

ERIE

Seventh Edition
July 2019

Guide to the Erie Economy



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Black School of Business at Penn State Behrend

The *ERIE* Guide to the Erie Economy

Seventh Edition, 2019

Prepared and updated by
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**ERIE is a research center of the
Black School of Business at Penn State Behrend**

Providing information on and analysis of the Erie economy since 1982.

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For this new 7th edition, I am especially grateful to Dr. Zachary Klingensmith, Assistant Teaching Professor of Economics at Penn State Behrend and Research Associate of the Economic Research Institute of Erie, who devoted much time and effort to updating and verifying the accuracy of all the statistics as well as the summaries and analyses throughout the *Guide*. Zack's dedication and meticulous attention to detail have allowed us to produce this superb new edition of the *Guide*.

This *Guide* rests heavily on the databases and projects that have been created over many years by many hands. Thanks to the eighty-plus Research Assistants that have worked for ERIE over the years, and who laid the foundation for this publication and the ongoing success of ERIE.

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Introduction

Welcome to the seventh edition of the *ERIE Guide to the Erie Economy!* This new seventh edition of the *Guide* is being released to coincide with the 16th ERIE Economic Conference in July 2019. The first edition was released at the 6th ERIE Economic Conference in August 2007, in celebration of 25 years of the Economic Research Institute of Erie—25 years of ERIE in Erie. We're happy to update it this year with the most recently available statistics across all the categories of economic and demographic data so that the *Guide* remains one of the most up-to date and comprehensive sources of information about the Erie region. We've also added some new graphs as well as removed those that have become obsolete.

Given the complexity of the Erie economy, the *Guide* cannot claim to cover everything you might want to know about the economy. But it does include information on many of the most important elements of the economy. If you're an Erieite you'll probably find data here to confirm some things you knew about the Erie area, and about other things that you suspected. But we think you'll also find some surprises here.

For example, did you know that the most recently available (2017) statistics indicate:

- Real income per capita in Erie County is only 81% of the national level.
- About 25% of personal income in Erie County is from transfer payments, versus 17% for the U.S.
- Almost 14,000 children (24% of those under age 18) in Erie County live in poverty.
- Although manufacturing employment has declined dramatically in Erie County since the 1950s, that sector is still the largest sector locally in terms of output produced, with over \$2.2 billion of goods produced in 2017.
- Tourism visitor spending in Erie over the course of the year is almost \$990 million.
- January is Erie's seasonal low point in terms of employment, and October—not December—is its highpoint.
- The overall cost of living in Manhattan is not just "high" compared to Erie; it's four times as much. Expenditures of \$1,000 a month in Erie would, on average, set you back \$4,000 a month in the Big Apple.
- The average Erieite saves nearly 60 hours a year in commuting time compared to the average American. That's the equivalent of more than a week's extra vacation if you live in Erie, not to mention the gas savings!

There are many more interesting tidbits to be found in the *Guide*.

If you don't find just what you're looking for here, we recommend that you try our website: www.ERIEdata.org. If you still can't find what you want, give us a call at 898-7150 or email us at klouie@psu.edu. We may be able to help. And we welcome ideas for things to add to the next edition of the *Guide*.

As you peruse the *Guide*, you may find yourself saying "I wonder why..." Good! That's the beginning of understanding. Please feel free to share your ideas and questions with us. Sometimes we have inquisitive students who are looking for research topics. And if your question requires serious thought by experienced scholars, perhaps we can discuss a sponsored research project.

We also welcome donations that will help us continue to explore the Erie economy, and give students an opportunity to learn how to do serious analysis by working on real problems with real data.

A Brief Guide to the GUIDE

This *Guide* focuses on the Erie economy. But which “Erie”?

Our focus is on the Erie metro area, (technically the Erie Metropolitan Area or MA) which the federal government officially defines to be Erie County. We think this makes sense since a metro area is a small economy, and that is most appropriately based on a labor market. If defined correctly, most of the people who work there live within its boundaries, and most of the people who live there also work there. There will be some commuting across borders, but that will be a small amount compared to what goes on within the borders. And Erie County fits that bill nicely, thank you.

For some purposes, it’s useful to look at data for the City of Erie. The *Guide* gives some information about the City compared to the County. And for some purposes, it makes sense to look at Erie as the focus of the Northwest Pennsylvania region. We sometimes have occasion to study this broader region, but in most cases we have typically chosen not to include regional data in the *Guide* to keep its size manageable.

So when the *Guide* uses the term “Erie”, it means Erie County—all activity that takes place within the county borders on whatever item of data is being discussed. When we are talking about the City of Erie, we make a point of using the term “city”.

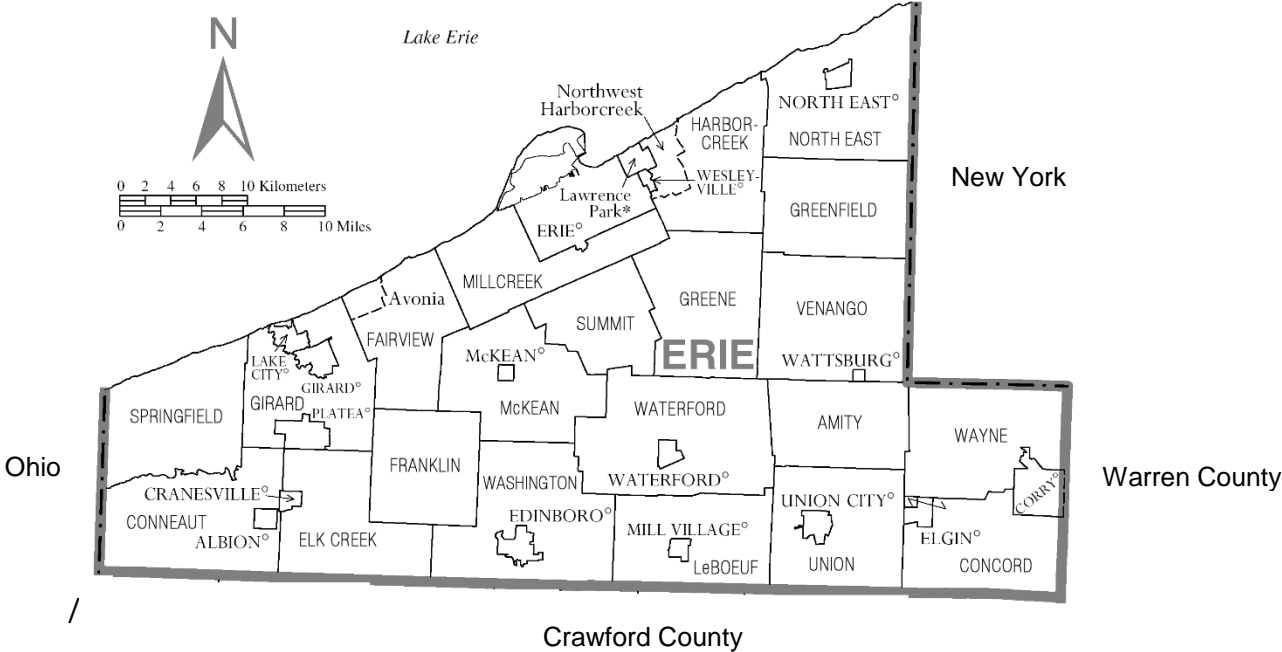
The *Guide* typically presents information about some aspect of the Erie economy, explores how that item of data has changed through time, and then compares it to the national average. Sometimes it will also present data for the state of Pennsylvania or the City of Erie. To help the reader know just what geographic or political unit we’re talking about, we consistently use **blue** to identify **Erie (County)**, **red** for the **U.S.**, **green** for **Pennsylvania**, and **orange** for the **City of Erie**. But each graph is labeled, so you need not try to remember this. In addition, for accessibility purposes, the markers on all the graphs are unique to the geographies. A circle marker is used on the series for Erie County, a triangle for Pennsylvania, and a square for the United States. Graphs that display different types of data will be labeled accordingly.

Virtually all the data presented in the *Guide* are from official government sources. Most of the data are from the federal government, from units like the Census Bureau, the Bureau of Economic Analysis, and the Bureau of Labor Statistics. Some are from the State of Pennsylvania. Very few are data that we have generated ourselves. In other words, we’re not creating these numbers ourselves; they’re typically coming straight from the horse’s mouth. We typically document the data sources throughout the *Guide*, but if you have a question about data sources please feel free to contact us.

There are many other data items we could have added, but we had to stop somewhere. We hope you find this seventh edition of the *ERIE Guide to the Erie Economy* to be useful and thought-provoking, and that you find yourself turning to it often as you make decisions about your business, your life, and the Erie area.

Finally, please note that the URL web links for sources of data and information often change. If the provided source links change at some time after publication, we will do our best to update them in the next edition of the *Guide*.

Population and Size of Erie County



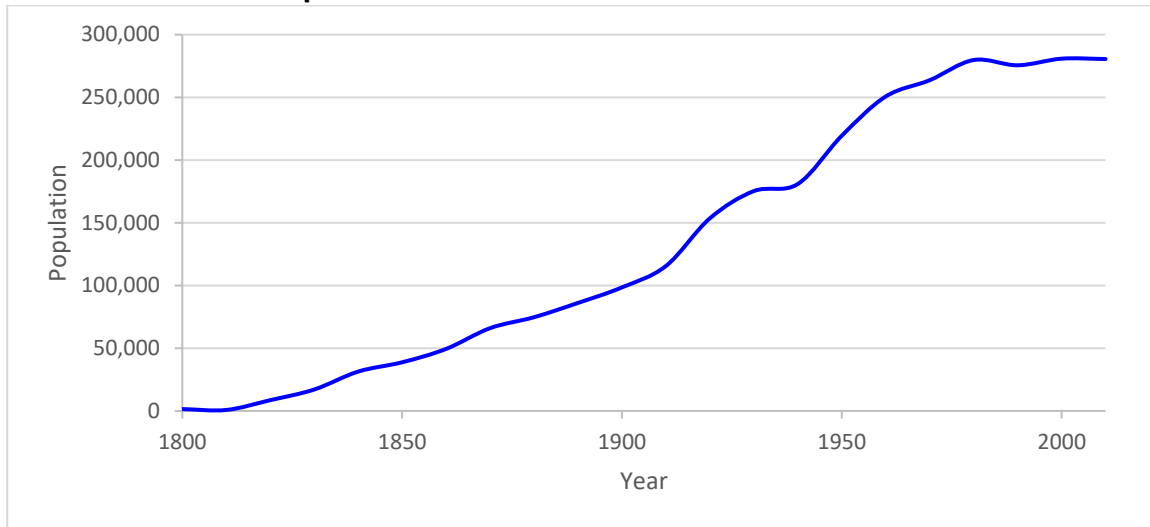
Land Area

- 799.15 square miles
- Technically, Erie County also includes water area halfway across Lake Erie to Canada. The water area is another 759.08 square miles, for a total of 1,558.23 square miles.
- By total area, Erie County is the largest county in Pennsylvania.
 - Source: [U.S. Census Bureau, American FactFinder, Table GCT-PH1](#)

Population

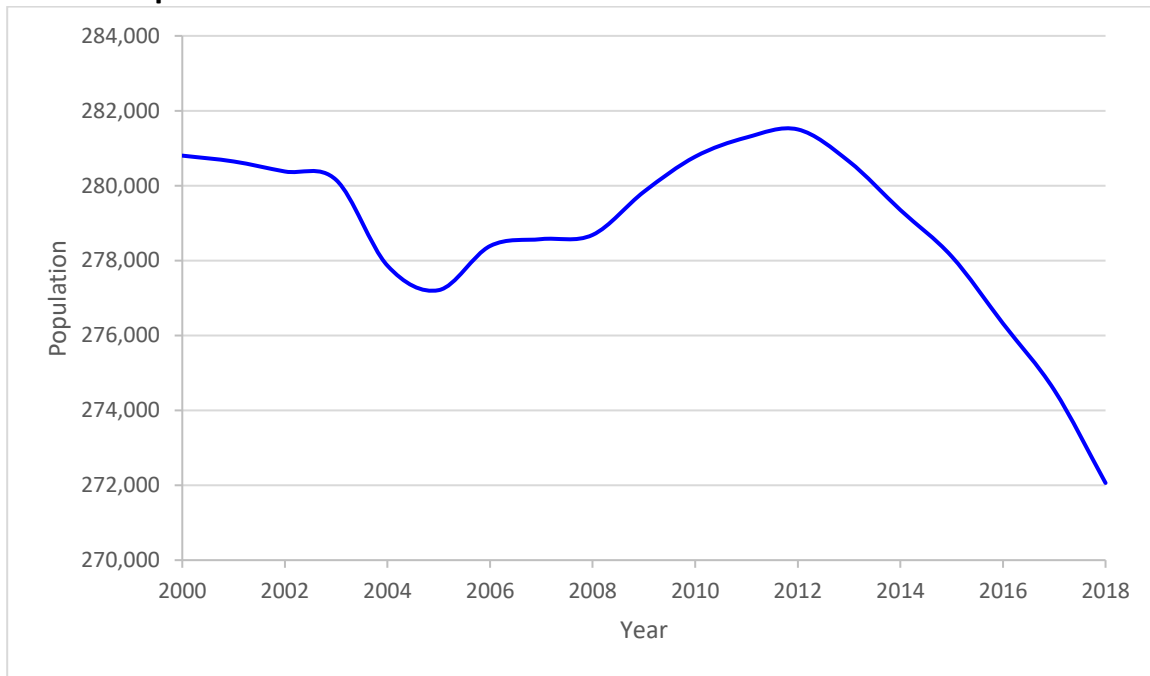
- 272,061 total residents as of July 1, 2018
 - Source: [Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017](#)

Decennial Census Population Since 1800



Source: [United States Census Bureau 2010 Census, Table DP-01, General Population and Housing Characteristics](#)

Annual Population Estimates 2000-2018



Source: [United States Census Bureau, Annual Estimates of the Resident Population, Erie County, Pa, 2010-2018](#)

Population Estimates 2000-2017

| Year | Erie County | Pennsylvania | United States |
|------|-------------|--------------|---------------|
| 2000 | 280,803 | 12,284,173 | 282,162,411 |
| 2001 | 280,647 | 12,298,970 | 284,968,955 |
| 2002 | 280,379 | 12,331,031 | 287,625,193 |
| 2003 | 280,153 | 12,374,658 | 290,107,933 |
| 2004 | 277,864 | 12,410,722 | 292,805,298 |
| 2005 | 277,211 | 12,449,990 | 295,516,599 |
| 2006 | 278,389 | 12,510,809 | 298,379,912 |
| 2007 | 278,573 | 12,563,937 | 301,231,207 |
| 2008 | 278,686 | 12,612,285 | 304,093,966 |
| 2009 | 279,838 | 12,666,858 | 306,771,529 |
| 2010 | 280,775 | 12,702,379 | 309,349,689 |
| 2011 | 281,288 | 12,742,811 | 311,644,280 |
| 2012 | 281,503 | 12,768,034 | 313,993,272 |
| 2013 | 280,647 | 12,778,450 | 316,234,505 |
| 2014 | 279,351 | 12,790,341 | 318,622,525 |
| 2015 | 278,111 | 12,791,124 | 321,039,839 |
| 2016 | 276,321 | 12,787,085 | 323,405,935 |
| 2017 | 274,541 | 12,805,537 | 325,719,178 |
| 2018 | 272,061 | 12,807,060 | 327,167,434 |

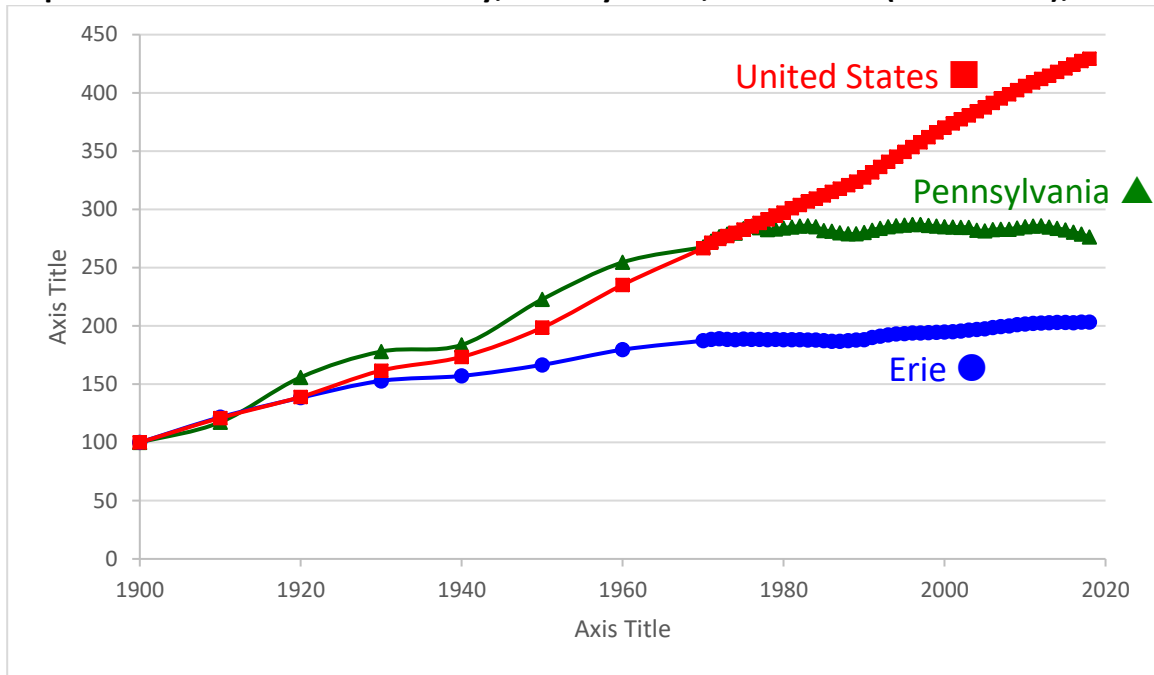
Sources: [United States Census Bureau, Annual Estimates of the Resident Population, Erie County, Pa, 2010-2018](#)
[United States Census Bureau, Annual Estimates of the Resident Population, Pennsylvania, 2010-2018](#)
[United States Census Bureau, Annual Estimates of the Resident Population, United States, 2010-2018](#)

- Erie County population stood at just less than 1,500 in 1800. By the mid-1940s it had reached 200,000.
- Erie County population grew consistently until 1976 when it reached 281,400.
- The population level has remained relatively constant since 1976, rising and falling slightly from year to year.
- Erie's maximum population occurred at 282,082 in 2003.
- The decennial census in 2010 shows a slight decline in Erie population from 2000. The only other time Erie had a drop in a decennial census was from 1980 to 1990, when population fell from 279,780 to 275,795. There was a recession during much of the 1980s.
- The 2018 population estimate of 272,061 was the lowest estimate since 1971, dropping even further than the previous low that occurred in 1988.
- In 2018, one in every 47 people in PA lived in Erie County, and one in every 1,203 Americans. In 1900 it was one in every 64 Pennsylvanians, and one in every 774 Americans.

Population Density

- Erie County: 341.11 people per square mile
- Pennsylvania:
- United States: 86.16 people per square mile
 - Source: [2010 Census: Population Density Data](#)

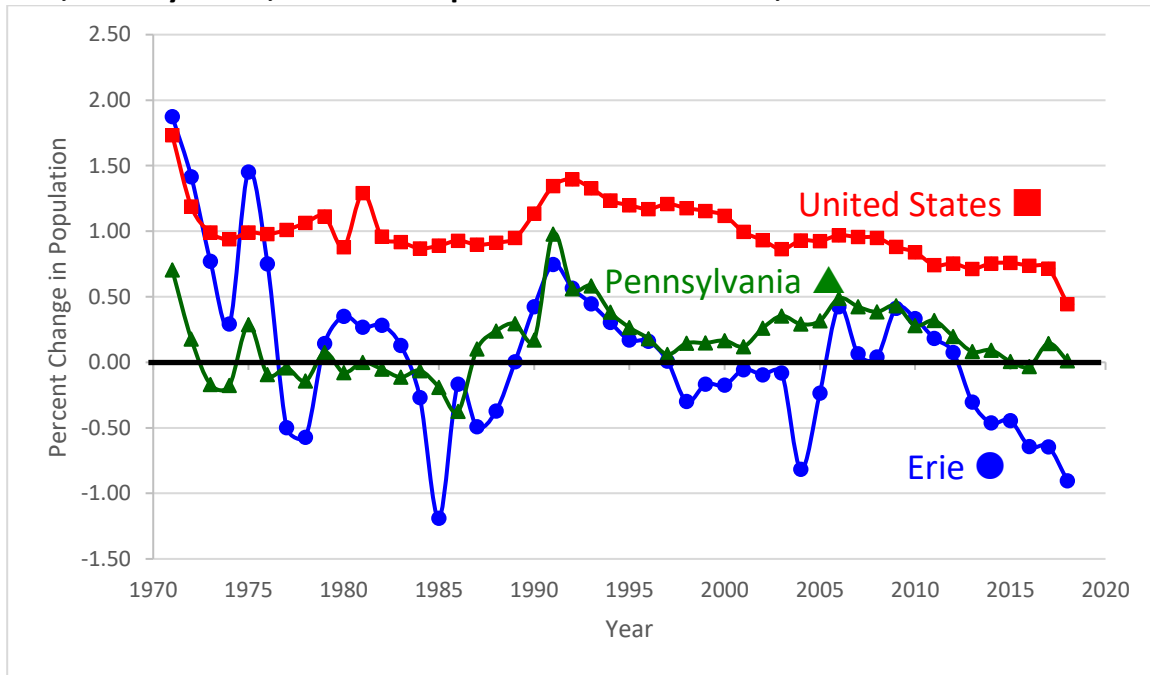
Population Indices for Erie County, Pennsylvania, and the US (Base=1900), 1970-2018



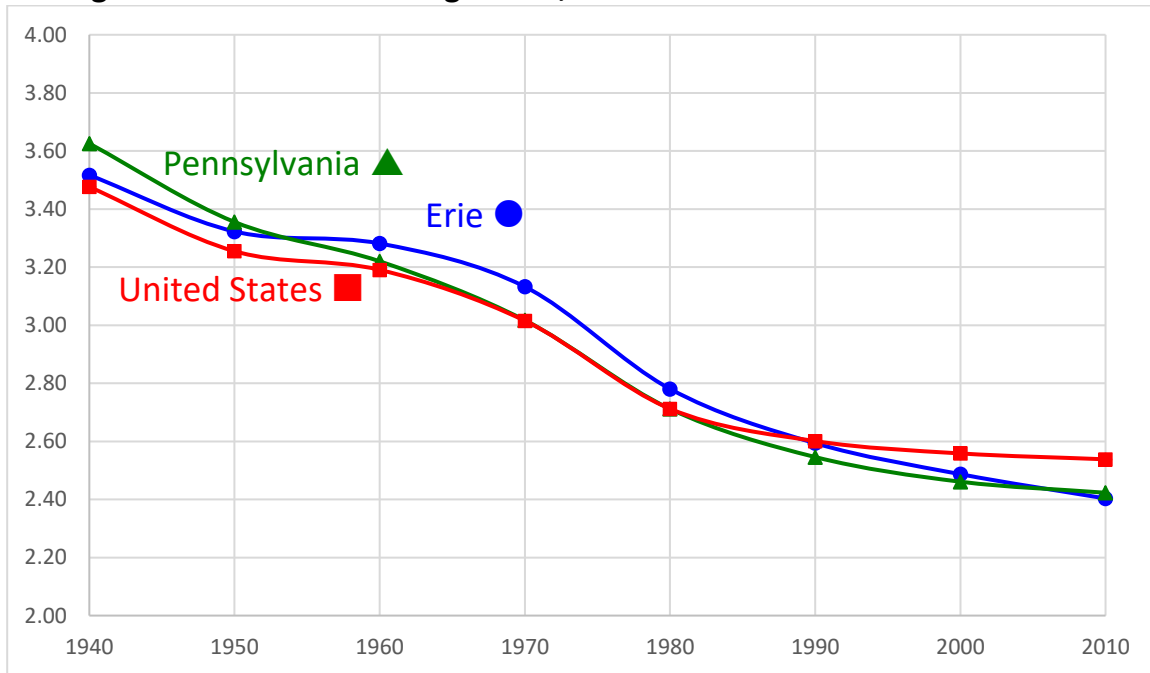
Sources: [US Census County Intercensal Tables: 1970-1979](#)
[US Census County Intercensal Tables: 1980-1989](#)
[US Census County Intercensal Tables: 1990-1999](#)
[US Census County Intercensal Tables: 2000-2009](#)
[County Population Totals and Components of Change: 2010-2017](#)

- In the 1910s and the 1940s Erie grew at a more rapid rate than the U.S., and Erie outgrew PA in every decade between 1910 and 1980.
- Starting in the mid-1970s, population growth in Erie and Pennsylvania slowed, and population has remained relatively constant through 2013.
- The U.S. population has continued to grow throughout the country's history.
- Erie County's population growth has consistently been less than the U.S.'s since the mid-1970s.

Erie, Pennsylvania, and U.S. Population Growth Rates, 1971-2018



Average Household Size Through Time, 1940-2010



Sources: [US Census Decennial Report](#)

1940, Housing, v2, Part 5, Table 9 (Pennsylvania), Page 878

1950, Housing, v1, Part 5, Table 10 (State): Page 38-12, Table 19 (County): Page 38-31

1960, Housing, v1, Part 7, Table 5 (State): Page 40-10, Table 15 (County): Page 40-51

1970, Housing, v1, Pennsylvania, Table 3 (State): Page 40-10, Table 9 (County): Page 40-23

1980, General Social and Economic Characteristics, State: Page 155, Erie: Page 909

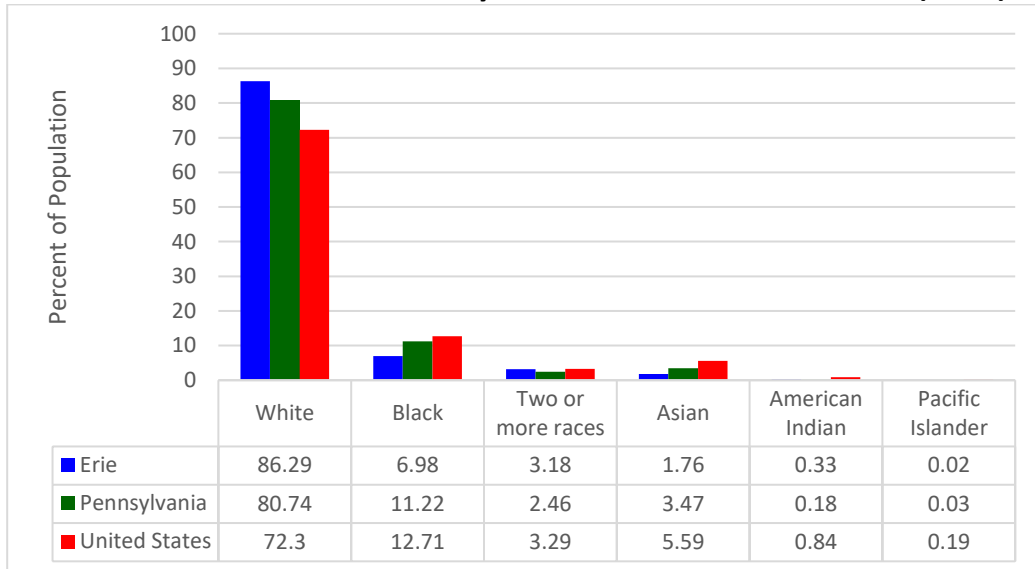
1990, General Housing Characteristics, State: Page 308, Erie: Page 354

2000, 2010: American Fact Finder

- Since 1940, average household size has declined in Erie, PA and the United States. In Erie, it has fallen from 3.52 persons per household to 2.40. This drop is a bit more than the U.S., which fell from 3.48 to 2.54. Pennsylvania's average fell even more, from 3.63 to 2.42.
- The steepest drop in average household size can be seen during the 1970s. Beginning in the 1990s the pattern flattens out around 2.5 persons per household.
- Data on household sizes were gathered from individual decennial Censuses from the decades 1940 to 2010.
- One caution about the data: the averages are slightly skewed due to the Census reporting method changing from decade to decade. Some decades used "6 or more" as their top end category while others used 7, 8, 9, or 10 or more as their top end. To deal with this inconsistency we chose "6 or more" as our top end for the data and converted all other decades to this metric.

Race

Racial Distribution of Erie, Pennsylvania, and the United States (2017)



Source: [United States Census Bureau, 2017 American Community Survey, 1 year estimates, Table B02001 \(Race\)](#)

Race Location Quotients for 2017

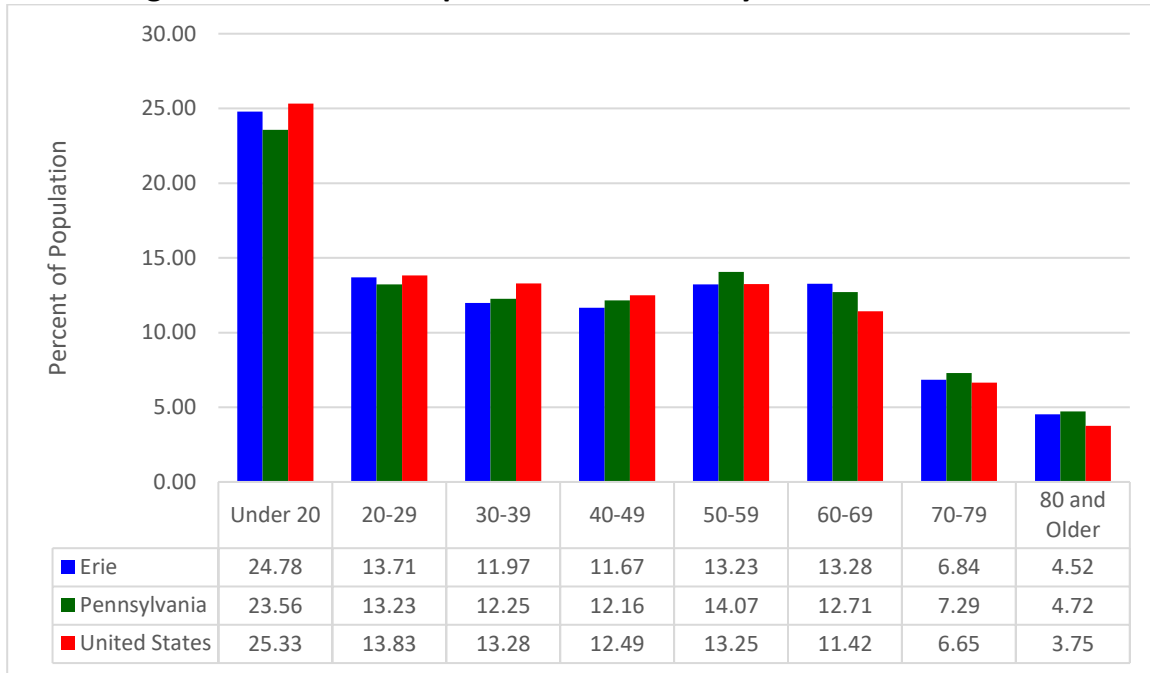
| Group | Erie Co. | | | PA | | | USA | |
|------------------|----------|-------|------|------------|-------|------|-------------|--------|
| | Pop. | % | LQ | Pop. | % | LQ | Pop. | % |
| White | 236,901 | 86.29 | 1.19 | 10,339,488 | 80.74 | 1.12 | 235,507,457 | 72.30% |
| African American | 19,165 | 6.98 | 0.54 | 1,437,081 | 11.22 | 0.88 | 41,393,491 | 12.71% |
| Two or more | 8,719 | 3.18 | 0.97 | 314,432 | 2.46 | 0.75 | 10,715,465 | 3.29% |
| Asian | 4,838 | 1.76 | 0.32 | 444,588 | 3.47 | 0.62 | 18,215,328 | 5.59% |
| American Indian | 916 | 0.33 | 0.40 | 23,523 | 0.18 | 0.22 | 2,726,278 | 0.84% |
| Pacific Islander | 47 | 0.02 | 0.09 | 3,425 | 0.03 | 0.14 | 608,219 | 0.19% |
| Total | 274,541 | | | 12,805,537 | | | 325,719,178 | |

Source: [United States Census Bureau, 2017 American Community Survey, 1 year estimates, Table B02001 \(Race\)](#)

- Erie’s population is clearly less racially diverse than the national average, with a higher percentage of white residents than the U.S., and a lower percentage of all minority categories.
- In 2017, Erie County’s population included 86.3% White residents. At the state level, the percent White was 80.74% while at the national level, the percent White was only about 72.3%.
- Erie’s population had little more than half of the national proportion of African American residents, and significantly smaller shares of American Indian, Asian and other races. The same is also true for Pennsylvania.
- Comparing Erie and U.S. percentages in each race can be accomplished by calculating Location Quotients (LQs). The LQ is simply the Erie percentage in a race divided by the U.S. percentage in that race. An LQ greater than 1.0 means that Erie has a more than proportional representation in that racial group; an LQ less than one means the opposite.
- The Location Quotient data show that Erie has more than its share of White residents and less than its share of all the other racial categories. The same is also true for Pennsylvania.

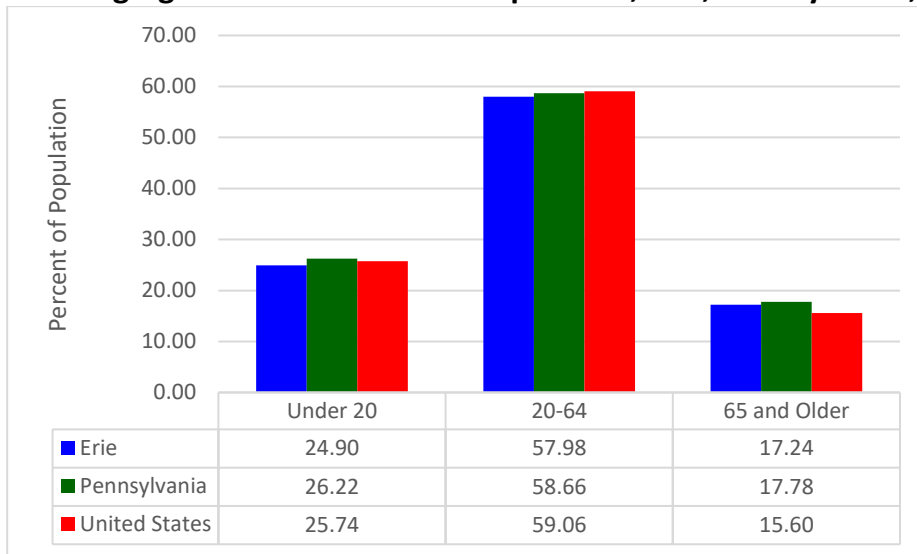
Age

10-Year Age Distribution of Population, Erie, Pennsylvania, and U.S., 2017



Source: [United States Census Bureau, 2017 American Community Survey, 1 year estimates, Table S0101 \(Age\)](#)

Working Age Distribution of the Population, Erie, Pennsylvania, and the U.S., 2017



Source: [United States Census Bureau, 2017 American Community Survey, 1 year estimates, Table S0101 \(Age\)](#)

10-Year Age Location Quotients for 2017

| Geographies (Right) | Erie Co. | Erie Co. | Erie Co. | PA | PA | PA | USA | USA |
|-------------------------|----------|----------|----------|------------|-------|------|-------------|-------|
| Age Groups (Below) | Pop. | % | LQ | Pop. | % | LQ | Pop. | % |
| Under 20 years old | 68,040 | 24.78 | 0.98 | 3,017,489 | 23.56 | 0.93 | 82,519,040 | 25.33 |
| 20-29 | 37,627 | 13.71 | 0.99 | 1,694,692 | 13.23 | 0.96 | 45,035,844 | 13.83 |
| 30-39 | 32,874 | 11.97 | 0.90 | 1,569,305 | 12.25 | 0.92 | 43,253,190 | 13.28 |
| 40-49 | 32,036 | 11.67 | 0.93 | 1,556,725 | 12.16 | 0.97 | 40,693,551 | 12.49 |
| 50-59 | 36,317 | 13.23 | 1.00 | 1,801,421 | 14.07 | 1.06 | 43,147,249 | 13.25 |
| 60-69 | 36,447 | 13.28 | 1.16 | 1,627,692 | 12.71 | 1.11 | 37,181,528 | 11.42 |
| 70-79 | 18,780 | 6.84 | 1.03 | 933,347 | 7.29 | 1.10 | 21,659,561 | 6.65 |
| Older than 80 years old | 12,420 | 4.52 | 1.20 | 604,866 | 4.72 | 1.26 | 12,229,215 | 3.75 |
| Total | 274,541 | | | 12,805,537 | | | 325,719,178 | |

Source: [United States Census Bureau, 2017 American Community Survey, 1 year estimates, Table S0101 \(Age\)](#)

Working Age Location Quotients for 2017

| Geographies (Right) | Erie Co. | Erie Co. | Erie Co. | PA | PA | PA | USA | USA |
|---------------------|----------|----------|----------|------------|---------|---------|-------------|---------|
| Age Groups (Below) | Pop. | % | LQ | Pop. | % | LQ | Pop. | % |
| Under 20 yo | 68,353 | 24.87 | 0.97 | 3,017,489 | 23.56 | 0.92 | 83,840,800 | 25.64 |
| 20-64 | 159,183 | 57.92 | 0.98 | 7,511,505 | 58.66 | 1.00 | 192,384,426 | 58.83 |
| 65 and Older | 47,318 | 17.22 | 1.11 | 2,276,543 | 17.78 | 1.14 | 50,815,712 | 15.54 |
| Total | 274,854 | (blank) | (blank) | 12,805,537 | (blank) | (blank) | 327,040,938 | (blank) |

Source: [United States Census Bureau, 2017 American Community Survey, 1 year estimates, Table S0101 \(Age\)](#)

- The age distribution of the Erie County population tends to mirror that of the nation, with a few exceptions.
- Erie County tends to have lower population percentages for the 30-39 and 40-49 age groups, but a larger percentage of 60-69 year olds and those greater than 80 years old.
- Compared to Pennsylvania and the United States, Erie County has a smaller percentage of working age citizens (aged 20-64).
- Erie County has a greater percentage of those 65 and over than the United States, but a smaller percentage than Pennsylvania.
- Erie's percentages in the over 50 age groups were above the U.S. percentages—Erie is grayer than the U.S. as a whole.
- Location quotients greater than one in the table below show the age categories in which Erie had more than the national average.

Migration

The American Community Survey asks about respondents' residency each year from 2012-2016. From these data, the Census Bureau takes the average number of migrants in this five-year period and constructs county-to-county migration statistics. The table below tells the story. An average of more than 13,203 in-migrants moved into Erie County each year during the five-year period, or 4.8% of the 2016 population. But an average of 11,950 people moved out each year during the period, for a net in-migration of 1,253 into the county each year, or 0.4% of the 2016 population.

In the last few decades, Erie's population levels have been mostly stagnant, so a thousand new residents can make quite a difference in Erie's population changes. In fact, according to the American Community Survey (the source of the migration data in this section) population fell from 2012 to 2016 meaning that migration into Erie County is the only thing keeping the population from plummeting. The population decrease is likely due to an increase in the number of deaths in the ageing portion of the population without an equal increase in birth and net migration.

A Special Note about the Data

The following data come from the US Census Bureau's American Community Survey. Specifically, it comes from the 5-year population estimate which is, in a way, like a rolling average over the five-year period from 2012 to 2016 (the most recent data release available.)

The American Community Survey is an estimate that collect micro-level data. Therefore, the data presented should not be thought of as true values; instead, they are estimates. The data set includes a margin-of-error (at a 90% confidence level). In many cases, the margin-of-error is larger than the estimate. Without going into too much statistical detail, if the estimate is 30 with a margin-or-error of 40, that means there is a 90% chance that the actual number of people is between 0 and 70. [Note: I apologize to my statistics friends. This is not the definition of a confidence interval but is probably the easiest way to summarize the topic.] For example, the ACS estimates that 85 people per year migrated from Jackson County, Oregon to Erie County with a margin-of-error of 121. That means that there is a 90% chance (again, sorry statistics folks) that the actual number was between 0 and 206 people per year.

Therefore, be a little skeptical when looking at these values. The true values may be different, but this is the only way to track this type of migration on a yearly level.

Erie Migration Summary

| Type of Migration | Number of People | Migration Rates* |
|---------------------------------------------------------------|------------------|------------------|
| Migration Inflow to Erie County (average from 2012-2016) | 13,203 | 4.8% |
| Migration Outflow from Erie County (average from 2012-2016)** | 11,950 | 4.3% |
| Net Flow of Migration in Erie County | 1,253 | 0.4% |
| Population of Erie County in 2016 | 276,207 | |

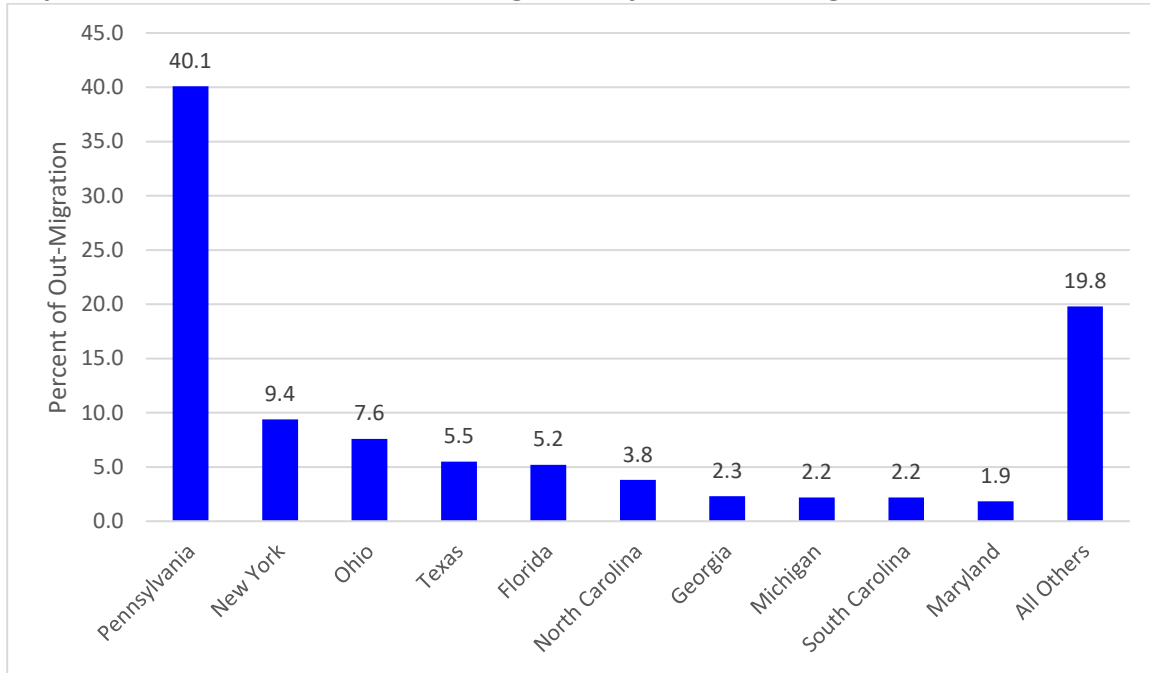
Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

*Based on 2016 population estimates

**Note that migration outflow estimates do not include migrants who moved abroad.

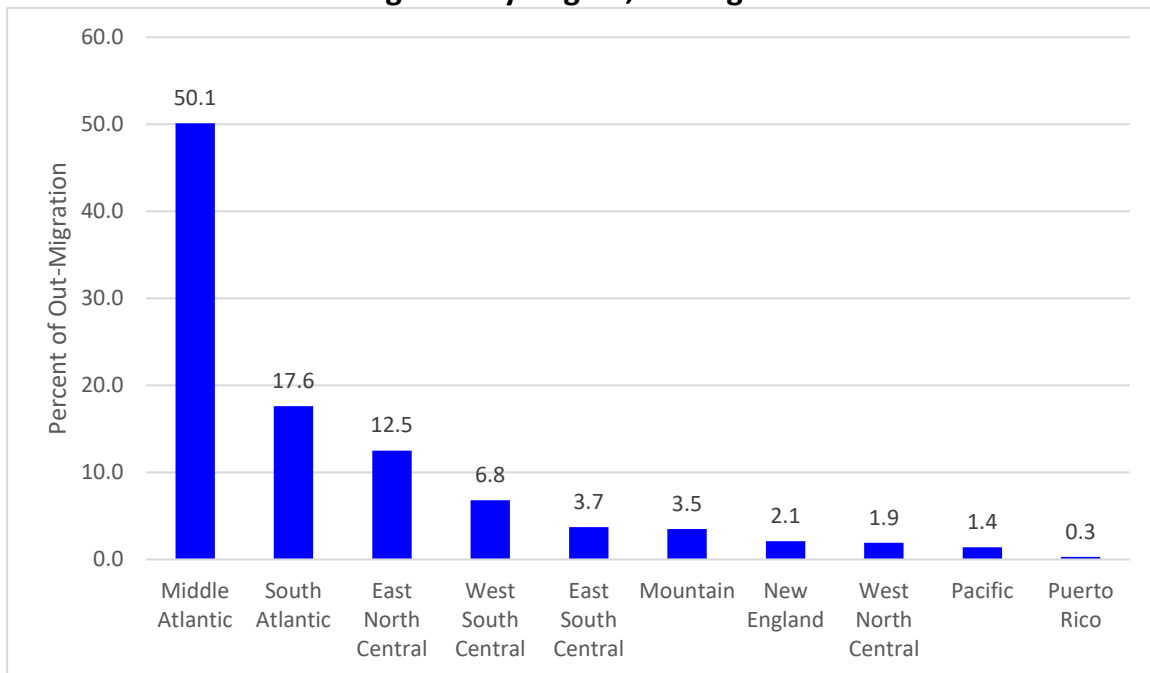
Where did those 12,000 out-migrating former Erieites go?

Top Ten Destination of Erie Out-Migrants by State, Average from 2011-2015



Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

Destination of Erie Out-Migrants by Region, Average from 2011-2015



Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

- Over 40% of the individuals that moved out of Erie County moved to other counties within the state of Pennsylvania.
- The two states that border Erie County, New York and Ohio, accounted for 9.4% and 7.6% of the individuals who left Erie County, respectively.
- Nearly 60% of individuals who left Erie County moved to other counties within the tri-state area (Ohio, Pennsylvania, New York).
- The South Atlantic took in the second largest amount of Erie emigrants (16.8%), followed closely by the East North Central (14.2%).
- North Carolina has a relatively large share of outmigration from Erie County. This is likely due to the move of the corporate headquarters of the Lord Corporation from Erie to Cary, North Carolina during this time period.
- A breakdown of the US Census regions is available in the appendix.

Top 15 Destination Counties of Erie Out-Migrants, Average 2012-2016

| County and State | Outflow |
|------------------|---------|
| Crawford, PA | 715 |
| Allegheny, PA | 682 |
| Warren, PA | 351 |
| Mercer, PA | 295 |
| Denton, TX | 259 |
| Erie, NY | 241 |
| Cuyahoga, OH | 233 |
| Harris, TX | 213 |
| Lancaster, PA | 178 |
| Lycoming, PA | 176 |
| Butler, PA | 172 |
| Indiana, PA | 154 |
| Dauphin, PA | 149 |
| Venango, PA | 146 |
| Dickinson, MI | 144 |

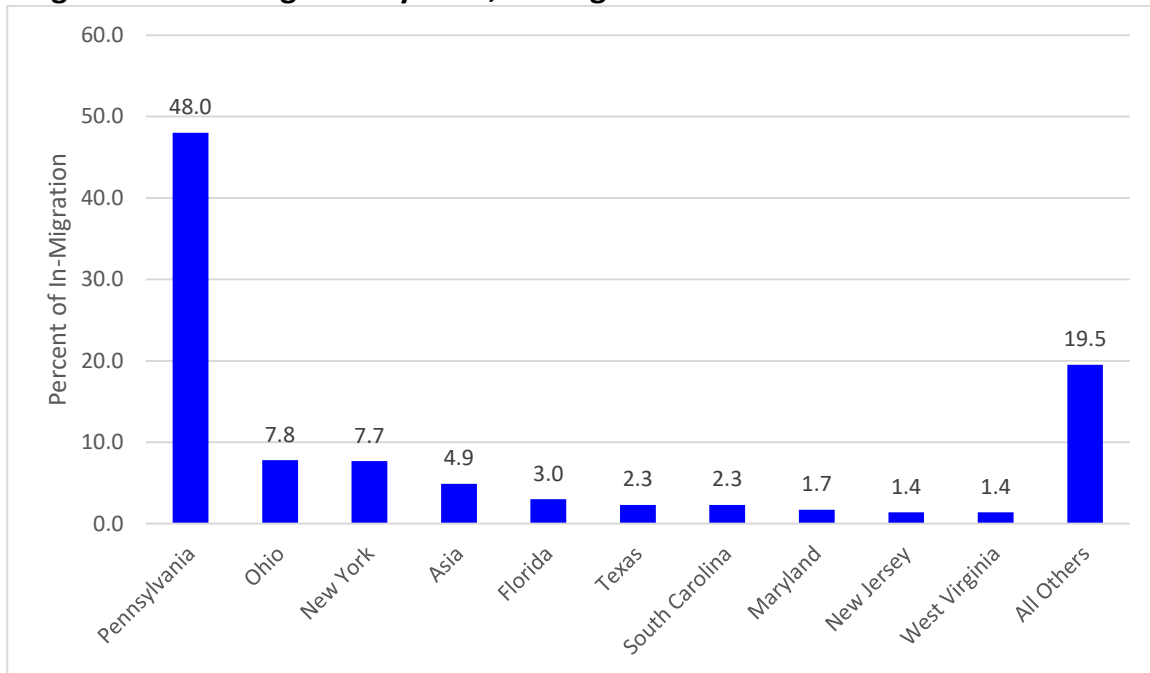
Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

- On average from 2012-2016, Crawford County, PA was the destination of the greatest amount of individuals who left Erie County. Crawford County is south of Erie and home to one of the closest cities, Meadville.
- Allegheny County, home of Pittsburgh, was #2.
- Of the top 15 counties, 10 were in Pennsylvania, 2 were in Texas, and one each was from New York, Ohio, and Michigan.
- Even though Ohio and New York make up 17% of the outmigration, only one county from each was included in this list. This indicates that people are simply moving to all parts of the two states.
- On the other hand, two counties from Texas are included on this list even though the state does not make up as large of a proportion of outmigration. This indicates a specific cause. For example, Denton County in Texas is near Fort Worth which is where GE Transportation opened a new locomotive factory. The outmigration may show the movement of transferred workers from Erie to Texas.

And where did the 13,000+ in-migrants come from?

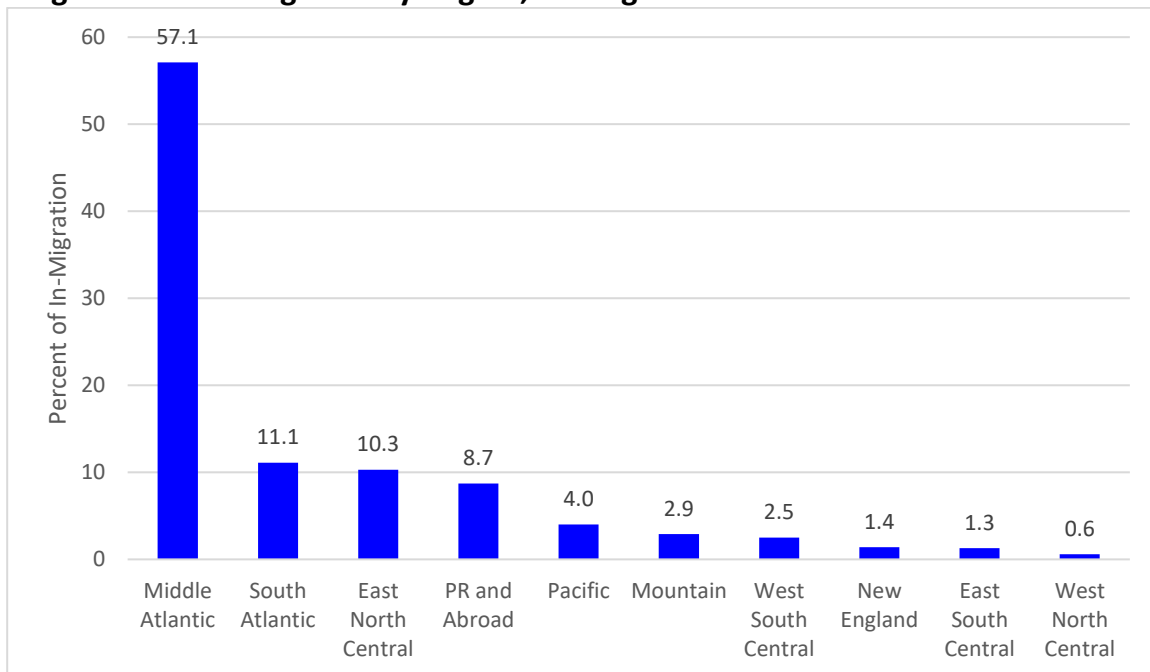
Note: The ACS provides information about the origins of international in-migrants, although it does not give data on international out-migrants. So in this section we can include data on people coming to Erie from abroad.

Origin of Erie In-Migrants by Area, Average from 2012-2016



Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

Origin of Erie In-Migrants by Region, Average from 2012-2016



Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

- 48% of individuals that moved to Erie County moved from other counties within the state of Pennsylvania.
- The two states that border Erie County, New York and Ohio, accounted for 7.8% and 7.7% of the individuals who moved to Erie, respectively.
- Over 63% of individuals who moved to Erie County moved from other counties within the tri-state area.
- After the tri-states, the next largest source of in-migration was Asia.
- Florida, South Carolina, and Texas were the only other states to account for 2% or more of Erie’s in-migration.
- 8.7% of Erie’s in-migrants, just over 1,000 people, came from foreign countries and Puerto Rico.

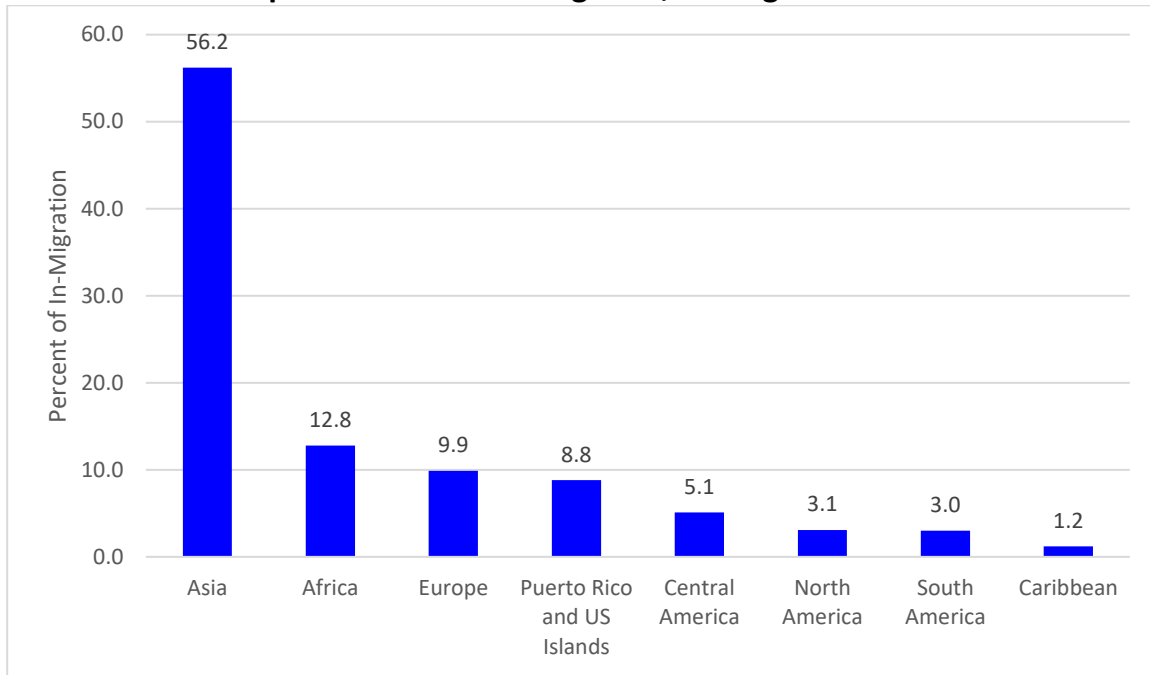
Top 15 Origin Areas of Erie In-Migrants, Average 2012-2016

| County and State | Inflow |
|-------------------------|---------------|
| Crawford PA | 1,260 |
| Allegheny PA | 959 |
| Asia | 648 |
| Mercer PA | 485 |
| Chautauqua NY | 376 |
| Cuyahoga OH | 341 |
| Beaver PA | 272 |
| Warren PA | 270 |
| Westmoreland PA | 255 |
| Butler PA | 235 |
| Dauphin PA | 213 |
| Washington PA | 179 |
| Maricopa AZ | 178 |
| Erie NY | 171 |
| Lake OH | 163 |

Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

- During this period, more people moved to Erie from Crawford County, PA than any other area.
- Just as with outmigration, Allegheny County, home of Pittsburgh, was #2 as the source of in-migrants.
- Out of the top 15 areas, 9 were in Pennsylvania, 2 were in New York and Ohio, and 1 was from abroad and Arizona.

International Composition of Erie In-Migrants, Average 2012-2016



Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

Eight counties were both on the “Top 15 Origins” and “Top 15 Destinations” lists shown below:

Eight Counties on Both the Top Origins and Top Destinations List

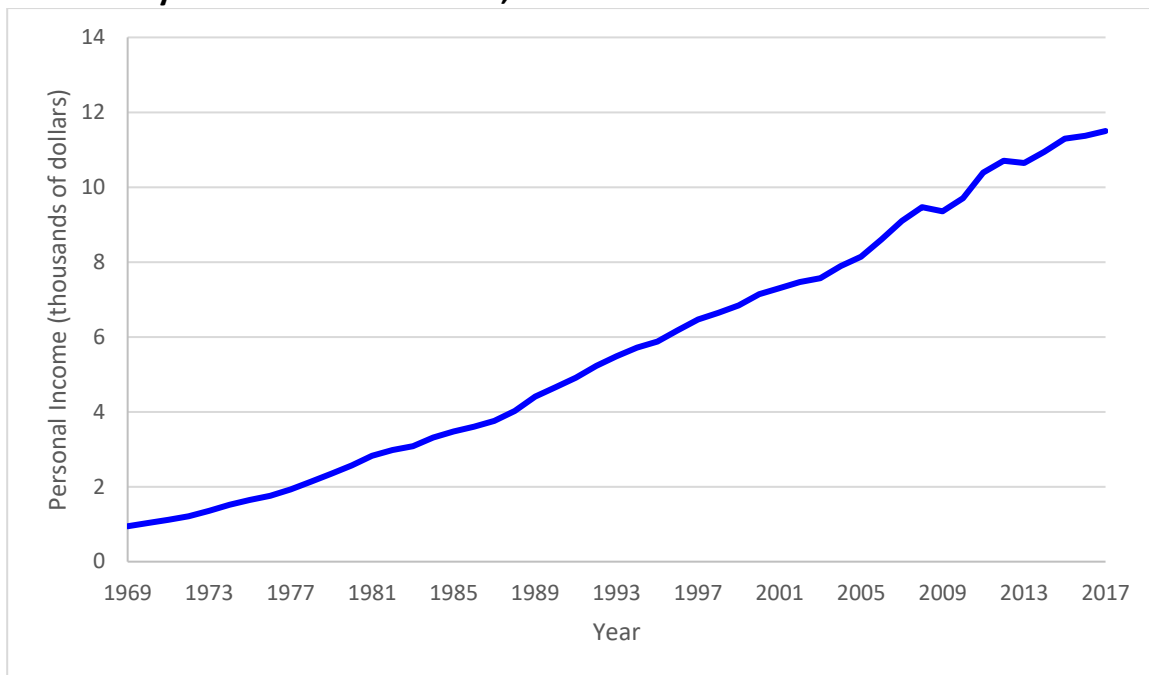
| County and State | Inflow | Outflow | Net Flow |
|------------------|--------|---------|----------|
| Warren PA | 351 | 270 | 81 |
| Erie NY | 241 | 171 | 70 |
| Butler PA | 172 | 235 | -63 |
| Dauphin PA | 149 | 213 | -64 |
| Cuyahoga OH | 233 | 341 | -108 |
| Mercer PA | 295 | 485 | -190 |
| Allegheny PA | 682 | 959 | -277 |
| Crawford PA | 715 | 1,260 | -545 |

Source: [American Community Survey 5-year population estimates, County-to-County Migration Flows](#)

- The net flow was negative for only two of the eight counties.
- Warren County had the greatest net in-flow to Erie County. Erie County, NY (Buffalo) also had a net positive in-flow. This means that Erie is attracting more people from Buffalo than we are losing to them.
- Crawford County had the largest net outflow.
- Both Allegheny County (Pittsburgh) and Cuyahoga County (Cleveland) had negative population flow. This indicates that more people are moving to these cities than are coming from those cities to Erie.

Personal Income

Erie County Total Personal Income, 1969-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

- The key story for total personal income of Erie County residents is “growth”, plain and simple—although there was a brief drop during the Great Recession.
- Aggregate personal income of Erie residents was \$937 million in 1969 and it grew steadily to over \$11.2 billion in 2016.
- Total growth in personal income in Erie between 1969 and 2013 was 1090.8%--that is, 2016 income was nearly 12 times as large as 1969 income.
- Recessions sometimes slowed, but typically did not reverse the pattern of growth in income, except for the most recent recession.
- These data would be more useful if they were adjusted for changes in population and price levels (inflation), and compared to the U.S.—which is what the following graphs do.

Components of Erie Total Personal Income, 2017

| (blank) | Erie County | Erie County | USA | USA | |
|------------------------------------------------------------------------------------|-------------|----------------------|----------------|----------------------|---------------|
| Component | '000s of \$ | % of Personal Income | '000s of \$ | % of Personal Income | Erie to US LQ |
| Personal income | 11,499,800 | 100.00 | 16,820,250,000 | 100.00 | 1.00 |
| Nonfarm personal income¹ | 11,493,965 | 99.95 | 16,752,535,000 | 99.60 | 1.00 |
| Farm income² | 5,835 | 0.05 | 67,715,000 | 0.40 | 0.13 |
| Earnings by place of work | 7,675,917 | 66.75 | 11,897,410,000 | 70.73 | 0.94 |
| Less: Contributions for government social insurance³ | 915,371 | 7.96 | 1,296,599,000 | 7.71 | 1.03 |
| Employee contributions for government social insurance | 473,091 | 4.11 | 692,322,000 | 4.12 | 1.00 |
| Employer contributions for government social insurance | 442,280 | 3.85 | 604,277,000 | 3.59 | 1.07 |
| Plus: Adjustment for residence⁴ | -152,741 | -1.33 | 2,935,000 | 0.02 | -76.12 |
| Equals: Net earnings by place of residence | 6,607,805 | 57.46 | 10,603,746,000 | 63.04 | 0.91 |
| Plus: Dividends, interest, and rent⁵ | 1,967,805 | 17.11 | 3,356,872,000 | 19.96 | 0.86 |
| Plus: Personal current transfer receipts | 2,924,190 | 25.43 | 2,859,632,000 | 17.00 | 1.50 |
| Wages and salaries | 5,376,864 | 46.76 | 8,447,954,000 | 50.22 | 0.93 |
| Supplements to wages and salaries | 1,554,049 | 13.51 | 1,946,372,000 | 11.57 | 1.17 |
| Employer contributions for employee pension and insurance funds⁶ | 1,111,769 | 9.67 | 1,342,095,000 | 7.98 | 1.21 |
| Employer contributions for government social insurance | 442,280 | 3.85 | 604,277,000 | 3.59 | 1.07 |
| Proprietors' income⁷ | 745,004 | 6.48 | 1,503,084,000 | 8.94 | 0.72 |
| Farm proprietors' income | -6,355 | -0.06 | 41,053,000 | 0.24 | -0.23 |
| Nonfarm proprietors' income | 751,359 | 6.53 | 1,462,031,000 | 8.69 | 0.75 |

Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINCA](#)

¹ Nonfarm personal income is total personal income less farm income.

² Farm income is farm earnings less farm employer contributions for social insurance.

³ Employer contributions for government social insurance are included in earnings by industry and earnings by place of work, but they are excluded from net earnings by place of residence and personal income. Employee and self-employed contributions are subtractions in the calculation of net earnings by place of residence and all of the income measures.

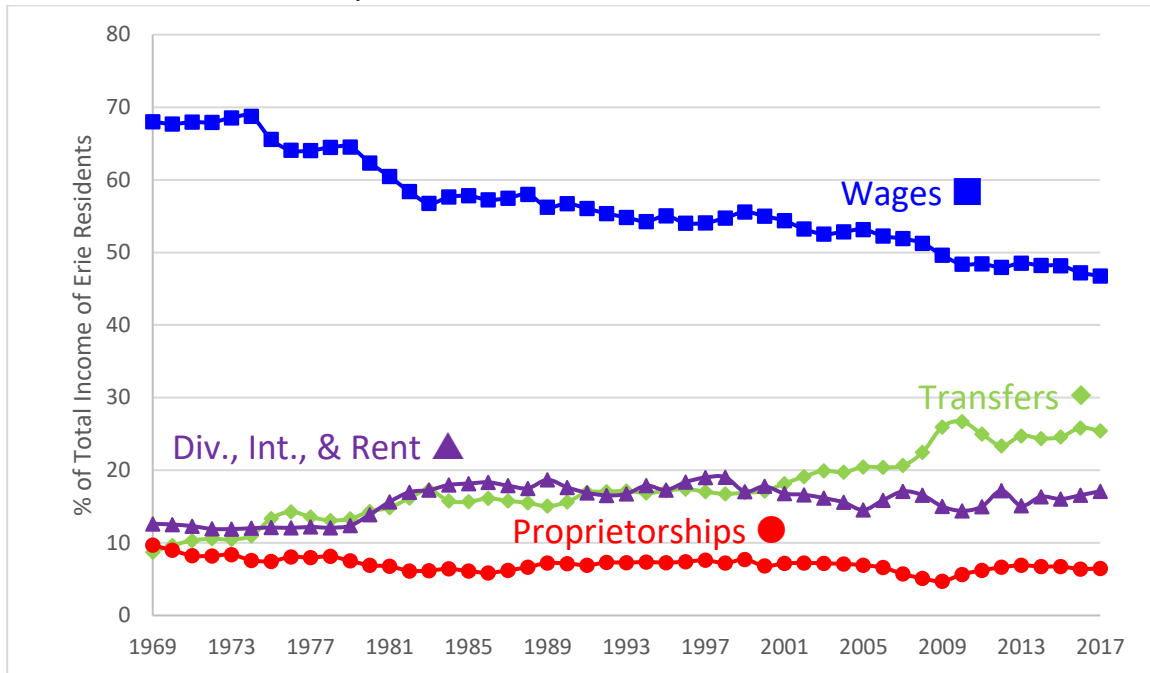
⁴ The adjustment for residence is the net inflow of the earnings of interarea commuters. For the United States, it consists of adjustments for border workers and US residents employed by international organizations and foreign embassies.

⁵ Rental income of persons includes the capital consumption adjustment.

⁶ Includes actual employer contributions and actuarially imputed employer contributions to reflect benefits accrued by defined benefit pension plan participants through service to employers in the current period.

⁷ Proprietors' income includes the inventory valuation adjustment and the capital consumption adjustment.

Sources of Erie's Income, 1969 – 2017

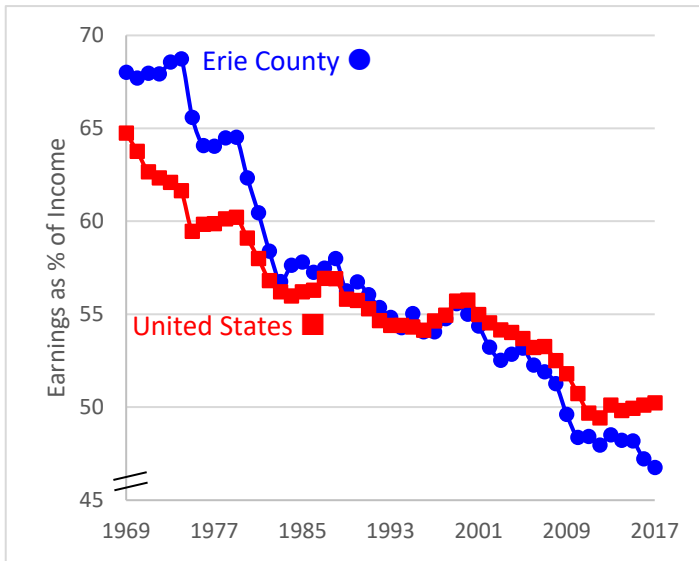


Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

- The components of Erie's income have changed significantly since 1969.
- Earnings from wages have decreased from 68.7% of income in 1974 to its lowest of 46.8% in 2017. The earnings from wages have continued to fall nearly every year since 1969 though there were occasional upticks.
- Transfer payments (like retirement and disability payments, welfare, Medicare and Medicaid, etc.), however, increased from only 8.7% percent of income in 1969 to 25.8% in 2016 – close to tripling. The percentage fell slightly in 2017.
- Income from dividends, interest, and rent (so-called “unearned income”) increased slightly over the period from 12.6% to 17.1% from 1969 to 2017.
- Income from proprietorships as a percent of total income decreased from 9.7% to 6.5%, though there has been a modest uptick since 2010 where the value bottomed-out at 4.7%.

The following graphs compare the sources of income in Erie County versus the United States:

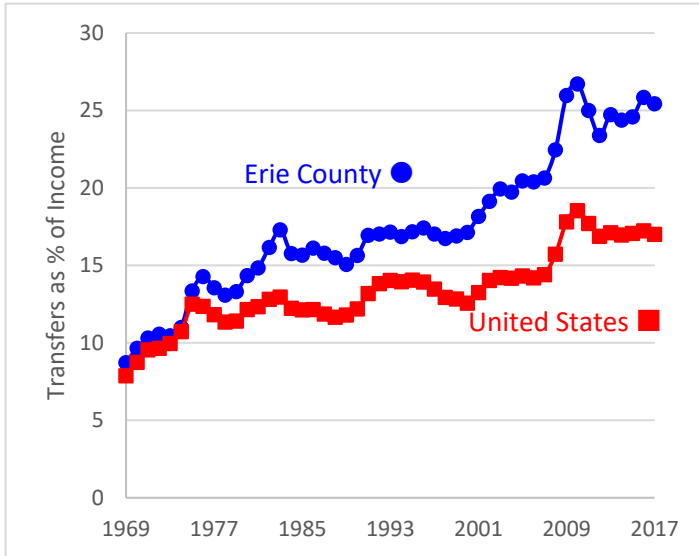
Earnings as Percent of Income, Erie and U.S., 1969-2017



- Both Erie and U.S. earnings as a percentage of total income has decreased since 1969.
- The share of earnings decreased faster in Erie than the U.S. overall.
- The percentage of earnings from wages fell by over 20% in Erie County since 1969 compared to just less than 15% for the United States as a whole.
- While Erie had a larger share from 1969-1999, the US has had a larger share of income since 2000 (with the exception of 2005).

Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

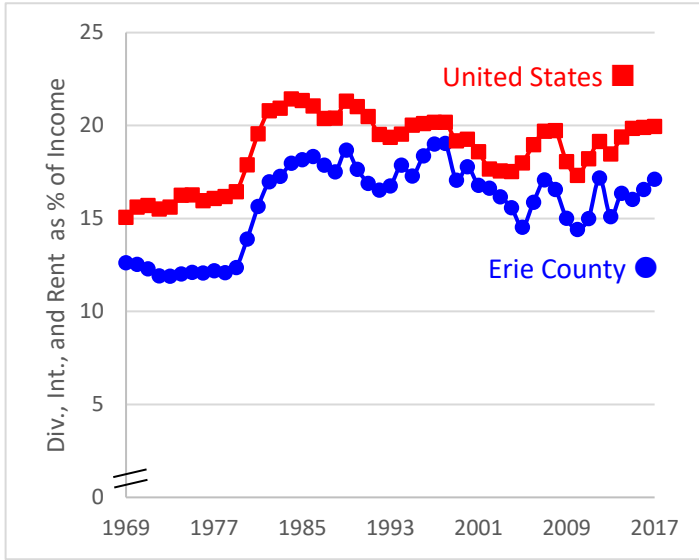
Transfers as Percent of Income, Erie and U.S., 1969-2017



- Erie's share of income from transfer payments has nearly tripled since 1969.
- Erie's 2017 share of income from transfers was 25.4% compared to the U.S. value of 17.0%.
- During the 2008 recession, there was a marked increase in income as a percent of transfer payments which dissipated after the recession. Since the dissipation, Erie has seen another increase in share of transfer payments (from 23.8% to 25.4%, the US share has remained relatively constant).

Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

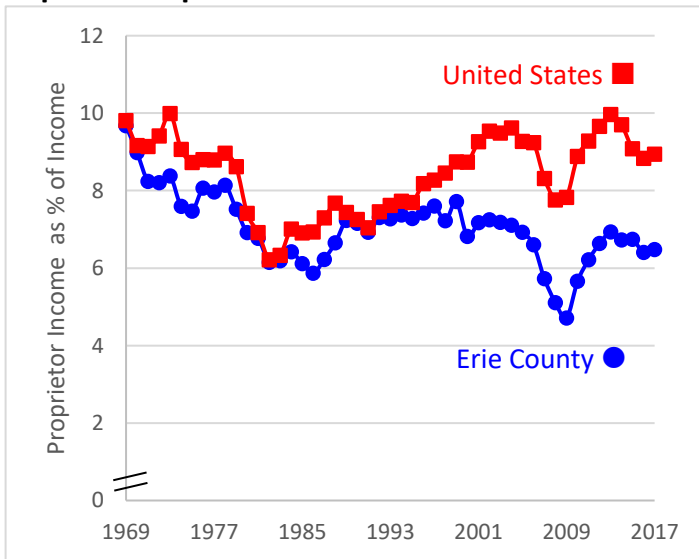
Dividends, Interest, and Rent as Percent of Income, Erie and U.S., 1969-2017



- The US as a whole has had a larger share of income from dividends, interest, and rent than Erie County throughout the entire data set.
- Since 1982, the share has remained relatively stable both in Erie County and in the US. During that time, the share in Erie County has fluctuated between 16% and 18% while it has fluctuated between 17% and 21%.

Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

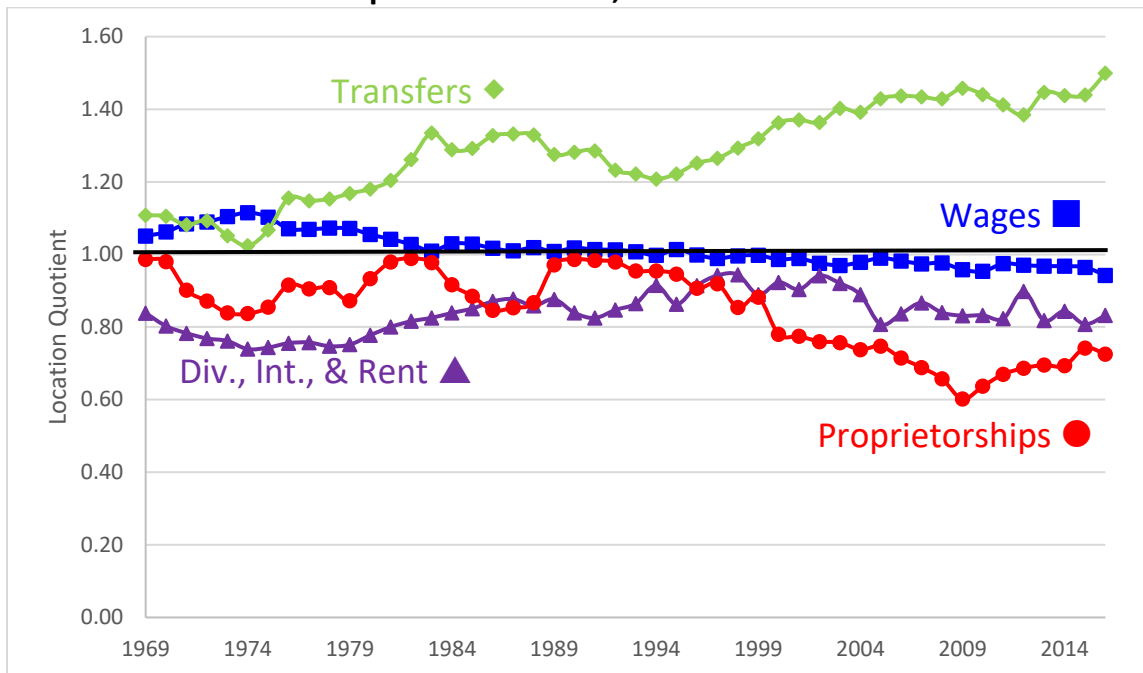
Proprietorship Income as Percent of Total Income, Erie and U.S., 1969-2017



- From 1969 to the mid-90's, the share of income from proprietorships was nearly the same between the United States and Erie County.
- Since the mid-90's, there has been a divergence with the US share increasing and the Erie County share decreasing.
- The trend may be reversing though. Since 2013, the US share has fallen from 9.2% to 8.9% whereas the Erie County share has increased from 4.7% to 6.5% since 2008.

Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

Erie Income Sources Compared to the U.S., 1969-2017

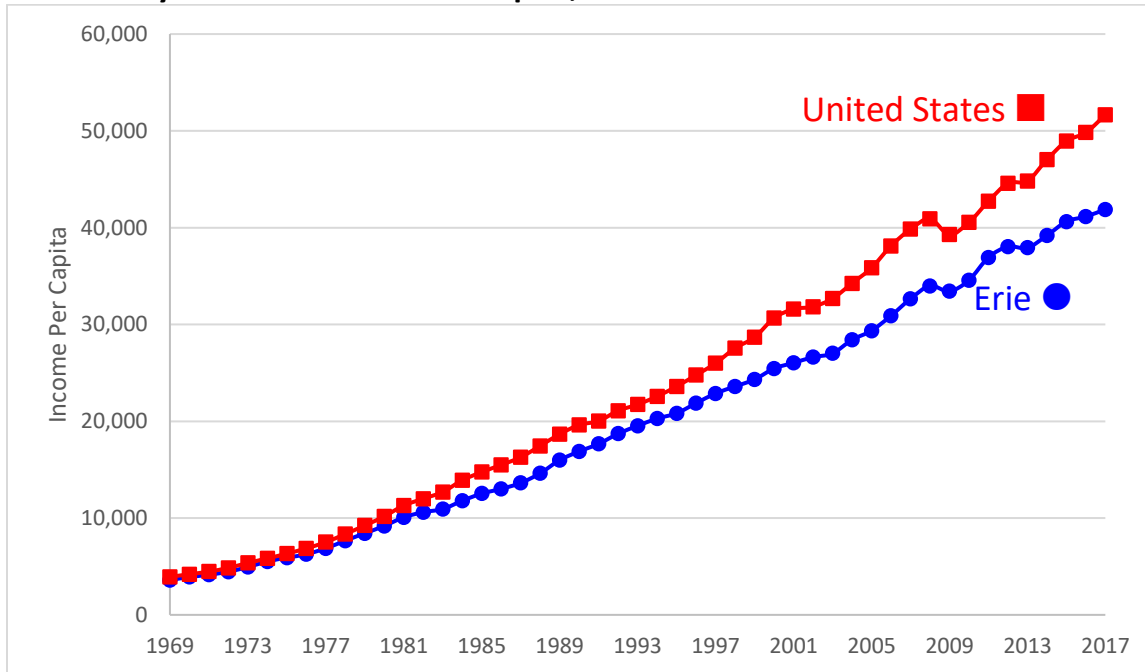


Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

- Location quotients (LQ) allow comparison of Erie income sources with those of the U.S. over time. The location quotient is the ratio of Erie's percentage of income from a particular source divided by the corresponding percentage for the U.S. A value above 1.0 indicates that Erie has more than its share of income from that category, while a value less than 1.0 indicates that Erie has less.
- Earnings from wages made up a larger portion of personal income in Erie County until 1999 at which time the LQ fell below 1. This indicates the United States having a larger proportion of earnings derived from wages. The value has fallen relatively consistently and is now 0.93.
- Transfer payments is the category with the largest increase in LQ over the period, rising from 1.17 in 1969 to 1.50 in 2006, nearly half again the national rate. In recent years, the LQ has continued to increase. In 2017, the LQ was 1.5 which is the largest value in the data set. An increasing transfer payments LQ indicates that Erie residents rely more on government handouts than other places.
- The dividends, interest, and rent LQ has been quite variable over this period, starting at .83 in 1969, rising to slightly less than 1 (0.98) in 2002, and falling to 0.86 in 2017.
- The proprietors' income LQ was 1.15 in 1969 and varied from 0.8 to 1 until the 2001 recession, when it dropped to the 0.7 range. The 2008 recession pushed it down ever further to not much more than half the national rate. Since the recession, the value has been rising and is now at 0.72.
- Erie's economy would be stronger if the proprietor's income and unearned income (dividends, interests and rents) categories were larger, and transfer payments smaller. While proprietorship income has increased, dividends, interest, and rent has been stagnant and transfer payments have continued to rise.

We now start to examine per capita income values.

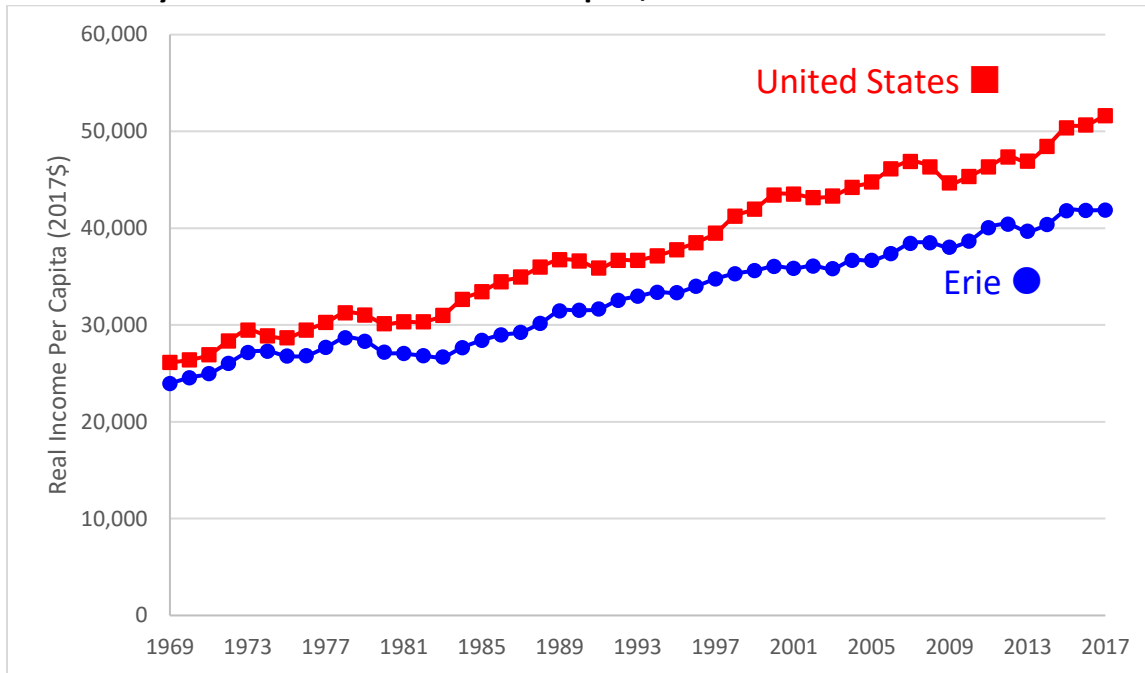
Erie County and U.S. Income Per Capita, 1969-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

- The story of Erie per capita income is one of growth, but of growth at a slower rate than the nation.
- Between 1969 and 2017, per capita personal income grew by 1,214% in the U.S. and 1,063% in Erie.
- In 1969, per capita personal income was \$3,931 in the U.S. and \$3,602 in Erie. Erie's income per capita was \$329 or 8.4% lower than that of the U.S.
- In 2017, per capita personal income was \$51,640 in the U.S. and \$41,887 in Erie, a difference of \$9,753 or 18.9% lower than that of the U.S.
- Since Erie income has grown more slowly than national income, we are falling further behind the national average income level over the years, with a few exceptions.
- From 2016 to 2017 Erie per capita income rose \$736 or 1.8% compared to the US which saw an increase of \$1,809 or 3.6%.
- The previous graph and analysis do not account for inflation. This is corrected on the next graph.

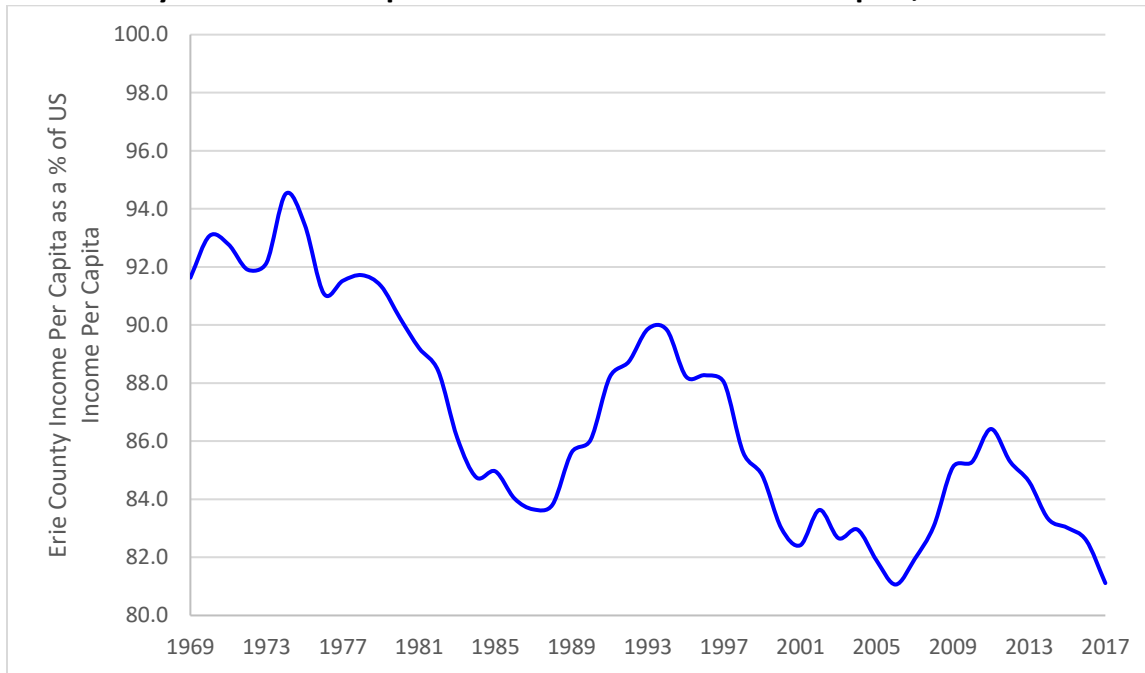
Erie County and U.S. Real Income Per Capita, 1969-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)
[Bureau of Labor Statistics, CPI-U](#)

- Adjusting for inflation yields “real” income per capita. After adjusting for both inflation and population change, the story of Erie income (real income per capita) is still one of growth.
- Real per capita personal income grew by 74.9% in Erie between 1969 and 2017.
- However, real per capita income grew by 96.9% in the U.S. over this same time. Again the story is that Erie is experiencing growth, but at slower rates than the national economy. This means that we continue to fall further behind the national average.
- Adjustment for inflation also spotlights the periods of recession, when real incomes typically fell. These include the 1975 recession, the 1980-83 period, the 2000-03 period and, at the national level, the 2007-09 period. The 1990 recession did not have much impact on Erie incomes.
- While nominal (non-adjusted) income per capita rose for the nation in 2008, it rose at a slower rate than did inflation. As a result, real income fell in both 2008 and 2009 at the national level.
- The 2008 recession seems to have had a less severe impact on Erie than the country.

Erie County Income Per Capita as a % of U.S. Income Per Capita, 1969-2016



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)
[Bureau of Labor Statistics, CPI-U](#)

- Since 1974, Erie County has consistently lagged behind the United States in real income per capita.
- Erie's income per capita was closest to the U.S.'s in 1974, when Erie had 94.6% of the national level of income.
- The recessions of the 1970's and 80's hit Erie harder than the nation, and we lost ground in terms of income per capita.
- After a slight rise in the late 80's and early 90's, the Erie/US ratio again resumed its slide relative to the national average. By 2007, Erie per capita income had decreased to 80.7% of the U.S. per capita income level.
- But during the most recent recession Erie per capita income has gained on the national level, increasing to 85.7% of the U.S. per capita income level in 2011.
- Since 2011, the trend has once again reversed seeing the percentage drop to 81.8%, the lowest since 2005.
- It should be noted that although Erie income has declined relative to U.S. income levels overall, Erie income has still risen significantly over this period.
- The key question, of course, is WHY this is happening, and that is not an easy question to answer. Part of the answer has to do with what Erie does for a living, both in terms of its industries and its occupations. And part of the answer has to do with its education level. More information about those things are later in the *Guide*.

Cost-of-Living

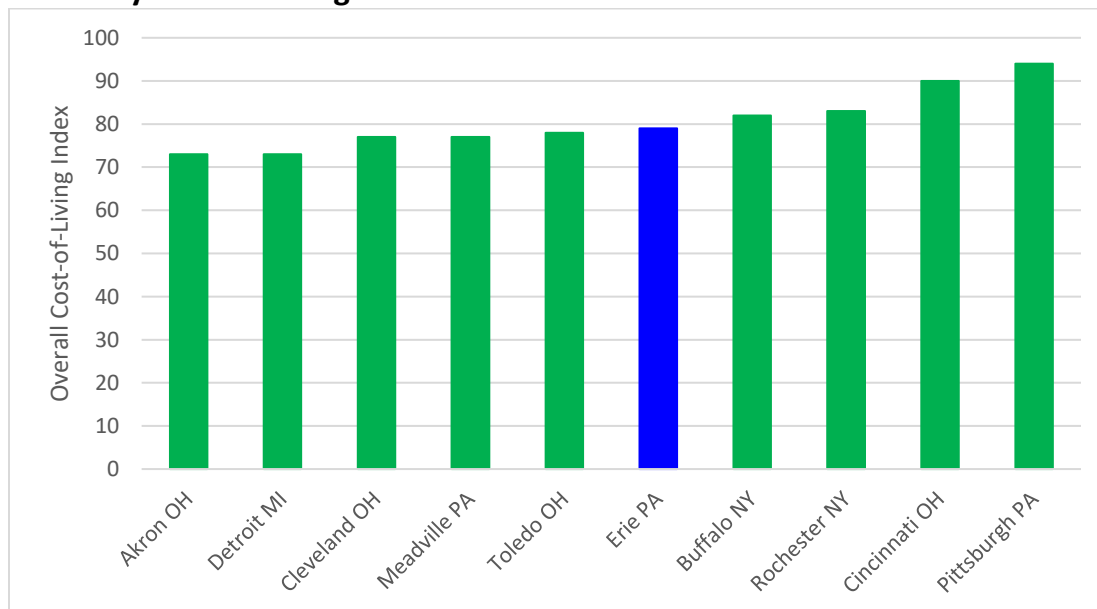
- Due to a recent data collection change, we have started to use the index created by Sperling’s Best Places.
- The index measures food prices, housing prices (with the median home price), utility prices, transportation prices, health prices, and miscellaneous prices. They are then combined into a single index.
- Below, I summarize the values. In addition, I give the cost-of-living difference between the given city and Erie. A positive value means that the stated city is more expensive than Erie (and vice versa.) For example, if a city has a value of 7%, it means that the given city is 7% more expensive to live in compared to Erie.
- A value of 100 means that the cost-of-living in the given category is at the national average. A value greater than 100 means it is more expensive than the national average and a value below 100 means it is less expensive.

Local City Cost-of-Living Comparison

| City | Erie PA | Meadville PA | Pittsburgh PA | Cleveland OH | Buffalo NY | Akron OH | Cincinnati OH | Toledo OH |
|-------------------------|------------|-----------------|------------------|-----------------|---------------|-------------|------------------|--------------|
| Overall | 79 | 77 | 94 | 77 | 82 | 73 | 90 | 78 |
| Food | 93 | 102 | 95 | 93 | 95 | 93 | 93 | 91 |
| Housing | 40 | 47 | 74 | 27 | 40 | 33 | 70 | 36 |
| Utilities | 95 | 97 | 102 | 95 | 107 | 92 | 98 | 97 |
| Transportation | 92 | 75 | 121 | 105 | 115 | 92 | 109 | 98 |
| Health | 91 | 94 | 89 | 82 | 89 | 84 | 86 | 86 |
| Miscellaneous | 104 | 96 | 96 | 104 | 92 | 92 | 97 | 100 |
| Price Diff. Erie | X | -2% | 19% | -3% | 3% | -7% | 13% | -2% |
| Med. Home Price | 75,600 | 87,200 | 138,700 | 50,800 | 74,600 | 61,800 | 130,800 | 67,400 |

Source: [Sperling’s Best Places Cost-of-Living Index](#)

Local City Cost-of-Living Overall Index



Source: [Sperling’s Best Places Cost-of-Living Index](#)

Top Ten/Bottom Ten Cost-of-Living Cities (Population of 100,000+)

(Note: Erie has an overall index of 79.)

| City | Overall | City | Overall |
|--------------------|---------|------------------|---------|
| Sunnyvale CA | 392 | South Bend IN | 73 |
| San Mateo CA | 325 | Akron OH | 73 |
| Manhattan NY | 315 | Dayton OH | 75 |
| Santa Clara CA | 311 | Brownsville TX | 75 |
| San Francisco CA | 305 | Cleveland OH | 77 |
| Berkeley CA | 288 | Toledo OH | 78 |
| North Hempstead NY | 261 | Wichita Falls TX | 78 |
| San Jose CA | 260 | Columbus GA | 79 |
| Fremont CA | 254 | Wayne Twp IN | 79 |
| Daly City CA | 245 | Birmingham AL | 79 |

Source: [Sperling's Best Places Cost-of-Living Index](#)

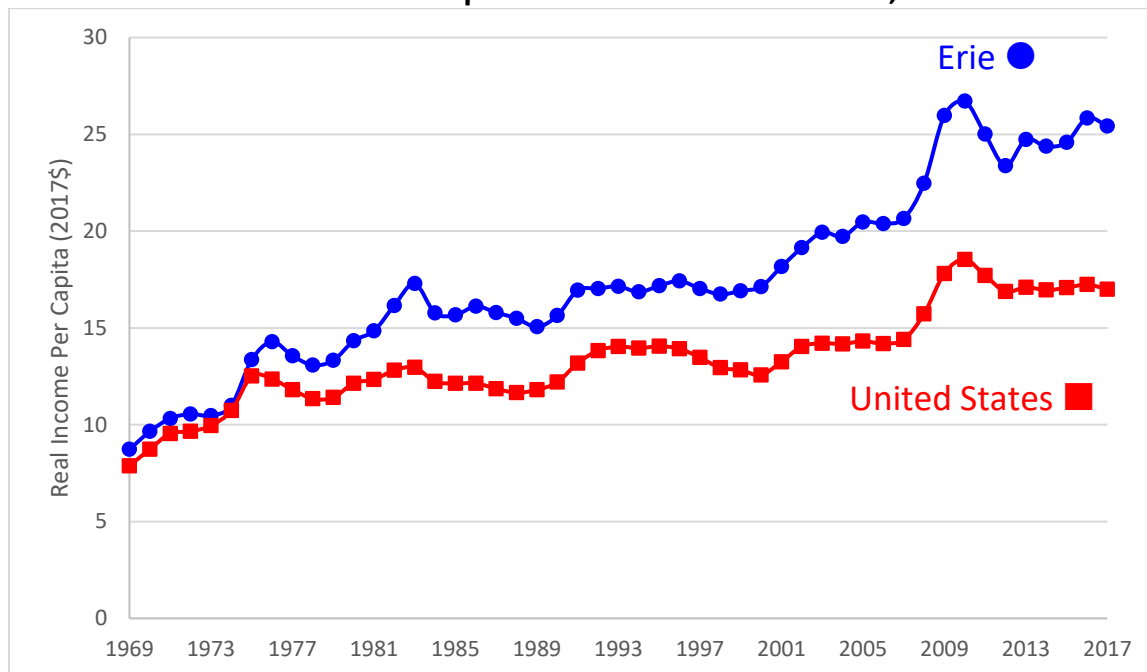
- For the year of 2018, Erie's Cost of Living Index was 79, indicating that Erie's costs were about 21% below the national average. Erie tends to fall between cities regionally close to Erie. The cost-of-living for the entire metropolitan area was 86.
- The cost of living in Sunnyvale, California, America's most expensive city (population 100,00+), is nearly 35x more expensive than Erie. The median home price in San Jose is \$1.766 million (almost 24 times more expensive than Erie's median home value.)
- A lower cost of living means that Erie firms may pay lower wages, and thus have a cost advantage over their competitors in higher-cost locations, while workers have the same standard of living. This can be one source of competitive advantage for Erie firms.
- Eight of the ten most expensive cities are in California. All of these cities are in Silicon Valley.
- You can use the Sperling Best Cities website to compare the cost-of-living between two cities and determine the equivalent salary between cities. For example, if you are earning \$50,000 per year in Erie, you would need to earn \$247,100 in Pal Alto to maintain the same standard-of-living.
- It should be noted that Erie would be in the bottom 10 (tie) of cost-of-living, but would not be included in this list since the current estimated population is just shy of 100,000.
- Most of the cities in the bottom 10 list are part of the Rust Belt and are considered legacy cities.

Transfer Payments, Welfare, Poverty, and Other Financial Hardships

Personal Current Transfer Receipts as a Percent of Personal Income

- Transfer payments, more formally called “personal current transfer receipts,” are benefits received for which no current services are performed, and include payments by governments and businesses to individuals and nonprofit institutions.
- Current *transfer receipts of individuals from governments* accounted for over 97% of total transfer receipts in the Erie MSA in 2016. These transfer receipts include *retirement and disability insurance benefits (e.g., social security), medical benefits, income maintenance benefits, unemployment insurance compensation, veterans’ benefits, education and training assistance, and other miscellaneous payments.*

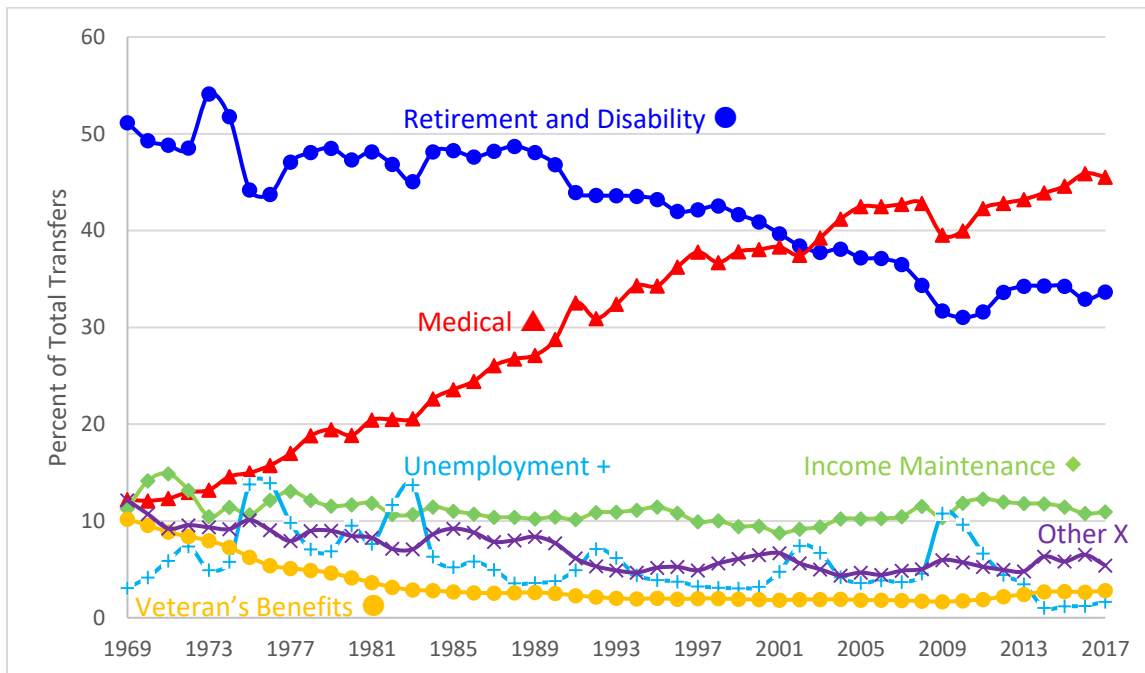
Personal Current Transfer Receipts as a % of Personal Income, 1969-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC4](#)

- In 1969, there was less than a 1 percentage point difference in this ratio between Erie and the U.S. but in 2016 that gap has increased to a 8.7 percentage point difference.
- In 2017, transfer receipts were about 25% of personal income in Erie, versus 17% of personal income for the U.S.

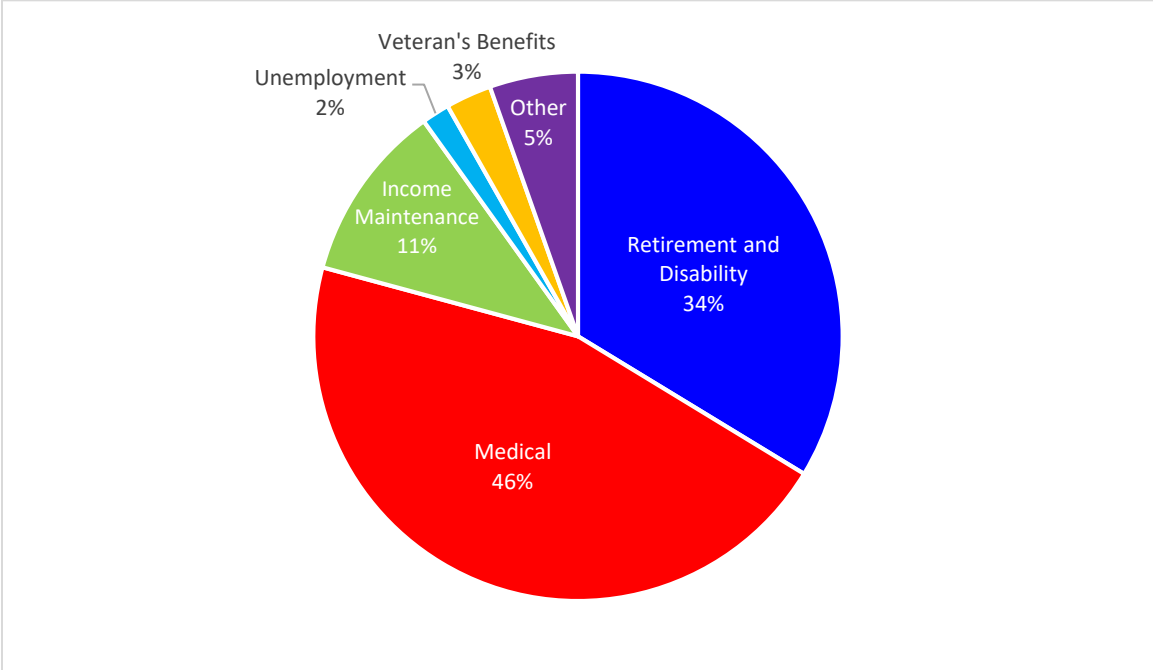
Erie County Select Transfer Payments as Percent of Total Transfer Payments, 1969-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC35](#)

- Medical benefits have risen from 12.19% of total transfers to nearly 46% between 1969 and 2016.
- At the same time, retirement and disability payments have been decreasing as a share of total transfer payments. Some factors that may have contributed to this trend are workers retiring at later ages and an increase of uninsured persons qualifying for Medicaid or medical assistance.
- Medical payments eclipsed the percentage of retirement and disability payments in 2003.
- One may note that during recessions or economic downturns, retirement and medical payments often lose transfer share to that of unemployment insurance benefits. This doesn't necessarily mean that actual dollar amounts of these two payments decreased. Rather, unemployment insurance benefits usually increase at a higher than normal rate.
- The other category includes the following: Transfers to non-profits, transfers to businesses, education programs, and other/miscellaneous transfers.

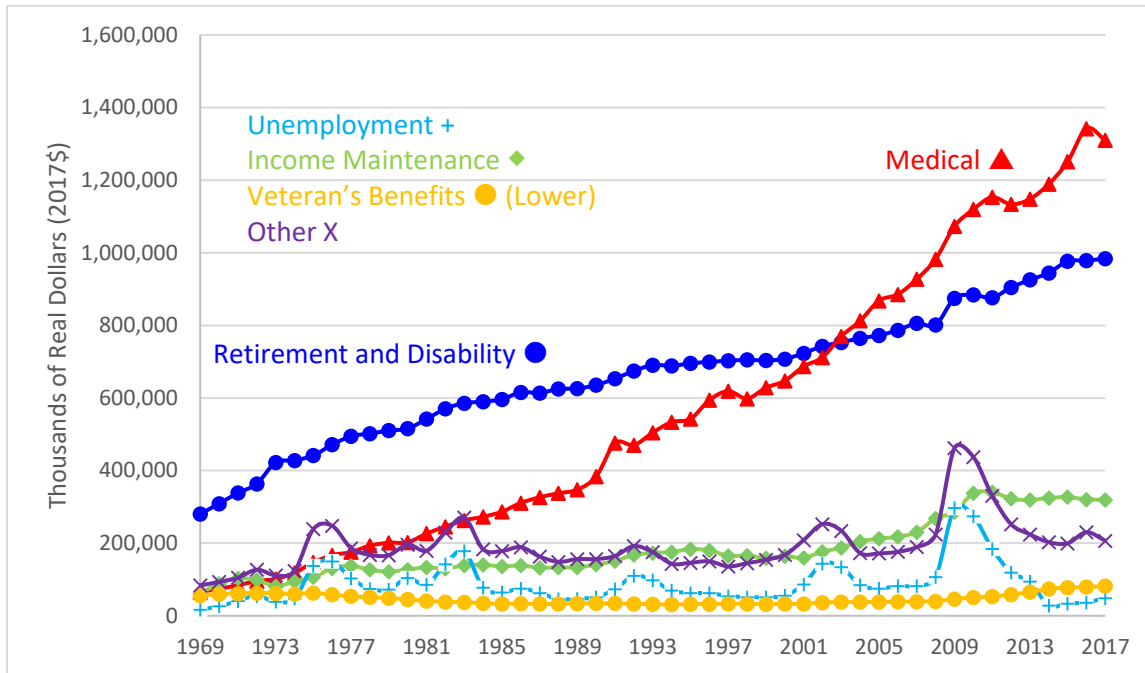
Distribution and Dollar Value of 2017 Transfer Payments Erie County



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC35](#)

- The above chart displays the distribution of transfer payments in Erie County for the year 2016.
- Medical benefits and retirement/disability benefits together represent nearly 80% of the \$2.92 billion distributed by the various programs.
- Again, the other category includes the following: Transfers to non-profits, transfers to businesses, education programs, and other/miscellaneous transfers.

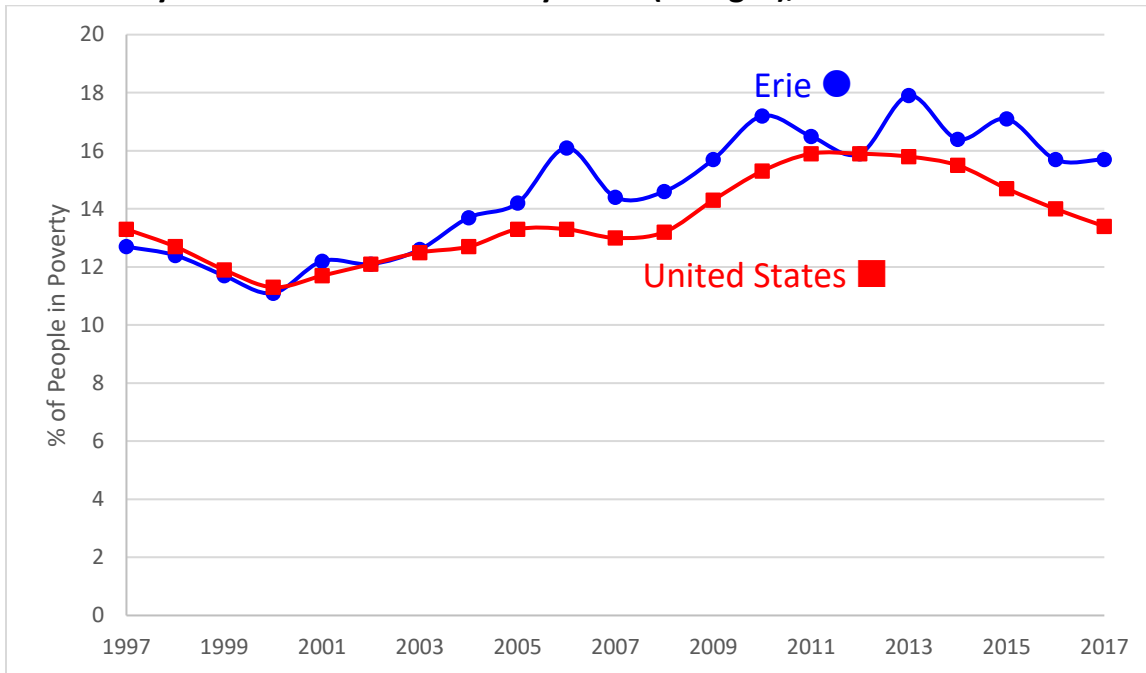
Select Erie County Real Transfer Payments 1969-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC35](#)

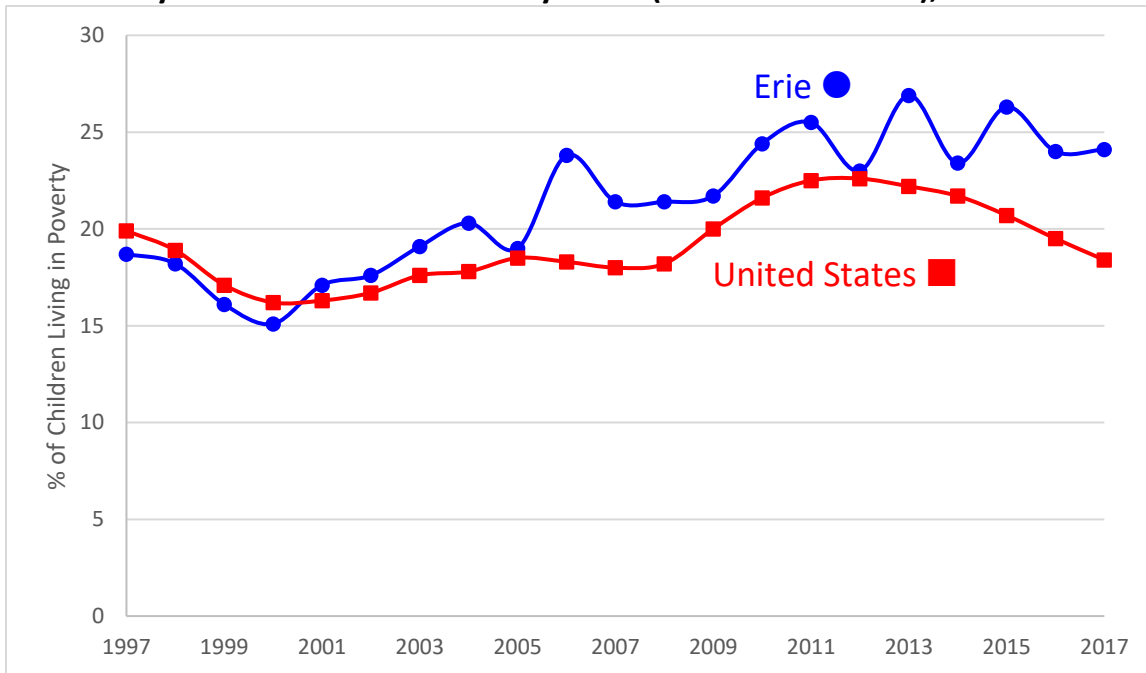
- The figure above shows the amount of money that has been allocated to the different kinds of transfer payments to the citizens of Erie MSA from 1969 to 2017. These values have been adjusted for inflation since their collection and are shown in 2016 dollars to give a better representation as to how actual redistribution of funds has changed.
- Unemployment insurance included in the other category tend to be the most volatile, while medical and retirement/disability benefits (social security) rarely see a decrease in their allocation. Overall medical benefits have increased from \$66 million (in 2017\$) in 1969 to \$1.31 billion (in 2017\$) in 2017, an increase of nearly 2,000%.
- This time, the other category includes the following: Unemployment insurance, transfers to non-profits, transfers to businesses, education programs, and other/miscellaneous transfers.

Erie County and United States Poverty Rates (All Ages), 1997-2017



Source: [US Census Bureau, Small Area Income and Poverty Estimates](#)

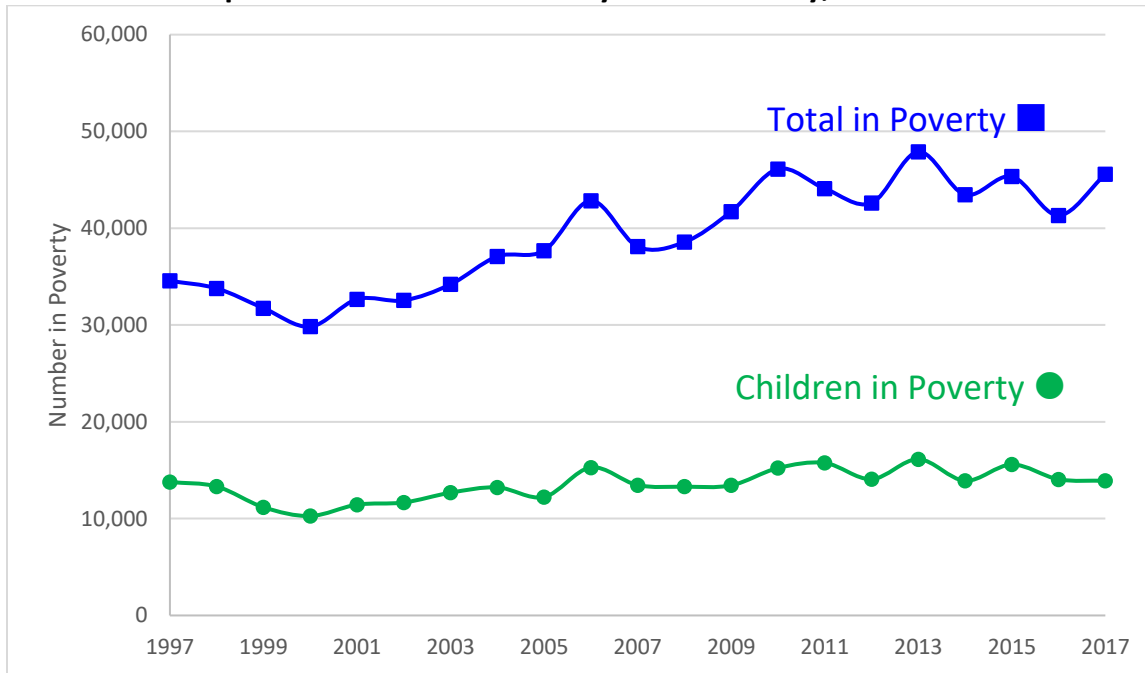
Erie County and United States Poverty Rates (Children under 18), 1997-2017



Source: [US Census Bureau, Small Area Income and Poverty Estimates](#)

- Since the recession of 2001, Erie’s poverty rate was either equal to or above that of the nation.
- In 2016, the poverty rate in Erie was 1.7 percentage points higher than the poverty rate of the U.S. at 15.7% compared to the national value of 14.0%
- We also see child poverty rates consistently higher over the past 15 years in Erie County.

Number of People and Children in Poverty in Erie County, 1997-2017



Source: [US Census Bureau, Small Area Income and Poverty Estimates](#)

Poverty by Age, Sex, and Race, 2017

| (blank) | % in poverty | % in poverty | % in poverty | % in poverty |
|--------------------------------------------|--------------|--------------|--------------|--------------|
| Subject | Erie City | Erie County | PA | US |
| OVERALL POPULATION | 26.9 | 16.0 | 12.5 | 13.4 |
| AGE | (blank) | (blank) | (blank) | (blank) |
| Under 18 years | 43.5 | 24.9 | 17.0 | 18.4 |
| Related children under 18 years | 43.2 | 24.8 | 16.7 | 18.1 |
| 18 to 64 years | 23.4 | 14.4 | 12.1 | 12.6 |
| 65 years and over | 15.1 | 10.3 | 8.5 | 9.3 |
| SEX | | | | |
| Male | 24.4 | 13.9 | 11.2 | 12.2 |
| Female | 29.3 | 18 | 13.7 | 14.5 |
| RACE | (blank) | (blank) | (blank) | (blank) |
| White | 22.9 | 12.7 | 10.1 | 11.1 |
| Black or African American | 29.0 | 36.1 | 24.8 | 23.0 |
| American Indian and Alaska Native | NA | NA | 24.6 | 25.4 |
| Asian | NA | 10.1 | 13.3 | 11.1 |
| Native Hawaiian and Other Pacific Islander | NA | NA | NA | 18.3 |
| Some other race | NA | NA | 28.4 | 20.3 |
| Two or more races | 53.5 | 43.3 | 22.3 | 16.7 |

Source: [US Census Bureau, American Community Survey 2017, Table S1701 \(Poverty\)](#)

- The poverty rate for PA (12.5%) is lower than that of the nation (13.4%), while Erie County's rate is higher (16.0%). Poverty in City of Erie is significantly higher at 26.9%.

- Moreover, poverty rates are higher in the City of Erie for every subject area for which data are available.
- The data show that poverty is a problem especially for children, but that senior citizens experience less poverty than average.
- Poverty rates are higher for women than for men across all categories.
- Poverty tends to be a problem for most racial minorities, and especially for African Americans across all areas. One exception to this pattern is that those of Asian descent tend to have a lower than average poverty rate at the national level.

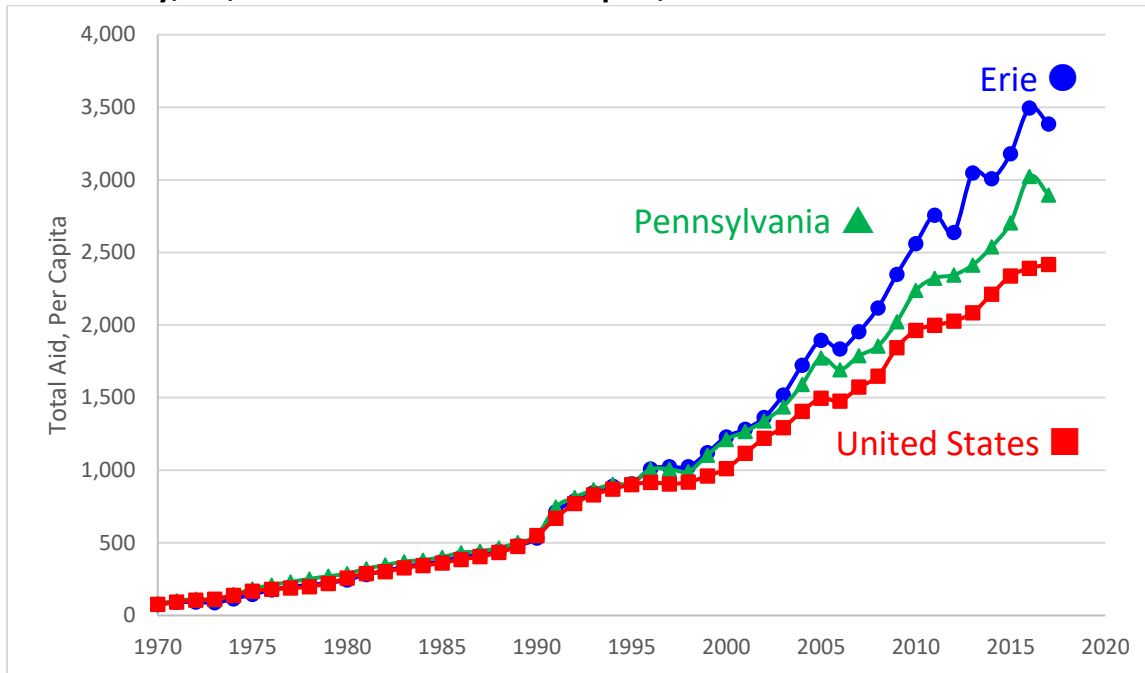
Poverty by Educational Attainment, Employment Status, & Work Experience, 2016

| Subject | % poverty Erie City | % poverty Erie County | % poverty PA | % poverty US |
|-------------------------------------------------|------------------------|--------------------------|-----------------|-----------------|
| EDUCATIONAL ATTAINMENT | | | | |
| Population 25 years or older | 18.8 | 11.3 | 10.2 | 10.8 |
| Less than high school graduate | 38.9 | 33.6 | 24.1 | 24.7 |
| High school graduate (or equivalency) | 17.8 | 11 | 13.2 | 13.7 |
| Some college, associate's degree | 18.5 | 9.9 | 9 | 9.5 |
| Bachelor's degree or higher | 5.6 | 5.9 | 3.8 | 4.3 |
| EMPLOYMENT STATUS | | | | |
| Civilian labor force age 16 and over | 15.4 | 8.2 | 6.5 | 7.4 |
| Employed | 11.6 | 6.4 | 5.2 | 6.2 |
| Male | 9.3 | 4.9 | 4.2 | 5.2 |
| Female | 14.3 | 8.1 | 6.2 | 7.3 |
| Unemployed | 53.6 | 35.2 | 29.8 | 30.4 |
| Male | 55.8 | 34.7 | 27.4 | 27.3 |
| Female | 51 | 35.7 | 32.8 | 34 |
| WORK EXPERIENCE | | | | |
| Population age 16 and over | 21.9 | 13.4 | 11.4 | 12 |
| Worked full-time, year round in past 12 months | 5.4 | 2.8 | 1.9 | 2.6 |
| Worked part-time or part-year in past 12 months | 29.1 | 17.8 | 14.9 | 16.1 |
| Did not work | 33.7 | 22.5 | 21.2 | 21.5 |

Source: [US Census Bureau, American Community Survey 2017, Table S1701 \(Poverty\)](#)

- As one would expect, education and work experience has a sizable impact on poverty. For example, in Erie County, the poverty rate for people 25 and older is 11.3%, but those 25 and older without a high school diploma face a 33.6% poverty rate meaning that 1 in 3 without a high school diploma is in poverty.
- This presents a difficult problem: Those living in poverty often face more obstacles to obtain an education which can create a cycle of poverty.
- Also unsurprising is the fact that those that had full-time, year-round work face a much lower poverty rate than those with part-time work, part-year work, or did not work.

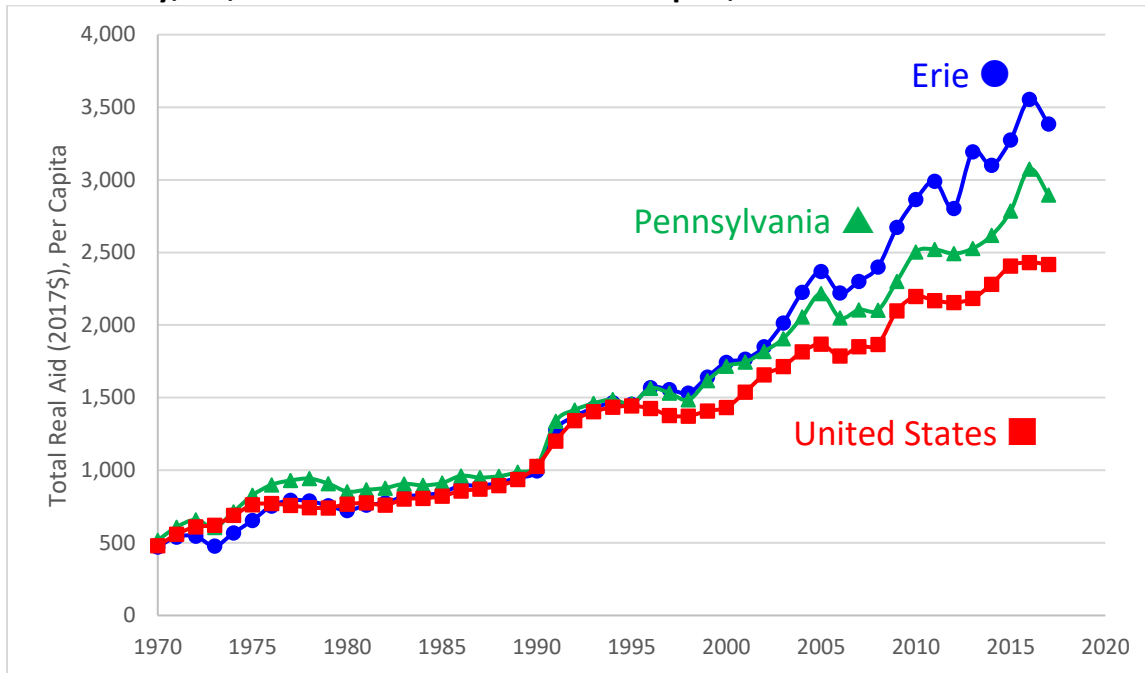
Erie County, PA, and U.S. Total Aid Per Capita, 1970-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC35](#)

- Welfare aid includes payments for public assistance, medical benefits, supplemental security income, family assistance, food stamps, and a few other income maintenance benefits.
- In 2017, Erie residents received \$3,384 per capita in welfare assistance. This is down from \$3,496 in 2016. Average Erie income was \$41,887 in 2017.
- The rise in welfare payments has increased precipitously during the last recession even after the recession ended and the United States entered into a robust expansion.
- Since 1996 residents of the Erie metro area (Erie County) have received greater amounts of welfare aid per capita than average for the U.S. and the state of Pennsylvania.
- One perspective is that Erie is receiving more than its share of federal tax dollars.
- Another perspective is that more Erieites qualify for public aid than average, which fits with the stories above about lower income per capita and higher than average poverty rates.
- There is no free lunch here; if someone is getting “free money” from the government to help them pay their expenses, then other people are paying extra in taxes.
- In 1969, welfare aid per person was \$50 in Erie County. That’s a more than 4400% increase from 1970 to 2017. To get a better idea of the real increase, that is when inflation is accounted for, we examine the inflation-adjusted welfare per capita next.

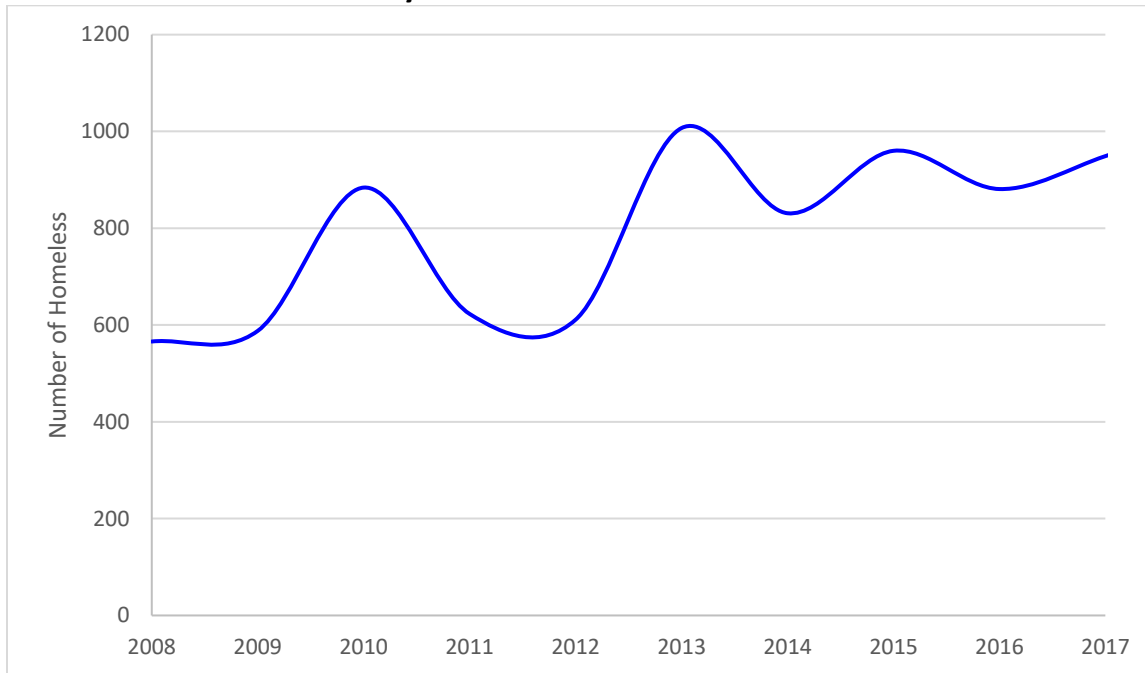
Erie County, PA, and U.S. Total Real Aid Per Capita, 1970-2017



Source: [Bureau of Economic Analysis, Regional Economic Information System, Table CAINC35](#)

- There is a similar trend when aid is adjusted for inflation with a more pronounced gap between Erie County, Pennsylvania, and United States.
- In fact, since 2006, real aid per capita has increased by more than 50%.
- In 2006, Erie County received 8.4% and 24.3% more aid per capita than Pennsylvania and the United States, respectively. In 2017, that increased to 16.8% and 40.0% more, respectively.

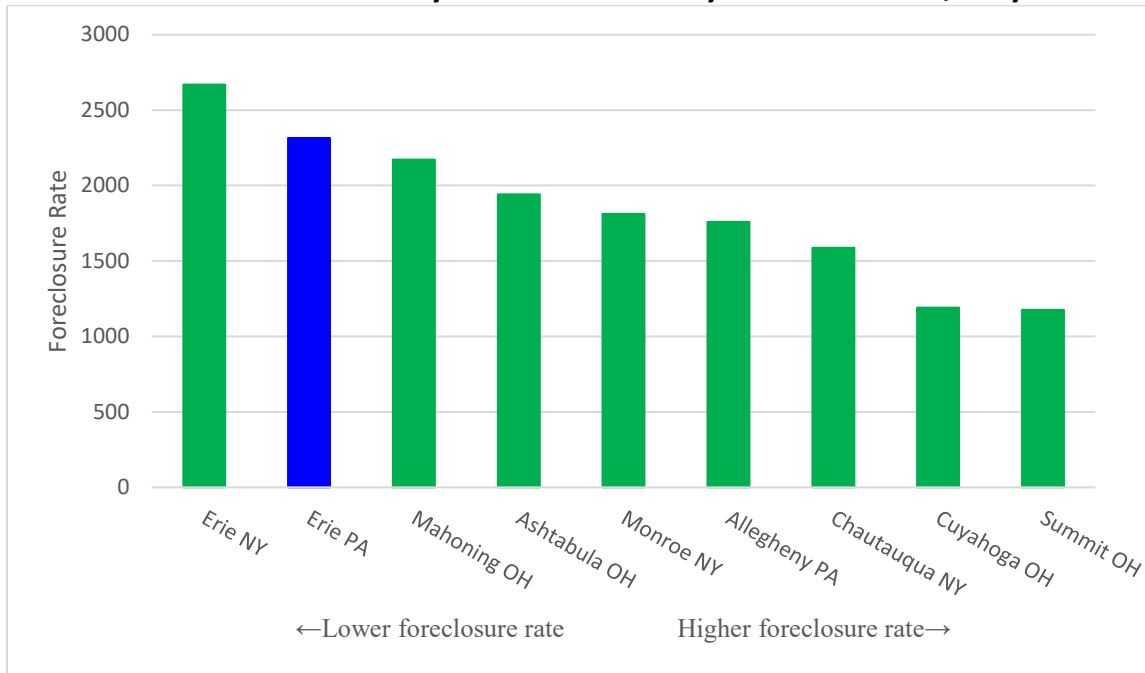
Homelessness in Erie County



Source: [2018 Erie County Single Point in Time Study](#)

- Since 2004 a survey has been conducted by the Erie County Department of Human Services, Erie Home Team, and Susan Hirt Hagen CORE at Penn State Erie, The Behrend College to collect homelessness data for citizens of Erie County. This has been taken over by the Mercyhurst University Civic Institute.
- There was a steady increase from 2007-2013, with oscillation between 1,000 and 1,200 since 2013.
- In 2018, 1,026 Erieites were homeless.
It should be noted that the 2018 report included a change in the definition of homeless. Therefore the values for previous years were adjusted to meet the new definition.
- More information can be found at the Erie Home Team website at <http://www.eriehometeam.org/resources/>. The report includes a comprehensive breakdown of the type of homeless and demographics of the homeless.

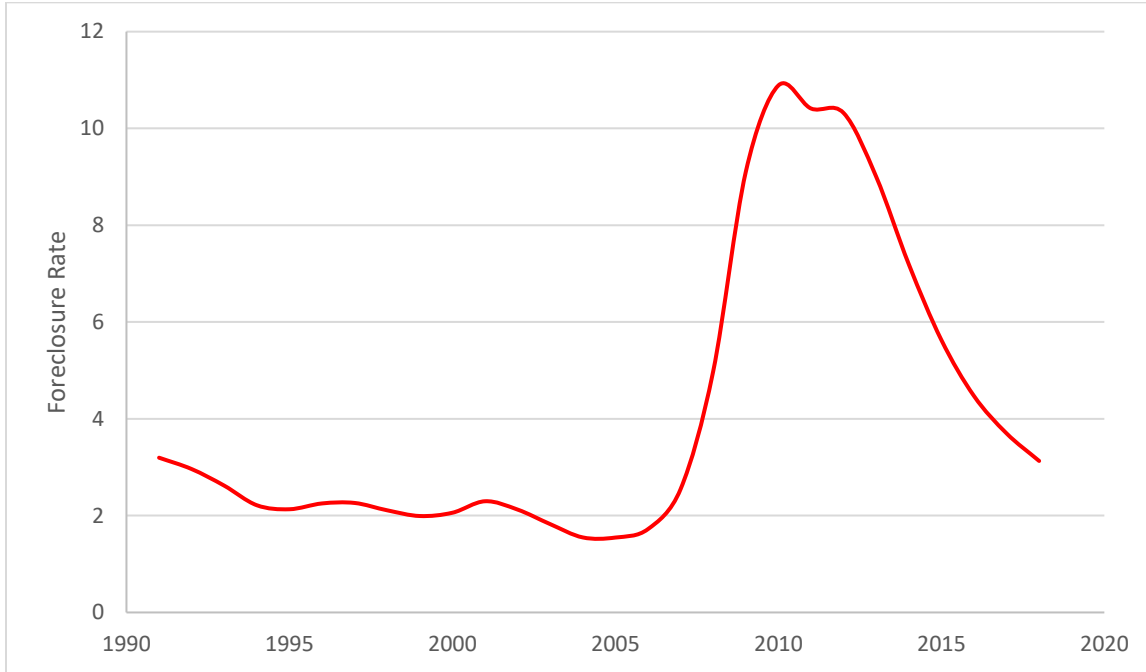
Foreclosure Rates: Erie County & Selected Nearby Counties Areas, May 2019



Source: [RealtyTrac Foreclosure Trends](#)

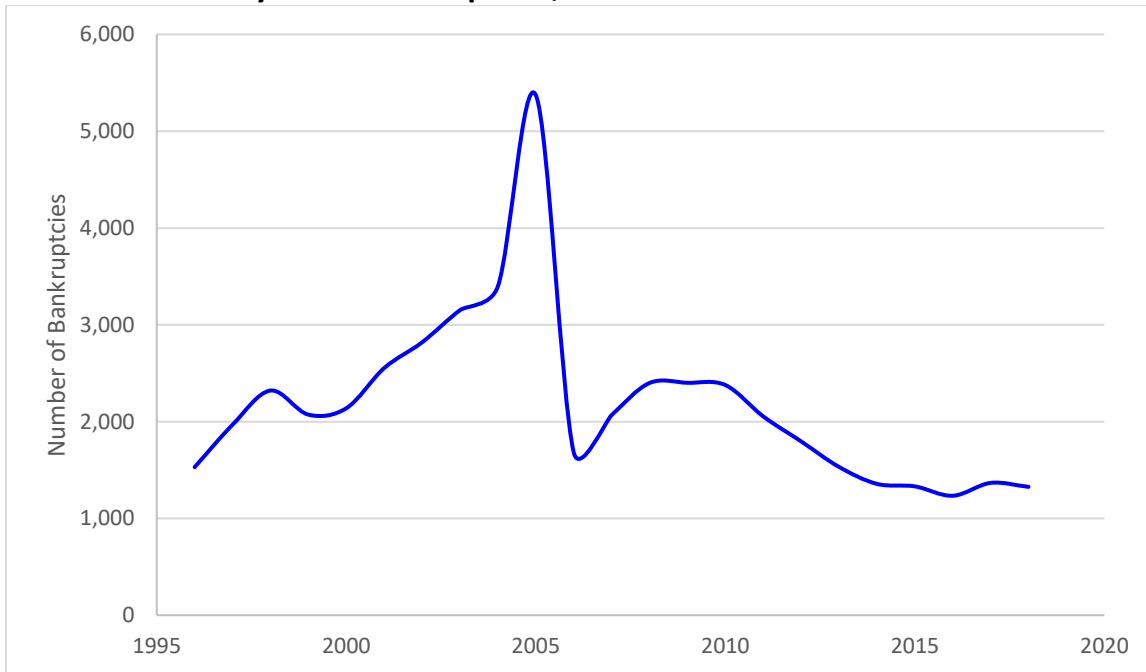
- Note: It should be noted with foreclosure rates, the bigger the number the better. For instance, a rate of 1:1,000 means that for every 1,000 properties, one of them is in foreclosure whereas 1:2,000 would mean that one property is in foreclosure for every 2,000 properties, half as many as the first case.
- These are also monthly rates, so these values are meant to capture current trends. The value does not include properties that have been in a state of foreclosure. Values can vary wildly from one month to the next, so these values should only be loosely related with the actual foreclosure rates for each county given.
- The comparison includes Erie NY (Buffalo), Monroe NY (Rochester), Allegheny PA (Pittsburgh), Summit OH (Akron), Mahoning OH (Youngstown), and Cuyahoga OH (Cleveland). In addition, the neighboring counties of Ashtabula OH and Chautauqua NY are included as well. Data for Warren PA is not available.
- While Erie (NY) and Crawford counties are faring very well, Erie (PA) is also strong with respect to foreclosure rates compared to regionally close counties.
- Crawford (PA) was excluded because of a possible data anomaly. The current foreclosure rate is listed as one foreclosure for every 13,100 which would put it as one of the strongest housing markets in the country.

Delinquency Rate on Single-Family Residential Mortgages (National), 1991-2018



Source: [Board of Governors of the Federal Reserve System \(through the St. Louis FED\)](#)

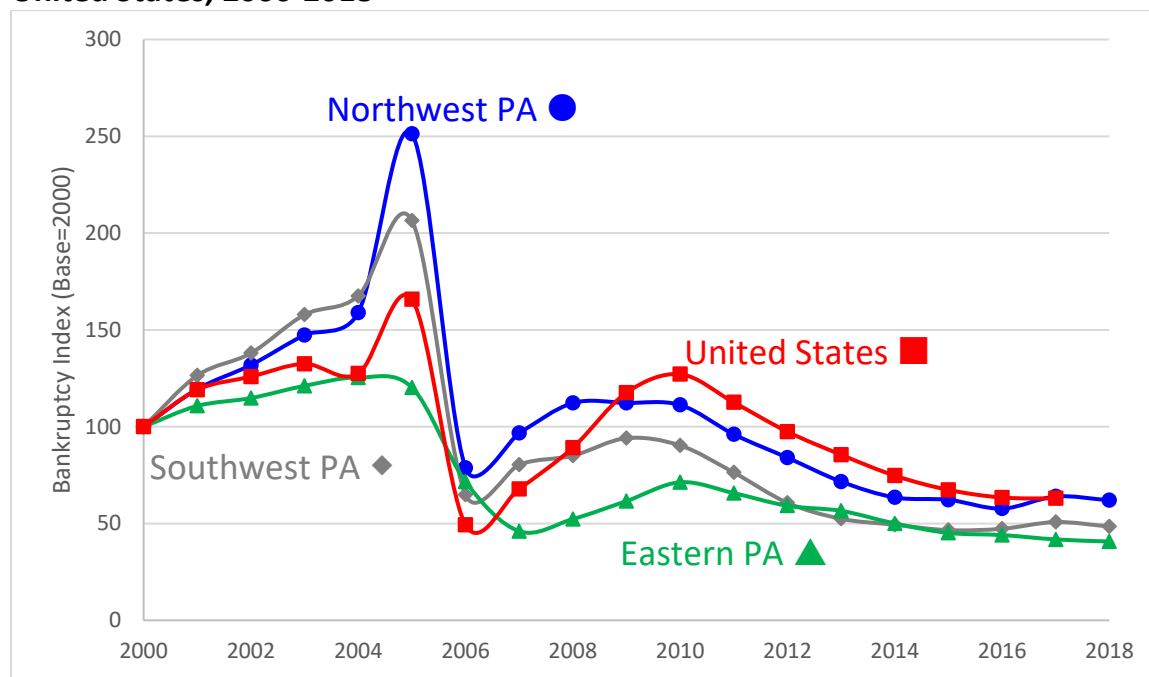
Northwest Pennsylvania Bankruptcies, 1996-2018



Source: [United States Bankruptcy Court Western District of Pennsylvania](#)

- Data on bankruptcies are available from the U.S. Bankruptcy Court for the Western District of PA. The data are not given by county but there are data for the Northwest PA region as a whole, which includes Erie, Crawford, Mercer, Venango, Clarion, Jefferson, Elk, Forest, Warren, and McKean counties. The graph above shows data for the aggregate of those 10 counties. The data include bankruptcies under Chapters 7, 11, 12 and 13, which includes individuals, partnerships, and corporations.
- In the Northwest PA region, bankruptcy filings rose moderately from 1996 to 2004. There was an abrupt peak in 2005 with 5,373 bankruptcy filings. In 2006, bankruptcies fell sharply to 1,683.
- It should be noted that the Bankruptcy Abuse Prevention and Consumer Protection Act was passed in 2005 and began to take effect in late 2005. This act changed many of the bankruptcy laws and is most likely the cause of the increased number of filings in 2005 as people filed under the old laws before the new law took effect.
- There were 1,326 bankruptcy filings in this region in 2017, a slight reduction from 2016. We note that there was no sharp increase in bankruptcies in Erie during the recent recession.

Bankruptcy Indices for Northwestern PA, Southwestern PA, Eastern PA, and the United States, 2000-2018



Source: [United States Bankruptcy Court Western District of Pennsylvania](#)
[United States Bankruptcy Court Eastern District of Pennsylvania](#)
[American Bankruptcy Institute](#)

- The number of bankruptcies are indexed to their 2000 values.
- Four areas are studied: Northwestern Pennsylvania, Southwestern Pennsylvania, Eastern Pennsylvania, and the United States as a whole.
- Again, we see a spike in 2005 due to changes in bankruptcy law. This occurred in all four geographies.
- Northwest PA saw the largest spike in 2005 though it has seen one of the largest drop-offs since 2008.
- The United States as a whole saw a more significant spike than any area in Pennsylvania during the 2008 recession.
- National data for 2018 has yet to be released.

Employment and Output

Employment⁸

- 123,715 in March 2019 (Metro)
 - Source: [Bureau of Labor Statistics Local Area Unemployment Statistics](#)
- 123,760 in May 2018 (Metro)
 - Source: [Bureau of Labor Statistics Occupational Employment and Wage Estimates](#)
- 158,554 in 2017 (County)
 - Source: [US Bureau of Economic Analysis Regional Data: GDP and Personal Income](#)

Number of Nonfarm Business Establishments in 2016

6,191 establishments with employees

13,838 nonemployer establishments⁹

20,029 total business establishments

- Source: [US Census Geography Area Series: County Business Patterns 2016](#)
- Source: [US Census CBP and NES Combined Report 2016](#)

Income

- Aggregate Personal Income¹⁰, 2017: \$ 11,499,800,000
- Income Per Capita, 2016: \$41,887 for every man, woman and child in the county
 - Source: [US Bureau of Economic Analysis Regional Data: GDP and Personal Income](#)

⁸ Employment counts vary from program to program depending on coverage of the program (whether the program covers self-employed workers, those not subject to unemployment insurance, agriculture workers, etc.), whether the program counts jobs or people (since one person can hold more than one job), by place of work or place of residence (how commuters are treated), all workers or full-time equivalents, and unpaid family workers. Different data series are useful for different purposes, since some provide industry detail, others occupational detail, some are more timely, others are more detailed or more frequent, etc.

⁹ A nonemployer business is one that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the construction industries), and is subject to federal income taxes. Nonemployer businesses are generally small, such as real estate agents and independent contractors. Nonemployers constitute nearly three-quarters of all businesses nationally, but they contribute only about three percent of overall sales and receipts data.

¹⁰ Personal income is the income that is received by persons from all sources. It is calculated as the sum of wage and salary disbursements, supplements to wages and salaries, proprietors' income, rental income of persons, personal dividend income, personal interest income, and personal current transfer receipts, less contributions for government social insurance.

The U.S. Conference of Mayors estimates Gross Metro Product for U.S. Metro Areas. Gross Metro Product is analogous to Gross Domestic product (GDP) for a country. It measures the value of all final goods and services produced in that metro area during the year. To avoid confusion, especially when comparing the value to state and national values, we will refer to the gross metro product as the gross domestic product (GDP) of the Erie metro area.

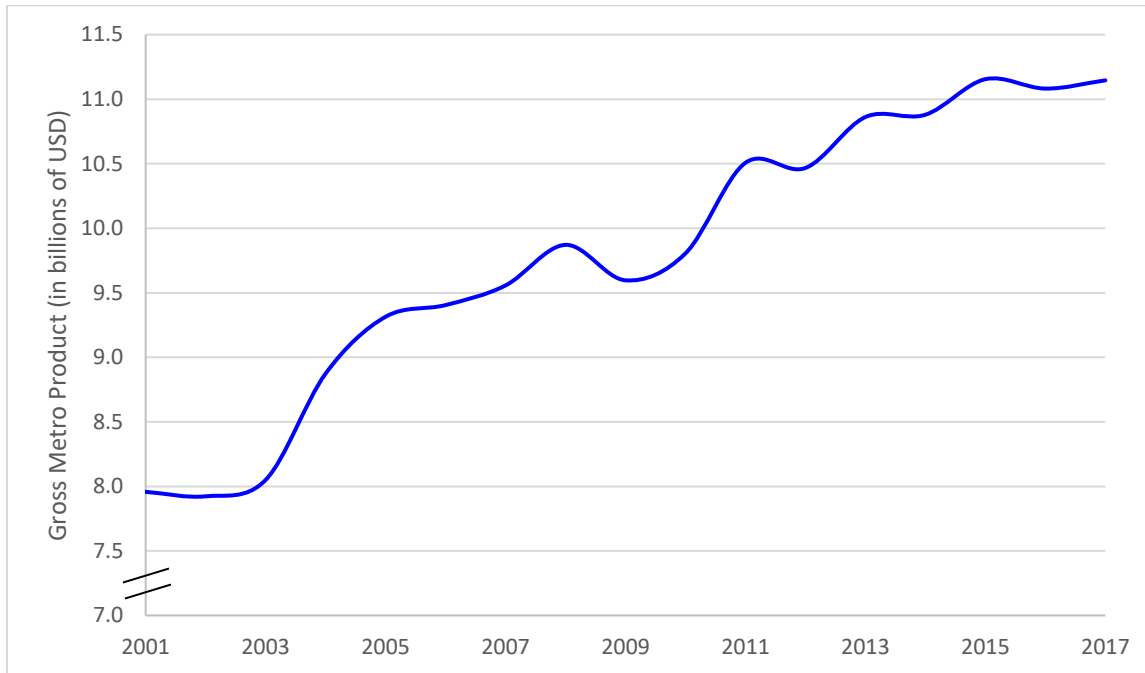
Output of Goods and Services Produced of the Erie Metro Area

- Gross Domestic Product: \$11.3 billion in 2017
- Erie's output is ranked 189 out of 381 metro areas (down three spots from 2016)
- Erie ranks 6th out of the 10 metro areas that contain at least part of Pennsylvania
- If Erie County was a country, it would rank number 132 in GDP (out of 185 countries) according to the World Bank.
- The economy of Erie is similar in size to counties like Malta, Mozambique, The Bahamas, Albania, Armenia, Rwanda, Haiti, and Kyrgyzstan.
 - Source: [US Conference of Mayors 2018 US Metro Economies Annual Report](#)

The U.S. Bureau of Economic Analysis (BEA) also estimates GMP for American Metro areas. Their numbers differ from the U.S. Mayors' numbers since they use different methodologies and data sources. The graph below shows their estimates for Erie through time.

Note: A gross metro product (GMP) is the same thing as gross domestic product (GDP) other than the fact that GDP looks at countries and GMP looks at metro areas.

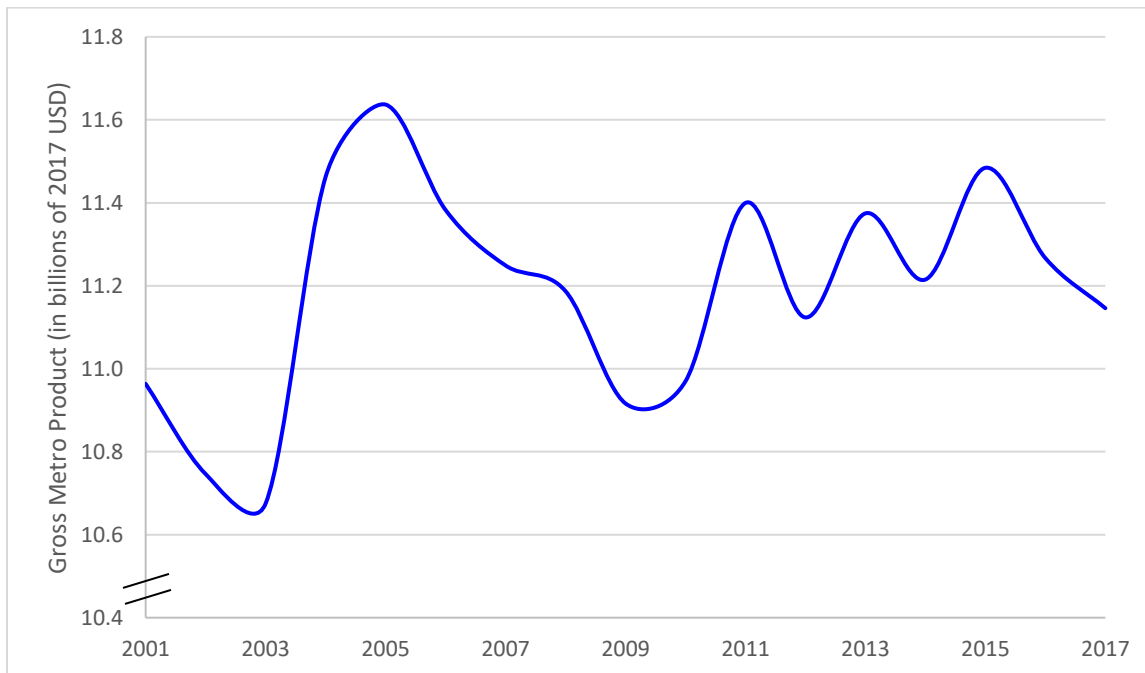
Erie Metro Area Gross Metro Product



Source: [US Bureau of Economic Analysis: GDP by Metro Area Table MAGDP2](#)

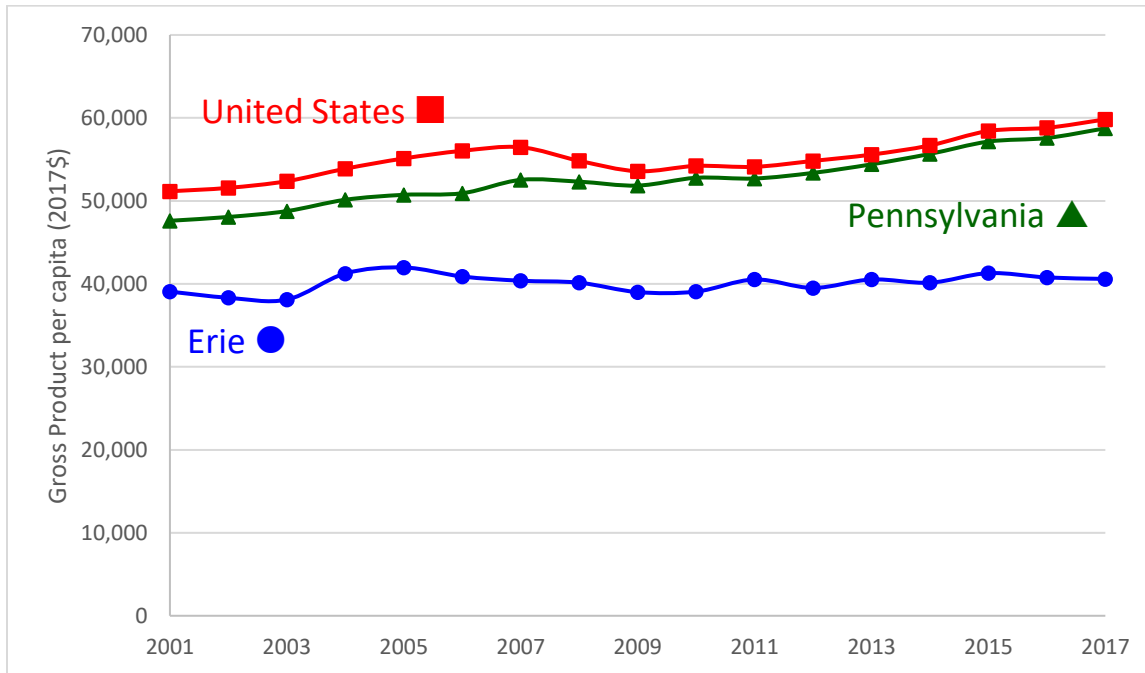
- We can see a general increase in Erie's gross metro product since 2001.
- The only major dip was during the recession.
- It also appears as though growth, while positive, has been relatively minor in recent years.
- The next graph looks at real GMP which controls for inflation.

Erie Metro Area Real Gross Metro Product



Source: [US Bureau of Economic Analysis: GDP by Metro Area Table MAGDP9](#)

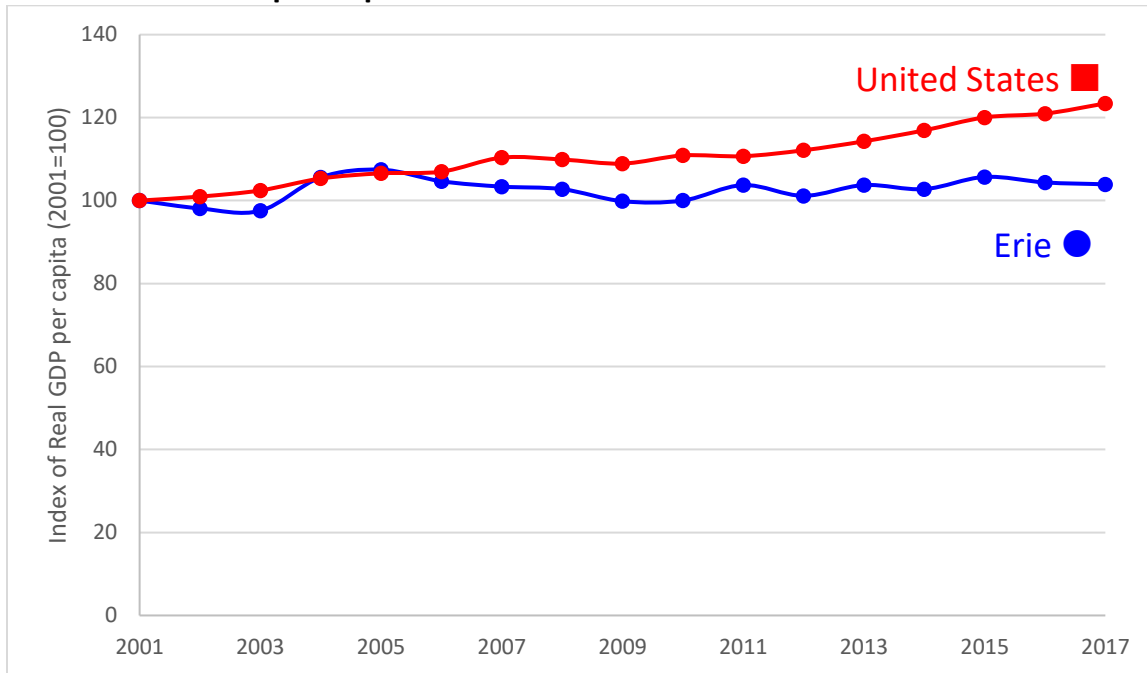
Real Gross Domestic Product per Capita of Erie Metro, Pennsylvania, and the United States



Source: [US Bureau of Economic Analysis: GDP by Metro Area Tables MAGPD2 and SAGDP2](#)

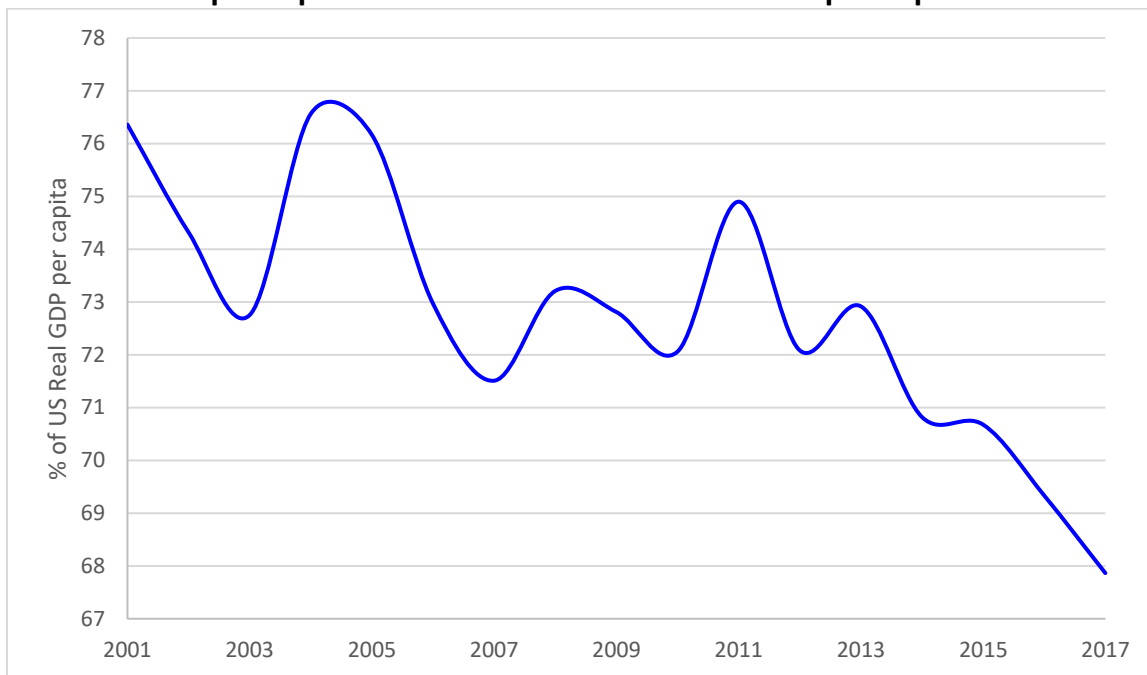
- The BEA estimates Erie's GMP at \$11.0 billion in 2001, but have hovered between \$10.7 billion and \$11.6 billion with occasional ebbs and flows. Because there are real values, they are adjusted for inflation.
- The Erie economy rebounded from the 2008 recession, but a recent slide has sent the GDP for Erie back to near-recession values even though the national economy is in a strong expansion (as of mid-2019).
- Since 2010, both the Pennsylvania and United States real GDP per capita has increased while the Erie county real GDP per capita has fallen more than 1.7% since 2015.
- This trend is also apparent when we index the real GDP per capita values for the United States and Erie metro.

Index of Real GDP per Capita for Erie Metro Area versus the United States



Source: [US Bureau of Economic Analysis: GDP by Metro Area Tables MAGPD2 and SAGDP2](#)

Erie Real GDP per capita as a Percent of the US Real GDP per capita



Source: [US Bureau of Economic Analysis: GDP by Metro Area Tables MAGPD2 and SAGDP2](#)

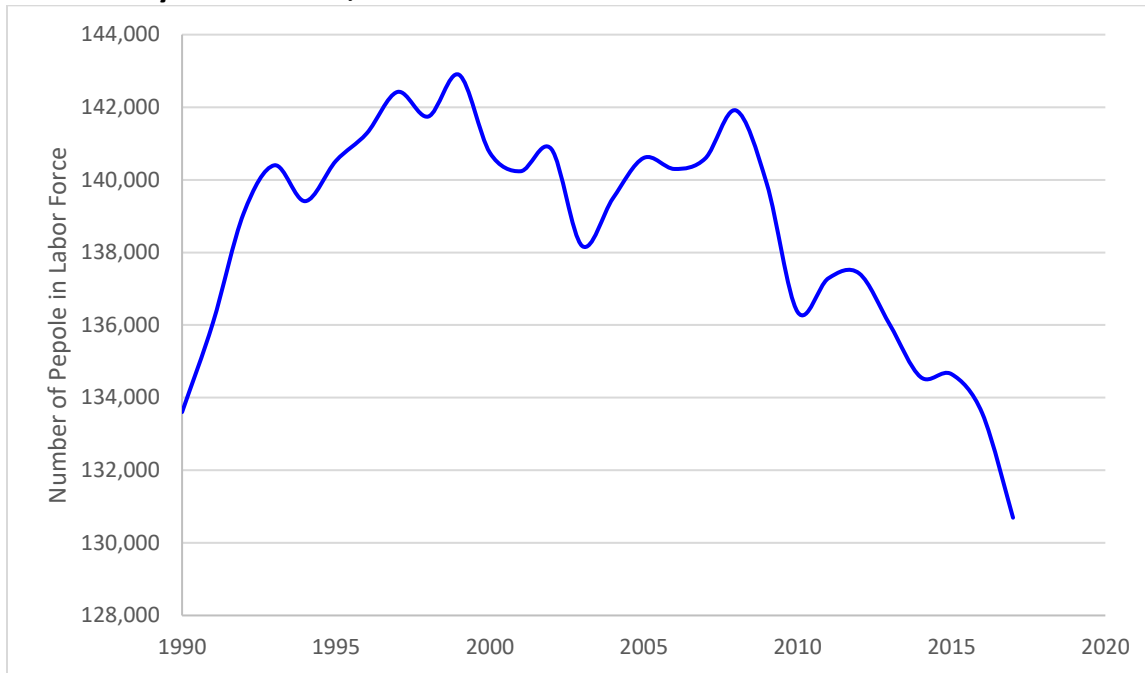
Erie Gross Domestic Product by Industry, 2017

| Industry | Erie | | US | | LQ |
|--------------------------------------------------------|----------------------|-------------|----------------------|-------------|------------------|
| | GDP (millions \$) | % of GDP | GDP (billions \$) | % of GDP | Erie to US LQ |
| All Industry (total) | 11,146 | 100.0 | 19,263,350 | 100.0 | 1.00 |
| Private Industries | 9,659 | 86.7 | 16,925,936 | 87.9 | 0.99 |
| Agriculture, forestry, fishing, and related activities | 33 | 0.3 | 173,445 | 0.9 | 0.33 |
| Mining | 15 | 0.1 | 329,939 | 1.7 | 0.08 |
| Utilities | 157 | 1.4 | 295,004 | 1.5 | 0.92 |
| Construction | 431 | 3.9 | 826,146 | 4.3 | 0.90 |
| Manufacturing | 2,230 | 20.0 | 2,244,276 | 11.7 | 1.72 |
| Durable | 1,296 | 11.6 | 1,217,109 | 6.3 | 1.84 |
| Non-durable | 934 | 8.4 | 1,027,167 | 5.3 | 1.57 |
| Wholesale trade | 489 | 4.4 | 1,153,581 | 6.0 | 0.73 |
| Retail trade | 807 | 7.2 | 1,137,009 | 5.9 | 1.23 |
| Transportation and warehousing | 225 | 2.0 | 589,035 | 3.1 | 0.66 |
| Information | 177 | 1.6 | 931,876 | 4.8 | 0.33 |
| Finance and insurance | 1,048 | 9.4 | 1,453,987 | 7.5 | 1.25 |
| Real estate and rental and leasing | 809 | 7.3 | 2,598,874 | 13.5 | 0.54 |
| Professional, scientific, and technical services | 319 | 2.9 | 1,374,861 | 7.1 | 0.40 |
| Management of companies and enterprises | 77 | 0.7 | 371,046 | 1.9 | 0.36 |
| Administrative and waste management services | 261 | 2.3 | 604,468 | 3.1 | 0.75 |
| Educational services | 219 | 2.0 | 212,387 | 1.1 | 1.78 |
| Health care and social assistance | 1,513 | 13.6 | 1,412,617 | 7.3 | 1.85 |
| Arts, entertainment, and recreation | 153 | 1.4 | 201,211 | 1.0 | 1.31 |
| Accommodation and food services | 346 | 3.1 | 582,711 | 3.0 | 1.03 |
| Other services, except public administration | 352 | 3.2 | 433,463 | 2.3 | 1.40 |
| Government and government enterprises | 1,487 | 13.3 | 2,337,414 | 12.1 | 1.10 |

Source: [US Bureau of Economic Analysis: GDP by Metro Area Tables MAGPD2 and SAGDP2](#)

- Erie County firms produced over \$11 billion worth of goods and services in 2017.
- Manufacturing accounted for 20% of all of Erie's output worth more than \$2.2 billion. Durable goods accounted for about 2/3 of the total while nondurables accounted for the other 1/3 of manufacturing.
- The Location Quotient (LQ) for manufacturing is 1.72, which means Erie's % of GDP from manufacturing is nearly twice as much as the nation's % of GDP from manufacturing.
- Erie's second largest industry in terms of output produced is Health Care and Social Assistance, with over \$1.5 billion. This is expected to increase in the upcoming years with the capital investments being completed by both the Allegheny Health Network (St. Vincent Hospital) and UPMC. The LQ for Health care is 1.76, making it a key Erie specialty compared to the U.S..
- Another Erie specialty is Educational Services, with a location quotient of 1.78.

Erie County Labor Force, 1990-2018

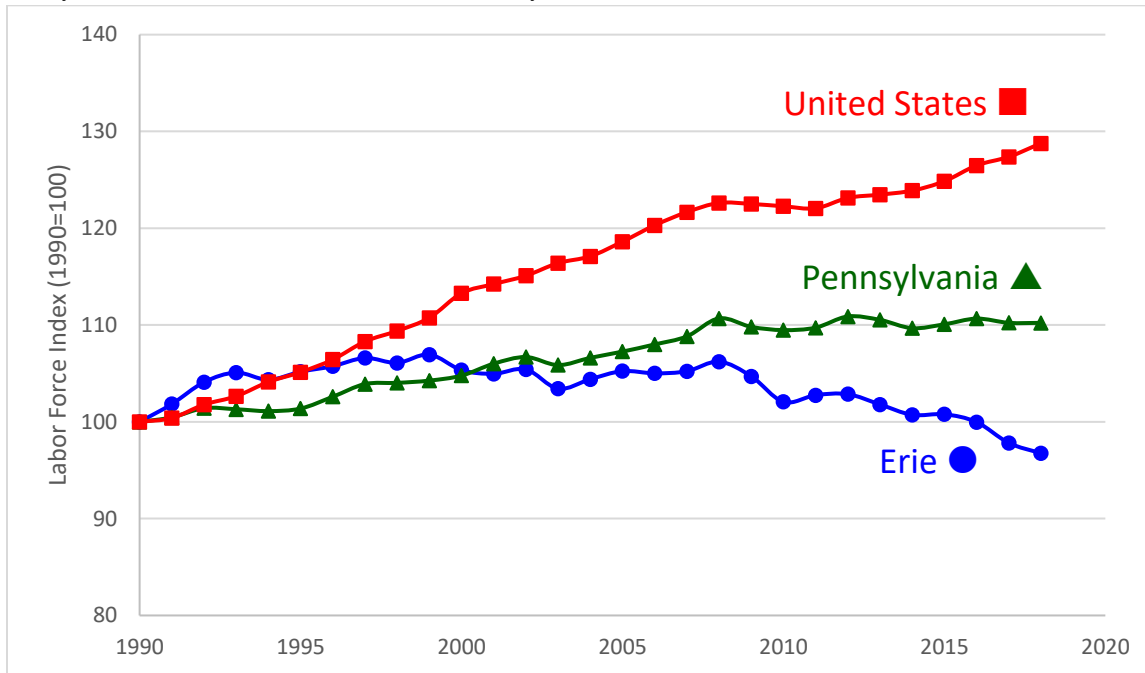


Source: [US Bureau of Labor Statistics Local Area Unemployment Statistics](#)

- The labor force includes all those who are officially classified as “employed” and “unemployed” (i.e., without a job, but looking for work).¹¹
- After labor force growth through the 1990’s and a relatively stable labor force in the early 2000’s (save the drop from the 2001 recession), the Erie labor force has fallen by nearly 7% since its peak in 2007. While the reduction in the labor force likely started due to the 2008 recession, the labor force has fallen gradually since.
- The labor force can fall for several reasons. First, it is possible that people are becoming discouraged and simply stop looking for work. These types of people are classified as *discouraged workers* and are technically not unemployed (as they are not looking for work) and therefore are not part of the labor force. Second, it is possible that people are beginning to retire. This would naturally decrease the size of the labor force. Third, it is possible that Erie is losing its labor force due to the population decline. While there are other reasons the labor force would decline, these are likely the three most significant.
- A lack of growth in population and the labor force means that economic growth in Erie must come from other sources than “raw growth in numbers.” This could occur through a larger percentage of the population working, or through an increase in income per person. Increasing income per capita can come from a number of sources, such as higher productivity, higher education, and moving into faster-growing or higher-income industries and occupations.

¹¹ Labor force measures are based on the civilian noninstitutional population 16 years old and over. Excluded are persons under 16 years of age, all inmates of institutions like prisons, and persons on active duty in the Armed Forces. All other members of the civilian noninstitutional population are eligible for inclusion in the labor force, and those 16 and over who have a job or are actively looking for one are so classified. (Source: Bureau of Labor Statistics: http://www.bls.gov/cps/cps_htgm.htm)

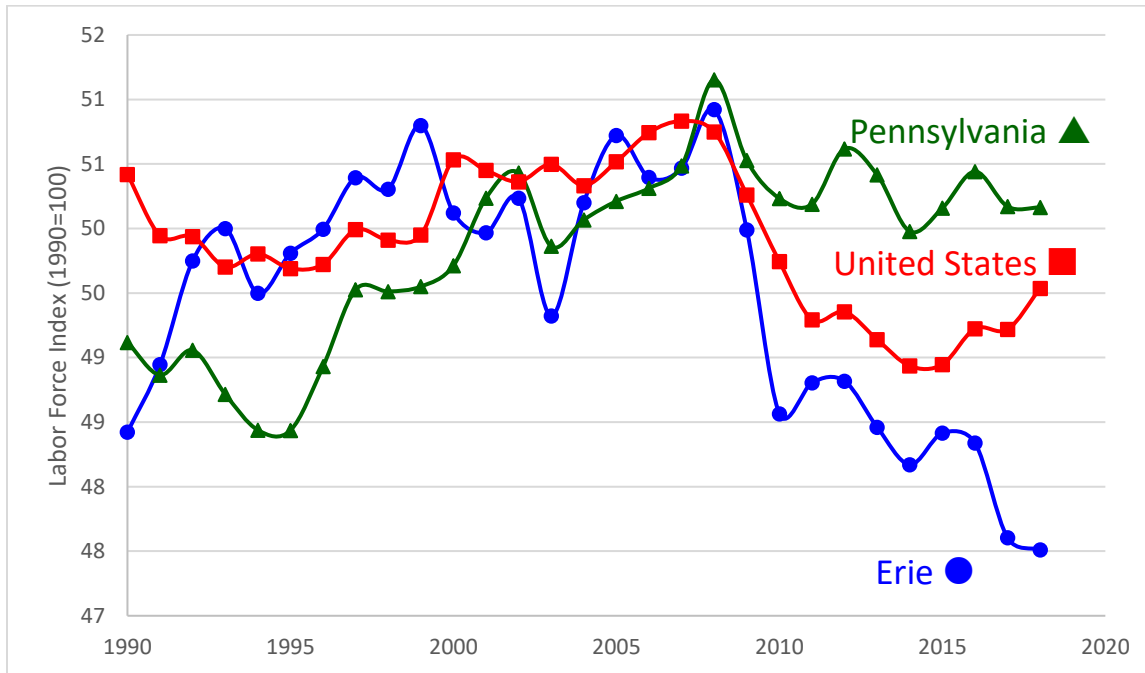
Erie, PA and U.S. Labor Force Indices, 1990-2018



Source: [US Bureau of Labor Statistics Local Area Unemployment Statistics](#)

- As has already been presented, the Erie labor force has been on the decline since the late 00's. At the same time, the Pennsylvania labor force has been relatively stable while the US labor force has increased.
- Since 2007, the Erie labor force has fallen by 8.1% while the Pennsylvania labor force has increased by 1.3% and the United States labor force has increased by 5.8%.
- This is a major change since Erie labor force growth outpaced both the United States and Pennsylvania through the early 1990's and continued to outpace Pennsylvania through 2000.

Erie County, Pennsylvania, and U.S. Labor Force as a Share of Total Population, 1990-2018



Source: [US Bureau of Labor Statistics Local Area Unemployment Statistics](#)

- The labor force participation rate (LFPR) typically represents the labor force as a percentage of the population 16 years of age and older. Since we do not have data on the population 16 and older for Erie for all years, we will look at the labor force as a percent of total population, both for Erie and the U.S.
- The LFPR for Erie hovered around the 50% level until the late 00's. This meant that about half of all Erie County residents either have a job or are looking for work.
- The national LFPR has been falling since the start of the recession in 2007.
- While the US rate has begun a slight rebound, the Erie rate has started a more rapid decrease in the past few years. In fact, the labor force as a percent of the population has fallen by more than one percentage since 2007.

Erie County Top 50 Employers (4th Quarter, 2018)

| | |
|-----------------------------------------|----------------------------------------------|
| 1 Erie Indemnity Co | 26 Dr. Gertrude A. Barber in Home Services |
| 2 General Electric Company (now Wabtec) | 27 Mercyhurst University |
| 3 UPMC Hamot | 28 Erie Homes for Children & Adults |
| 4 Saint Vincent Health Center | 29 The Tamarkin Company |
| 5 State Government | 30 Career Concepts Staffing Services Inc |
| 6 Wal-Mart Associates Inc | 31 Saint Mary's Home of Erie |
| 7 Federal Government | 32 Erie County Convention Center Authority |
| 8 School District of the City of Erie | 33 Port Erie Plastics Inc |
| 9 Dr. Gertrude A Barber Center Inc | 34 Infinity Resources |
| 10 Erie County | 35 General McLane School District |
| 11 Regional Health Services Inc | 36 CA Curtze Company |
| 12 Millcreek Township School District | 37 Associated Clinical Laboratories LP |
| 13 Pennsylvania State University | 38 Bay Valley Foods LLC |
| 14 Gannon University | 39 Sarah A Reed Children's Center |
| 15 Plastek Industries Inc | 40 Metz Culinary Management Inc |
| 16 Country Fair Inc | 41 Fort LeBoeuf School District |
| 17 Lord Corporation | 42 Corry Manufacturing Company |
| 18 PA State System of Higher Education | 43 Pleasant Ridge Manor |
| 19 City of Erie | 44 Lake Erie College of Osteopathic Medicine |
| 20 Presque Isle Downs Inc | 45 Eriez Mfg Co |
| 21 Wegmans Food Market Inc | 46 Lakeshore Community Services Inc |
| 22 Saint Vincent Med Ed & Research Inst | 47 Erie Catholic School System Inc |
| 23 Voices for Independence | 48 Presbyterian Senior Care |
| 24 YMCA of Greater Erie | 49 Harborcreek School District |
| 25 Millcreek Community Hospital | 50 Northwest Tri-County Int Unit |

Source: [Pennsylvania Department of Labor](#)

- The biggest news is that for the first time in generations, General Electric is no longer the top employer in Erie County.
- Health Services, such as hospitals and disability assistance, make up seventeen of the top fifty Erie employers, the largest of any category (if LECOM is included.)
- Twelve of the top fifty provide education services, including K-12 and colleges.
- There are eight manufacturing firms in the top fifty
- Governments account for four of the top fifty employers, including the City of Erie, Erie County, the State of Pennsylvania, and the federal government.
- Scott Enterprises is not included in the list since its workers are counted as employees of the individual companies.

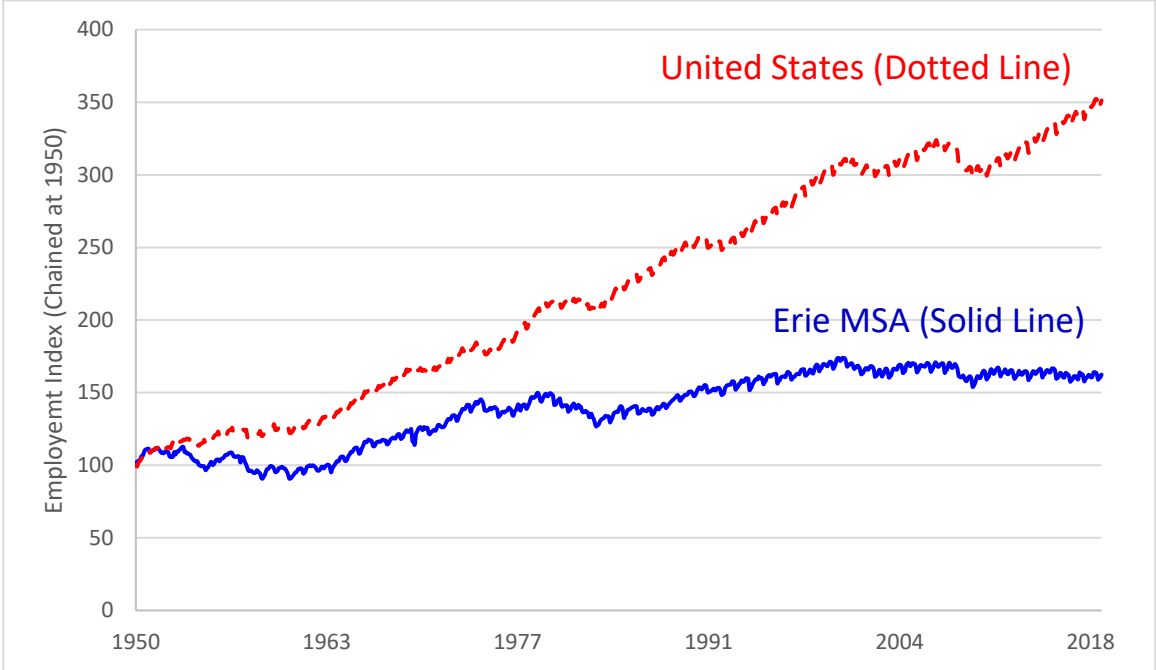
Erie County Total Employment, 1950-April 2019



Source: [US Bureau of Labor Statistics State and Metro Area Employment, Hours, and Earnings](#) (Series SMU42215000000000001)

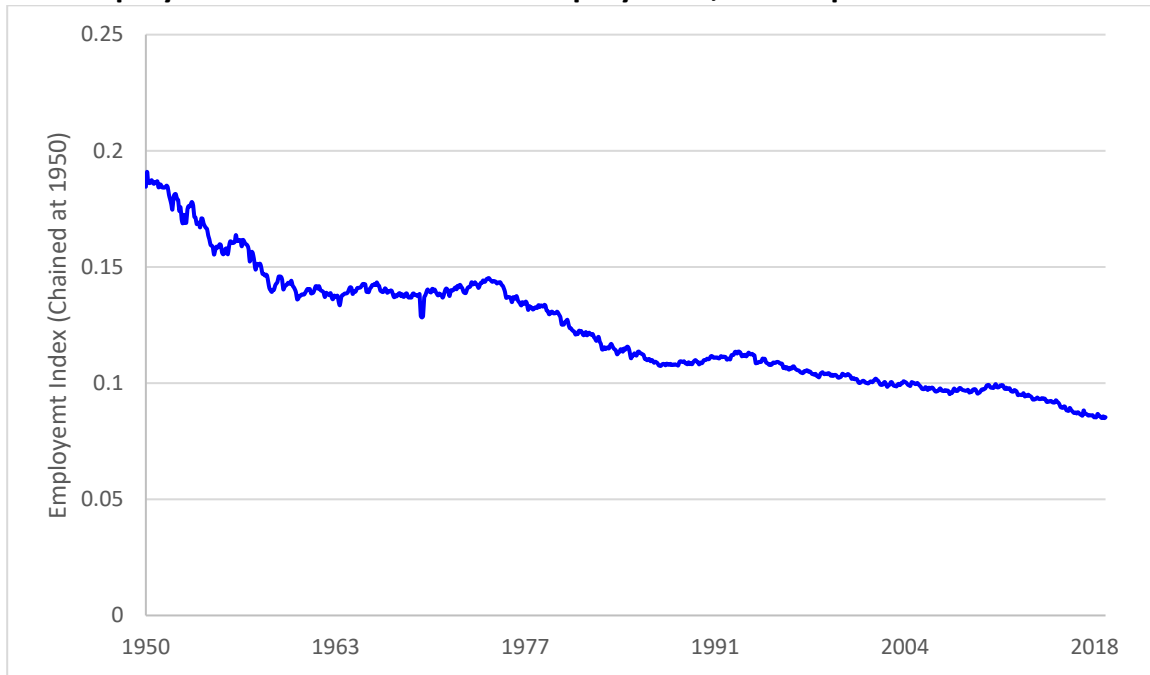
- The BLS's Local Area Unemployment program is a count of jobs, not people. The data are gathered directly from firms in Erie County each month. This means that if a person works in more than one job, she is counted twice. This program makes no distinction between part-time and full time jobs; a job is a job. If a person were to lose a full time job and take two part-time jobs, the employment numbers in this program would rise. It also counts people at their place of work, not their place of residence, so it includes those who commute into Erie County to work.
- Despite ups and downs, the long-run trend in employment in Erie County has clearly been up, at least through the late 1990s.
- Employment fell after the 2008 recession. While it did rebound, it did not rebound back to the pre-recession total. In fact, employment peaked before the recession at 135,818 before it bottomed-out in January of 2010 at 119,805. But, the most employment has been after the recession has been was in July 2015 where employment spiked at 128,546, which was 5.4% lower than the 2008 spike.

Erie and U.S. Employment Index, 1950-April 2019



Source: [United States Bureau of Labor Statistics, Current Employment Statistics](#)

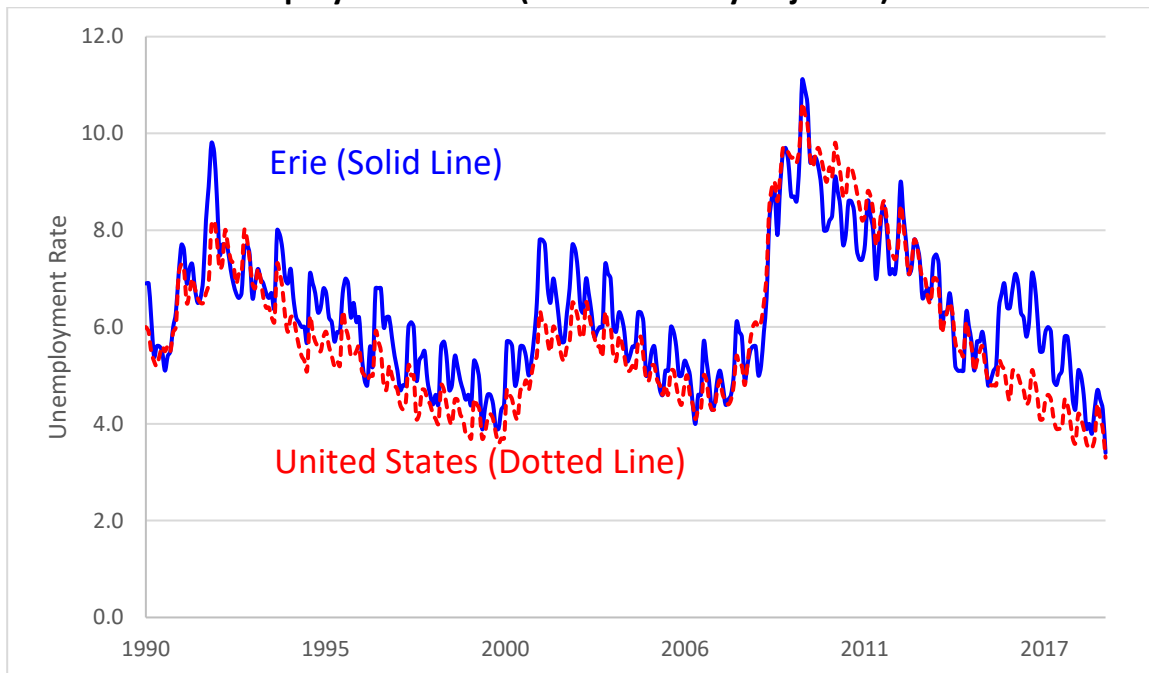
Erie Employment as a Percent of US Employment, 1950-April 2019



Source: [United States Bureau of Labor Statistics, Current Employment Statistics](#)

- Between January 1950 and April 2015, both Erie and U.S. employment grew overall.
- Since 1950, Erie employment has grown by around 50,000 (a 39% increase), but since 2000 employment has fallen by 2,000.
- Since 1950, US employment has grown by around 107 million (a 248% increase) including an increase of around 21 million jobs since 2000.
- As with income, employment in Erie grew but at a rate substantially less than that of the nation.
- At the same time, Erie's share of national employment has been more than halved since 1950.

Erie and U.S. Unemployment Rates (Not Seasonally Adjusted)



Source: [United States Bureau of Labor Statistics, Local Area Unemployment Statistics](#)

- Persons are classified by the BLS as “unemployed” if they do not have a job, but have actively looked for work in the prior four weeks, and are currently available for work. Those who are not looking for work, if unemployed, are not officially counted as being in the labor force, and so are not officially “unemployed.”
- Starting in July of 2016, the Erie County unemployment rate spiked to 7.1% (against the US unemployment rate of 5.1%). This was mainly caused by a reduction of 1,500 jobs at GE Transportation.
- The Erie unemployment rate has returned to near-national levels. As of April 2019, the Erie unemployment rate is only about 0.1 point higher than the national level.
- The unemployment rate can fall for two reasons. One, more people get jobs. Two, people either stop looking for work or they leave the area. Based on the total Erie County employment and the Erie County population trends, it seems as though the reduction in the unemployment rate is a mix of both.
- Erie’s unemployment rate tends to rise more during recessions than the national rate, and fall more during recoveries. In other words, the Erie economy is less stable over the business cycle than the national economy. But this pattern did not hold true for the most recent recession.
- Erie’s greater instability can be explained partially by our industry mix. Some industries tend to be much more unstable over the business cycle than others, and Erie has more than its share of those industries. These include especially the durable manufacturing industries. During a recession, consumers find ways to avoid buying these big-ticket items and make do with their older cars, washing machines, etc. The result is that demand for durables falls off more than proportionately during recessions, then picks up more than proportionately during upturns.
- The fact that Erie’s fluctuations during the last recession were not significantly greater than the nation’s may be due to our changing industry structure, especially the increases in health care and education employment, which tend to be rather stable over the business cycle.

Industry Definitions and Redefinitions

The next sections deal with industrial breakdowns of employment, so it is necessary to first discuss industry definitions.

The Federal Government redefined its official industry classifications during the late 1990s and early 2000s to better reflect the realities of the contemporary economy. Items like cell phones and personal computers were the stuff of science fiction when the previous classification system (SIC) was designed in the 1930s. The new system is production-process oriented, rather than product oriented. The previous classification system was the Standard Industrial Classification (SIC, pronounced ess-eye-see) and the new system is called the North American Industrial Classification System (NAICS, pronounced “nakes”). While this redefinition will help in the analysis of the contemporary economy, it causes some problems in analyzing data through time (time-series analysis) since data in the NAICS format are often not comparable to earlier SIC data.

For example, newspaper publishing was listed as a manufacturing industry in the SIC system, but under NAICS is classified as an Information industry, which is *not* part of manufacturing. This change means that the NAICS manufacturing numbers will be lower than the SIC manufacturing numbers, not because of the disappearance of jobs but just because of the reclassification. And this can be misleading. There are many, many of these kinds of redefinitions that affect the data. For some data series, the relevant agency has gone back in time and recreated the data series according to the new NAICS definitions and we have overlapping data using both systems for some periods. The time series graphs in the following sections shows both data series when they are available. While the larger SIC and NAICS industry categories tend to move in parallel through time, there are some notable exceptions.

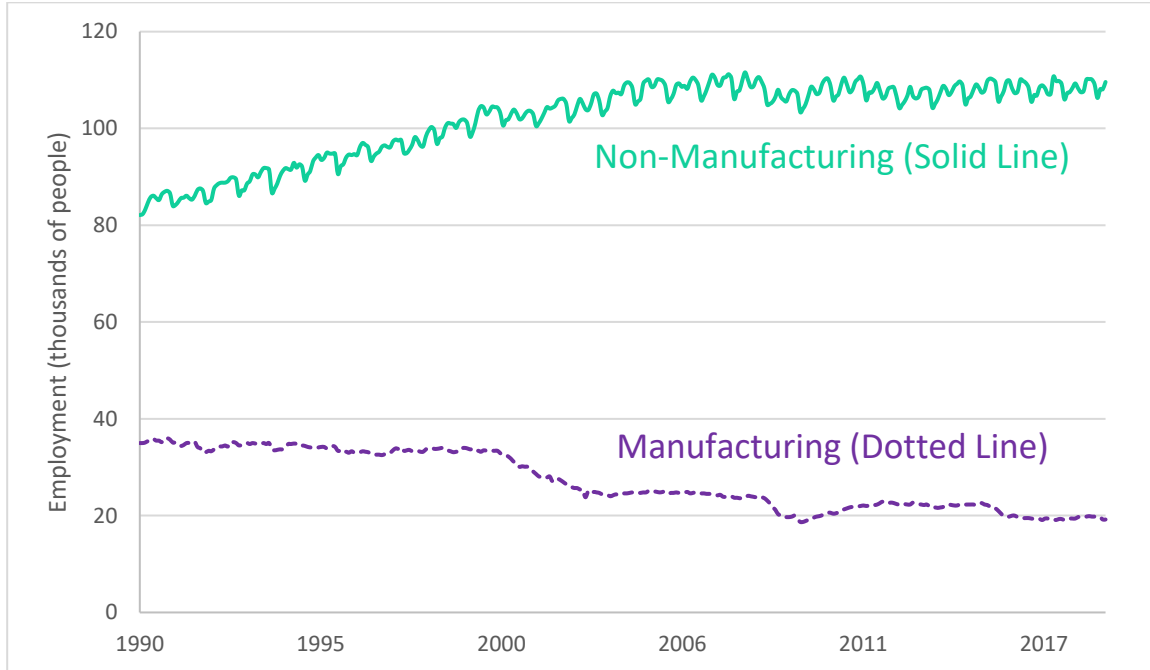
2017 NAICS Industry Categories

| 2-digit NAICS | Industry |
|---------------|--------------------------------------------------------------------------|
| 11 | Agriculture, Forestry, Fishing and Hunting |
| 21 | Mining, Quarrying, and Oil and Gas Extraction |
| 22 | Utilities |
| 23 | Construction |
| 31-33 | Manufacturing |
| 42 | Wholesale Trade |
| 44-45 | Retail Trade |
| 48-49 | Transportation and Warehousing |
| 51 | Information |
| 52 | Finance and Insurance |
| 53 | Real Estate and Rental and Leasing |
| 54 | Professional, Scientific, and Technical Services |
| 55 | Management of Companies and Enterprises |
| 56 | Administrative and Support and Waste Management and Remediation Services |
| 61 | Educational Services |
| 62 | Health Care and Social Assistance |
| 71 | Arts, Entertainment, and Recreation |
| 72 | Accommodation and Food Services |
| 81 | Other Services (except Public Administration) |
| 92 | Public Administration |

Source: [US Census Bureau North American Industry Classification System](#)

A more detailed breakdown of the NAICS categories is given in Appendix B.

Erie County Manufacturing and Non-Manufacturing Employment, 1990-April 2019



Source: [United States Bureau of Labor Statistics, Current Employment Statistics](https://www.bls.gov/news.release/archives/erie_041919.pdf)

- This graph shows the two major industry categories, manufacturing and nonmanufacturing, and they are moving in two different directions.
- Manufacturing accounted for more than half of all Erie jobs in the early 1950s but only 14.4% currently. Nonmanufacturing accounts for 85.6% of employment now.
- Manufacturing employment reached its peak in Erie in November of 1950 at 49,900 jobs.
- From 1951 to 1961 Erie manufacturing employment fell, reaching a low of 32,400 jobs in January 1961. But the “soaring 60s” benefitted Erie manufacturing and in 1974 it nearly—but not quite--reached the 1950 peak with employment of 49,700 in three months of 1974.
- The 1975 recession started a long slide in manufacturing employment that continued unabated until the last few years. Employment in this category tends to be relatively stable except during recessions, when severe decreases occur.
- The 1980-83 recession hit manufacturing especially hard, with the loss of 12,500 of its 45,800 jobs, or 27.3%, from late 1979 through December of 1983.
- The recession of 2000-03 cut manufacturing employment levels by another 10,000 or so, down to the 25,000 range.
- After the latest recession, manufacturing employment levels dropped again by about 5,000, down to the 20,000 range. But in a stunning reversal of a decades-long trend, local manufacturing employment has risen since the bottom of the last recession in early 2010, rising by about 2,500. Unfortunately, the trend reversed again as manufacturing employment has started to decline again since mid-2012.
- A cautionary comment: although manufacturing employment has decreased, that does not necessarily mean that manufacturing output has decreased. If productivity (output per worker) has increased over the years, output may have increased even as employment fell.
- Non-manufacturing employment, on the other hand, has shown a consistent pattern of growth, interrupted only by the 1980s recession and, more briefly and less severely, the latest recession.

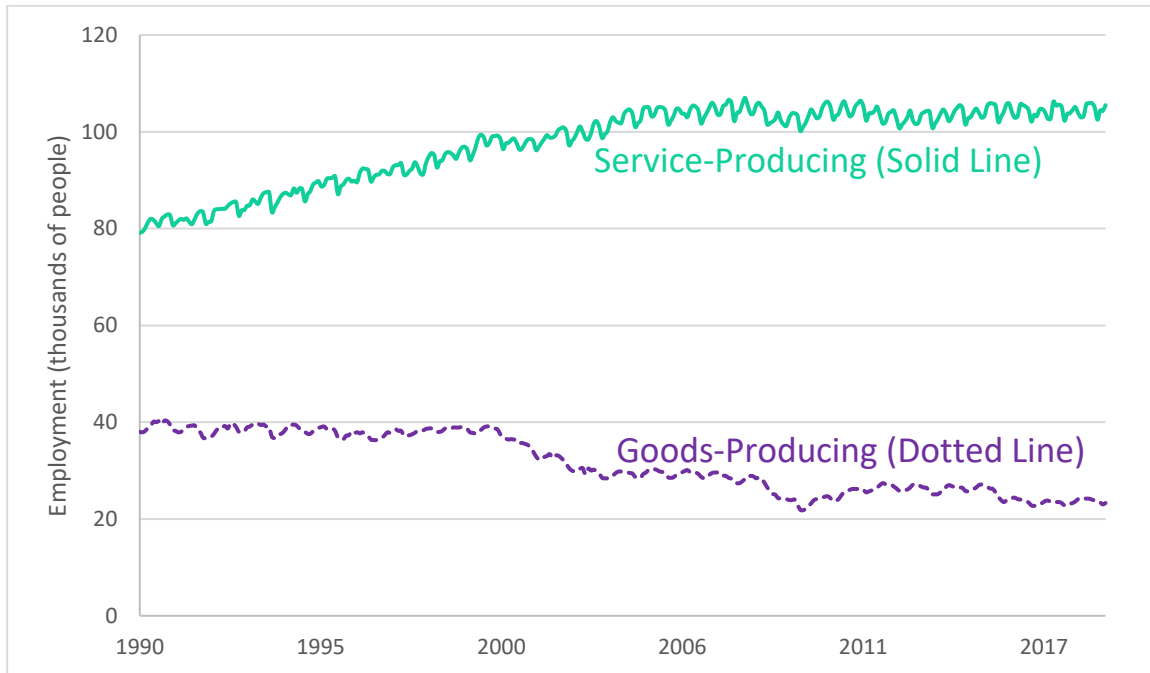
Major Components of the Goods-Producing and Service-Providing Industries

(See Appendix B for details of each sector.)

| |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Goods- Producing Industries</p> <p>Natural resources and mining NAICS 1133—Logging Sector 21—Mining</p> <p>Construction Sector 23—Construction</p> <p>Manufacturing Sectors 31, 32, 33—Manufacturing Durable goods (NAICS 321, 327, 331, 332, 333, 334, 335, 336, 337, 339) Nondurable goods (NAICS 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326)</p> |
| <p>Service- Providing Industries</p> <p>Trade, transportation, and utilities Sector 42--Wholesale trade Sectors 44, 45--Retail trade Sectors 48, 49--Transportation and warehousing Sector 22—Utilities</p> <p>Information Sector 51—Information</p> <p>Financial activities Sector 52--Finance and insurance Sector 53--Real estate and rental and leasing</p> <p>Professional and business services Sector 54--Professional, scientific, and technical services Sector 55--Management of companies and enterprises Sector 56--Administrative and waste services</p> <p>Education and health services Sector 61--Educational services Sector 62--Health care and social assistance</p> <p>Leisure and hospitality Sector 71--Arts, entertainment, and recreation Sector 72--Accommodations and food services</p> <p>Other services Sector 81--Other services</p> <p>Public Administration (Government) Federal State Local</p> |

Source: [United States Bureau of Labor Statistics](https://www.bls.gov)

Erie Metro Service-Providing and Goods-Producing Employment



Source: [United States Bureau of Labor Statistics, Current Employment Statistics](#)

- Goods-producing employment (manufacturing, construction, mining and logging) in Erie County remained relatively unchanged in the 38,000 range from 1990 until 2000, falling during the 2000 – 2003 recession to the 30,000 range, then remaining relatively flat again from 2003 to 2007 and the start of the Great Recession.
- Goods-producing employment in Erie fell off again in the latest recession, reaching a low point of 21,800 in February 2010. But, unlike some previous recessions it recovered to 27,100 in May 2013. By April 2019, it fell to 23,300.
- Service-providing employment (“everything else”) in Erie grew from 1990 to 2018, from approximately 79,000 jobs to 106,700, though employment has been stagnant since 2011.
- The service-providing sector in Erie County is four and a half times larger than the goods-producing sector.

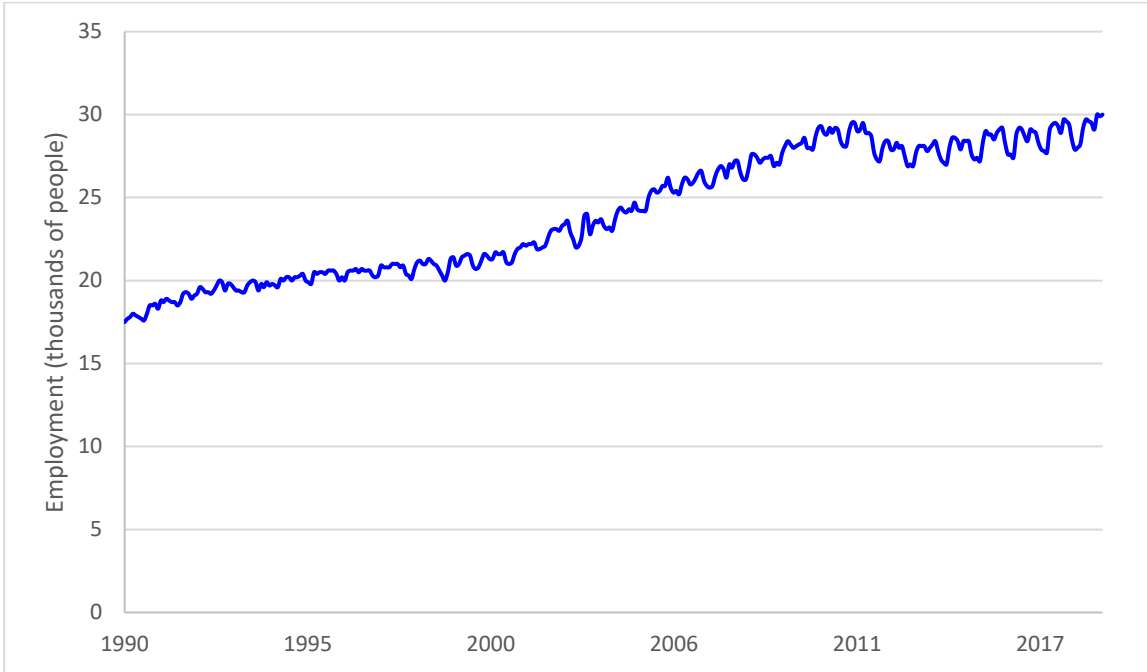
Erie Metro Plastics Manufacturing Employment, 1990-April 2019



Source: [United States Bureau of Labor Statistics, Current Employment Statistics](https://www.bls.gov/iag/tgs/iag326.htm)

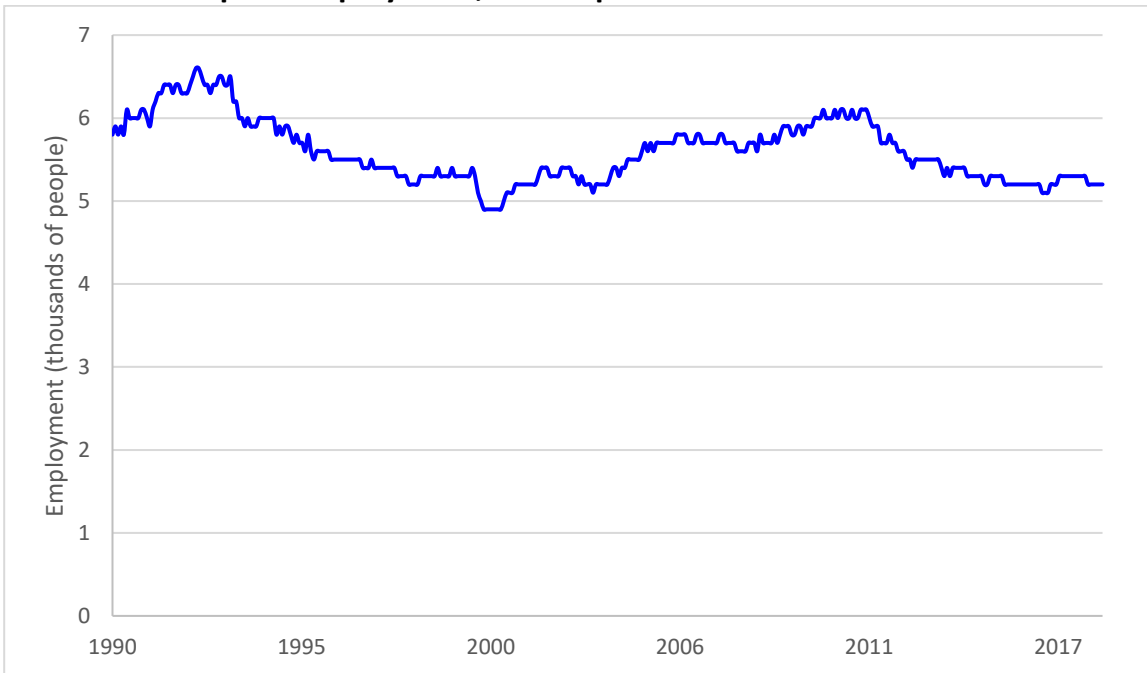
- Erie has relied on plastics manufacturing as a source of continuing manufacturing employment.
- In fact, Penn State Behrend has one of the largest plastics engineering labs in the world (and also offers a plastics engineering major not available anywhere else in the university system.)
- Of the 150,942,000 people employed in the United States, 736,300 (<https://www.bls.gov/iag/tgs/iag326.htm>) are employed in the rubber and plastics manufacturing sector which amounts to 0.49% of the workforce. Whereas, of the 128,800 people employed in the Erie metro area, around 4,400 work in the rubber and plastics manufacturing sector which amounts to 3.4% of the workforce. This means that the LQ for rubber and plastics manufacturing in the Erie metro area is 6.9. This shows that a disproportionately large number of people work in plastics in the Erie metro area (as compared to the country as a whole.)

Erie Metro Health and Education Employment, 1990-April 2019



Source: [United States Bureau of Labor Statistics, Current Employment Statistics](#)

Erie Metro Hospital Employment, 1990-April 2019

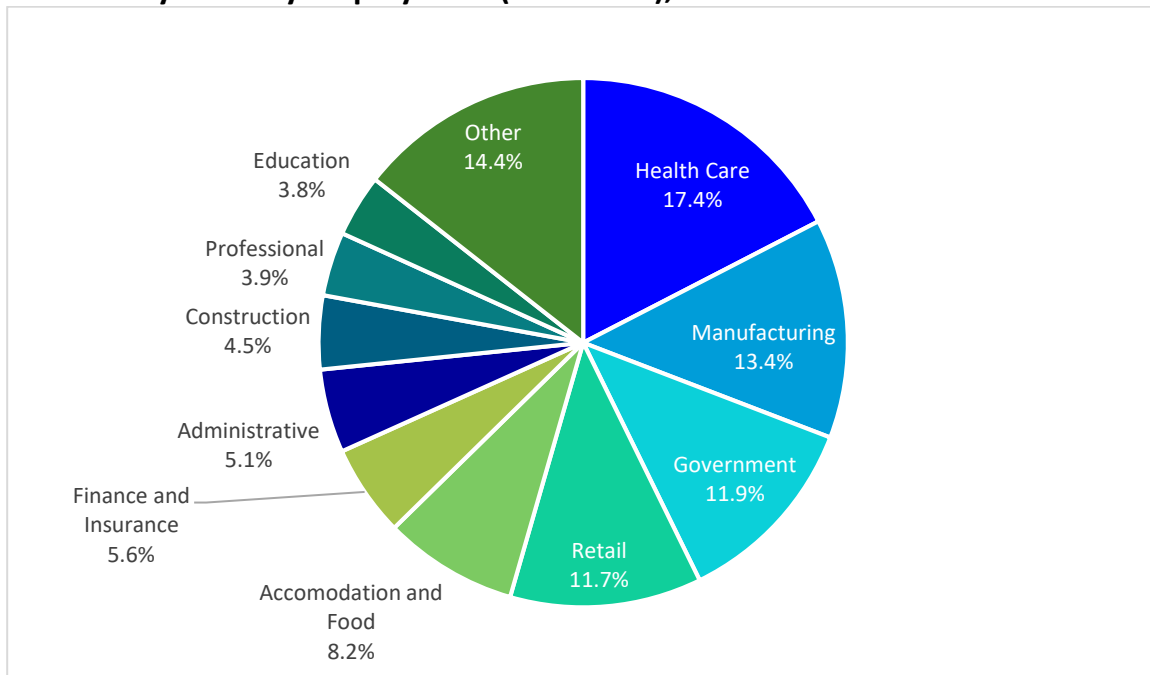


Source: [United States Bureau of Labor Statistics, Current Employment Statistics](#)

- Another major source of employment in Erie is in the health and education sectors. In the graphs on the previous page, we see that employment in the health and education sector has grown consistently since 1990 with the exception of the drop-off during the 2008 recession.
- Hospital employment has been relatively constant since 1990 but this number is expected to grow with the capital investments current in-progress at both St. Vincent Hospital and UPMC Hamot.
- As the Erie population ages, the demand for healthcare services will inevitably increase.
- Erie County is home to four universities (Penn State Behrend, Gannon University, Mercyhurst University, and Edinboro University in addition to the LECOM medical school.) Employment in the education sector is a vital driver of Erie employment.
- Employment in the health and education sector account for nearly 1/4 of employment in the Erie metro area.

Industrial Composition

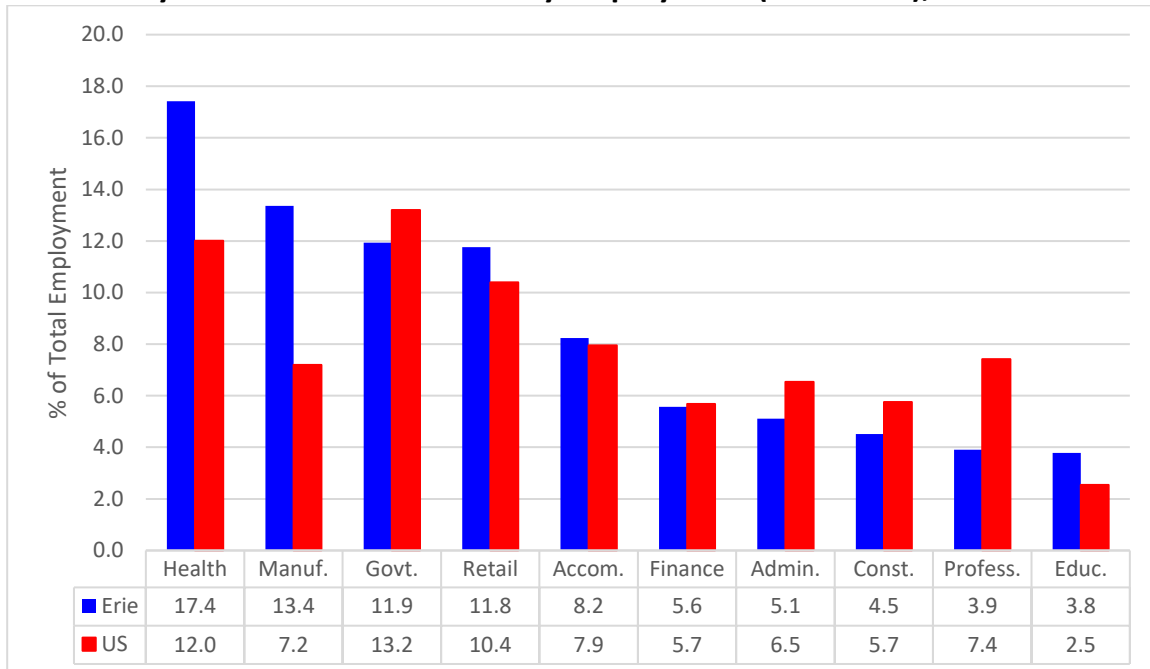
Erie County Industry Employment (% of Total), 2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAEPM25N](#)

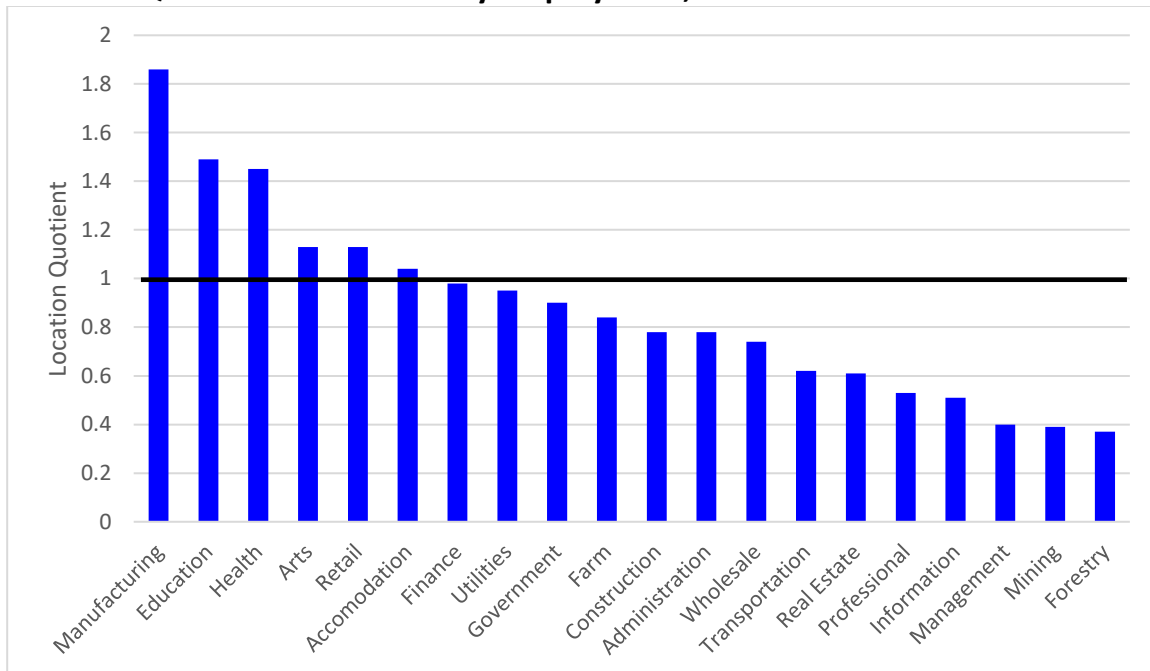
- In 2017, health care and social assistance was Erie’s largest single industry, accounting for 17.4% of Erie’s total employment, about one job in every six.
- Other industries that made up a significant portion of total employment included manufacturing (13.4%), government (11.9%), and retail (11.7%).
- The “other” category is comprised of: real estate, wholesale trade, arts, entertainment, and recreation, transportation, farming, information, management, mining, utilities, and forestry. None of these industries accounted for more than 3% of total employment.
- Components (definitions) of these industry categories can be found in Appendix B.

Erie County and U.S. Selected Industry Employment (% of Total), 2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System Table CAEMP25](#)

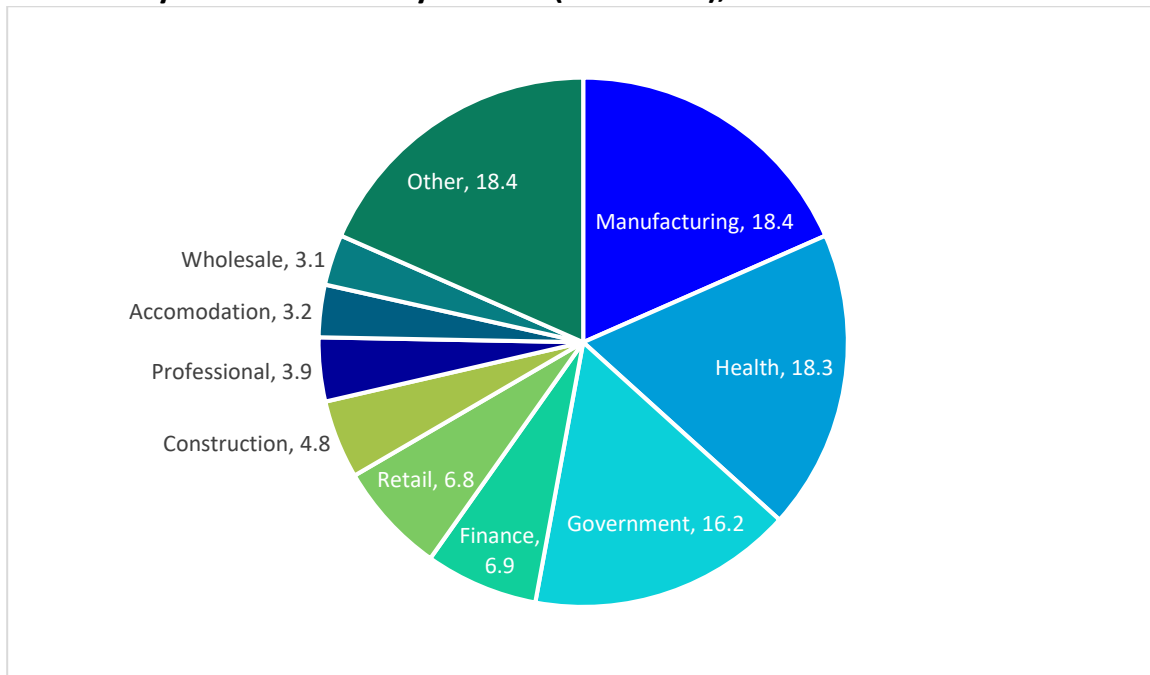
Location Quotients of Erie County Employment, 2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System](#)

- A quick way to identify Erie’s specialization by industry is to calculate the Location Quotient (LQ), which is simply Erie’s % in an industry divided by the U.S. % in that industry. If the LQ is greater than 1.0, Erie has more than the national average in that industry; it is one of the area’s specialties. The dark black bar indicating an LQ of 1 on the graph is meant as a guide.
- The graph above shows Erie’s specialties first, with LQs greater than 1.0. The implication is that we produce more than we consume in these industries, and thus export them to other portions of the country and the world, bringing income into the county. The opposite is true for the industries at the bottom of the table, with LQs less than 1.0.
- In 2017, manufacturing had an LQ of 1.86, which means that it made up nearly twice as large a share of total employment in Erie as it did in the U.S. Although manufacturing employment has fallen in Erie in the last three decades, manufacturing is still one of Erie’s specialties compared to the nation.
- Other Erie specialties are education, health care and social assistance, retail, arts, and accommodation and leisure. In all of these, people travel from elsewhere to Erie to buy the output (goods or services) of our establishments. While Erie does not typically export a physical product in these industries, it has the same effect of bringing income into the county from outside.
- In all the other industries, Erie has an LQ less than 1.0, implying that we import those goods and services. They may represent an opportunity for “import substitution”, if Erie begins producing more of the output of those industries for local consumption rather than buying them from outside the county and sending Erie dollars outside the region.

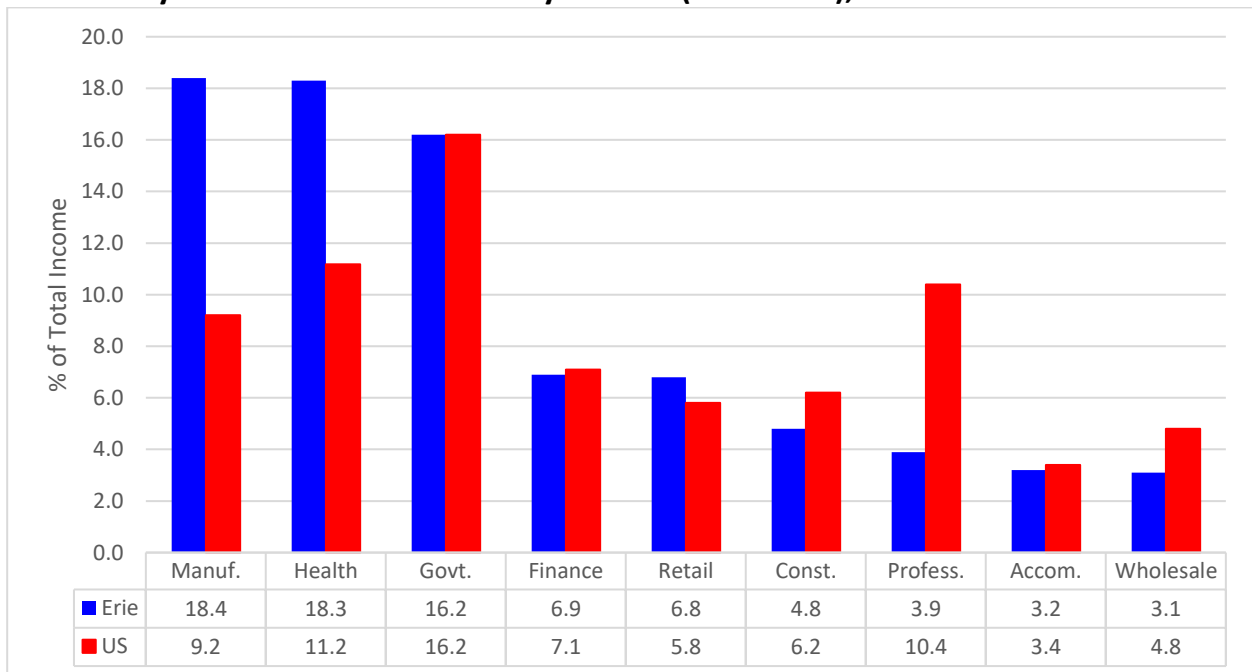
Erie County Selected Industry Income (% of Total), 2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System Table CAINCS](#)

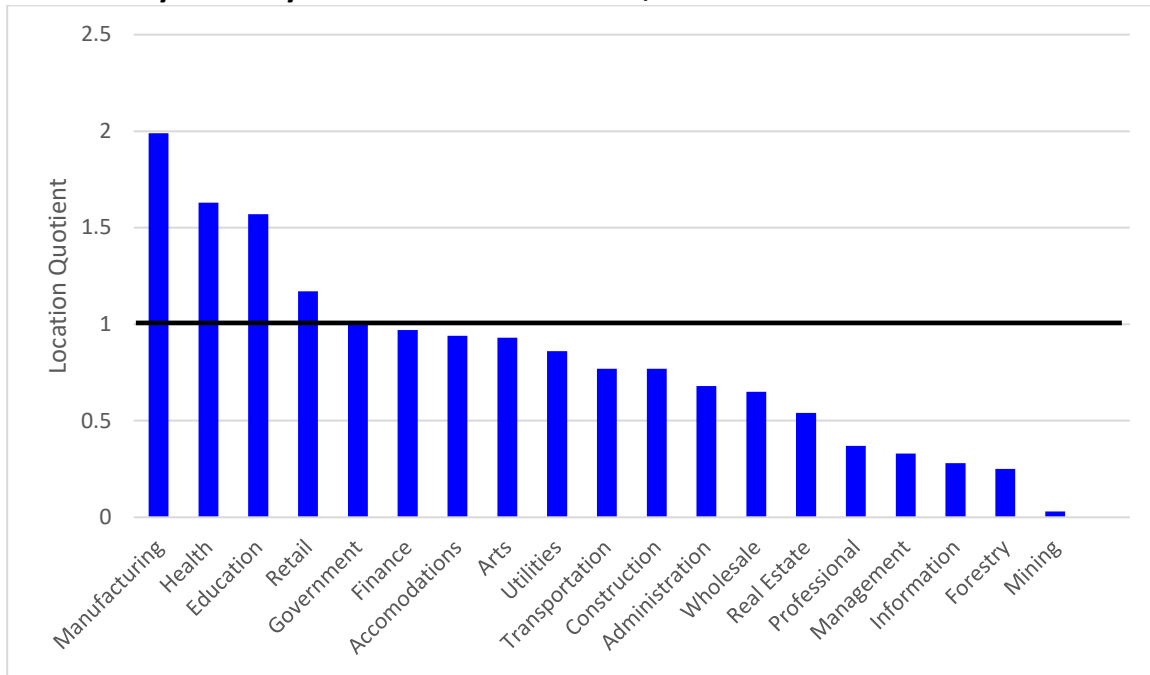
- Erie’s industrial distribution by income varies somewhat from its distribution by employment, reflecting differences in earnings across industries. Higher paying industries will have a larger share of the income pie than of the employment pie, and lower paying industries will have a smaller share of the income pie than of the employment pie.
- In 2017, manufacturing accounted for 18.4% of total industry income in Erie, compared with 12.8% of Erie employment. Almost one dollar of every five in Erie earnings comes from a manufacturing job. Clearly, manufacturing is still a very key component of Erie’s economy.
- Healthcare is right behind manufacturing with 18.3%. Though not included, a look at past years data shows that healthcare will soon pass manufacturing if the current trends continue.
- Government makes up 16.2% of income which means one in every six dollars comes from government employment.
- The “other” category includes: transportation, education, administration, real estate, arts, information, management, utilities, forestry, farming, and mining.

Erie County and U.S. Selected Industry Income (% of Total), 2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System Table CAINCS](#)

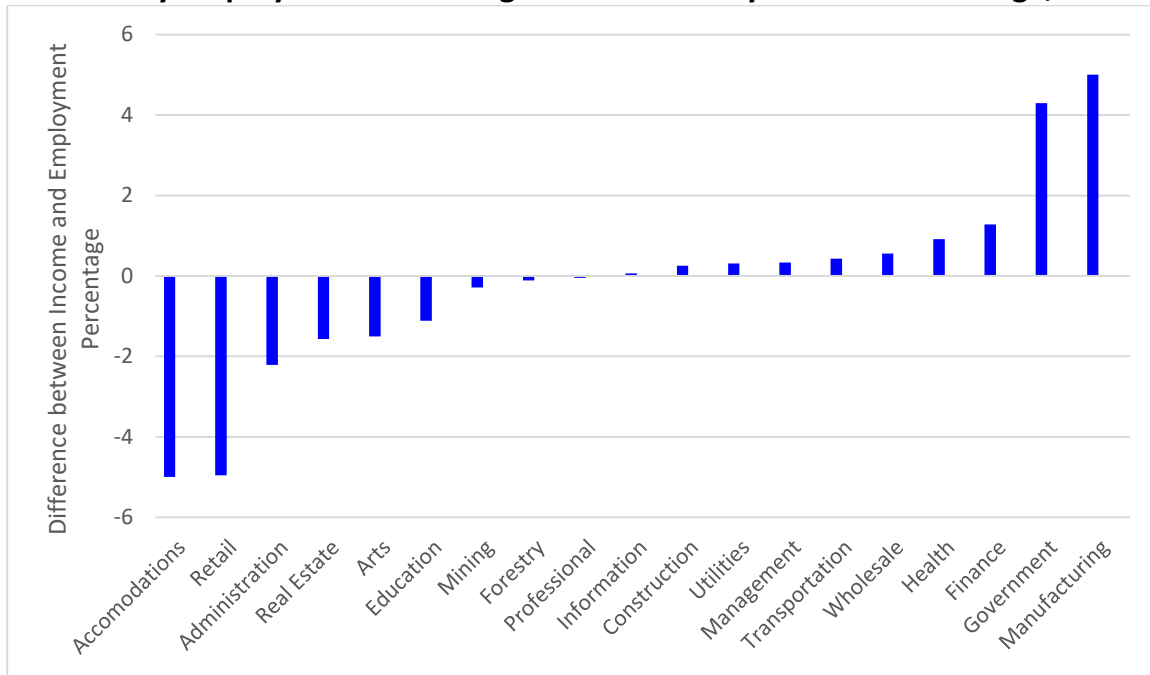
Erie County Industry Income Relative to U.S., 2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System](#)

- Again, the Location Quotient (LQ) identifies industries in which the area specializes compared to the nation. It is simply Erie's % in an industry divided by the U.S. % in that industry. If the LQ is greater than 1.0, Erie has more than the national average in that industry; it is one of the area's specialties. The dark line shows the dividing line between above and below 1.
- In 2017, manufacturing had an income LQ of 1.99, which means that the share of Erie income coming from manufacturing earnings was more than twice the share manufacturing has nationally. Manufacturing is much more important to Erie than to the nation as a whole.
- Health care and education are other sectors with LQs significantly greater than one—industries in which Erie specializes compared to the nation.
- Retail is the only other sector with an income LQ of greater than 1.

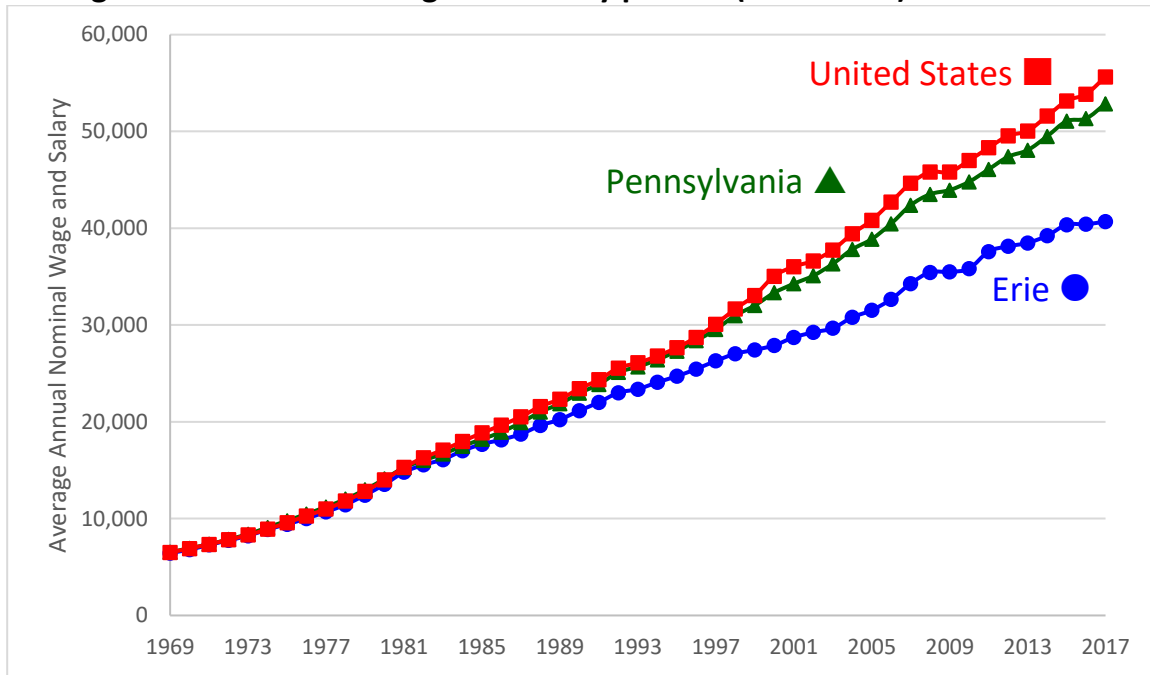
Erie County Employment Percentage versus Industry Income Percentage, 2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System](#)

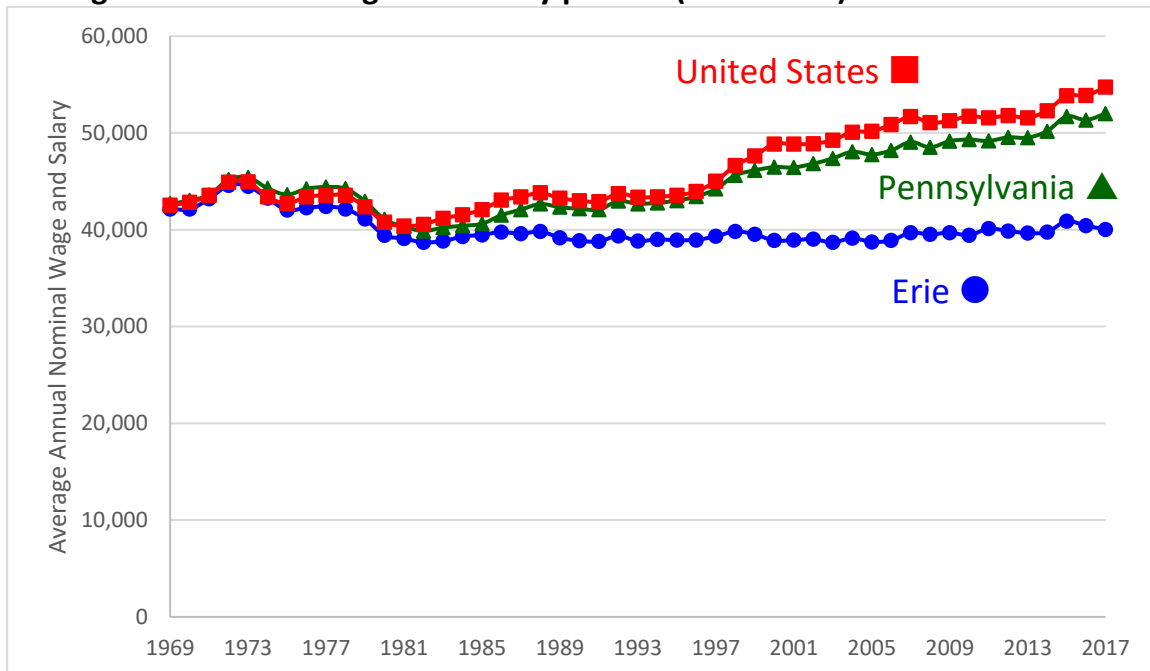
- The graph above shows the difference between the percentage of income the industry accounts for versus the percentage of employment the industry accounts for.
- A negative number points to a lower-paying industry. This would be an industry that employs many but pays little relative to the employment level. The opposite also holds true.
- As expected, retail and accommodation rank at the bottom of the list. Many of these types of jobs pay minimum wage. This is unfortunate for Erie as so much of its employment growth has been focused on tourism which focuses on these two industries.
- The coupling of tourism growth with manufacturing decay could present a scenario where employment stays relatively level, but higher-paying jobs are replaced with lower wage and minimum wage jobs.
- On the other end of the spectrum, finance, health, government, and manufacturing top the list pointing to industries that pay more than their employment concentrations.
- As a note, education is an industry that has a negative score even though many that work in the field have bachelor's or master's degrees.

Average Annual Nominal Wage and Salary per Job (1969-2017)



Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAINC30](#)

Average Annual Real Wage and Salary per Job (1969-2017)



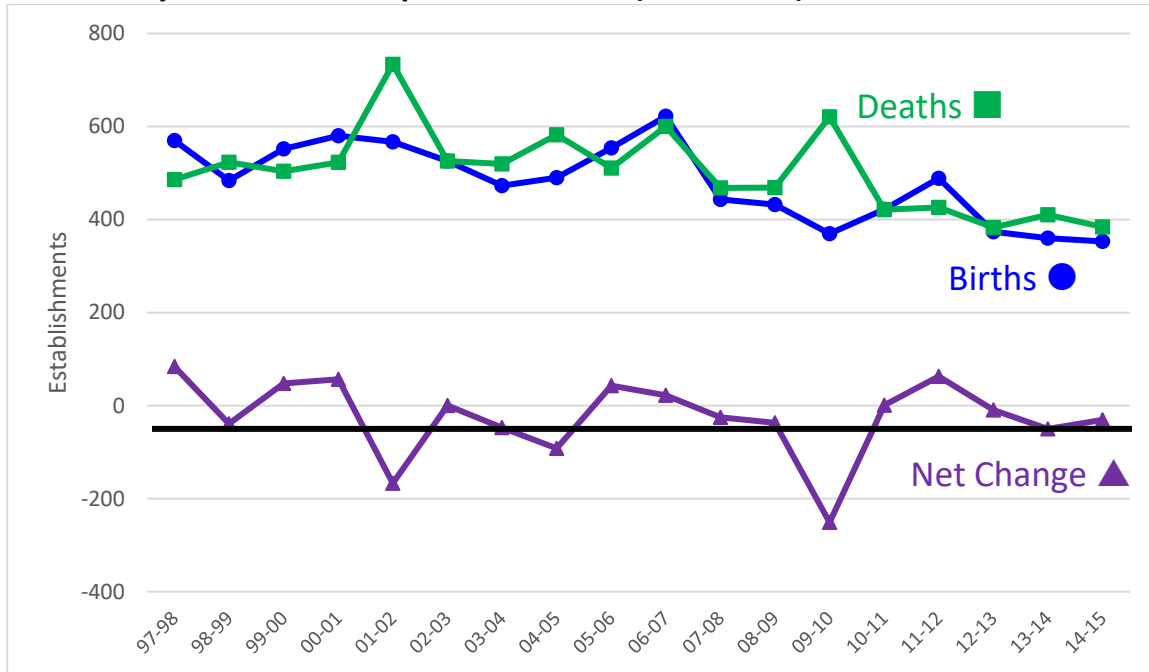
Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAINC30](#)

- The story of Erie nominal¹² compensation (we'll use "wage" for shorthand) is one of growth throughout the period. We note that the average wage grew significantly faster in the nation and in PA than in Erie—a familiar pattern in other measures of the Erie economy.
- In 1969, the national average annual wage per job was nearly the same in Erie (\$6,445), the U.S. (\$6,506), and in PA (\$6,527).
- The Erie, U.S., and PA wages stayed close in the early years of this dataset, although the U.S. and PA wages grew a little faster. During the 1980s, Erie wages diverged from U.S. and PA wages, which continued to grow at about the same rate.
- In 2017, the average wage per job was \$40,703 in Erie, \$52,865 in Pennsylvania, and \$55,643 in the United States.
- Caution! This difference does not necessarily mean that an Erie worker is paid less for the same job than workers elsewhere. The average wage may differ between Erie, the U.S., and PA due to the fact that we have different industries and occupations here, and our workers have different amounts of skill or experience in this lower cost of living environment.
- Although this analysis has not been adjusted for inflation over the years, the percentage differences between the Erie and U.S. wages would still be the same, since inflation affects dollars in Erie and the U.S. in the same amount. Only the dollar amount of the differential between the two areas would be different, as well as the growth rates. This graph is also shown.
- From the graph, it is clear that real income in Erie has been stagnant for many decades. In fact, it has fallen since 1969. Since 1980, the real income has only increased by \$605, or \$11.63 per week once inflation is accounted for.
- Real wage has actually fallen since 1969.

¹² Not adjusted for inflation.

The Business Climate

Erie County Business Startups and Closures (1997-2015)

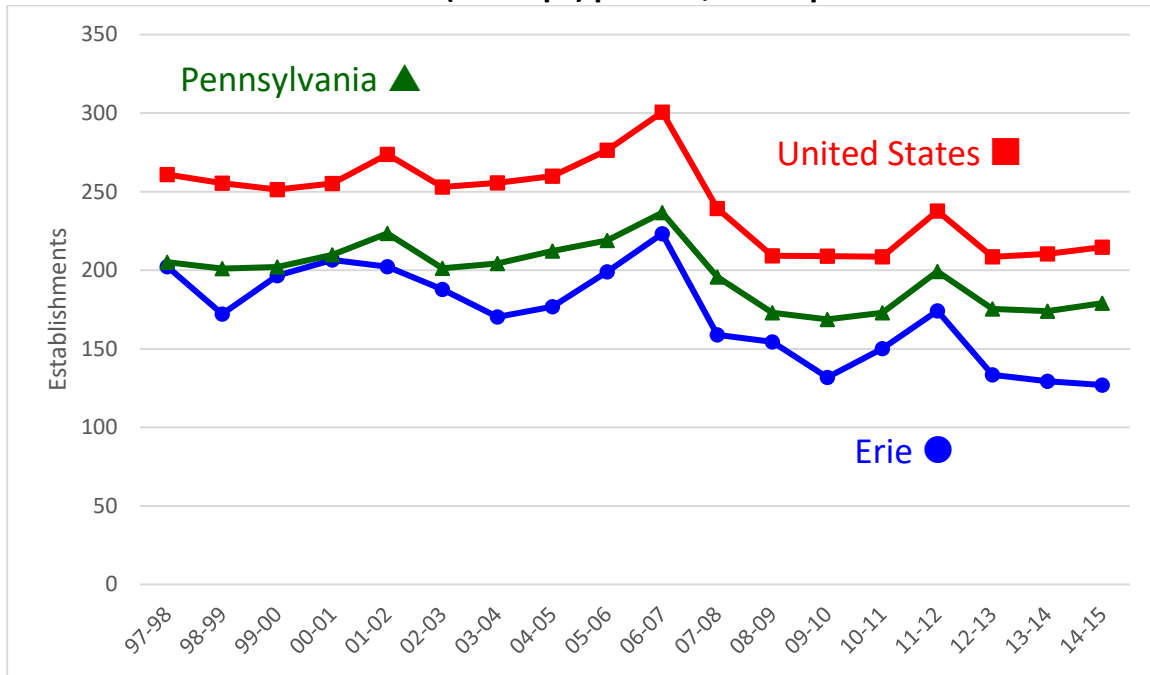


Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

- From 2014-2015, there were 353 new business establishments¹³ in Erie County, which was the lowest value recorded during the entire 1997-2015 period.
- Establishment closures were one away from an all-time low with 384 closings.
- On net, Erie added establishments in seven of these eighteen years, lost establishments in ten, and broke even in one. During this period, there was a net loss of 430 establishments due to the major loss of 621 establishments from 2009-2010.
- Erie has lost establishments for the past three years that data are available.
- The following graphs show that since 1997 Erie started fewer new businesses than either PA or the U.S., on a per capita basis. This fits with the pattern of a decreasing share of Erie income coming from proprietorships.

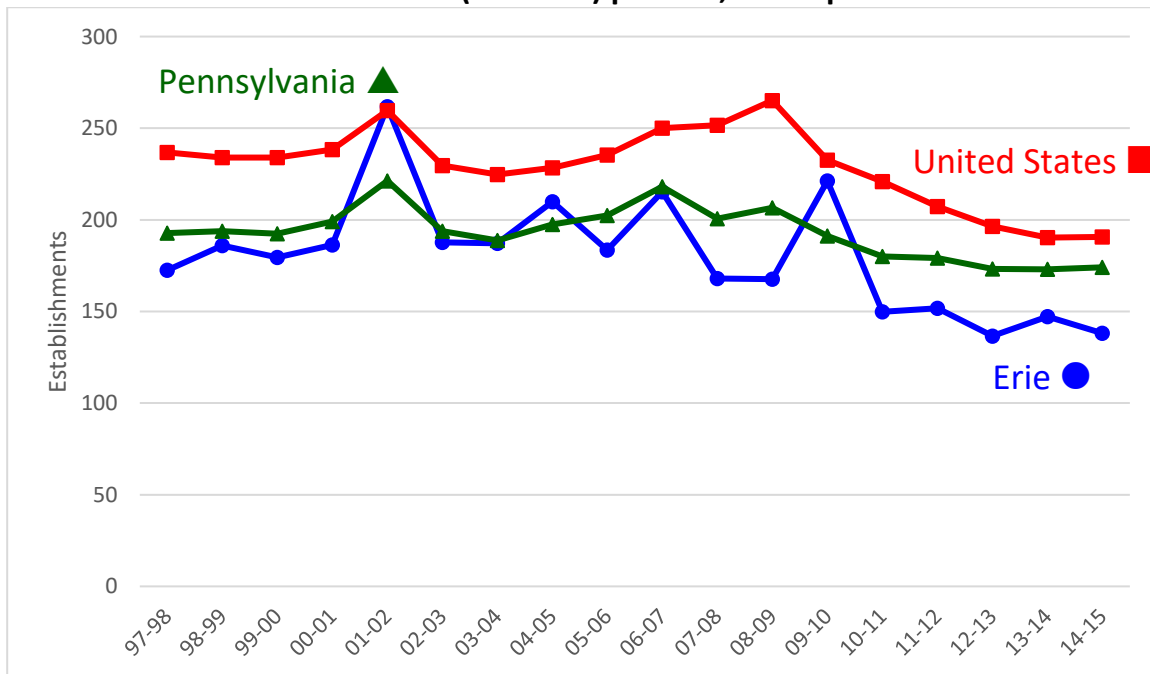
¹³ There is a difference between an establishment and a firm. By definition an establishment is "a single physical location where business is conducted or where services or industrial operations are performed." A firm "is a business organization consisting of one or more domestic establishments in the same state and industry that were specified under common ownership or control. The firm and the establishment are the same for single-establishment firms. For each multi-establishment firm, establishments in the same industry within a state will be counted as one firm." (U.S. Census Bureau, Statistics of U.S. Businesses).

Business Establishment Births (Startups) per 100,000 Population



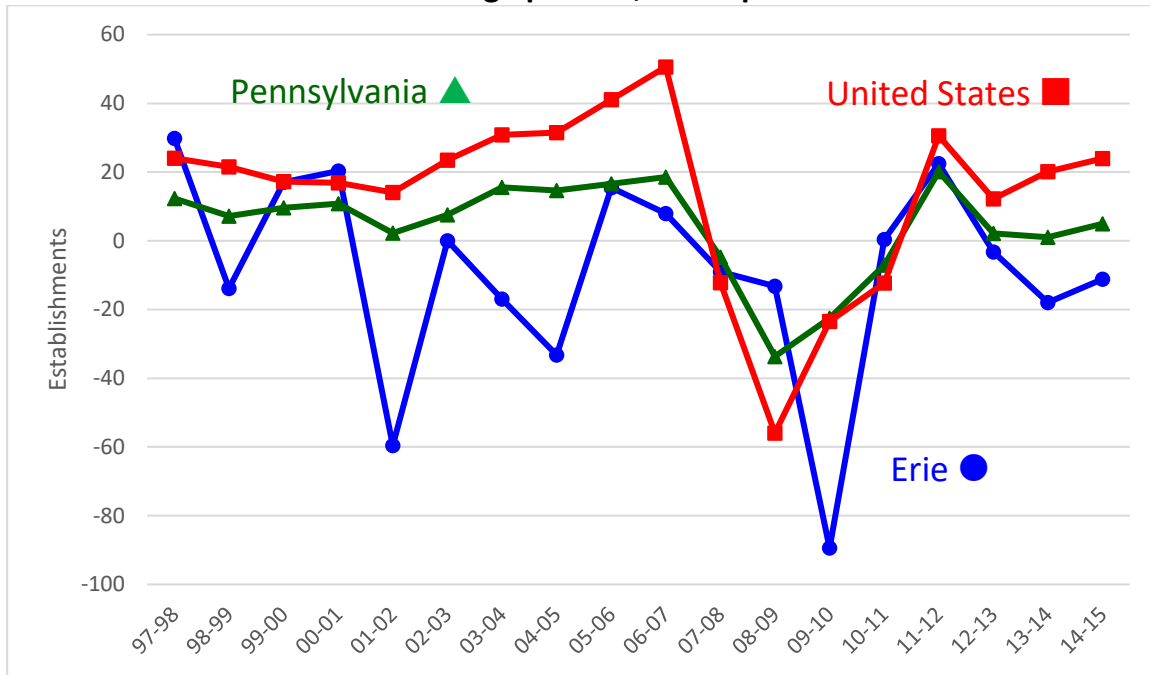
Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

Business Establishment Deaths (Closures) per 100,000 Population



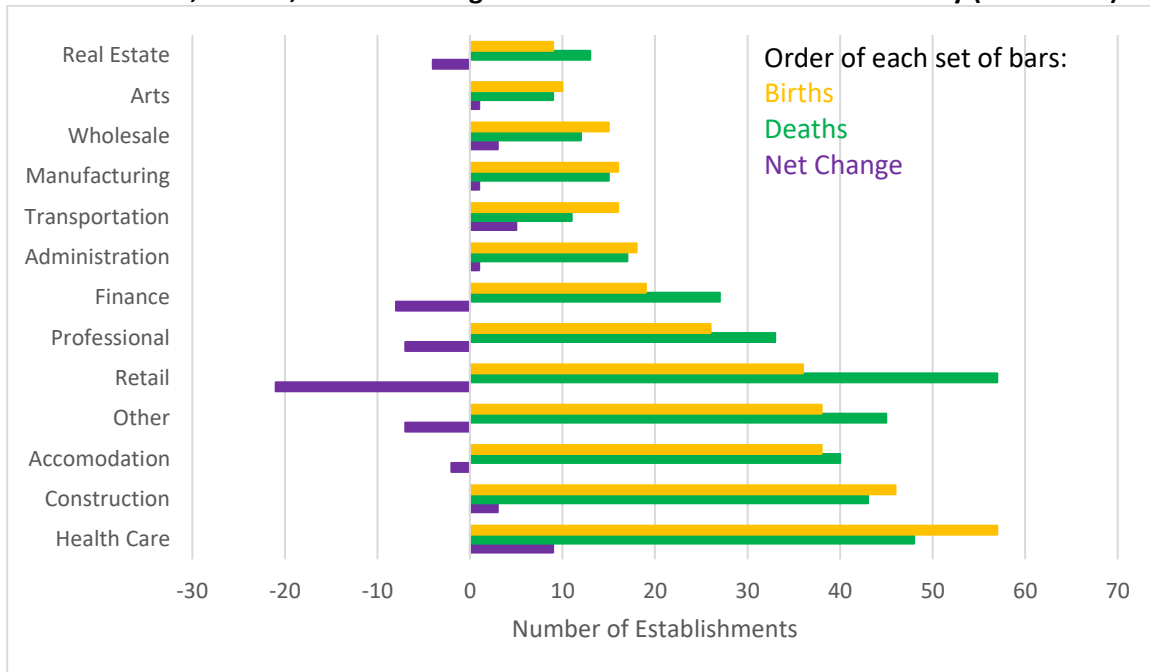
Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

Business Establishment Net Change per 100,000 Population



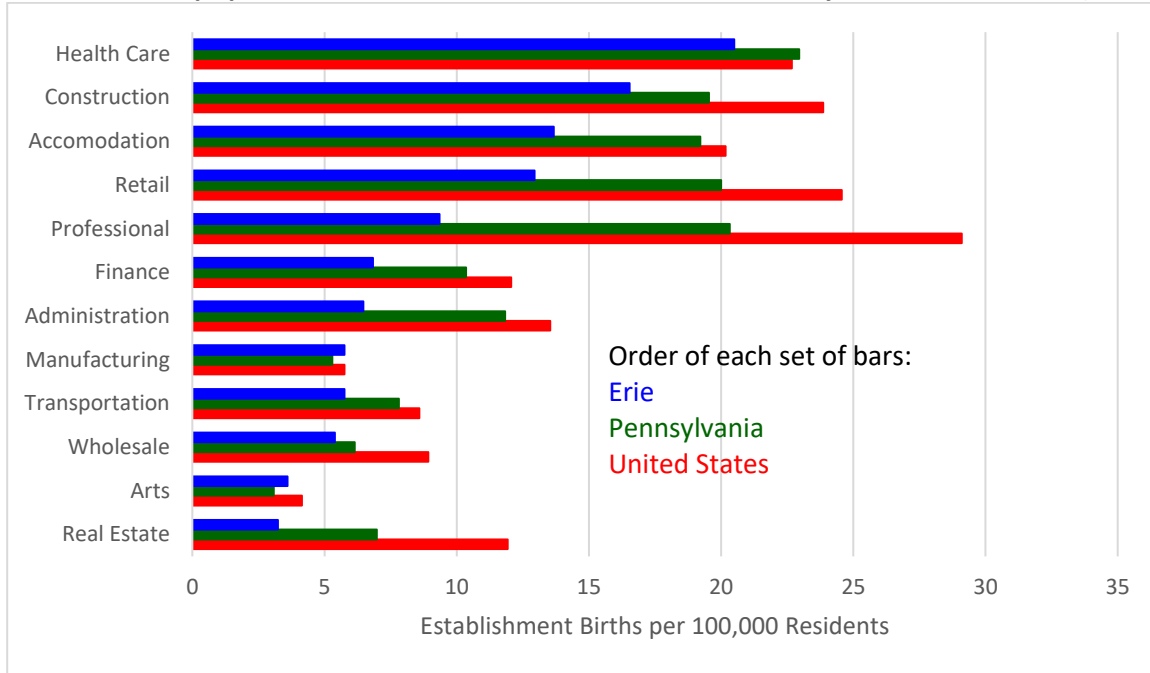
Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

Business Births, Deaths, and Net Changes for Selected Industries in Erie County (2014-2015)



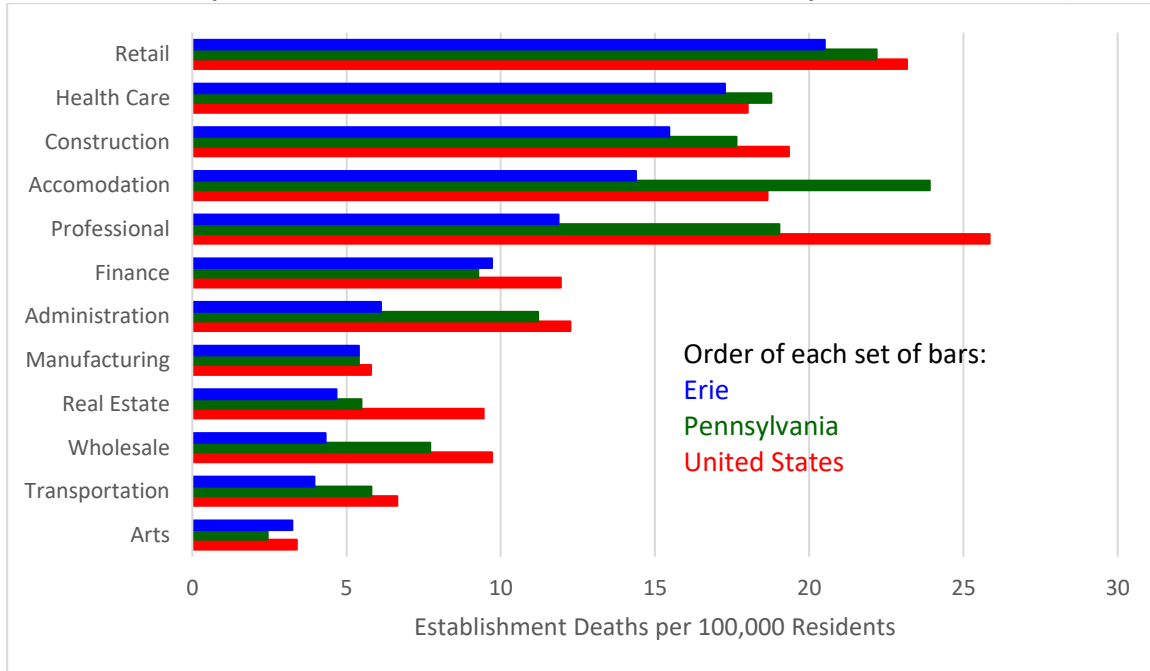
Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

Business Startups per 100,000 for Selected Industries in Erie, Pennsylvania, and the U.S. (2014-2015)



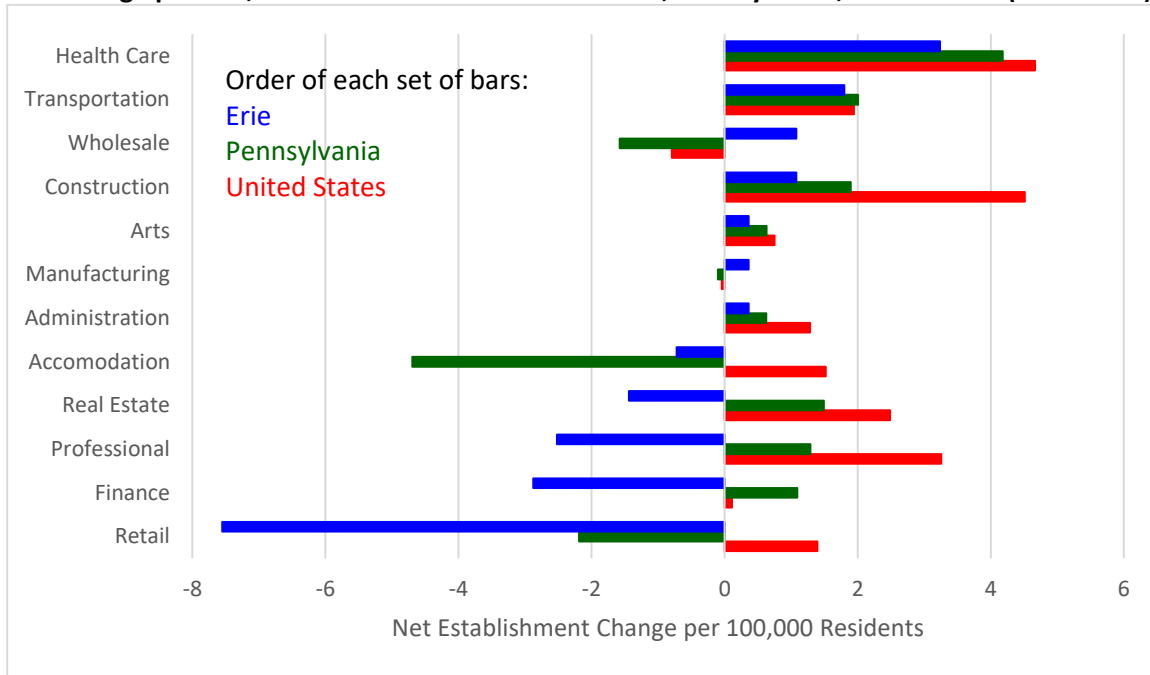
Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

Business Deaths per 100,000 for Selected Industries in Erie, Pennsylvania, and the U.S. (2014-2015)



Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

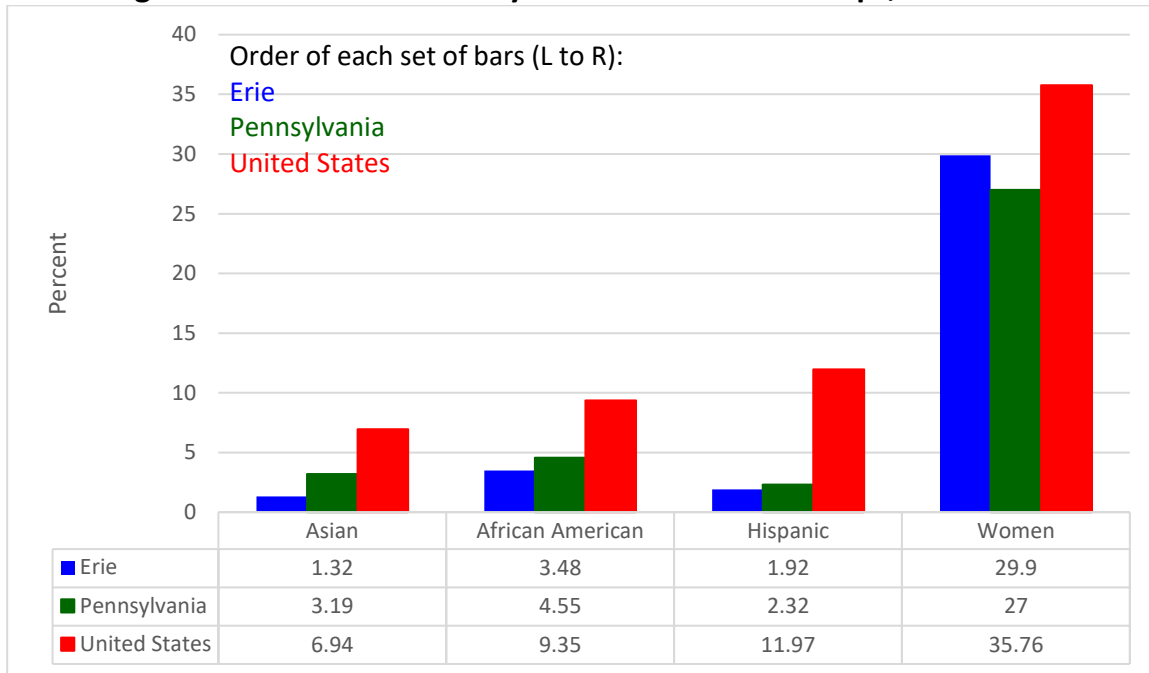
Net Change per 100,000 for Selected Industries in Erie, Pennsylvania, and the U.S. (2014-2015)



Source: [United States Census Bureau, Statistics of U.S. Businesses](#)

- From the graphs on the previous page, it appears Erie lags behind both Pennsylvania and the county as a whole in business startups per 100,000 people, but Erie also has less closures. This points to a desire to hold the status quo. While this can be a positive, it can also hinder risk-taking associated with economic growth.
- Healthcare, construction, accommodation, and retail lead the Erie area for number of start-ups.
- Retail, healthcare, construction, and accommodation lead the Erie area for the number of business deaths in Erie County.
- The industries with the largest positive net increases are health care, transportation, wholesale and construction while the industries with the largest net loss in establishments are retail, finance, professional, and real estate.

Percentage of Businesses Owned by Gender and Race Groups, 2012



Source: [United States Census, Survey of Business Owners and Self-Employed Persons \(SBO\)](#)

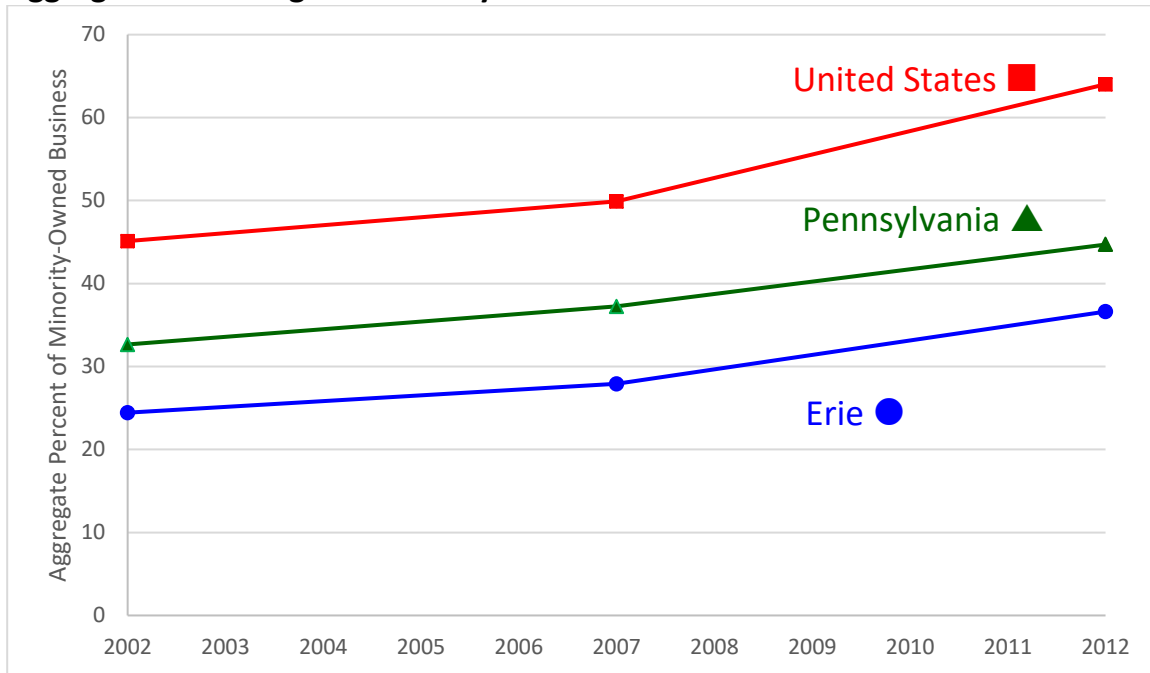
- It should be noted that the SBO is only updated every five years with an approximate two-year lag. This means that we should expect a 2017 survey sometime during 2019. As of July 9, 2019, the update has not yet occurred.
- Also, while women are not a minority in the country (women actually make up 51% of the US population), women have been underrepresented in the business-owner community. Therefore, we treat women as a minority in this section.
- In 2012, the percentage of total businesses owned by racial minorities in Erie County lagged behind both PA and the U.S., although Erie's number rose in 2012. Erie's data here reflect in part the less diverse makeup of Erie's population.
- Women owned about 29.9% of Erie businesses, compared with 27.0% statewide and 35.8% nationally. Woman-owned businesses in Erie are up slightly from 2007, when they owned 23.5% of all businesses.
- African Americans owned 9.35% of Erie businesses in 2012, which is a 189% increase from 2007 when they owned 3.23% of Erie businesses.
- Hispanics made up 1.92% of total business ownership in Erie, which is significantly less than state and national rates.
- Asian-owned businesses made up 1.32% of businesses in Erie for 2012.

Percentage of Minority-Owned Businesses, 2002, 2007, 2012

| Group | 2002 | | | 2007 | | | 2012 | | |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Erie | PA | U.S. | Erie | PA | U.S. | Erie | PA | U.S. |
| Asian | 0.76 | 2.59 | 4.81 | N/A | 3.39 | 5.72 | 1.32 | 4.06 | 6.94 |
| African American | 0.87 | 2.83 | 5.21 | 3.24 | 4.55 | 7.09 | 3.48 | 5.82 | 9.35 |
| Hispanic | 0.83 | 1.26 | 6.85 | 1.16 | 2.32 | 8.34 | 1.92 | 3.57 | 11.97 |
| Women | 21.98 | 25.98 | 28.25 | 23.51 | 27.00 | 28.76 | 29.90 | 31.25 | 35.76 |

Source: [United States Census, Survey of Business Owners and Self-Employed Persons \(SBO\)](#)

Aggregate Percentage of Minority-Owned Businesses

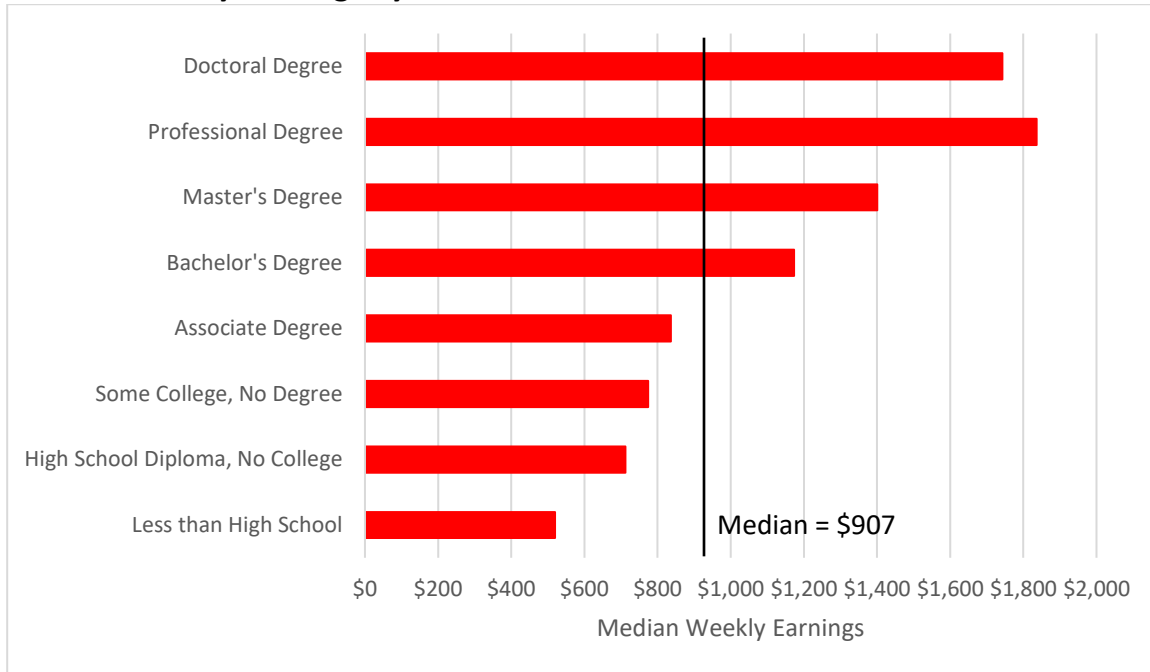


Source: [United States Census, Survey of Business Owners and Self-Employed Persons \(SBO\)](#)

- It should be noted that the graph above represents the sum of the percentages and not the actual percentage of minority-owned establishments. This is because the groups are not mutually exclusive. For example, if a female African-American owns a business, she would be double counted in both the African-American group as well as the female group. The aggregation is simply meant to get a general understanding of the trends over the ten-year period.
- Erie lags behind both the United States and Pennsylvania in minority-owned businesses. There is not a single category in which Erie is ahead of either Pennsylvania or the United States.

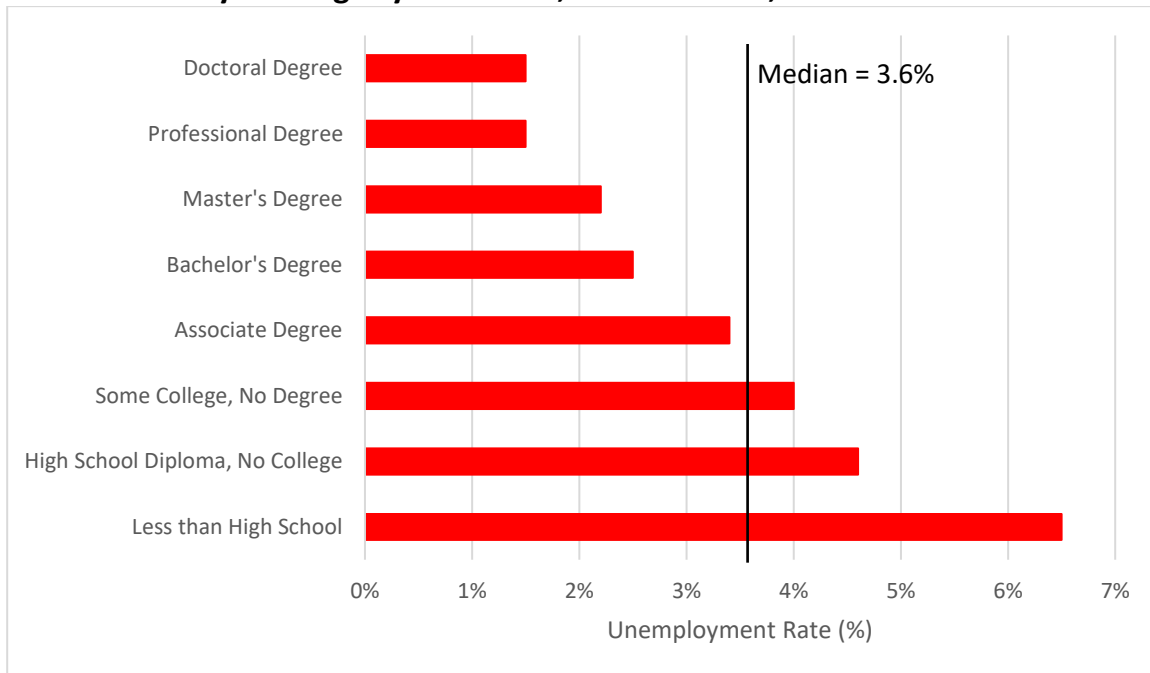
Human Capital

Median Weekly Earnings by Education, United States, 2017



Source: [US Bureau of Labor Statistics, "Measuring the value of education", 2017](#)

Median Weekly Earnings by Education, United States, 2017



Source: [US Bureau of Labor Statistics, "Measuring the value of education", 2017](#)

- Why stay in school? The data above for the nation make a compelling case.
- The first graph shows that those who drop out of high school earn about \$520 per week. Those with a high school diploma earn about \$712 per week which is 37% more. That is nearly \$10,000 per year more.
- Having “some college” or an associate’s degree increases weekly earnings, but the largest increase comes from obtaining a bachelor’s degree.
- A person with a bachelor’s degree is expected to earn about \$461 more per week, which amounts to nearly \$25,000 more annually.
- A master’s degree adds another 19% premium over a bachelor’s degree usually for another two years of work.
- A doctoral degree adds another 24% above a master’s degree or 49% above a bachelor’s degree.
- Finally, a person with a professional degree (law, medicine, dentistry) earns the most.
- As educational attainment increases, not only does income rise, but unemployment rates fall, meaning that it is easier to find a job with a more advanced degree. As the second graph above shows, unemployment rates fall with education level, with professional and doctoral degree holders having an unemployment rate of 1.5% compared to an unemployment rate of 6.5% for those without a high school diploma.
- It should also be noted that the 2017 unemployment figures were taken during a strong economic expansion. Unemployment rates, especially for those without high school degrees, tend to be higher during most economic periods.
- Of course, these results are not guaranteed, and vary by major, occupation, etc. In fact, earnings vary dramatically among college graduates based on their major field of study. The next page gives recent data. College students need to choose wisely! While the income they earn is not the only important thing to consider, it **will** make a big difference in their standard of living for the rest of their lives.

Top 50 Bachelor's Degrees and their Starting Salaries¹⁴

| Rank | Major | Starting Salary |
|------|----------------------------------------------|-----------------|
| 1 | Petroleum Engineering | \$82,700 |
| 2 | Operations Research & Industrial Engineering | \$79,600 |
| 3 | Actuarial Mathematics | \$54,700 |
| 4 | Chemical & Biomolecular Engineering | \$71,900 |
| 5 | Public Accounting | \$60,700 |
| 5 | Building Science | \$50,700 |
| 7 | Aeronautics & Astronautics | \$71,400 |
| 8 | Systems Engineering | \$70,800 |
| 9 | Business Analysis | \$53,400 |
| 10 | Economics and Mathematics | \$63,200 |
| 10 | Chemical Engineering | \$71,800 |
| 12 | Marine Engineering | \$72,600 |
| 13 | Actuarial Science | \$62,700 |
| 14 | Aeronautical Engineering | \$67,900 |
| 15 | Electrical Power Engineering | \$71,300 |
| 16 | Nuclear Engineering | \$70,700 |
| 17 | Ocean Engineering (OE) | \$68,900 |
| 18 | Electrical & Computer Engineering (ECE) | \$71,100 |
| 19 | Computer Science (CS) & Engineering | \$74,000 |
| 20 | Computer Engineering (CE) | \$72,600 |
| 21 | Engineering Physics | \$65,400 |
| 22 | Construction Engineering Management | \$64,000 |
| 23 | Electrical Engineering (EE) | \$69,900 |
| 24 | Engineering Science | \$63,900 |
| 25 | Managerial Economics | \$60,800 |
| 26 | Naval Architecture & Marine Engineering | \$68,800 |
| 27 | Computational & Applied Mathematics | \$65,200 |
| 28 | Business Logistics & Transportation | \$53,300 |
| 29 | Information Management | \$59,600 |
| 30 | Control Engineering | \$68,500 |
| 31 | Mechanical & Aeronautical Engineering | \$66,900 |
| 32 | Mining Engineering | \$72,100 |
| 33 | Computer Science (CS) | \$68,800 |
| 33 | Aerospace Engineering | \$68,700 |
| 35 | Computer & Information Science | \$58,600 |
| 36 | Applied Mathematics | \$61,700 |
| 37 | Engineering | \$64,200 |
| 38 | Welding Engineering | \$73,500 |
| 39 | Operations Management & Information Systems | \$61,900 |
| 39 | Electrical & Electronics Engineering (EEE) | \$69,200 |
| 41 | Plastics Engineering | \$65,300 |
| 41 | Industrial & Systems Engineering | \$67,600 |
| 43 | Statistics | \$62,000 |
| 43 | Industrial Engineering (IE) | \$66,400 |
| 45 | Metallurgical Engineering | \$77,300 |
| 46 | Astrophysics | \$60,700 |
| 47 | Biomedical Engineering (BME) | \$66,000 |
| 48 | Information Sciences and Technology | \$58,900 |
| 49 | Accounting & Economics | \$61,200 |
| 50 | Physics | \$60,700 |

Source: [Payscale, Inc.](https://www.payscale.com)

¹⁴ Includes only graduates with bachelor's degrees, employed full-time, working as a paid employee. Covers graduates of 1,058 U.S. degree-granting schools that include over 80% of the undergraduates in bachelor's degree programs in the U.S.. "Salary" includes base annual salary or hourly wage, bonuses, profit sharing, tips, commissions, overtime, and other forms of cash earnings, as applicable. Salary does not include stock compensation, cash value of retirement benefits or other non-cash benefits (e.g. healthcare.)

Erie County, Pennsylvania, and U.S. Highest Educational Attainment, 2017

| | % 25+ | % 25+ | %25+ | |
|---------------------------------|-------|--------------|------|------------|
| Educational Attainment | Erie | Pennsylvania | US | Erie:US LQ |
| No high school | 3.3 | 3.2 | 5.1 | 0.65 |
| Some high school, no diploma | 6.1 | 6.3 | 6.9 | 0.88 |
| High school graduate | 38.3 | 35.0 | 27.1 | 1.41 |
| Some college, no degree | 15.6 | 15.8 | 20.4 | 0.76 |
| Associate's degree | 9.6 | 8.3 | 8.5 | 1.13 |
| Bachelor's degree | 17.4 | 18.9 | 19.7 | 0.88 |
| Graduate or professional degree | 9.7 | 12.5 | 12.3 | 0.79 |

[Source: United States Census Bureau, American Community Survey, Table S1501: Educational Attainment](#)

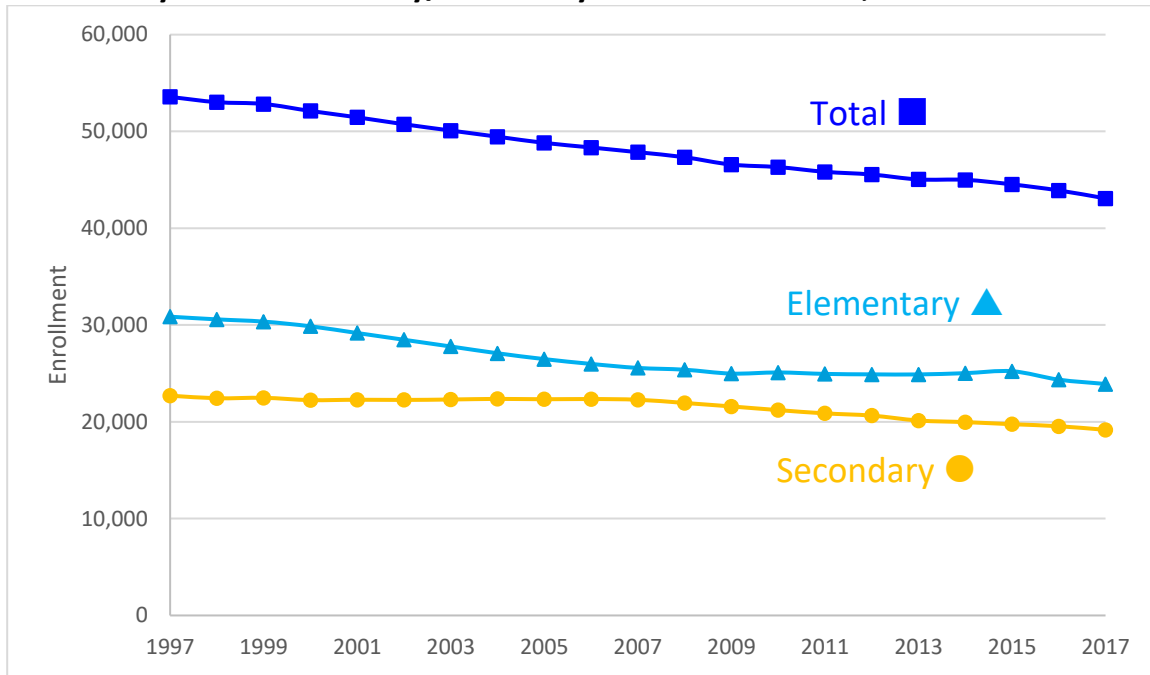
Erie County, Pennsylvania, and U.S. Educational Attainment, 2017

| | % 25+ | % 25+ | %25+ | |
|---------------------------------|-------|--------------|------|------------|
| Educational Attainment | Erie | Pennsylvania | US | Erie:US LQ |
| No high school diploma | 9.4 | 9.5 | 12.0 | 0.78 |
| High school diploma | 90.6 | 90.5 | 88.0 | 1.03 |
| Bachelor's degree | 27.1 | 31.4 | 32.0 | 0.85 |
| Graduate or professional degree | 9.7 | 12.5 | 12.3 | 0.79 |

[Source: United States Census Bureau, American Community Survey, Table S1501: Educational Attainment](#)

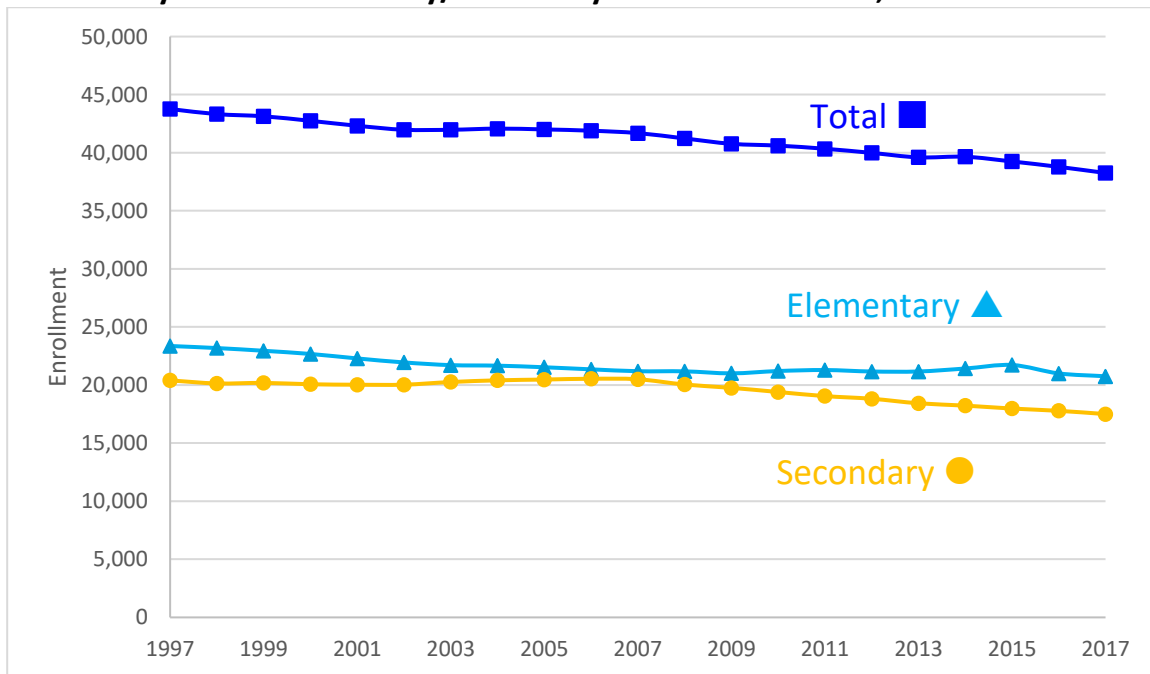
- Erie has a smaller percentage of people with less than a high school diploma.
- However, about 38% of the Erie County population over 25 years old are high school graduates, while about 27% of the U.S. population is. A larger share of Erie residents has “just” a high school education.
- 19.7% of the U.S. population over 25 have a bachelor’s degree, but only 17.4% of Erie County residents do.
- Erie has less than the national average in all categories of education above the high school level except for the amount of individuals over 25 with an associate degree.
- These lower than average levels of higher education help explain the fact that Erie’s income level is lower than the nation’s.
- Erie’s lower-than-average education levels occur despite the fact that four colleges and a medical school are located in the county. Keeping more of those graduates would provide a boost to Erie’s economy.

Erie County Total Elementary/Secondary School Enrollment, 1997-2017



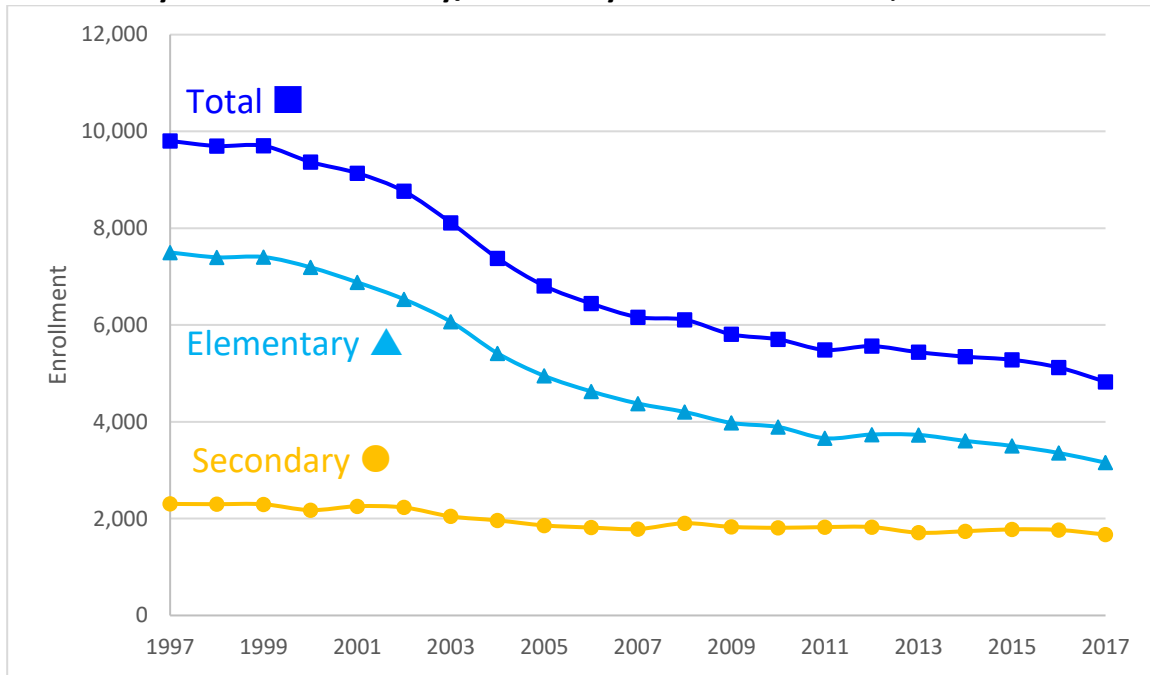
Source: [Pennsylvania Department of Education, Annual Enrollment Reports](#)

Erie County Public Elementary/Secondary School Enrollment, 1997-2017



Source: [Pennsylvania Department of Education, Annual Enrollment Reports](#)

Erie County Private Elementary/Secondary School Enrollment, 1997-2017



Source: [Pennsylvania Department of Education, Annual Enrollment Reports](#)

- As a note, education years span two calendar years (typically August-June.) For ease of display, I have used the first year of the academic year. For example, the 1997-1998 school year is displayed on the x-axis as 1997.
- Elementary students are those in pre-kindergarten to grade 6 while secondary students are in grade 7 to 12.
- Total elementary and secondary school enrollment has declined from 53,568 in 1997-98 to 43,086 in 2017-2018. This is a decrease of 19.6% or 10,482 students.
- Elementary school enrollment has declined by 22.5% or 6,950 students from 30,863 to 23,913 between 1997-98 and 2017-2018.
- Secondary school enrollment has declined by 15.5% between 1997-1998 and 2017-2018. This amounts to a loss of 3,532 students.
- These numbers have clear implications for local post-secondary education institutions, as well as teachers and those who hire them.
- While public school enrollment has dropped off during the 20-year time period examined (a reduction of 12.6%), private schools have suffered a far greater reduction in enrollment with a 50.7% decrease in number of students.
- This reduction in private school attendance is being driven by a reduction in elementary enrollment. During the time period studied, elementary enrollment in private schools has fallen by 57.9% while secondary enrollment in private schools has only fallen by 27.4%.
- The reduction in private elementary enrollment has been felt in the Erie community with the closing and consolidation of several Catholic schools including Villa Maria.

Erie County High Schools Ranked by 2018 Total SAT Score

| District | School | Students Tested | Mean SAT Scores | | |
|-----------------|---------------------------------|-----------------|-----------------|------------|--------------|
| | | | Read/Write | Math | Total |
| Fairview | Fairview HS | 104 | 583 | 596 | 1,178 |
| Erie City | Northwest PA Collegiate Academy | 194 | 596 | 581 | 1,177 |
| North East | North East HS | 73 | 556 | 555 | 1,111 |
| Girard | Girard HS | 79 | 551 | 557 | 1,108 |
| Millcreek | McDowell HS | 400 | 553 | 545 | 1,098 |
| Harbor Creek | Harbor Creek JSHS | 136 | 555 | 541 | 1,096 |
| General McLane | General McLane HS | 127 | 547 | 538 | 1,085 |
| | UNITED STATES AVERAGE | | 540 | 530 | 1,080 |
| | PENNSYLVANIA AVERAGE | 82,679 | 542 | 535 | 1,077 |
| Wattsburg Area | Seneca HS | 63 | 547 | 522 | 1,069 |
| Iroquois | Iroquois JSHS | 54 | 534 | 527 | 1,061 |
| Corry Area | Corry Area HS | 69 | 524 | 530 | 1,053 |
| Fort LeBoeuf | Fort LeBoeuf SHS | 106 | 533 | 506 | 1,039 |
| Northwestern | Northwestern SHS | 65 | 524 | 515 | 1,038 |
| Union City Area | Union City HS | 47 | 509 | 487 | 996 |
| Erie City | Erie HS | 209 | 436 | 433 | 869 |

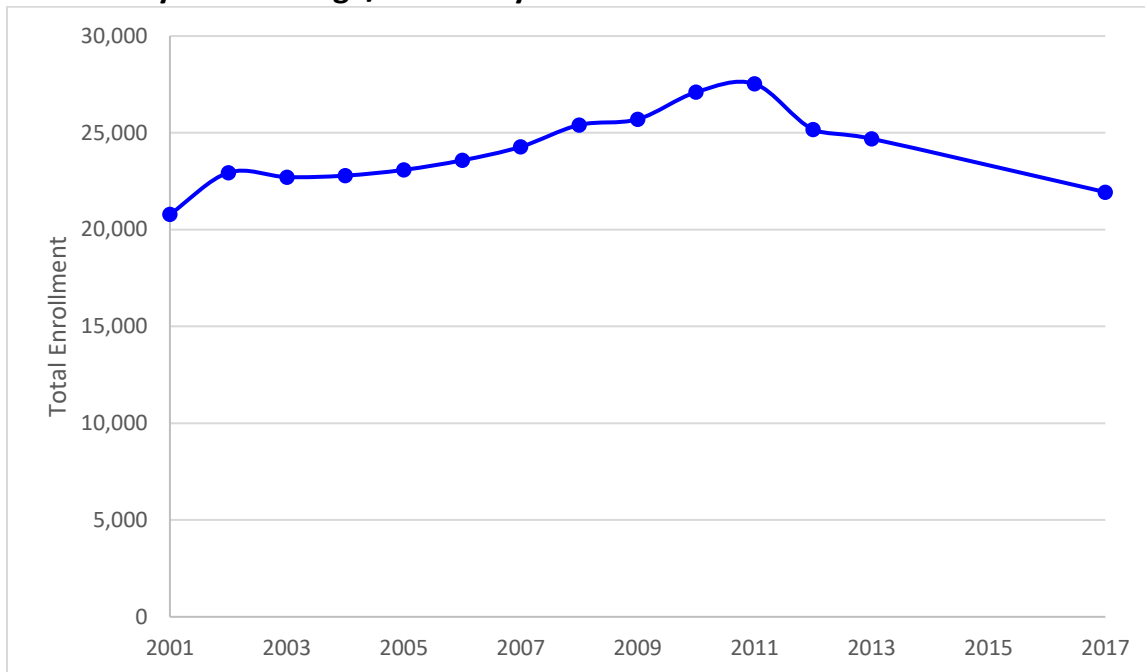
Source: [Pennsylvania Department of Education, SAT and ACT Scores](#)

- Fairview HS overtook the 2017 leader in SAT scores, Northwest PA Collegiate Academy of the Erie City School District.

Note: The 2018 SAT scores for Erie High School were not available. It is the opinion of the author of this report that this is due to the consolidation of the Erie City high schools which created a data issue at the PA DOE. The 2017 SAT scores have been used.

Further details on educational performance are available at the PA Department of Education: <http://www.pde.state.pa.us>, under "Data and Reporting".

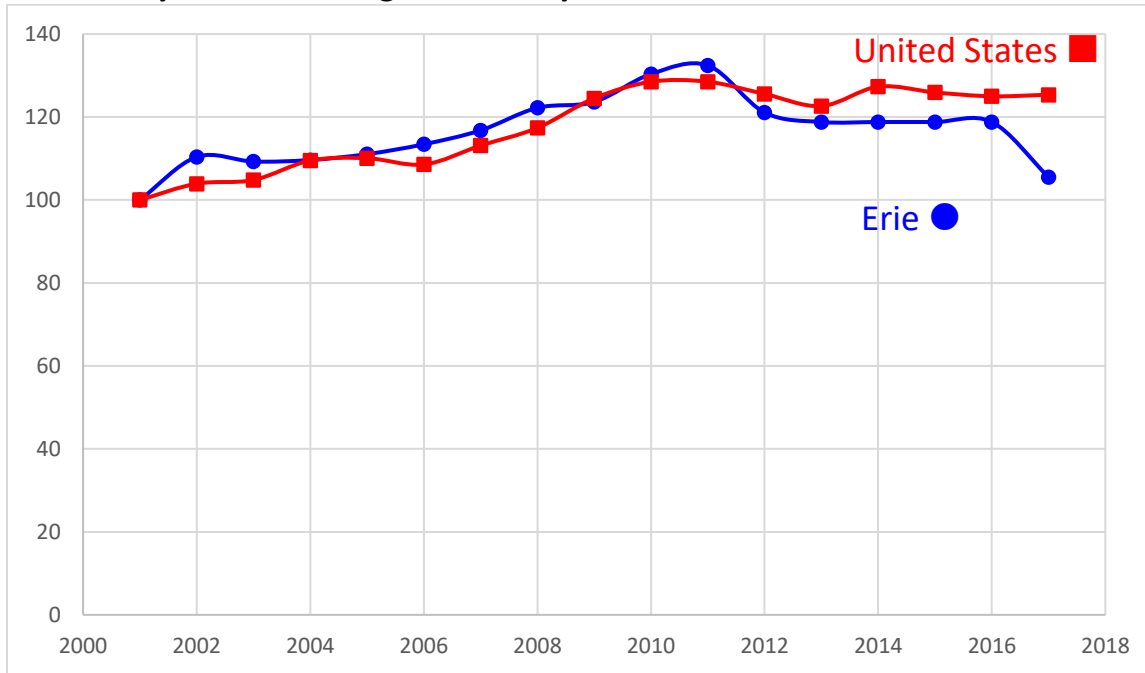
Erie County Total College/University Enrollment



Source: [National Center for Education Statistics College Navigator](#)

- It should be noted that data was not collected from 2014-2016. The graph will be updated if old data is restored.
- The colleges included are: Edinboro University, Penn State Behrend, Gannon University, Mercyhurst University (including its Northeast campus), and Lake Erie College of Osteopathic Medicine (LECOM).
- From 2013 to 2017, college enrollment fell in Erie fell by 11.2%. This was fueled by 36% drop in enrollment at Edinboro University.
- During that time, Penn State Behrend, Mercyhurst, and LECOM all added to its enrollment while Gannon saw a modest decrease.
- Again, this is only a look from 2013 to 2017. Trends may have reversed during the years of missing data.
- These decreases occurred at a time when Erie County elementary and high school enrollments were flat or declining.
- Further, United States college enrollment is up by 2.2% over the same time.

Erie County and U.S. College/University Enrollment Index



Source: [National Center for Education Statistics College Navigator](#)

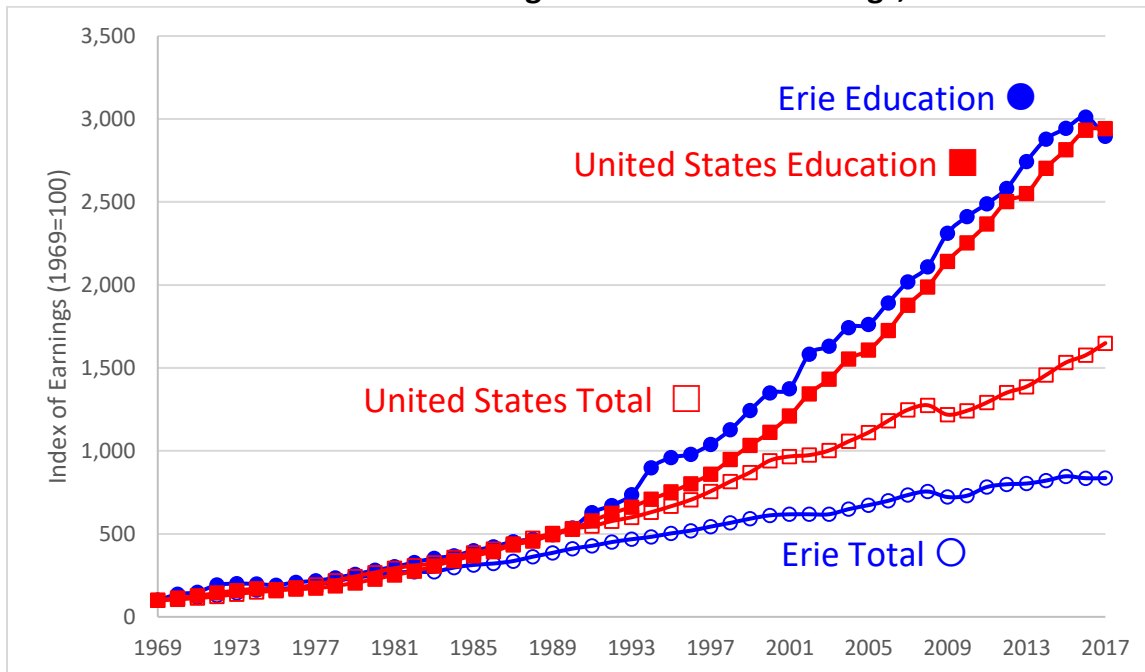
- Erie County college enrollment grew by 32.4% from the 2000-2001 school year until the 2010-2011 school year.
- Since then, enrollments fell by over 20%.
- This occurs at a time when national college enrollments fell by only around 2%.

Erie County vs. U.S. College/University Enrollment, 2017

| Area | Population | College Enrollment | % |
|---------------|-------------|--------------------|-----|
| Erie County | 274,541 | 21,940 | 8.0 |
| United States | 327,167,434 | 19,900,000 | 6.1 |

Source: United States NCES and US Census Bureau

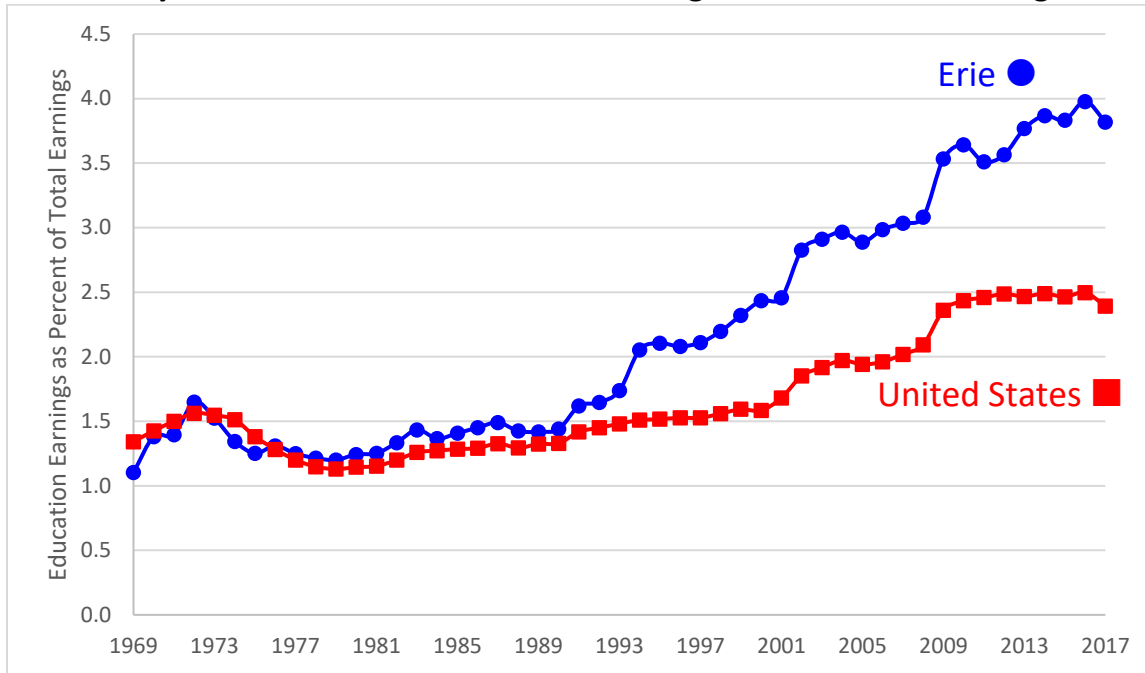
Index of Educational Services Earnings versus Overall Earnings, Erie and U.S.



Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAINCS](#)

- The closed markers are the index (anchored at 1969) of total earnings in the educational services industry. This type of graph helps to show the growth in the industry.
- The open markers are the index of total earnings overall. By contrasting the total with the educational services subset, we can look at the growth of this particular sector against overall earnings.
- The Educational Services industry comprises category 61 of the NAICS industrial classification system. This sector is made up of establishments that provide instruction and training in a wide variety of subjects, including schools, colleges, universities, and training centers. Only private schools are included, as the BEA (the source of these data) reports public schools as government earnings.
- The Educational Services industry has grown significantly in both Erie County and the U.S..
- Educational Earnings growth in Erie has historically been faster than nationally, although in recent years those rates have converged. In fact, in 2017 the United States overtook Erie County.
- Conclusion: Erie is growing its educational service industry at a much faster rate than the economy, investing in human capital in order to help sustain growth in the long term.

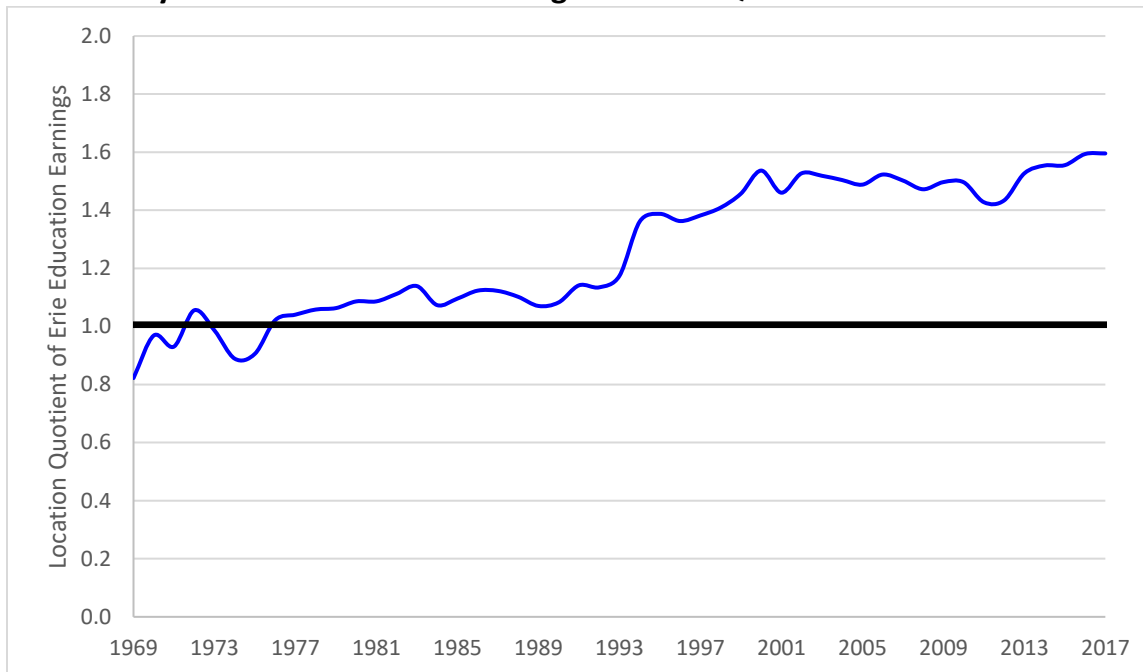
Erie County and United States Education Earnings as a % of Total Earnings



Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAINC5](#)

- From 1969 through 1976, education earnings in Erie and the U.S. made up about the same percentage of total earnings.
- From 1976 through 1991, education earnings in Erie made up a slightly larger percentage of total earnings than those of the U.S. Both hovered near 1%.
- From 1991 through 2011, education earnings in Erie composed a much larger percentage of total earnings than those of the U.S. and continued to rise generally. From 2011 to 2012, the trend lines for both the U.S. and Erie flattened.

Erie County and U.S. Education Earnings Location Quotients

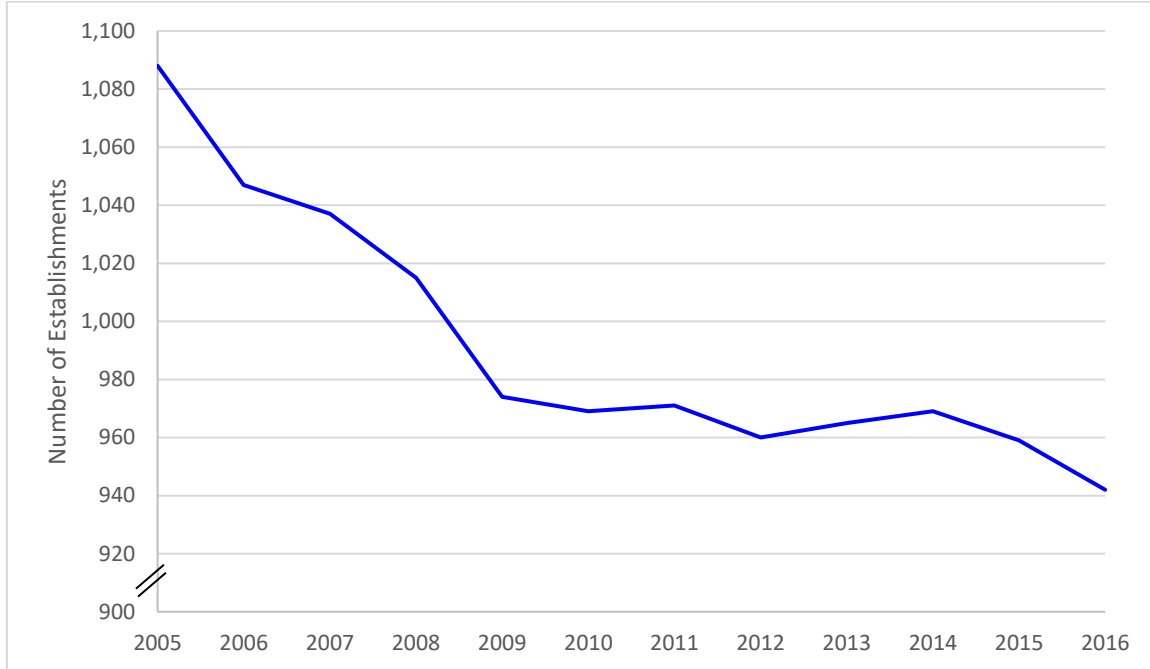


Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAINC5](#)

- The location quotient (LQ) compares Erie's percent of total earnings in education with the national percent in education. A value of 1.0 would mean that Erie has the same concentration in education as the nation; a number greater than 1.0 means that Erie specializes in education more than the nation.
- Starting in the late 1970s, Erie's LQ for education rose past the 1.0 mark. It rose rapidly during the 1990s, flattening around the beginning of the millennium.
- The current LQ for Erie is 1.60, or 60% higher than the U.S., reflecting the fact that Erie receives 3.82% of its total earnings from education while the U.S. receives only 2.39% from that sector.
- Conclusion: While both Erie and the U.S. have seen an increasing specialization in the education sector, Erie's specialization proceeded more rapidly than the nation's from the late 1970s through the 1990s.
- In an increasingly competitive world where education plays an increasingly important role, this is clearly good news. Of course, a key issue is whether Erie can hold onto the students that are educated here.

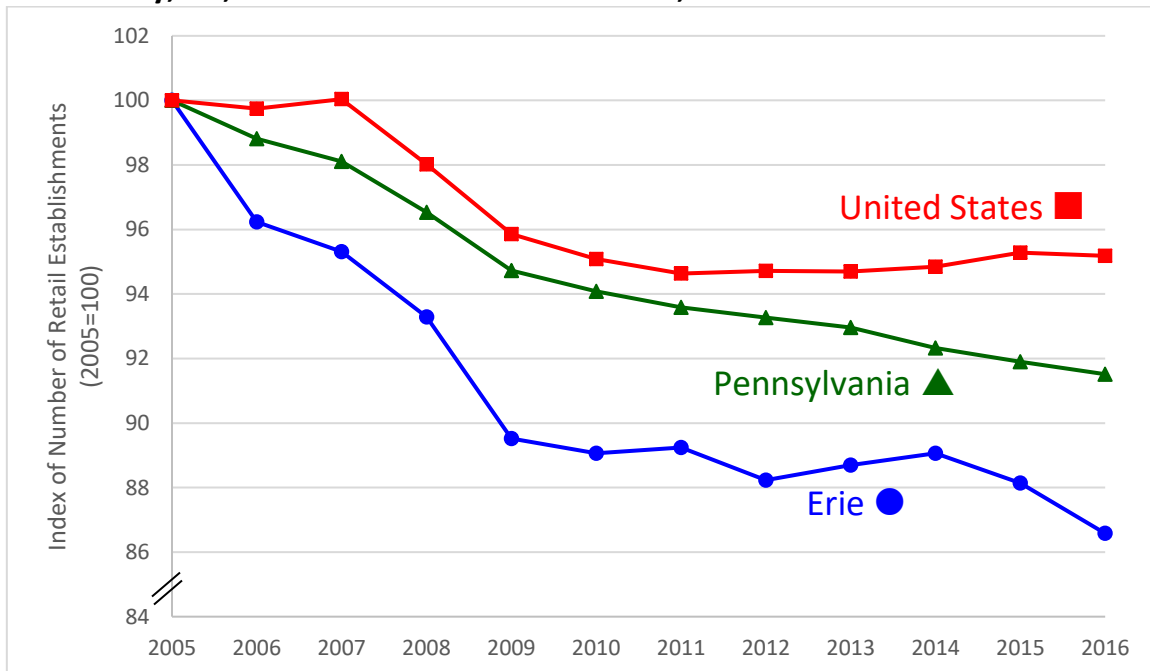
The Retail Industry

Number of Retail Establishments in Erie County, 2005-2016



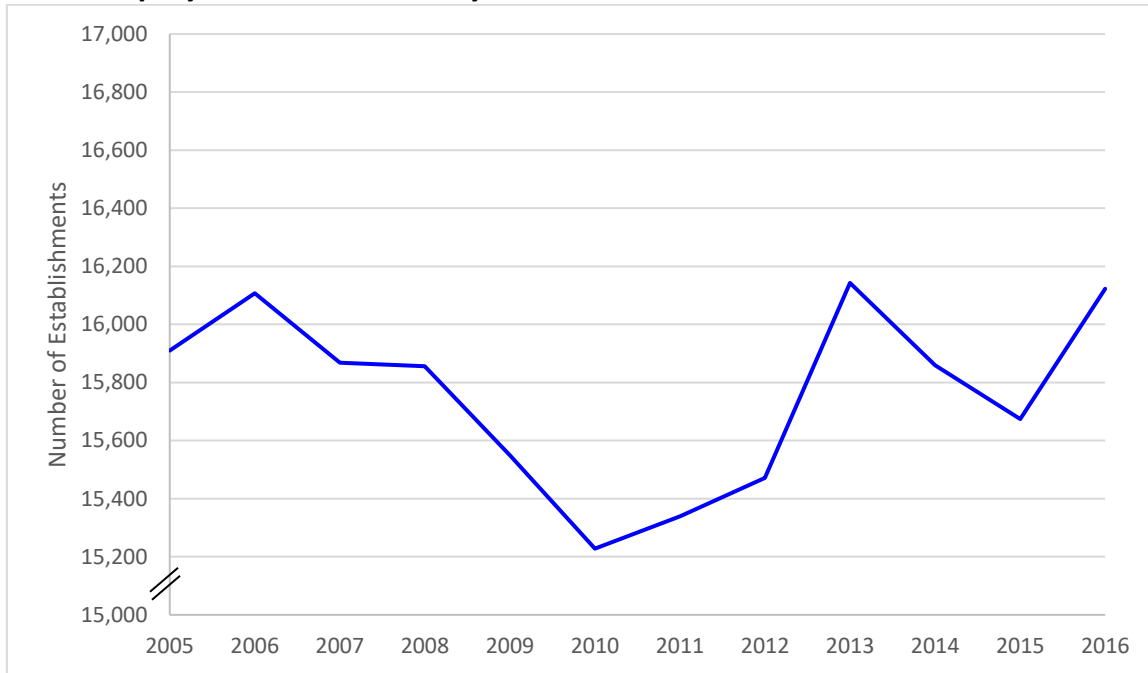
Source: [United States Census, County Business Patterns, Table CB1600A11](#)

Erie County, PA, and U.S. Retail Establishments, 2005-2016



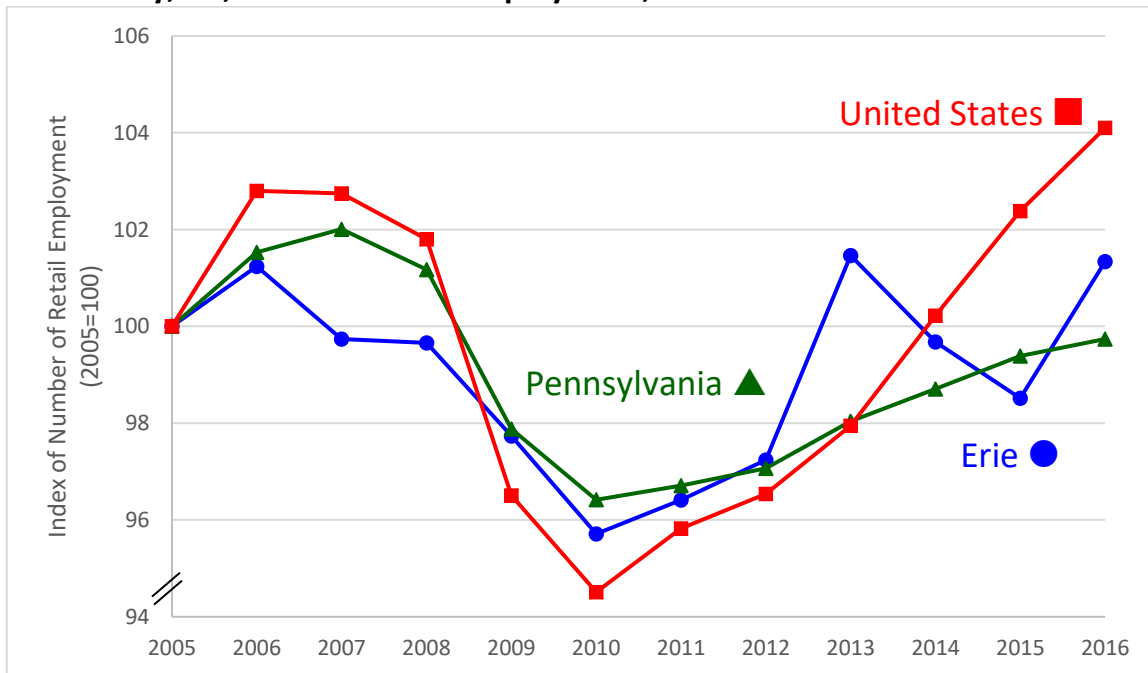
Source: [United States Census, County Business Patterns, Table CB1600A11](#)

Retail Employment in Erie County, 2005-2016



Source: [United States Census, County Business Patterns, Table CB1600A11](#)

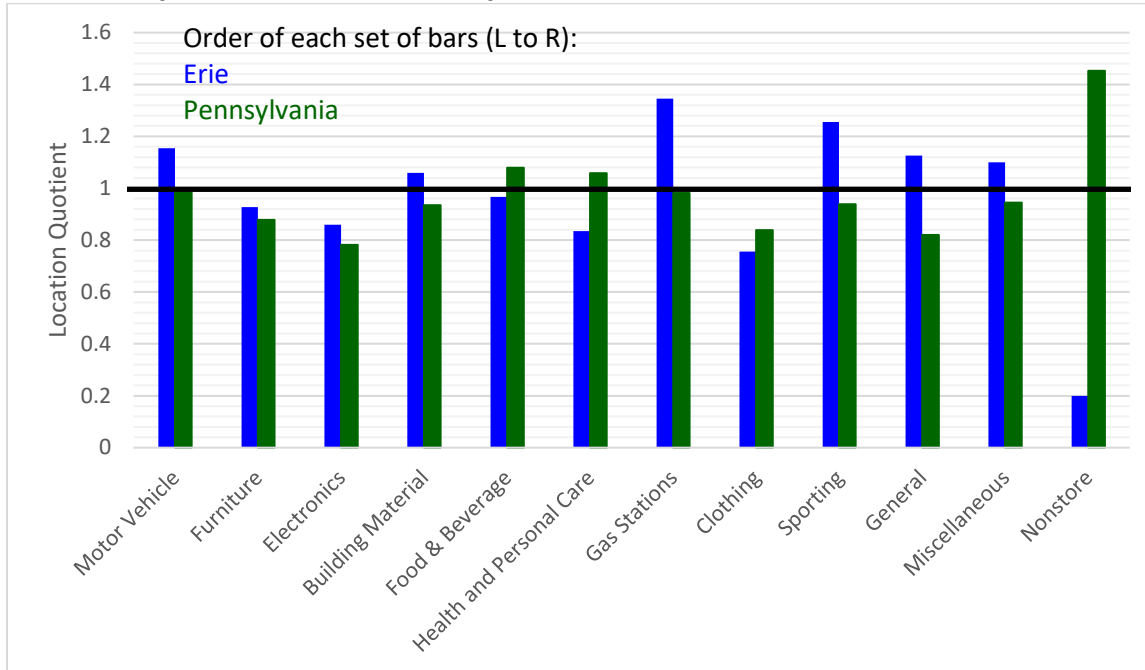
Erie County, PA, and U.S. Retail Employment, 2005-2016



Source: [United States Census, County Business Patterns, Table CB1600A11](#)

- An establishment is defined as a single physical location at which business is conducted.
- Erie County and PA have lost retail establishments since 2005.
- The period captures the growth of internet retail sales through companies like Amazon which removes the need for physical locations.
- Even though the number of establishments has decreased, employment in the retail sector has increased.

Erie County and PA Retail Industry Sales Location Quotients



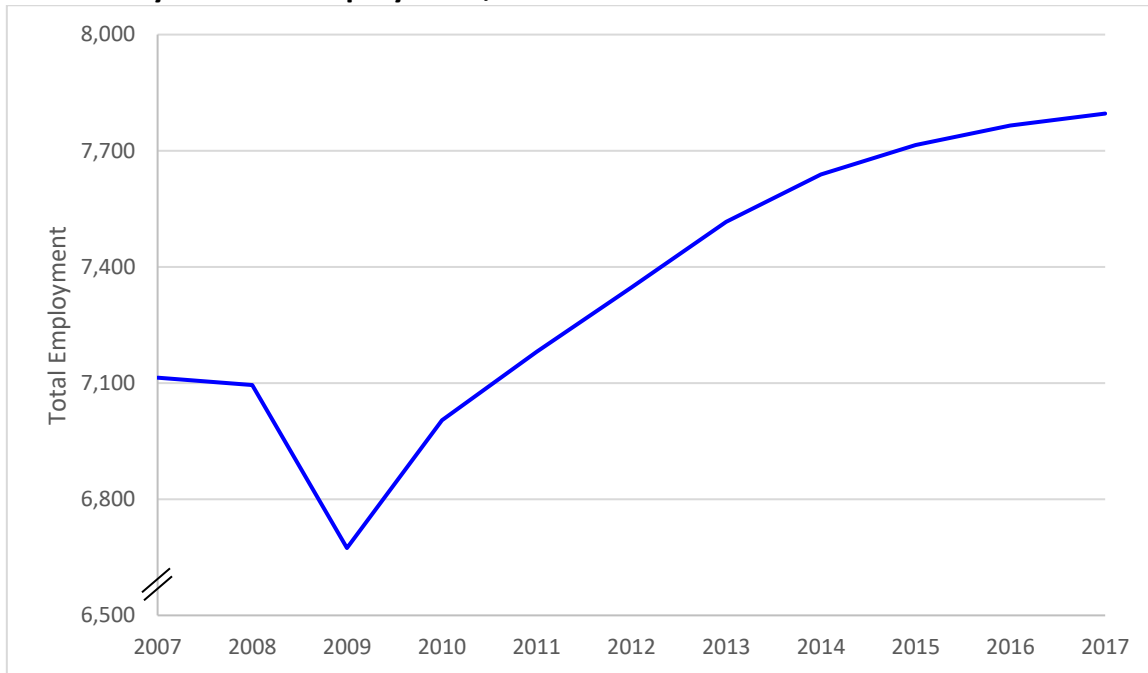
Source: [United States Census, Economic Census, 2012, Table EC1244A1](#)

- Sales location quotients for the twelve three-digit NAICS Code components of the retail sector show which categories of retail trade Erie County and PA have more than their share of business.
- Erie's largest retail LQ is in gas stations which makes sense with Erie being a logical stopping point for many interstate travelers due to the intersection of interstates 79, 86, and 90.
- Erie also has an LQ of more than one in motor vehicle sales, building materials, sporting goods, general merchandise, and miscellaneous sales.
- Erie's lowest LQ occurs in "non-store transactions." Initially, this term represented mail-order purchases and the like, but has not become synonymous for online retail sales.
- On the other hand, Pennsylvania as a whole commands a strong presence in the non-store sales category.

The Tourism Industry

Erie is the only city in Pennsylvania with a shore on the Great Lakes (or any type of substantial beach). This lends itself to fishing, swimming, and boating with Presque Isle State Park being the main attraction for these activities. Tourists also stop in Erie for the indoor water park, Splash Lagoon, and Presque Isle Downs & Casino, both of which are conveniently located directly off Interstate 90. Waldameer and Water World amusement parks are also significant draws to Erie. In this section we will focus on tourism employment, visitor spending and tax revenue generated from major tourist attractions.

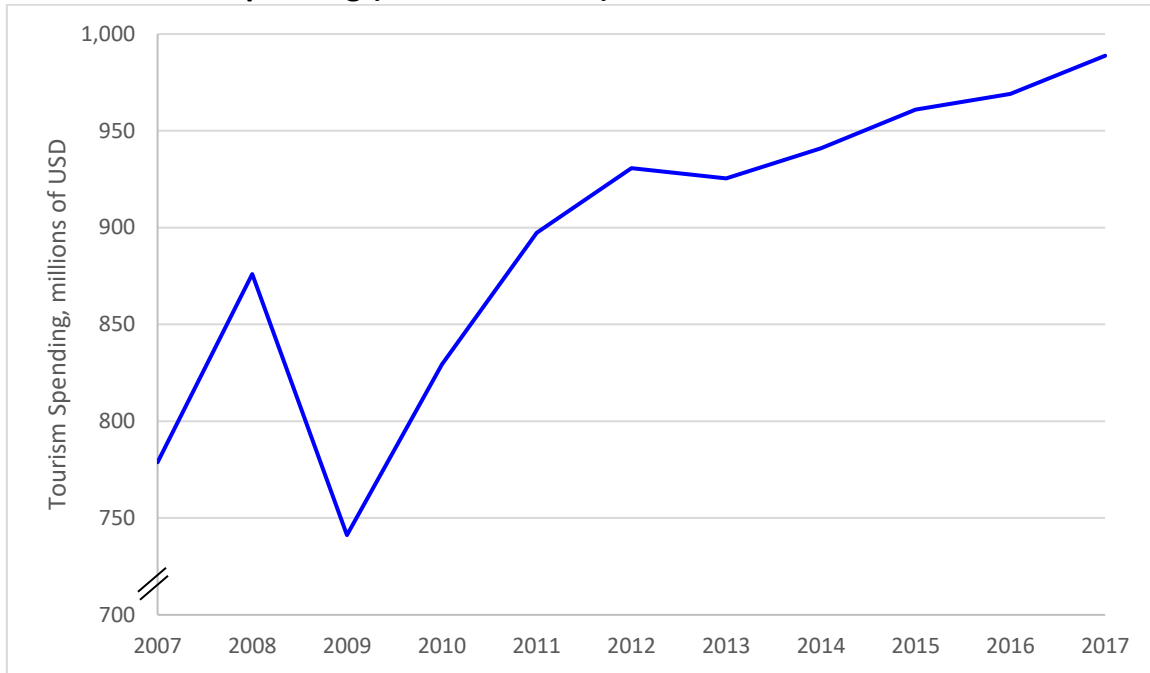
Erie County Tourism Employment, 2007-2017



Source: [Pennsylvania Economic Impact of Travel and Tourism in Pennsylvania by Travel Economics](#)

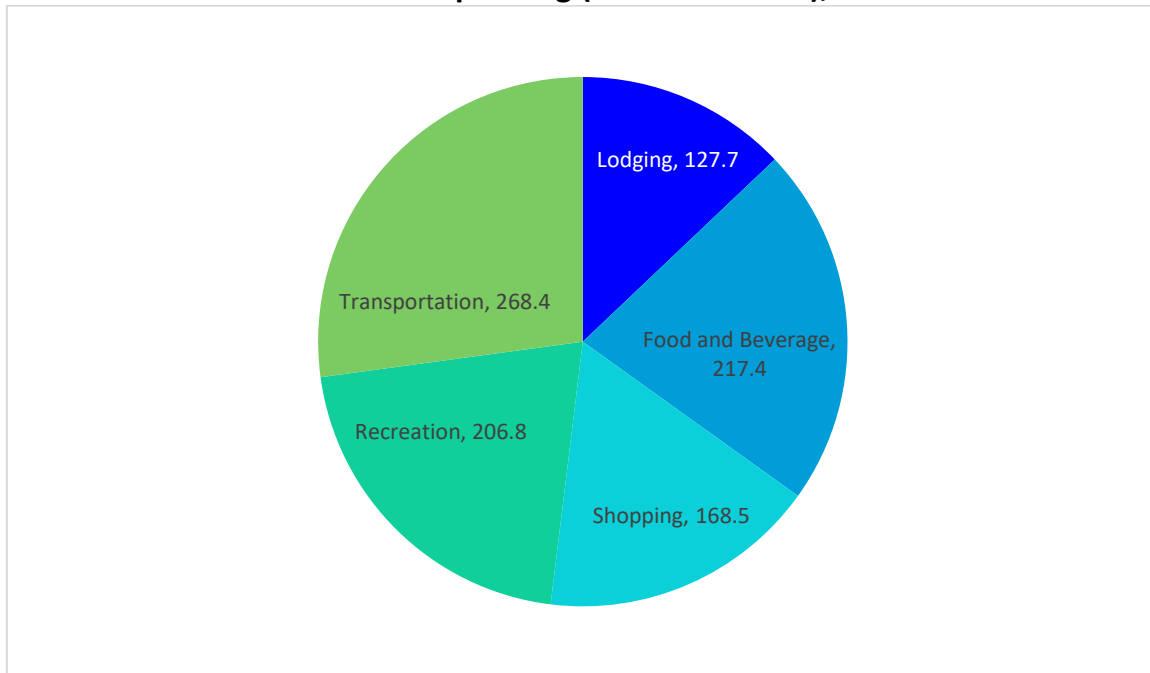
- After a dropoff during the 2008 recession, employment in tourism has increased year-over-year.
- Tourism is important because money from outside the Erie economy is imported into the Erie economy.
- Improvements in tourism is likely attributed to the opening of the Presque Isle Downs & Casino in 2007, the continued expansion of Waldameer park, the Roar on the Shore motorcycle event, and the improved water conditions which has augmented the annual steelhead fishing each year.

Tourism Visitor Spending (millions of USD), 2007-2017



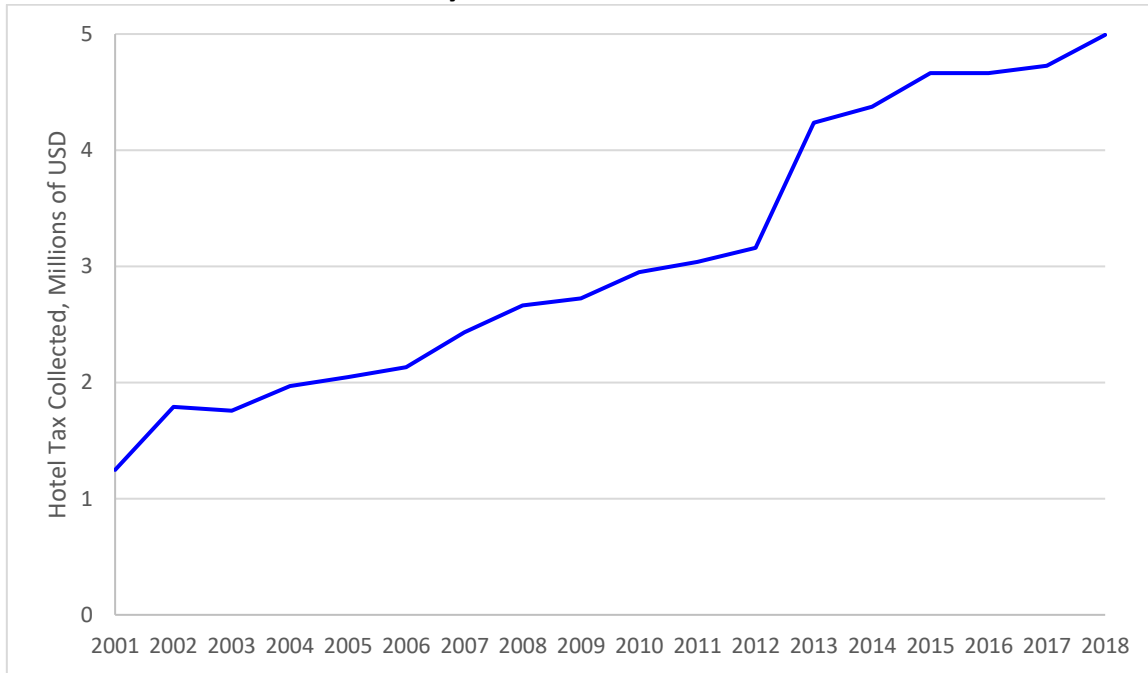
Source: [Pennsylvania Economic Impact of Travel and Tourism in Pennsylvania by Travel Economics](#)

Breakdown of Tourism Visitor Spending (millions of USD), 2017



Source: [Pennsylvania Economic Impact of Travel and Tourism in Pennsylvania by Travel Economics](#)

Hotel Tax Collected, Erie County, 2001-2018

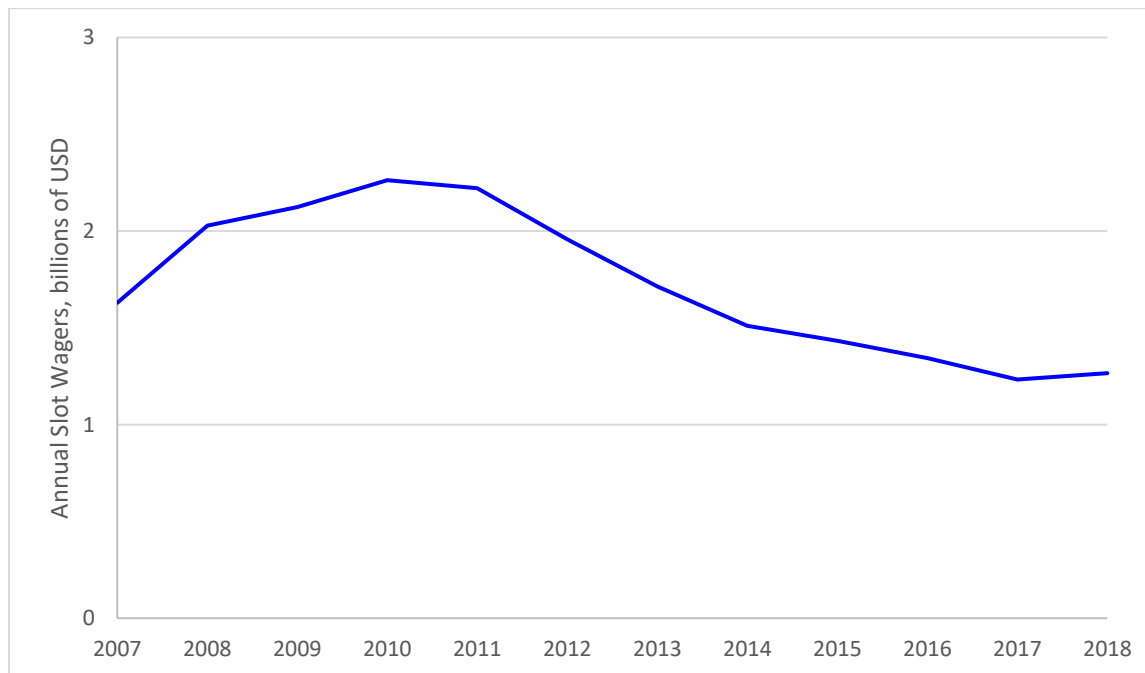


Source: [Erie County Comprehensive Annual Financial Report](#)

- Erie County began collecting a 5% Hotel Room Tax in 2001 and has collected a total of \$55.58 million dollars in tax revenue since its inception.
- On December 9th, 2012 the Hotel Room Tax was increased to 7%, which increased annual revenue by 35% from 2012 to 2013.
- 20% of the initial 5% goes toward county marketing and development, while the remaining 80% (and 100% of the recently instituted additional 2%) goes toward funding facilities.

Gambling

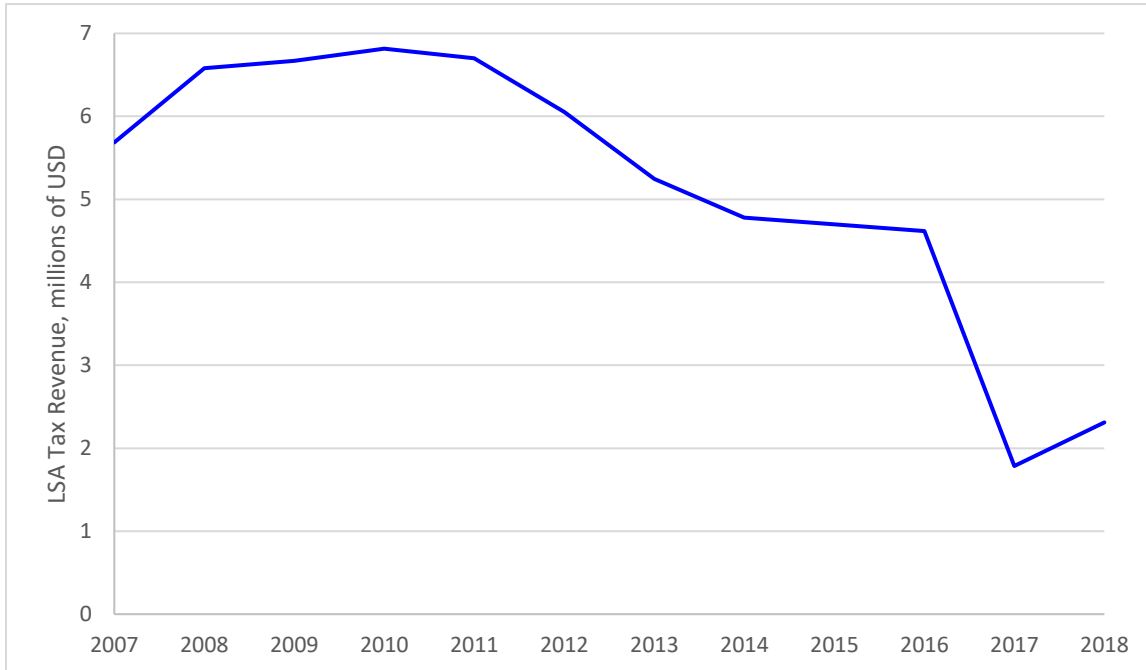
Total Annual Slot Machine Wagers (billions of USD) for Presque Isle Downs and Casino, 2007-2018



Source: [Pennsylvania Gaming Control Board, Fiscal Year Revenue Report](#)

- These values are the total amount of wagers made in the slot machines at Presque Isle Downs and Casino.
- The casino began operations in February 2007, so the first year of operation does not account for a full twelve months.
- Casinos are required to pay 36% of every dollar lost by bettors. This includes a 2% local share assessment (LSA) that goes to Erie County.
- The LSA was 4% but fell to 2% in 2017. The table below shows the LSA tax revenue from slot machines.
- In 2012, Cleveland opened the Horseshoe Cleveland Casino (now called the JACK Cleveland Casino). At the same time, the total wagers fell. This could indicate that Ohioans stopped travelling to Erie when their own casino opened.
- In addition, casino tourism has seemingly been on the downturn with the opening of casinos across the country in addition to the introduction of online betting. This is apparent in Atlantic City which once was the East coast mecca of gambling and has since been reduced to a ghost town.

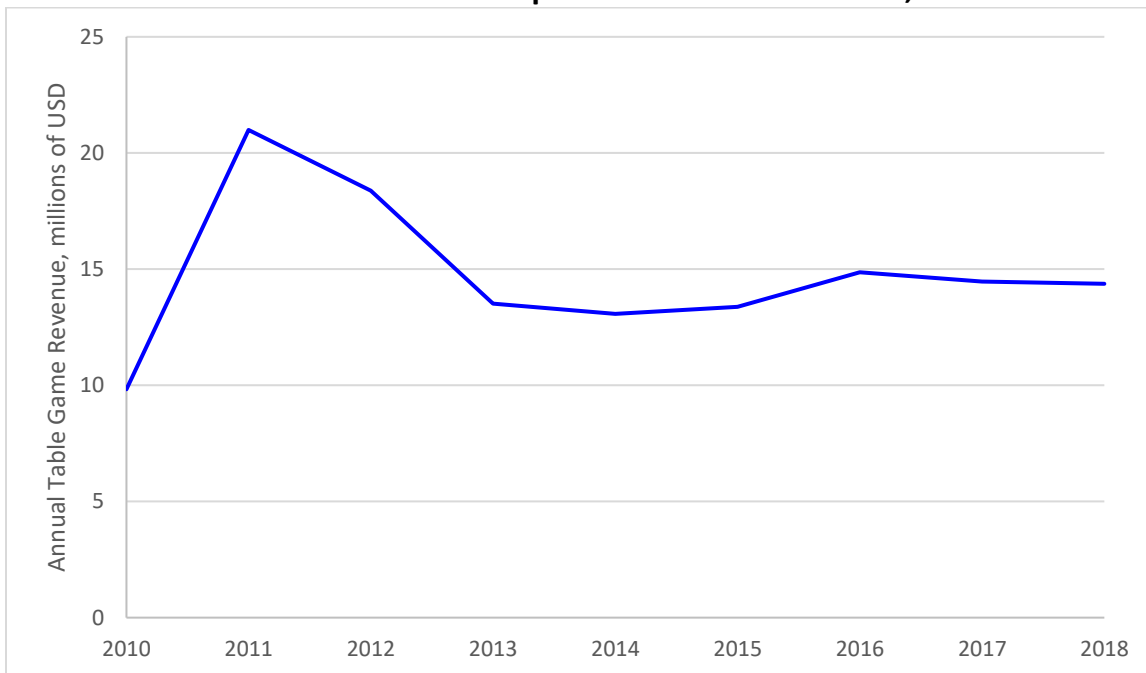
Local Share Assessment Tax (millions of USD) for Presque Isle Downs and Casino, 2007-2018



Source: [Pennsylvania Gaming Control Board, Fiscal Year Revenue Report](#)

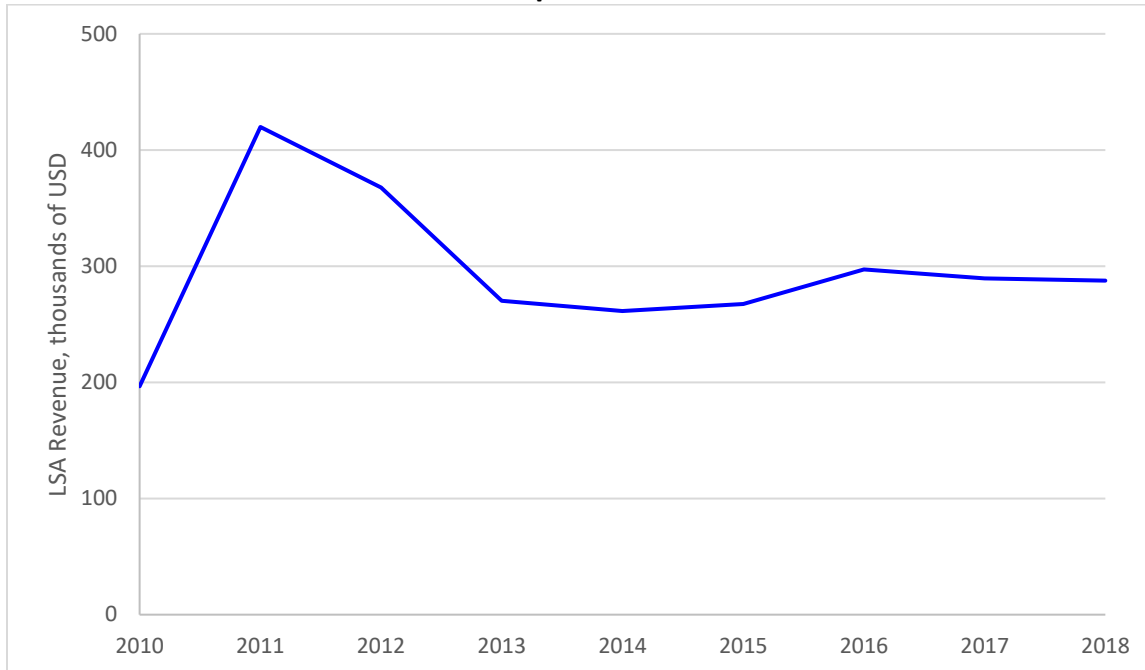
- LSA revenue from slot machines, which peaked at more than \$6.8 million in 2010 has fallen 83%.
- This front-loading of tax benefits is typical as it allows politicians to gain constituent support for legalization of “sin” activities (such as gambling) but then take those benefits away at a later date.
- One effort to curb this reduction in LSA revenue was to legalize table games such as blackjack. This occurred in 2010.

Revenue from Table Games for Presque Isle Downs and Casino, 2007-2018



Source: [Pennsylvania Gaming Control Board, Fiscal Year Revenue Report](#)

Local Share Assessment Tax for Presque Isle Downs and Casino, 2007-2018



Source: [Pennsylvania Gaming Control Board, Fiscal Year Revenue Report](#)

- Table games started at Presque Isle during 2010, so the first year did not account for twelve months of actual gaming.
- After an initial spike, table gaming has seemingly fell to a stable level of around \$13-\$14 million per year with around \$250,000 to \$300,000 collected each year in LSA.
- As of June 2018, over \$63 million in LSA has been collected from slot games and \$2.7 million in LSA has been collected from table games for a grand total of nearly \$66 million allocated to Erie County.
- In 2018, Pennsylvania passed legislation to allow for sports gambling at casinos. The sportsbook at Presque Isle Downs had planned for a June 1, 2019 opening but was delayed. As of publication of The Guide (early July 2019) the sports book had yet to open due to longer than expected construction times. It is likely that next year's Guide will include some initial data on gaming revenues from sports betting!
- Also, in January of 2019, Churchill Downs purchased Presque Isle Downs from Eldorado Resorts for \$178.9 million.

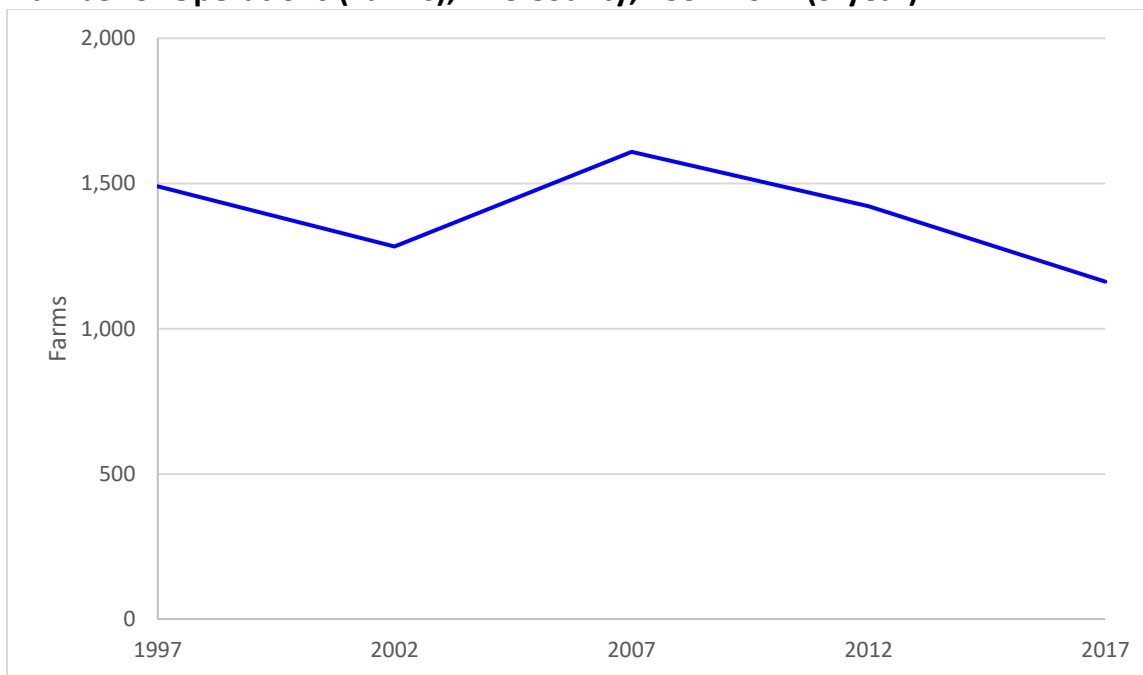
Agriculture

Erie County, PA, and U.S. Agriculture Overview

| 2017 Agricultural Census Data | Erie County | PA | U.S. |
|-------------------------------------|-------------|------------|---------------|
| Number of Operations (Farms) | 1,162 | 53,157 | 2,042,220 |
| Total Farmland (Acres) | 153,403 | 7,278,668 | 900,217,576 |
| Total Land Area (Acres) | 511,456 | 28,682,880 | 2,260,419,475 |
| Farmland as % of Total Land | 30.00 | 25.38 | 39.83 |
| Total Commodity Sales (millions \$) | 82.0 | 7,759 | 388,523 |

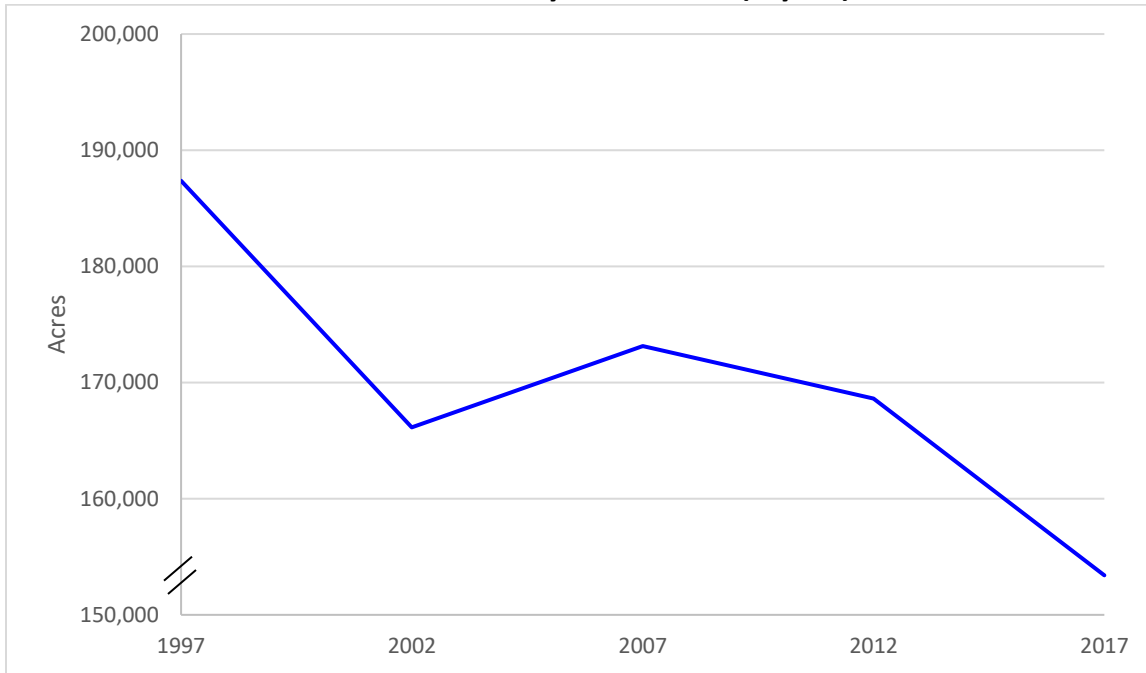
Source: [2017 USDA Census of Agriculture](#)

Number of Operations (Farms), Erie County, 1997-2017 (5-year)



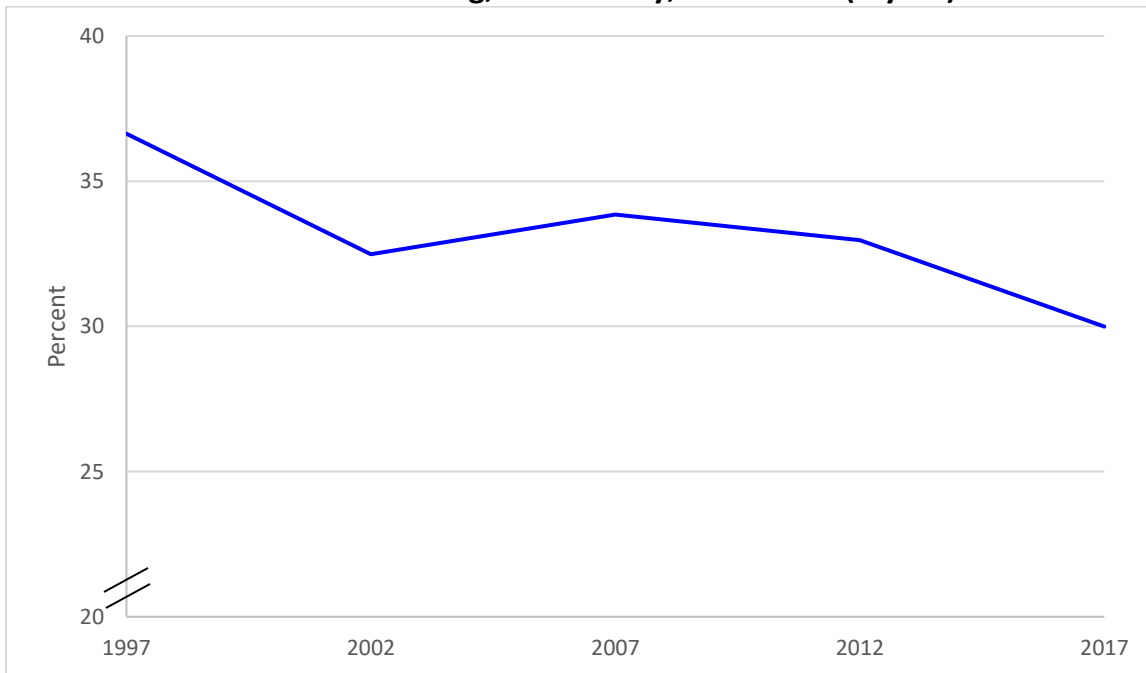
Source: [2017 USDA Census of Agriculture](#)

Number of Acres of Farms, Erie County, 1997-2017 (5-year)



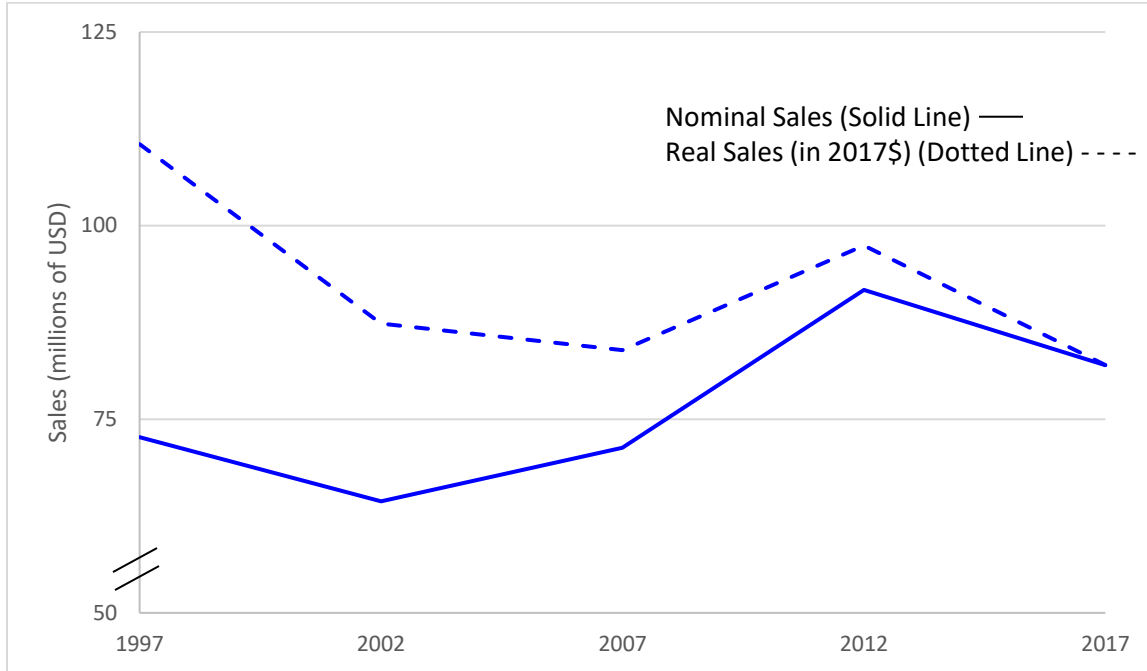
Source: [2017 USDA Census of Agriculture](#)

Percent of Land Used for Farming, Erie County, 1997-2017 (5-year)



Source: [2017 USDA Census of Agriculture](#)

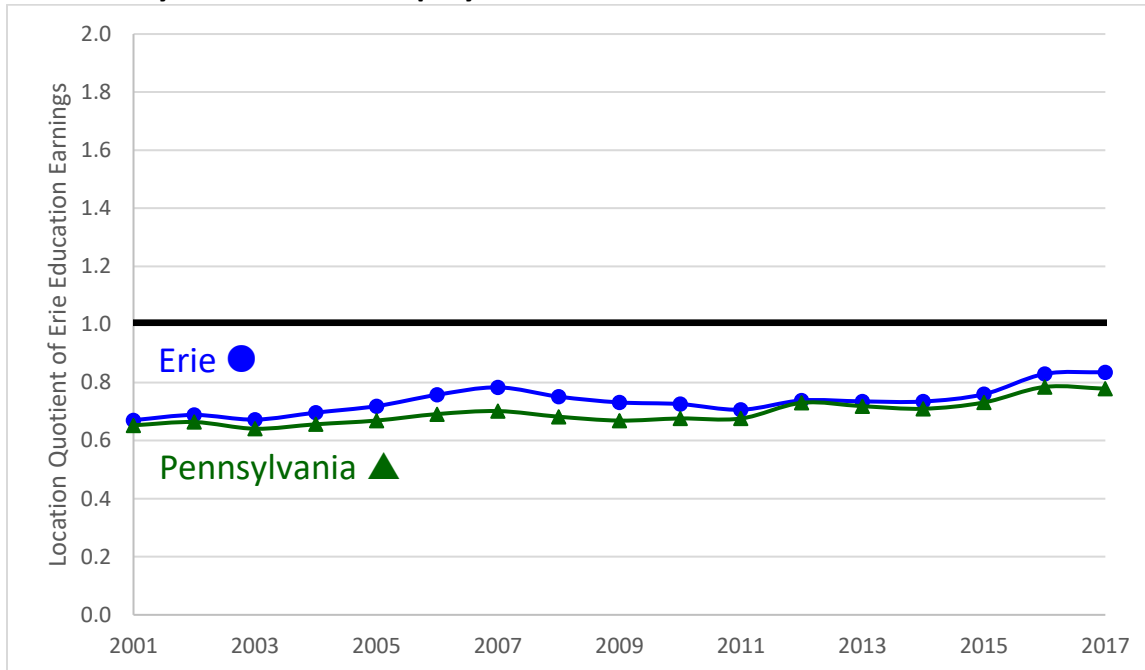
Commodity Sales (Nominal and Real), millions of USD, Erie County, 1997-2017 (5-year)



Source: [2017 USDA Census of Agriculture](#)

- The Census of Agriculture is performed every five years. The most recent report was published in April of 2019 (for 2017).
- The previous several graphs show that Erie has become less dependent on farming.
- Since 2007, the number of farms, number of acres of farmland, and percent of land dedicated to farming has decreased.
- After a spike in commodity sales in 2012, nominal sales has since fallen in 2017. Real sales has taken a similar trajectory.
- Since 1997, the real sales of farming commodities has fallen more than 25%.

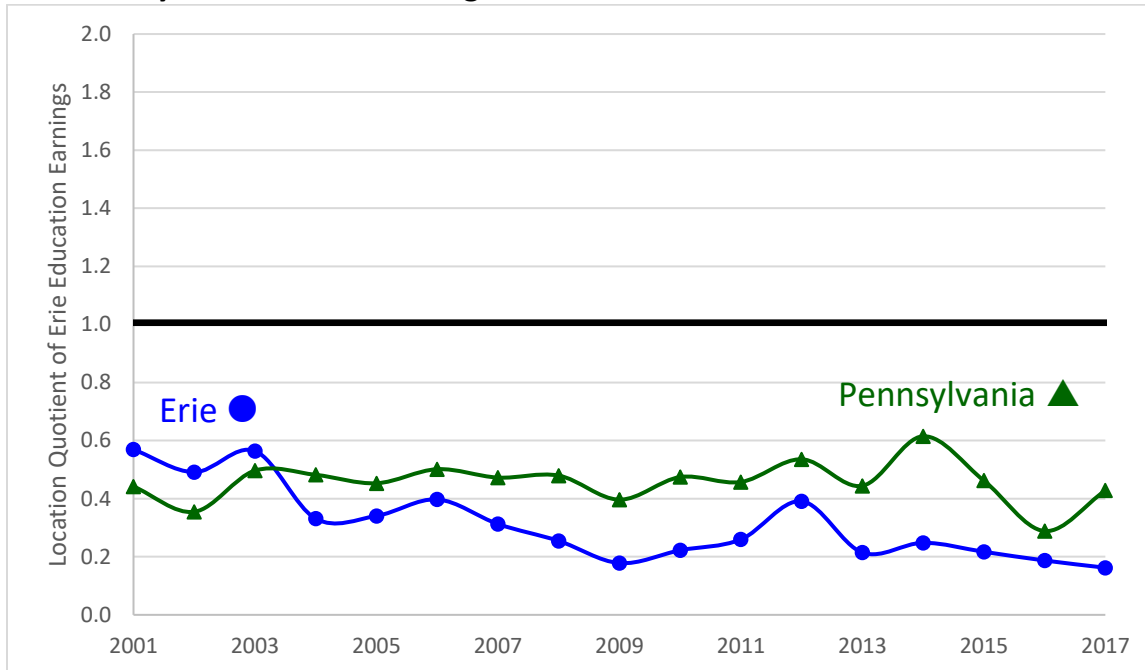
Erie County and PA Farm Employment Location Quotients, 2001-2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAINC25](#)

- Location quotients for farm employment are calculated by dividing the region's percent of employment in farming by the U.S. percent. Values greater than one indicate a specialization in this industry compared to the nation.
- Both Erie County & PA have less than the national average share of farm employment as indicated by their location quotients being below the U.S. location quotient of 1. This is not surprising for a metro area like Erie.
- In recent years, the LQ in Erie has increased from a low of 0.706 in 2011 to a (recent) high of 0.835 in 2017. This is the highest LQ in the time period.
- An increasing LQ can mean one of two things: either Erie is increasing its dependency on farming or the United States is decreasing its dependency. Another possibility is that farms outside of Erie are using more advanced technology which requires less employment. We will attempt to answer this question in the next graph.

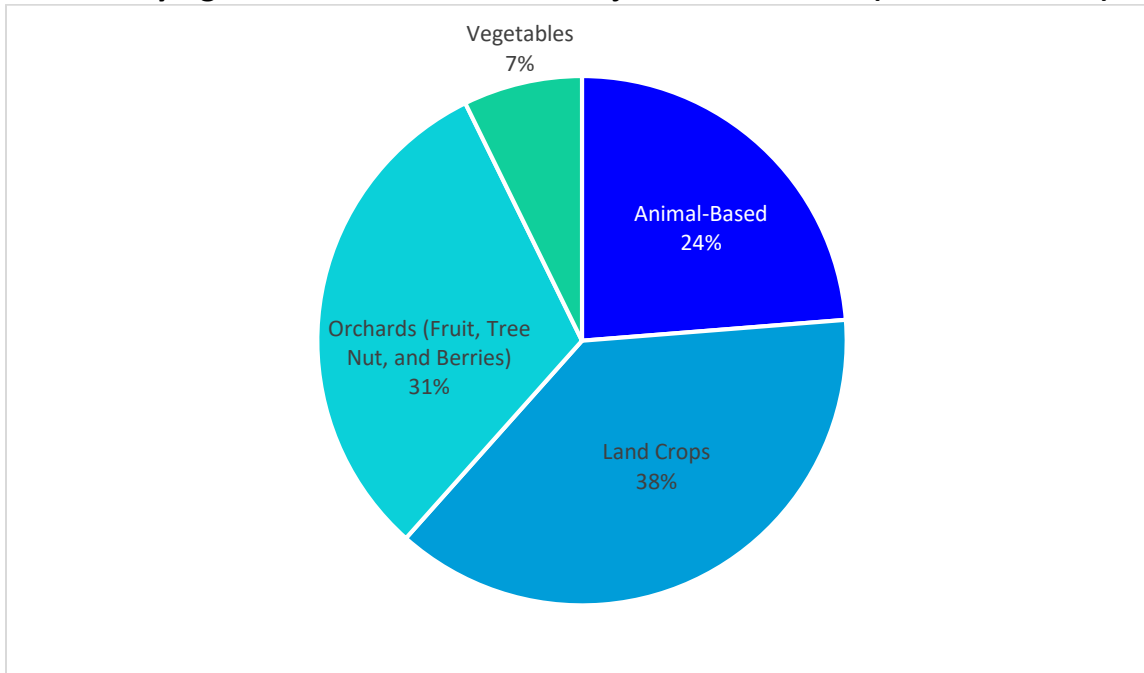
Erie County and PA Farm Earnings Location Quotients, 2001-2017



Source: [United States Bureau of Economic Analysis, Regional Economic Information System, Table CAINC5](#)

- Earnings from farming make up a much smaller percentage of Erie's income than we see relative to the national level.
- An LQ of less than 0.2 indicates that relative earnings in Erie are only 20% of what they are at the national level.
- Personal income from farming has fallen across the board. Though I do not list the data, since 2001, income from farming has fallen by 70.8% in Erie County.
- Also, since 2013, income from farming has fallen by 43.5% in the United States.

Erie County Agriculture, Breakdown of Major Sources, Sales (millions of USD), 2017



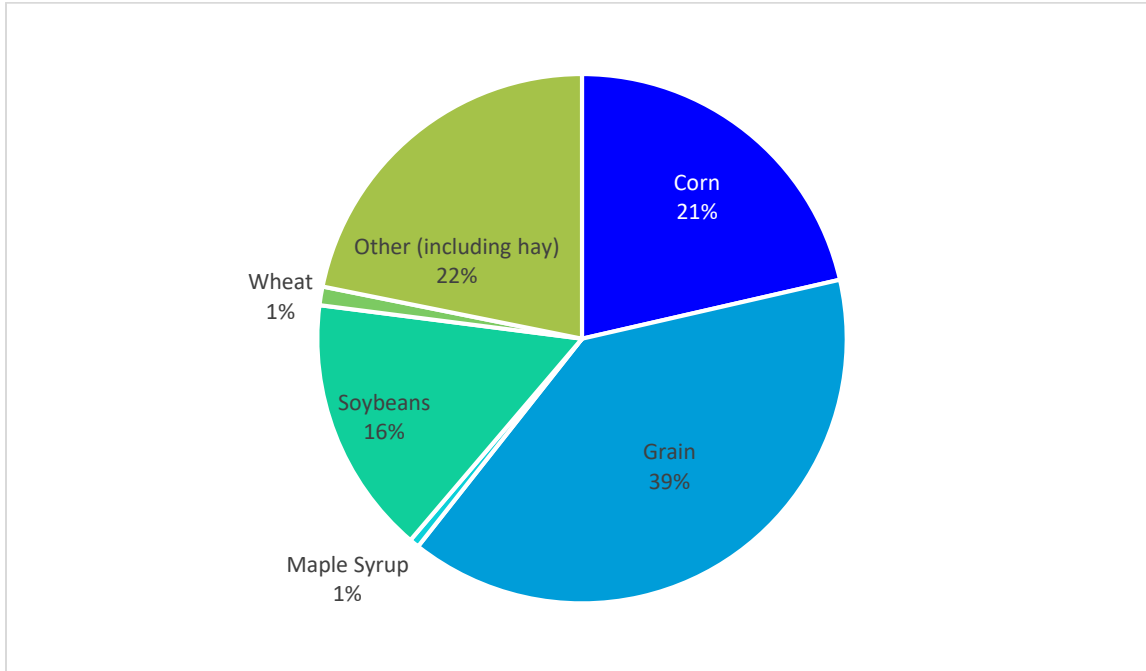
Source: [National Agricultural Statistics Service, United States Department of Agriculture](#)

| | Millions of USD | % of Total |
|------------------------------------------------|-----------------|------------|
| Animal-Based | 18.808 | 23.7 |
| Land Crops | 29.982 | 37.8 |
| Orchards (Fruit, Tree Nut, and Berries) | 24.672 | 31.1 |
| Vegetables | 5.759 | 7.3 |
| Total | 79.221 | 100.0 |

Source: [National Agricultural Statistics Service, United States Department of Agriculture](#)

Note: This list is not a complete listing. Especially small sectors are not included. For example, the wool industry in Erie County earns around \$1,000 per year. In addition, this does not include the horticultural industry. This industry includes nurseries and Christmas trees amongst over things.

Erie County Harvested Land Crops, Sales (millions of USD), 2017

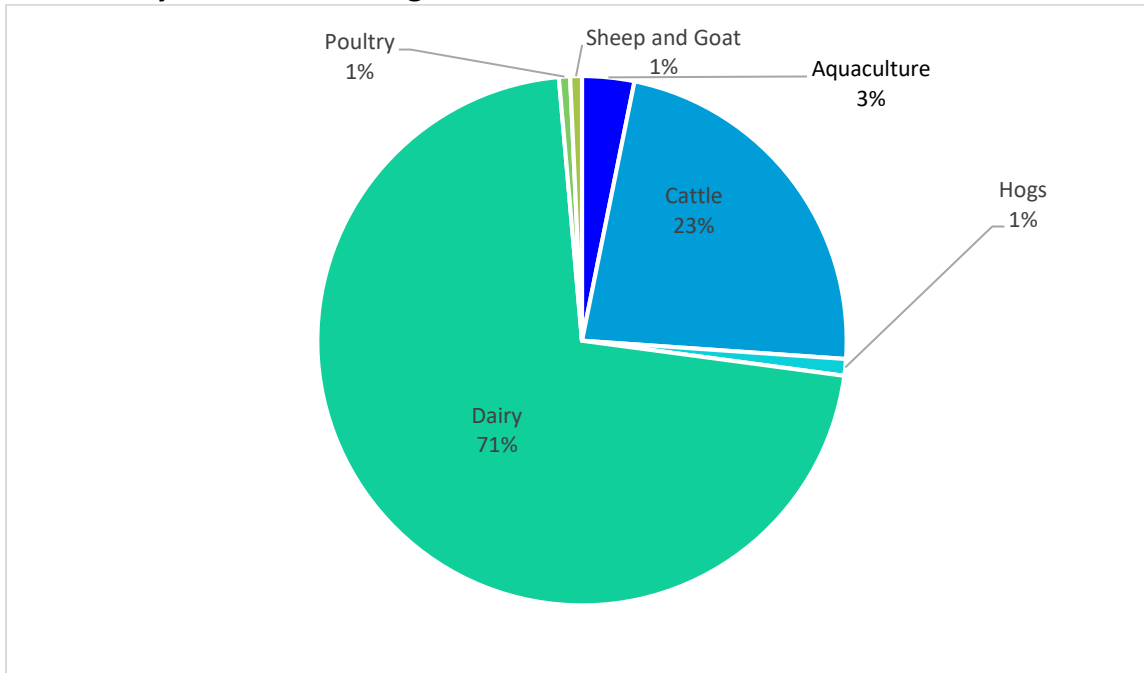


Source: [National Agricultural Statistics Service, United States Department of Agriculture](#)

| | Millions of USD | % of Total |
|------------------------------|-----------------|------------|
| Corn | 6.422 | 21.4 |
| Grain | 11.757 | 39.2 |
| Maple Syrup | 0.179 | 0.6 |
| Soybeans | 4.736 | 15.8 |
| Wheat | 0.340 | 1.1 |
| Other (including hay) | 6.548 | 21.8 |
| Total | 29.982 | 100.0 |

Source: [National Agricultural Statistics Service, United States Department of Agriculture](#)

Erie County Animal-Based Agriculture, 2017



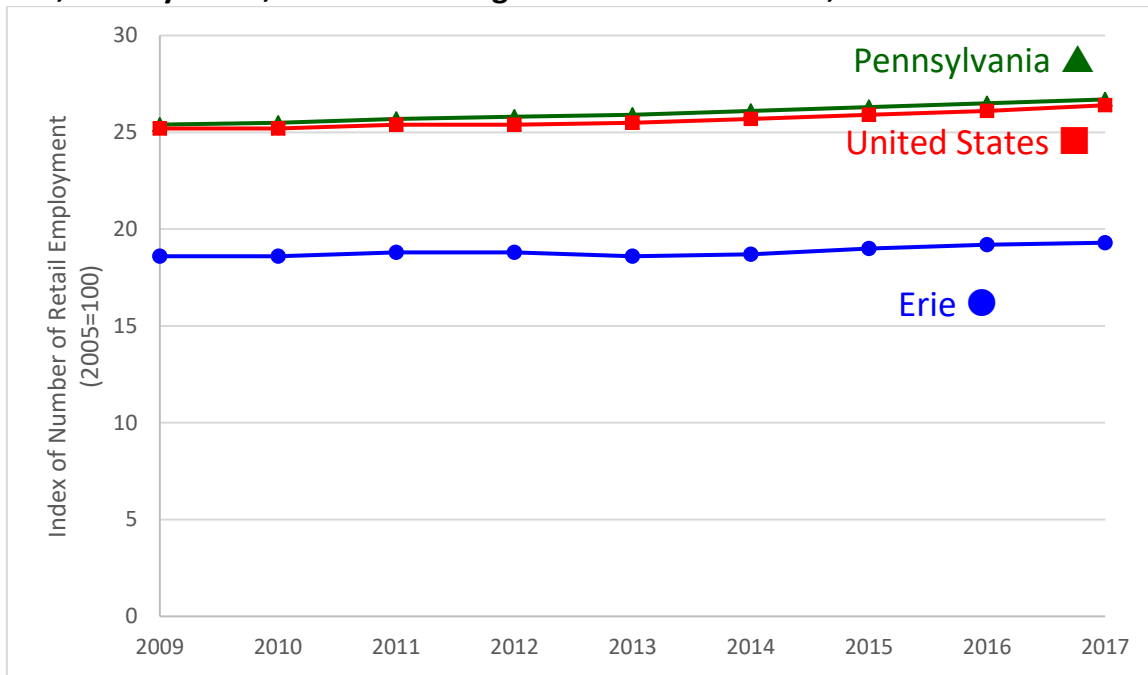
Source: [National Agricultural Statistics Service, United States Department of Agriculture](#)

| | Millions of USD | % of Total |
|---------------------|-----------------|--------------|
| Aquaculture | 0.598 | 3.2 |
| Cattle | 4.311 | 22.9 |
| Hogs | 0.191 | 1.0 |
| Milk (Dairy) | 13.445 | 71.5 |
| Poultry (inc. eggs) | 0.128 | 0.7 |
| Sheep and Goat | 0.135 | 0.7 |
| Total | 18.808 | 100.0 |

Source: [National Agricultural Statistics Service, United States Department of Agriculture](#)

Commuting

Erie, Pennsylvania, and U.S. Average Travel Time to Work, 2009-2017



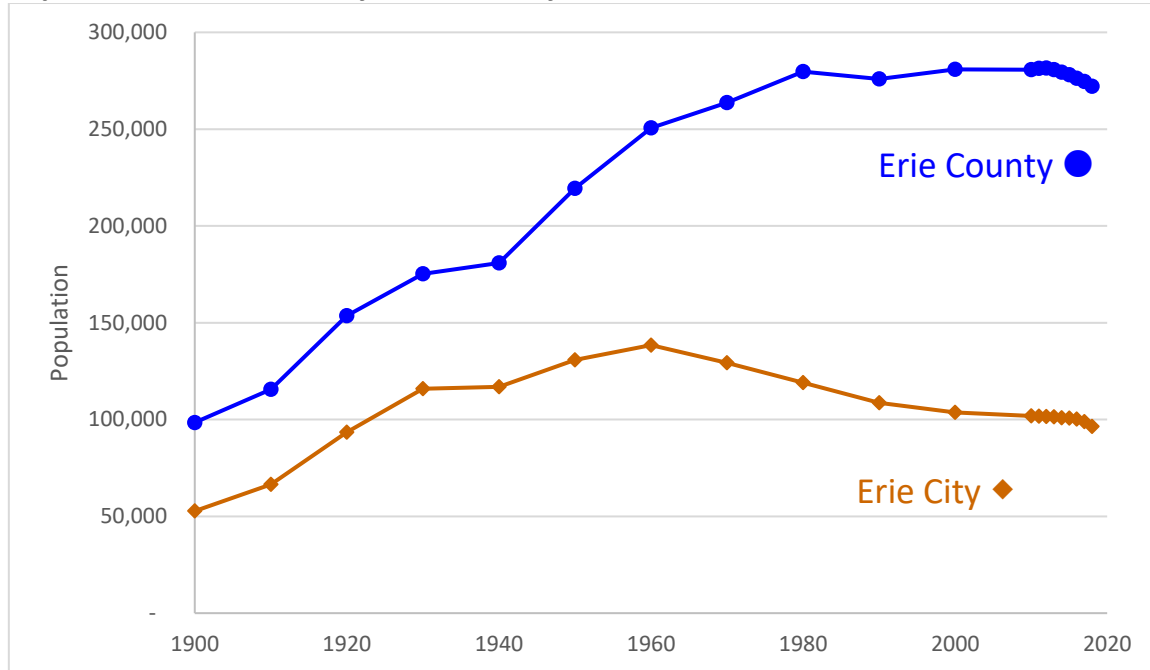
Source: [United States Census, American Community Survey, Table GCT0801](#)

- Erie workers consistently spent about 25% less time commuting than average U.S. worker and 30% less than the average Pennsylvanian.
- In 2017 Erie workers spent an average of a bit more than 19 minutes getting to work, compared with 26.7 minutes for Pennsylvania and 26.4 minutes for the United States.
- This savings of 7.1 minutes each way compared to the national average amounts to more than one hour per week and nearly sixty hours over the course of a fifty-week work year.

Erie City and Erie County

How does the City of Erie compare to Erie County? This section will provide data on a number of measures.

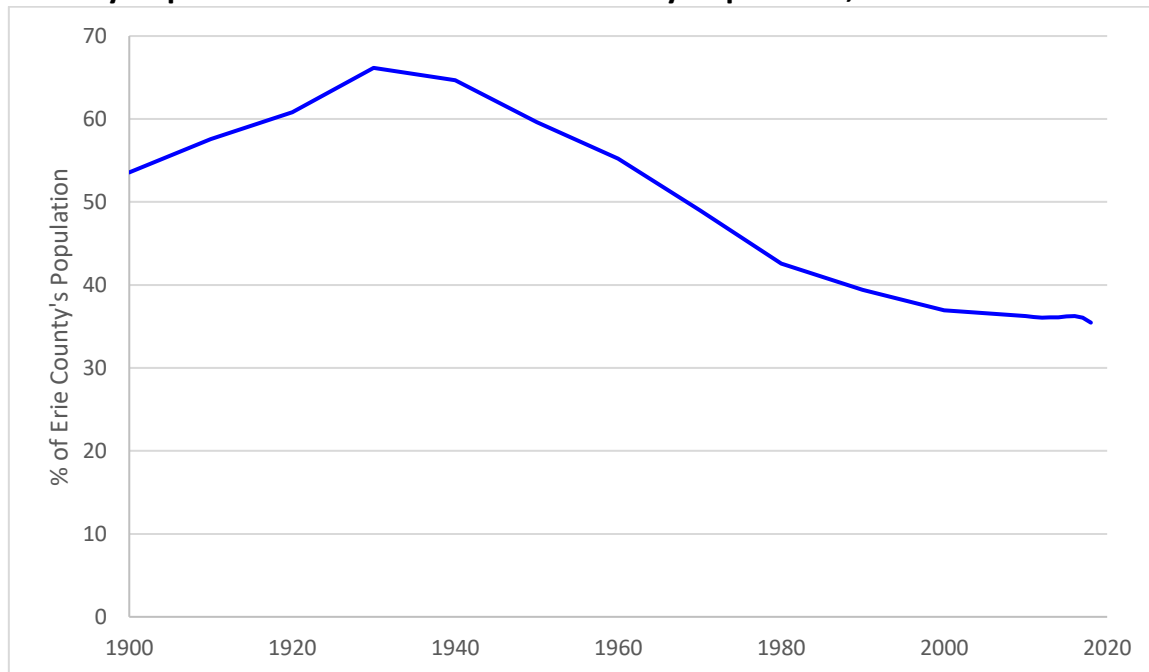
Population of Erie County and Erie City, 1900-2018



Source: [United States Census Population Estimates and Decennial Census](#)

- From 1900 to 1930, Erie City population grew at a faster rate than Erie County population. Since then the County has typically outpaced the city.
- Erie City population peaked in 1960 at 138,440, and then started to decline.
- Erie County population continued to grow until 1980, and has been relatively flat since then. In fact, it has gradually fallen since 2011 by a total of 3.2%.
- The population in the city of Erie has fallen by 30.3% since its peak and by 7.0% since the start of the century.

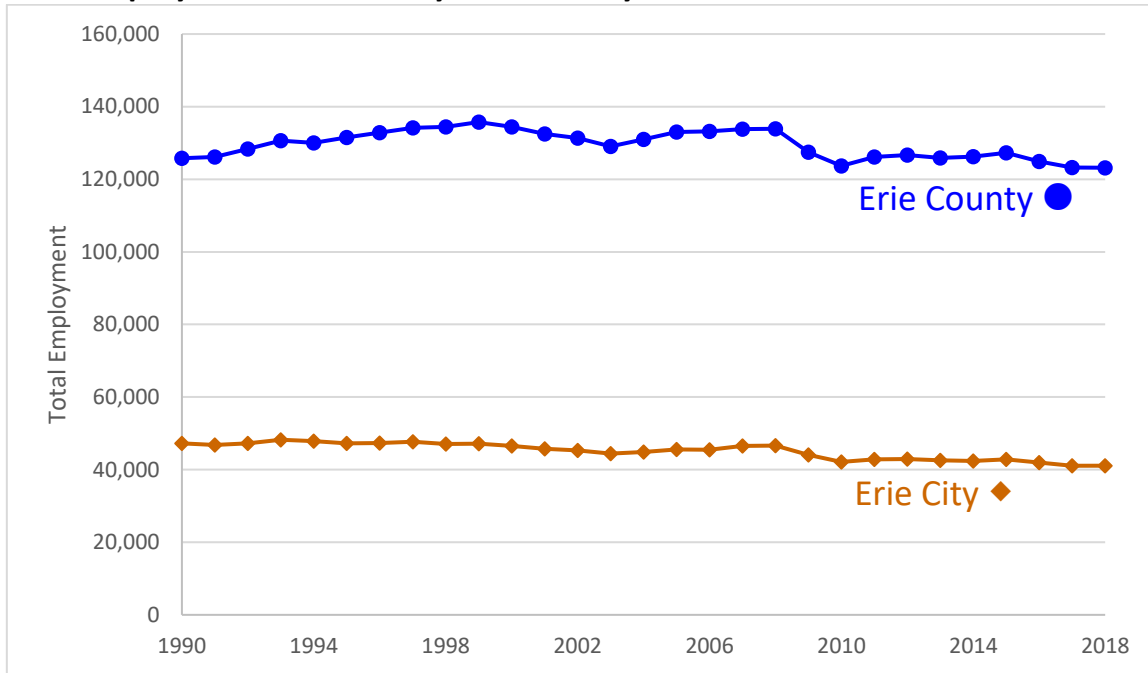
Erie City Population as a Percent of Erie County Population, 1990-2018



Source: [United States Census Population Estimates and Decennial Census](#)

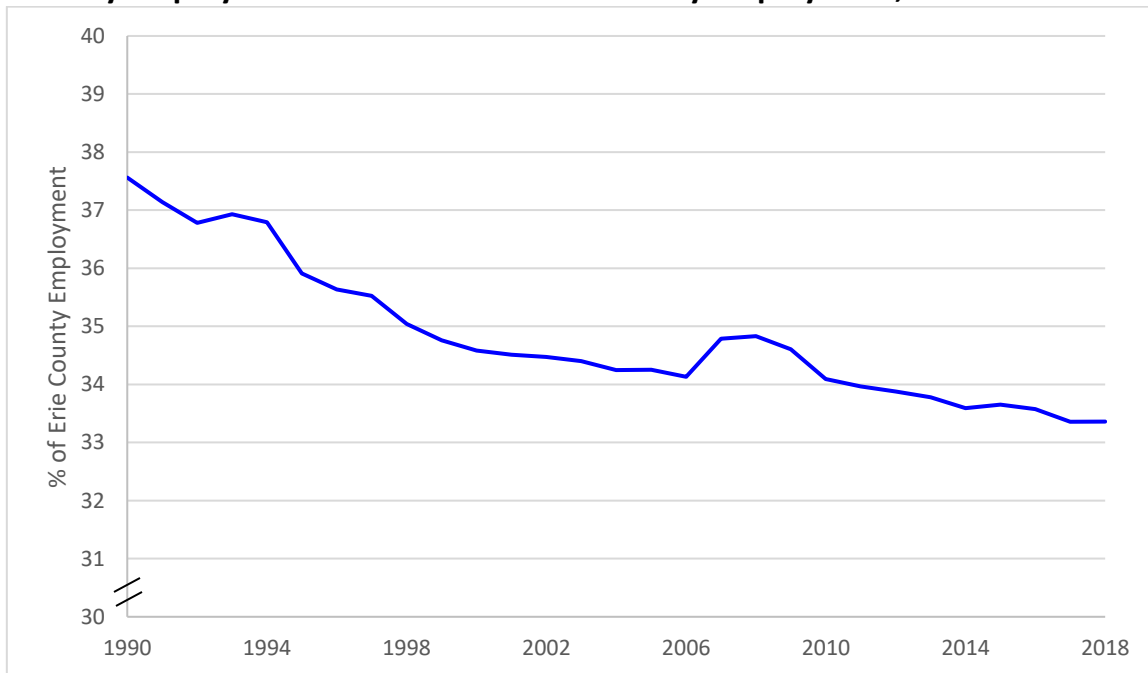
- In 1900, Erie City population accounted for 53.6% of Erie County population and it continued to make up an increasing percentage of County population until 1930 when it peaked at nearly two-thirds of County population.
- After 1930, Erie City population made up less and less of Erie County population despite the fact that City population rose until 1960. The suburban areas outside the City were growing at a faster rate.
- By 2017 the City's population only made up 35.5% of the County's population, just over one third. Of course, this kind of suburbanization trend is not unique to Erie, and should be expected to happen as population growth filled up the limited land of the city and spilled over into the adjacent suburbs.

Total Employment, Erie County and Erie City, 1990-2018



Source: [United States Bureau of Labor Statistics, Local Area Unemployment Statistics](#)

Erie City Employment as a Percent of Erie County Employment, 1990-2018

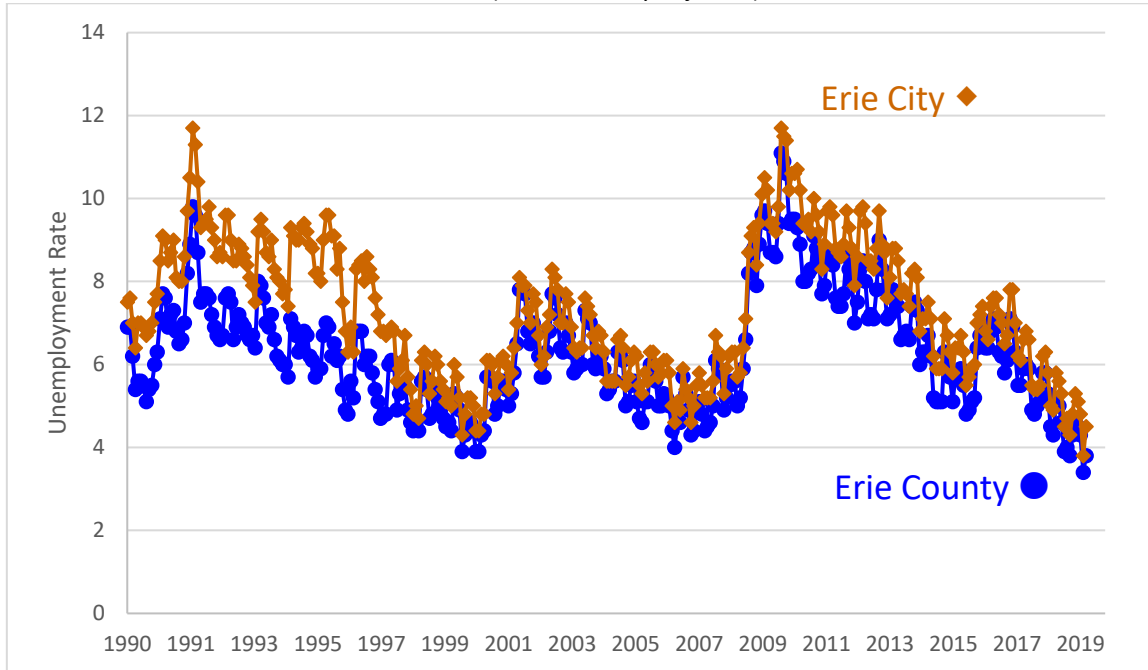


Source: [United States Bureau of Labor Statistics, Local Area Unemployment Statistics](#)

- Since 2000, employment in Erie County has fallen by 8.4% while employment in the city of Erie has fallen by 11.6%.
- The percent of Erie County’s employment from the city of Erie has fallen from close to 38% down to just over 33% since 1990. This shows that more employment in Erie County is being done outside of the central city.

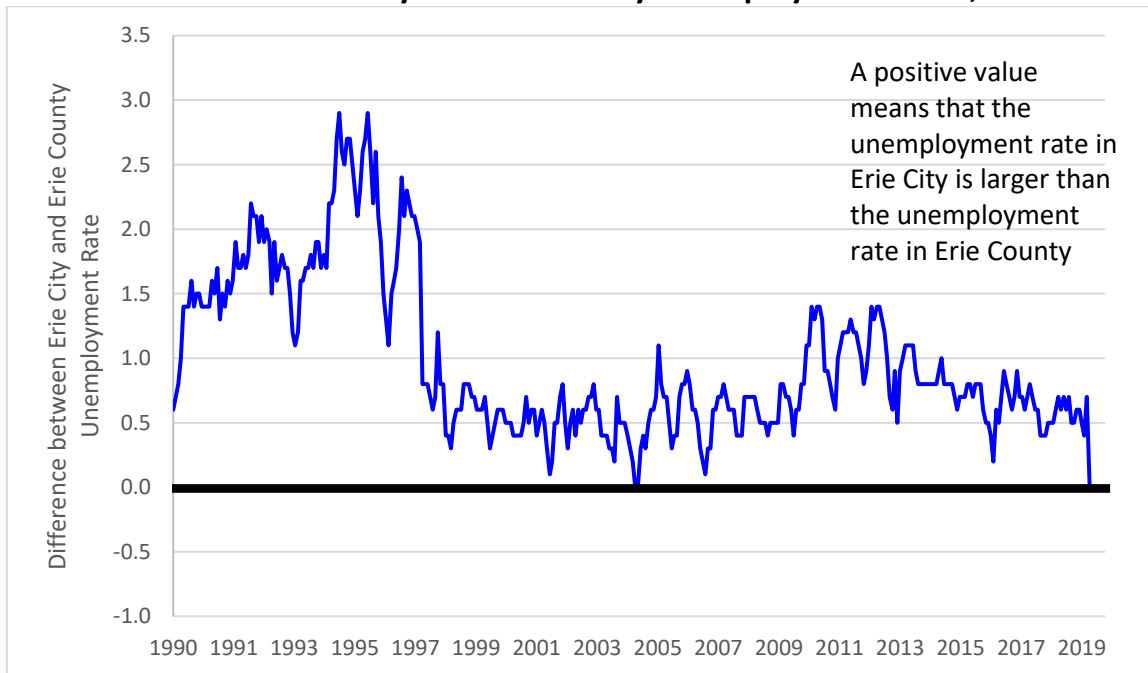
Unemployment Rates, Monthly, Erie County and Erie City, 1990-2019

(not seasonally adjusted)



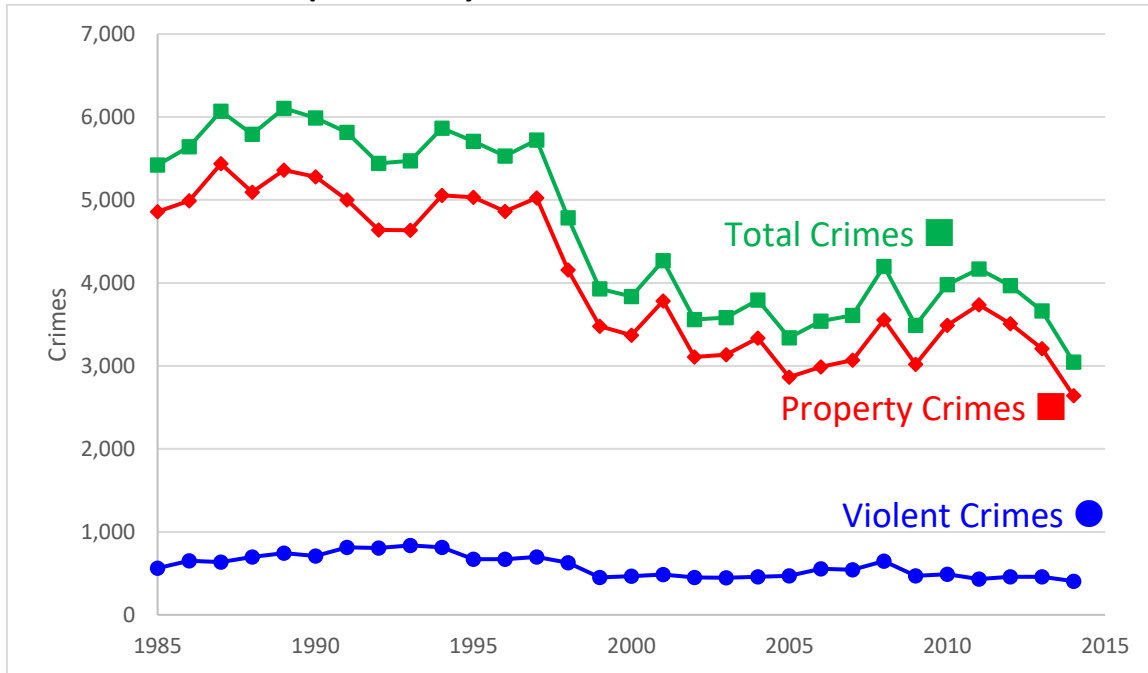
Source: [United States Bureau of Labor Statistics, Local Area Unemployment Statistics](#)

Difference between Erie City and Erie County Unemployment Rates, 1990-2019



Source: [United States Bureau of Labor Statistics, Local Area Unemployment Statistics](#)

Number of Crimes Reported, City of Erie, 1985-2014



Source: [US Federal Bureau of Investigation, Uniform Crime Reporting Statistics](#)

ERIE Special Studies

Brain Drain: Are We Keeping Our College Graduates?

A study by student researcher Tim Gigliotti examined the locations of 1,961 graduates of Penn State Behrend from 1994-2002. He compared their “current” (in 2003) residence locations with those at the time they applied to college, and found the following results. Each cell shows the number of students, and the percentage of the total 1,961.

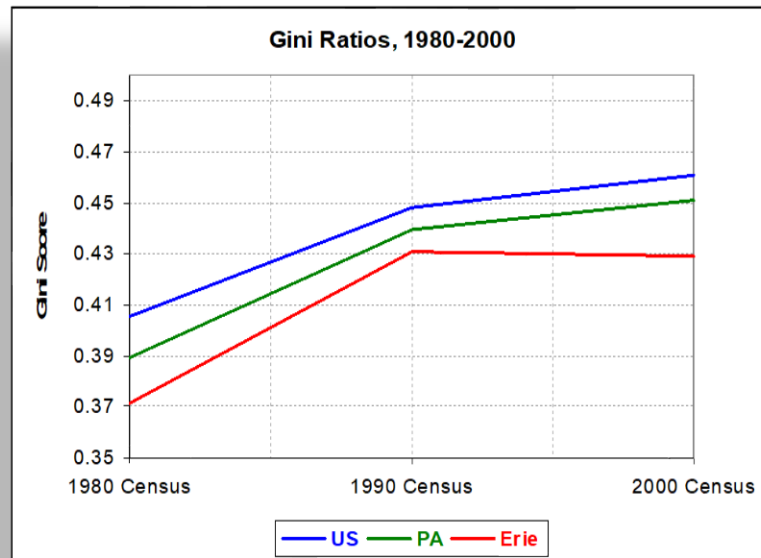
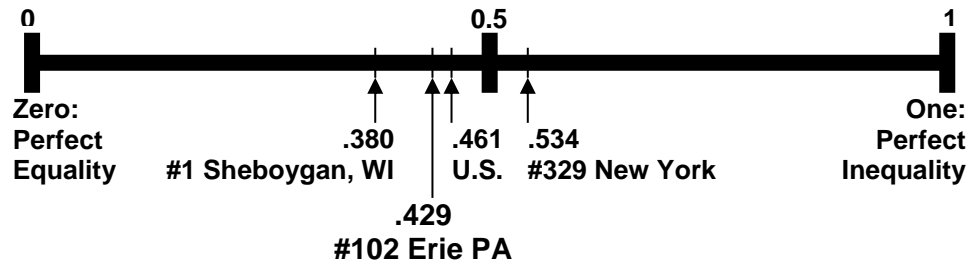
| | | Residence Before College | | Total |
|-------------------------|---------------------|-------------------------------|----------------------------|------------|
| | | Erie County | Outside Erie County | |
| Residence After College | Erie County | “Stayers” 702 36% | Brain Gain 58 3% | 760 39% |
| | Outside Erie County | Brain Drain 260 13% | “Visitors” 941 48% | 1,201 61% |
| | Total | 962 49% | 999 51% | 1,961 100% |

- Conclusion: 260 of the 962 Erie County students who graduated from Penn State Behrend during this period no longer resided in the county at the time of the study. That is 27% brain drain from this group.
- Of the 962 students who were from Erie County at the time they enrolled in Behrend, 702 or 73% of them still resided in Erie County in 2003.
- 58 of the 999 students who came to college here from outside the county chose to stay in the county after graduation. This represents brain gain for the county.

Source: Gigliotti, Timothy D. (Student researcher.) *Penn State Erie’s Contribution to Brain Drain and Brain Gain in Erie County, PA and the Penn State Erie Service Area*. ERIE Research Report. Erie, PA: Penn State Erie. March 2003. 29 pages. Available online at the ERIEdata website: http://www.pennstatebehrend.psu.edu/eriedata/ERIE_Research_Reports_Chronological.cfm

Income Inequality, 2000

A study by student researcher Jason Pflueger measured income inequality for all U.S. metro areas. The study made use of the Gini coefficient, a measure of income inequality that varies from zero (perfect equality—everyone has exactly the same income) to one (perfect inequality—one person has all income and the rest have none) of income. The diagram below shows the results for the places with the most equal distribution of income (Sheboygan WI), the most unequal (New York), the U.S. overall, and Erie County.



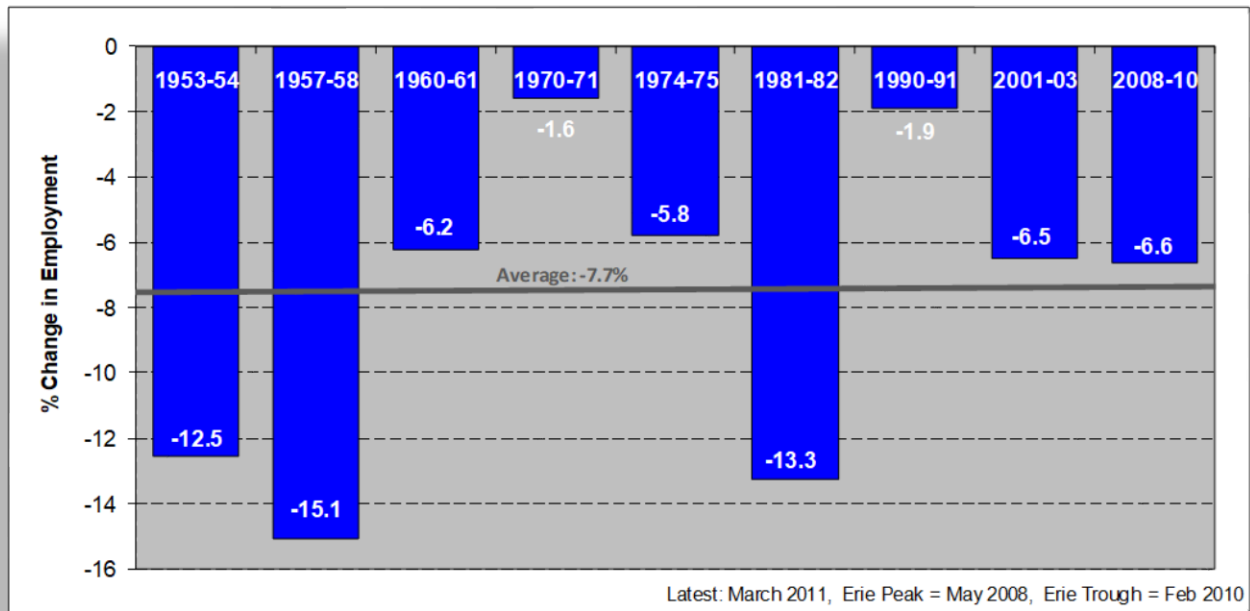
- Income was distributed more equally in Erie County than average for the nation.
- Income inequality increased over the period from 1980 to 2000 in PA and the U.S.. It also increased in Erie from 1980 to 1990, but remained nearly constant from 1990 to 2000, contrary to the national trend.
- At a time when there is a national discussion about redistribution, it is useful to know about the level of income inequality and its trend over time, both nationally and locally. Erie has less inequality of income than the state or the nation.

Source: Jason C. Pflueger, *Income Inequality In Erie: How Much Is There And Why?* ERIE Research Report. Erie, PA: Penn State Erie. October 2005, 89 pages. Available online at www.ERIEdata.org.

Erie Recession Facts

For current information about the Erie and U.S. business cycles, please see the most recent *ERIE Leading Index* (ELI) information at www.ERIEdata.org

Employment Change during Nine Erie Recessions

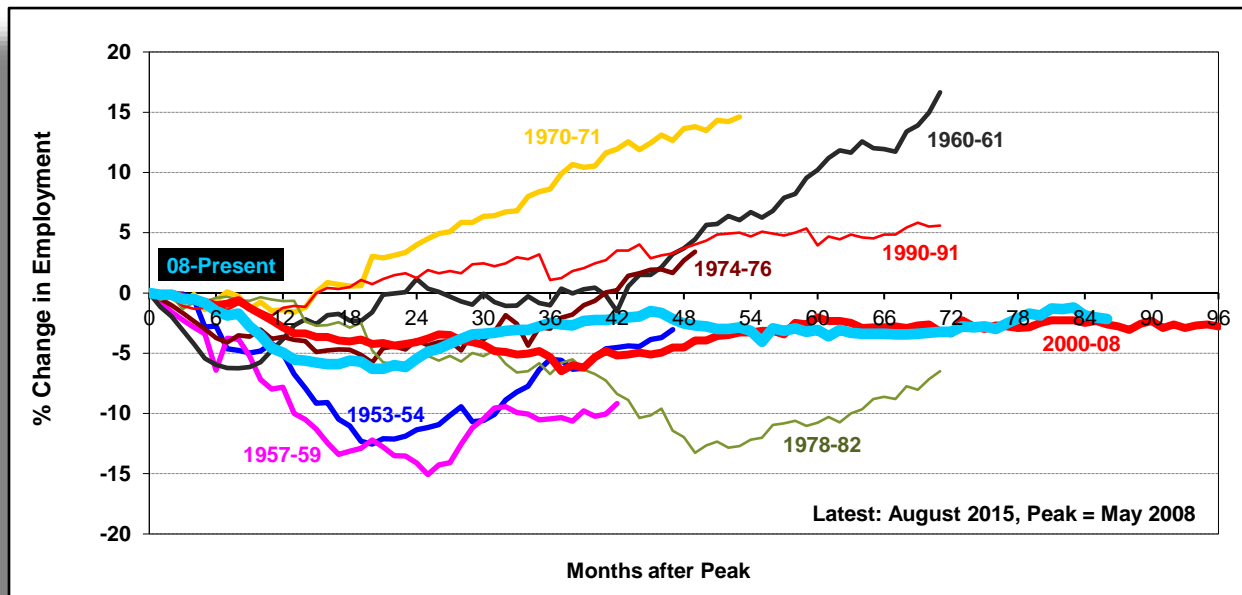


Source: Calculated by ERIE from BLS Current Employment Statistics (CES)

Based on nine recessions since 1950 (including the most recent one):

- Erie recessions averaged about 8 months longer than the nation's (22.7 vs. 15.0 months).
- Erie expansions averaged about 8 months shorter (60.1 months vs. 67.9 months).
- The Erie economy tends to turn down *before* the U.S., about 4 months before, although that did NOT happen in the current recession.
- The Erie economy tends to turn up *after* the U.S., about 3.5 months after.
- For the nine recessions through 2008, Erie experienced a 7.7% average decrease in employment, but there was significant variation around that average (from 1.6% to 15.1%).
- During those same recessions, the U.S. averaged "only" a 3.0% decrease in employment.

Decline and Recovery in Nine Erie Recessions



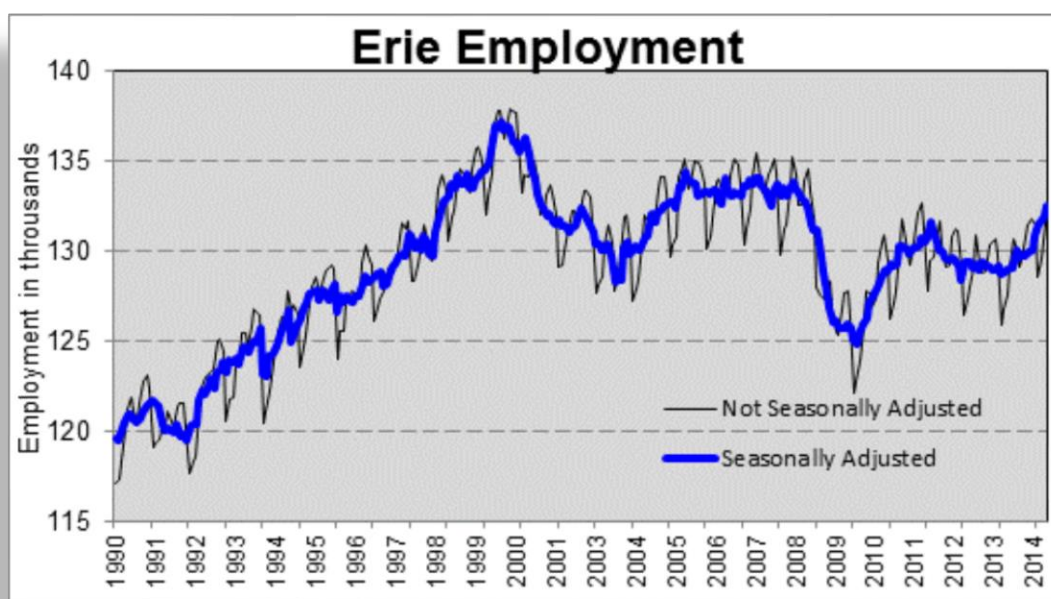
Source: U.S. Bureau of Labor Statistics (BLS), Current Employment Statistics (CES), ERIE calculations

- This graph shows Erie employment patterns during nine recessions, starting each one from the peak of the previous business cycle.
- For example, the black line shows that during the 1960-61 recession, Erie employment fell by about 6% and reached its trough point at about eight months after the previous peak, and then started to recover. It reached the previous peak level of employment (crossed the X-axis) at about 22 months after the recession started, but showed no real employment growth until about 43 months after the previous peak.
- The purple line for 1957-59 shows that it was the most severe recession in that it goes the lowest on this graph (-15%), nearly matched by the 1978-82 recession and the 1953-54 recession. By this standard, the employment decreases of the 2000-03 recession were rather modest, and the 1970-71 recession experienced only a very slight employment decrease. The same is true for the 1990-91 recession.
- The 1978-82 recession is notable for its length. It took over 48 months—four years—to reach its bottom and begin to turn up. It was also quite severe.
- The most recent recession involved loss of 6.6% of Erie's jobs. That makes it less severe than the average Erie recession which typically has involved loss of about 7.7% of all jobs.
- The current recession is notable in that it was especially mild in the early months.

Appendices

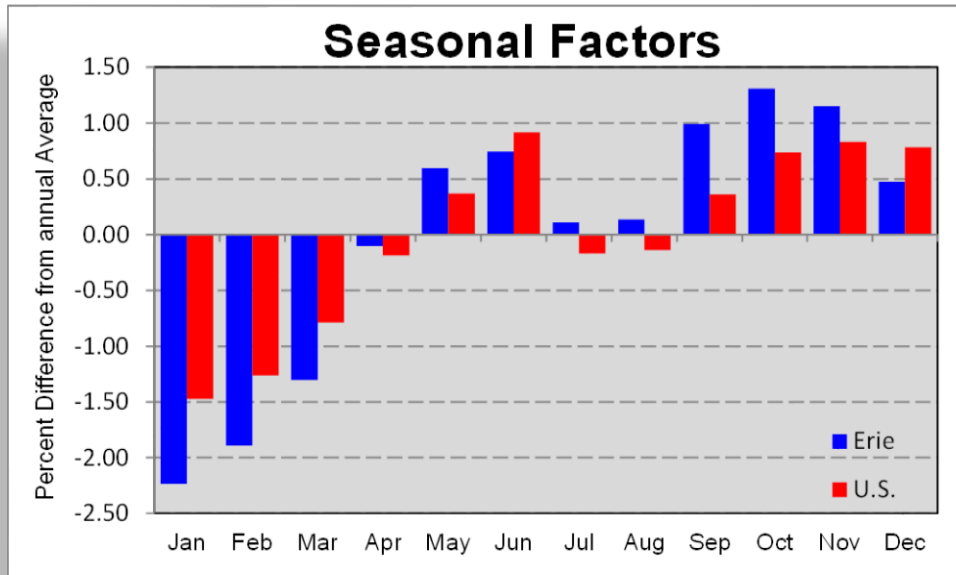
Appendix A: Seasonal Adjustment

It is common for economic data to fluctuate over time based on the season, and for these fluctuations to occur every year. Seasonal fluctuations occur as the result of weather patterns, school schedules, major holidays, and for many other reasons. For example: employment falls in the winter when construction slows down and rises when summer workers are hired. To better understand the data, it is usually helpful to take these fluctuations out of the equation, since they distract from other fluctuations, such as long-term trends and business cycle ups and downs, which are typically of more interest. This process is referred to as “seasonal adjustment” and is often used in the *ERIE Guide*. Seasonal adjustment smooths the data series to make other patterns easier to identify. The graph below shows total employment for Erie County, seasonally adjusted and not seasonally adjusted. Without seasonal adjustment the series fluctuates rapidly. The adjusted data are much easier to analyze; business cycle ups and downs are more easily identified.



Source: Bureau of Labor Statistics: Local Area Unemployment Statistics, and Census X12

Identifying and adjusting for seasonal factors makes for a more complete understanding of the data. For instance, any drop in employment seems like a bad sign—before adjustment. But if employment usually drops significantly during a given month, a small decline may be, in fact, a positive sign. The converse is also true: if we expect a large increase in employment during a certain season, a smaller increase may be a bad sign. The chart below shows the seasonal factors—the normal seasonal adjustments—for each month in Erie and United States employment compared to the annual average. Months showing a negative value indicate that employment is expected to be lower that month than the average for the year, and positive months are expected to have higher employment.



Source: Bureau of Labor Statistics: Local Area Unemployment Statistics, and Census X12

As the graph shows, Erie employment fluctuates more drastically with the seasons than the U.S. economy. Almost every month sees a larger expected change in employment based on the season for Erie than the U.S.. This makes sense if we consider Erie’s weather profile, reliance on tourism, and large education sector. December is a notable exception; fluctuations here are usually associated with the holiday season, which seems to have less of an impact on Erie than it does nationwide. (But we notice higher ups during the months just before December—perhaps Erie and its visitors do their holiday shopping early?) Another interesting observation is that, while the national economy is expected to dip slightly in July and August, Erie’s economy picks up a bit in the later months of summer. Perhaps Erie’s tourism attractions help offset the summer doldrums that others experience.

These seasonal factors are applied to the “raw” employment numbers to better understand the data. Did the job market improve or is it the usual, yearly increase for the month? Since employment is expected to be down over 2% during January, the raw employment number will be bumped up 2% to get the seasonally adjusted value, and this could result in a positive change for that month even if the raw data are negative. Likewise, since we expect seasonal effects to lift employment in June and October, the raw employment data are adjusted downward. The seasonally adjusted data give a more accurate picture of how the Erie economy fared, once the usual seasonal patterns are removed.

In the *ERIE Guide*, all data are raw (not seasonally adjusted) unless otherwise indicated.

Technical Note: To seasonally adjust data, the “X12” procedure developed by the U.S. Census Bureau is the generally accepted practice, and it is used by ERIE whenever seasonal adjustment is indicated. X12 takes inputted data and identifies the patterns that recur yearly to identify the seasonal factors, while ignoring anomalies such as large strikes or natural disasters. It then applies these factors to the raw data.

Seasonal Factors for Major Erie Industries, 2014

| Month | Manufacturing | Leisure and Hospitality | Education and Health Services | Government | Overall |
|-------|---------------|-------------------------|-------------------------------|------------|---------|
| Jan | -1.13% | -8.69% | 0.22% | -1.64% | -2.20% |
| Feb | -0.76% | -8.95% | 1.36% | 4.15% | -1.56% |
| Mar | -0.81% | -6.92% | 1.18% | 4.48% | -1.03% |
| Apr | -0.77% | -2.77% | 1.44% | 4.29% | 0.04% |
| May | -0.51% | 5.17% | 0.48% | 4.12% | 1.23% |
| Jun | 1.06% | 9.04% | -2.36% | -4.92% | 0.29% |
| Jul | 1.11% | 10.65% | -2.88% | -12.87% | -0.44% |
| Aug | 0.63% | 10.43% | -3.15% | -10.69% | -0.24% |
| Sep | 0.37% | 3.43% | -0.06% | 1.27% | 0.85% |
| Oct | 0.37% | -2.26% | 1.50% | 3.50% | 1.18% |
| Nov | 0.42% | -4.37% | 1.67% | 4.64% | 1.33% |
| Dec | -0.03% | -4.84% | 0.56% | 3.69% | 0.51% |

Source: Bureau of Labor Statistics: Local Area Unemployment Statistics, and Census X12

Expected Decrease

Expected Increase

We might expect seasonal factors to vary across industries, since some industries will be more subject to weather or holiday patterns. The table above shows how different the patterns were across Erie industries in 2014. Negative values represent expected seasonal decreases, while positive values represent expected upturns related to the seasons.

In Erie, the variance between sectors in their seasonal factors is clear from the values in the chart. Manufacturing does not react dramatically to the seasons—all the numbers are relatively close to zero, but it does pick up with the start of summer, peaking in November. Erie Leisure and Hospitality employment, on the other hand, drops off drastically in the colder months and is high over the summer as vacationers take advantage of warm weather attractions, such as Presque Isle. As expected, education drops off over the summer when school is out.

Appendix B: US Census Bureau Regions and Divisions

Region 1: Northeast

Division 1: New England

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Division 2: Middle Atlantic

New Jersey
New York
Pennsylvania

Region 2: Midwest

Division 3: East North Central

Illinois
Indiana
Michigan
Ohio
Wisconsin

Division 4: West North Central

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

Region 3: South

Division 5: South Atlantic

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia

Division 6: East South Central

Alabama
Kentucky
Mississippi
Tennessee

Division 7: West South Central

Arkansas
Louisiana
Oklahoma
Texas

Region 4: West

Division 8: Mountain

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

Division 9: Pacific

Alaska
California
Hawaii
Oregon
Washington

Appendix C: NAICS (North American Industry Classification System) Industry Definitions

This appendix presents more detail on the official NAICS industry categories. Each industry breakdown is assigned a number, from two digits up to six digits, with more digits meaning a more detailed industry. The more detailed industry categories, all the way to 6-digit breakdowns, can be found at <http://www.census.gov/naics/2007/naics07.xls>. Information about the NAICS classification system generally is at <http://www.census.gov/epcd/www/naics.html>.

Example of industry detail and NAICS industry numbers. More digits = more detailed industry

| NAICS Code | Industry Title |
|------------|--------------------------------------|
| 311 | Food Manufacturing |
| 3111 | Animal Food Manufacturing |
| 3112 | Grain and Oilseed Milling |
| 31121 | Flour Milling and Malt Manufacturing |
| 311211 | Flour Milling |
| 311212 | Rice Milling |
| 311213 | Malt Manufacturing |

| NAICS Code | Industry Title |
|--------------|------------------------------------------------------|
| 11 | Agriculture, Forestry, Fishing and Hunting |
| 111 | Crop Production |
| 112 | Animal Production |
| 113 | Forestry and Logging |
| 114 | Fishing, Hunting and Trapping |
| 115 | Support Activities for Agriculture and Forestry |
| 21 | Mining, Quarrying, and Oil and Gas Extraction |
| 211 | Oil and Gas Extraction |
| 212 | Mining (except Oil and Gas) |
| 213 | Support Activities for Mining |
| 22 | Utilities |
| 221 | Utilities |
| 23 | Construction |
| 236 | Construction of Buildings |
| 237 | Heavy and Civil Engineering Construction |
| 238 | Specialty Trade Contractors |
| 31-33 | Manufacturing |
| 311 | Food Manufacturing |
| 312 | Beverage and Tobacco Product Manufacturing |
| 313 | Textile Mills |
| 314 | Textile Product Mills |
| 315 | Apparel Manufacturing |
| 316 | Leather and Allied Product Manufacturing |
| 321 | Wood Product Manufacturing |
| 322 | Paper Manufacturing |
| 323 | Printing and Related Support Activities |
| 324 | Petroleum and Coal Products Manufacturing |
| 325 | Chemical Manufacturing |
| 326 | Plastics and Rubber Products Manufacturing |
| 327 | Nonmetallic Mineral Product Manufacturing |
| 331 | Primary Metal Manufacturing |
| 332 | Fabricated Metal Product Manufacturing |

| | |
|--------------|-----------------------------------------------------------------------------------------|
| 333 | Machinery Manufacturing |
| 334 | Computer and Electronic Product Manufacturing |
| 335 | Electrical Equipment, Appliance, and Component Manufacturing |
| 336 | Transportation Equipment Manufacturing |
| 337 | Furniture and Related Product Manufacturing |
| 339 | Miscellaneous Manufacturing |
| 42 | Wholesale Trade |
| 423 | Merchant Wholesalers, Durable Goods |
| 424 | Merchant Wholesalers, Nondurable Goods |
| 425 | Wholesale Electronic Markets and Agents and Brokers |
| 44-45 | Retail Trade |
| 441 | Motor Vehicle and Parts Dealers |
| 442 | Furniture and Home Furnishings Stores |
| 443 | Electronics and Appliance Stores |
| 444 | Building Material and Garden Equipment and Supplies Dealers |
| 445 | Food and Beverage Stores |
| 446 | Health and Personal Care Stores |
| 447 | Gasoline Stations |
| 448 | Clothing and Clothing Accessories Stores |
| 451 | Sporting Goods, Hobby, Book, and Music Stores |
| 452 | General Merchandise Stores |
| 453 | Miscellaneous Store Retailers |
| 454 | Nonstore Retailers |
| 48-49 | Transportation and Warehousing |
| 481 | Air Transportation |
| 482 | Rail Transportation |
| 483 | Water Transportation |
| 484 | Truck Transportation |
| 485 | Transit and Ground Passenger Transportation |
| 486 | Pipeline Transportation |
| 487 | Scenic and Sightseeing Transportation |
| 488 | Support Activities for Transportation |
| 491 | Postal Service |
| 492 | Couriers and Messengers |
| 493 | Warehousing and Storage |
| 51 | Information |
| 511 | Publishing Industries (except Internet) |
| 512 | Motion Picture and Sound Recording Industries |
| 515 | Broadcasting (except Internet) |
| 517 | Telecommunications |
| 518 | Data Processing, Hosting and Related Services |
| 519 | Other Information Services |
| 52 | Finance and Insurance |
| 521 | Monetary Authorities-Central Bank |
| 522 | Credit Intermediation and Related Activities |
| 523 | Securities, Commodity Contracts, and Other Financial Investments and Related Activities |
| 524 | Insurance Carriers and Related Activities |
| 525 | Funds, Trusts, and Other Financial Vehicles |
| 53 | Real Estate and Rental and Leasing |
| 531 | Real Estate |
| 532 | Rental and Leasing Services |
| 533 | Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) |
| 54 | Professional, Scientific, and Technical Services |
| 541 | Professional, Scientific, and Technical Services |
| 55 | Management of Companies and Enterprises |
| 551 | Management of Companies and Enterprises |
| 56 | Administrative and Support and Waste Management and Remediation Services |
| 561 | Administrative and Support Services |
| 562 | Waste Management and Remediation Services |

| | |
|-----------|-------------------------------------------------------------------------------|
| 61 | Educational Services |
| 611 | Educational Services |
| 62 | Health Care and Social Assistance |
| 621 | Ambulatory Health Care Services |
| 622 | Hospitals |
| 623 | Nursing and Residential Care Facilities |
| 624 | Social Assistance |
| 71 | Arts, Entertainment, and Recreation |
| 711 | Performing Arts, Spectator Sports, and Related Industries |
| 712 | Museums, Historical Sites, and Similar Institutions |
| 713 | Amusement, Gambling, and Recreation Industries |
| 72 | Accommodation and Food Services |
| 721 | Accommodation |
| 722 | Food Services and Drinking Places |
| 81 | Other Services (except Public Administration) |
| 811 | Repair and Maintenance |
| 812 | Personal and Laundry Services |
| 813 | Religious, Grantmaking, Civic, Professional, and Similar Organizations |
| 814 | Private Households |
| 92 | Public Administration |
| 921 | Executive, Legislative, and Other General Government Support |
| 922 | Justice, Public Order, and Safety Activities |
| 923 | Administration of Human Resource Programs |
| 924 | Administration of Environmental Quality Programs |
| 925 | Administration of Housing Programs, Urban Planning, and Community Development |
| 926 | Administration of Economic Programs |
| 927 | Space Research and Technology |
| 928 | National Security and International Affairs |

Economic Research Institute of Erie (ERIE)

Background

The purpose of Penn State Behrend's Economic Research Institute of Erie (ERIE) is to collect, analyze, interpret, and disseminate data and information on the Erie regional economy. Another important goal of ERIE is to provide our students with relevant experience with applied economic research and data analysis. Established in late 1982, the Institute is an applied research unit of Penn State Behrend's Sam and Irene Black School of Business.

We do not wish to duplicate the activities of other Erie-area organizations. Rather, we seek to use our collective training and experience in the areas of data handling and technical analysis to provide support to those whose expertise falls in different fields.

ERIE's continuing research program helps the local community better understand the regional economy and its linkages to the national economy. ERIE provides a source of information for local leaders and media who have questions about the local, national, and international economies. ERIE compiles data on the local economy from a wide range of sources, and helps local users access and evaluate these data.

Some of the studies that ERIE has undertaken include:

- Creation of a set of leading indicators for the Erie economy, the ERIE Leading Index (ELI).
- Estimation of the costs to the local economy of Erie residents having to travel out of the area to seek medical treatment from pediatric sub-specialists.
- Estimates of the impact of a split-rate property tax.
- Estimates of the amount that would be raised by a county-wide 1% additional sales tax.
- Estimates of productivity of Erie's workers through time and across industries, compared to the nation, and why productivity varies from place to place.
- Estimates of brain drain and brain gain from local colleges.
- Creation of a model to forecast total Erie employment, as well as employment in several component industries.
- Three studies of philanthropic giving in the Erie area sponsored by leading non-profit agencies.
- A model to estimate the cost of living in all 67 counties of Pennsylvania for a state government agency.

ERIE staff have made over 120 presentations in the local community since 2000, speaking to audiences at the Manufacturer and Business Association of Northwest Pennsylvania, the Erie Ambassadors, the Erie Community Foundation, the Erie Chapter of the National Association of Purchasing Management, the Erie Conference on Community Development, and twelve Leadership Erie classes, among many others. ERIE regularly provides information for the print and electronic media in the community, with over 550 press mentions since 2000.

In addition, ERIE's work has resulted in an enhanced awareness of the Erie regional economy among national and international audiences. This stems from the over 90 technical paper presentations made by Institute staff members at national and international conferences. Among these are presentations in Amsterdam, Cambridge (England), Marseilles, Montreal, Paris, Quebec City, Reading (England), Toronto, Wellington (New Zealand), and Vancouver, as well as numerous major U.S. cities. Articles based on the Erie economy, written by members of the Institute staff, have appeared in *Economic Development Quarterly*, *Environment and Planning A*, the *International Journal of Forecasting*, the *Journal of Forecasting*, *Regional Studies*, *Systems Research*, the *Pennsylvania Economic Review* and other academic journals.

ERIE'S Activities

❖ **The ERIE Economic Conference**

Typically held annually, the ERIE Conference overviews the national and regional economies, and provides information on ERIE's latest projects. In addition, each conference focuses on a theme of importance to the local area. Information on previous conferences is available on our website in the *AboutUs* section.

❖ **ERIE Leading Index (ELI)**

ELI is a combination of local, state, and national data series that tend to turn up and down before Erie employment does, giving early warning of impending changes in the direction of the local economy. Latest data about ELI are available on our website www.ERIEdata.org, and you can sign up there to receive the latest edition of ELI by email. ELI is made possible by a grant from Marquette Savings Bank and we are grateful for their support!

❖ **Erie Index of Entrepreneurship and Innovation (EIEI)**

EIEI will be a composite statistic that combines many different variables related to the innovation and entrepreneurial components of the local economy, and will therefore provide a summary measure of how the Erie economy is performing along these two important dimensions. The Index will be updated on a regular basis, subject to data availability. EIEI is made possible by a grant from the Black Family Foundation and we are grateful for their support!

❖ **Maintenance and expansion of the ERIE web site: www.ERIEdata.org**

Released to the public in the fall of 2003, the ERIE website provides access to important information about ERIE and Erie. These include:

- An on-line library of reports and studies on the local economy, performed by ERIE and others, many downloadable;
- the ERIE Leading Index;
- Current data on Erie's economy such as employment and unemployment levels, income, etc.
- ERIE's forecasts for the local economy;
- Information about ERIE, including ways in which we can help regional firms and agencies;
- Links to other important and relevant sites; and
- Other useful information as it is developed.

The Erie Regional Chamber and Growth Partnership provided funds for the site's construction, and the Erie Community Foundation provided important seed money to get this project started initially.

❖ **The ERIE Guide to the Erie Economy**

Now in its seventh edition, the *ERIE Guide to the Erie Economy* provides quick, insightful information on a broad range of topics such as demographics, income, employment and unemployment, output, cost of living, poverty, industries, wages, education, commuting, crime and more.

❖ **Targeted research projects, as needed for the local economy**

Based on discussions with community leaders and economic development officials, we will undertake selected research projects of local importance. Depending upon the availability of funding, the following are examples of the types of projects that would be feasible:

- Semi-annual forecasts of Erie County employment.
- Creation of an Erie Performance Index, a combination of timely Erie employment data with less-timely but more comprehensive average income levels by industry.
- Joint projects with local sponsors to create other measures of the local economy that could be reported regularly.
- The retail sector in Erie County: growth, pay rates, examination of sub-industries, comparisons to other areas, etc.
- The impact of the international economy on Erie.
- Determining Erie's "revealed" comparative advantage in international trade.
- The geographical distribution of Erie's foreign trade.
- The impact of foreign trade on the Erie economy, with special emphasis on China.

Financial Support for ERIE

The Institute's ongoing research program has been made possible through the support and cooperation of several groups both within and outside the University. The Black Family Endowment provides ongoing funds to keep ERIE up and running on an annual basis. Initial financial support for the establishment of the Institute was provided in part by a grant from the Manufacturer's Association of Northwest Pennsylvania. The Erie Regional Chamber and Growth Partnership provided major funding for the creation of our web site, ERIEdata.org. Additional support in the form of data contributions or funding for the annual conference or commissioned studies has been provided over the years by various firms, agencies and groups, including the Erie Community Foundation, United Way of Erie County, Marquette Bank, the Erie Regional Chamber and Growth Partnership, the Economic Development Corporation of Erie County, the Workforce Investment Board of Northwest Pennsylvania, the Erie Conference on Community Development, and the Center for Rural Pennsylvania. The University provides staff salaries, library and travel support, research facilities, partial support for student research assistants, and state of the art computer hardware and software.

With suitable funding, it would be possible to expand the operations of ERIE. We are looking for partners to fund specific studies. Since we can draw on a large pool of talent in the form of both Penn State Behrend faculty and students, ERIE will be able to do more for the community as more funds are available.

Your financial support will enable us to answer important questions for the Erie economy, as well as supporting a number of hard-working undergraduate and graduate students. We can also work with you on projects of your choice for proprietary use. If you have a project that you would like to discuss, or if you are interested in supporting one of the projects mentioned above, please contact us at 898-6265 or e-mail the Director at klouie@psu.edu.

We may also be able to help you find a good intern for that project you just don't have time to do yourself, or a good employee who is able to do business analysis and number-crunching.



**ERIE is a research center of the
Black School of Business at Penn State Behrend**

Student Research Assistants

ERIE has employed over 80 students as Research Assistants (RAs) and Graduate Research Assistants (GRAs) over the years. In their position as Research Assistant, students learn to find economic data on the Web and in publications, to assess strengths and weaknesses of the data, to download the data, and efficiently enter them into standard spreadsheet and statistical software packages. They also learn how to graph, manipulate, and analyze the data, turning them from raw numbers into useful information. Along with financial support, the students get a very attractive item for their resume and a set of skills that subsequent employers have found very useful. Our former research assistants have later held jobs with the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor Statistics, the Department of Housing and Urban Development, the Federal Reserve Banks of Atlanta, Cleveland, and Philadelphia, the Governor's Action Team, and many private-sector firms both locally and around the country. Some of our Research Assistants have been co-authors with us on articles published in professional journals, and some have won awards for their presentations at research conferences.

Graduate Research Assistants

Jenna Shelton (2019-20)

Natalie Szalajko (2018-19)

Marissa Baker (2017-18)

Dylan Rossi (2016-2017)

Alyssa Craig (2015-16)

Brittany Martinelli (2014-15)

Dan Eiben (2013-14)

Patrick St. Andrews (2012-2013)

Travis Yates (2011-2012)

Clay O'Dana (2010-11)

Jeremiah Riethmiller (2009-10)

Jon Curtis (2008-09)

Ben Schlosser (2006-08)

Emily Oborski (2005-06)

Michael Hammill (2004-05)

Natasha Terensky (2013-14)

Business Economics and
International Business

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Economics

Chris Sitter (2005-06)

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Jeremiah Riethmiller (2005-06)

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Amy Hunter (2003)

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Ken Schwab (2003-05)

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Business Economics

Adrienne Shrawder (1990-92)

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Accounting

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Accounting

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Business Economics

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Business Economics

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Economics

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Natalie Szalajko (2015-18)

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Josh McAleer (2014-15)

International Business and Finance

Matthew Migdal (2014-15)

Business Economics

Theodore Wisinski (2014-2015)

Business Economics

Ian Dunton (2014)

Business Economics

Sean Allen (2013-15)

Business Economics and Finance

ERIE Research Reports

Many of ERIE's research reports are listed below. Most of them are available for free from the Online Library section of the ERIE website: www.ERIEdata.org.

Louie, Kenneth K. T. and Kurre, James A. *Analysis of Cost-of-Living Data for Pennsylvania Counties*. May 2018. 84 pages. Funded by the Center for Rural Pennsylvania, a legislative agency of the Pennsylvania General Assembly.

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Brunot, Justin A. and Kurre, James A. *Manufacturing Productivity: How Much Does It Vary Across Metro Areas and Why?* Presented at the 66th Annual Fall Conference of the Association for University Business and Economic Research, Honolulu HI, October 2012. 22 pages.

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King, Kerry A. and Nesbit, Todd M. *The Potential Impacts of a Split-Rate Property Tax in the City of Erie*. July 2007. 37 pages.

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- Schlosser, Benjamin S. *Analysis of Spatial Variation in Prices through Time*. September 2006. 45 pages.
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