-0.01	12.8%	7.6%	\$53,243	19.4%	-5.5%	\$118.8 M
Union	1.93	2.26	0.33	5.9%	5.8%	\$86,715	27.2%	-4.2%	\$126.0 M
Van Wert	0.93	0.62	-0.31	11.1%	7.0%	\$54,254	28.2%	-7.1%	\$32.6 M
Vinton	-1.14	-1.20	-0.06	19.0%	9.1%	\$45,673	11.3%	-5.1%	\$17.5 M
Warren	1.85	1.91	0.05	4.6%	6.4%	\$87,125	17.7%	-5.3%	\$482.2 M
Washington	-0.60	-0.56	0.04	14.2%	8.6%	\$50,021	14.2%	-6.7%	\$75.4 M
Wayne	0.79	0.78	0.00	11.3%	5.9%	\$58,300	22.2%	-7.5%	\$186.7 M
Williams	0.88	0.56	-0.32	11.2%	7.8%	\$53,183	33.2%	-7.0%	\$44.3 M
Wood	0.74	0.69	-0.05	12.9%	7.1%	\$62,390	25.9%	-5.3%	\$256.2 M
Wyandot	1.31	1.05	-0.27	7.4%	7.0%	\$55,767	31.7%	-7.0%	\$22.4 M
MEDIAN	0.03	-0.14	0.0014	13.2%	8.1%	\$53,975	17.8%	-5.5%	\$75.5M

*Change in Average Annual Employment is from 2019 to 2020