

ERIE

Guide to the Erie Economy

Fourth Edition, Issued Summer 2013

Eleventh ERIE Conference

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Penn State Behrend



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College

The *ERIE* Guide to the Erie Economy

Fourth Edition, 2013

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

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- Penn State Erie, The Behrend College;
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INTRODUCTION

Welcome to the fourth edition of the *ERIE Guide to the Erie Economy!* We released this fourth edition of the *Guide* at the 11th ERIE Economic Conference in July of 2013. 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. And we're happy to update it this year where possible and expand it to include some new topics, such as changes in Erie household size through time, homelessness in Erie County, and measures of the regular seasonal patterns in Erie's employment.

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:

- 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 \$2.3 billion dollars of goods and services produced in 2011.
- January is Erie's seasonal lowpoint in terms of employment, and October—not December—is its highpoint.
- Housing costs in Manhattan are not just "high" compared to Erie; they're five times as much. That place that costs \$1,000 a month in Erie would set you back \$5,000 a month in the Big Apple.
- The average Erieite saves more than 51 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 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 898-7149 or email us at k12@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.

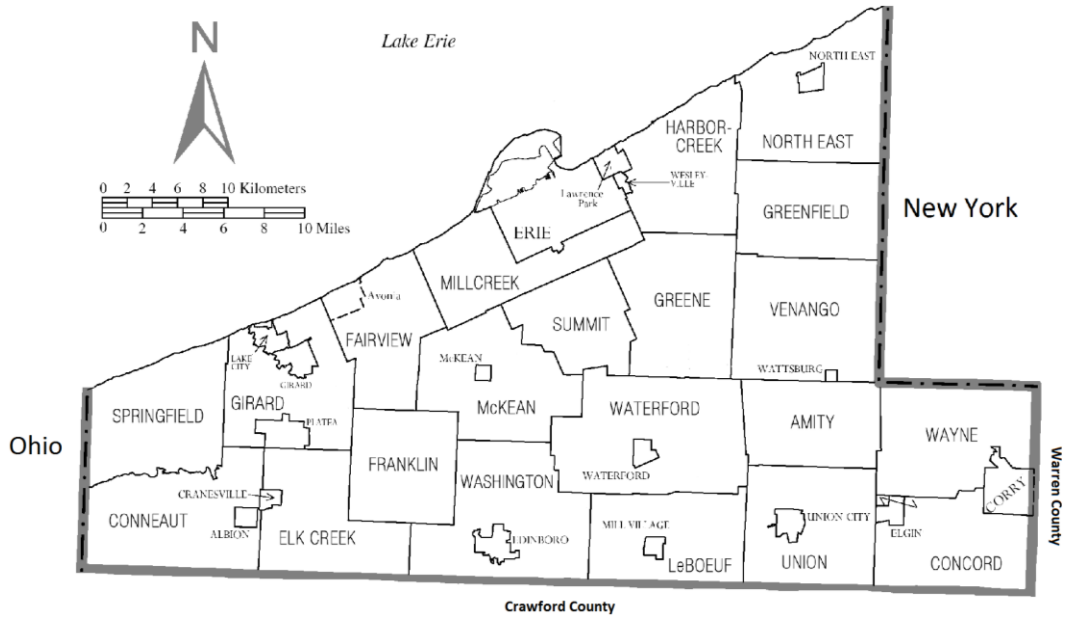
For some purposes, it’s useful to look at data for the City of Erie. The *Guide* gives some information about the City compared to the County. And for some purposes, it makes sense to look at Erie as the focus of the Northwest Pennsylvania region. We sometimes have occasion to study this broader region, 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.

Virtually all of 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, and these are mostly found in the Special Studies section of the *Guide*. 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 fourth 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.



Size of the Erie County Economy

Land Area

- ▶ 801.95 square miles
- ▶ Technically, Erie County also includes water area halfway across Lake Erie to Canada. The water area is another 756.46 square miles, for a total of 1,558.41 square miles.

Source: U.S. Census Bureau, American FactFinder, Table GCT-PH1:

http://factfinder.census.gov/servlet/GCTTable?_bm=y&-geo_id=04000US42&-_box_head_nbr=GCT-PH1&-ds_name=DEC_2000_SF1_U&-format=ST-2

Population

- ▶ 280,646 total residents in 2012
- ▶ Density: 350.0 people per square mile
 - National average density: 88.9 people per square mile.

Source: U.S. Census Bureau, Annual Population Estimates Program through American Fact Finder.

Employment¹

132,100 in May 2013 (Based on the Bureau of Labor Statistics' Establishment Survey—a count of jobs)

131,965 in May 2013 (Based on the Bureau of Labor Statistics' Household Survey—a count of people)

160,353 in 2011 (Based on the Bureau of Economic Analysis' Regional Economic Information System)

Number of Nonfarm Business Establishments in 2010

6,246 establishments with employees

13,787 nonemployer establishments²

20,033 total business establishments

Source: U.S. Census Bureau: County Business Patterns: <http://www.census.gov/econ/cbp/> and Nonemployer Statistics: <http://www.census.gov/econ/nonemployer/index.html>

Income

Aggregate Personal Income³, 2011: \$ 9,756,169,000

Income Per Capita, 2011: \$34,721 for every man, woman and child in the county

Total Earnings⁴ of those who work in Erie County, 2011: \$ 6,842,844,000

Source: U.S. Bureau of Economic Analysis: <http://www.bea.gov/regional/index.htm>

Output of Goods and Services Produced

Gross Metro Product: \$9.7 billion in 2011

Erie's output is greater than that of 179 of the U.S.'s 363 metro areas

Erie's output is greater than the Gross Domestic Product of 53 countries of the world

Gross Metro Product: \$9.7 billion in 2010

Erie's output is greater than that of 184 of the U.S.'s 363 metro areas

Erie's output is greater than the Gross Domestic Product of 61 countries of the world

Source: U.S. Conference of Mayors: <http://usmayors.org/metroeconomies/>

¹ 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. Of the employment estimates given above, the Household Survey provides information on residents of the County at their place of residence, and the Establishment Survey provides data at the place of work.

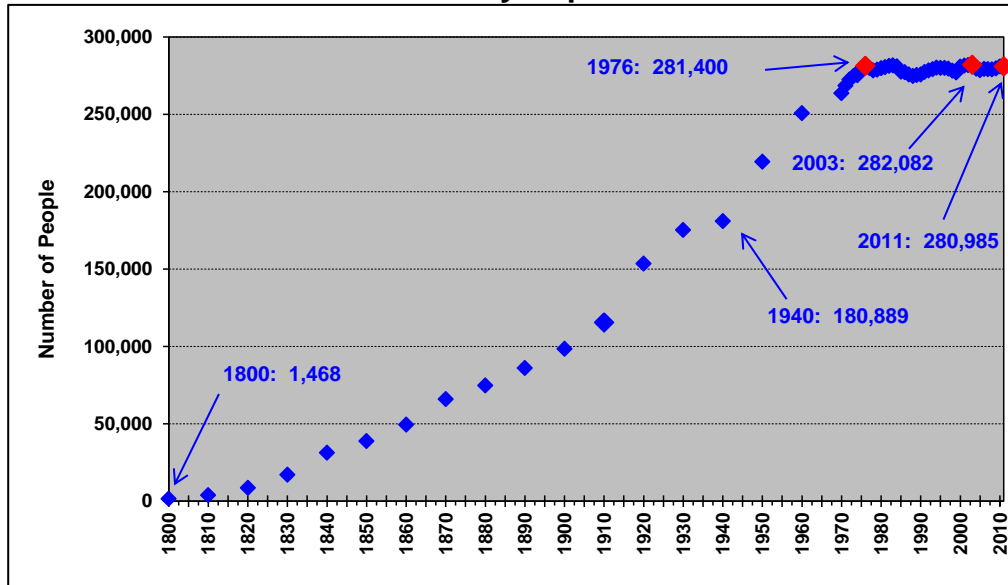
² A nonemployer business is one that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the construction industries), and is subject to federal income taxes. Nonemployer businesses are generally small, such as real estate agents and independent contractors. Nonemployers constitute nearly three-quarters of all businesses nationally, but they contribute only about three percent of overall sales and receipts data.

³ 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.

⁴ Earnings by place of work is the sum of wage and salary disbursements, supplements to wages and salaries (employer contributions for employee pension and insurance funds and of employer contributions for government social insurance including old-age, survivors, and disability insurance (OASDI); hospital insurance; unemployment insurance; railroad retirement; government employee retirement; pension benefit guaranty; veterans life insurance; publicly-administered workers' compensation; military employee programs (veterans life and military medical insurance); and temporary disability insurance), and proprietors' income. Note that it's different from personal income in that it excludes some sources of income (the "non-earned" types) and includes the contributions (taxes) for government social insurance programs.

Population

Erie County Population



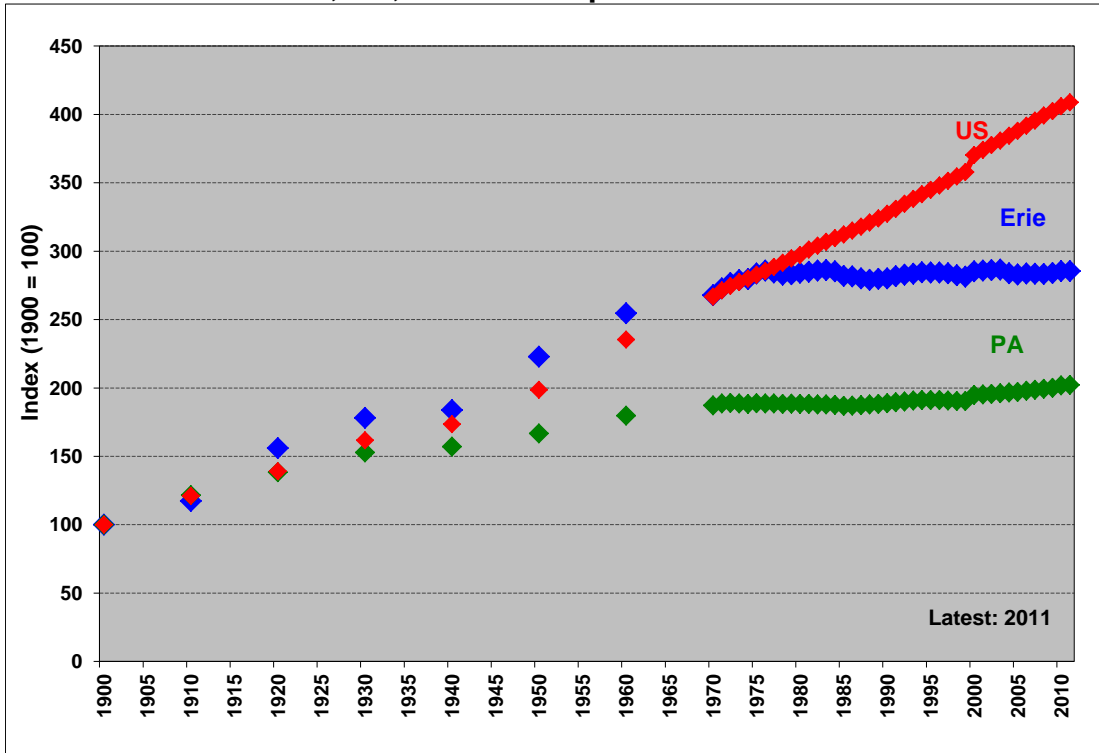
Source: U.S. Census Bureau, Population Estimates Program

Population Estimates	Erie County	Pennsylvania	United States
July 1, 2011	280,985	12,742,886	311,591,917
July 1, 2010	281,038	12,717,722	309,330,219
July 1, 2009	279,645	12,602,112	306,656,290
July 1, 2008	278,911	12,562,536	304,177,401
July 1, 2007	279,194	12,517,701	301,393,632
July 1, 2006	279,357	12,466,485	298,431,771
July 1, 2005	278,541	12,415,908	295,618,454
July 1, 2004	279,509	12,387,357	292,936,109
July 1, 2003	282,082	12,360,988	290,242,027
July 1, 2002	281,767	12,324,237	287,745,630
July 1, 2001	281,458	12,296,977	285,049,647
July 1, 2000	280,795	12,283,881	282,165,844
Census (Actual Count)			
April 1, 2010	280,566	12,702,379	308,745,538
April 1, 2000	280,843	12,281,054	281,421,906

Source: U.S. Census Bureau, Population Estimates Program

- ▶ 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 Census Bureau estimates that Erie's population actually rose a bit in the last couple of years. Its most recent low was in 1988 at 274,732. We're up over 5,000 since then.
- ▶ In 2011, one in every 44 people in PA lived in Erie county, and one in every 1,109 Americans. In 1900 it was one in every 64 Pennsylvanians, and one in every 774 Americans.

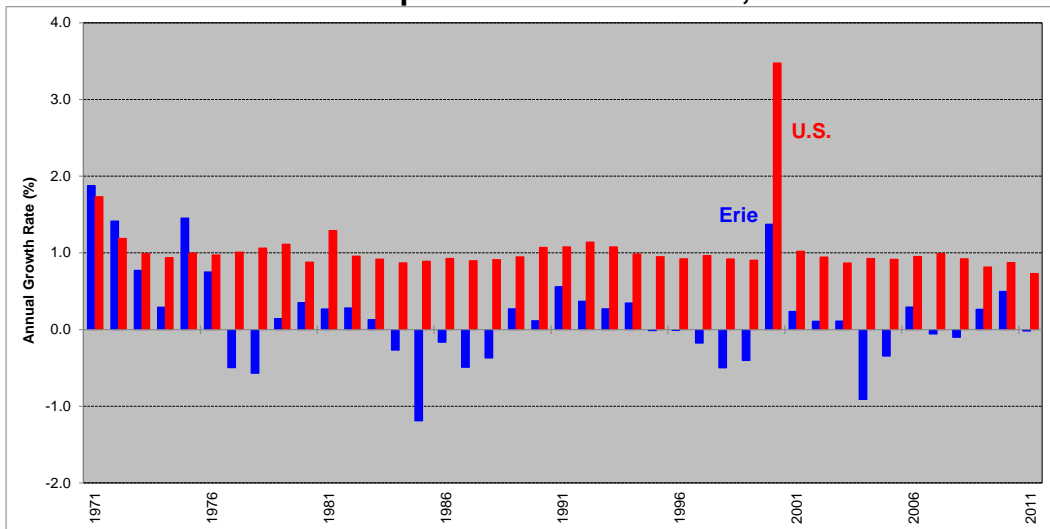
Erie, PA, and U.S. Population Indexes



Source: U.S. Census Bureau, Population Estimates Program

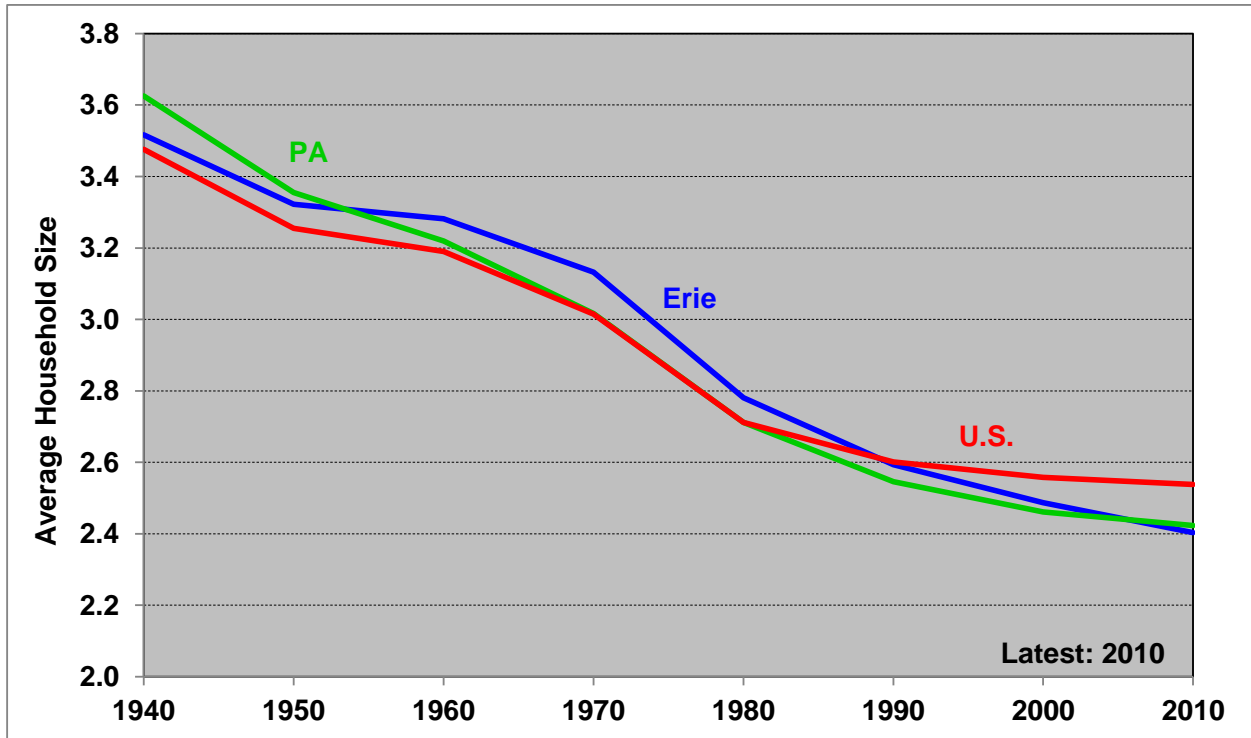
- ▶ In the 1910s and the 1940s Erie grew at a more rapid rate than the U.S., and Erie outgrew PA in every decade between 1910 and 1980.
- ▶ Starting in the mid-1970s, population growth in Erie and Pennsylvania slowed, and population has remained relatively constant through 2011.
- ▶ The U.S. population 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 and U.S. Population Growth Rates, 1971-2011



Source: Calculated from U.S. Census Bureau, Population Estimates data

Average Household Size Through Time

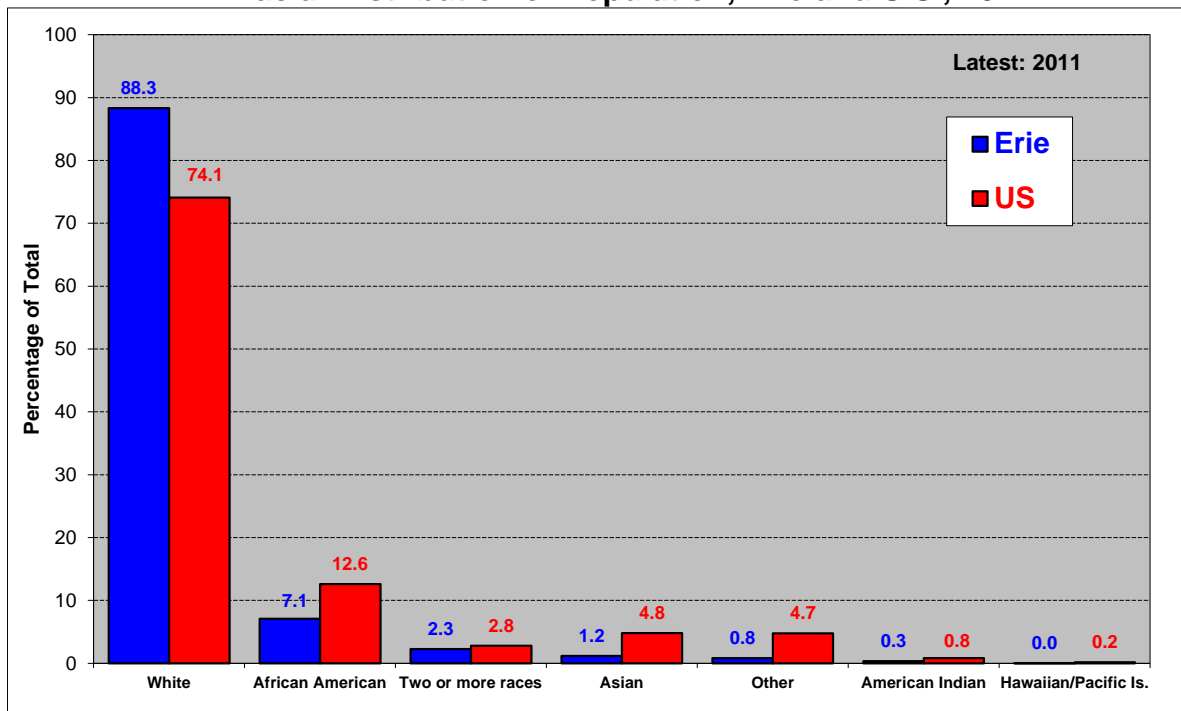


Source: United States Census Bureau, Decennial Censuses 1940 – 2010

- ▶ 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 Population, Erie and U.S., 2011



Source: U.S. Census Bureau, American Community Survey

- ▶ 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 2011, Erie County’s population included 88.3% White residents. At the national level, the percent White was only about 74.1%.
- ▶ 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.
- ▶ 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. A LQ greater than 1.0 means that Erie has a more than proportional representation in that racial group; a 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.

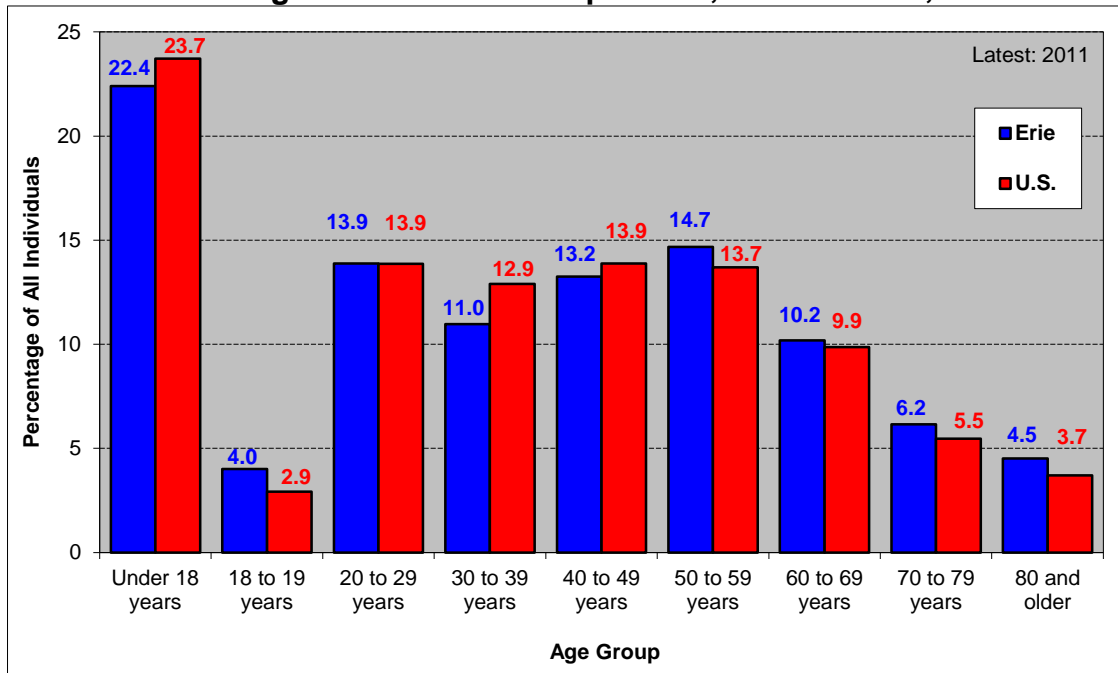
Race Location Quotients for 2011

Race	Erie		US		Location Quotient
	#	%	#	%	
White	248,204	88.3	230,838,975	74.1	1.19
African American	19,852	7.1	39,189,528	12.6	0.56
Two or more races	6,404	2.3	8,721,818	2.8	0.81
Asian	3,277	1.2	15,020,419	4.8	0.24
Other	2,308	0.8	14,768,156	4.7	0.17
American Indian	899	0.3	2,547,006	0.8	0.39
Hawaiian/Pacific Is.	41	0.0	506,017	0.2	0.09
Total	280,985	100.0	311,591,919	100.0	1.00

Source: U.S. Census Bureau, American Community Survey

Age

Age Distribution of Population, Erie and U.S., 2011



Source: U.S. Census Bureau, American Community Survey

- ▶ The age distribution of the Erie County population tends to mirror that of the nation, with a few exceptions.
- ▶ Erie's percentages in the under 50 age groups tended to be lower than the U.S. percentages except in the young adult categories—the 18 to 29 age groups.
- ▶ 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.
- ▶ The largest disparity between the U.S. and Erie in the younger age groups was for the under 18 age group. Erie had 22.4% in this group while the U.S. had 23.7%. To put this in perspective, a 1.3% difference translates to Erie having 3,653 fewer kids than might be expected from national averages.
- ▶ Location quotients greater than one in the table below show the age categories in which Erie had more than the national average.

Age Location Quotients for 2011

Age Group	Erie		US		Location Quotient
	#	%	#	%	
Under 18 years	62,941	22.4	73,910,701	23.7	0.94
18 to 19 years	11,247	4.0	9,110,911	2.9	1.37
20 to 29 years	38,977	13.9	43,187,543	13.9	1.00
30 to 39 years	30,800	11.0	40,162,612	12.9	0.85
40 to 49 years	37,217	13.2	43,258,890	13.9	0.95
50 to 59 years	41,212	14.7	42,685,346	13.7	1.07
60 to 69 years	28,615	10.2	30,734,962	9.9	1.03
70 to 79 years	17,299	6.2	17,029,611	5.5	1.13
80 and older	12,677	4.5	11,511,343	3.7	1.22
Total	280,985	100.0	311,591,919	100.0	1.00

Source: U.S. Census Bureau, American Community Survey

Migration

The American Community Survey asks about respondents' residency each year from 2006-2010. 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 almost 12,000 people moved into Erie County each year during the five-year period, or 4.3% of the 2010 population. But almost 11,000 moved out each year during the period, for a net in-migration of 1,062 into the county each year, or 0.4% of the 2010 population.

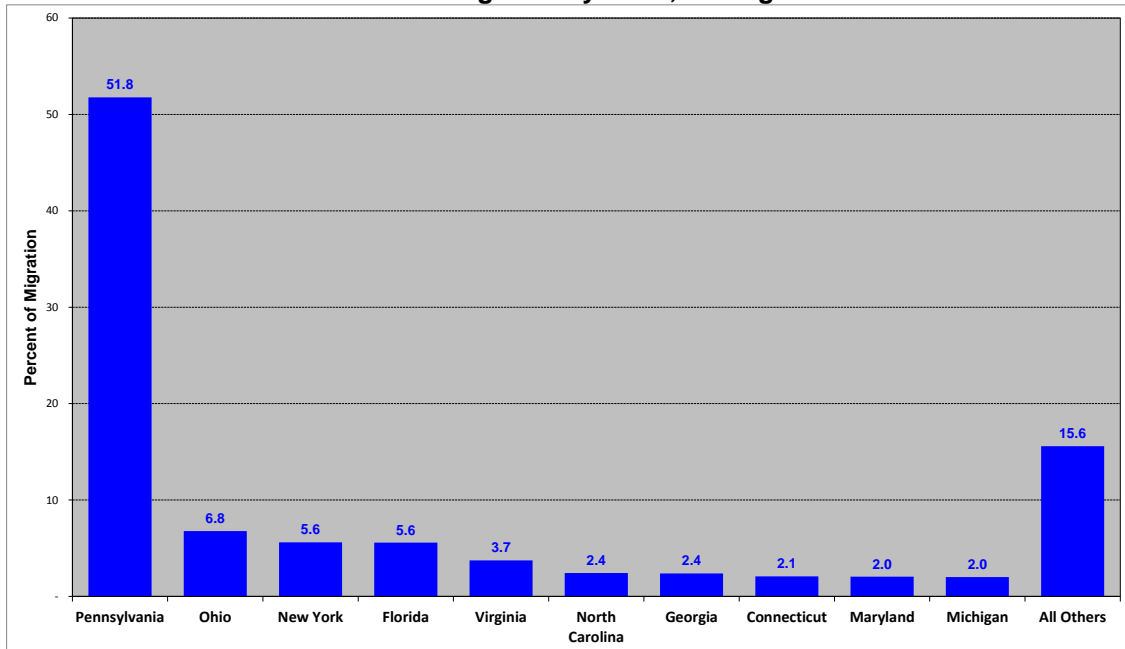
In the last few decades, Erie's population levels have been mostly stagnant, so a thousand new residents can make quite a difference in Erie's population changes. In fact, according to the American Community Survey (the source of the migration data in this section) population went from 279,811 in 2006 to 280,686 in 2010, a change of just 875 for the four year period. This implies that migration accounted for *all* of the population growth during this period—and then some.

	Number of People	Migration Rates*
Migration Inflow to Erie County (average from 2006-2010)	11,975	4.3%
Migration Outflow from Erie County (average from 2006-2010)	10,913	3.9%
Net Flow of Migration in Erie County	1,062	0.4%
Population of Erie County in 2010	280,686	

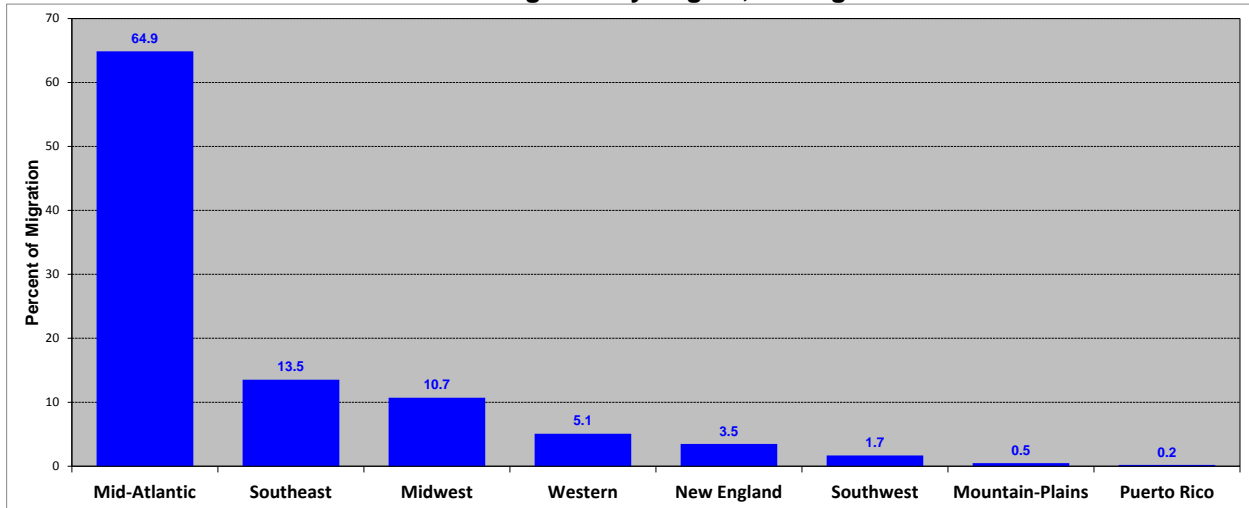
*Based on 2010 population

Where did those 11,000 out-migrating former Erieites go?

Destination of Erie Out-Migrants by State, Average from 2006-2010



Destination of Erie Out-Migrants by Region, Average from 2006-2010



- ▶ Over 51% of individuals that moved out of Erie County moved to other counties within the state of Pennsylvania
- ▶ The two states that border Erie County, Ohio and New York, accounted for 6.8% and 5.6% of the individuals who left Erie County, respectively.
- ▶ Almost 65% of individuals who left Erie County moved to other counties within the tri-state area (Ohio, Pennsylvania, New York).
- ▶ Florida and Virginia also took in significant amounts of individuals who left Erie County.
- ▶ Over half of the individuals who left Erie County moved to states in the Mid-Atlantic Region (of which PA is a part.)
- ▶ The Southeast took in the second largest amount of Erie emigrants (13.5%), followed by the Midwest (10.7%).

Top 15 Destination Counties of Erie Out-Migrants, Average 2006-2010

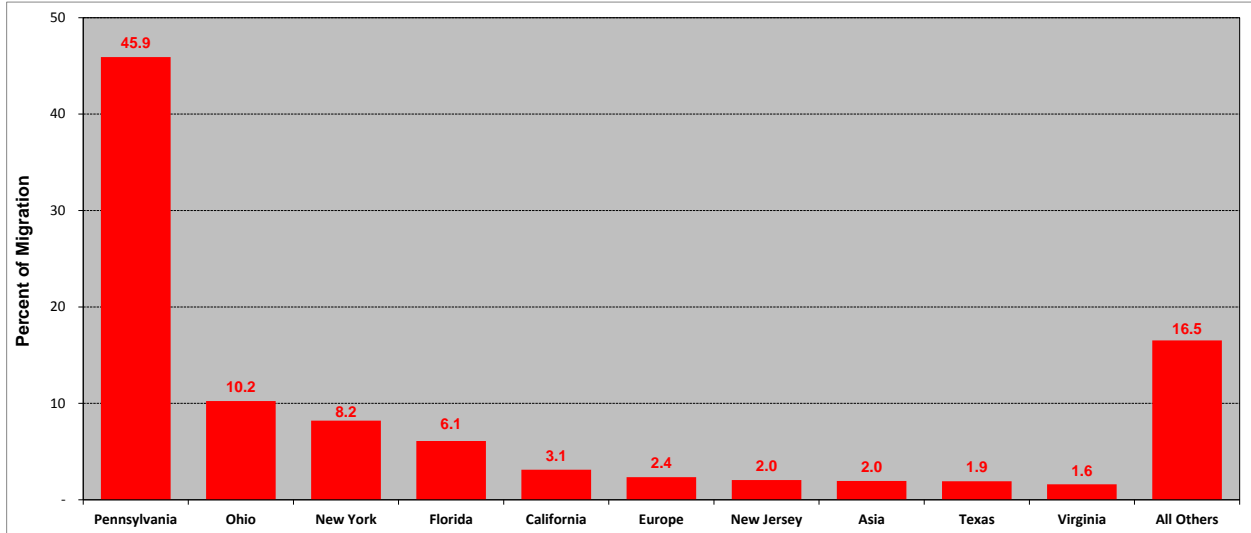
County and State	Outflow
Fayette County, PA	991
Allegheny County, PA	908
Crawford County, PA	713
Mercer County, PA	283
Centre County, PA	269
New Haven County, CT	204
Warren County, PA	204
Venango County, PA	198
Cuyahoga County, OH	193
Gwinnett County, GA	177
Lackawanna County, PA	169
Cumberland County, PA	164
Lebanon County, PA	162
Clarion County, PA	151
Ashtabula County, OH	144

- ▶ On average from 2006-2010, Fayette County, PA was the destination of the greatest amount of individuals who left Erie County. Fayette County is south of Pittsburgh, bordering West Virginia.
- ▶ Allegheny County, home of Pittsburgh, was #2.
- ▶ Of the top 15 counties, 11 were in Pennsylvania, 2 were in Ohio, 1 in Connecticut, and 1 in Georgia.
- ▶ New Haven County, CT, is #6. It is adjacent to Fairfield County, which is home to GE's corporate headquarters.

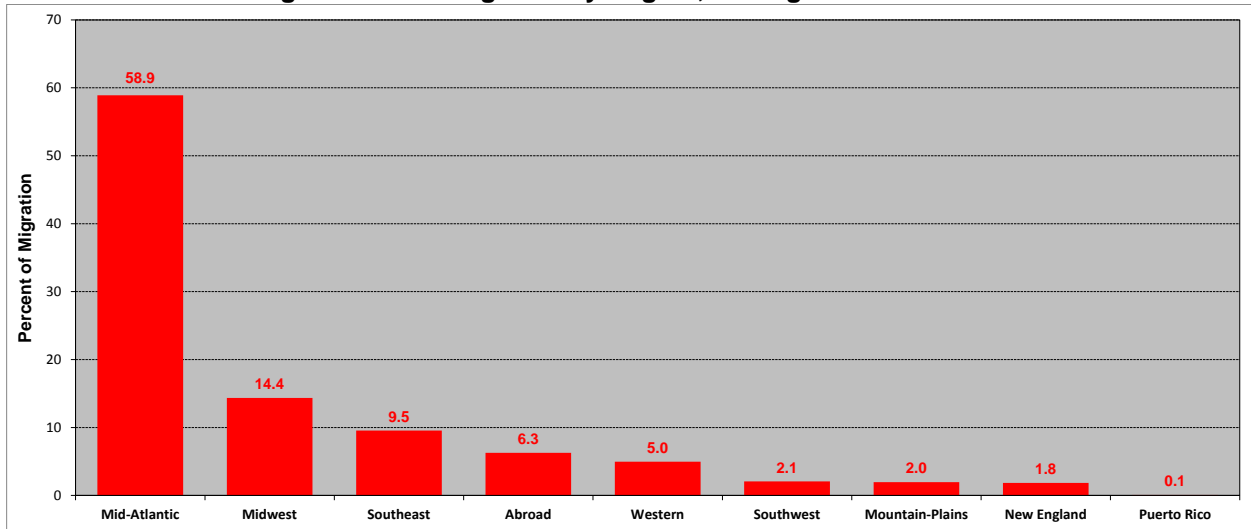
And where did the 12,000 in-migrants come from?

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 2006-2010



Origin of Erie In-Migrants by Region, Average from 2006-2010



- ▶ Almost 46% of individuals that moved to Erie County moved from other counties within the state of Pennsylvania.
- ▶ The two states that border Erie County, Ohio and New York, accounted for 10.2% and 8.2% of the individuals who moved to Erie, respectively.
- ▶ Over 64% of individuals who moved to Erie County moved from other counties within the tri-state area.
- ▶ Significant numbers of individuals moved to Erie County from Florida, California, Europe, New Jersey, Asia, Texas, and Virginia.
- ▶ Almost 60% of individuals who moved to Erie County came from other states in the Mid-Atlantic region.
- ▶ The Midwest provides the second largest amount of individuals who moved to Erie County (14.4%), followed by the Southeast (9.5%).
- ▶ Just over 6% of Erie's in-migrants, about 750 people, came from foreign countries.

**Top 15 Origin Areas of Erie
In-Migrants, Average 2006-2010**

County and State	Inflow
Crawford County, PA	1,235
Allegheny County, PA	1,059
Cuyahoga County, OH	418
Warren County, PA	401
Philadelphia County, PA	338
Europe	282
San Diego County, CA	234
Asia	234
Columbia County, FL	216
Pinellas County, FL	195
Central America	191
Monroe County, NY	179
Erie County, NY	177
Mercer County, PA	177
Venango County, PA	168

- ▶ 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, 6 were in Pennsylvania, 3 were abroad, 2 were in New York, 2 were in Florida, 1 was in Ohio, and 1 was in California.

Five counties were both on the “Top 15 Origins” and “Top 15 Destinations” lists.

**Five Counties on Both the
Top Origins and Top Destinations List**

County and State	Inflow	Outflow	Net Flow
Cuyahoga County, Ohio	418	193	225
Warren County, Pennsylvania	401	204	197
Allegheny County, Pennsylvania	1,059	908	151
Venango County, Pennsylvania	168	198	-30
Mercer County, Pennsylvania	177	283	-106

- ▶ From three of those five counties, the net flow was positive for Erie County.
- ▶ Cuyahoga County, Ohio provided the largest number of net in-migrants to Erie County, and Allegheny County PA also provided net in-migrants to Erie. This means that Erie is attracting more people from Cleveland and Pittsburgh than we are losing to them.
- ▶ Mercer County had the largest net outflow from Erie County. People moved out of Erie County to Mercer County, on net.

Personal Income

Erie County Income and Earnings Profile, 2011		
	Total	% of Total
Personal income (by place of residence) (Thousands of \$)	9,756,169	100.0
Net earnings ¹	5,853,448	60.0
Personal current transfer receipts	2,537,891	26.0
Income maintenance ²	298,732	3.1
Unemployment insurance compensation	171,311	1.8
Retirement and other	2,067,848	21.2
Dividends, interest, and rent	1,364,830	14.0
Population (persons)³	280,985	
Per capita personal income	34,721	100.0
Per capita net earnings	20,832	60.0
Per capita personal current transfer receipts ⁴	9,032	26.0
Per capita income maintenance	1,063	3.1
Per capita unemployment insurance benefits	610	1.8
Per capita retirement and other	7,359	21.2
Per capita dividends, interest, and rent	4,857	14.0
Earnings by place of work (Thousands \$)	6,842,844	100.0
Wage and salary disbursements	5,061,231	74.0
Supplements to wages and salaries	1,283,348	18.8
Employer contributions for employee pension and insurance funds	863,504	12.6
Employer contributions for government social insurance	419,844	6.1
Proprietors' income	498,265	7.3
Nonfarm proprietors' income	489,900	7.2
Farm proprietors' income	8,365	0.1

Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

Footnotes

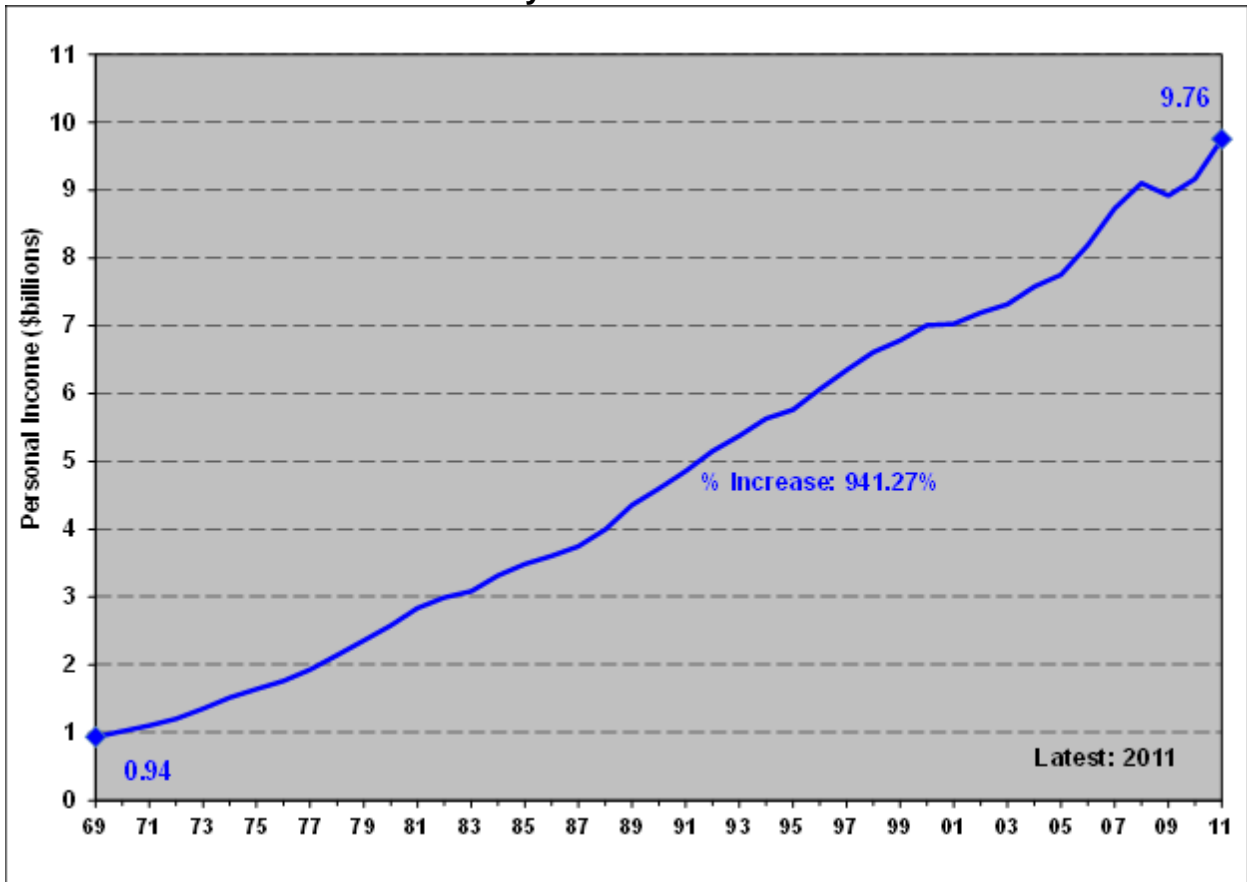
¹ Total earnings less contributions for government social insurance adjusted to place of residence.

² Consists largely of Supplemental Security Income (SSI) payments; Earned Income Tax Credits (EITC); family assistance; general assistance; expenditures for food under the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Supplemental Nutrition Assistance Program (SNAP); and other assistance benefits.

³ Census Bureau midyear population estimates. Estimates for 2000-2011 reflect county population estimates available as of April 2012.

⁴ Type of income divided by population yields a per capita measure for that type of income.

Erie County Total Personal Income



Source: Bureau of Economic Analysis, Regional Economic Information System

- ▶ 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 \$9.7 billion in 2011.
- ▶ Total growth in personal income in Erie between 1969 and 2011 was 941.3%—that is, 2011 income was over 10.4 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, 2011

Component	Erie County		U.S.		Erie to U.S. LQ
	(1000's of \$)	% of Personal Income	(1000's of \$)	% of Personal Income	
Personal income (After Taxes for Social Insurance)	9,037,808	100.0	12,949,905,000	100.0	1.00
Nonfarm personal income ¹	9,024,325	99.9	12,848,978,000	99.2	1.00
Farm income ²	13,483	0.1	100,927,000	0.8	0.19
Earnings by place of work	6,358,761	70.4	9,454,199,000	73.0	0.96
Less: Contributions for government social insurance ³	776,105	8.6	917,820,000	7.1	1.21
Employee and self-employed contributions for government social insurance	392,067	4.3	423,793,000	3.3	1.33
Employer contributions for government social insurance	373,026	4.1	494,027,000	3.8	1.08
Plus: Adjustment for residence ⁴	-207,484	-2.3	845,000	0.0	-351.83
Equals: Net earnings by place of residence	5,386,184	59.6	8,537,224,000	65.9	0.90
Plus: Dividends, interest, and rent ⁵	1,358,478	15.0	2,093,469,000	16.2	0.93
Plus: Personal current transfer receipts	2,293,146	25.4	2,319,212,000	17.9	1.42
Wage and salary disbursements	4,675,640	51.7	6,651,787,000	51.4	1.01
Supplements to wages and salaries	1,154,589	12.8	1,621,814,000	12.5	1.02
Employer contributions for employee pension and insurance funds	781,563	8.6	1,127,787,000	8.7	0.99
Employer contributions for government social insurance	373,026	4.1	494,027,000	3.8	1.08
Proprietors' income ⁶	528,532	5.8	1,180,598,000	9.1	0.64
Farm proprietors' income	1,621	0.0	77,836,000	0.6	0.03
Nonfarm proprietors' income	526,911	5.8	1,102,762,000	8.5	0.68

Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

Footnotes

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

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

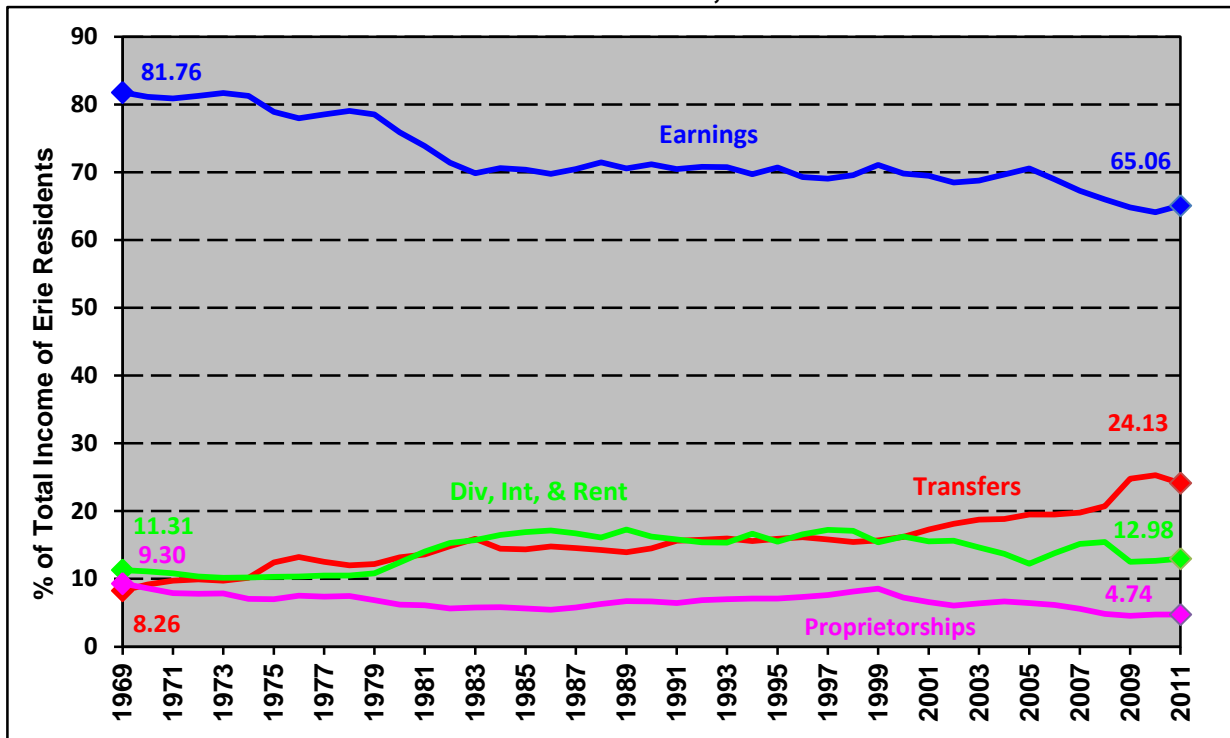
³ Contributions for government social insurance are included in earnings by type and industry, but they are excluded from personal income.

⁴ The adjustment for residence is the net inflow of the earnings of inter-area commuters. A negative number means people are commuting into the area to work. For the United States, it consists of adjustments for border workers and for certain temporary and migratory workers: Wage and salary disbursements to U.S. residents commuting or working temporarily outside U.S. borders less wage and salary disbursements to foreign residents commuting or working temporarily inside U.S. borders.

⁵ Rental income of persons includes the capital consumption adjustment.

⁶ Proprietors' income includes the inventory valuation adjustment and the capital consumption adjustment.

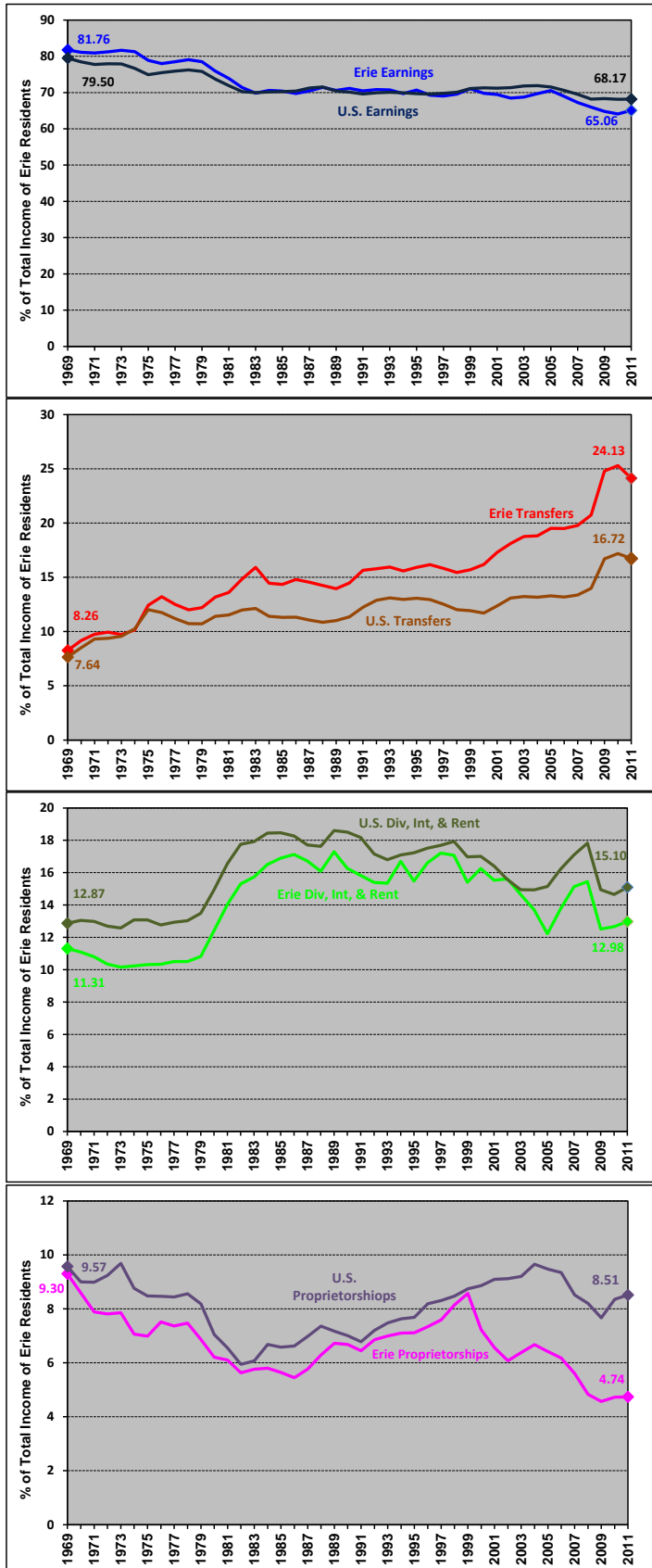
Sources of Erie's Income, 1969 – 2011



Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

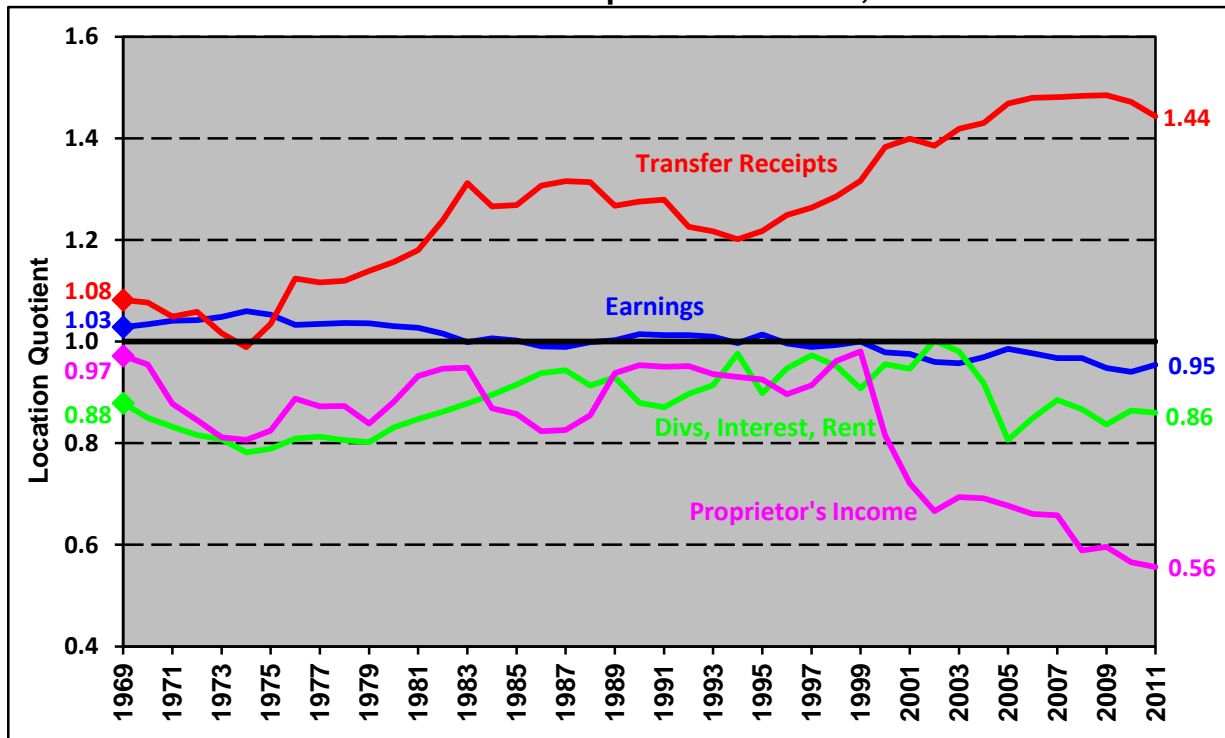
- ▶ The components of Erie's income have changed significantly since 1969.
- ▶ Earnings as a percent of income decreased from 82% of all income earned to only 65%.
- ▶ Transfer payments (like retirement and disability payments, welfare, Medicare and Medicaid, etc.), however, increased from only 8.3% percent of income in 1969 to 24.1% in 2011 – close to tripling.
- ▶ Income from dividends, interest, and rent (so-called “unearned income”) increased slightly over the period from 11.3% to around 13.0%.
- ▶ Income from proprietorships as a percent of total income decreased from 9.3% to 4.7%.

Sources of Erie and U.S. Income, 1969-2011



- ▶ Both Erie and U.S. earnings as a percent of total income decreased since 1969.
- ▶ The share of earnings decreased faster in Erie than the U.S. overall. Erie earnings decreased 16.7 percentage points (from 81.8 to 65.1) versus the U.S. decrease of 11.3 percentage points (from 79.5 to 68.2.)
- ▶ Transfer payments as a percent of total income increased in both Erie and the U.S.
- ▶ U.S. transfer payments increased from 7.6 to 16.7 percent of total income – a little more than double the 1969 level.
- ▶ Erie's share of income from transfer payments nearly tripled. Erie's share from transfers is 24.1% vs. the US share of 16.7%.
- ▶ The recession and the government's reaction to it increased the share of transfer payments significantly, though it has fallen a bit during the recovery.
- ▶ The share of income from dividends, interest, and rent increased for both Erie and the U.S. starting in about 1980.
- ▶ The U.S. increased from 12.9 to 15.1 percent of total income, and Erie from 11.3% to 12.9%.
- ▶ The recent recession has had a negative impact on this component.
- ▶ Erie and U.S. percent of income from proprietorships also fell.
- ▶ The U.S. decreased from 9.6 to 8.5 percent of total income.
- ▶ Erie lost more than twice the amount of income from proprietorships as the U.S. –a 49.0% loss for Erie versus 11.1% for the U.S.
- ▶ Erie had 3.8% less income from proprietorships than the U.S. in 2011.
- ▶ These are troubling trends for Erie, since new and small firms are the seeds for future job growth.

Erie Income Sources Compared to the U.S., 1969-2011

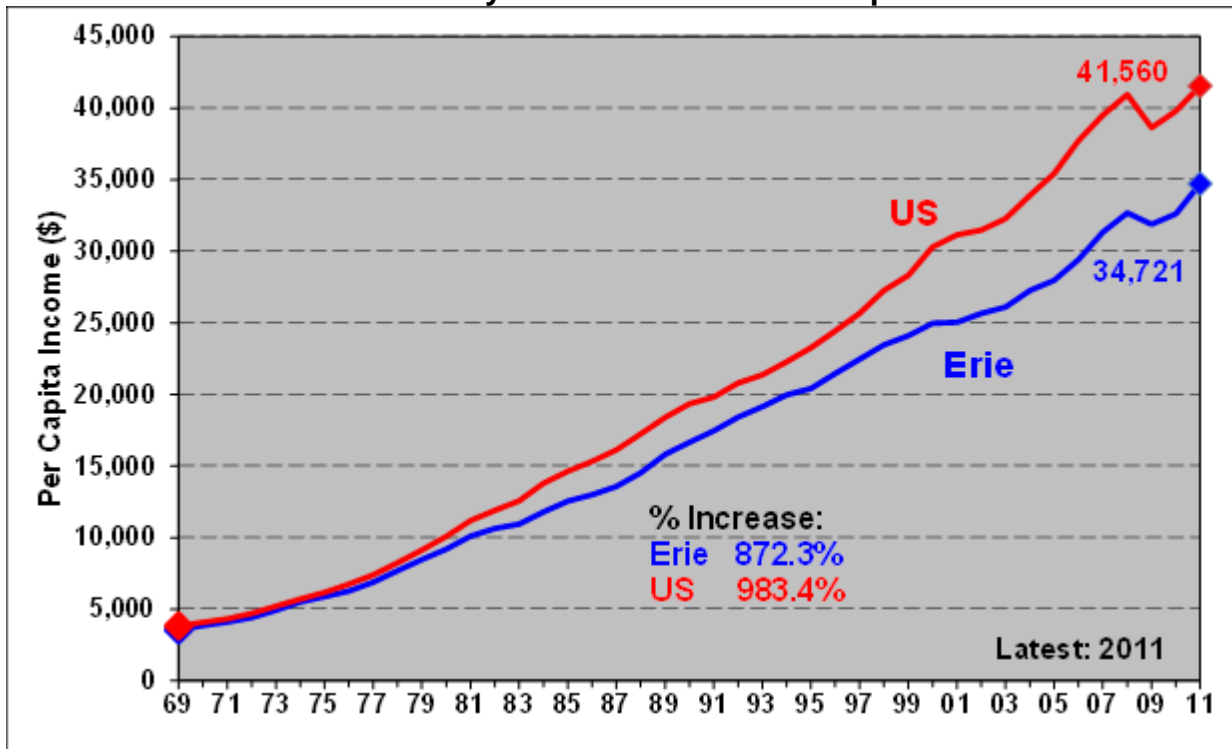


Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ 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 as a source of income fell slightly compared to the U.S. between 1969 and 2011. Erie had slightly more of its share from earnings than the U.S. in 1969 with a LQ of 1.03 and slightly less than its share in 2011 with .95.
- ▶ The dividends, interest, and rent LQ has been quite variable over this period, starting at .88 in 1969, rising to slightly greater than 1 in 2002, and falling to .86 in 2011.
- ▶ The proprietors income LQ was nearly 1 in 1969, and varied from 0.8 to 1 until the 2000 recession, when it dropped to the 0.7 range. The recent recession pushed it down ever further, to not much more than half the national rate.
- ▶ Transfer payments is the category with the largest increase in LQ over the period, rising from 1.08 in 1969 to 1.49 in 2006, nearly half again the national rate. In recent years it has fallen a bit to 1.44. An increasing transfer payments LQ indicates that Erie residents rely more on government handouts than other places.
- ▶ 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.

Income Per Capita

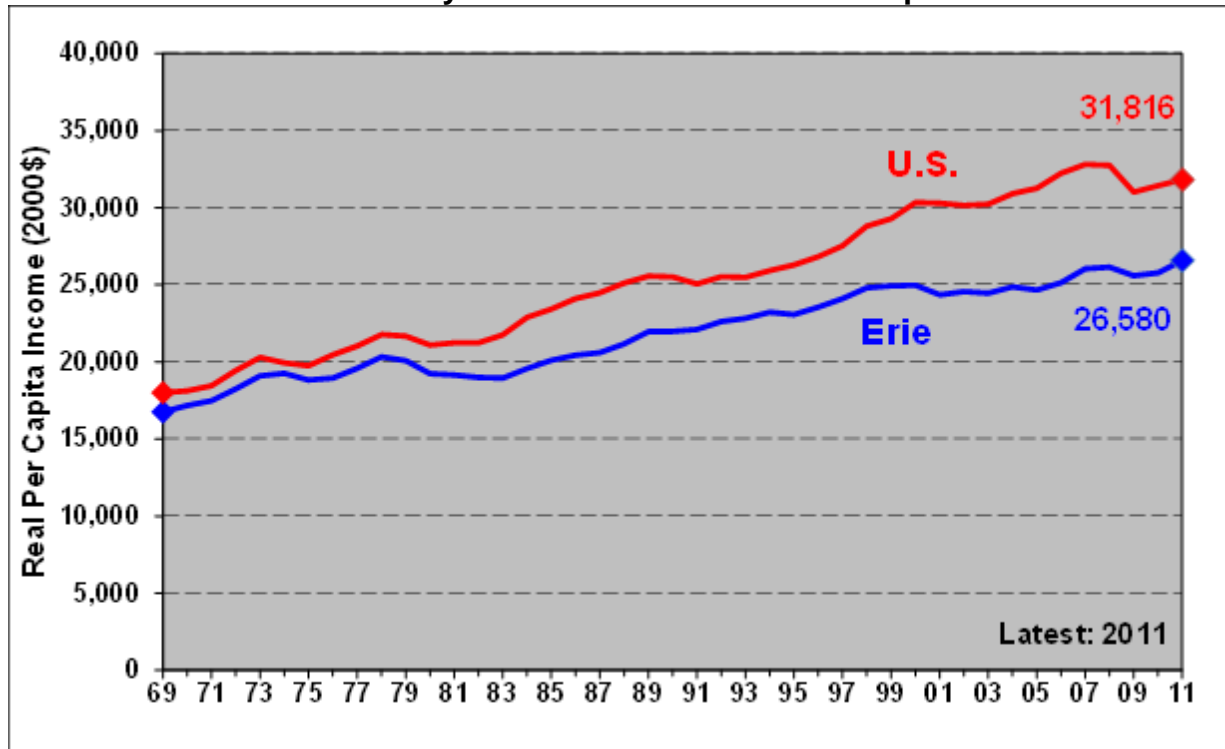
Erie County and U.S. Income Per Capita



Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ The story of Erie per capita income is one of growth, but of growth at a slower rate than the nation.
- ▶ Between 1969 and 2011, per capita personal income grew by 983.4% in the U.S. and 872.3% in Erie.
- ▶ In 1969, per capita personal income was \$3,836 in the U.S. and \$3,571 in Erie. Erie's income per capita was \$265 or 6.9% lower than that of the U.S..
- ▶ In 2011, per capita personal income was \$41,560 in the U.S. and \$34,721 in Erie, a difference of \$6,839 or 16.5%.
- ▶ 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 2010 to 2011 the U.S. per capita income rose \$1,769 or 4.3% to \$41,560.
- ▶ From 2010 to 2011 Erie income per capita increased even faster, from \$32,627 to \$34,721 or 6.0%
- ▶ Caution: this graph does NOT adjust for inflation, so it does not tell the whole story. Inflation-adjusted data are on the next page.

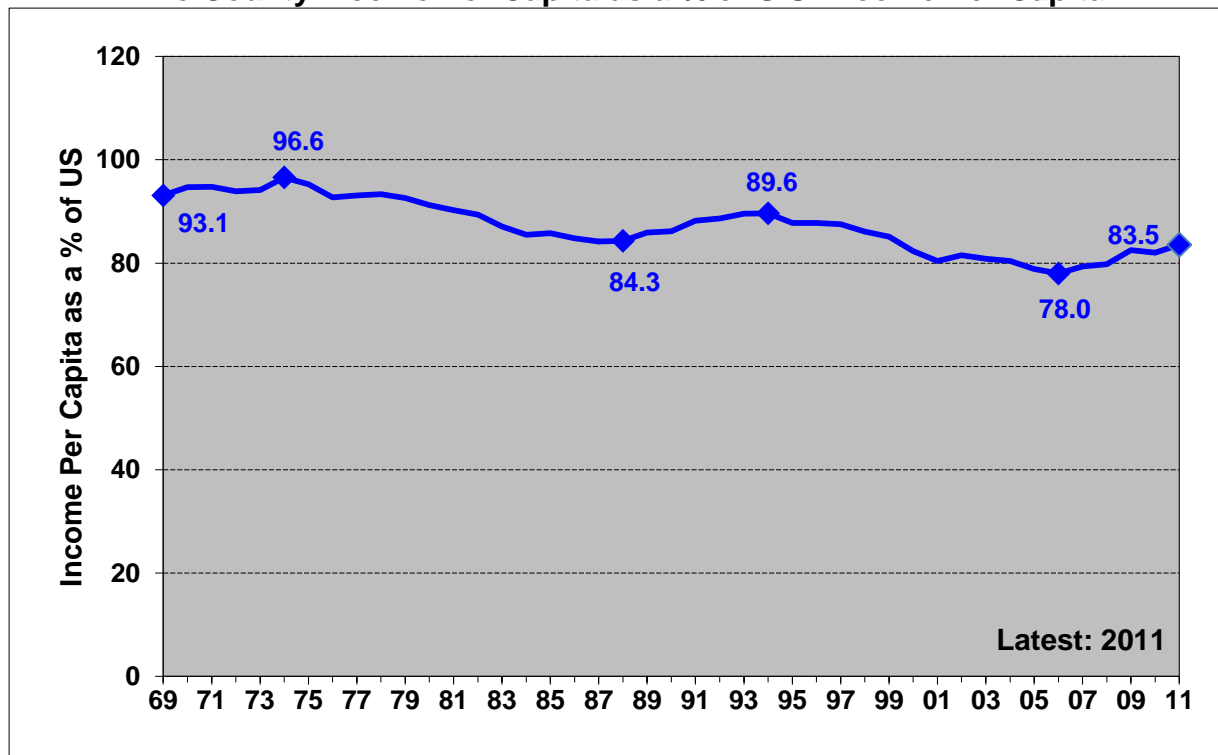
Erie County and U.S. Real Income Per Capita



Source: Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ Adjusting for inflation yields “real” income per capita. After adjusting for both inflation and population change, the story of Erie income (actually, real income per capita) is still one of growth. However, the story now has some chapters with decreasing income levels.
- ▶ Real per capita personal income grew by 58.6% in Erie between 1969 and 2011.
- ▶ However, real per capita income grew by 76.8% in the U.S. over this same time period. 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.
- ▶ Even after adjusting for inflation, Erie income per capita did not fall during the most recent recession. Erieites found ways to maintain their income levels during the recession, on average.

Erie County Income Per Capita as a % of U.S. Income Per Capita

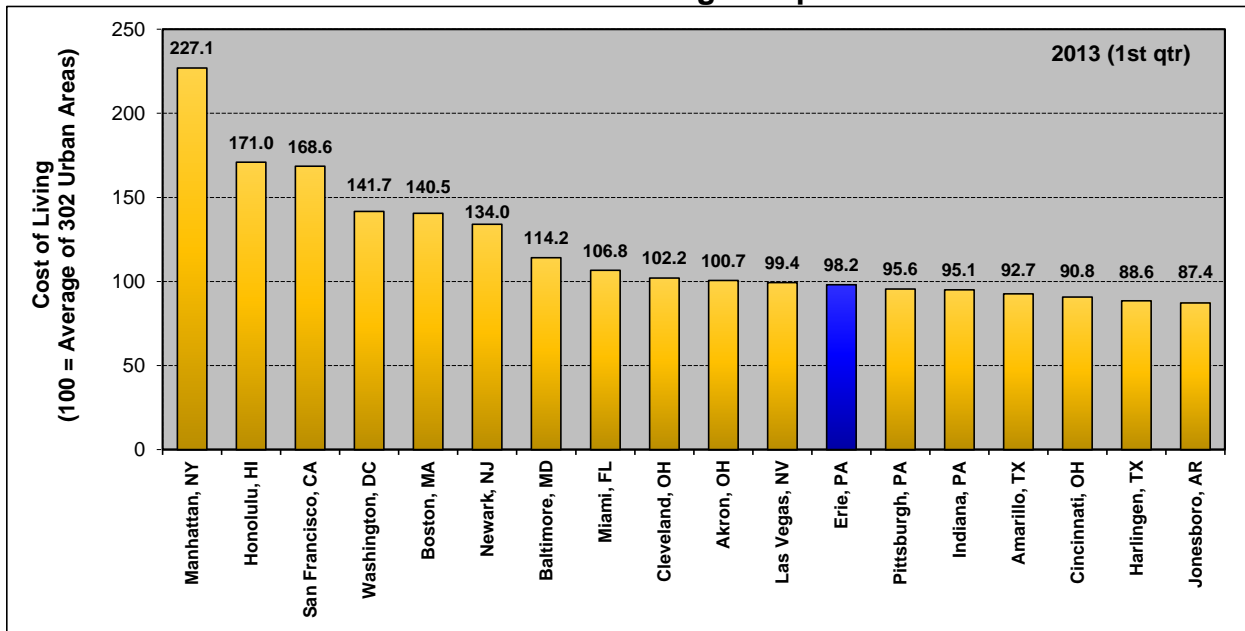


Source: Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ Over the period from 1974, Erie has tended to have slower income growth than the nation, so it has fallen further and further behind the national average income level.
- ▶ Erie's income per capita was closest to the U.S.'s in 1974, when Erie had 96.6% 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 78.0% 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 83.5% of the U.S. per capita income level in 2011.
- ▶ It should be remembered 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

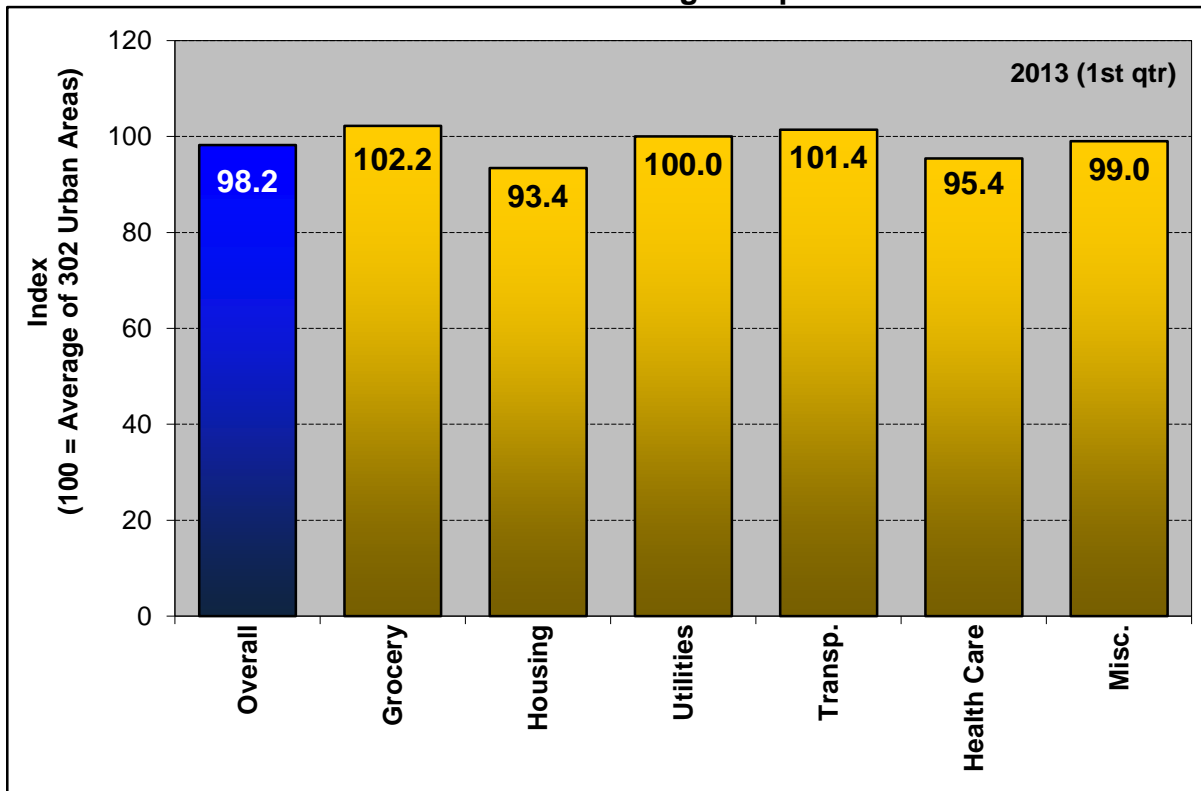
Metro Cost of Living Comparison



Source: C2ER Cost of Living Index

- ▶ Cost of living data that compare the cost of a specific “basket” of goods and services from place to place are gathered by the Council for Community and Economic Research (C2ER) in its *Cost of Living Index (COLI)*. In the COLI, 100 represents the average of the 300 or so urban areas that participate in that quarter.¹
- ▶ For the first quarter of 2013, Erie’s Cost of Living Index was 98.2, indicating that Erie’s costs were about 1.8% below the average of other urban areas. Costs on the east coast and New England tend to be quite a bit above Erie’s costs, especially for housing.
- ▶ Although Erie’s income levels are below the national average, its cost of living helps offset some of that differential. Unfortunately, the cost differential (about 2%) is not enough to offset the income differential (about 17%).
- ▶ The cost of living in Erie in 2013 is less than half that of living in Manhattan, which was the highest cost area in that quarter’s report. San Francisco’s costs were over 70% higher than Erie’s. At the other extreme, Jonesboro AR had a cost index of 87.4 which was about 11% less expensive than Erie.
- ▶ 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.
- ▶ You can find a Cost of Living Calculator on the homepage of www.ERIEdata.org which allows (free!) comparison of Erie’s cost of living with that of many other areas of the nation.

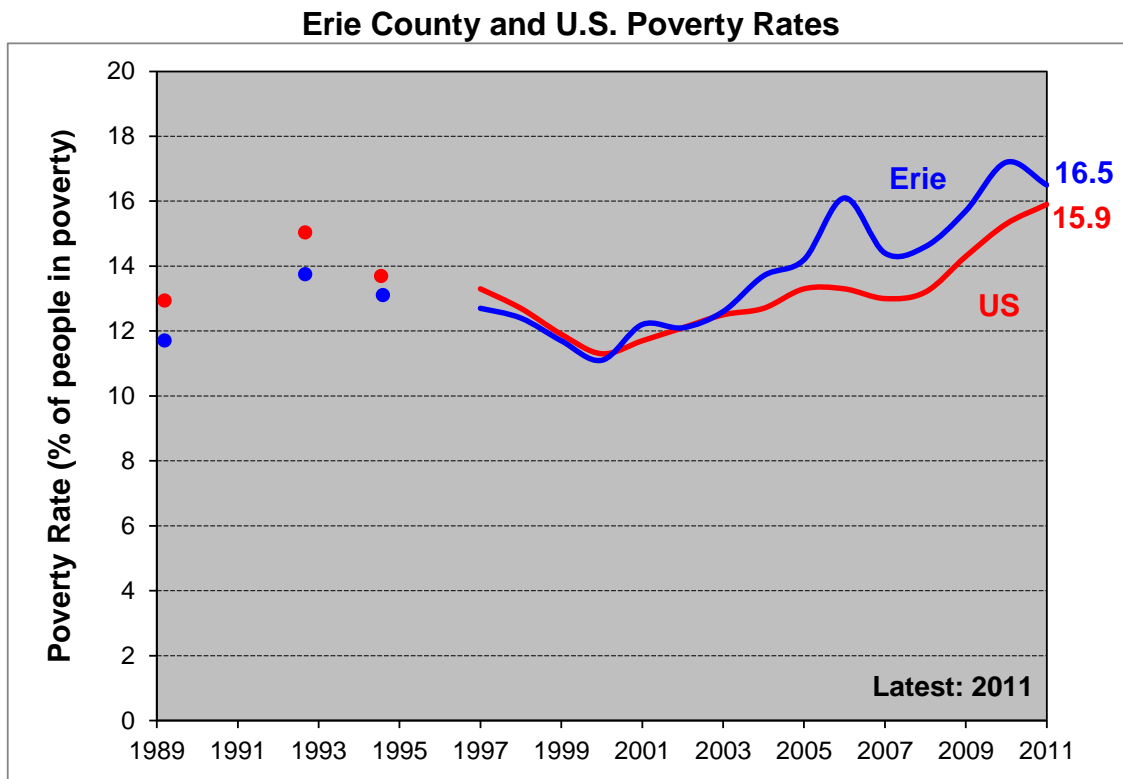
Erie Cost of Living Components



Source: C2ER Cost of Living Index

- ▶ The C2ER Cost of Living Index is composed of six subcategories: groceries, housing, utilities, transportation, health care, and miscellaneous.
- ▶ Erie rates below the average cost in the housing, health care, and miscellaneous categories. Low housing costs in Erie represent a significant advantage over many other areas of the country. For example, for the first quarter of 2013 the Erie housing index was 93.4 and the index for Manhattan was 461.7, meaning housing cost nearly five times as much in Manhattan as in Erie. Boston was 176.7, and San Francisco was 310.0.
- ▶ Utility costs in Erie were just at the national average, and transportation and grocery costs were a bit above the national average.

Poverty



Source: U.S. Census Bureau, Small Area Income and Poverty Estimates

- ▶ From 1989 until 2000, the poverty rate in Erie was consistently below that of the U.S.
- ▶ Since the recession of 2001, Erie's poverty rate was either equal to or above that of the nation.
- ▶ In 2011, the poverty rate in Erie was 0.6 percentage points higher than the poverty rate of the U.S., 16.5% vs. 15.9%.
- ▶ The Erie Community Foundation has two Special Reports on Poverty:
 - 1) *The High Cost of Poverty: It Affects Us All*, by Laura Lewis and Amy Cuzzola-Kern, is available online at: <http://www.eriecommunityfoundation.org/files/publications-videos/special-reports/2007-poverty-study.pdf>
 - 2) *The High Cost of Poverty: What You Can Do*, is available online at: <http://www.eriecommunityfoundation.org/files/publications-videos/special-reports/2008-whatyoucando.pdf>

Poverty by Age, Sex, and Race, 2011

Subject	Percent Below Poverty Level			
	Erie City	Erie County	PA	US
POPULATION				
For whom poverty status is determined	28.0%	16.4%	13.8%	15.9%
AGE				
Under 18 years	47.3%	25.9%	19.6%	22.5%
Related children under 18 years	47.1%	25.7%	19.2%	22.2%
18 to 64 years	23.8%	14.6%	13.1%	14.8%
65 years and over	14.3%	9.2%	8.0%	9.3%
SEX				
Male	25.0%	14.6%	12.5%	14.7%
Female	30.8%	18.2%	14.9%	17.2%
RACE				
One race	NA	NA	NA	15.8%
White	22.0%	13.5%	10.7%	13.0%
Black or African American	44.7%	40.0%	30.4%	28.1%
American Indian and Alaska Native	NA	N	30.3%	29.5%
Asian	NA	38.0%	16.7%	12.8%
Native Hawaiian and Other Pacific Islander	NA	NA	NA	21.5%
Some other race	NA	NA	37.0%	28.5%
Two or more races	NA	39.1%	26.4%	21.4%

NA = no data available

Source: U.S. Census Bureau, American Community Survey

- ▶ The poverty rate for PA (13.8%) is lower than that of the nation (15.9%), while Erie County's rate is higher (16.4%). Poverty in City of Erie is significantly higher at 28.0%.
- ▶ 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 tend to be higher for women than for men across all geographic areas in the table above.
- ▶ Poverty tends to be a problem for most racial minorities, and especially for African Americans. One exception to this pattern is that those of Asian descent tend to have a lower than average poverty rate at the national level, but this is not true for Asians in Erie.

Poverty by Educational Attainment, Employment Status, & Work Experience, 2011

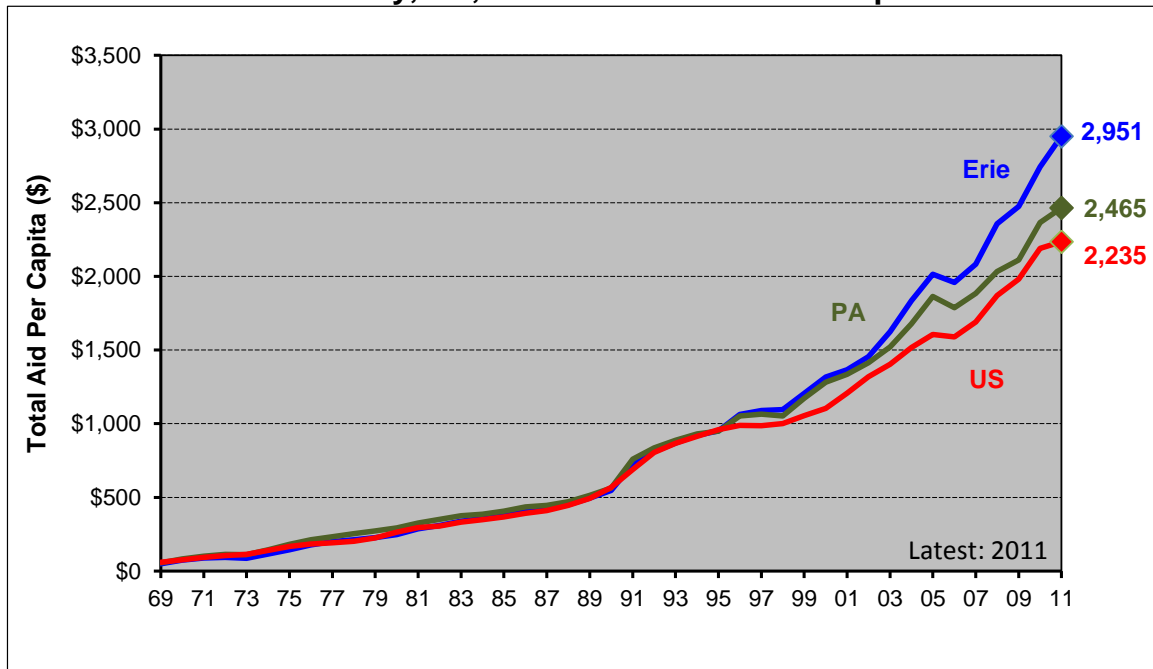
Subject	Percent Below Poverty Level			
	Erie City	Erie County	PA	US
EDUCATIONAL ATTAINMENT				
Population 25 years and over	19.2%	11.4%	10.5%	12.2%
Less than high school graduate	38.4%	27.0%	25.5%	27.9%
High school graduate (includes equivalency)	24.6%	13.9%	11.7%	14.2%
Some college, associate's degree	11.7%	8.8%	9.5%	10.5%
Bachelor's degree or higher	3.9%	4.0%	3.7%	4.4%
EMPLOYMENT STATUS				
Civilian labor force 16 years and over	16.9%	10.3%	7.6%	10.0%
Employed	14.7%	9.1%	5.4%	7.4%
Male	10.0%	6.4%	4.5%	6.5%
Female	18.7%	11.7%	6.5%	8.4%
Unemployed	32.1%	21.2%	28.5%	32.6%
Male	26.7%	16.5%	25.1%	29.8%
Female	39.2%	27.5%	32.7%	35.9%
WORK EXPERIENCE				
Population 16 years and over	22.1%	13.5%	12.2%	14.1%
Worked full-time, year-round in the past 12 months	4.5%	2.6%	1.8%	2.9%
Worked part-time or part-year in the past 12 months	29.0%	20.8%	15.4%	18.7%
Did not work	33.0%	19.9%	22.0%	23.8%

Source: U.S. Census Bureau, American Community Survey

- ▶ How does one avoid poverty? The table above gives some useful insights.
- ▶ First of all, get educated! The table shows that more education consistently correlates with less poverty. The drop in poverty rate is especially significant going from “less than high school graduate” to “high school graduate.” In Erie County, over a quarter (27.0%) of those who are not high school graduates lived in poverty in 2011, but only 13.9% of high school graduates, and only 4.0% of college grads. Education is no guarantee, but it’s how the smart money bets.
- ▶ Unsurprisingly, employment also makes a big difference in terms of poverty status. Of those with a job, only 9.1% were in poverty in 2011, compared with 21.2% of those who were unemployed.
- ▶ Similarly, working full time significantly reduces the odds of being in poverty. Those who worked part time had slightly lower poverty rates than those who did not work, but those who worked full time had very low rates of poverty—only 2.6% in Erie County and 4.5% in the City. Those who did not work had poverty rates of 19.9% (County) and 33.0% (City).
- ▶ Once again, the City of Erie has a higher percentage of the population in poverty across virtually all categories. The only exception is the percentage of the population with a Bachelor’s degree or higher. In this category, Erie County actually has a higher percentage in poverty at 4.0% compared to the City of Erie with 3.9%.
- ▶ The moral of the story: if you do not want to be in poverty, stay in school. Then get a job and work full time. (Easy to say, not always so easy to do.)

Welfare Assistance

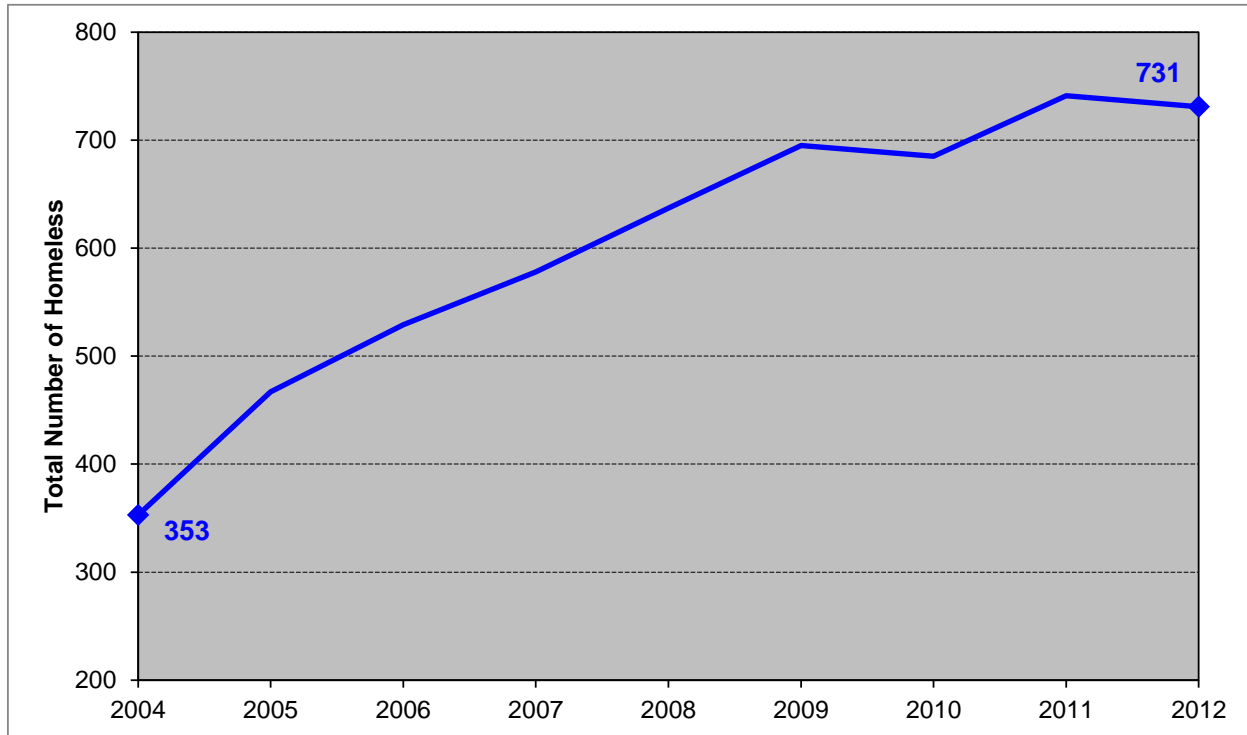
Erie County, PA, and U.S. Total Aid Per Capita



Source: Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ In 2011, Erie residents received \$2,951 per capita in welfare assistance. Average Erie income was \$34,721 in 2011.
- ▶ In 1969, welfare aid per person was \$50 in Erie County. That's a 5,802% increase to 2011. But we must adjust that for inflation; in 2011 the 1969 value would have been \$306.46 per person. So the 2011 value represents a real increase of 863%. In comparison, real income per capita rose by about 58.6% during the same period.
- ▶ The rise in welfare payments has increased precipitously during the last recession.
- ▶ 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.
- ▶ In 2011, Erie residents received 32.0% and 19.7% more welfare aid per capita than the U.S. and PA, respectively.
- ▶ 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.
- ▶ Welfare aid includes payments for public assistance, medical benefits, supplemental security income, family assistance, food stamps, and a few other income maintenance benefits.

Homeless in Erie County

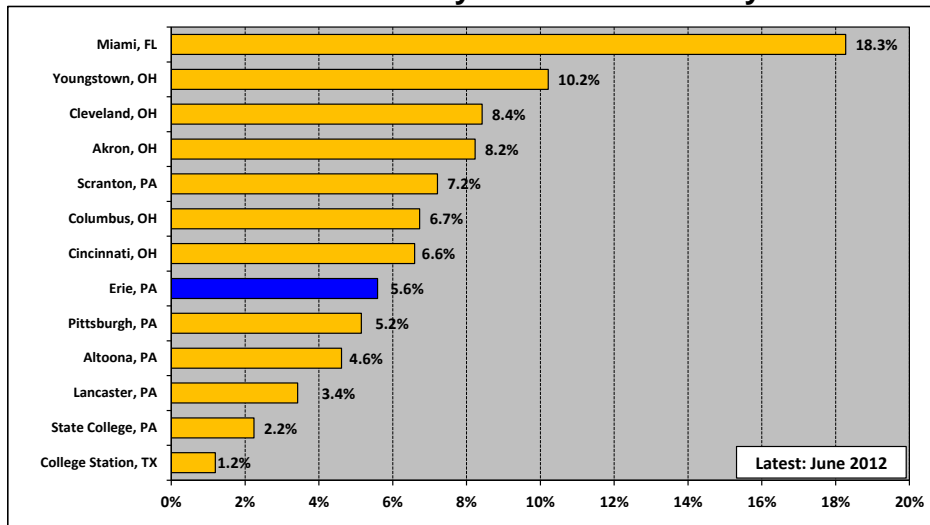


Source: Susan Hirt Hagen CORE, Single Point In Time Survey

- ▶ 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.
- ▶ Beginning in 2004, the amount of homeless in Erie has been on a nearly steady increase. During this period, the amount of homeless citizens increased 378 people or 107.1%.
- ▶ In 2012, 731 Erieites were homeless.
- ▶ Much more information on homelessness and other important topics can be found at The Susan Hirt Hagen Center for Organizational Research & Evaluation (CORE), online at <http://www.behrend.psu.edu/core/>.

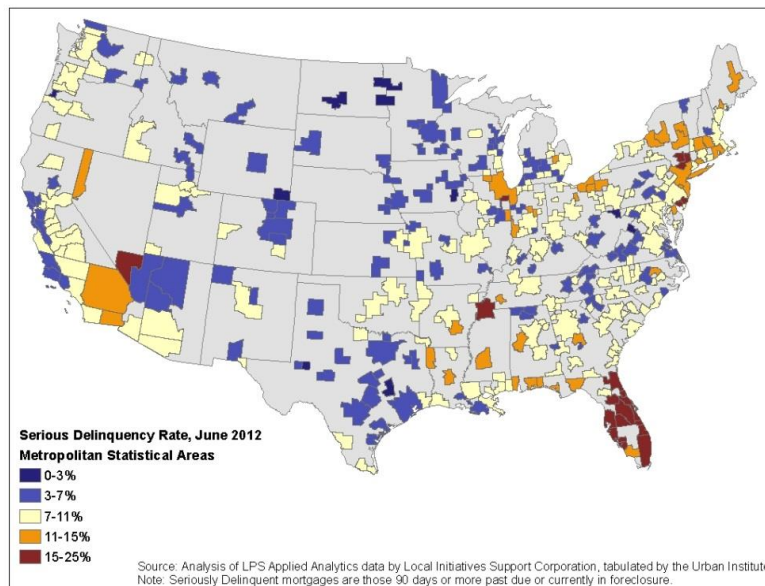
Mortgage Foreclosures

Foreclosure Rates: Erie County & Selected Nearby Metro Areas



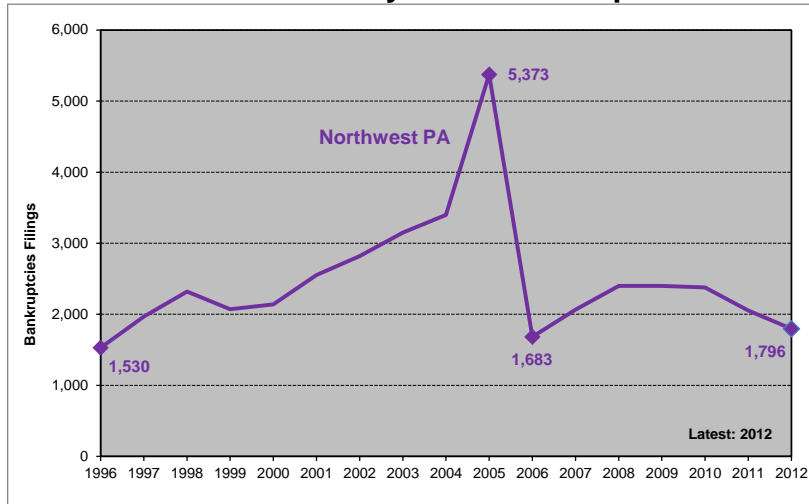
Source: Foreclosure Response.org

- ▶ The foreclosure rate is the percent of all mortgages that are in foreclosure and bankruptcy foreclosures prior to auction or trustee sale in the reference month.
- ▶ The foreclosure rate in Erie County in December 2012 was 5.6%. The average for 366 metro areas was 5.2%, with a range from 18.3% in Miami FL to only 1.2% in College Station TX.
- ▶ Erie's rate was lower than nearby metro areas in Ohio where the foreclosure rates were generally higher. Leading that pack was the Youngstown metro area, with a foreclosure rate of 10.2%.
- ▶ Foreclosure rates for other metro areas in PA were generally about equal to or lower than Erie County's rate. The Scranton, PA metro area had a higher rate of 7.2%, but Pittsburgh was only 5.2%.
- ▶ There were 126 metro areas with equal or higher foreclosure rates than Erie and 239 metro areas with foreclosure rates below Erie County, so Erie County ranked near the middle of metro areas.
- ▶ The map below shows serious delinquencies (not just foreclosures). These are lower in the central part of the country, and much higher in California, Arizona and Florida, which experienced a housing bubble during the last recession. (Erie did *not* participate in the housing price bubble.)



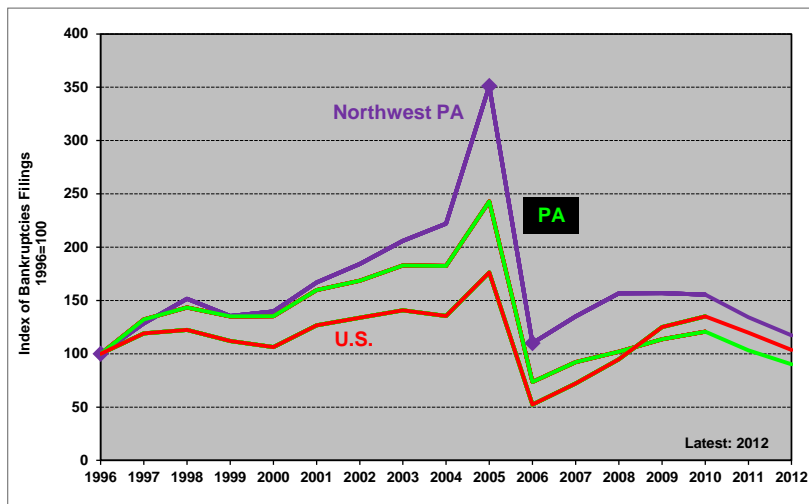
Bankruptcies

Northwest Pennsylvania Bankruptcies



Source: United States Bankruptcy Court for the Western District of Pennsylvania

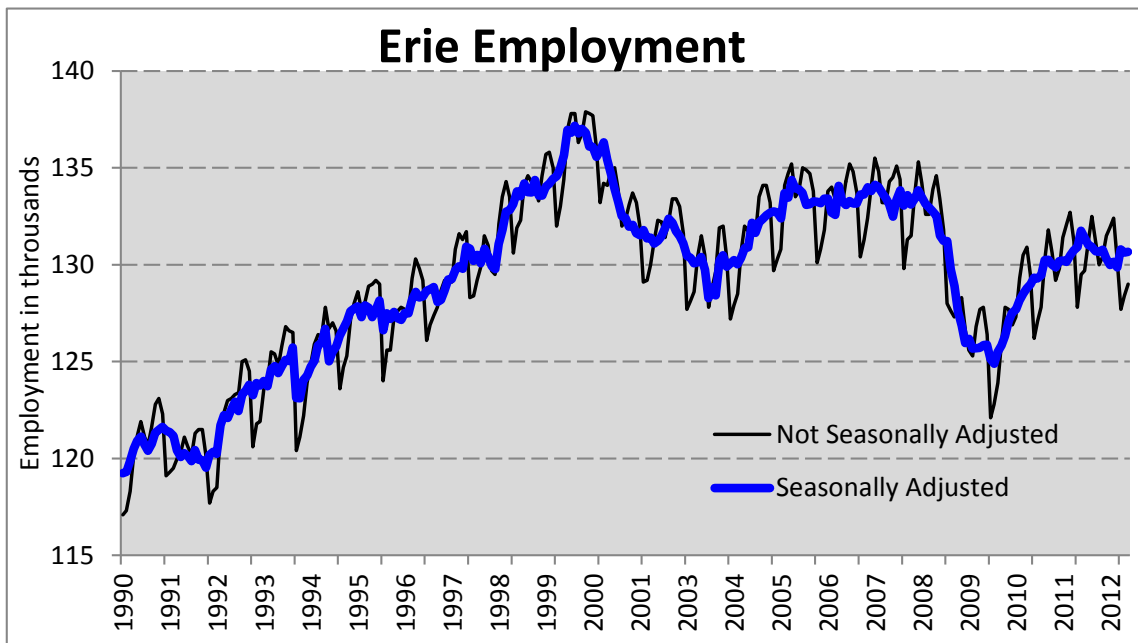
- ▶ Data on bankruptcies are available from the U.S. Bankruptcy Court for the Western District of PA. The data are not given by county but there are data for the Northwest PA region as a whole, which includes Erie, Crawford, Mercer, Venango, Clarion, Jefferson, Elk, Forest, Warren, and McKean counties. 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 1,796 bankruptcy filings in this region in 2012. We note that there was no sharp increase in bankruptcies in Erie during the recent recession.
- ▶ Compared to their 1996 levels, bankruptcies have risen at a faster rate in Northwest PA than in either the state as a whole or the U.S..



Source: United States Bankruptcy Court for the Western District of Pennsylvania

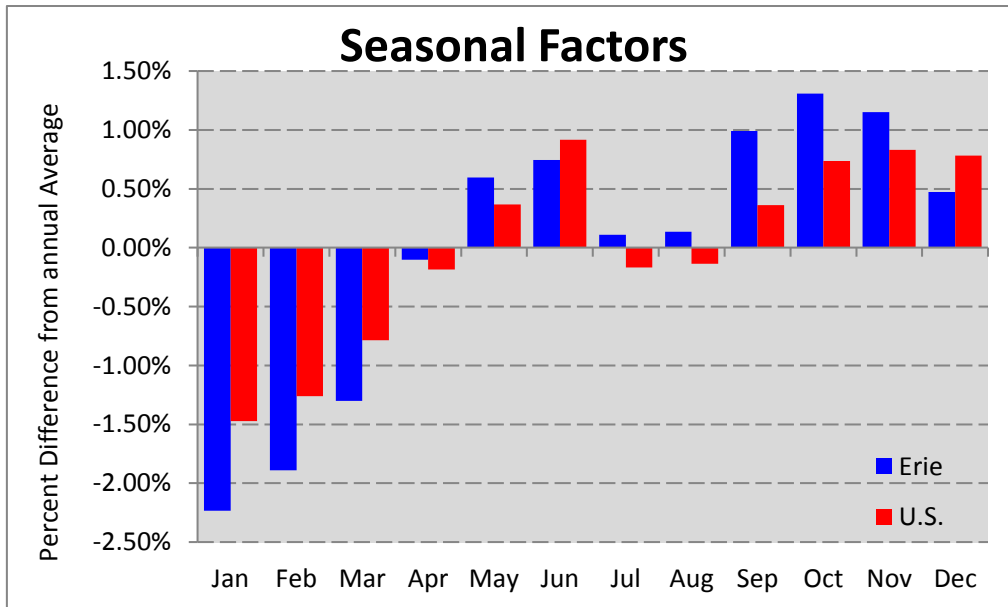
Seasonal Adjustment

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, 2012

Month	Manufacturing	Leisure and Hospitality	Education and Health Services	Government	Overall
Jan	-0.71%	-8.99%	-0.07%	-2.17%	-2.38%
Feb	-0.85%	-8.88%	0.93%	3.84%	-1.71%
Mar	-0.85%	-6.76%	0.25%	4.27%	-1.28%
Apr	-0.78%	-2.47%	0.76%	4.40%	0.06%
May	-0.66%	4.96%	0.89%	3.33%	1.19%
Jun	0.11%	7.89%	-1.80%	-3.99%	0.46%
Jul	0.61%	10.69%	-2.27%	-11.45%	-0.51%
Aug	0.31%	10.82%	-2.49%	-10.57%	-0.28%
Sep	0.40%	4.26%	-0.08%	0.65%	0.90%
Oct	0.97%	-1.99%	1.38%	4.35%	1.47%
Nov	1.06%	-4.03%	1.71%	4.50%	1.73%
Dec	0.42%	-5.45%	0.74%	2.88%	0.34%

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



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 2012. 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.

Erie Gross Metro Product

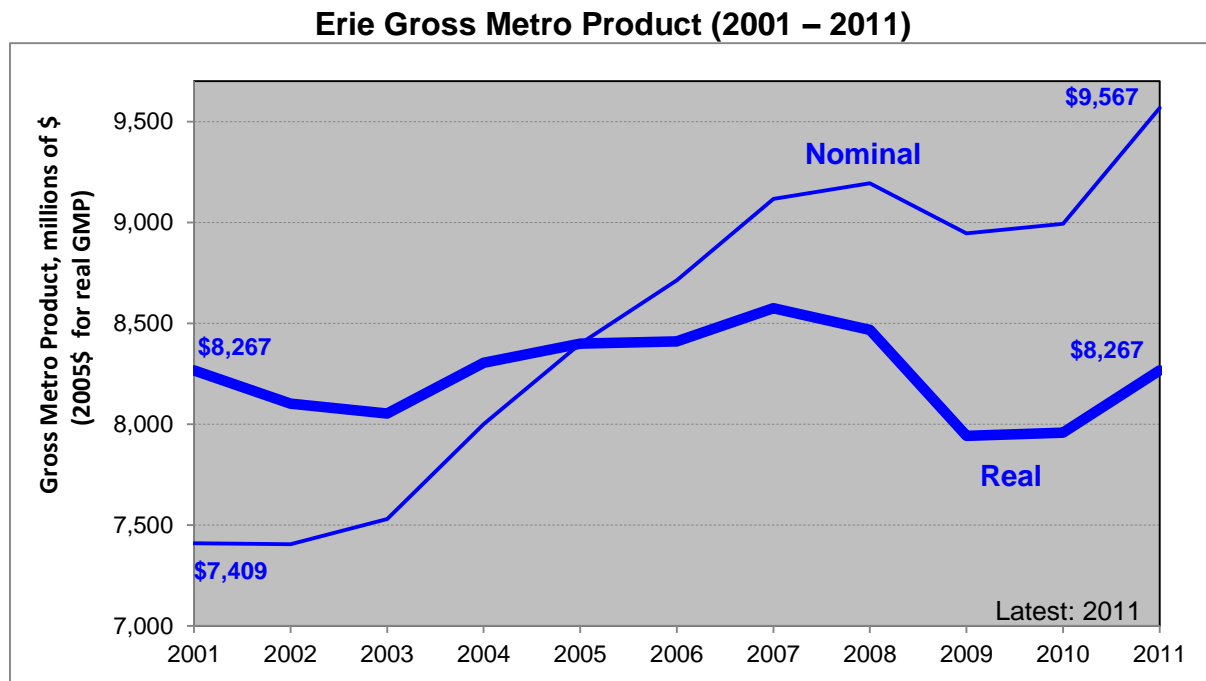
Output of Goods and Services Produced

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.

- ▶ The Conference of Mayors estimates that Erie's GMP was \$9.7 billion in 2011.
- ▶ Erie's output ranked 184th of the U.S.'s 363 metro areas, while ranking 166th in population.
- ▶ Erie ranks 9th of Pennsylvania's 14 metro areas.
- ▶ Erie's output is greater than the Gross Domestic Product of 53 Countries in the world.

Source: U.S. Conference of Mayors: <http://usmayors.org/metroeconomies/>

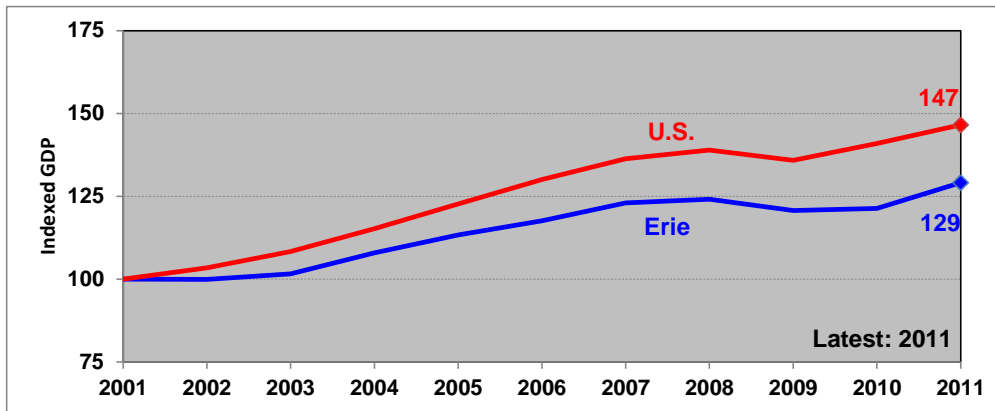
The U.S. Bureau of Economic Analysis (BEA) also estimates GMP for American Metro areas. Their numbers differ from the U.S. Mayors' numbers since they use different methodologies and data sources. The graph below shows their estimates for Erie through time.



Source: Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ The BEA estimates Erie's GMP at \$7.4 billion in 2001, rising to nearly \$9.6B in 2011. That is a 29.1% increase over 10 years. These numbers are nominal data, not adjusted for inflation
- ▶ We can adjust these nominal values to inflation adjusted, "real" values using a price index. This effectively negates the effect of inflation and measures each year's output in terms of constant, 2005 dollars.
- ▶ Once the data are adjusted for inflation, we see that real GMP in 2011 is exactly the same amount as it was in 2001, surprisingly. After the ill effects of two recessions, Erie's output has climbed back to its 2001 level.

Erie and U.S. Gross Domestic Product



Source: U.S. Bureau of Economic Analysis, Regional Economic Information System

- ▶ Since 2001, both U.S. GDP and Erie GMP have increased significantly, 47% and 29% in nominal terms.
- ▶ Both areas saw decreases in output during the recession but have recovered.

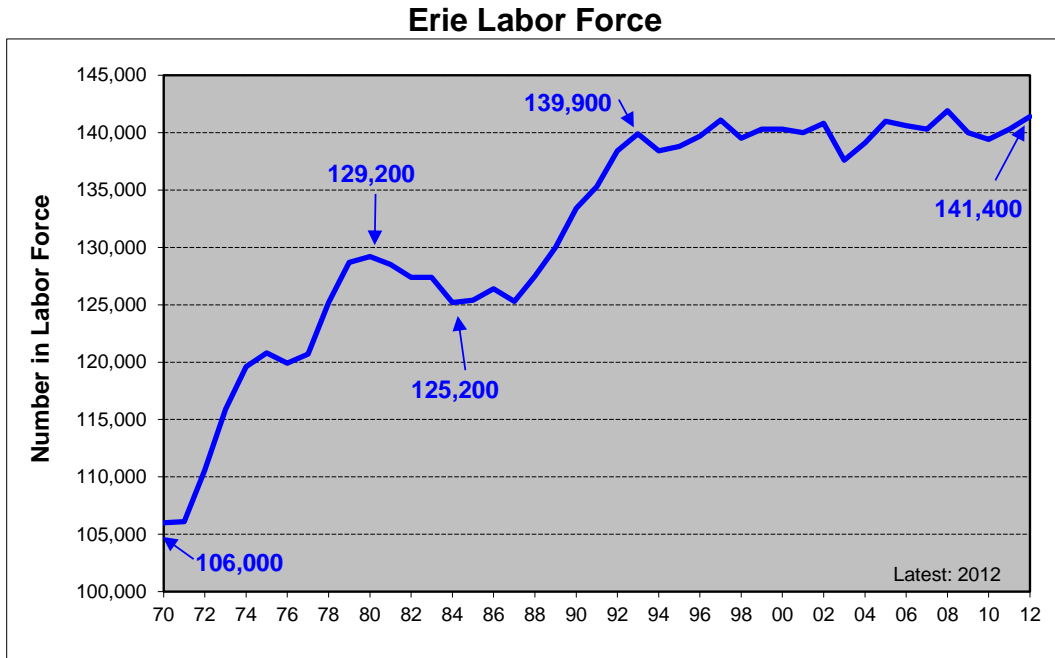
Erie Gross Metro Product by Industry

Industry	Erie		U.S.		Erie to U.S. LQ
	GMP (in millions)	% of GMP	GDP (in billions)	% of GDP	
All industry total	\$9,567	100.00	\$15,075.7	100.00	1.00
Private industries	8,354	87.32	13,081.8	86.77	1.01
Agriculture, forestry, fishing, and hunting	41	0.43	173.5	1.15	0.37
Mining	26	0.27	289.9	1.92	0.14
Utilities	142	1.48	297.9	1.98	0.75
Construction	247	2.58	529.5	3.51	0.74
Manufacturing	2,312	24.17	1,731.5	11.49	2.10
Durable goods	1,537	16.07	910.1	6.04	2.66
Nondurable goods	776	8.11	821.3	5.45	1.49
Wholesale trade	378	3.95	845.1	5.61	0.70
Retail trade	708	7.40	905.7	6.01	1.23
Transportation and warehousing	179	1.87	447.9	2.97	0.63
Information	179	1.87	646.6	4.29	0.44
Finance and insurance	782	8.17	1,159.3	7.69	1.06
Real estate and rental and leasing	563	5.88	1,898.8	12.60	0.47
Professional, scientific, and technical services	317	3.31	1,151.5	7.64	0.43
Management of companies and enterprises	70	0.73	283.6	1.88	0.39
Administrative and waste management services	220	2.30	448.8	2.98	0.77
Educational services	175	1.83	174.2	1.16	1.58
Health care and social assistance	1,323	13.83	1,136.9	7.54	1.83
Arts, entertainment, and recreation	124	1.30	148.0	0.98	1.32
Accommodation and food services	263	2.75	443.1	2.94	0.94
Other services, except government	305	3.19	369.9	2.45	1.30
Government	1,213	12.68	1,993.8	13.23	0.96

Source: U.S. Bureau of Economic Analysis, Regional Economic Information System

- ▶ Erie County organizations produced over \$9.5 billion of goods and services in 2011.
- ▶ Manufacturing accounted for nearly one quarter of all of Erie's output, over \$2.3B of that amount. Durable goods accounted for 2/3, and nondurables for 1/3 of manufacturing's total.
- ▶ The Location Quotient (LQ) for manufacturing is over two, which means Erie's % of GMP from manufacturing is over 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 \$1.3 billion.
- ▶ The LQ for Health care is 1.83, making it a key Erie specialty compared to the U.S..
- ▶ Another Erie specialty is Educational Services, with a location quotient of 1.58.

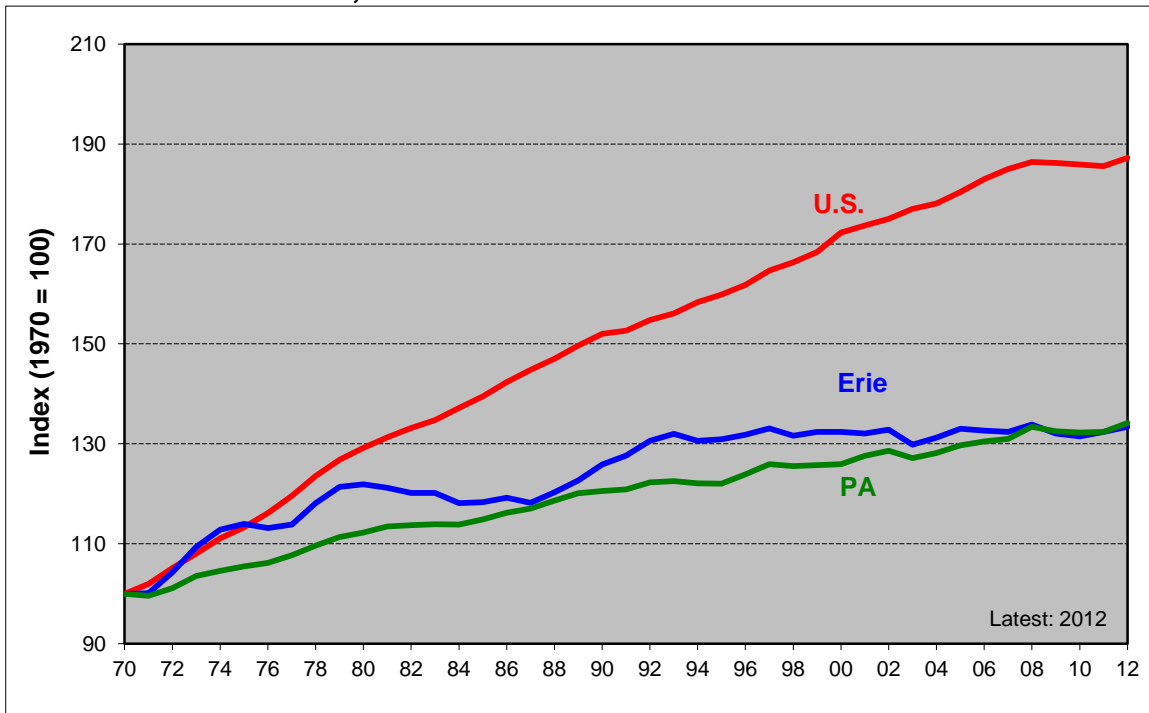
Labor Force



- ▶ The labor force includes all those who are officially classified as “employed” and “unemployed” (i.e., without a job, but looking for work).⁵
- ▶ The Erie labor force has risen by 33.4% since 1970, from 106,000 to 141,400. During this time, Erie’s population rose by only 6.3%. This means the labor force participation rate has risen.
- ▶ During the recession of the early 1980s, 4,000 Erie workers dropped out of the labor force. Not only were they not working, they were not looking for work.
- ▶ The labor force rose from 125,200 in 1984 to 139,900 in 1993, but has shown relatively little growth since then.
- ▶ The Erie labor force has been relatively steady at about 140,000 since the early 1990s. Although it dropped a bit during the recent recession, the decrease was nothing like the drop that happened in the recession of the early 1980s.
- ▶ 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.

⁵ 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)

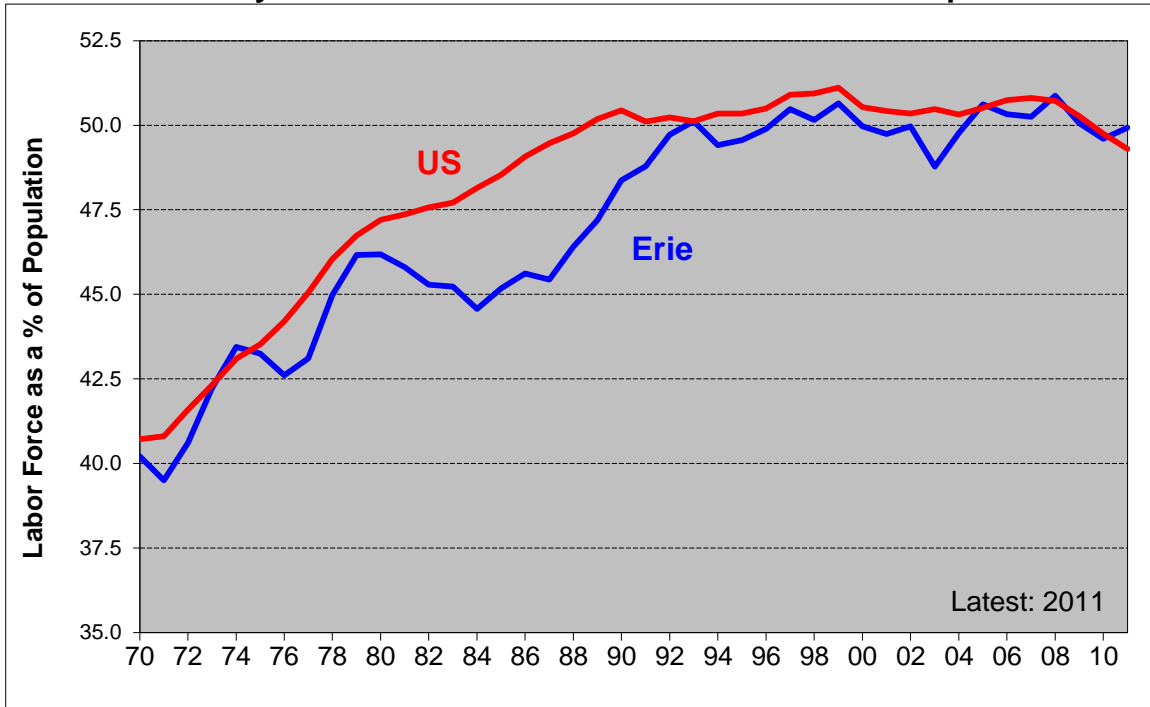
Erie, PA and U.S. Labor Force Indexes



Source: PA Center for Workforce Information & Analysis

- ▶ In contrast to Erie's pattern, the U.S. labor force has grown in every year since 1970, except for the period between 2009 and 2011 when it fell slightly, due to the severe recession.
- ▶ Erie's labor force growth exceeded that of the state in the 1970s, and again in the late 1980s and early 1990s. But it was mostly stagnant since the early 1990s while the PA labor force continued to grow.
- ▶ Over the whole period, the Erie and PA labor forces have experienced virtually the same rate of growth: Erie 33.4%, PA 34.2%. The U.S. labor force grew 87.2% during this period.

Erie County and U.S. Labor Force as a Share of Total Population



Source: Calculated from data from the Bureau of Labor Statistics (BLS) and Census Bureau

- ▶ 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.
- ▶ Both Erie and the U.S. experienced an increase in the LFPR throughout the 1970s, climbing to about 50% by 1990.
- ▶ The recession of the early 1980s caused a drop in Erie's LFPR, from which it recovered in the late 1980s.
- ▶ The LFPR for Erie has hovered around the 50% level, slightly lower than the U.S. rate. 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 Erie's rate also fell during the recession, it actually rose in 2008 and again in 2011. The result is that in 2011 Erie's LFPR was 0.6 percentage points above the U.S.'s rate, which hasn't happened before in the last 40 years.

Erie County Top 50 Employers 3rd Quarter 2012

Federal and State Government Entities Aggregated

Rank	Name of Employer	Rank	Name of Employers
1	GENERAL ELECTRIC COMPANY	26	MILLCREEK COMMUNITY HOSPITALS
2	UPMC HAMOT	27	INFINITY RESOURCES INC
3	ERIE INDEMNITY CO	28	SAINT MARY'S HOME OF ERIE
4	SAINT VINCENT HEALTH CENTER	29	LAKESHORE COMMUNITY SERVICES INC
5	STATE GOVERNMENT	30	PLEASANT RIDGE MANOR
6	WAL-MART ASSOCIATES INC	31	DR GERTRUDE A BARBER SVCS
7	SCHOOL DISTRICT OF THE CITY OF ERIE	32	ERIE HOMES FOR CHILDREN & ADULTS
8	FEDERAL GOVERNMENT	33	MCDONALD'S RESTAURANTS OF PA INC
9	ERIE COUNTY	34	PARKER-HANNIFIN CORPORATION
10	DR GERTRUDE A BARBER CENTER INC	35	BLAIR PAYROLL LLC
11	MILLCREEK TOWNSHIP SCHOOL DISTRICT	36	WELCH FOODS INC
12	PRESQUE ISLE DOWNS INC	37	ST VINCENT MED ED & RESEARCH INST
13	THE TAMARKIN COMPANY	38	VOICES FOR INDEPENDENCE
14	LORD CORPORATION	39	ERIEZ MFG CO
15	PA STATE SYSTEM OF HIGHER EDUCATION	40	PORT ERIE PLASTICS INC
16	GANNON UNIVERSITY	41	STAIRWAYS BEHAVIORAL HEALTH
17	CITY OF ERIE	42	CLINICAL PATHOLOGY INSTITUTE INC
18	PENNSYLVANIA STATE UNIVERSITY	43	GENERAL MCLANE SCHOOL DISTRICT
19	COUNTRY FAIR INC	44	PARKER WHITE METAL CO INC
20	PLASTEK INDUSTRIES INC	45	GR. ERIE COMM ACTION COMMITTEE
21	REGIONAL HEALTH SERVICES INC	46	FORT LEBOEUF SCHOOL DISTRICT
22	MERCYHURST COLLEGE	47	NORTHWEST TRI-COUNTY INT UNIT
23	CAREER CONCEPTS STAFFING SERVICE	48	SARAH A REED CHILDREN'S CENTER
24	YMCA OF GREATER ERIE	49	NORTHWEST BANCSHARES INC
25	WEGMANS FOOD MARKETS INC	50	CORRY AREA SCHOOL DISTRICT

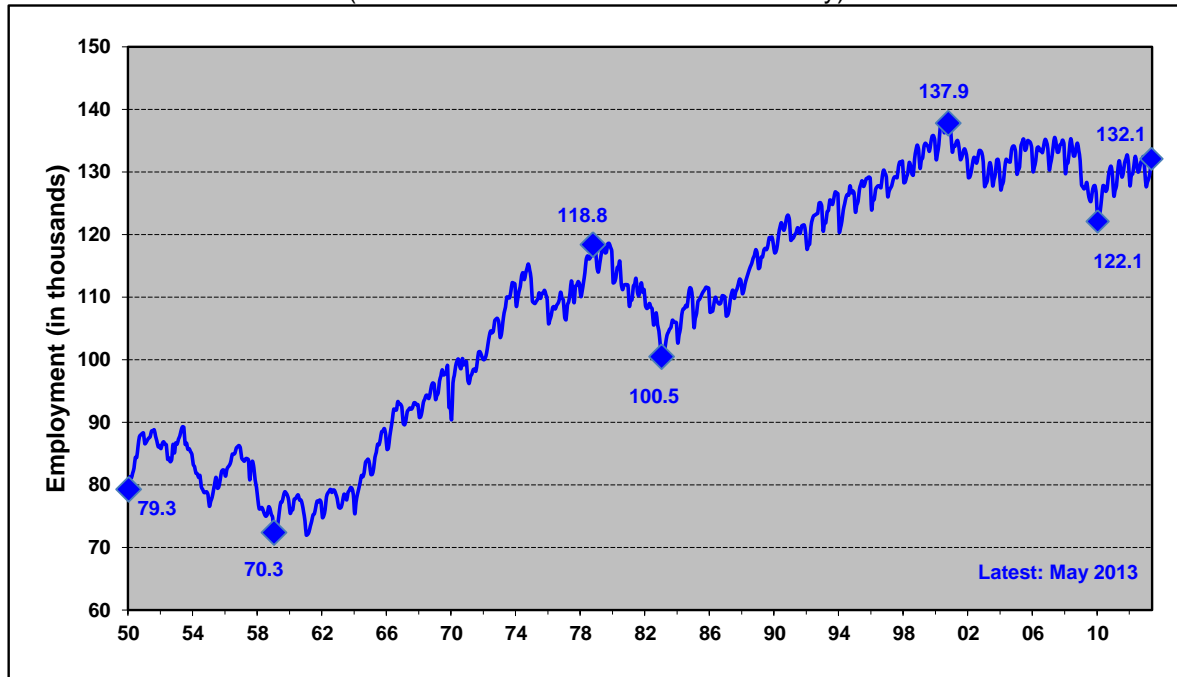
*State Government includes all state employment except Pennsylvania State University, SEPTA, System of Higher Education, PA College of Technology, and PHEAA.

Source: Center for Workforce Information & Analysis 4/26/2013

- ▶ Health Services, such as hospitals and disability assistance, make up fifteen of the top fifty Erie employers, the largest of any category.
- ▶ Nine of the top fifty provide education services, including K-12 and colleges.
- ▶ There are eight manufacturing firms in the top fifty, including Erie County's largest employer, GE.
- ▶ Governments account for four of the top fifty employers, including the City of Erie, Erie County, the State of Pennsylvania, and the federal government.
- ▶ Five retail firms made the list: Wal-Mart, Tamarkin (Giant Eagle), Country Fair, Wegmans and McDonald's.
- ▶ Staffing services seem to be growing following the employment losses of the recession. Infinity Resources Inc. has moved up 20 spaces and Career Concepts has moved up 13 since the beginning of 2010.
- ▶ Presque Isles Downs is the 12th largest employer in the county
- ▶ Scott Enterprises is not included in the list since its workers are counted as employees of the individual companies.

Employment

Erie County Total (Nonfarm) Employment (Based on the BLS Establishment Survey)



Source: Bureau of Labor Statistics (BLS) Current Employment Statistics Program

- ▶ The BLS's Current Employment Statistics 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. More recently it has moved sideways, with a (hopefully temporary) drop during the last recession.
- ▶ Erie total employment grew by over 66% between January 1950 and May 2013, from 79,300 jobs to 132,100.
- ▶ Erie experienced significant growth in employment between 1961-1980 (56.0%) and again from 1983-2001 (32.5%).
- ▶ Erie experienced a significant decline in employment between 1950 -1959 (-9.3%), which may be surprising to those who look back to the 1950s as "the good old days."
- ▶ The recession of 1980-1983 hit Erie employment especially hard, with more than 18,000 jobs lost, 15.3% of all Erie jobs—more than one in seven.
- ▶ Employment recovered slowly from the 2001-03 recession and did not reach the previous peak of 137,900 jobs (in September 2000) before the latest recession began.
- ▶ Employment dropped to a low of 122,100 in January 2010. We have to go all the way back to early 1994 to find an employment level that low. It has recovered some since; in May 2013 Erie employment was at one of the highest levels since 2008 with 132,100. But this is still nearly 6,000 jobs below the peak in 2000.

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.

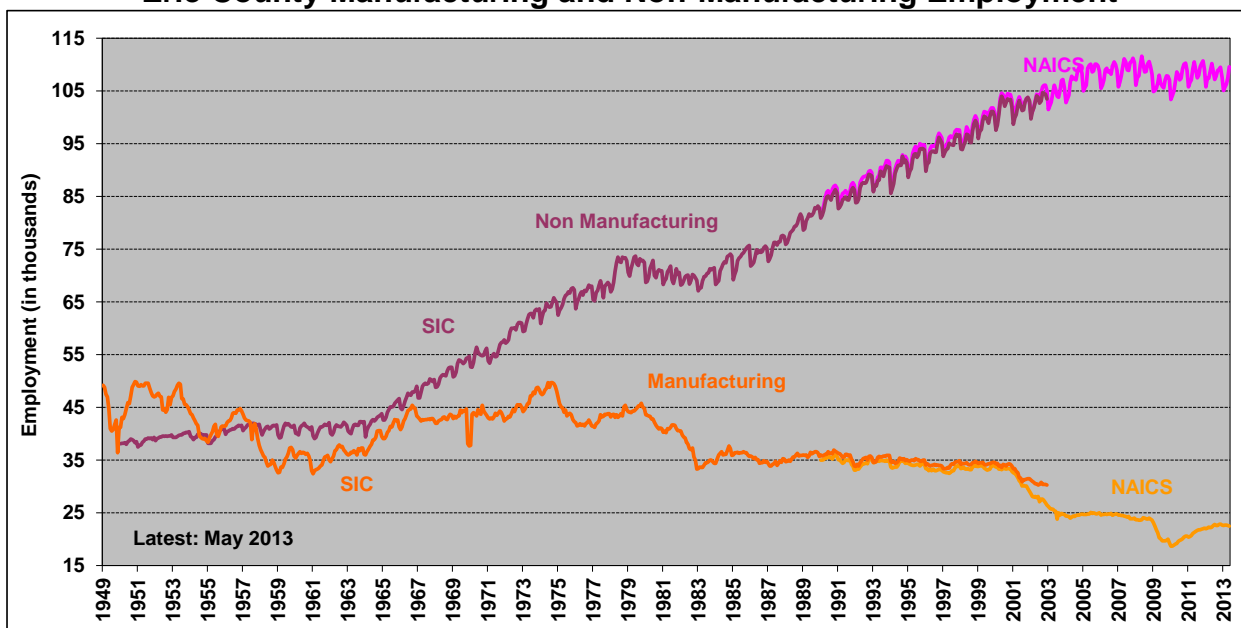
For example, newspaper publishing was listed as a manufacturing industry in the SIC system, but under NAICS is classified as an Information industry, which is *not* part of manufacturing. This change means that the NAICS manufacturing numbers will be lower than the SIC manufacturing numbers, not because 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.

2012 NAICS Industry Categories

NAICS Code	Industry Title
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

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

Erie County Manufacturing and Non-Manufacturing Employment



Source: Bureau of Labor Statistics (BLS), Current Employment Statistics Program

- ▶ This graph shows the two major industry categories, manufacturing and nonmanufacturing, and they have very different stories to tell.
- ▶ Manufacturing accounted for more than half of all Erie jobs in the early 1950s but only 17.0% currently. Nonmanufacturing accounts for 83.0% 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.
- ▶ Manufacturing employment hovered around the 35,000 level through the late 1980s and most of the 1990s.
- ▶ 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. It remains to be seen if this is the start of a new trend, or merely a temporary respite from the long-term down trend.
- ▶ 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.
- ▶ Other recessions during the last 60 years have meant at most a temporary slowdown in the rate of growth of the nonmanufacturing sector rather than actual decline.

An alternative way of disaggregating industries is into Goods-Producing and Service-Providing categories, rather than manufacturing and non-manufacturing. This is the currently preferred breakdown.

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

(See Appendix A for details of each sector.)

Goods- Producing Industries

Natural resources and mining

NAICS 1133—Logging

Sector 21—Mining

Construction

Sector 23—Construction

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)

Service- Providing Industries

Trade, transportation, and utilities

Sector 42--Wholesale trade

Sectors 44, 45--Retail trade

Sectors 48, 49--Transportation and warehousing

Sector 22—Utilities

Information

Sector 51—Information

Financial activities

Sector 52--Finance and insurance

Sector 53--Real estate and rental and leasing

Professional and business services

Sector 54--Professional, scientific, and technical services

Sector 55--Management of companies and enterprises

Sector 56--Administrative and waste services

Education and health services

Sector 61--Educational services

Sector 62--Health care and social assistance

Leisure and hospitality

Sector 71--Arts, entertainment, and recreation

Sector 72--Accommodations and food services

Other services

Sector 81--Other services

Public Administration (Government)

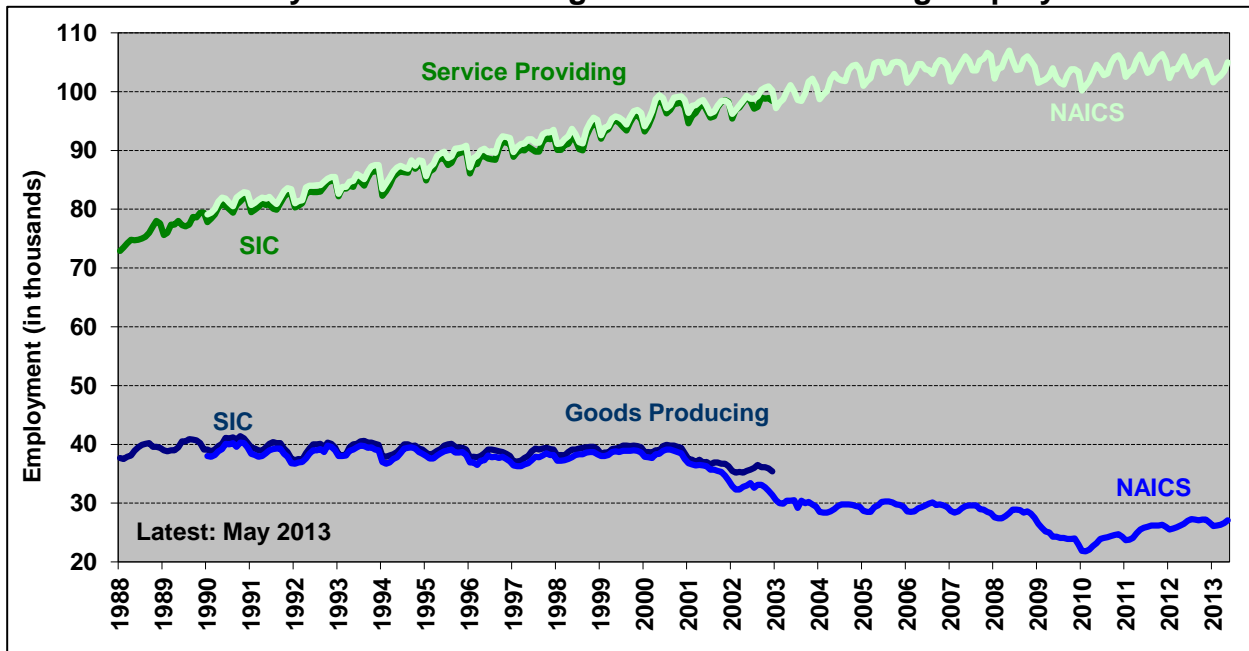
Federal

State

Local

Source: U.S. Bureau of Labor Statistics

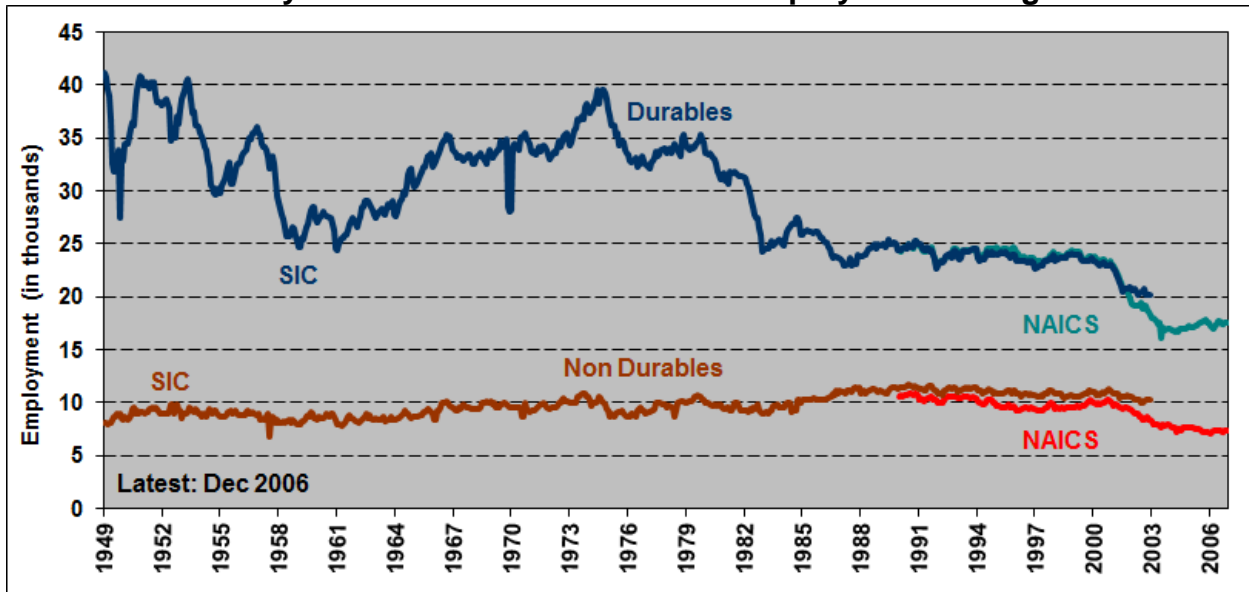
Erie County Service-Providing and Goods-Producing Employment



Source: Bureau of Labor Statistics (BLS), Current Employment Statistics Program

- ▶ 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 by May 2013.
- ▶ Service-providing employment (“everything else”) in Erie grew from 1990 to 2011, from approximately 79,000 jobs to over 105,000.
- ▶ Growth in the service-providing sector was fairly steady, but the recession of 2000-2003 and the latest recession did slow this growth at least temporarily.
- ▶ The service-providing sector in Erie County is almost four times as large as the goods-producing sector.

Erie County Durables and Non-Durables Employment through 2006



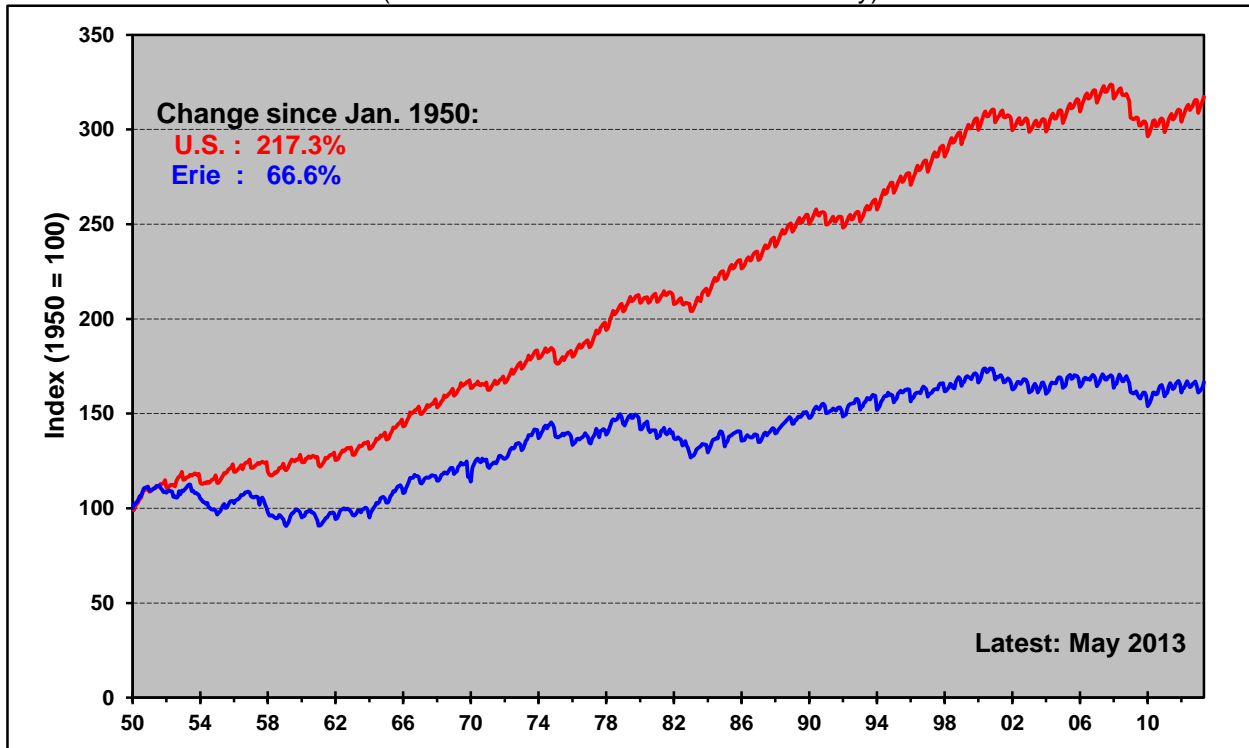
Source: Bureau of Labor Statistics (BLS), Current Employment Statistics Program

- ▶ The government stopped reporting on durables and nondurables as separate categories at the end of 2006.
- ▶ Durable manufactured goods (those with a life of three years or more) have clearly been a much larger part of the Erie manufacturing sector than nondurables, accounting for over 80% of the manufacturing sector in the 1950s. As of 2006, durables still accounted for about 70% of the manufacturing sector.
- ▶ Durables employment in Erie fluctuated greatly between 1949 and 1975; it is one of the area's most unstable sectors. It was hit especially hard during the 1975 and 1983 recessions.
- ▶ Durables experienced relatively flat employment during the late 1980s thru the early 1990s, with a decline since the late 1990s.
- ▶ Nondurables employment, on the other hand, has been relatively stable and even exhibited a slight increase from the late 1950s to the 1990s.
- ▶ More recently, nondurables employment has declined somewhat. From 1949 until 2001, non-durable employment in Erie remained constant with a decline occurring between 2001 and 2006.

NAICS	Manufacturing Nondurables
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
322	Paper Manufacturing
323	Printing and Related Support Activities
324	Petroleum and Coal Products Manufacturing
325	Chemical Manufacturing
326	Plastics and Rubber Products Manufacturing

NAICS	Manufacturing Durables
321	Wood Product 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

Erie and U.S. Employment Index (Based on the BLS Establishment Survey)

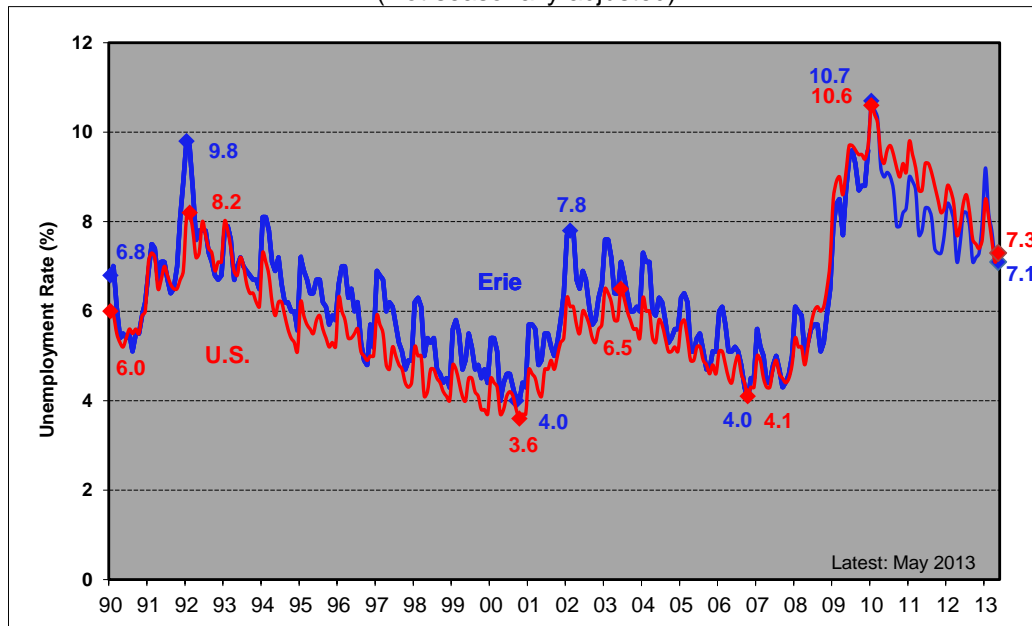


Source: U.S. Bureau of Labor Statistics (BLS), Current Employment Statistics Program

- ▶ Between January 1950 and May 2011, both Erie and U.S. employment grew substantially overall.
- ▶ Erie grew by 66.6% over the period, adding 93,391 jobs.
- ▶ During the same period, U.S. employment grew by 217.3%. As with income, employment in Erie grew but at a rate substantially less than that of the nation.
- ▶ Employment growth in Erie has been stagnant since about 2004.
- ▶ Along with the different trend rates of growth, this graph shows that recessions tended to hit the Erie area harder than the national economy. Especially noticeable is the 1980-84 recession.
- ▶ The latest recession—the Great Recession—seems to be an exception. As a percentage of jobs, the nation experienced the greatest losses since the Great Depression in the 1930s. But in Erie this downturn was a garden-variety recession, less severe than many we've experienced since World War II. (More information about Erie recessions can be found in the ERIE Special Studies section of the *Guide*.)

Unemployment

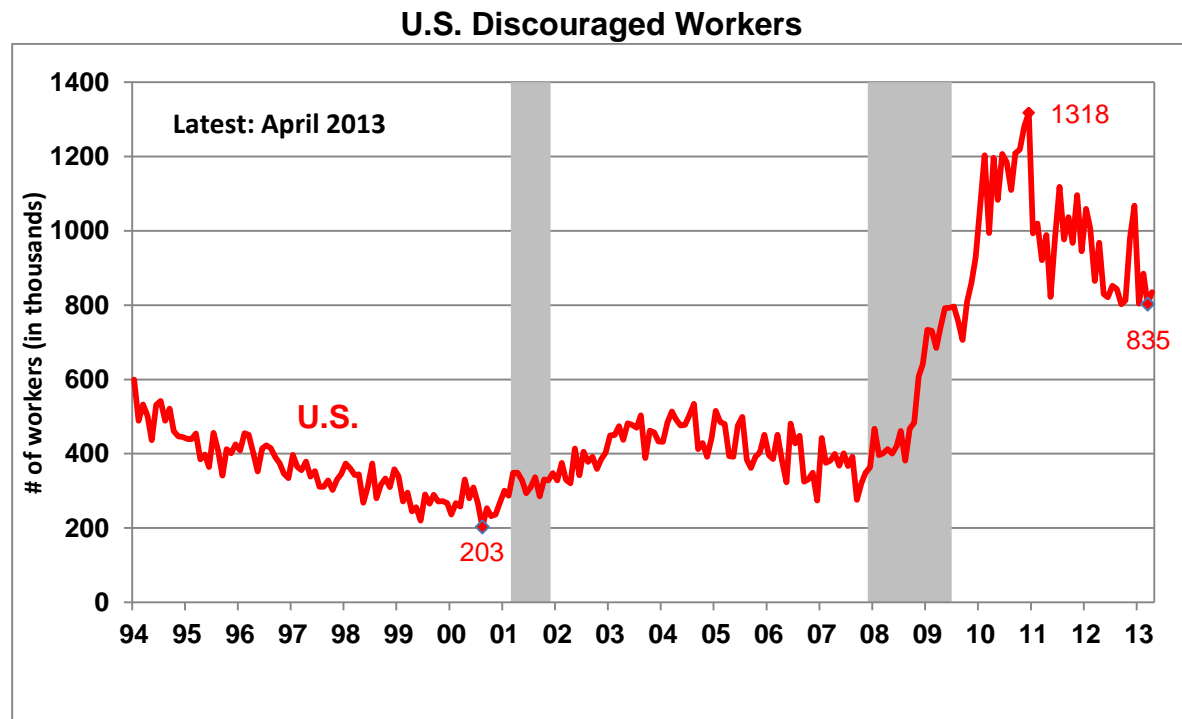
Erie and U.S. Unemployment Rates (Not seasonally adjusted)



Source: U.S. Bureau of Labor Statistics (BLS)

- ▶ 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.”
- ▶ Between January 1990 and April 2011, Erie County and the U.S. experienced similar trends in the unemployment rate: rising during the recessions of 1990-92, 2000-03, and 2007-2010, and falling otherwise.
- ▶ Since January 1990, the average unemployment rate in Erie has been 6.4%, although it has varied significantly around that average. The average rate for the U.S. has been 6.1%.
- ▶ Although Erie’s unemployment rate has averaged about 0.3 percentage points higher than the U.S. rate, during the most recent recession Erie’s rate was below the national rate for an extended period of months, which is very unusual for Erie.
- ▶ Erie’s unemployment rate was still below that of the U.S. as of May 2013 with 7.1 percent unemployment versus a U.S. unemployment rate of 7.3 percent.
- ▶ Both the U.S. and Erie attained quite low unemployment rates in 2000, just before the recession started, and again in 2006 before the 2007 recession. Hopefully we can get to those low rates again.
- ▶ 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.

Discouraged Workers

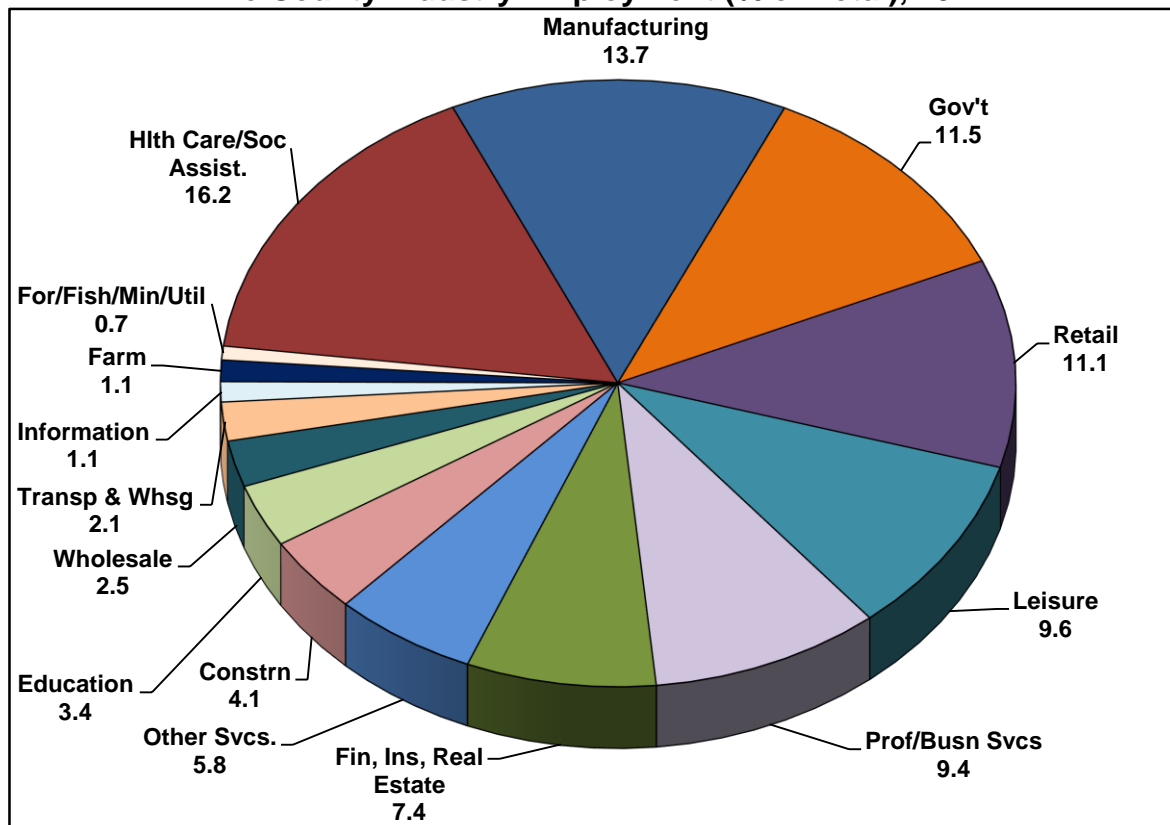


Gray bars show national recessions.
Source: U.S. Bureau of Labor Statistics Current Population Survey

- ▶ Discouraged workers are those that have given up on looking for a job and dropped out of the labor force entirely. Technically: "...those persons not in the labor force who want and are available for work, and who have looked for a job sometime in the prior 12 months, but were not counted as unemployed because they had not searched for work in the 4 weeks preceding the survey. ...discouraged workers were not currently looking for work specifically because they believed no jobs were available for them or there were none for which they would qualify." (U.S. BLS)
- ▶ The federal government does not publish data on discouraged workers for local areas, but does publish national data starting in 1994.
- ▶ From 1994 through the fall of 2008, the number of discouraged workers in the U.S. ranged from 203,000 to 600,000, averaging about 380,000.
- ▶ The recession that started in December 2007 pushed more people into the ranks of discouraged workers, which reached a peak over 1.3 million in December 2010.
- ▶ As of April 2013, the number of discouraged workers in the U.S. was "down" to 835,000. This is still much higher than the average from 1994 through 2008.
- ▶ Since 1994, if the discouraged workers had been added into the ranks of the officially unemployed and the labor force, the unemployment rate would have been about 0.3 percentage points higher on average. In December 2010 when the number of discouraged workers was at its peak, they would have added 0.8 percentage points to the unemployment rate.
- ▶ During the recession of 2001 there was minimal change in the number of discouraged workers. However, during the 2008-09 recession discouraged workers increased 116% in a 15 month period, and continued to increase after the official end of the recession. This is a clear result of the longer duration and greater severity of the recent recession.

Industry Employment

Erie County Industry Employment (% of Total), 2011

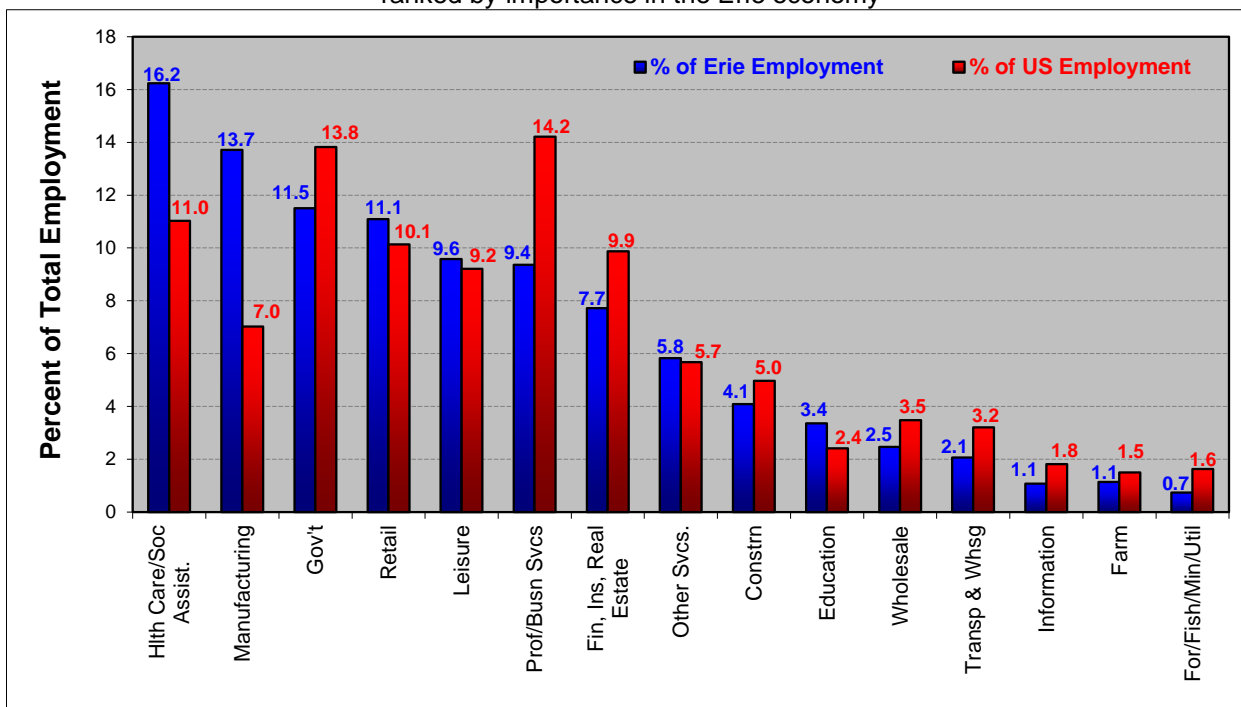


Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ In 2011, health care and social assistance was Erie's largest single industry, accounting for 16.2% of Erie's total employment, about one job in every six.
- ▶ Other industries that made up a significant portion of total employment included manufacturing (13.7%), government (11.5%), and retail (11.1%).
- ▶ The industries that made up the smallest percentage of total employment were forestry/fishing/mining/utilities (0.7%), farming (1.1%), and information (1.1%).
- ▶ Components (definitions) of these industry categories can be found in Appendix A.

Erie County and U.S. Industry Employment (% of Total), 2011

ranked by importance in the Erie economy



Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ A comparison of Erie's industrial composition in 2011 with that of the nation shows that Erie had more than the national average share in:
 - health care and social assistance (16.2% Erie vs. 11.0% U.S.)
 - manufacturing (13.7% vs. 7.0%)
 - retail (11.1% vs. 10.1%)
 - leisure (9.6% vs. 9.2%)
 - other services (5.8% vs. 5.7%) and
 - education (3.4% vs. 2.4%).
- ▶ Industries in which Erie had a notably smaller share of employment than typical for the nation were:
 - government (11.5% vs. 13.8%)
 - professional and business services (9.4% vs. 14.2%)
 - finance, insurance and real estate (7.7% vs. 9.9%)
 - construction (4.1% vs. 5.0%)
 - wholesale trade (2.5% vs. 3.5%)
 - transportation and warehousing (2.1% vs. 3.2%)
 - information (1.1% vs. 1.8 %)
 - farming (1.1% vs. 1.5%) and
 - forestry, fishing, mining and utilities (0.7% vs. 1.6%)

Erie County Industry Employment Relative to U.S., 2011

ranked by location quotient

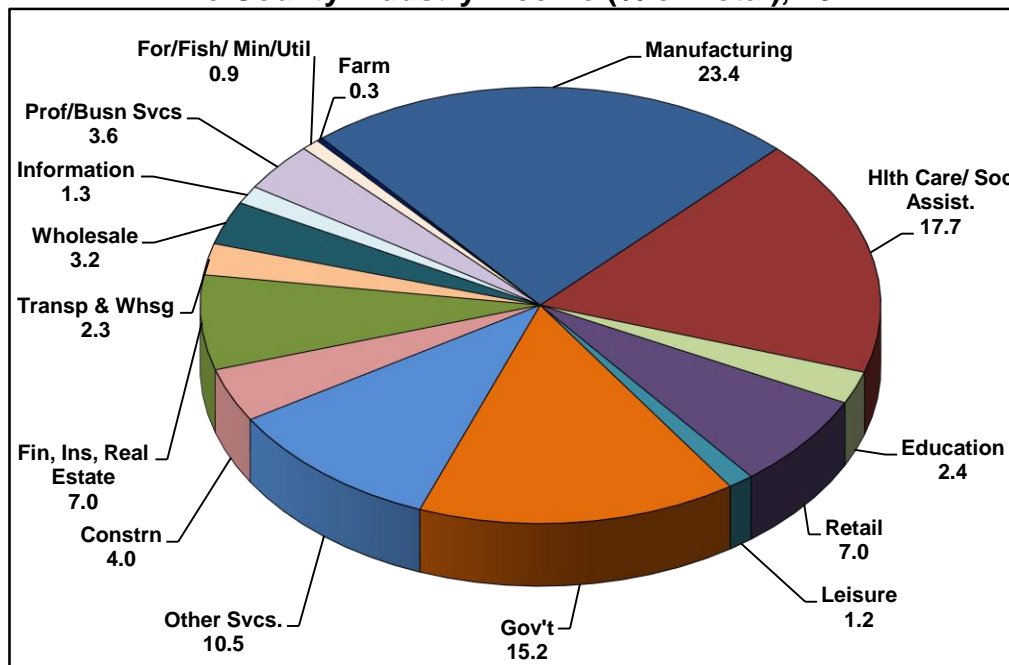
Industry	% of Erie Employment	% of US Employment	Location Quotient: Erie% / US%
Manufacturing	13.72	7.02	1.95
Health Care & Social Assistance	16.24	11.03	1.47
Education	3.36	2.41	1.39
Retail Trade	11.09	10.14	1.09
Leisure	9.58	9.21	1.04
Other Services	5.83	5.68	1.03
Government	11.51	13.82	0.83
Construction	4.09	4.97	0.82
Finance, Insurance & Real Estate	7.72	9.87	0.78
Farming	1.14	1.50	0.76
Wholesale Trade	2.47	3.48	0.71
Professional & Business Services	9.37	14.22	0.66
Transportation & Warehousing	2.07	3.20	0.65
Information	1.08	1.82	0.59
Forestry/Fishing/Mining/Utilities	0.74	1.63	0.45
Total	100.00	100.00	

Source: U.S. Bureau of Economic Analysis (BEA), 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 table above shows Erie's specialties at the top, 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 2011, manufacturing had an LQ of 1.95, which means that it made up almost twice as large a share of total employment in Erie as it did in the U.S. Thus, although manufacturing employment has fallen in Erie in the last three decades, manufacturing is still one of Erie's specialties compared to other places in the nation.
- ▶ Other Erie specialties are health care and social assistance, education, retail, leisure, and the other services industries. 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.

Industry Income

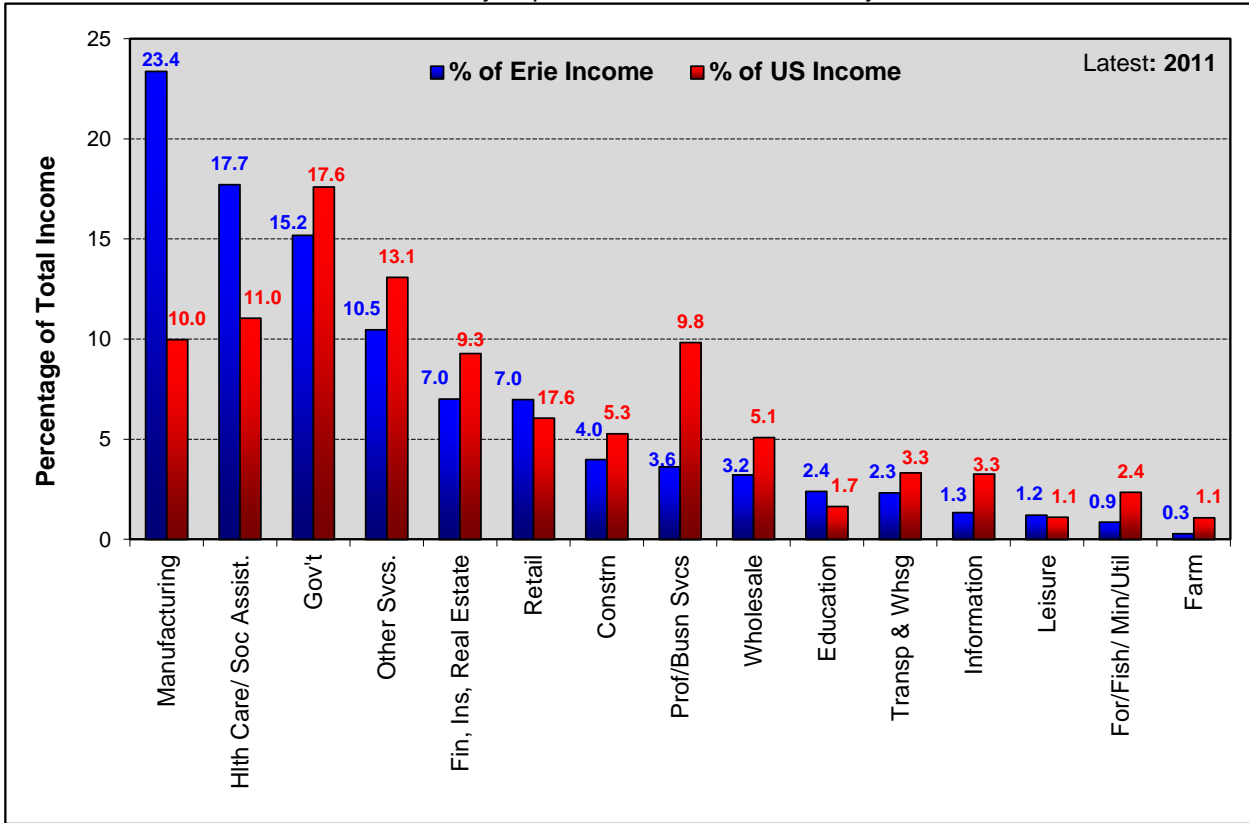
Erie County Industry Income (% of Total), 2011



Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ 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 2011, manufacturing accounted for 23.4% of total industry income in Erie, compared with 13.7% of Erie employment. Almost one dollar of every four in Erie earnings comes from a manufacturing job. Clearly, manufacturing is still a very key component of Erie's economy.
- ▶ Other industries that provided a significant portion of industry income include health care/social assistance (17.7%) and government (15.2%).
- ▶ The industries that made up the smallest percentage of industry income were farming (0.3%) and forestry/fishing/mining/utilities (0.9%).

Erie County and U.S. Industry Income (% of Total), 2011
ranked by importance in the Erie economy



Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ The manufacturing, health care/social assistance, retail, education, and leisure sectors made up larger percentages of total income in Erie than they did in the U.S. in 2011. These are industries in which Erie specializes.
- ▶ All other industries accounted for a smaller percentage of total industry income in Erie than they did in the U.S.
- ▶ More than half of all income in the Erie economy comes from the manufacturing, health care/social assistance and government sectors.

Erie County Industry Income Relative to U.S., 2011

ranked by location quotient

Industry	% of Erie Income	% of US Income	Location Quotient: Erie% / US%
Manufacturing	23.38	9.98	2.34
Health Care & Social Assistance	17.71	11.04	1.60
Education	2.40	1.65	1.45
Retail Trade	6.98	6.05	1.15
Leisure	1.22	1.10	1.10
Government	15.18	17.60	0.86
Other Services	10.46	13.08	0.80
Finance, Insurance & Real Estate	3.99	5.27	0.76
Construction	7.02	9.28	0.76
Transportation & Warehousing	2.33	3.33	0.70
Wholesale Trade	3.23	5.08	0.63
Information	1.35	3.26	0.41
Professional & Business Services	3.63	9.83	0.37
Forestry/Fishing/Mining/Utilities	0.86	2.35	0.36
Farming	0.28	1.09	0.26
Total	100.00	100.00	-

Source: U.S. Bureau of Economic Analysis (BEA), 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.
- ▶ In 2011, manufacturing had an income LQ of 2.34, 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.
- ▶ At the other end of the spectrum, information, professional and business services, forestry/fishing/mining/utilities, and farming had LQs less than 0.5, and wholesale trade, and transportation and warehousing had LQs in the .50 to .70 range. These are all industries that are under-represented in Erie in terms of income generated.

Erie Employment and Income Location Quotients, 2011

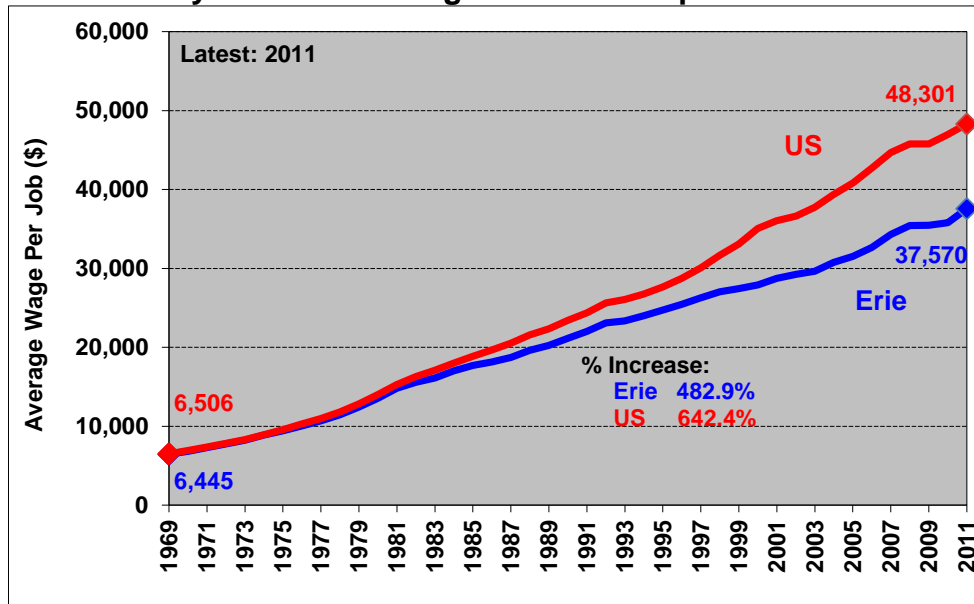
Industry	Employment Location Quotient	Income Location Quotient
Manufacturing	1.95	2.34
Health Care & Social Assistance	1.47	1.60
Education	1.39	1.45
Retail Trade	1.09	1.15
Leisure	1.04	1.10
Government	0.83	0.86
Other Services	1.03	0.80
Finance, Insurance & Real Estate	0.78	0.76
Construction	0.82	0.76
Transportation & Warehousing	0.65	0.70
Wholesale Trade	0.71	0.63
Information	0.59	0.41
Professional & Business Services	0.66	0.37
Forestry/Fishing/Mining/Utilities	0.45	0.36
Farming	0.76	0.26

Source: Calculated from U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System data

- ▶ A comparison of the industry employment and income location quotients finds that most industries with an employment LQ above 1.0 also tend to have an income LQ above one. This included manufacturing, health care and social assistance, education, retail trade, and leisure industries. Those industries could be considered Erie's exporting activities.
- ▶ One exception is the "other services" industry, which has an employment LQ greater than one, but an income LQ of less than one. It appears to be an export industry when we look at the concentration of employment, but not when we look at the income this industry generates.
- ▶ When the income LQ is greater than the employment LQ it means that workers in that industry are garnering a greater share of local income than would be expected from their share of local employment. That is, they are paid more than would be expected from patterns *for that industry nationally*. This implies higher pay levels locally than elsewhere in this industry. This may be due to inordinately high wages locally, but it may also be due to a different mix of skills or occupations locally than elsewhere. For example, if Erie's retail trade industry were composed primarily of headquarters of national retail chains rather than actual retail stores, we would expect to see a higher than average level of income in that industry locally due to the concentration of top executives here compared to store employees. An income LQ higher than the employment LQ can also be explained by a greater concentration of full-time rather than part-time workers locally, or more overtime work.
- ▶ The income LQ was greater than the employment LQ in 2009 for the top five industries in the list, all of which are Erie specialties. It was also a bit higher for income than employment for government and transportation and warehousing, which had LQs less than 1.0.
- ▶ The other services industry is an interesting case; it had an LQ of and 1.03 for employment but only 0.80 for income. This implies that other services industry workers in Erie earn less than their counterparts in the same industry category elsewhere, or work shorter hours.

Average Wage

Erie County and U.S. Average Annual Compensation⁶ Per Job



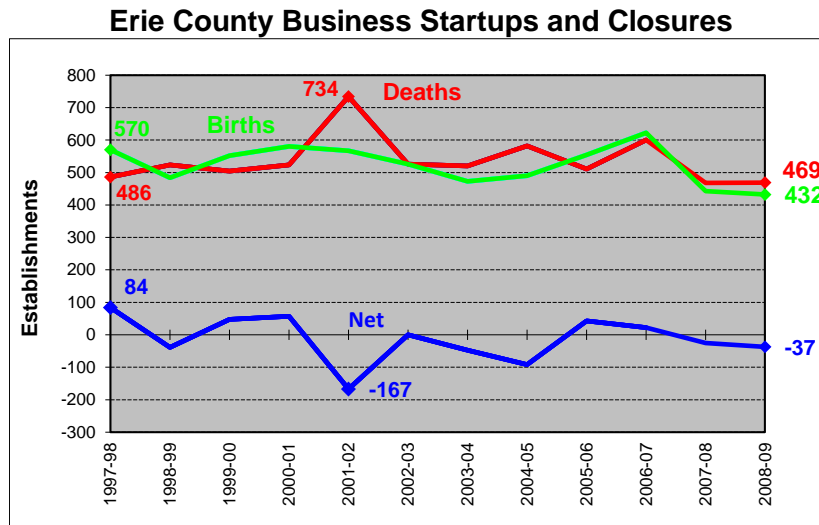
Source: U.S. Bureau of Economic Analysis (BEA), Regional Economic Information System

- ▶ The story of Erie nominal⁷ 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 than in Erie—a familiar pattern in other measures of the Erie economy. The average wage grew by 482.9% in Erie and 642.4% nationally.
- ▶ In 1969, the national average annual wage per job was nearly the same in Erie (\$6,445) and the U.S. (\$6,506). The U.S. wage was less than 1% greater than the Erie wage at that point.
- ▶ The Erie and U.S. wage stayed close in the early years of this dataset, although the U.S. wage grew a little faster. By the beginning of the 1980 recession, the U.S. wage was only 3.4% greater than the Erie wage.
- ▶ Since then, Erie and U.S. wages have diverged, so much so that by 2011 the U.S. wage was 28.6% greater than the Erie wage.
- ▶ In 2011, the average wage per job was \$37,570 in Erie and \$48,301 in the U.S., a difference of \$10,731 or more than 28% of the Erie wage.
- ▶ 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 and the U.S. due to the fact that we have different industries and occupations here than the national average, our workers have different amounts of skill or experience, and a lower cost of living here.
- ▶ 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, and the growth rates.

⁶ Wage and salary disbursements consists of the monetary remuneration of employees, including corporate officers' salaries and bonuses, commissions, pay-in-kind, incentive payments, and tips. It reflects the amount of payments disbursed, but not necessarily earned during the year. Wage and salary disbursements is measured before deductions, such as social security contributions and union dues. Wage and salary disbursements includes stock options of nonqualified plans at the time that they have been exercised by the individual. Stock options are reported in wage and salary disbursements. The value that is included in wages is the difference between the exercise price and the price that the stock options were granted. Source: BEA.

⁷ Not adjusted for inflation.

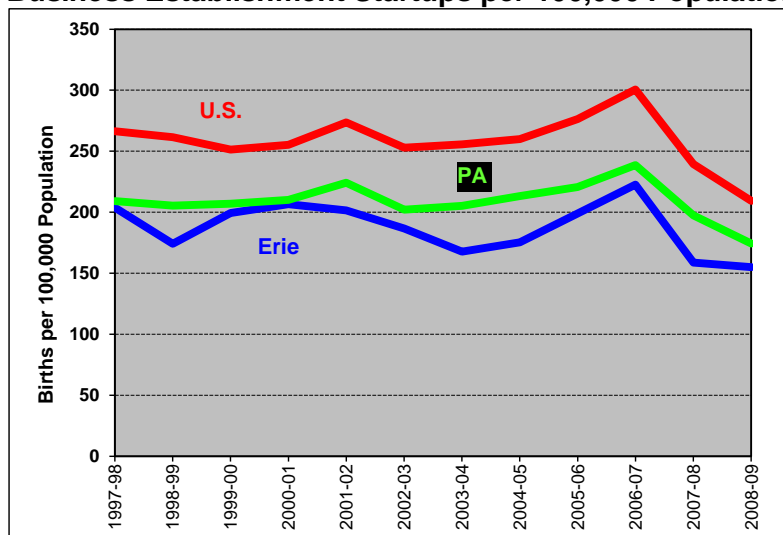
Business Startups



Source: U.S. Census Bureau, Statistics of U.S. Businesses

- ▶ Over the 1997-2007 period new business establishments⁸ in Erie County fluctuated from 432 to 622 per year.
- ▶ Establishment closures ranged from 486 to a dramatic peak at 734 in the 2001-2002 recession.
- ▶ On net, Erie added establishments in five of these twelve years, lost establishments in six, and broke even in one. During this period, there was a net loss of 153 establishments.
- ▶ The graph below shows 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, as presented earlier.

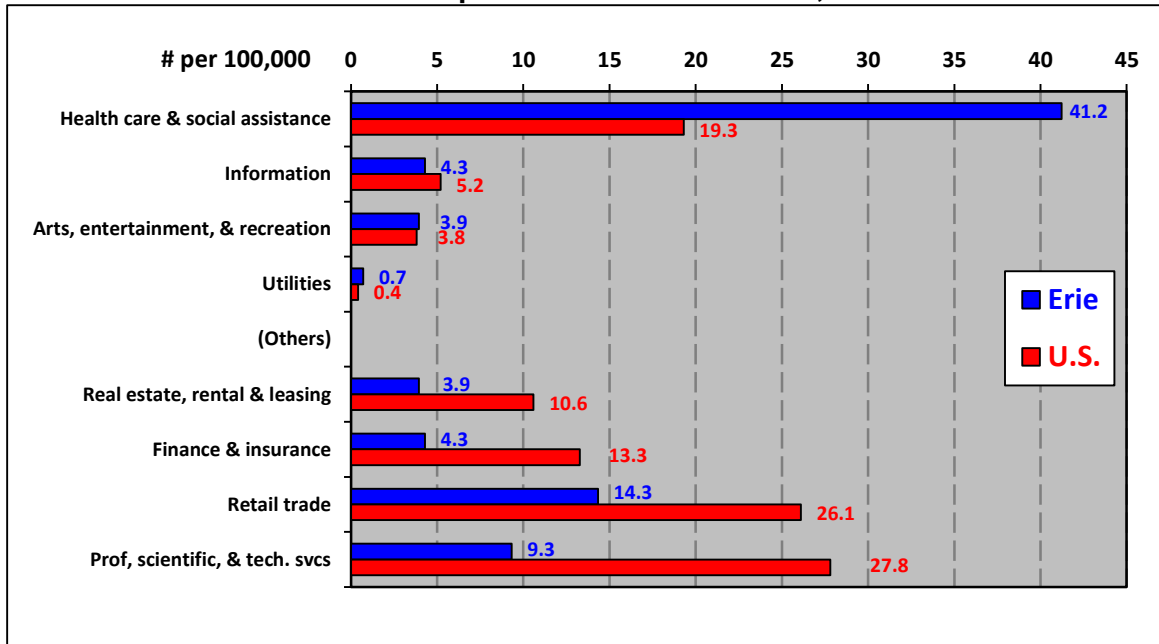
Business Establishment Startups per 100,000 Population



⁸ 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).

Source: U.S. Census Bureau, Statistics of U.S. Businesses

Business Startups for Selected Industries, 2008-09



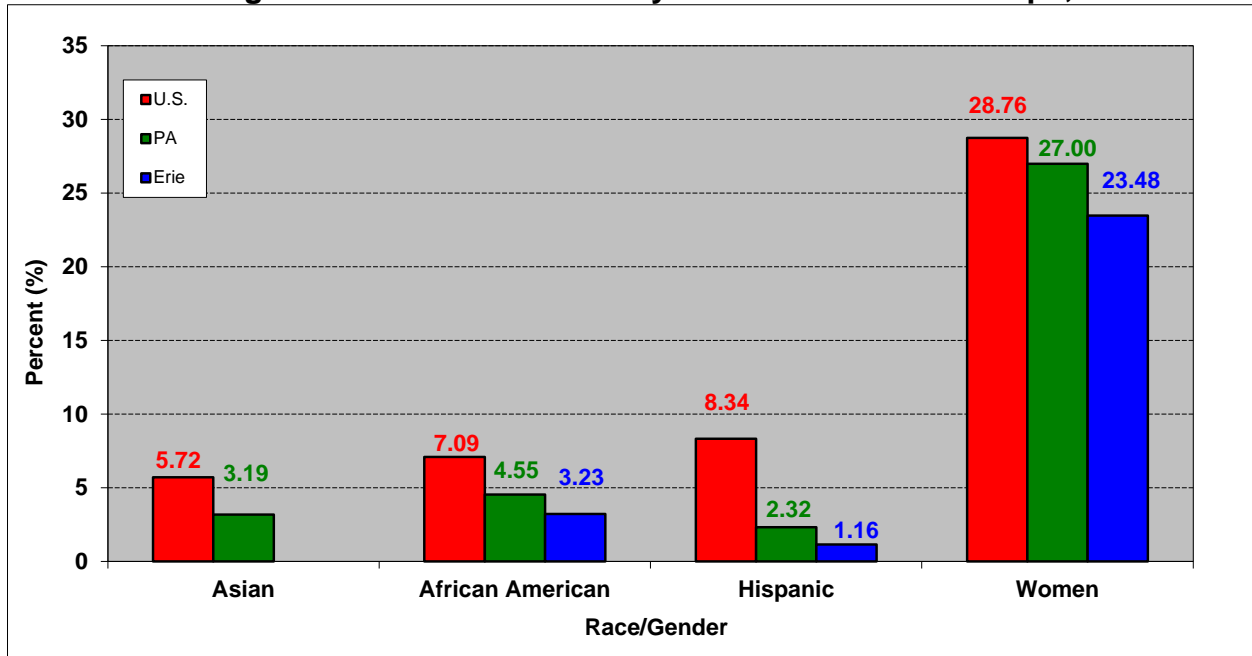
Source: U.S. Census Bureau, Statistics of U.S. Businesses

- ▶ In 2008-2009, Erie had significantly more startups in the health care and social assistance sector than either PA or the nation, per 100,000 people. More than double the national rate, in fact. It also had more than the national average number of startups in the arts, entertainment and recreation industry. In other industry sectors it lagged the national rates, sometimes by very large amounts.
- ▶ The following table provides data for all industries, in order of most births per capita in Erie. It is clear that Erie is incubating new businesses at lower rates than the state and the nation.

Industry (2008-2009)	U.S.		PA		Erie		Erie-U.S. Births/100,000 People Difference	Erie-PA Births/100,000 People Difference
	Births	Births/100,000 People	Births	Births/100,000 People	Births	Births/100,000 People		
Health care & social assistance	59,207	19.31	2,340	18.63	115	41.23	21.92	22.60
Accommodation & Food Services	66,310	21.62	2,793	22.23	47	16.85	-4.77	-5.38
Retail Trade	80,041	26.10	2,784	22.16	40	14.34	-11.76	-7.82
Construction	72,018	23.48	2,174	17.31	32	11.47	-12.01	-5.83
Other services (except public admin.)	52,175	17.01	2,059	16.39	30	10.76	-6.26	-5.63
Admin., support, waste mgmt., remed. serv	40,903	13.34	1,456	11.59	29	10.40	-2.94	-1.19
Prof., scientific, & tech. serv.	85,279	27.81	2,455	19.54	26	9.32	-18.49	-10.22
Wholesale trade	28,990	5.53	808	4.62	15	5.38	-0.15	0.75
Manufacturing	16,948	9.45	581	6.43	15	5.38	-4.08	-1.05
Transportation & Warehousing	22,116	7.21	737	5.87	13	4.66	-2.55	-1.21
Finance & insurance	40,698	5.20	1,359	4.65	12	4.30	-0.90	-0.35
Information	15,955	13.27	584	10.82	12	4.30	-8.97	-6.52
Arts, entertainment, & recreation	11,713	3.82	383	3.05	11	3.94	0.12	0.90
Real estate & rental & leasing	32,476	10.59	687	5.47	11	3.94	-6.65	-1.52
Educational services	8,008	2.61	238	1.89	9	3.23	0.62	1.33
Unclassified	5,739	1.87	115	0.92	4	1.43	-0.44	0.52
Utilities	1,272	0.41	50	0.40	2	0.72	0.30	0.32
Agriculture, forestry, fishing, & hunting	1,857	0.61	51	0.41	2	0.72	0.11	0.31
Mining	2,641	0.86	122	0.97	1	0.36	-0.50	-0.61
Management of companies & enterprises	4,061	1.32	133	1.06	0	0.00	-1.32	-1.06
Total	648,407	300.52	21,909	238.52	426	222.65	-58.71	-21.66

Minority-Owned and Woman-Owned Businesses

Percentage of Businesses Owned by Gender and Race Groups, 2007



Source: U.S. Census Bureau, Survey of Business Owners Program

- ▶ In 2007, the percentage of total businesses owned by minorities and women in Erie County lagged behind both PA and the U.S., although Erie's number rose in 2007. Erie's data here reflect in part the less diverse makeup of Erie's population, as discussed earlier.
- ▶ Women owned about 23.5% of Erie businesses, compared with 27.0% statewide and 28.8% nationally. Woman-owned businesses in Erie are up slightly from 2002, when they owned 22.0% of all businesses.
- ▶ African Americans owned 3.23% of Erie businesses in 2007, which is a 233% increase from 2002 when blacks owned 0.97% of Erie businesses. This is less than half the national rate.
- ▶ Hispanics made up 1.16% of total business ownership in Erie, which is significantly less than state and national rates.
- ▶ Data on Asian business ownership for Erie was not available for 2007. In 2002, Asian-owned businesses accounted for only 0.76% of total businesses.
- ▶ Minority business ownership data for 2012 are scheduled to become available in December 2013.

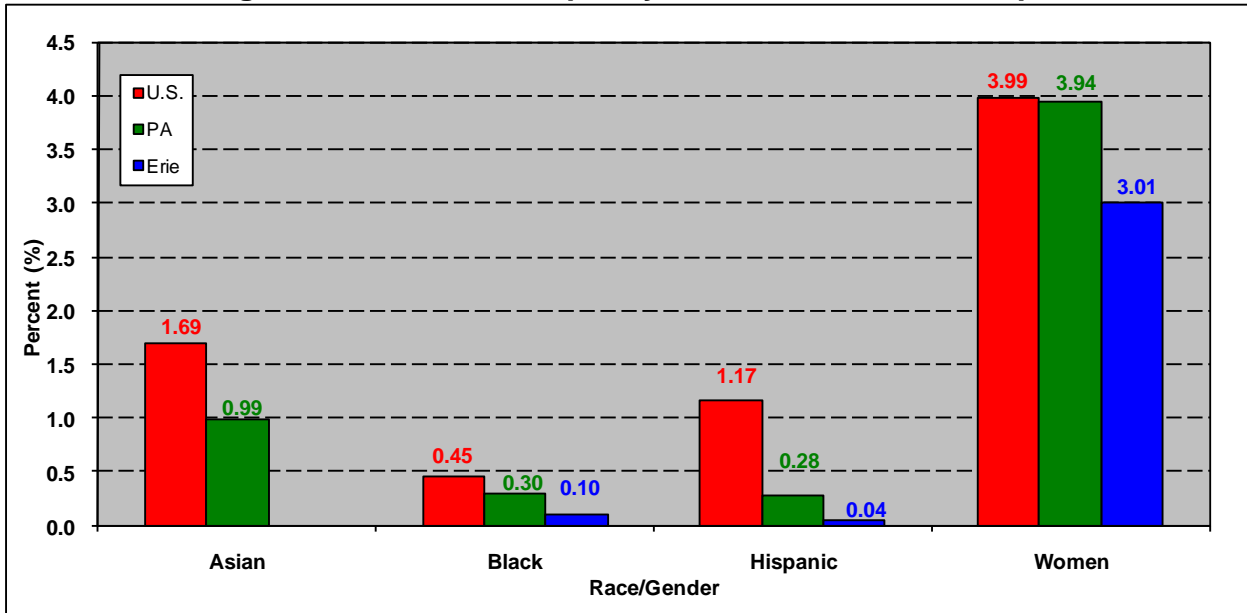
Minority Business Ownership, 1997-2007
(percent of all businesses)

Race/Gender	1997			2002			2007		
	U.S.	PA	Erie	U.S.	PA	Erie	U.S.	PA	Erie
Asian	4.38	2.08	0.80	4.81	2.59	0.76	5.72	3.19	N/A
African American	3.95	2.36	2.11	5.21	2.83	0.97	7.09	4.55	3.23
Hispanic	5.76	0.94	1.07	6.85	1.26	0.83	8.34	2.32	1.16
Women	26.02	24.23	21.75	28.25	25.98	21.98	28.76	27.00	23.48
Total Minority Owned Businesses	40.12	29.61	25.73	45.11	32.66	24.55	49.91	37.06	27.87*

U.S. Census Bureau, Survey of Business Owners

* plus Asian

Percentage of Sales and Receipts by Gender and Race Groups, 2007

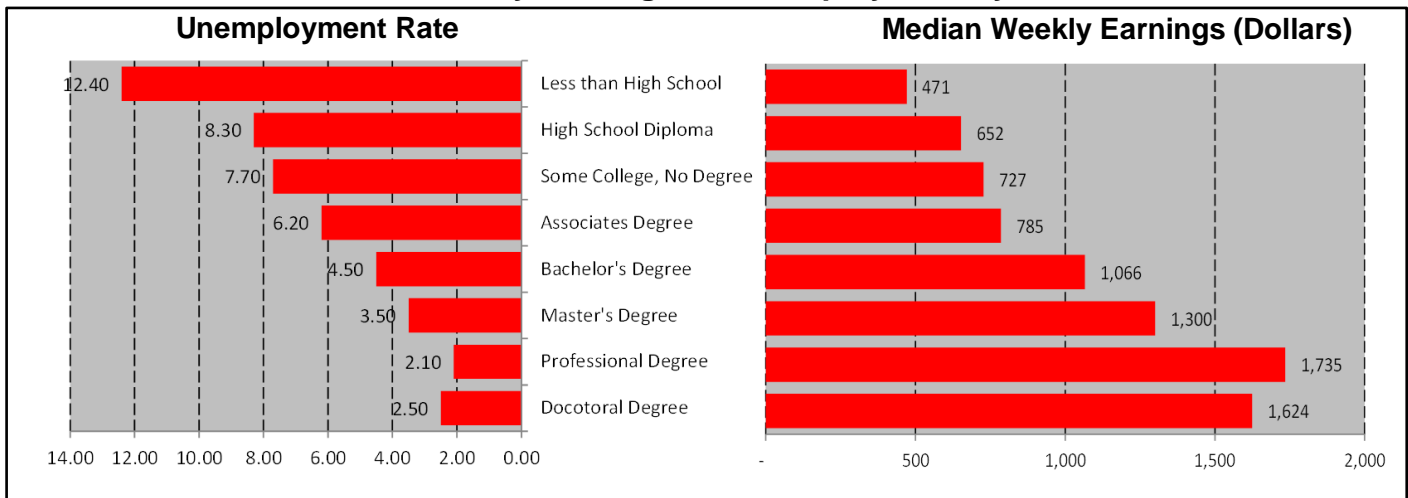


Source: U.S. Census Bureau, Survey of Business Owners Program

- ▶ In all groups, the percentage of 2007 sales generated by woman- and minority-owned businesses is significantly less than the percentage of businesses owned (as shown in the previous graph). This implies that the typical woman- and minority-owned business is smaller than the average.
- ▶ In Erie Black-owned businesses accounted for only 0.1% and Hispanic-owned businesses had only 0.04% of sales in 2007. Both of these are significantly less than the PA and national averages.
- ▶ All race and gender categories for Erie, PA, and the U.S. experienced increases in percentages of sales and receipts from 2002 to 2007 with the exception of Black owners in Erie. Sales and receipts decreased in this category from 0.29% to 0.10%.
- ▶ As with the business ownership data, data were not available for Asian sales and receipts for Erie in 2007. In 2002, Asian sales and receipts accounted for 0.34%.

Education

Median Weekly Earning and Unemployment by Education



Source: U.S. Census Bureau, Current Population Survey 2012

- ▶ Why stay in school? The data above for the nation make a compelling case.
- ▶ The graph at the right shows that those who drop out of high school earn about \$471 per week. Those with a high school diploma earn about 38% more.
- ▶ Having “some college” or an associate’s degree bumps weekly earnings up from \$652 to \$727 or \$785. But the big bump occurs with a full bachelor’s degree, which returns \$1,066 weekly on average.
- ▶ A person with a bachelor’s degree is expected to earn about 63% more than a high school graduate: \$1,066 weekly vs. \$652.
- ▶ A master’s degree adds another 20% premium (\$234 per week) over a bachelor’s degree usually for another two years of work.
- ▶ A doctoral degree adds another 25% (\$324 per week) above a master’s degree, and 52% (\$558) above a bachelor’s degree.
- ▶ Finally, a person with a professional degree (law, medicine, dentistry) earns 62% more than a person with a bachelor’s degree, and more than 2.6 times as much as a person with a high school diploma.
- ▶ As educational attainment increases, not only does income rise, but the chance of losing a job decreases. As the left graph above shows, unemployment rates fall with education level, with professional and doctoral degree holders having a rate below 2.5% in 2012. In contrast, the unemployment rate was 12.4% for workers without a high school diploma.
- ▶ 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.

Starting Salaries by Major, 2012-13

Rank	Major	Median Starting	% of avg	Rank	Major	Median Starting	% of avg
1	Petroleum Engineering	\$98,000	231	66	French	\$39,500	93
2	Chemical Engineering	\$67,500	159	67	Drama	\$39,300	93
3	Nuclear Engineering	\$66,800	158	68	Literature	\$39,200	93
4	Electrical Engineering (EE)	\$63,400	150	69	Human Resources (HR)	\$39,200	93
5	Computer Engineering (CE)	\$62,700	148	70	Marketing & Communications	\$39,100	92
6	Aerospace Engineering	\$62,500	147	71	Biology	\$39,100	92
7	Mechanical Engineering (ME)	\$60,100	142	72	Urban Planning	\$39,000	92
8	Materials Science & Engineering	\$60,100	142	73	History	\$39,000	92
9	Industrial Engineering (IE)	\$59,900	141	74	Health Sciences	\$39,000	92
10	Software Engineering	\$59,100	139	75	Communications	\$38,900	92
11	Computer Science (CS)	\$58,400	138	76	Speech Communication	\$38,700	91
12	Electrical Engineering Technology (EET)	\$58,400	138	77	Linguistics	\$38,300	90
13	Actuarial Mathematics	\$56,100	132	78	Philosophy	\$38,300	90
14	Biomedical Engineering (BME)	\$54,900	130	79	English	\$38,100	90
15	Nursing	\$54,100	128	80	Agriculture	\$38,000	90
16	Civil Engineering (CE)	\$53,800	127	81	Advertising	\$37,800	89
17	Mechanical Engineering Technology (MET)	\$52,900	125	82	Fashion Merchandising	\$37,600	89
18	Management Information Systems (MIS)	\$51,600	122	83	Social Science	\$37,600	89
19	Physics	\$51,200	121	84	Film Production	\$37,500	88
20	Information Systems (IS)	\$50,900	120	85	Interdisciplinary Studies (IS)	\$37,500	88
21	Applied Mathematics	\$50,800	120	86	Education	\$37,200	88
22	Supply Chain Management	\$50,500	119	87	Journalism	\$36,800	87
23	Industrial Technology (IT)	\$49,700	117	88	Horticulture	\$36,800	87
24	Occupational Health and Safety	\$49,600	117	89	Visual Communication	\$36,700	87
25	Medical Technology	\$49,600	117	90	Zoology	\$36,500	86
26	Construction Management	\$49,500	117	91	Public Relations (PR)	\$36,500	86
27	Civil Engineering Technology (CET)	\$49,500	117	92	Paralegal/Law	\$36,500	86
28	Statistics	\$49,300	116	93	Hospitality & Tourism	\$36,400	86
29	Computer Information Systems (CIS)	\$49,000	116	94	Art History	\$36,400	86
30	Information Technology (IT)	\$48,900	115	95	Fashion Design	\$36,300	86
31	Economics	\$48,500	114	96	Anthropology	\$36,000	85
32	Mathematics	\$48,500	114	97	Sociology	\$36,000	85
33	Environmental Engineering	\$47,900	113	98	Spanish	\$35,900	85
34	Finance	\$47,700	113	99	Radio & Television	\$35,900	85
35	Geology	\$45,000	106	100	Photography	\$35,700	84
36	Chemistry	\$44,700	105	101	Sports Medicine	\$35,700	84
37	Accounting	\$44,300	105	102	Humanities	\$35,600	84
38	Dietetics	\$44,100	104	103	Graphic Design	\$35,500	84
39	Food Science	\$44,000	104	104	Classics	\$35,300	83
40	Industrial Design (ID)	\$43,600	103	105	Liberal Arts	\$35,300	83
41	Biochemistry (BCH)	\$43,200	102	106	Sports Management	\$35,300	83
42	International Business	\$42,500	100	107	Interior Design	\$35,300	83
	AVERAGE	\$42,376	100	108	Psychology	\$35,200	83
43	Government	\$42,000	99	109	Criminal Justice	\$35,200	83
44	Forestry	\$42,000	99	110	Public Health (PH)	\$35,000	83
45	Architecture	\$41,900	99	111	Religious Studies	\$34,900	82
46	Telecommunications	\$41,600	98	112	Recreation & Leisure Studies	\$34,900	82
47	Public Administration	\$41,500	98	113	Music	\$34,600	82
48	Biotechnology	\$41,400	98	114	Art	\$34,400	81
49	Business	\$41,400	98	115	Athletic Training	\$34,400	81
50	German	\$41,300	97	116	Kinesiology	\$34,100	80
51	American Studies	\$40,900	97	117	Special Education	\$33,900	80
52	Marketing Management	\$40,700	96	118	Physical Education	\$33,400	79
53	Organizational Management (OM)	\$40,700	96	119	Animal Science	\$33,300	79
54	International Relations	\$40,600	96	120	Theater	\$33,200	78
55	Landscape Architecture	\$40,600	96	121	Human Development	\$33,100	78
56	Nutrition	\$40,600	96	122	Social Work (SW)	\$33,100	78
57	Multimedia and Web Design	\$40,500	96	123	Biblical Studies	\$32,500	77
58	Hotel Management	\$40,400	95	124	Theology	\$32,400	76
59	Political Science (PolySci)	\$40,300	95	125	Broadcasting	\$31,800	75
60	Global & International Studies	\$40,200	95	126	Fine Arts	\$31,800	75
61	Molecular Biology	\$40,100	95	127	Elementary Education	\$31,400	74
62	Environmental Science	\$39,800	94	128	Exercise Science	\$31,300	74
63	Geography	\$39,800	94	129	Culinary Arts	\$31,000	73
64	Microbiology	\$39,700	94	130	Child and Family Studies	\$29,300	69
65	Health Care Administration	\$39,600	93				

Source: PayScale, Inc., <http://www.payscale.com/college-salary-report-2013/majors-that-pay-you-back>

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).

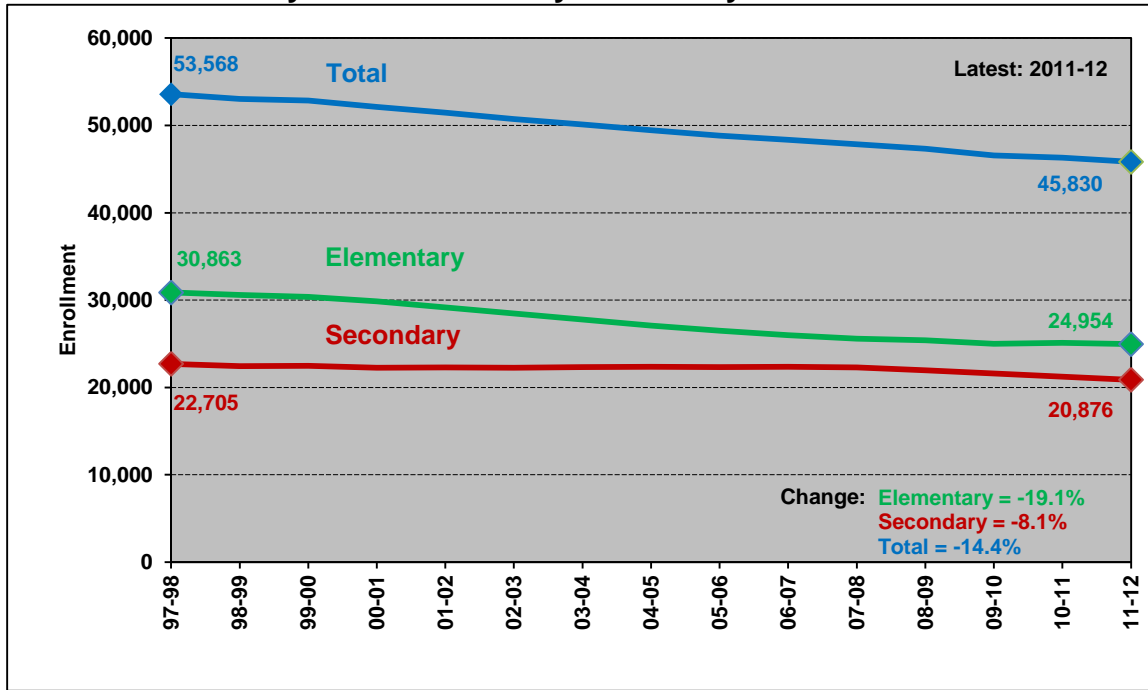
Erie County and U.S. Educational Attainment, 2011

	% of individuals age 25 & over, 2011		Location Quotient: Erie% / US%	
	Erie	US	2011	2000
No schooling completed	0.72	1.32	0.54	0.42
Some schooling, no diploma	8.72	12.76	0.68	0.81
High school graduate	41.85	28.41	1.47	1.46
Some college, no degree	16.39	21.22	0.77	0.79
Associate degree	8.10	7.76	1.04	0.86
Bachelor degree	15.16	17.88	0.85	0.85
Master degree	6.67	7.47	0.89	0.90
Professional school degree	1.44	1.93	0.75	0.81
Doctorate degree	0.97	1.24	0.78	0.74
Population 25 years and over	100.00	100.00		

Source: U.S. Census Bureau, American Community Survey

- ▶ Erie has a smaller percentage of people with less than a high school diploma: 9.4% in Erie vs. 14.1% nationwide.
- ▶ However, nearly 42% of the Erie County population over 25 years old are high school graduates, while about 29% of the U.S. population is. A larger share of Erie residents has “just” a high school education.
- ▶ 17.8% of the U.S. population over 25 have a bachelor’s degree, but only 15.2% 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 definite boost to Erie’s economy.
- ▶ Erie’s LQ for Associate Degree holders rose from 0.86 to 1.04 from 2000 to 2011, as did the LQ for holders of doctoral degrees. While Erie’s LQ for bachelor’s degrees held steady at 0.85, the LQs for masters and professional degree holders fell a bit.

Erie County Total Elementary/Secondary School Enrollment



Source: PA Department of Education, Enrollment Reports

- ▶ Total elementary and secondary school enrollment has declined from 53,568 in 1997-98 to 45,830 in 2011-12. This is a decrease of 14.4% or 7,738 students.
- ▶ Elementary school enrollment has declined by 19.1% from 30,863 to 24,954 between 1997-98 and 2011-12.
- ▶ Secondary school enrollment has declined by 8.1% between 1997-98 and 2011-12 from 22,705 to 20,876.
- ▶ These numbers have clear implications for local post-secondary education institutions, as well as teachers and those who hire them.

Erie County SAT Scores, 2012

School District	School	Students Tested	Mean SAT Scores			
			Verbal	Mathematics	Writing	Total
Corry Area	Corry Area HS	88	463	482	447	1392
Erie City	Central HS	36	414	459	388	1261
Erie City	East SHS	71	387	385	375	1147
Erie City	Northwest PA Collegiate Academy	218	562	559	546	1667
Erie City	Strong Vincent HS	89	421	414	405	1240
Fairview	Fairview HS	125	502	521	509	1532
Fort LeBoeuf	Fort LeBoeuf SHS	121	472	479	466	1417
General McLane	General McLane HS	126	510	527	488	1525
Girard	Girard HS	78	487	517	470	1474
Harbor Creek	Harbor Creek JSHS	128	485	502	471	1458
Iroquois	Iroquois JSHS	58	468	462	441	1371
Millcreek Township	McDowell SHS	397	500	504	483	1487
North East	North East HS	113	508	523	487	1518
Northwestern	Northwestern SHS	74	475	485	456	1416
Union City Area	Union City HS	30	430	449	412	1291
Wattsburg Area	Seneca HS	73	489	483	459	1431

Source: PA Department of Education, Public School SAT Scores

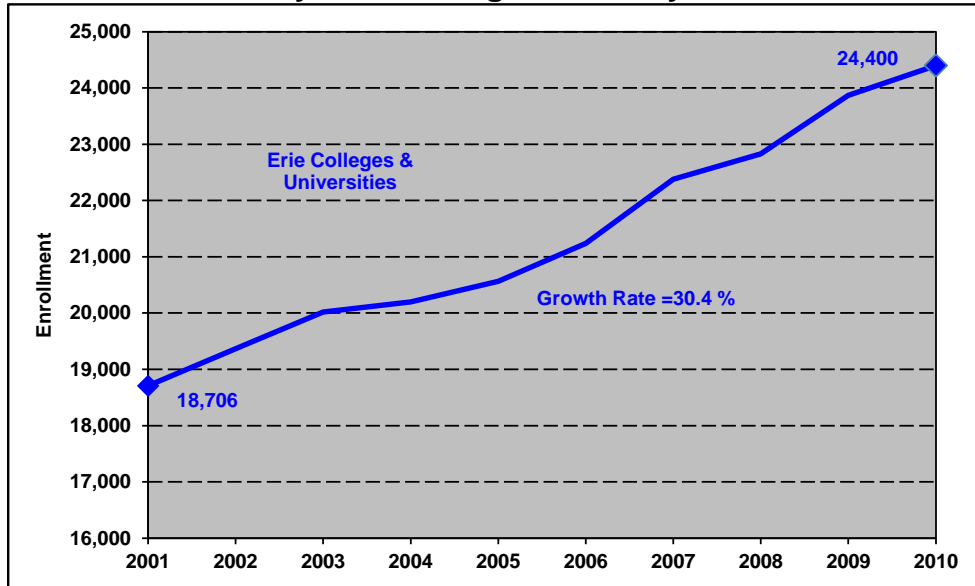
Further details on educational performance are available at the PA Department of Education:
<http://www.pde.state.pa.us>, under "Data and Statistics".

Erie County High Schools Ranked by 2012 Total SAT Score

School District	School	Students Tested	Mean SAT Scores			
			Verbal	Mathematics	Writing	Total
Erie City	Northwest PA Collegiate Academy	218	562	559	546	1667
Fairview	Fairview HS	125	502	521	509	1532
General McLane	General McLane HS	126	510	527	488	1525
North East	North East HS	113	508	523	487	1518
	UNITED STATES AVERAGE		496	514	488	1498
Millcreek Township	McDowell SHS	397	500	504	483	1487
Girard	Girard HS	78	487	517	470	1474
Harbor Creek	Harbor Creek JSHS	128	485	502	471	1458
Wattsburg Area	Seneca HS	73	489	483	459	1431
Fort LeBoeuf	Fort LeBoeuf SHS	121	472	479	466	1417
Northwestern	Northwestern SHS	74	475	485	456	1416
Corry Area	Corry Area HS	88	463	482	447	1392
Iroquois	Iroquois JSHS	58	468	462	441	1371
Union City Area	Union City HS	30	430	449	412	1291
Erie City	Central HS	36	414	459	388	1261
Erie City	Strong Vincent HS	89	421	414	405	1240
Erie City	East SHS	71	387	385	375	1147

Source: PA Department of Education, Public School SAT Scores

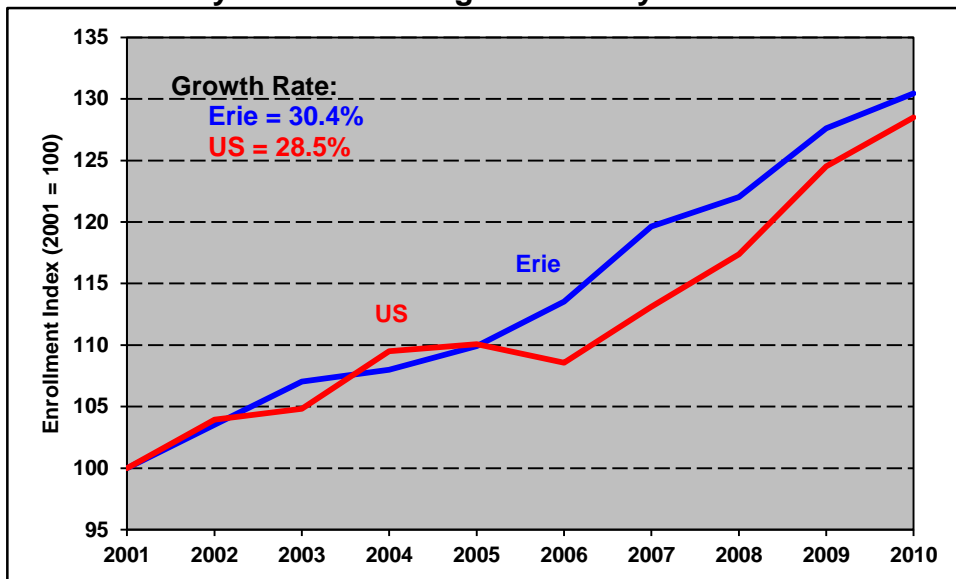
Erie County Total College/University Enrollment



Source: PA Department of Education, College & University Fall Enrollment

- ▶ Total college and university enrollment in Erie has increased by 30.4% from 18,706 to 24,400 from 2001 to 2010.
- ▶ Total college and university enrollment in Erie increased by 2.2% from 2009 to 2010.
- ▶ These increases occurred at a time when Erie County elementary and high school enrollments were flat or declining, implying that a greater percentage of local high school graduates are choosing our local colleges, or that the local colleges are competing successfully to bring in students from outside the county. If the latter, the colleges are successfully bringing new money into the local economy.

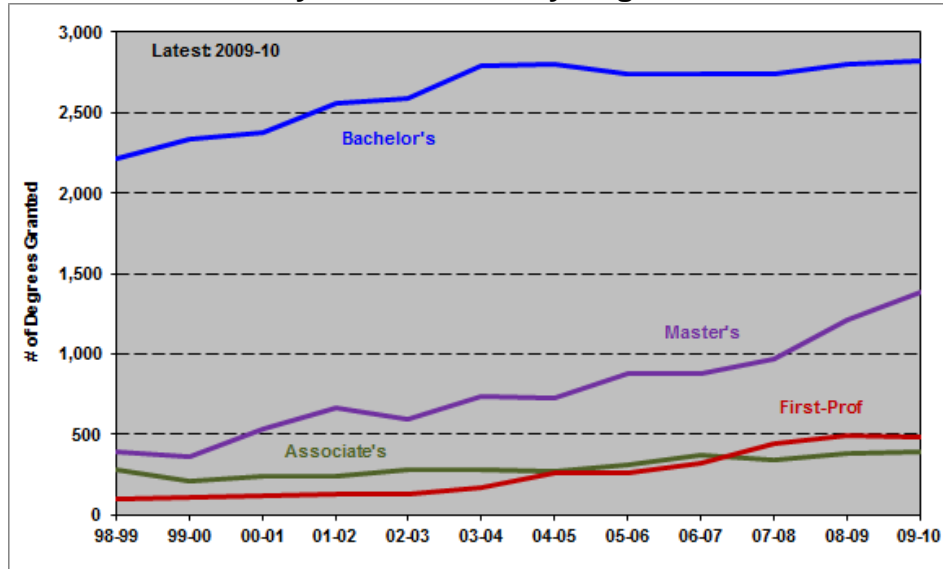
Erie County and U.S. College/University Enrollment Index



Source: PA Department of Education, College & University Fall Enrollment

- ▶ Between 2001 and 2009, total college and university enrollment in Erie grew by 30.4% while total college and university enrollment grew by 28.5% in the U.S.

Erie County Post-Secondary Degrees Granted



Source: PA Department of Education, College & University Degrees Awarded

- ▶ The great majority of post-secondary degrees granted in Erie between 1998 and 2010 were bachelor's degrees. That is not surprising.
- ▶ Bachelor's and master's degrees experienced the greatest increase in number of degrees granted during this time period.
- ▶ Associate's degrees granted remained relatively constant while first-professional degrees⁹ stayed constant until 2003-04, then experienced a slow increase in the number granted.
- ▶ Between 1998 and 2010, the number of bachelor's degrees granted annually increased by more than 27%. In the same time frame, the number of master's degrees increased by 255% and first professional degrees increased by 404%.

⁹ First-Professional Degree - A degree based on at least six years of college work, usually granted in Dentistry, Law, Medicine, Theology, etc. It signifies completion of the academic requirements to begin practice in the profession. (PA Department of Education)

Erie County Post-Secondary Degrees Granted, 2009-10

	#	%
Post Sec Less Than One Year ¹⁰	178	3.2
Post Sec Less Than Two Years ¹¹	56	1.0
Associate's Degree	394	7.0
Post Sec Less Than Four Years ¹²	4	0.1
Bachelor's Degree	2,824	50.5
Post-Baccalaureate Certificate ¹³	184	3.3
Master's Degree	1,382	24.7
Post-Master's Certificate ¹⁴	46	0.8
First-Professional Degree	484	8.7
Doctorate Degree	40	0.7
Total	5,592	100.0

Source: PA Department of Education, College & University Degrees Awarded

- ▶ During the 2009-10 school year, bachelor's degrees accounted for 50.5% of the degrees granted in Erie.
- ▶ Almost 25% of the degrees granted were master's degrees.
- ▶ Associate's degrees accounted for 7% and first-professional degrees accounted for about 9% of the degrees granted.

¹⁰ Post Sec Less Than One Year - A postsecondary award, certificate or diploma that requires completion of an organized program of study in less than one academic year (less than 900 contact or clock hours). (PA Department of Education)

¹¹ Post Sec Less Than Two Years - A postsecondary award, certificate or diploma that requires completion of an organized program of study in at least one but less than two academic years (at least 900 but less than 1,800 contact or clock hours). (PA Department of Education)

¹² Post Sec Less Than Four Years - A postsecondary award, certificate or diploma that requires completion of an organized program of study in at least two but less than four academic years (at least 1,800 but less than 3,600 contact or clock hours). (PA Department of Education)

¹³ Post-baccalaureate Certificate - An award that requires completion of an organized program of study requiring 18 credit hours beyond the bachelor's degree; designed for persons who have completed a baccalaureate degree program, but do not meet the requirements of academic degrees carrying the title of master. (PA Department of Education)

¹⁴ Post-Master's Certificate - An award that requires completion of an organized program of study of 24 credit hours beyond the master's degree, but does not meet the requirements of academic degrees at the doctor's level. (PA Department of Education)

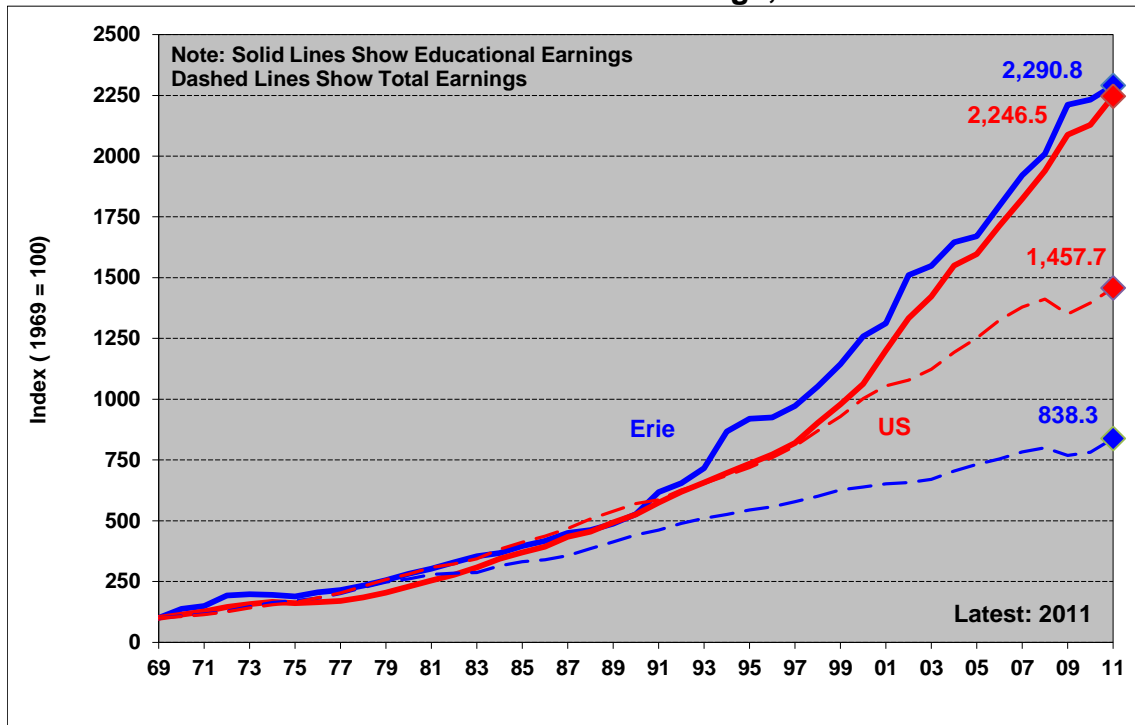
Erie County vs. U.S. College/University Enrollment, 2010

	Population	College Enrollment	%
Erie	280,686	24,400	8.7
U.S.	309,349,689	20,550,000	6.6

Source: U.S. Census Bureau, American Community Survey, Education; & PA Department of Education, Fall Enrollment

- ▶ 8.7% of the population in Erie in 2010 was enrolled in college.
- ▶ Only 6.6% of the U.S. population was enrolled in college in 2010.
- ▶ Does this make Erie a college town?

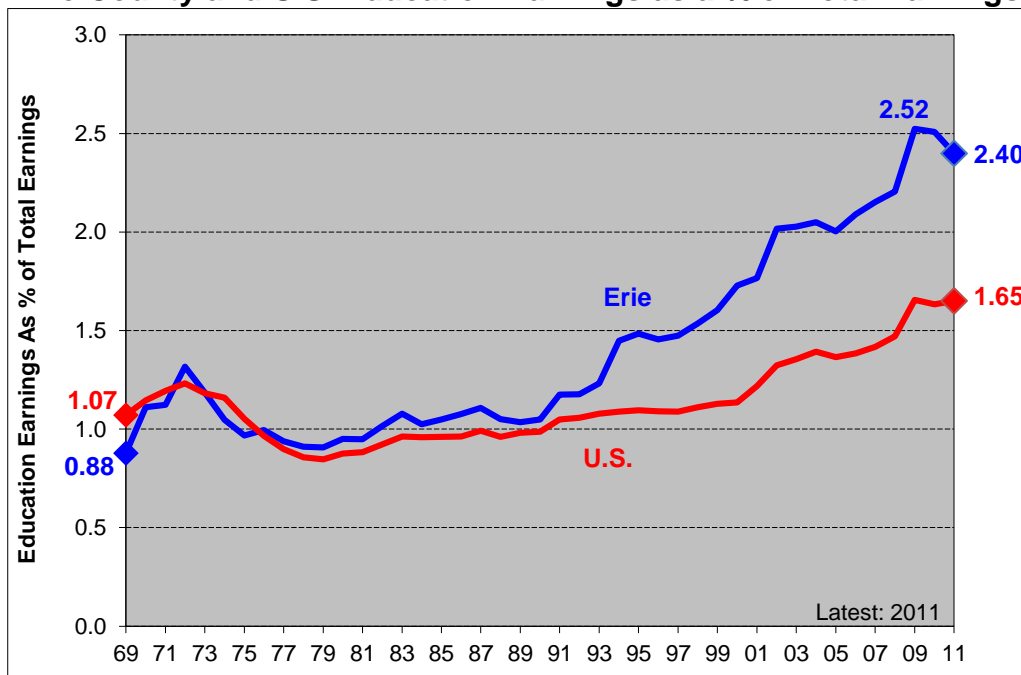
Index of Educational Services Earnings, Erie and U.S.



Source: Bureau of Economic Analysis (BEA), REIS

- ▶ 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..
- ▶ Growth in Erie has been faster than nationally, with Erie's growth over the period being 2,191% compared to the U.S. growth rate of 2,145%-- a welcome change from the usual Erie-US patterns seen earlier in this book.
- ▶ The dashed lines in the graph above show total earnings of Erie residents who work in the education sector. Educational earnings grew more rapidly in both Erie and the U.S. than overall earnings, but this was especially true in Erie.
- ▶ Conclusion: the educational services industry is a relatively fast growth industry, and Erie is growing at a faster rate in this industry than the nation. Erie is specializing successfully in a sector that can have an important impact on the region's future.

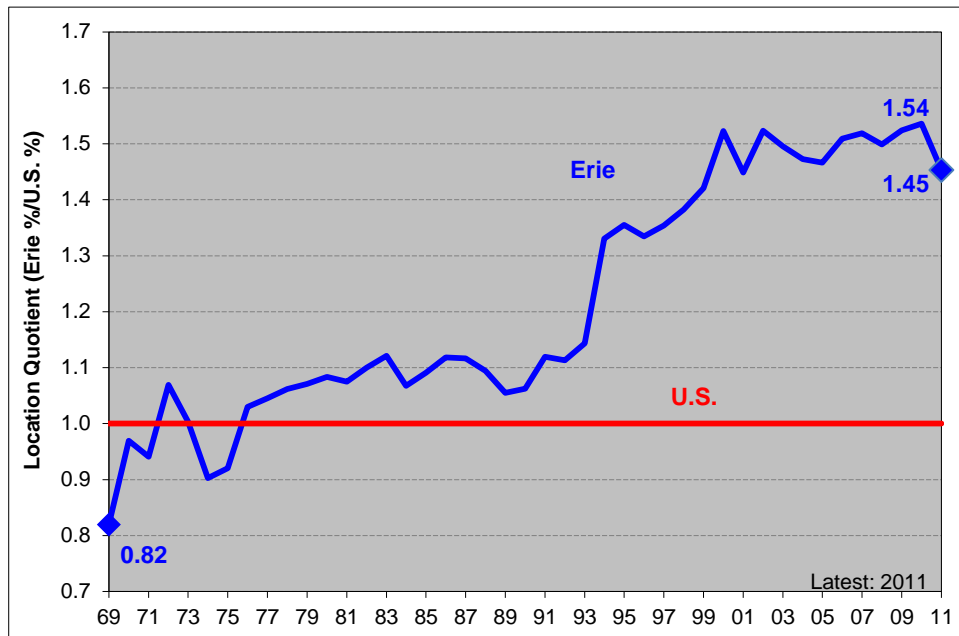
Erie County and U.S. Education Earnings as a % of Total Earnings



Source: Bureau of Economic Analysis (BEA), REIS

- ▶ 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 2009 to 2011, the national trend line flattened and the Erie line fell a bit.

Erie County and U.S. Education Earnings Location Quotients

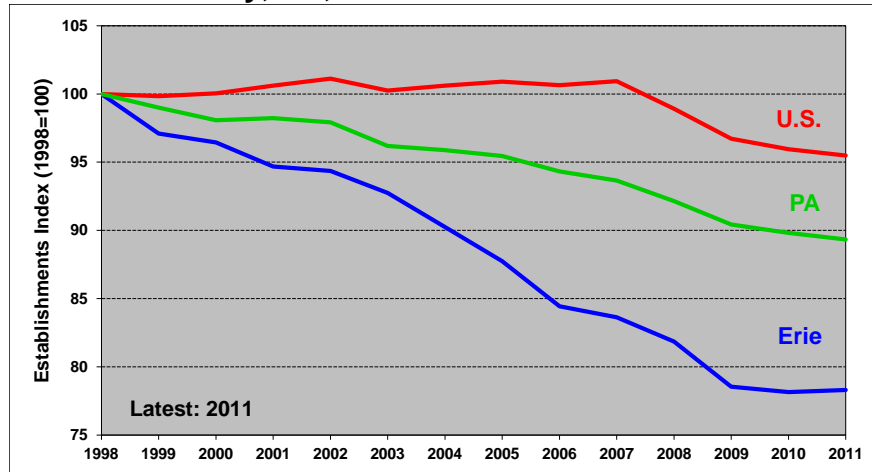


Source: Bureau of Economic Analysis (BEA), REIS

- ▶ 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 millenium.
- ▶ The current LQ for Erie is 1.45, or 45% higher than the U.S., reflecting the fact that Erie receives 2.40% of its total earnings from education while the U.S. receives only 1.65% 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. Brain drain is discussed later in the *Guide*.

The Retail Industry

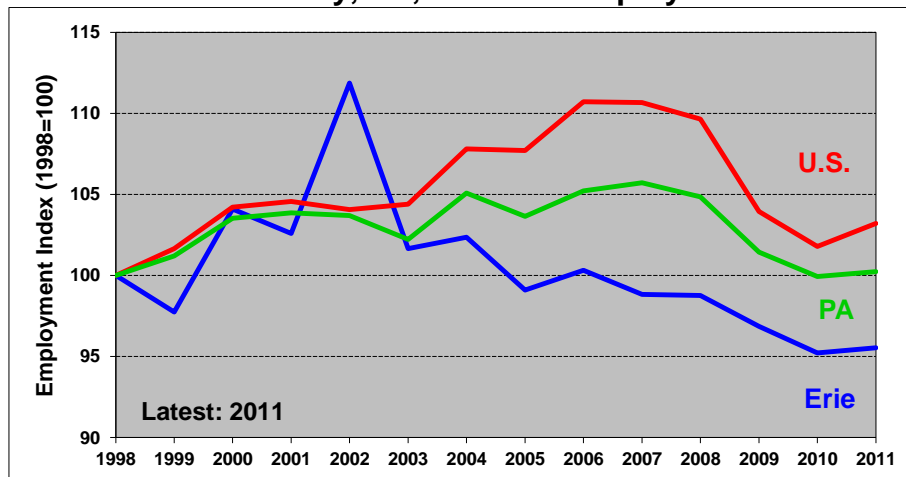
Erie County, PA, and U.S. Retail Establishments



Source: U.S. Census Bureau, County Business Patterns

- ▶ Erie County and PA have lost retail establishments since 1998. An establishment is defined as a single physical location at which business is conducted.
- ▶ The total number of retail establishments in the U.S. was generally higher than the 1998 level through most of the period, but since 2007 it has been on the decline.
- ▶ Erie's number of establishments has been nearly flat for the last two years, arresting the decline.

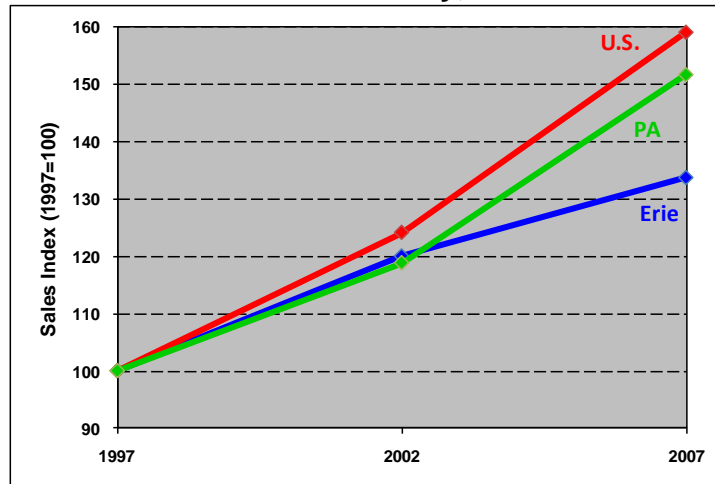
Erie County, PA, and U.S. Employment



Source: U.S. Census Bureau, County Business Patterns

- ▶ Erie County retail employment decreased in total over the period from 1998 to 2011. In six out of the thirteen years, however, retail employment was above the amount from 1998, including a large spike in 2002. Much of the 2002 spike was associated with a rapid growth in pharmacies and drug stores.
- ▶ Both the PA and U.S. retail employment follow the same rough pattern during this period including a decrease in employment going from 2007 until 2010 followed by a slight increase in each area from 2010 to 2011.
- ▶ But the establishment and employment data do not tell the whole story for retail. We also need to look at the sales generated in the industry. Unfortunately we do not have annual data on this from the same source, and have to turn to the Economic Census which is only conducted every five years.

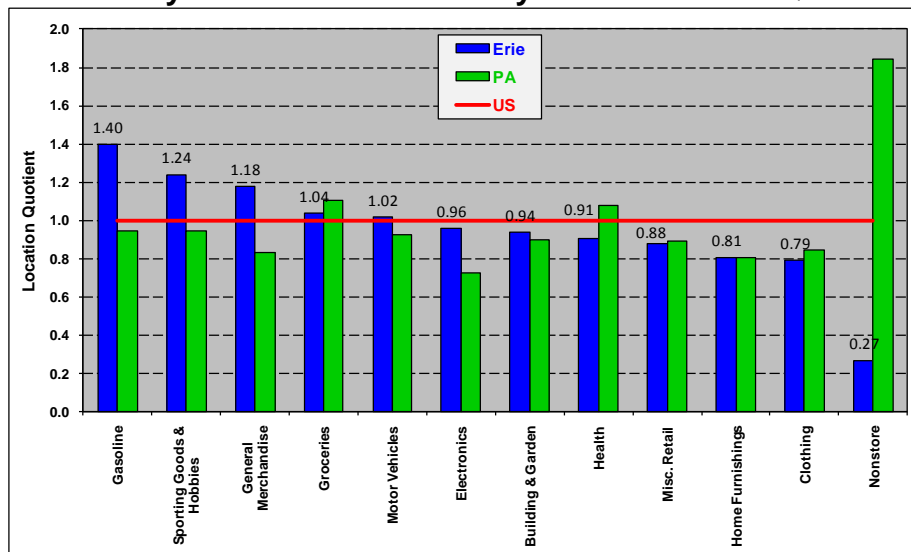
Retail Sales: Erie County, PA and U.S.



Source: U.S. Census Bureau, Economic Census 1997, 2002, 2007

- ▶ While the number of retail establishments has fallen and employment has been variable, retail sales have continued to increase. This indicates that firms are selling more per establishment and per employee through time. Erie’s rate of sales growth lagged the state’s and nation’s between 2002 and 2007.

Erie County and PA Retail Industry Sales Location Quotients



Source: U.S. Census Bureau, Economic Census 2007

- ▶ Sales location quotients for the twelve three-digit NAICS Code components of the retail sector show in which categories of retail trade Erie County and PA have more than their share of business.
- ▶ Erie County has a higher share of sales than the U.S. in gasoline stations; sporting goods, hobby, book, and music stores; general merchandise stores; food and beverage stores; and also motor vehicle and parts dealers. People buy more of these things from Erie merchants than we might expect.
- ▶ Erie County has a lower share of sales than the U.S. in the remaining categories including only 27 percent of its share of nonstore retail sales as compared to the United States in total. Nonstore retailers are direct selling establishments and include business such as: fuel dealers, vending machine operators, mail order houses, and electronic shopping.
- ▶ Although Erie County has a small share of nonstore (“virtual”) retail sales, PA has a much larger share with a location quotient of 1.85.

Agriculture

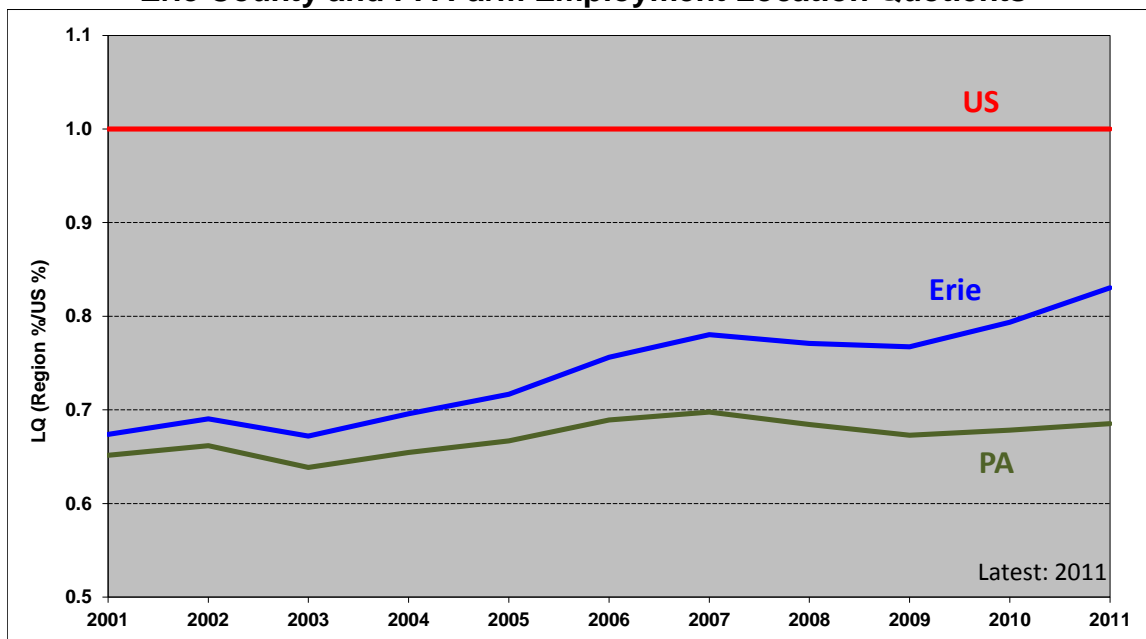
Erie County, PA, and U.S. Agriculture Overview

2007 Agricultural Census Data	Erie County	PA	U.S.
Number of Operations (Farms)	1,609	63,163	2,204,792
Total Farmland (Acres)	173,125	7,809,244	922,095,840
Total Land Area (Acres)	513,280	28,682,240	2,263,950,080
Farmland as % of Total Land	33.73	27.23	40.73
Total Commodity Sales (millions \$)	71.28	5,808.80	297,220.49

Source: National Agricultural Statistics Service (NASS) of the United States Department of Agriculture

- ▶ Over a third of Erie County land was devoted to farming in 2007.
- ▶ In 2007, Erie County had total agricultural commodity sales of over \$71 million.

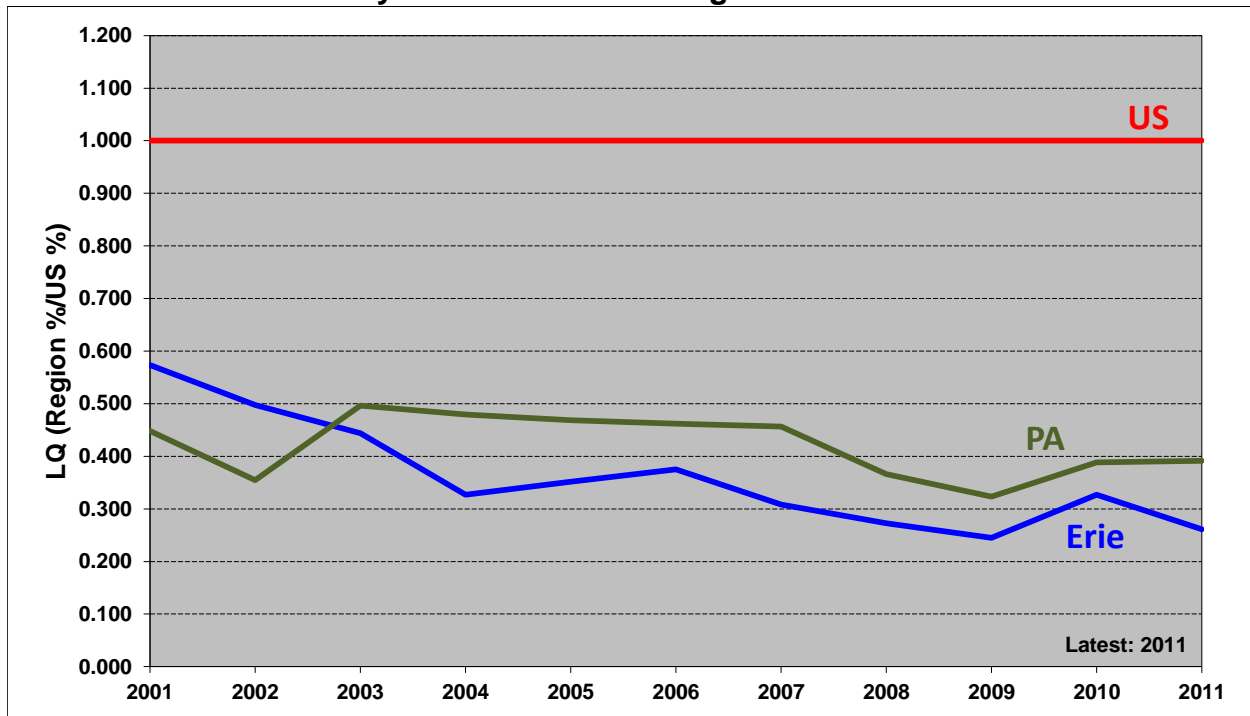
Erie County and PA Farm Employment Location Quotients



Source: Bureau of Economic Analysis (BEA), REIS

- ▶ 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.
- ▶ Since 2001 Erie County and PA have been following the same trend, both with LQs increasing slightly over the period. But the gap between Erie County and PA has increased a bit, indicating that Erie County has increased its share of farm employment relative to PA.
- ▶ For Erie County, the total farm employment was 1,833 in 2011. This is 163 less than the total farm employment of 1,996 in 2001, a drop of about 8.2%. The fall in Erie farming employment was less, proportionately, than in the U.S. as a whole; that is how the LQ can rise even though actual employment was falling.

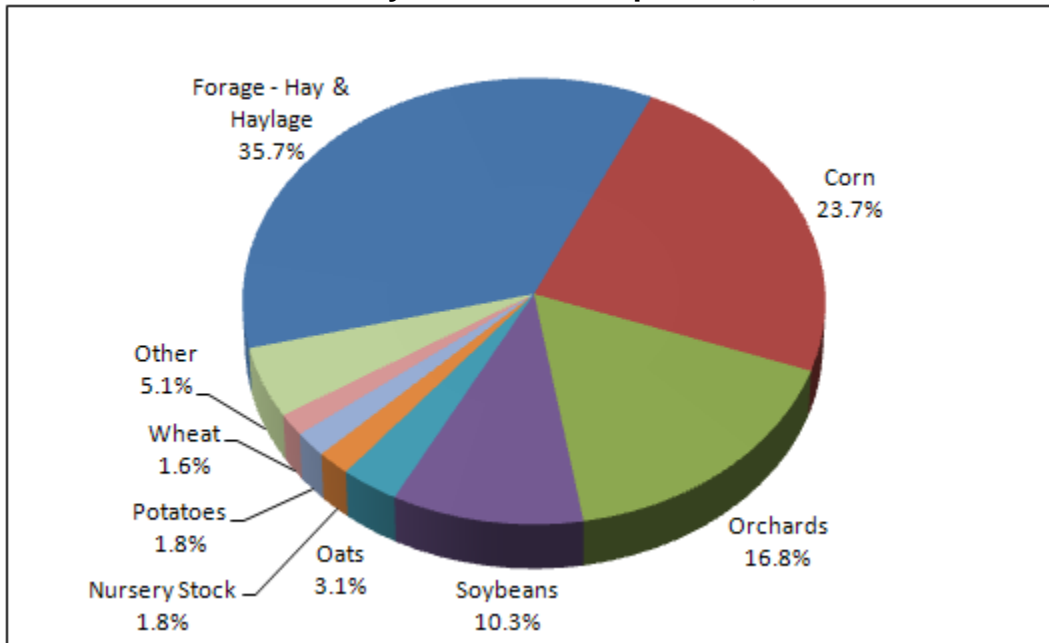
Erie County and PA Farm Earnings Location Quotients



Source: Bureau of Economic Analysis (BEA), REIS

- ▶ In contrast to the previous graph, this one shows LQs for earnings by farmers rather than employment.
- ▶ LQs for farm earnings are less than one for both Erie County and PA, and are farther below one than the employment LQs.
- ▶ Total farm earnings in 2011 for Erie County was \$19.4 million, which is less than the \$24.4 million of earnings in 2001, even without adjusting for inflation. This is a decrease of \$5.03 million or 25.9 percent for Erie County. During that time PA experienced a total increase of \$626.1 million or 62.8 percent. PA had earnings of \$997.1 million in 2001 and \$1,623.2 million in 2011.

Erie County Harvested Crop Acres, 2007

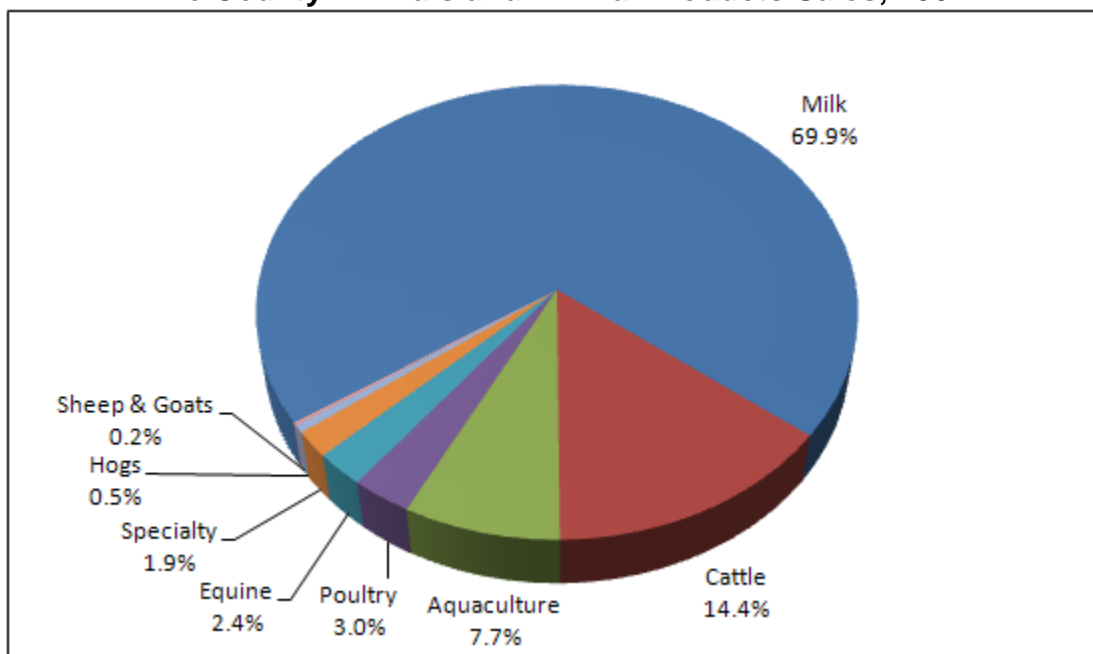


	Acres	% Of Harvested		Acres	% Of Harvested
Forage - Hay & Haylage	27,815	35.70	Nursery Stock	1,401	1.80
Corn	18,489	23.73	Potatoes	1,408	1.81
Orchards	13,103	16.82	Wheat	1,243	1.60
Soybeans	8,049	10.33	Other	3,965	5.09
Oats	2,436	3.13	Total	77,909	100.00

Source: National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture (USDA)

- ▶ Forage including hay and haylage is the largest segment of Erie cropland harvested in 2007 at 35.7 percent, or 27,815 acres out of the total of 77,909.
- ▶ Corn, orchards, and soybeans are the next largest crops and together compose 50.9 percent of Erie County's cropland.
- ▶ The remaining categories of oats, nursery stock, potatoes, wheat, and the other categories compose 13.4 percent of harvested land use.

Erie County Animals and Animal Products Sales, 2007

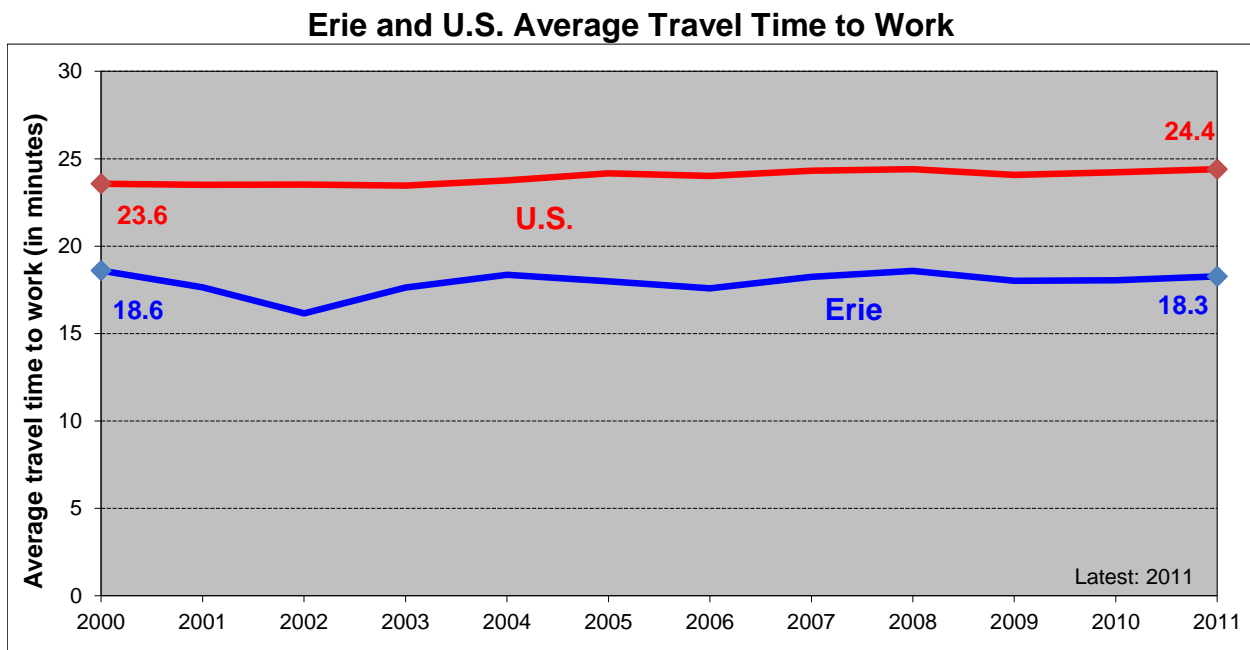


Category	Sales	% of Total
Milk	\$15,429,000	69.9
Cattle	3,187,000	14.4
Aquaculture	1,699,000	7.7
Poultry	656,000	3.0
Equine	537,000	2.4
Specialty	411,000	1.9
Hogs	115,000	0.5
Sheep & Goats	47,000	0.2
Total Animal	22,081,000	100.00

Source: National Agricultural Statistics Service (NASS) of the United States Department of Agriculture

- ▶ Cows are clearly important to Erie County farmers. Milk made up a large majority of all animal and animal product sales in Erie County in 2007 with \$15.4 million or 69.9 percent of total sales. Cattle accounted for another \$3.2 million of sales, 14.4% of the total. These two categories amount to 84.3% of animal and animal product sales in the county.
- ▶ Aquaculture is the next largest categories with \$1.7 million in sales.
- ▶ The remaining categories of poultry, equine, specialty, hogs, and sheep and goats comprise only 8 percent of total sales, or \$1.8 million in 2007 for Erie County.

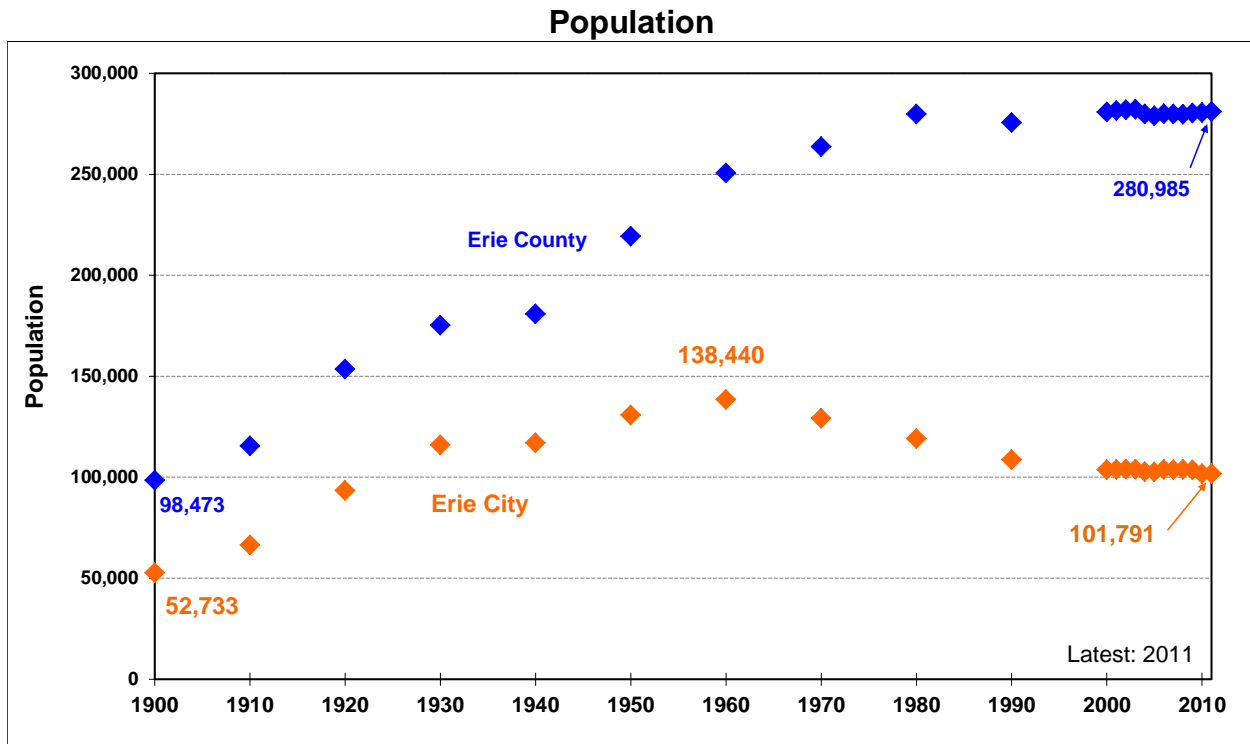
Commuting



- ▶ Erie workers consistently spent about 25% less time commuting than average U.S. workers over the 2000-2011 period.
- ▶ In 2011, Erie workers spent an average of about 18.3 minutes getting to work, compared with 24.4 minutes nationally. That translates to a difference of a little over 6.1 minutes saved each way each day, or 61.3 minutes per week. Working 50 weeks a year on average, that amounts to a savings of 51.1 hours of travel time per year in Erie—more than an extra week’s vacation! And this does not factor in the money costs of commuting, not inconsequential in a time of rising gasoline prices. This is one of those times when Erie can be happy to be below the national average.
- ▶ Over 123,300 Erie residents commuted to work in 2011, spending a total of 38,890 hours on the trip to and from work. That is the equivalent of about 972 work-weeks, or over 19 years of time spent on commuting that could have been spent on work or leisure.
- ▶ In 2011, 4,342 Erie residents, or 3.4% of the labor force, worked at home. This is below the 4.3% national average. Erie’s percent working at home has increase quite a bit from its value of just 1.9% in 2000.
- ▶ In 2011, commute time in Erie rose slightly to 18.3 minutes from 18.1 in 2010.

Erie City and Erie County

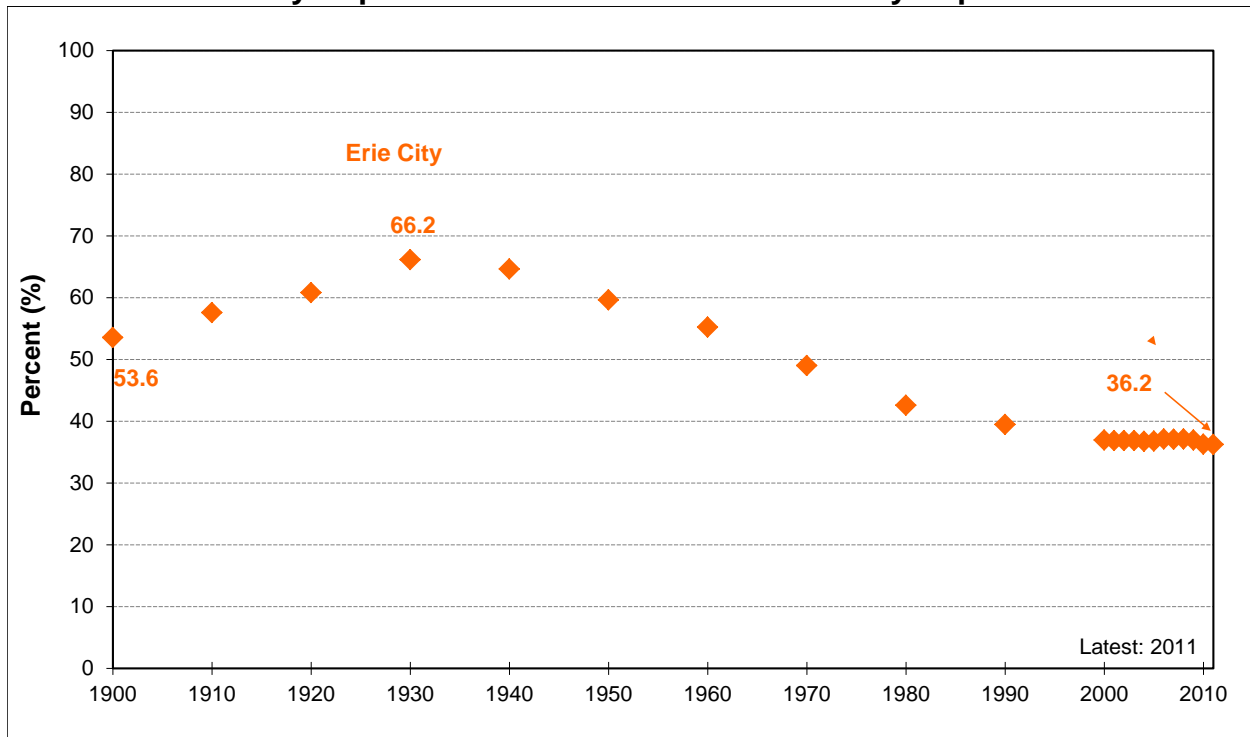
How does the City of Erie compare to Erie County? This section will provide data on a number of measures.



Source: U.S. Census Bureau, Population Estimates Program

- ▶ 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.
- ▶ From 1900 to 2011, City population increased by 93%, and County population grew by 185%.
- ▶ In 2011, the City of Erie had a population of 101,791 on 22 square miles, for a population density of 4,627 people per square mile. Compare this with a 2011 density of 350 for Erie County, and a U.S. average density of about 87 per square mile. The City is over 13 times more densely settled than the County, on average, and about 53 times as densely settled as the U.S. overall.

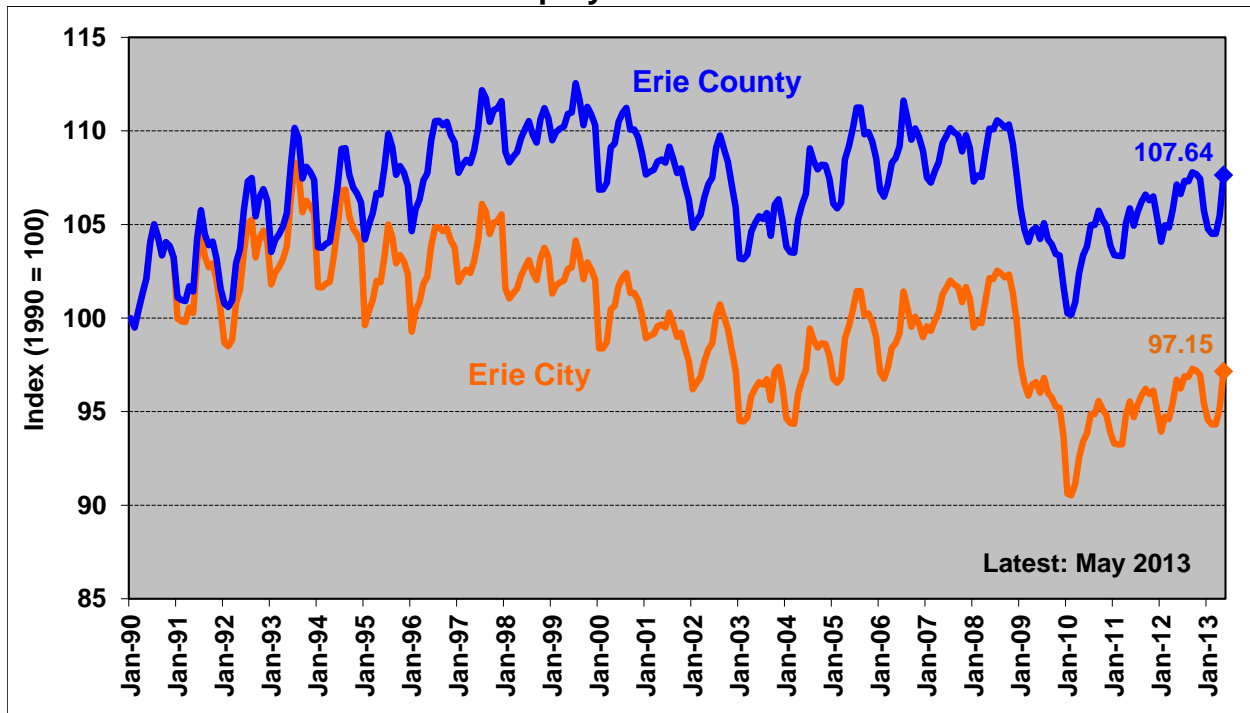
Erie City Population as a Percent of Erie County Population



Source: Calculated from data from U.S. Census Bureau, Population Estimates Program

- ▶ 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 2011 the City's population only made up 36.2% 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.

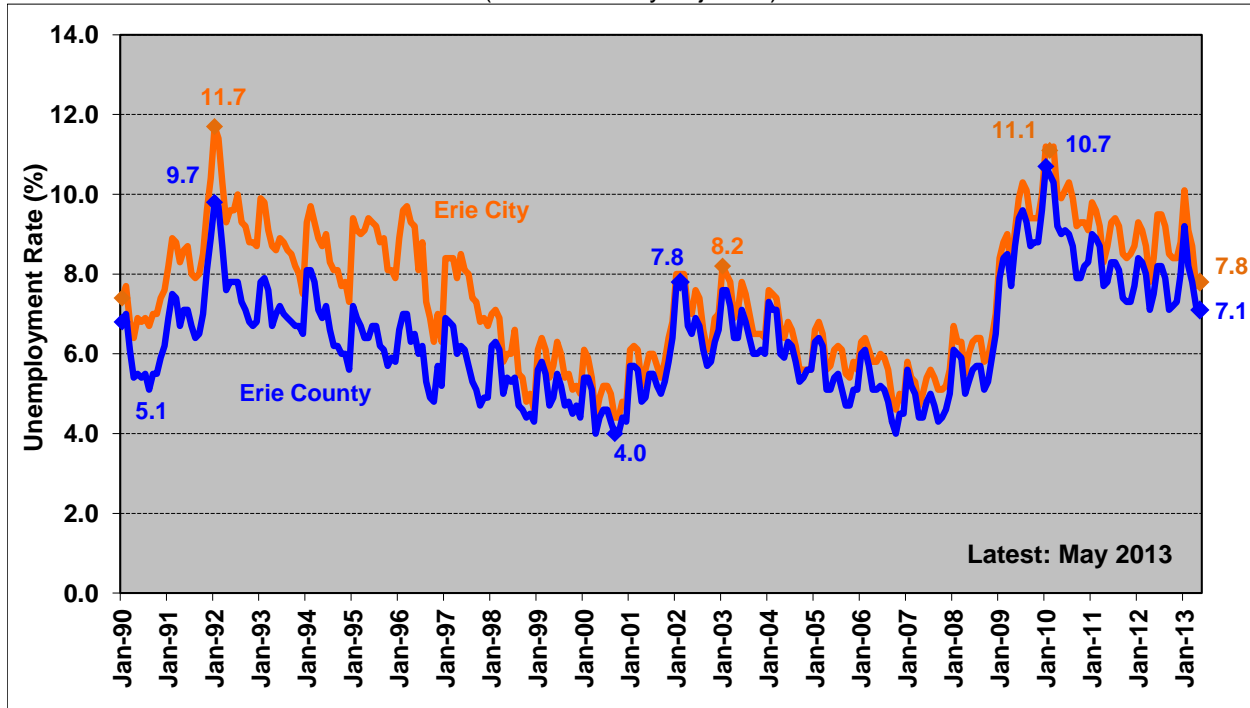
Employment Index



Source: Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics (LAUS)

- ▶ As might be expected, both City and County employment patterns demonstrate considerable seasonality, which appear in the graphs in the ups and downs each year. (This refers to total employment of residents in the City and County, not employment of City and County governments.)
- ▶ Since 1990, County employment has grown by about 5%, but City employment has fallen by almost 4%.
- ▶ Employment in the City peaked in July 1993 at 49,877, just shy of 50,000. Most recently it has been in the 43,000 - 45,000 range.
- ▶ County employment peaked right before the 2001 recession in July 1999 at 137,977. Over the last year, County employment has averaged about 130,000.
- ▶ Throughout this period, the City accounted for a little over a third (33 to 38%) of all employment in the County, and about 42% (34 – 54%) of County unemployment.
- ▶ These data are from the Household Survey rather than the Establishment Survey, so they represent a count of Erie residents who are working, not a count of jobs. (A person with two jobs only counts once in this database. Someone commuting to Erie to work here is not included in this database, but an Erieite who commutes out of the area to work *is* counted.) This is the program from which the official unemployment rate is calculated.

Unemployment Rates (not seasonally adjusted)

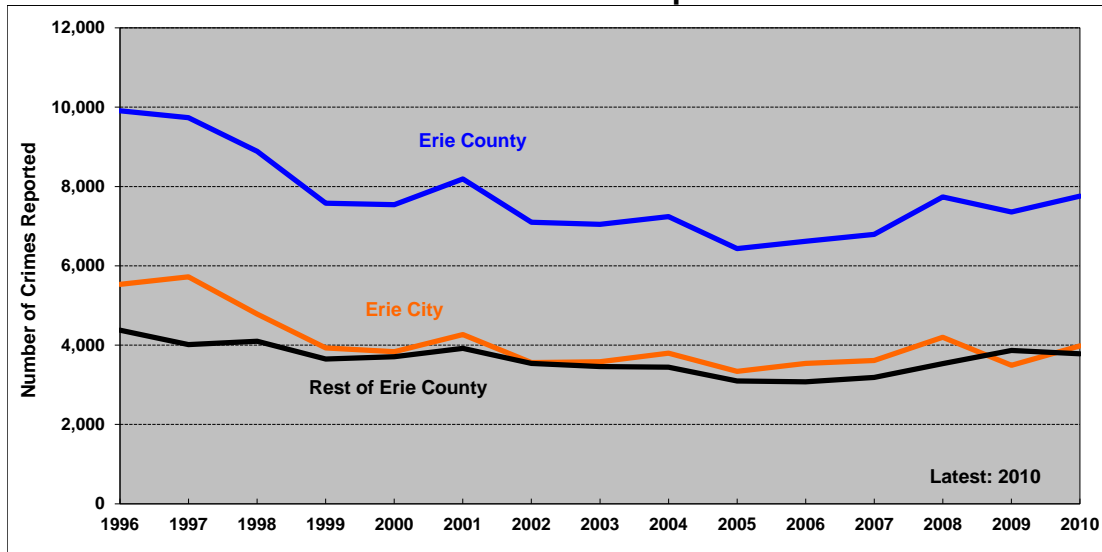


Source: Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics (LAUS)

- ▶ The unemployment rate clearly follows the business cycle, with major increases during the recessions of 1990-1992, 2001-2002, and again in the recent recession.
- ▶ Outside recession periods, the unemployment rate in both the City and the County tends to slowly decline.
- ▶ The City's unemployment rate averaged 1.0 percentage points higher than the County's rate over the period since 1990. However, the rates have been much closer since 1999, with the City averaging only 0.6 percentage points higher than the County. Both are higher than the national rate.
- ▶ The May 2013 rates were 7.1% for the County and 7.8% for the City.

Crime

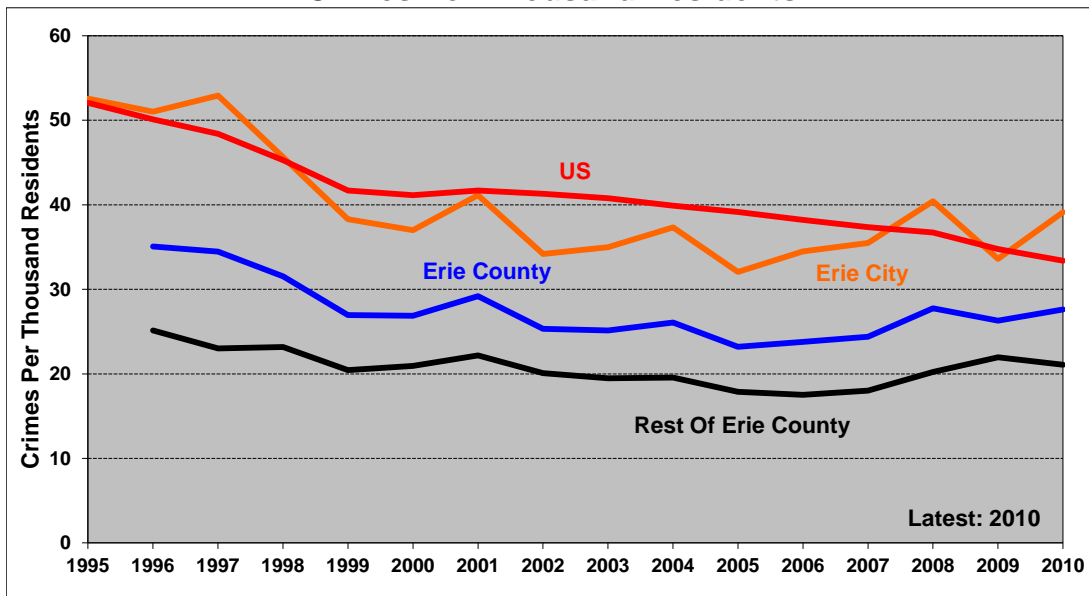
Number of Crimes Reported



Source: Federal Bureau of Investigation (FBI)

- ▶ Between 1995 and 2005, crime was on the decline in both Erie City and Erie County.
- ▶ Crime increased in both Erie City and Erie County between 2005 and 2010.
- ▶ The City of Erie accounted for about half the number of crimes reported in the county throughout the time period, although it only accounted for about 1/3 of the county's population.

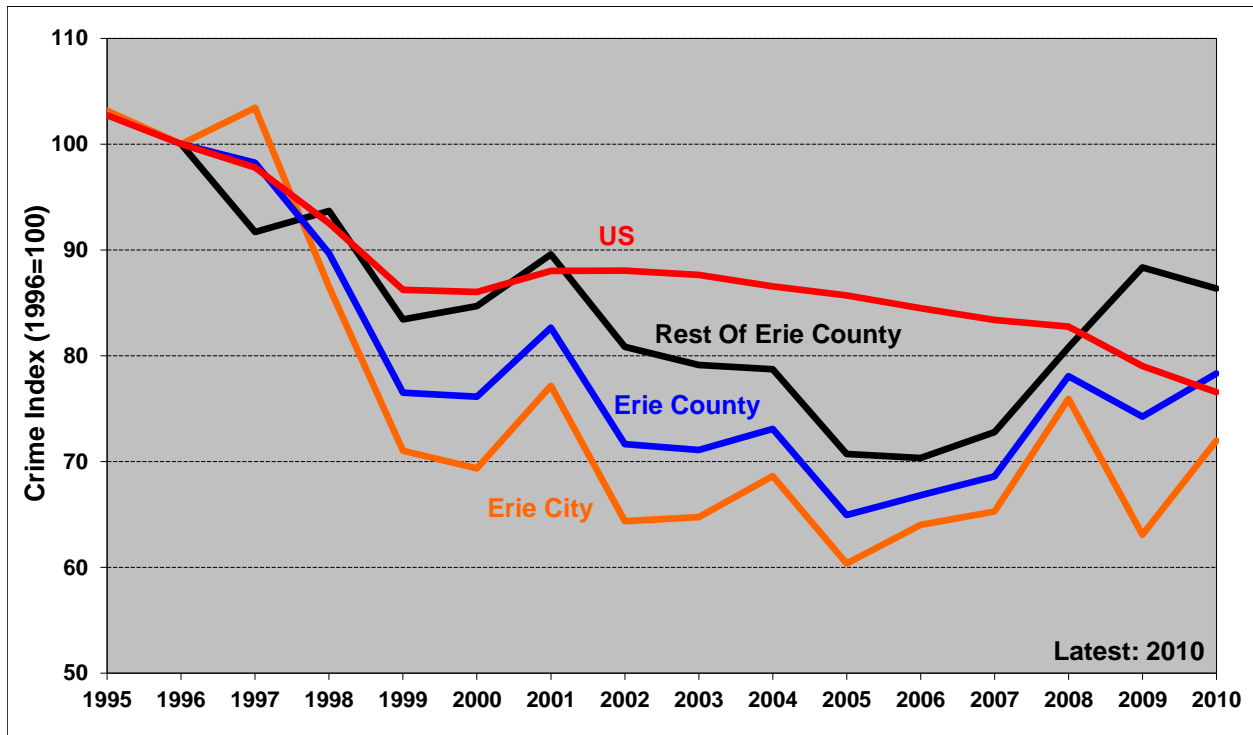
Crimes Per Thousand Residents



Source: Federal Bureau of Investigation (FBI)

- ▶ Crime rates per thousand people fell throughout the period both nationally and locally.
- ▶ From 1995 through 1997 and the years 2007, 2008, and 2012, there were slightly more crimes per thousand residents in the City of Erie than the national average.
- ▶ Erie County was well below the national average throughout this time period.

Crime Index



- ▶ By putting the crime data into index form with 1996 as the base, it is possible to compare changes in crime rates over time.
- ▶ These data show that between 1995 and 2005, both the City of Erie and Erie County experienced a greater decrease in crime than the U.S., with the city experiencing a larger decrease than the county.
- ▶ However in 2005, both the City of Erie and Erie County saw an increase in crime which continued into 2008. The U.S. rate continued to decline during this period.
- ▶ A major drop in City crime rates in 2009 was followed by an increase in 2010. The County outside the City saw a rise in crime in 2009, but a drop in 2010.

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.

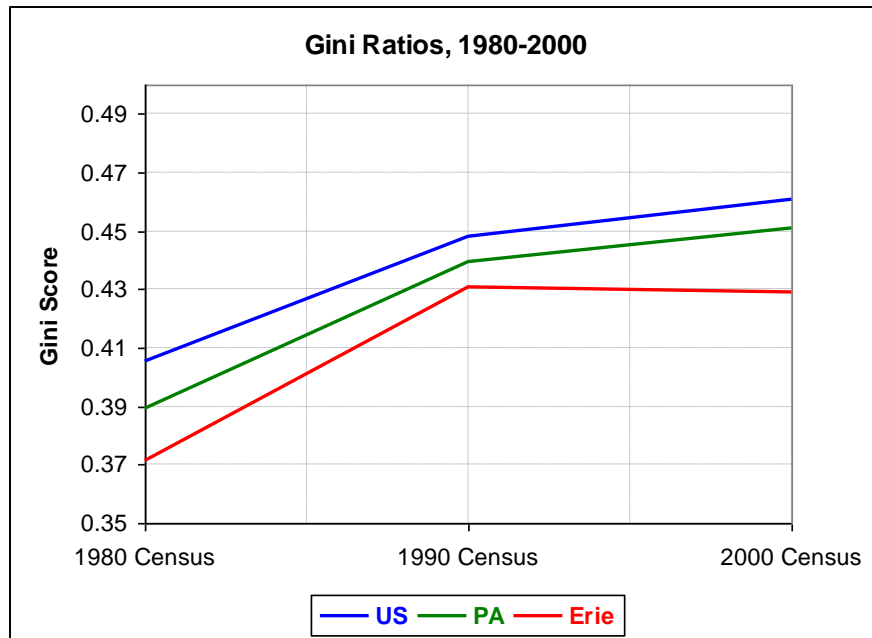
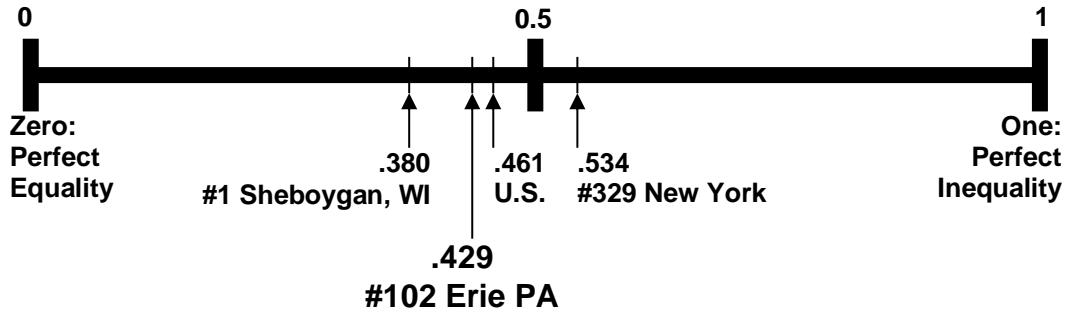
		Residence Before College		Total
		Erie County	Outside Erie County	
Residence After College	Erie County	“Stayers” 702 36%	Brain Gain 58 3%	760 39%
	Outside Erie County	Brain Drain 260 13%	“Visitors” 941 48%	1,201 61%
	Total	962 49%	999 51%	1,961 100%

- ▶ 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.

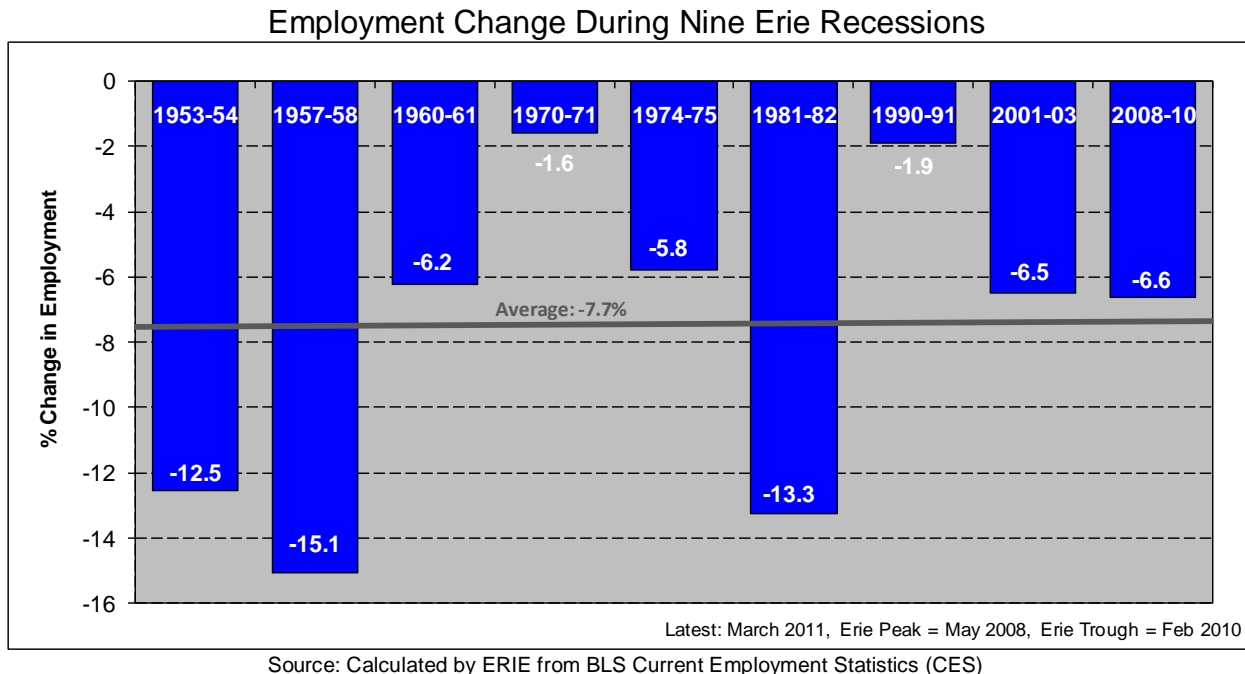


- ▶ Income was distributed more equally in Erie County than average for the nation.
- ▶ Income inequality increased over the period from 1980 to 2000 in PA and the U.S.. It also increased in Erie from 1980 to 1990, but remained nearly constant from 1990 to 2000, contrary to the national trend.
- ▶ At 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

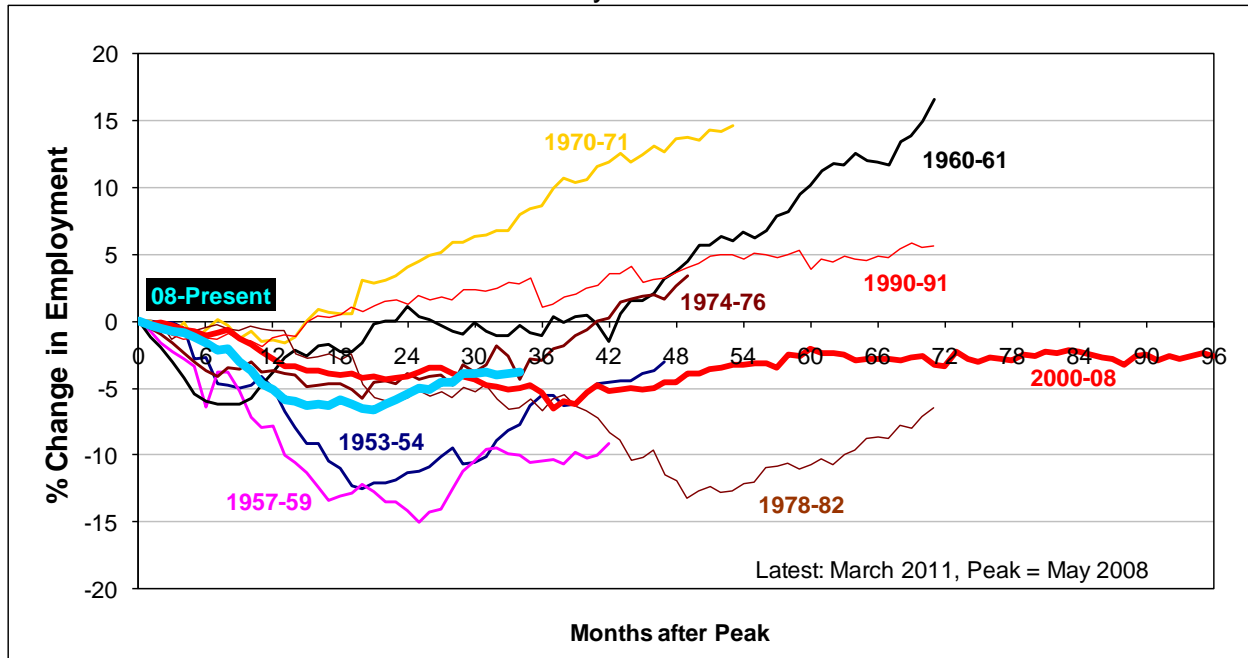
For current information about the Erie and U.S. business cycles, please see the most recent *ERIE Leading Index* (ELI) information at www.ERIEdata.org



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.

APPENDIX A

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

<u>NAICS Code</u>	<u>Industry Title</u>
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

<u>NAICS Code</u>	<u>Industry Title</u>
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

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!

❖ **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 fourth edition, the biennial *ERIE Guide* 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.
- Identification of potential foreign trading partners that could help stabilize Erie's economy.
- A statistical profile of Erie firms that conduct business internationally.
- Creation of a local Purchasing Manager Index that mirrors the national index.

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 898-6266 or e-mail the Director at k12@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.



Student Research Assistants

ERIE has employed over 50 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

Dan Eiben (2013-Present)
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)

Ken Schwab (2003-05)
Business Economics
Katherine Newcombe (2002-03)
Business Economics

Jennifer Junk (1992-93)
MBA

Michael Hammill (2002-04)
Business Economics

Deborah Jones (1992)
Business Economics

Travis Gonser (2001-02)
Business Economics

Douglas Del Porto (1991-92)
Business Economics

Tricia Michel (2000)
Business Economics

Adrienne Shrawder (1990-92)
Accounting

Undergrad Research Assistants

Sean Allen (2013-Present)
Business Economics and Finance

Denise Cressley (2000)
Business Economics

Michael Casper (1990-91)
Business Economics

Brittany Martinelli (2012-Present)
Business Economics and Marketing

Christopher Collins (1999)
Business Economics

Todd Swartz (1990-91)
Management Info. Systems

Anton Jura (2012)
Business Economics

Matt Dubowski (1998-99)
Business Economics

Neal Cheskis (1990)
Business Economics

Justin Brunot (2010-2012)
Business Economics

Kelly Updegraph (1998-99)
Business Economics

Joseph Giannamore (1990)
Business Economics

Michael Buesink (2009-10)
Business Economics

Erica Lambertson (1997-98)
Business Economics

Michael Ross (1990)
Business Economics

Pat Walling (2007-09)
Business Economics

Theresa Freeman (1997-98)
Business Economics

Joye Dado (1989)
Business Economics

Mike Halapy (2007-09)
International Business

Jasmine Anderson (1996-97)
Business Economics

Mark Prestage (1988-89)
Accounting

Alex Kazmierczak (2006-07)
Business Economics

James Stickney (1996-97)
Business Economics

Clifford Woodruff (1988-89)
Business Economics

Jason Pflueger (2005-07)
Economics

Randy Risjan (1995-96)
Business Economics

Patricia Causgrove (1986-88)
Business Economics

Clinton Knittle (2006)
Economics

Steven Swiderski (1995-96)
Business Economics

Matthew Filippi (1988)
Marketing

Chris Sitter (2005-06)
Business Economics

Melissa Gehr (1994)
Bus., Lib. Arts and Sciences

Edward Miseta (1988)
Business Economics

Jeremiah Riethmiller (2005-06)
Business Economics & Finance

James Horton (1994)
Bus. Econ. and Management

Norman Toth (1988)
Accounting

Peter Binotto (2003-04)
Business Economics

Jane Hill (1993-94)
Economics

David Flynn (1987)
Economics and Mathematics

Amy Hunter (2003)
Business Economics

Terry Muha (1993-94)
Business Economics

Dana Bucci (1986)
Business Economics

Amanda Gilkinson (2003)
Business Economics

Shawn Alexander (1993-94)
Business Economics

Kelvin Pier (1985)
Accounting

ERIE Research Reports

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

Kurre, James A. and St. Andrews, Patrick J. What Determines Labor Productivity Differences for Manufacturing Industries Across U.S. Metro Areas? Presented at the 52nd Annual Meeting of the Southern Regional Science Association, Arlington VA, April 2013. 35 pages.

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.

Kurre, James A. Building Erie by Buying Erie: An Import Substitution Strategy for Erie County. November 30, 2011. Sponsored by the Economic Development Corporation of Erie County. 39 pages.

Brunot, Justin. (Student researcher.) *Causes of Poverty at the U.S. Metro Level*. October 2011. 34 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

Yates, Travis M. G. *Measuring International Exports at the County Level: Is it Possible?* December 2010. 31 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

Brunot, Justin A. *The Economic Cost of Pediatric Patients Traveling Outside Northwest Pennsylvania for Subspecialty Treatment*. November 2010. 41 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

Halapy, Michael J. *Index of Leading Metropolitan Areas*. Penn State Erie: University Scholars Thesis, May 2009. 73 pages.

Gilson, Benjamin C. *Creating a More Timely Measure of Erie's Standard of Living*. December 2008. 38 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

Halapy, Michael J. *Identifying Metropolitan Areas that Lead National Business Cycles* December 2008. 37 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

Balsiger, Jennifer *Which Foreign Trade Partners Will Best Help to Stabilize the Erie Economy?* November 2008. 33 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

McAndrew, William P. *Brownfield Cause and Effect Analysis*. November 2007. 37 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

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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Pflueger, Jason C. The Effect of Declining Manufacturing Employment on the Distribution of Income in U.S. Metro Areas. Penn State Erie: University Scholars Thesis, Spring 2007. 84 pages.

Kazmierczak, Alexander J. *What Type of Products' Prices Vary More Across Space? An Initial Examination*. December 2006. 43 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.

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

- Riethmiller, Jeremiah R. *Follow the Leader: Creating an Index of Leading Economic Indicators for the Erie MSA*. Penn State Erie: University Scholars Thesis, Spring 2006. 150 pages.
- Kurre, James A. *Estimates of the Effect of a Potential 1% Sales Tax for an Erie County Regional Asset District*. May, 2006. 25 pages.
- Pflueger, Jason C. *Income Inequality In Erie: How Much Is There and Why?* October 2005. 89 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.
- Riethmiller, Jeremiah R. *Follow the Leader: Finding Leaders of the Erie Economy*. May 2005. 39 pages. Funded by the Behrend College Undergraduate Student Academic Year Research Grant Program.
- Newcombe, Katharine J. *Social and Cultural Capital for "Creative" Economic Development*. Penn State Erie: University Scholars Thesis, Fall 2003. 37 pages.
- Kurre, James A. *Philanthropy in Erie County, 2001: A Survey of 50 Bellwether Nonprofit Organizations*. July 2003. Sponsored by The Erie Community Foundation. 19 pages.
- Hunter, Amy. *What Causes Manufacturing Productivity to Vary from Place to Place?* Spring 2003. 28 pages. Funded by the Behrend College Undergraduate Student Academic Year Research Grant Program.
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- Gonser, Travis. *Productivity and Wages in Erie's Industries*. March 2003. 39 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.
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- Washburn, James A. and Sadiarin, Hazel Garcia. *Brain Drain In Erie County*. November 2001. 30 pages. Funded by the Behrend College Undergraduate Student Summer Research Grant Program.
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- Warner, Jennifer K. *Identifying Foreign Trade Partners to Stabilize the Erie Economy*. October 2000. 46 pages.
- Michel, Tricia L. *Erie Retail Sales: A Disaggregated Approach*. August 2000. 38 pages.
- Kurre, James A. *Differences in the Cost of Living Across Pennsylvania's 67 Counties*. March 2000. Prepared for the Center for Rural Pennsylvania. 78 pages.

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- Kurre, James A. *A Shift-Share Analysis of the Erie Economy: 1970-1980*. ERIE Technical Report Number 2. December 1983. 24 pages.
- Weller, Barry R. *Impact of the National Business Cycle on Regional Employment: A Study of the Erie SMSA*. ERIE Technical Report Number 1. December 1983. 25 pages.

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