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Economic Vitality Index: Is There a Pandemic Recovery In Ohio?

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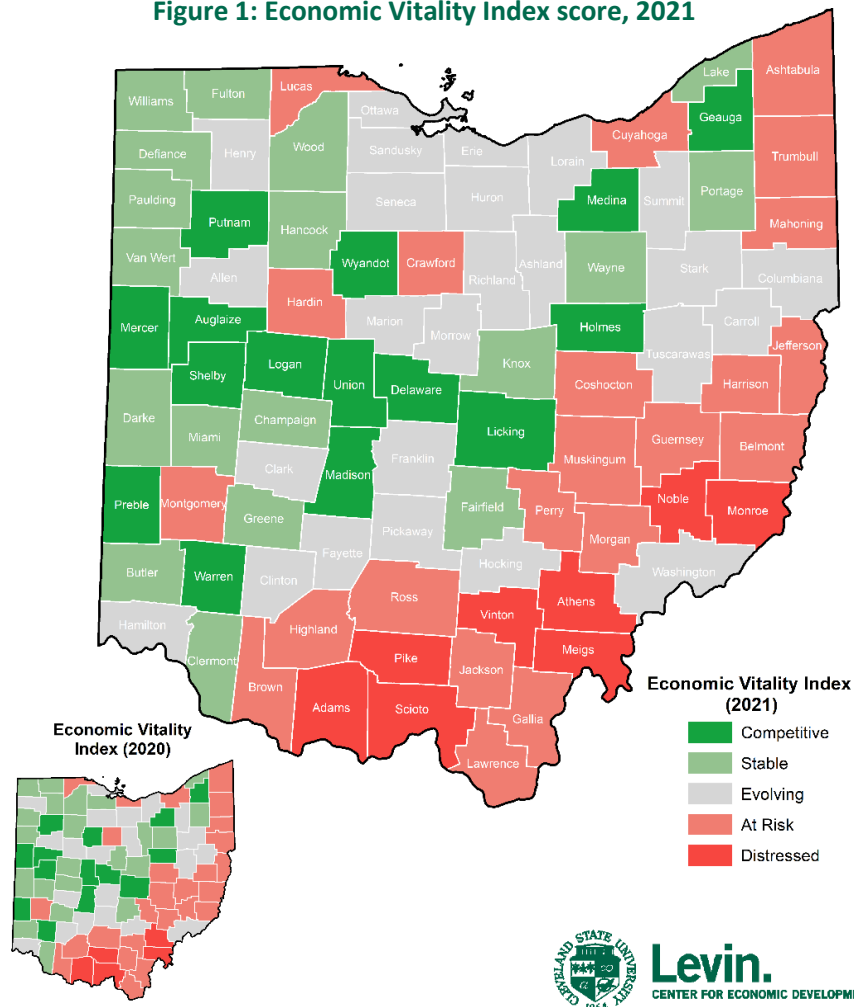
INTRODUCTION

The COVID-19 pandemic shook the world’s economy in widespread and unexpected way. Three years after the outbreak, the global economy is still recovering and the economic effects of the pandemic are still felt in many places. Recovery can be seen in many areas but that recovery has been uneven. The Center for Economic Development (Center) continues to track the state of the economy in each of the 88 counties in Ohio to provide an ongoing understanding of what areas are lagging and need particular policy attention. After establishing the Economic Vitality Index (EVI) baseline in using 2019 data¹, and the pandemic analysis with 2020 data. This update of the EVI illustrates the

ongoing effects of the global pandemic and economic slowdown and highlights the impacts of policy responses aimed to ease up its detrimental impact on the economy. The **EVI** is a 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**.¹

By the end of 2022 the world is being faced with unprecedented inflation levels, however, the United States economy is projected to continue on the right economic path as seen by the fast GDP recovery and strong labor markets.²

Figure 1: Economic Vitality Index score, 2021



¹ Please refer to the above map (or visit <https://arcg.is/1zOGCv>) 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.

² Center for American Progress (2022). [Despite Global Inflation, the U.S. Economic Recovery Is Among the Strongest of G-7 Nations](#)

METHODOLOGY AND VARIABLES

The research team used factor analysis results from 2019 to create the 2021 EVI and maintain the original factor-loading weight from the benchmark results.³ Factor analysis is a data-reduction technique that finds commonalities across all selected data and “weights” them by their importance to the factor. The six variables that make up the EVI are assembled from a variety of state and federal sources. 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., \$14,097 for a single individual or \$27,479 for a household with two adults and two children). (Latest available data: 2021).
- **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: 2021)
- **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: 2021)
- **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 Clusters update: 2020, using 2021 Moody’s data)
- **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: 2021)
- **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: 2021)

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. (2021). *2016-2020 American Community Survey 5-year estimates; Poverty status in the past 12 months, Table B17001 [Data]*.

⁵ U.S. Bureau of Labor Statistics. (2022). *Local area unemployment statistics, labor force data by county, 2021 [Data]*.

⁶ U.S. Census Bureau. (2021). *2016-2020 American Community Survey 5-year estimates; Selected economic characteristics, Table DP03 [Data]*.

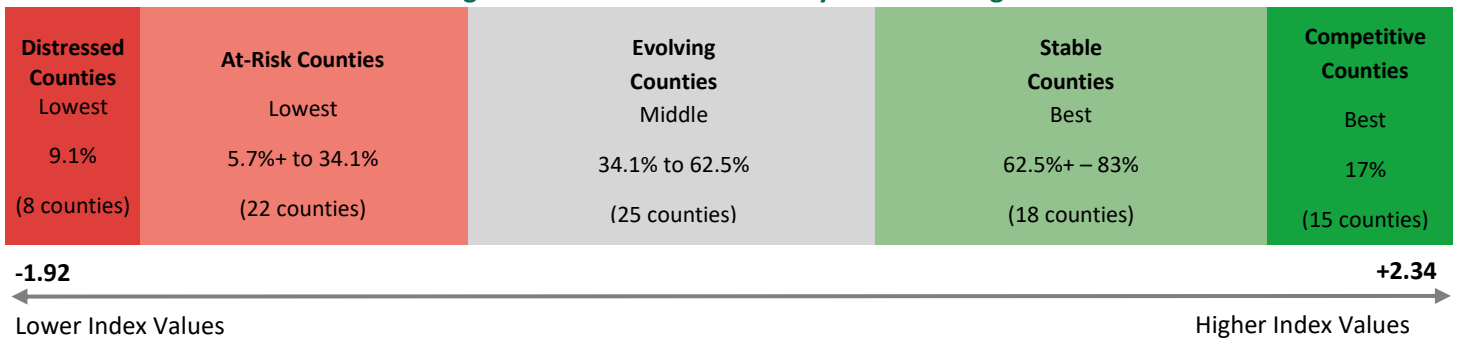
⁷ Institute for Strategy and Competitiveness. (2019). *Ohio | U.S. Cluster Mapping*. Harvard Business School.

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. (2021). *Quarterly census of employment and wages [Data]*.

¹⁰ Ohio Department of Taxation. (2021). *Real estate and public utility property taxes, Table PD23 [Data]*.

Figure 2: Ohio Economic Vitality Index rankings

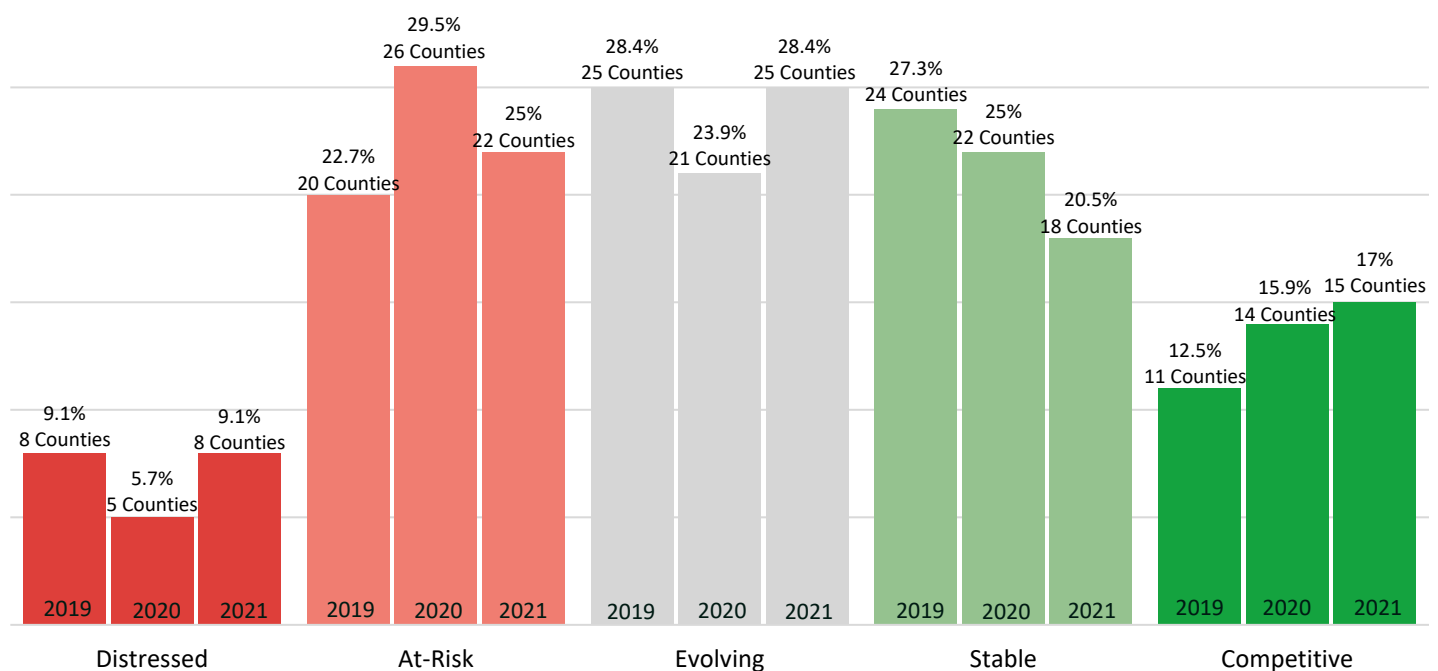


THE CLASSIFICATIONS OF THE EVI

The 2020 EVI ranks from as low as **-1.92** to as high as **+2.34** (A higher positive number indicated a greater economic vitality) and using the five intervals of the 2019 Economic Vitality Index as a consistent 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 eight counties – 9.1%). They often have a high poverty and unemployment rate, and low representation in traded industries.
- At-Risk counties** have a higher EVI score than distressed counties but are below Ohio’s median EVI score, presenting high poverty and unemployment rates. (22 counties – 25%).
- 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 25 counties – 28.4%).
- Stable counties** have EVI scores above the state median; and overall higher employment in traded industries while maintaining lower poverty rates. (18 counties – 20.5%).
- 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 15 counties – 17%).

Figure 3: Ohio Economic Vitality Index histogram



EVI COMPARISON

The various indicators that make up the EVI continued to shift in different directions during 2021. The largest category in 2020 was “At-Risk” (29.5% - 26 counties), followed by “Stable” (25% - 22 counties); this year, “Evolving” has taken the top position (28.4% - 25 counties), followed by “At-risk” (25% -22 counties). While the “Stable” category has reduced in size, the number of counties in the “competitive” category has continued to increase over time, going from 11 counties in 2019 to 15 counties in 2021.

A total of 12 counties are in some state of transition. Eight counties transitioned negatively. Sandusky, Ashland, Morrow, and Henry all decreased from “Stable” to “Evolving”. Hardin transitioned from “Evolving” to “At-Risk” and three counties, Monroe, Noble and Vinton, transitioned from “At-Risk” to the bottom category. On the positive side, Columbiana and Erie moved from “At-Risk” to “Evolving”. Defiance moved from “Evolving” to “Stable” and Logan, transitioned from “Stable” to “Competitive.”

Overall, we observe that the counties continue to fluctuate among all 5 groups. Regardless of the counties’ changes, the top two categories remain capturing close to 38 percent of all counties while the bottom two categories capture about 34 percent of counties. The main shift from EVI 2020 is “Evolving”, which was the

smallest category capturing 24% of counties in 2020 and has now increased to 28 percent.

Disruptions in the supply chain have affected many industries across the globe. In our work evaluating the impact of the pandemic on the supply chain, we found that, in Ohio, the manufacturing sector was the most affected. In general, however, Ohio industries (including health care, high tech and innovation, and agriculture) were able to quickly adapt to the new demands that the pandemic brought and showed strengths that allowed them to overcome the hardship brought upon them.¹¹

In January 2022, it was reported that there were 192k fewer jobs in Ohio than in February 2020.¹² Despite the high loss of employment experienced in 2020 (the unemployment rate reached a peak of 16.4% in May 2020), Ohio’s economy began to stabilize towards the end of the year and by December 2020, the unemployment rate was only 1 percent point above the levels experienced at the start of the pandemic.¹³ The resiliency of Ohio counties and the proper use of policy tools made it possible to lessen the harmful effects of the COVID-19 pandemic, a trend that will hopefully continue throughout 2023.¹⁴

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

Please share your comments with Molly Schnoke at m.s.schnoke@csuohio.edu

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¹¹ Lendel, Iryna; Demko, Iryna; Figueroa, Georgina; and Saneda, Matthew, "The Impact of Covid-19 on Ohio's Supply Chain" (2022). Urban Publications

¹² Policy Matters Ohio (2022). [JobWatch: Ohio recovered jobs earlier, then slowed](#)

¹³ JobsOhio (2020). [Ohio’s Unemployment Rate was 5.5% in December 2020](#)

¹⁴ Policy Matters Ohio (2021). [JobWatch: After adding jobs in November, Ohio on track to recover destroyed jobs by 2023](#)

Table 1: Variables and final Ohio Economic Vitality Index score, 2021

County	EVI (2019)	EVI (2020)	EVI (2021)	EVI change (2019-2020)	EVI change (2020-2021)	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	-1.51	0.51	0.06	19.2%	6.3%	\$44,467	6.6%	4.3%	\$23.2 M
Allen	0.00	-0.22	-0.37	-0.21	-0.15	13.0%	5.7%	\$55,114	17.4%	1.3%	\$127.0 M
Ashland	0.08	0.34	0.22	0.27	-0.13	12.4%	4.3%	\$58,168	17.7%	1.7%	\$80.9 M
Ashtabula	-0.69	-0.72	-0.72	-0.03	-0.01	18.9%	5.5%	\$49,680	21.5%	1.2%	\$119.6 M
Athens	-2.19	-1.79	-1.79	0.40	0.00	25.5%	5.6%	\$47,061	5.1%	2.1%	\$79.1 M
Auglaize	1.52	1.36	1.50	-0.15	0.14	7.3%	3.7%	\$69,315	31.9%	2.0%	\$54.9 M
Belmont	-0.83	-1.16	-0.73	-0.32	0.42	11.3%	6.1%	\$54,191	5.0%	3.1%	\$107.6 M
Brown	-0.68	-0.57	-0.58	0.10	-0.01	16.0%	5.3%	\$59,766	9.1%	2.3%	\$37.8 M
Butler	0.87	0.91	0.81	0.04	-0.10	11.4%	4.5%	\$72,281	24.9%	1.0%	\$545.9 M
Carroll	0.02	-0.38	-0.44	-0.40	-0.06	13.2%	5.7%	\$55,954	16.9%	-0.5%	\$50.4 M
Champaign	0.98	0.86	0.80	-0.12	-0.07	10.2%	4.4%	\$62,865	31.7%	-1.5%	\$48.1 M
Clark	-0.13	-0.32	-0.30	-0.19	0.02	15.2%	5.3%	\$54,869	19.4%	2.3%	\$164.9 M
Clermont	0.75	0.81	0.78	0.06	-0.03	8.9%	4.3%	\$73,013	14.7%	3.2%	\$332.9 M
Clinton	-0.26	-0.28	-0.23	-0.02	0.05	14.0%	5.5%	\$57,409	16.5%	5.0%	\$48.0 M
Columbiana	-0.32	-0.59	-0.49	-0.27	0.10	12.9%	5.7%	\$51,664	17.7%	-0.3%	\$107.6 M
Coshocton	-0.82	-0.95	-1.10	-0.12	-0.16	19.1%	5.8%	\$49,297	15.0%	-0.2%	\$40.9 M
Crawford	-0.29	-0.57	-0.63	-0.28	-0.06	14.1%	5.8%	\$48,449	18.7%	0.2%	\$64.6 M
Cuyahoga	-0.15	-0.87	-0.66	-0.72	0.22	16.7%	6.5%	\$55,109	17.0%	1.4%	\$2,965.2 M
Darke	0.38	0.48	0.48	0.11	-0.01	10.4%	3.9%	\$57,440	16.9%	2.9%	\$59.5 M
Defiance	0.40	0.30	0.46	-0.11	0.16	9.5%	4.7%	\$65,779	16.9%	2.2%	\$58.4 M
Delaware	2.30	2.59	2.34	0.29	-0.26	4.6%	3.6%	\$116,284	12.2%	4.9%	\$671.0 M
Erie	-0.25	-0.75	-0.25	-0.50	0.49	12.1%	6.3%	\$60,149	14.6%	7.6%	\$150.5 M
Fairfield	0.54	0.75	0.67	0.21	-0.08	8.6%	4.3%	\$77,241	9.0%	1.9%	\$260.8 M
Fayette	-0.49	-0.33	-0.46	0.17	-0.13	16.1%	4.8%	\$52,964	16.5%	-0.9%	\$40.4 M
Franklin	0.43	0.28	0.19	-0.15	-0.10	14.7%	5.0%	\$65,999	16.0%	2.3%	\$2,599.4 M
Fulton	0.79	0.66	0.71	-0.13	0.05	8.8%	4.7%	\$65,418	22.4%	3.2%	\$77.0 M
Gallia	-1.54	-0.98	-1.13	0.56	-0.15	16.4%	5.6%	\$50,773	4.3%	0.7%	\$35.8 M
Geauga	1.71	1.73	1.66	0.01	-0.07	5.8%	4.1%	\$90,285	21.4%	2.4%	\$228.3 M
Greene	0.29	0.54	0.35	0.25	-0.20	10.9%	4.3%	\$75,901	4.8%	1.7%	\$343.1 M
Guernsey	-1.08	-1.02	-0.92	0.07	0.10	18.4%	5.6%	\$48,434	17.4%	0.1%	\$55.6 M
Hamilton	0.04	-0.12	-0.09	-0.16	0.03	14.9%	4.9%	\$63,080	11.9%	1.9%	\$1,649.6 M
Hancock	0.93	0.79	0.70	-0.14	-0.09	11.1%	4.1%	\$60,828	26.2%	1.4%	\$102.3 M
Hardin	-0.12	-0.32	-0.76	-0.20	-0.44	17.8%	5.2%	\$52,112	16.7%	-2.0%	\$33.6 M
Harrison	-0.96	-0.91	-0.98	0.05	-0.06	14.8%	6.2%	\$51,993	13.4%	-2.2%	\$55.8 M
Henry	0.33	0.46	0.22	0.12	-0.24	9.7%	5.2%	\$64,513	18.4%	-0.5%	\$55.6 M
Highland	-1.11	-0.87	-0.76	0.24	0.11	16.7%	5.6%	\$52,376	14.5%	1.3%	\$38.8 M
Hocking	-0.34	-0.12	-0.33	0.22	-0.20	16.3%	4.8%	\$56,755	11.8%	5.6%	\$49.1 M
Holmes	0.91	1.54	1.24	0.63	-0.30	9.0%	2.8%	\$69,454	17.1%	3.5%	\$55.8 M
Huron	-0.35	-0.38	-0.16	-0.03	0.22	12.3%	5.8%	\$59,049	17.6%	4.2%	\$62.0 M
Jackson	-1.15	-0.66	-1.11	0.49	-0.45	17.1%	6.1%	\$50,983	14.2%	-2.4%	\$30.1 M
Jefferson	-1.13	-1.30	-1.20	-0.17	0.10	17.3%	6.5%	\$49,211	11.1%	3.5%	\$96.1 M
Knox	0.33	0.64	0.45	0.32	-0.19	12.7%	4.0%	\$64,439	18.1%	1.8%	\$85.8 M
Lake	0.95	0.54	0.69	-0.41	0.15	7.5%	5.1%	\$70,168	19.4%	1.8%	\$488.4 M
Lawrence	-1.00	-1.08	-0.96	-0.09	0.13	18.8%	5.1%	\$48,947	9.4%	2.5%	\$52.9 M
Licking	0.93	1.36	1.19	0.43	-0.16	9.5%	4.1%	\$72,771	20.6%	9.3%	\$303.3 M
Logan	0.79	0.65	1.16	-0.14	0.51	9.5%	4.1%	\$64,196	33.2%	2.7%	\$66.5 M
Lorain	0.18	-0.46	-0.18	-0.64	0.28	13.2%	5.8%	\$62,390	17.1%	2.5%	\$536.7 M
Lucas	-0.65	-1.31	-0.89	-0.66	0.42	17.6%	6.2%	\$53,176	16.1%	1.3%	\$717.7 M

County	EVI (2019)	EVI (2020)	EVI (2021)	EVI change (2019-2020)	EVI change (2020-2021)	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	1.60	1.54	0.14	-0.06	10.2%	3.8%	\$72,811	28.4%	11.5%	\$60.9 M
Mahoning	-0.96	-1.34	-1.09	-0.39	0.25	17.3%	6.3%	\$50,750	13.0%	1.3%	\$311.8 M
Marion	-0.22	-0.10	-0.24	0.12	-0.13	15.2%	4.7%	\$51,144	19.7%	0.9%	\$64.2 M
Medina	1.36	1.19	1.33	-0.17	0.14	5.7%	4.3%	\$82,894	17.5%	2.9%	\$367.5 M
Meigs	-1.84	-1.82	-1.92	0.01	-0.09	20.1%	6.6%	\$44,113	3.0%	0.5%	\$19.1 M
Mercer	1.31	1.64	1.47	0.32	-0.16	5.3%	3.1%	\$68,692	23.8%	-0.6%	\$55.8 M
Miami	0.84	0.94	0.95	0.10	0.00	7.7%	4.3%	\$66,284	23.4%	2.2%	\$131.5 M
Monroe	-1.90	-1.22	-1.84	0.68	-0.62	14.7%	7.3%	\$50,503	1.7%	-5.7%	\$61.5 M
Montgomery	-0.27	-0.55	-0.51	-0.28	0.04	15.3%	5.6%	\$56,543	14.7%	0.6%	\$948.2 M
Morgan	-1.59	-1.13	-0.97	0.46	0.15	17.4%	6.2%	\$44,848	17.5%	4.6%	\$18.5 M
Morrow	0.38	0.44	0.25	0.06	-0.18	10.2%	4.5%	\$63,411	11.6%	2.3%	\$45.0 M
Muskingum	-0.83	-0.60	-0.68	0.23	-0.08	15.8%	5.1%	\$52,224	9.0%	2.4%	\$106.8 M
Noble	-1.49	-1.10	-1.46	0.39	-0.35	16.6%	6.8%	\$46,144	6.9%	3.6%	\$36.1 M
Ottawa	-0.17	-0.16	-0.12	0.01	0.05	8.3%	6.1%	\$64,463	10.1%	3.0%	\$104.2 M
Paulding	0.51	0.61	0.56	0.10	-0.05	10.1%	4.3%	\$59,987	22.1%	1.5%	\$23.1 M
Perry	-0.68	-0.65	-0.53	0.02	0.13	15.2%	5.6%	\$58,616	15.3%	-0.1%	\$47.8 M
Pickaway	0.20	0.23	0.22	0.02	-0.01	13.4%	4.5%	\$63,629	13.5%	6.2%	\$84.8 M
Pike	-1.37	-1.45	-1.57	-0.08	-0.12	19.4%	6.3%	\$44,961	5.6%	3.3%	\$24.2 M
Portage	0.26	0.43	0.41	0.17	-0.02	11.2%	4.7%	\$64,163	20.6%	1.2%	\$259.3 M
Preble	0.65	0.98	0.99	0.34	0.00	9.8%	4.1%	\$60,527	26.1%	7.7%	\$46.0 M
Putnam	1.35	1.56	1.68	0.21	0.11	6.3%	3.4%	\$73,122	26.3%	5.2%	\$42.2 M
Richland	-0.18	-0.47	-0.33	-0.29	0.14	13.6%	5.6%	\$52,605	19.4%	2.5%	\$166.8 M
Ross	-0.55	-0.66	-0.58	-0.11	0.08	16.5%	4.8%	\$54,004	9.2%	2.7%	\$73.9 M
Sandusky	0.46	0.35	0.30	-0.11	-0.05	12.9%	5.2%	\$56,414	29.2%	3.9%	\$91.0 M
Scioto	-1.93	-1.66	-1.90	0.26	-0.24	23.8%	6.2%	\$43,266	5.9%	3.0%	\$63.3 M
Seneca	0.12	-0.12	0.10	-0.24	0.22	12.2%	4.7%	\$56,043	19.7%	1.3%	\$78.7 M
Shelby	1.54	1.22	1.31	-0.31	0.09	10.8%	4.2%	\$66,536	39.6%	3.1%	\$59.1 M
Stark	-0.12	-0.11	-0.12	0.01	-0.01	13.4%	5.2%	\$58,170	16.7%	1.9%	\$573.7 M
Summit	0.13	0.07	0.01	-0.06	-0.06	12.6%	5.4%	\$63,111	17.1%	1.4%	\$1,000.0 M
Trumbull	-1.12	-1.30	-1.04	-0.18	0.27	17.1%	6.4%	\$50,258	13.9%	3.2%	\$238.0 M
Tuscarawas	0.10	0.05	0.10	-0.04	0.04	13.0%	4.6%	\$57,545	18.1%	2.4%	\$114.2 M
Union	1.93	2.29	2.29	0.36	0.00	4.7%	3.5%	\$96,634	28.8%	1.8%	\$132.6 M
Van Wert	0.93	0.74	0.92	-0.19	0.18	9.8%	3.9%	\$59,210	30.1%	1.0%	\$33.5 M
Vinton	-1.14	-1.36	-1.40	-0.23	-0.04	18.9%	6.2%	\$46,653	11.3%	-0.4%	\$18.5 M
Warren	1.85	1.88	1.84	0.03	-0.04	4.8%	4.0%	\$95,709	17.0%	4.7%	\$484.4 M
Washington	-0.60	-0.49	-0.44	0.11	0.05	13.6%	5.5%	\$54,167	14.2%	2.3%	\$79.3 M
Wayne	0.79	0.86	0.89	0.07	0.03	10.0%	3.6%	\$64,594	21.3%	1.9%	\$189.8 M
Williams	0.88	0.52	0.62	-0.37	0.10	10.7%	4.3%	\$55,030	30.2%	0.4%	\$46.3 M
Wood	0.74	0.63	0.66	-0.11	0.03	12.6%	4.3%	\$66,337	23.0%	4.3%	\$258.9 M
Wyandot	1.31	1.08	1.45	-0.23	0.37	7.0%	3.5%	\$61,626	31.8%	3.6%	\$22.8 M
MEDIAN	0.03	-0.12	-0.12	-0.15	0.00	13.0%	5.1%	\$58,169	17.0%	2.2%	\$75.5M

*Change in Average Annual Employment is from 2020 to 2021