

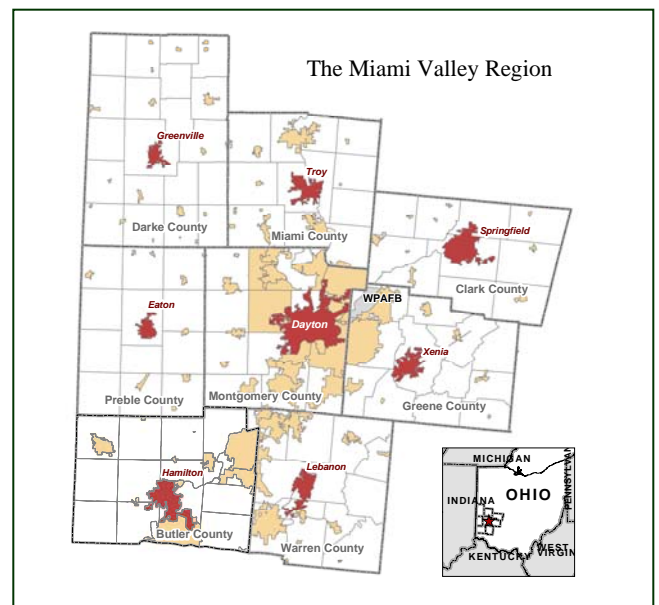
INTRODUCTION

The Miami Valley Regional Planning Commission (MVRPC) conducted an Economic Base Assessment study to examine the Miami Valley Region's economic structure. This study was the first effort to update MVRPC's recently published "State of the Region 2005" report that: examined broad subject areas such as the social, political, economic, and environmental aspects of the Region; provided a snapshot of where the Region stands today; and documented how the Region has progressed over the years. As an update to the State of the Region report, this study conducted a more in-depth review of the economic attributes of the Region, including an economic base analysis.

The Region is defined to include eight (8) counties in the Dayton Metropolitan area, located within the State of Ohio, as illustrated in the map. The Region is home to 1.5 million people in 3,600 square miles, with diverse communities and neighborhoods.

In order to assess the Region's economic base, the study first identified and reviewed key economic indicators. Second, the study conducted an economic base analysis to provide a statistical measure of where the Region's economy stands in comparison to the State of Ohio and the U.S.

The study examined a total of seven (7) key economic indicators, which were grouped into three categories. For each indicator, the study first examined the Regional historical trends. Second, the Regional trends were compared to the larger geography, mainly to the State of Ohio, and also to the U.S. when feasible. Lastly, the economic data was broken down and examined at the county level and compared to the State of Ohio and the U.S. The seven indicators examined in the study are:



- | | | |
|---|--|---|
| <ul style="list-style-type: none"> ▪ Income <ul style="list-style-type: none"> - Per Capita Income - Average Wage | <ul style="list-style-type: none"> ▪ Business <ul style="list-style-type: none"> - Business Establishments - Business Starts | <ul style="list-style-type: none"> ▪ Labor Force <ul style="list-style-type: none"> - Employment by Industry - Employment by Occupation - Employment Participation |
|---|--|---|

For the economic base analysis, the study applied two methods: Location Quotient Analysis and Shift-Share Analysis. The Location Quotient Analysis examines the current composition of the economy and reveals the industry sectors in which the Region is heavily involved. The Shift-Share analysis measures the relative changes that have taken place over the years and reveals how strong or weak each industry sector is within the Region. For the purpose of the study, the analyses were conducted at the Regional level and placed into comparison with the State of Ohio and the U.S.

The study compiled both historic and the most current data at the national, state, and county levels on the indicators noted above. Throughout the report, data sources are indicated when the data are presented. In summary, data sources for this report include:

- U.S. Department of Commerce, Bureau of Census, Decennial Census
- U.S. Department of Commerce Bureau of Census, County Business Patterns
- U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS)
- Ohio Job & Family Services Labor Market Information
- Ohio Bureau of Workers' Compensation
- Ohio Department of Development, Office of Strategic Research

INCOME

The study examined two indicators pertaining to income. First, the study examined the Region's Per Capita Income data and compared it to the State of Ohio and the U.S. Second, the study reviewed the Region's Average Wage data along with that of the State and the U.S. In addition, for both indicators, county-level data were examined.

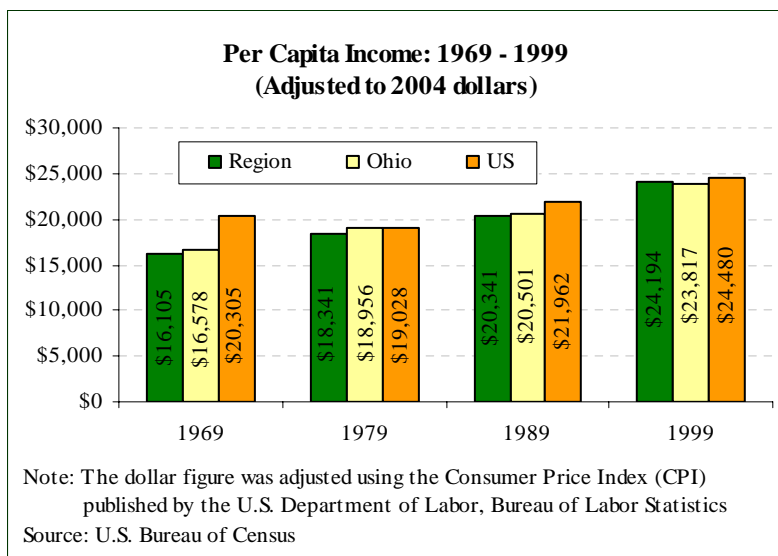
PER CAPITA INCOME

The review of the historical trends for Region's per capita income revealed that there has been a steady increase over the years. As presented in the table, per capita income, when adjusted to 2004 dollars, has increased approximately \$2,000 every 10 years over a 30 year period.

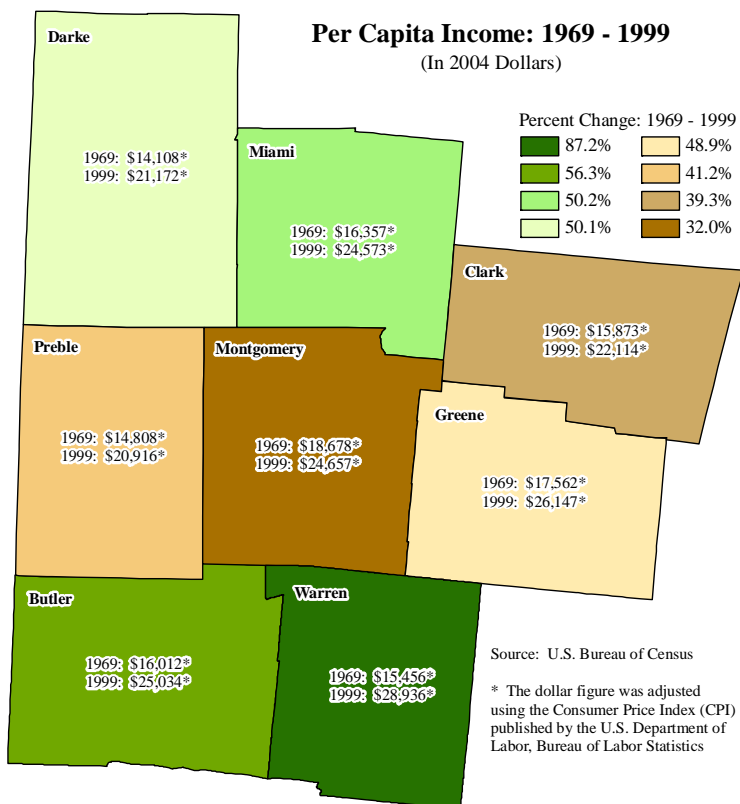
Per Capita Income: 1969 - 1999

	1969	1979	1989	1999
Not Adjusted for Inflation	\$3,129	\$7,050	\$13,356	\$21,335
Adjusted for Inflation to 2004 dollars*	\$16,105	\$18,341	\$20,341	\$24,194

Note: * The dollar figure was adjusted using the Consumer Price Index (CPI) published by the U.S. Department of Labor, Bureau of Labor Statistics
Source: U.S. Bureau of Census



Over the past 30 years, the income gap between the Region, the State of Ohio, and the U.S. has slowly narrowed. In 1969, the per capita income for the Region (\$16,105) was below that of the State (\$16,578) and the Nation (\$20,305). However, the most recent data from the 2000 Census reported that, in 1999, the Region's per capita income (\$24,194) was slightly above the State (\$23,817) and very close to the National average (\$24,480).



The map presents the per capita income change between 1969 and 1999 at the County level, along with the per capita income dollar figures for each county. For comparison purposes, the dollar figures were adjusted to the 2004 dollar value.

Within the Region, Warren County had the highest per capita income in 1999 (\$28,936) and also the greatest percentage change (87.2%) between 1969 and 1999. Butler County had the second largest percentage change (56.3%), but Greene County was second in actual income dollars (\$26,147) with a 48.9% change. Montgomery County had the least percentage change (32.0%) in income.

The 1999 per capita income figures for Montgomery, Miami, Greene, Butler, and Warren Counties were all reported to be higher than the State (\$23,817) and the U.S. (\$24,480).

AVERAGE WAGE

The average wage was the second indicator the study examined pertaining to income. The average wage dollar figures were adjusted to the 2004 dollar for comparison purposes. Between 1970 and 1990, average wage in the Region has declined from \$33,022 to \$29,391. However, since 1990 the wage has increased, but the 2003 wage (\$32,573) was \$449 below the 1970 wage (\$33,022).

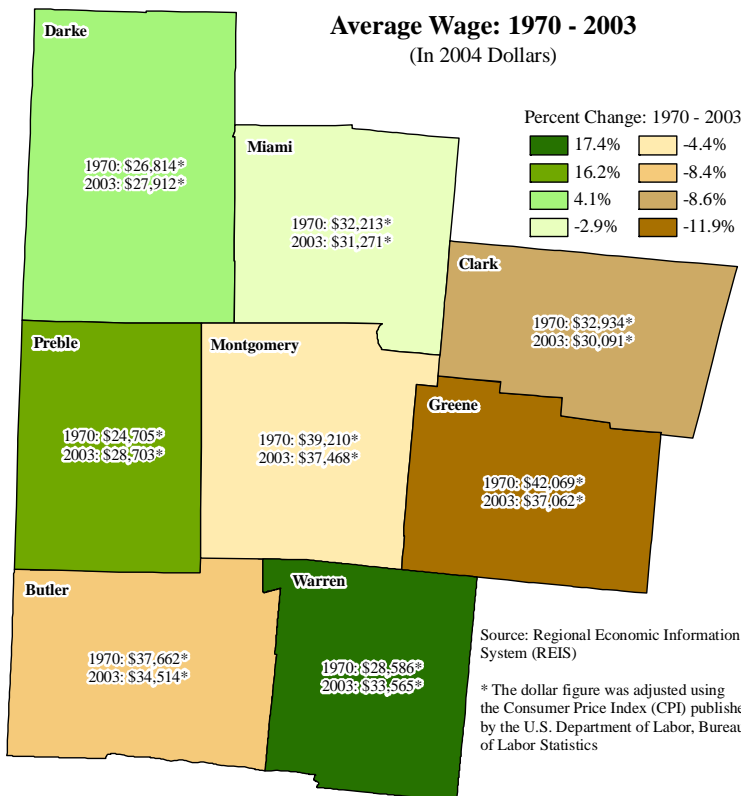
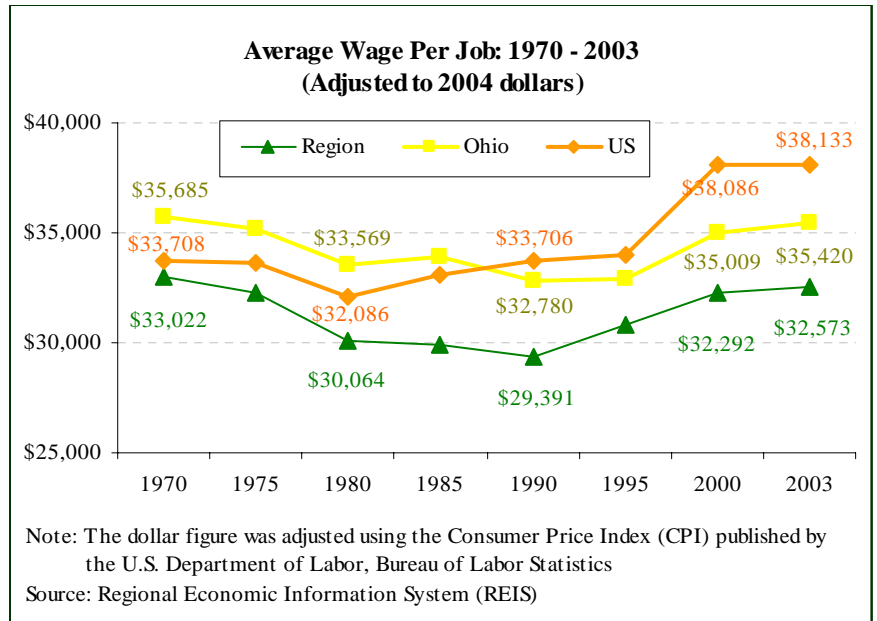
Average Wage Per Job: 1970 - 2003

	1970	1980	1990	2000	2003
Not Adjusted for Inflation	\$6,782	\$13,117	\$20,340	\$29,437	\$31,717
Adjusted for Inflation to 2004 dollars*	\$33,022	\$30,064	\$29,391	\$32,292	\$32,573

Note: * The dollar figure was adjusted using the Consumer Price Index (CPI) published by the U.S. Department of Labor, Bureau of Labor Statistics
 Source: Regional Economic Information System (REIS)

The Region's average wage trend has closely followed the State's trend, although the Region's average wage has consistently been below the State's.

In comparison to the U.S., unlike the steady wage increase that the U.S. experienced, the Region experienced a wage decline between 1980 and 1990. Further, the Region did not experience the significant wage increase that the nation as a whole experienced between 1995 and 2000. As a result, the average wage differences between the Region and the U.S. has widened since 1970. The Region's average was about \$700 less than the national average in 1970, but the 2003 figures indicated that the wage difference was over \$5,500.



Within the eight county Region, Warren County had the greatest percent change in average wage (17.4%) between 1970 and 2003, followed by Preble (16.2%) and Darke (4.1%) Counties. In contrast, Montgomery, Greene, Butler, Miami, and Clark Counties showed a negative average wage percentage change.

In 2003, Montgomery County had the highest average wage (\$37,468), followed by Greene County (\$37,062) and Warren County (\$33,565). It is interesting to note that Greene County had the second highest 2003 Average Wage (\$37,062) in the Region but the highest percentage change decrease (-11.9%) between 1970 and 2003.

The 2003 average wage of all counties in the Region were below the national average (\$38,133). However, both Montgomery and Greene Counties were above the State's 2003 average (\$35,420).

BUSINESS

The study examined two indicators pertaining to business, Business Establishments and New Business Starts. Business Establishments was examined by the number and composition of establishments, and New Business Starts was examined using the start rate. Both indicators were analyzed in terms of change over time and in relation to the State of Ohio and the U.S. Also, the indicators were examined at the county level to facilitate the assessment of individual counties.

BUSINESS ESTABLISHMENTS

Business Establishments: 1980 - 2003

	1980	1990	2000	2003	% Change: 1980 - 2003
Region	23,338	29,927	32,313	32,732	40.3%
Ohio	198,586	248,694	270,509	270,255	36.1%
US	4,543,000	6,175,563	7,070,048	7,254,745	59.7%

Source: County Business Patterns

The Region experienced a steady increase in the number of business establishments between 1980 and 2003. As presented in the table to the left, the number of establishments between 1980 and 2003 increased by 40.3% in the Region. Also, the Region outpaced the State (36.1%), but not the Nation (59.7%), in percentage change in business establishments.

The number and share of businesses by sector within the Region for 1998 and 2003 are summarized in the table to the right.

The data revealed that service-based industries comprised a large portion of the Region's business environment. In 2003, nearly 35% of the Region's businesses were service-base businesses: 9.4% of Region's businesses were engaged in professional, scientific, and technical services; 4.7% in administrative, support, waste management, and remediation services; 8.5% in the accommodation and food services; and 11.5% in other services.

Comparing the business composition between 1998 and 2003 revealed no major differences. In both years, service-based industries led the Region's business composition, followed by retail, construction, and manufacturing businesses. A minor increase in business percentage share was observed for finance and insurance (0.6%) and professional, scientific, and technical services businesses (0.7%). A decrease in percentage share was observed for construction (-0.6%) and retail trade (-0.6%) sectors.

Number of Business Establishments by Industry

Business Sector ¹	1998		2003	
	Total	Share	Total	Share
Forestry, Fishing, Hunting, and Agriculture Support	33	0.1%	36	0.1%
Mining	40	0.1%	43	0.1%
Utilities	31	0.1%	37	0.1%
Construction	3,386	10.5%	3,254	9.9%
Manufacturing	2,337	7.2%	2,252	6.9%
Wholesale Trade	1,950	6.0%	1,833	5.6%
Retail Trade	5,102	15.8%	4,981	15.2%
Transportation & Warehousing	771	2.4%	857	2.6%
Information	376	1.2%	505	1.5%
Finance & Insurance	1,911	5.9%	2,135	6.5%
Real estate & Rental & Leasing	1,173	3.6%	1,298	4.0%
Professional, Scientific & Technical Services	2,829	8.7%	3,067	9.4%
Management of Companies & Enterprises	239	0.7%	265	0.8%
Admin, Support, Waste Mgt, Remediation Services	1,632	5.0%	1,542	4.7%
Educational Services	287	0.9%	336	1.0%
Health Care and Social Assistance	3,008	9.3%	3,199	9.8%
Arts, Entertainment & Recreation	287	0.9%	469	1.4%
Accommodation & Food Services	2,675	8.3%	2,787	8.5%
Other Services (Except Public Administration)	3,840	11.9%	3,750	11.5%
Auxiliaries (Except Corporate, Subsidiary & Regional Management)	80	0.2%	NA	NA
Unclassified Establishments	170	0.5%	69	0.2%
TOTAL²	32,346	100.0%	32,732	100.0%

Note: ¹ The Business Sector classification is based on NAICS industry categories

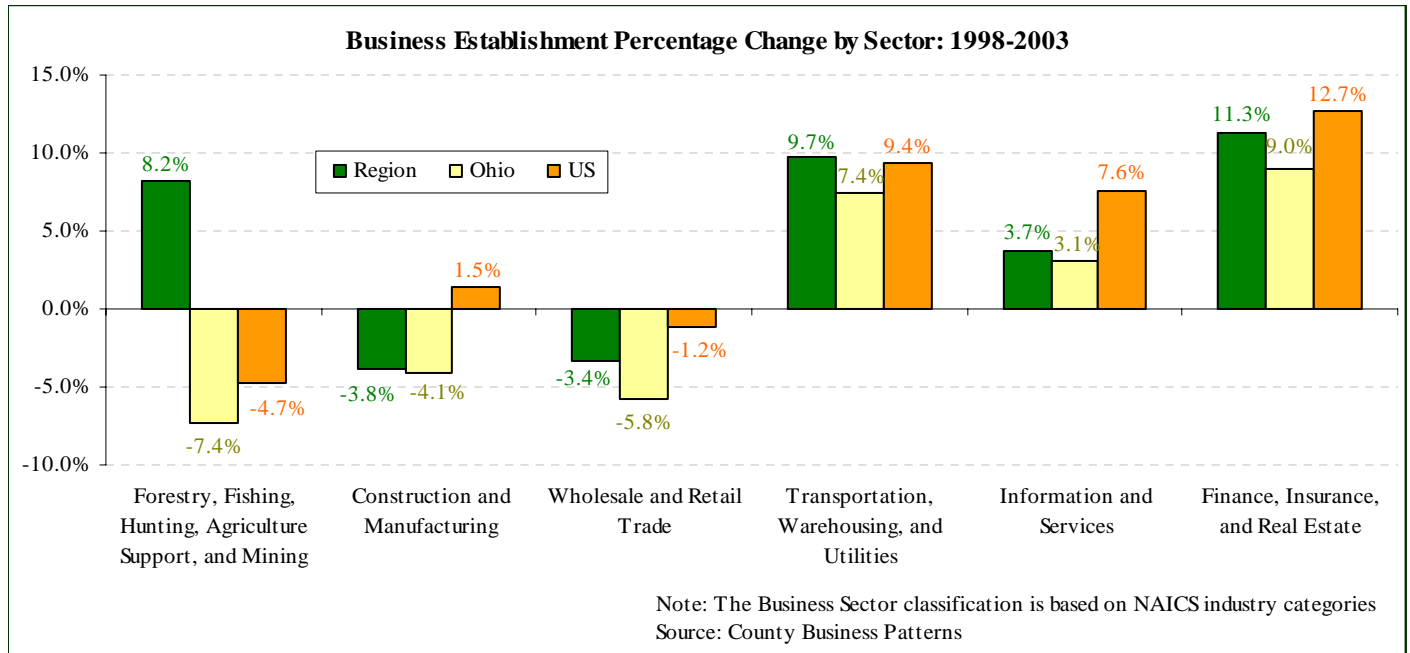
² The Total may not equal to 100% due to rounding

Source: County Business Patterns

The chart on the next page illustrates the percentage change in the number of business establishments in the Region, the State of Ohio and the U.S. between 1998 and 2003. Notably, the Region's growth in the transportation, warehousing, and utilities sectors (11.5%) was higher than that of both the State (7.4%) and the Nation (9.4%). Also, the data indicated that the Region had higher growth than the State in information and services-related businesses (3.7%) and in finance, insurance, and real estate businesses (11.3%), but lower than the national rate.



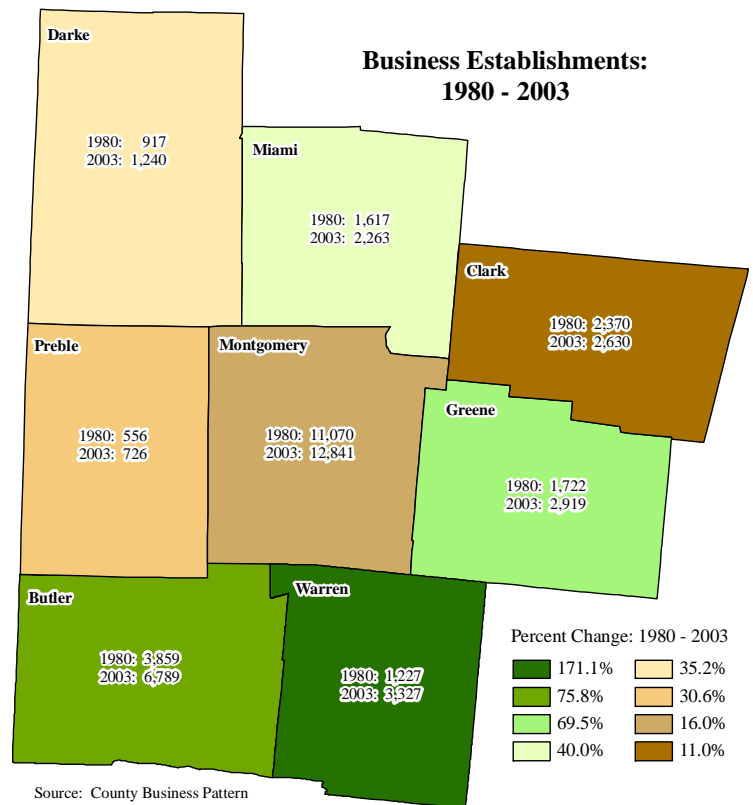
Another significant trend was observed in the Construction and Manufacturing establishments in the Region. While the U.S. gained 1.5% in Construction and Manufacturing establishments, the Region lost 3.8%.



The business establishments data at the county level revealed that, between 1980 and 2003, Warren County had the largest gain (171.1%) in the number of business establishments in the Region. Butler County came in second (75.8%), followed by Greene (69.5%) and Miami (40.0%) counties. Clark County was found to have the smallest gain (11.0%) with 2,370 business establishments in 1980 and 2,630 in 2003.

Although there was only a 16.0% increase between 1980 and 2003, Montgomery County was identified as having 12,841 businesses, almost twice the number of Butler County, which was identified as having the second largest number (6,789) in the Region.

Warren, Butler, Greene, and Miami Counties showed a business growth percentage greater than the State (36.1%). However, only Warren, Butler and Greene Counties, had a higher growth rate when compared to the national figure of 59.7%.



BUSINESS STARTS

Business Start: 1980 - 2000

	1980	1990	2000	2003
Number of Business Starts	2,110	2,809	3,041	4,182
Number of Active Business	NA	23,573	25,495	27,815
Business Start Rate per 1000 Active Businesses	NA	119.2	119.3	150.4

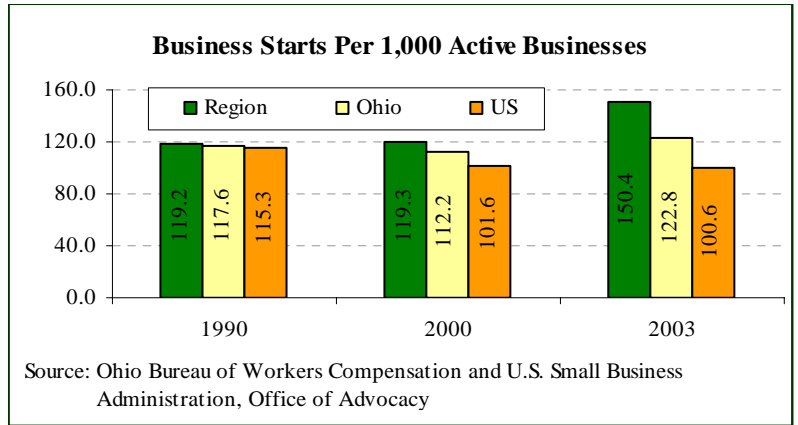
Source: Ohio Bureau of Workers' Compensation

Over the period from 1980 through 2003, the number of business starts steadily increased in the Region. The business start rate was calculated using the total number of business starts, divided by the total number of active businesses. As presented in the table to the left, the Region's business start rate increased from 119.2 in 1990 to 150.4 in 2003.



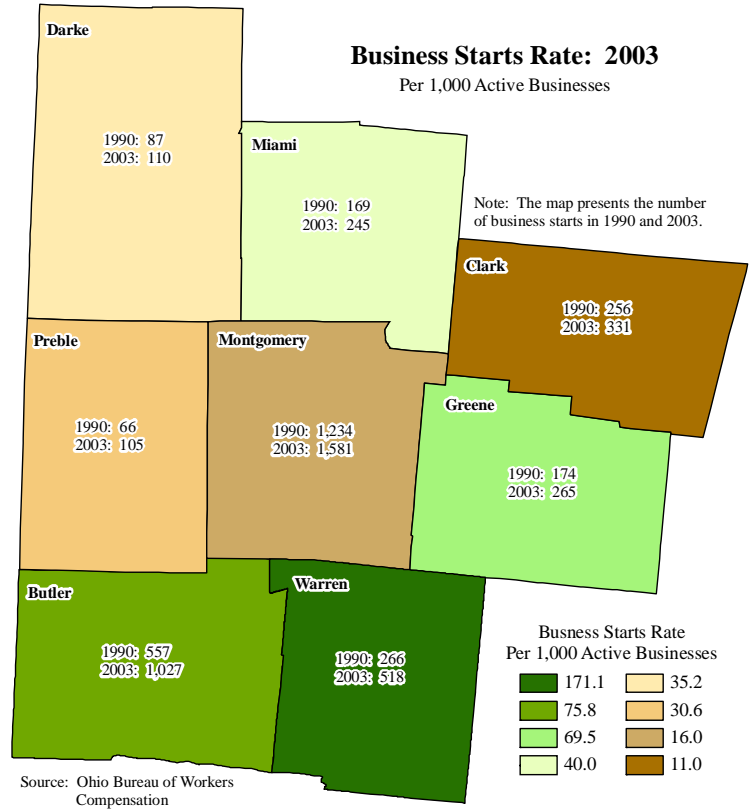
The chart to the right presents business start rates over time for the Region, the State and Nation.

The Region's rate of business starts was higher than both the State and Nation in 1990, 2000 and 2003. In contrast to national and state trends, the Regional rate remained constant and then dramatically increased in 2003, whereas both of the other two rates declined.



Montgomery County had the greatest number of business starts (1,581) in 2003, and Butler County came in second with 1,027 starts. However, Warren County was identified as having a higher start rate (171.1) than the rest of the Counties. It is interesting to note that Montgomery County had the second lowest rate in business starts (16.0), but had the greatest number of starts in both 1990 and 2003.

With the exception of Warren County, all Counties in the Region were identified as having a lower 2003 business start rate than the State of Ohio (122.8) and the U.S. (100.6).



LABOR FORCE

The study examined the Region's Labor Force using three indicators: Employment by Industry; Employment by Occupation; and Employment Participation. The indicators were reviewed in terms of change over time and in relation to the State of Ohio and the U.S. Also, the indicators were examined at the county level to facilitate the assessment of individual counties.

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EMPLOYMENT BY INDUSTRY

The Employment by Industry indicator is based on the number of jobs, not by the number of workers. The number of workers is presented later in the Employment by Occupation section. The table below sums the employment figures for all industry types and shows the percent change between the 1970 and 2003 data.

	1970	1980	1990	2000	2003	% Change 1970 - 2003
Region	573,287	635,935	743,752	864,358	849,173	48.1%
Ohio	4,682,839	5,215,321	5,904,767	6,835,688	6,674,406	42.5%
US	91,281,600	114,231,200	139,380,900	166,758,800	167,174,400	83.1%

Source: Regional Economic Information System (REIS)

The Region experienced a steady growth in the number of jobs from 1970 to 2000. However, employment figures declined between 2000 and 2003 by 15,185 jobs. The percent change in the number of jobs for the Region (48.1%) surpassed the State (42.5%), but not the national figure (83.1%).



Employment by Industry: 1970 - 2000

Between 1970 and 2000, manufacturing went from being the largest employer in the Region in 1970 to the 3rd largest in 2000. In 1970, manufacturing jobs had the largest share (31.7%) of the total jobs available in the Region. However, 2000 figures showed that manufacturing jobs had greatly slipped in job share (16.6%) and were surpassed by services (29.4%) and retail (17.9%) industry types. In 2000, the service industry was identified as having 29.4% of the jobs in the Region, and has grown by 162,336 jobs since 1970.

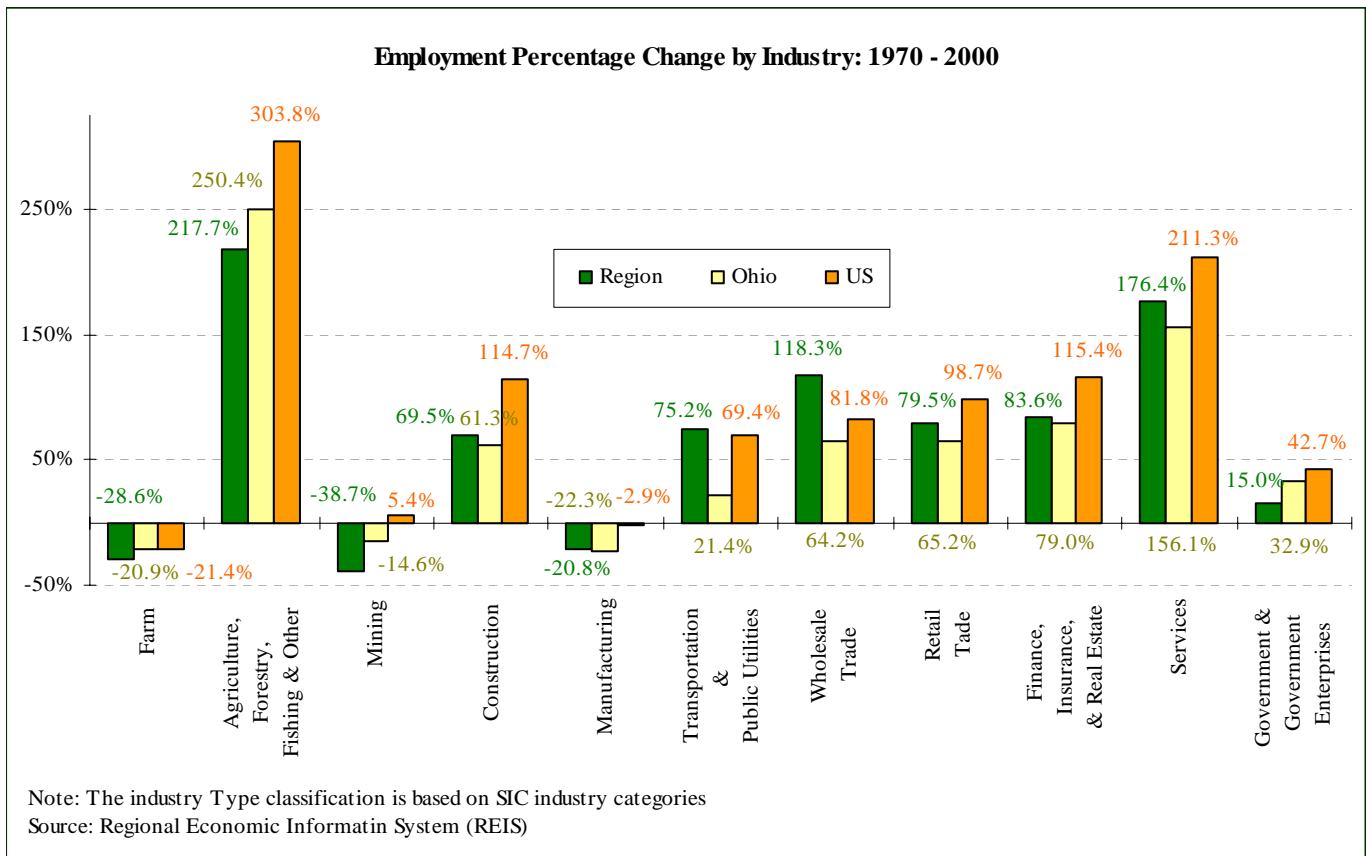
Industry Type ¹	1970		2000	
	Total	Share	Total	Share
Farm	15,735	2.7%	11,234	1.3%
Agricultural, Forestry, Fishing and Other	2,026	0.4%	6,436	0.7%
Mining	1,082	0.2%	663	0.1%
Construction	26,122	4.6%	44,270	5.1%
Manufacturing	181,550	31.7%	143,829	16.6%
Transportation and Public Utilities	20,705	3.6%	36,282	4.2%
Wholesale Trade	18,746	3.3%	40,924	4.7%
Retail Trade	86,435	15.1%	155,122	17.9%
Finance, Insurance, and Real Estate	31,132	5.4%	57,149	6.6%
Services	92,051	16.1%	254,387	29.4%
Government and Government Enterprises	97,703	17.0%	112,318	13.0%
TOTAL²	573,287	100.0%	864,358	100%

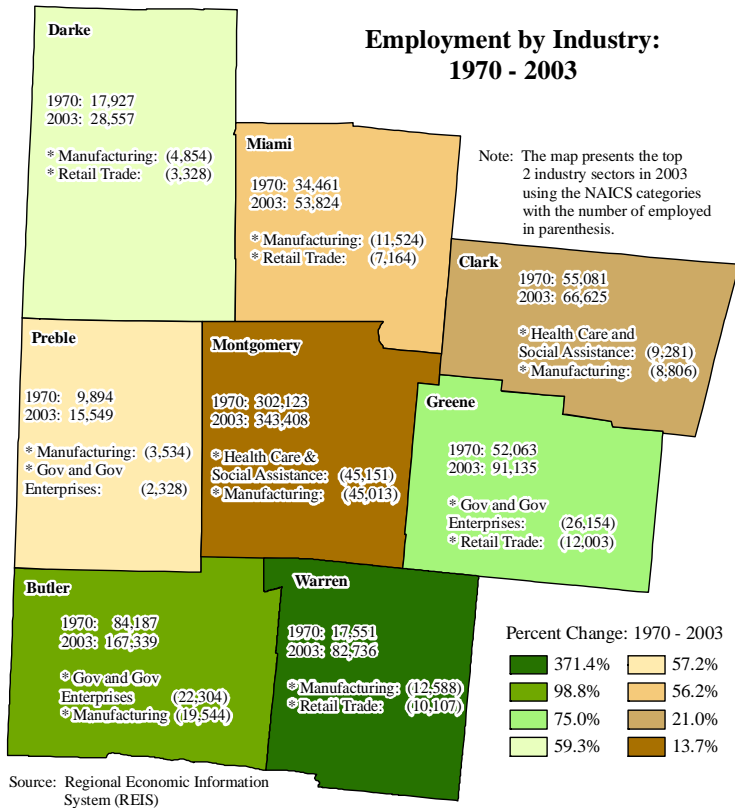
Note: ¹ The Industry Type classification is based on SIC industry categories

² The Total may not equal to 100% due to rounding

Source: Regional Economic Information System (REIS)

The chart below illustrates the percentage change in number of jobs, per industry sector, between 1970 and 2000 for the Region, the State of Ohio, and the U.S. As illustrated in the chart, the Region has exceeded the State job growth rate for six of the eleven industry categories: Construction; Transportation and Public Utilities; Wholesale Trade; Retail Trade; Finance, Insurance, and Real Estate; and Services. The most substantial was the Region's increase in Wholesale Trade (118.3%), which greatly exceeded the State (64.2%) and Nation (81.8%).





The map showing Employment by Industry at the county level illustrates the dramatic pace of economic progress that is occurring in Warren County. The job increase in Warren County between 1970 and 2003 was a phenomenal 371.4%. Butler County also showed an impressive increase with 98.8%.

Reviewing the top two industry sectors pertaining to the number of jobs in 2003 revealed that manufacturing jobs were the predominant sector within the Region. The manufacturing sector was identified to be one of the top two employment sectors for every county within the Region, with the exception of Greene County. Greene County's largest job industry was in government (26,154), due to the presence of WPAFB. In addition, the health care and social assistance-related industry was the top employment industry sector in both Montgomery and Clark Counties, with 45,151 and 9,281 jobs respectively.

When the Region's employment growth was compared to the State and the U.S., all Counties except Montgomery and Clark had higher growth than the State (42.5%). However, only Warren and Butler counties had a higher growth rate than the national average (83.1%).

EMPLOYMENT BY OCCUPATION

In addition to the review of Employment by Industry, the study also examined the Employment by Occupation. Unlike Employment by Industry, Employment by Occupation is person-based and portrays the number of workers. If one person holds two jobs, the person is only counted once in Employment by Occupation, while the person is counted twice in Employment by Industry.

The number of workers employed within all occupations in the Region increased over 40% between 1970 and 2000. This increase was higher than the State (32.9%), but lower than the Nation (69.5%).

Employment: 1970 - 2000 (All Occupations)

	1970	1980	1990	2000	% Change 1970 - 2003
Region	524,491	581,437	673,928	739,374	41.0%
Ohio	4,063,780	4,558,442	4,931,357	5,402,175	32.9%
US	76,553,161	97,639,355	115,681,202	129,721,512	69.5%

Source: U.S. Bureau of Census

Employment by Occupation: 1970 - 2000

Occupation Type ¹	1970		2000	
	Total	Share	Total	Share
Management, Professional, and Related	95,428	18.2%	243,319	32.9%
Service	60,216	11.5%	102,265	13.8%
Sales and Office	143,532	27.4%	194,777	26.3%
Farming, Fishing, and Forestry	8,226	1.6%	2,008	0.3%
Construction, Extraction, and Maintenance	81,037	15.5%	62,753	8.5%
Production, Transportation, and Material Moving	136,052	25.9%	134,252	18.2%
TOTAL²	524,491	100%	739,374	100.0%

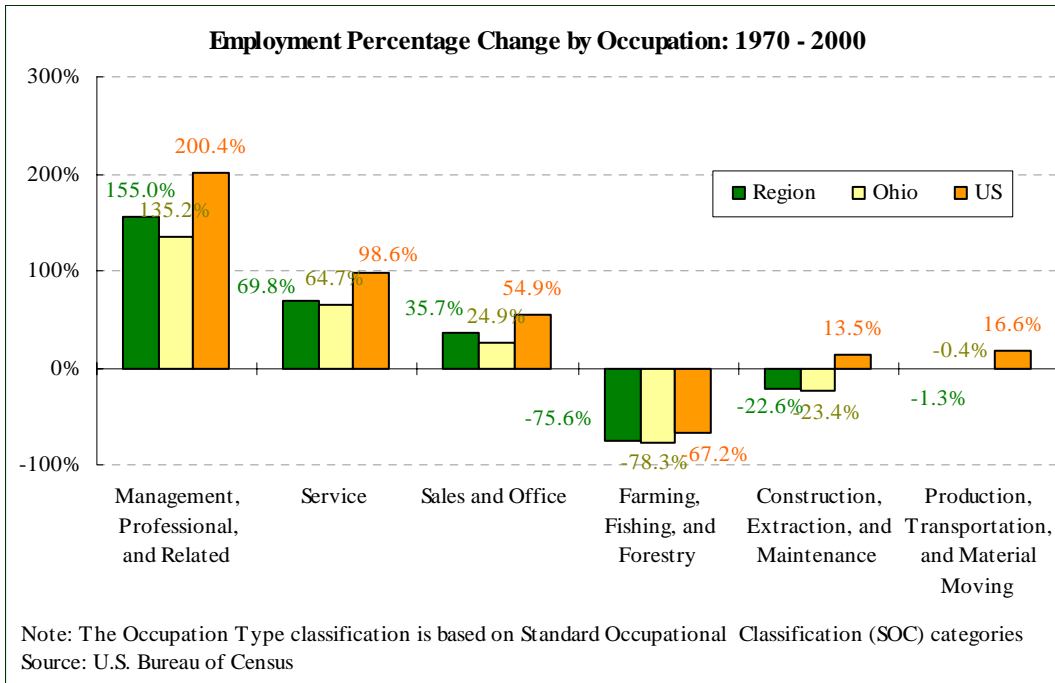
Note: ¹ The Occupation Type classification is based on Standard Occupational Classification (SOC) categories

² The Total may not equal to 100% due to rounding

Source: U.S. Bureau of Census

Examination of the distribution of Employment by Occupation between 1970 and 2000 revealed that the share of management and professional-related occupation increased from 18.2% to 32.9%. Also the service-related occupations' share grew from 11.5% in 1970 to 13.8% in 2000. The remaining occupation types experienced a decline in the total regional employment share between 1970 and 2000.





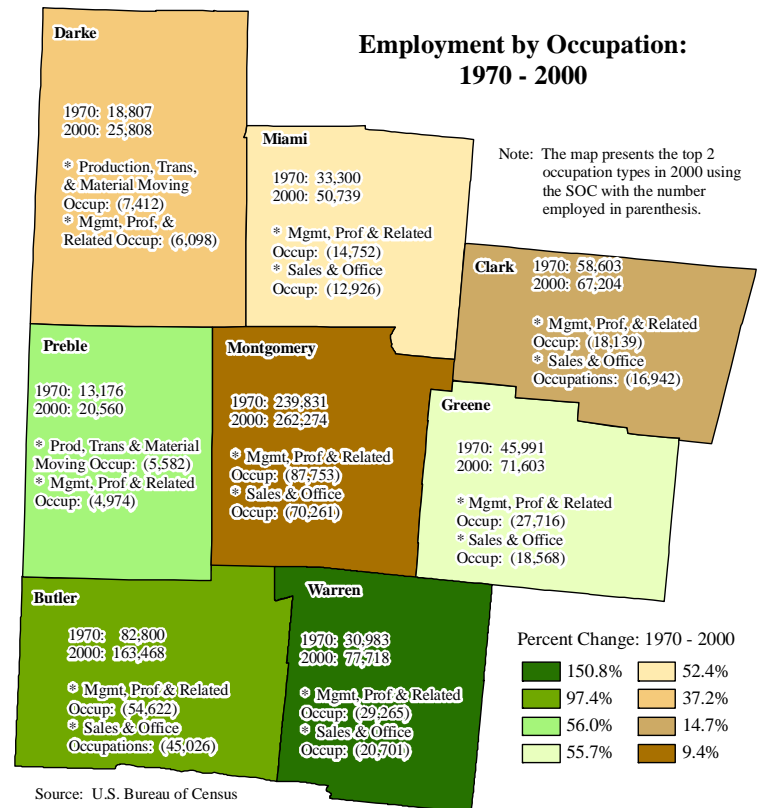
When the Region's change in employment by occupations over the 30 years was compared to the State of Ohio and the U.S., similar trends were observed: management, professional-related occupations; service occupations; and sales and office-related occupations have grown. All three occupational categories had a higher percent of growth than the State of Ohio, but a lower percent of growth than the Nation.

The map showing employment by occupation and the top two occupations in each county is presented to the right.

Warren County experienced the highest growth (150.8%) over the last 30 years, followed by Butler (97.4%) and Preble (56.0%) counties. However, there was only a 9.4% increase in Montgomery County and a 14.7% in Clark County.

Reviewing the top two occupations in the Region revealed that management, professional & related occupations was identified as the dominant category. All counties with the exception of Preble showed it as their leading category in 2000.

All counties except the two most urban counties in the Region (Montgomery and Clark counties) outpaced the State of Ohio growth rate (32.9%). However, the growth was not at the level of the national rate (62.6%), except for Warren and Butler counties.



EMPLOYMENT PARTICIPATION

Employment Participation: 1970 - 2004

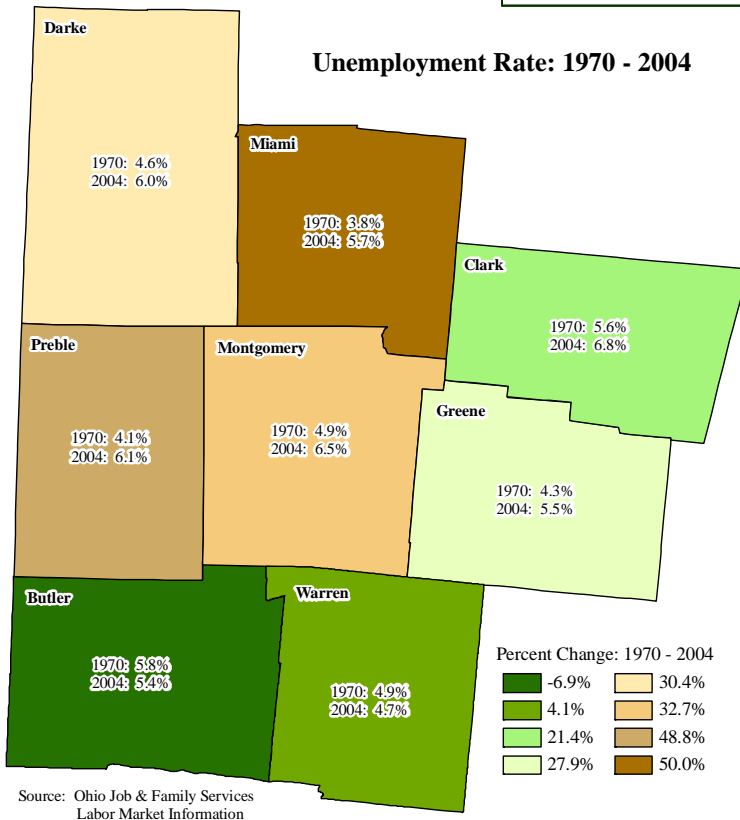
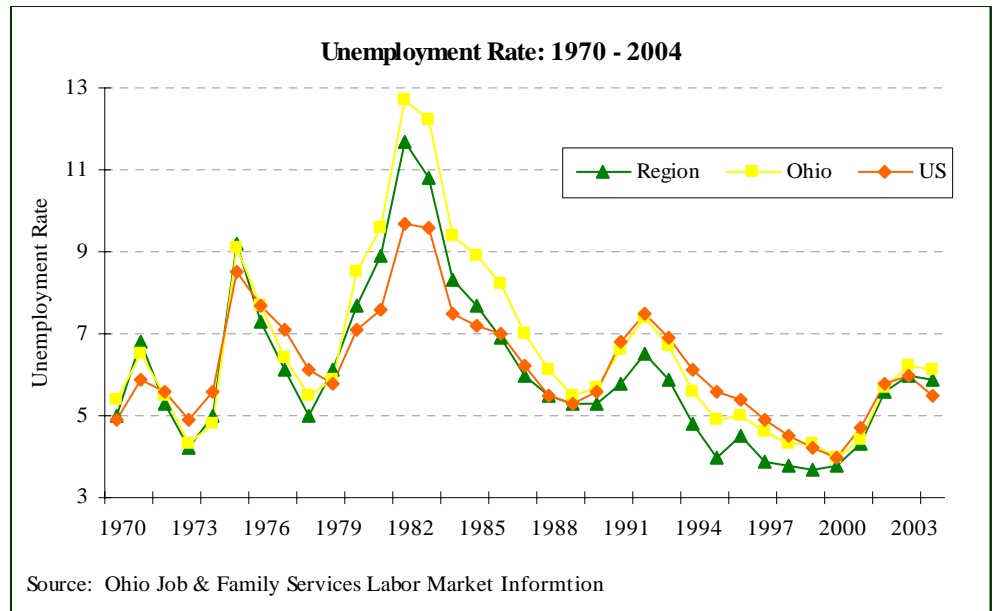
	1970	1980	1990	2000	2004
Civilian Labor Force	562,100	649,000	731,100	785,500	805,900
- Unemployment	27,900	49,700	39,000	29,800	47,500
Unemployment Rate	5.0	7.7	5.3	3.8	5.9

Source: Ohio Job & Family Services Labor Market Information

Although the labor force in the Region continued to increase, both the Region's number of unemployed and the unemployment rate fluctuated between 1970 and 2004.



The Region's unemployment rate, when compared to the State of Ohio and the U.S., revealed a similarity in the pattern of growth and decline. There was a high rate of unemployment during the late 1970's and into the mid 1980's. However, the Region's unemployment rate stayed below the State's throughout most of the period.



The County level unemployment rates in 2004 showed Warren County with the lowest unemployment rate of 4.7% and Clark County with the highest rate of 6.8%. However, the unemployment rate change between 1970 and 2004 was the biggest in Miami County, with a 50% change from 3.8% to 5.7%.

Within the Region, all Counties with the exception of Clark and Montgomery were equal to or below the national rate of 6.1% in 2004. In addition, Warren, Greene and Butler were the only Counties that had an unemployment rate below the State of Ohio (5.5%).

ECONOMIC BASE ANALYSIS

The study conducted two separate analyses to assess the Region's economic base – Location Quotient Analysis and Shift-Share Analysis, using the 1970 and 2000 employment data. The analyses were conducted in comparison to two (2) reference areas – the State of Ohio and the U.S. Below is a detail description of each analysis.

LOCATION QUOTIENT ANALYSIS

The Location Quotient (LQ) Analysis measures the relative concentration of each industry sector in the Regional economy and identifies sectors that are “Basic” and “Non-Basic” in the Region.

A “Basic” sector is an industry sector that produces and distributes goods and services for export outside the Region, while a “Non-Basic” sector is an industry sector whose goods and services are mainly consumed within the Region.

The LQ is the ratio of an industry’s share of the local economy divided by its share in a larger economy.

- LQ Greater than 1 – The employment in that industry sector is more concentrated than the reference area and that industry is likely to be a “Basic” sector, exporting its products or services outside the Region
- LQ Less than or Equal to 1 – The employment in that industry sector is less concentrated than the reference area and that the industry is likely to be a “Non-Basic” sector, serving only Regional demand. The products or services in this sector may have to be imported into the regional economy to meet demand.

SHIFT SHARE ANALYSIS

The Shift-Share Analysis measures the relative changes that have taken place over time and reveals how strong or weak each industry sector is in the Region. Regional economic growth or decline can be due to different factors. The Shift-Share Analysis separates Regional growth/decline during a time period into three components: Reference Area Growth, Industry Mix, and Regional Shift components. Therefore, the Total Employment Change = Reference Area Growth Effect + Industry Mix Effect + Regional Shift Effect.

- Reference Area (State/U.S.) Growth: The growth or decline in regional employment that could be attributed to the overall growth/decline of the reference area.
- Industry Mix: The additional gain (or loss) in regional employment that could be attributed to the specific industry sector growing faster (or slower) than the rate of all industries combined in the reference area.
- Regional Shift: The additional gain (or loss) in regional employment for a specific industry beyond the Reference Area Growth and Industry Mix effects resulting from the industry growing faster (or slower) in the Region.

REGIONAL ECONOMY IN COMPARISON TO THE STATE OF OHIO

The Study first examined the Region’s economic base in relation to the State of Ohio using Location Quotient (LQ) Analysis and Shift-Share Analysis between 1970 and 2000.

The table illustrates the results of the LQ analysis. In 1970, the Region had a higher employment concentration in both manufacturing (with a LQ of 1.04) and government-related industries (with a LQ of 1.29) than the State. The 2000 data also

indicated that the Region was still more concentrated in those two industries than the State of Ohio (manufacturing with a LQ of 1.03 and government with a LQ of 1.08). It is important to note that, over the 30 year period, the regional economy also became more concentrated in the retail trade industry compared to the State (with a LQ of 1.02).

Industry Concentration: 1970 and 2000 (Region vs. Ohio)

Industry Type ¹	1970			2000		
	Employment Share		Location Quotient ²	Employment Share		Location Quotient ²
	Region	Ohio		Region	Ohio	
Farm	2.74%	2.75%	1.00	1.30%	1.49%	0.87
Agricultural, Forestry, Fishing and Other	0.35%	0.37%	0.96	0.74%	0.88%	0.84
Mining	0.19%	0.53%	0.36	0.08%	0.31%	0.25
Construction	4.56%	4.72%	0.97	5.12%	5.22%	0.98
Manufacturing	31.67%	30.36%	1.04	16.64%	16.15%	1.03
Transportation and Public Utilities	3.61%	5.30%	0.68	4.20%	4.40%	0.95
Wholesale Trade	3.27%	4.24%	0.77	4.73%	4.76%	0.99
Retail Trade	15.08%	15.57%	0.97	17.95%	17.62%	1.02
Finance, Insurance, and Real Estate	5.43%	5.98%	0.91	6.61%	7.33%	0.90
Services	16.06%	16.98%	0.95	29.43%	29.79%	0.99
Government and Government Enterprises	17.04%	13.22%	1.29	12.99%	12.04%	1.08

Note: ¹ Industry type classification is based on SIC industry categories

² The Location Quotient was rounded up to two decimal places

Source: MVRPC



Overall, the Shift-Share analysis indicated that the regional economy has been increasing its share of the State economy, as most of the industry sectors revealed positive Regional Shift Effect results.

Industry Growth/Decline: 1970 - 2000 (Region vs. Ohio)

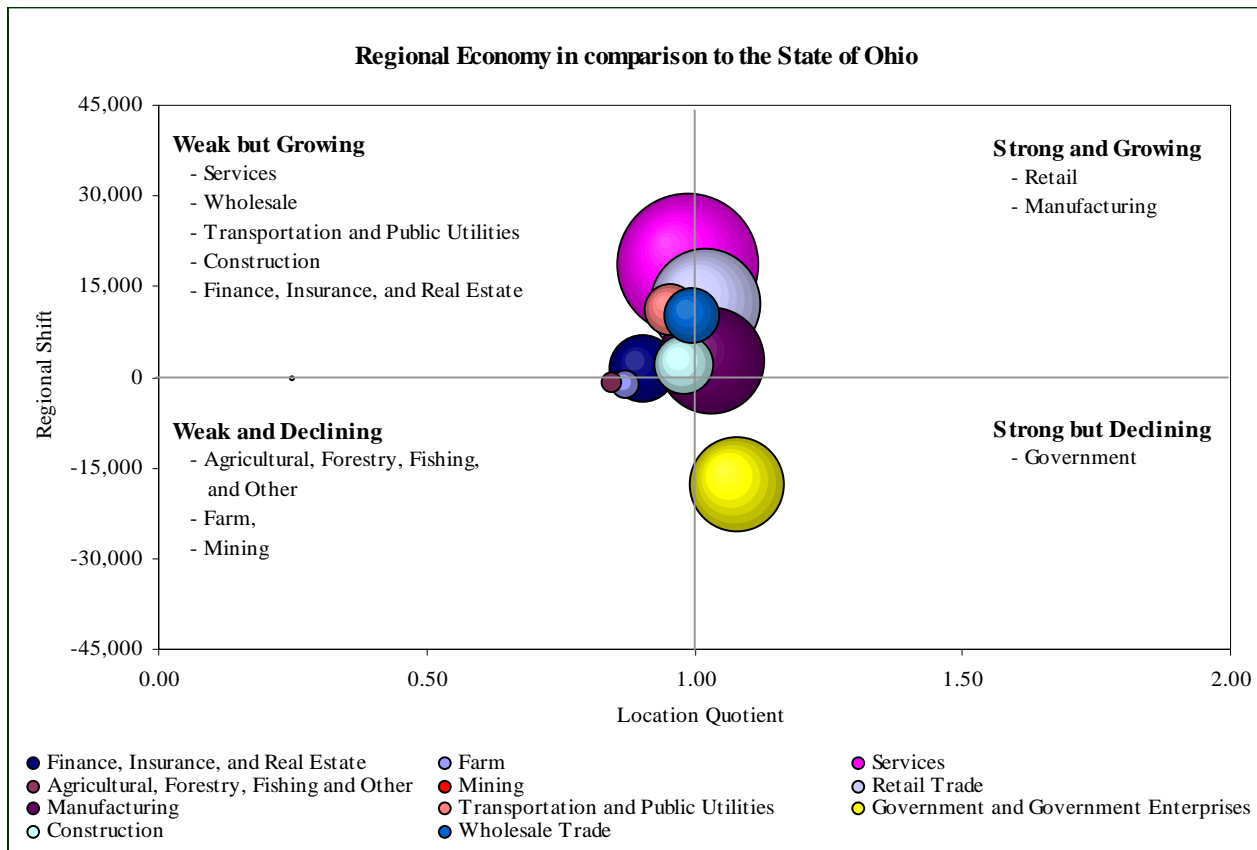
Industry Type ¹	Employment		Employment Change: 1970 - 2000		State Growth Effect	Industry Mix Effect	Regional Shift Effect
	1970	2000	Net	% Change			
Farm	15,735	11,234	-4,501	-28.6%	7,238	-10,533	-1,206
Agricultural, Forestry, Fishing and Other	2,026	6,436	4,410	217.7%	932	4,142	-664
Mining	1,082	663	-419	-38.7%	498	-656	-261
Construction	26,122	44,270	18,148	69.5%	12,016	4,001	2,131
Manufacturing	181,550	143,829	-37,721	-20.8%	83,513	-124,063	2,829
Transportation and	20,705	36,282	15,577	75.2%	9,524	-5,088	11,141
Wholesale Trade	18,746	40,924	22,178	118.3%	8,623	3,410	10,145
Retail Trade	86,435	155,122	68,687	79.5%	39,760	16,633	12,294
Finance, Insurance, and Real Estate	31,132	57,149	26,017	83.6%	14,321	10,270	1,427
Services	92,051	254,387	162,336	176.4%	42,343	101,354	18,638
Government and Government Enterprises	97,703	112,318	14,615	15.0%	44,943	-12,752	-17,577
TOTAL	573,287	864,358	291,071	50.8%	263,712	-13,282	40,641

Note: ¹ Industry type classification is based on the SIC industry categories
 Source: MVRPC

Between 1970 and 2000, agricultural, forestry, fishing and other related industries had the highest percentage growth over the last 30 years (217.7%), followed by the services (176.4%) and wholesale (118.3%) related industries. However, the analysis revealed that the employment growth in the agricultural-related industries was due to statewide and industry specific growth trends rather than better regional performance.

The manufacturing industries in the Region showed a positive performance, with the Regional Shift Effect of 2,829. Although there has been a negative growth (-20.8%) in the manufacturing industries in the Region, the employment loss was identified as being primarily due to the declining trend of the manufacturing sector in Ohio, not the poor performance in the Region. The government sector employment in the Region increase 15.0% over 30 years. However, the government sector in the Region grew slower than the State, resulting in an employment shortfall of 17,577 over the 30 years.

The chart below summarizes the assessment of the regional economy in comparison the State of Ohio. The size of the bubble reflects the total employment, the horizontal axis represents the Location Quotient, and the vertical axis represents the Regional Shift of the industry.



As illustrated in the chart on the previous page, the regional economy assessment as compared to the State of Ohio showed that the retail and manufacturing sectors in the Region were stronger and growing than the State's economic base. The government sector, however, was identified as stronger than the State but declining.

REGIONAL ECONOMY IN COMPARISON TO THE U.S.

Using the same two methods (Location Quotient Analysis and Shift-Share Analysis), the regional economy was evaluated in comparison to the national economy between 1970 and 2000.

In both 1970 and 2000, the manufacturing industry served as a Basic Sector in the regional economy, with higher employment concentration (with a LQ of 1.47 and 1.45 respectively) than the Nation. In addition, unlike 1970, the wholesale and retail trade industries became

Industry Concentration: 1970 and 2000 (Region vs. U.S.)

Industry Type ¹	1970			2000		
	Employment Share		Location Quotient ²	Employment Share		Location Quotient ²
	Region	US		Region	US	
Farm	2.74%	4.34%	0.63	1.30%	1.87%	0.70
Agricultural, Forestry, Fishing and Other	0.35%	0.58%	0.61	0.74%	1.27%	0.59
Mining	0.19%	0.81%	0.23	0.08%	0.47%	0.16
Construction	4.56%	4.82%	0.95	5.12%	5.66%	0.90
Manufacturing	31.67%	21.57%	1.47	16.64%	11.46%	1.45
Transportation and Public Utilities	3.61%	5.33%	0.68	4.20%	4.94%	0.85
Wholesale Trade	3.27%	4.57%	0.72	4.73%	4.55%	1.04
Retail Trade	15.08%	15.01%	1.00	17.95%	16.32%	1.10
Finance, Insurance, and Real Estate	5.43%	6.71%	0.81	6.61%	7.91%	0.84
Services	16.06%	18.65%	0.86	29.43%	31.78%	0.93
Government and Government Enterprises	17.04%	17.62%	0.97	12.99%	13.76%	0.94

Note: ¹ Industry type classification is based on SIC industry categories

² The Location Quotient was rounded up to two decimal places

Source: MVRPC

and retail trade industries became more concentrated in the Region in 2000. The regional 2000 employment data, when compared to the U.S., revealed that the Region had a higher concentration of both wholesale (with a LQ of 1.04) and retail (with a LQ of 1.10) industries. Also, the regional economy experienced growth in transportation and public utilities-related industries over the 30 year period, sharing a larger portion of the employment in 2000 than in 1970, when compared to the national economy.

The Shift-Share analysis of the Region in comparison to the U.S. revealed quite a different picture of where the Region's economy stands than did the above comparison to the State of Ohio. The Shift-Share analysis showed that the Region has experienced a decreasing share of national employment in most of the industry sectors, resulting in a negative Regional Shift Effect, except in transportation and public utilities and wholesale trade industries.

Nationally, the manufacturing industry experienced a decline over the last 30 years. However, the rate of decline in the Region was greater than the U.S., resulting in an employment loss of 32,441 in the Region. The service industry grew 176.4% between 1970 and 2000. However, the service industry in the Region grew slower than the national rate, resulting in an employment shortfall of 32,178 in the Region.

Industry Growth/Decline: 1970 - 2000 (Region vs. U.S.)

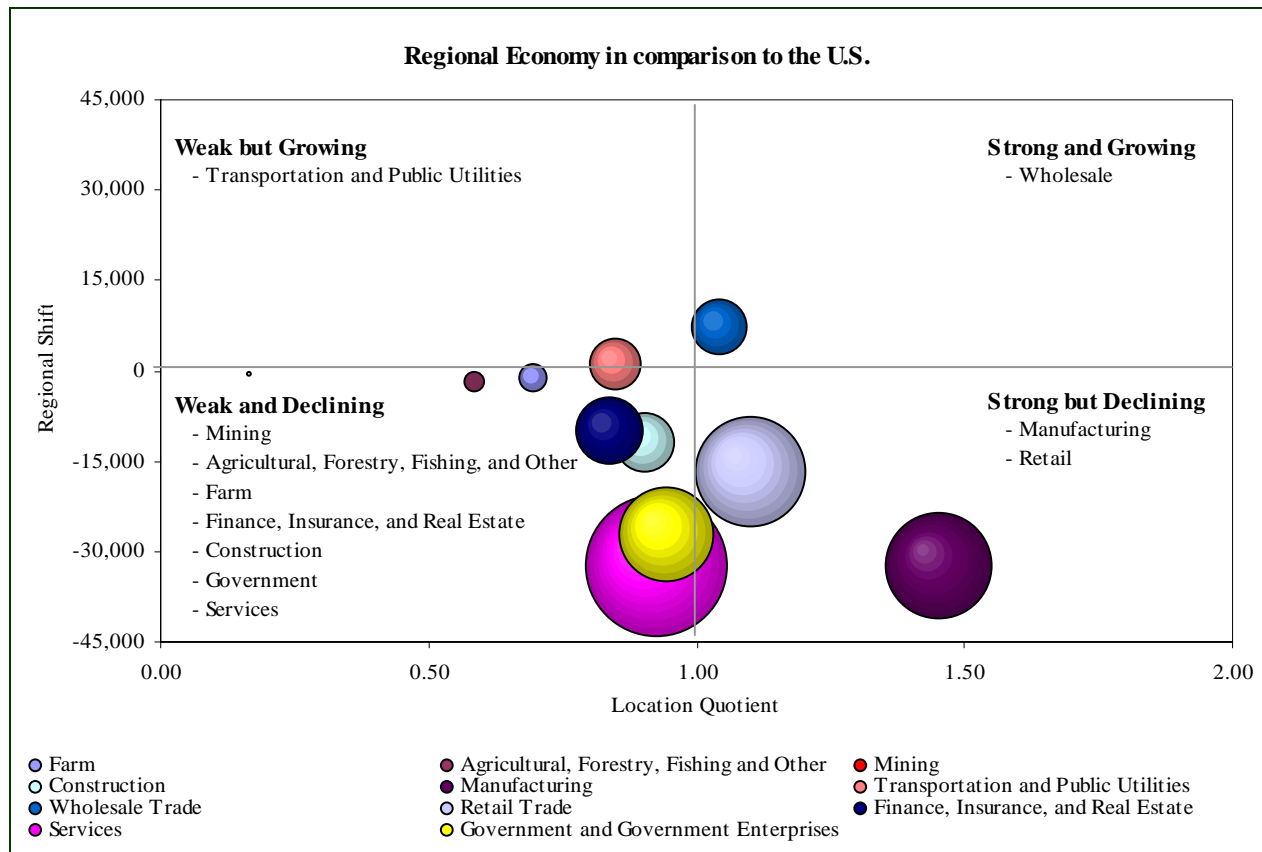
Industry Type ¹	Employment		Employment Change: 1970 - 2000		U.S. Growth Effect	Industry Mix Effect	Regional Shift Effect
	1970	2000	Net	% Change			
Farm	15,735	11,234	-4,501	-28.6%	13,013	-16,382	-1,132
Agricultural, Forestry, Fishing and Other	2,026	6,436	4,410	217.7%	1,676	4,479	-1,745
Mining	1,082	663	-419	-38.7%	895	-836	-478
Construction	26,122	44,270	18,148	69.5%	21,603	8,371	-11,826
Manufacturing	181,550	143,829	-37,721	-20.8%	150,142	-155,422	-32,441
Transportation and	20,705	36,282	15,577	75.2%	17,123	-2,744	1,198
Wholesale Trade	18,746	40,924	22,178	118.3%	15,503	-177	6,852
Retail Trade	86,435	155,122	68,687	79.5%	71,482	13,847	-16,642
Finance, Insurance, and Real Estate	31,132	57,149	26,017	83.6%	25,746	10,179	-9,908
Services	92,051	254,387	162,336	176.4%	76,126	118,388	-32,178
Government and Government Enterprises	97,703	112,318	14,615	15.0%	80,800	-39,103	-27,082
TOTAL	573,287	864,358	291,071	50.8%	474,108	-59,400	-123,638

Note: ¹ Industry type classification is based on SIC industry classification

Source: MVRPC



The chart below summarizes the assessment of the regional economy in comparison the U.S. Again, the size of the bubble reflects the total employment, the horizontal axis represents the Location Quotient, and the vertical axis represents the Regional Shift of the industry.



The analysis of the Region’s economic base, when compared to the U.S., revealed negative trends in a significant number of employment sectors. Many of the industry sectors in the Region were identified as weaker and declining as compared to the national economic base. Only the wholesale sector was identified as strong and growing. Also, although the Region is strong in both manufacturing and retail sectors, the analysis indicated that these industry sectors are declining as well.

FOR MORE INFORMATION

Please visit www.mvrpc.org for a copy of this report. Questions or comments should be directed to Martin Kim at mkim@mvrpc.org.

Miami Valley Regional Planning Commission (MVRPC) is a voluntary association of governmental and non-governmental organizations serving as a forum and resource where regional partners identify priorities, develop public policy, and implement strategies to improve the quality of life and economic vitality throughout the Miami Valley Region.