

January 2019

The Impact of Trade

An Economic Analysis of Goods and Services Exported from the Southcentral Region of Pennsylvania



This report was compiled by the team at World Trade Center Harrisburg:
Tina Weyant, *Executive Director*
Katrina Chan, *Trade Specialist*

We would like to thank our intern, Brynne Godfrey, Penn State, for her contributions to this report. We would also like to thank our additional interns, Arop Monywa and Ellie Rhoads from Messiah College, for their assistance.

World Trade Center Harrisburg

1000 N. Cameron Street • Harrisburg, PA 17103

Phone: (717) 843-1090 • Fax: (717) 854-0087 • Email: info@wtccentralpa.org

www.wtccentralpa.org





The Impact of Trade

An Economic Analysis of Goods and Services Exported from the Southcentral Region of Pennsylvania

Table of Contents

EXECUTIVE SUMMARY	4
EXPLANATION OF TERMS AND METHODOLOGY	5
THE STATE OF PENNSYLVANIA: 2003-2016	6
AN ANALYSIS OF PENNSYLVANIA BY REGION: 2003-2016	7
THE SOUTHCENTRAL REGION OF PENNSYLVANIA	8
AN ANALYSIS OF THE SOUTHCENTRAL REGION BY COUNTY: 2003-2016	9-10
CHANGE IN TOTAL REAL EXPORTS BY COUNTY: 2003-2016	11
EXPORT RELATED JOBS IN SOUTHCENTRAL PENNSYLVANIA	12
TOTAL EXPORTS PER CAPITA IN THE SOUTHCENTRAL REGION BY COUNTY	13
GROWTH BY SOUTHCENTRAL PA COUNTY: 2003-2016	14
ADAMS COUNTY	14
BERKS COUNTY	15
CUMBERLAND COUNTY	16
DAUPHIN COUNTY	17
FRANKLIN COUNTY	18
LANCASTER COUNTY	19
LEBANON COUNTY	20
YORK COUNTY	21
APPENDIX 1: A MAP OF PENNSYLVANIA’S REGIONAL EXPORT NETWORK	22

Executive Summary

World Trade Center Harrisburg is a private, non-profit organization that was founded over 25 years ago with a mission to connect local companies to global opportunities. As one of nearly 328 World Trade Centers located in 91 countries, World Trade Center Harrisburg offers relevant educational programs, up-to-date trade information, practical trade assistance, research and referral services. World Trade Center Harrisburg is also the regional liaison for the State of Pennsylvania's comprehensive and free export assistance service.

The state of Pennsylvania (PA) delivers its export assistance service through ten independent non-profit organizations. World Trade Center Harrisburg is the trade assistance provider for the Southcentral region of Pennsylvania, comprising the counties of **Adams, Berks, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, and York**. These counties encompass seven small Metropolitan Statistical Areas (MSA), including **Harrisburg-Carlisle, Lancaster, Lebanon, Reading, York-Hanover, Chambersburg-Waynesboro and Gettysburg**.

According to a unique data set from the Brookings Institute's *Export Monitor 2017* report, exports have contributed to the building of a more advanced economy in the five years from 2010 to 2015 that preceded the 2016 election. After years of slowly recovering from the Great Recession, the United States is finally ready and able to expand and prosper as an economy. The middle-class wage growth is growing along with the availability of jobs and increased output. The unemployment rate has fallen back to around its pre-recession level. Much of this can be attributed to exporting and global trade, as more and more companies continue to enter the global market. This report focuses on the impact of exports and how it bears on the economic well-being of Pennsylvania, specifically in the Southcentral region.

“Since 2011, real U.S. export growth has been near the world average, outpacing the average for all advanced economies”

- International Trade Administration

Key Findings:

- From 2003 to 2016, the Southcentral Pennsylvania region experienced an overall real export increase of 51%.
- Southcentral PA is ranked second in terms of exported manufactured goods, exporting only about \$600 million less than the Southeast region and exceeding the Southwest region by over \$2.0 billion.
- The Southcentral region is ranked third in terms of real exports from all combined industries.
- Exports supported 70,879 jobs in the Southcentral region in 2016.
- The Southcentral region's exports accounted for 19% of total Pennsylvania exports in 2016.

Explanation of Terms and Methodology

NAICS and HS Nomenclature

The North American Industry Classification System (NAICS) is a method of classifying and organizing industries employed by the U.S. federal government as a means of gathering, analyzing, and providing information and statistics on the U.S. economy.¹ The Harmonized System (HS) trade classification codes are set by the World Customs Organization and are used globally by customs officials as a means of identifying products. Additionally, HS codes are used in calculating the tariffs, taxes, or duty costs.²

Goods and Services

This report discusses the exports of goods and services. Goods are tangible, manufactured, material products that have a physical identity. An example of a good would be industrial machinery. The term “good” is used interchangeably with the term “commodity” or “merchandise”, although commodity typically refers to marketable raw materials. On the other hand, services are intangible and non-physical. Examples of services includes tourism, education, insurance or financial services. Some of the data in this report refers to exported goods only, whereas some combine goods and services for the statistic (using the key phrases “combined” or “total exports”).

Pennsylvania’s Geographic Regions

A map of the Regional Export Network of Pennsylvania, as defined by the Pennsylvania Office of International Business Development, is shown in **Appendix 1**. The regions are frequently mentioned for comparison. Unless otherwise noted, the regional reference covers all counties in the region.

Methodology Behind the Statistics

The statistics used in this report estimate U.S. exports by production location, and not origin-of-movement, as is the norm with all the other available export databases. The origin-of-movement is not always the place where the good was produced, especially when the exported goods get consolidated along the shipment route. Origin-of-movement export data are sufficient for a freight study, but they provide a distorted view for regional economic analysis.³

Source of Data

Unless otherwise indicated, all data and statistics were arrived at through calculations using the Brookings Institute’s *Export Monitor 2017* by Joseph Parilla and Nick Marchio. The report and all data sets can be found through their website:

<https://www.brookings.edu/research/export-nation-2017>

¹ US Census Bureau, Introduction to NAICS

² Export.gov, Exporting Basics

³ Brookings Institute, Export-Series, Methodology

The State of Pennsylvania: 2003-2016

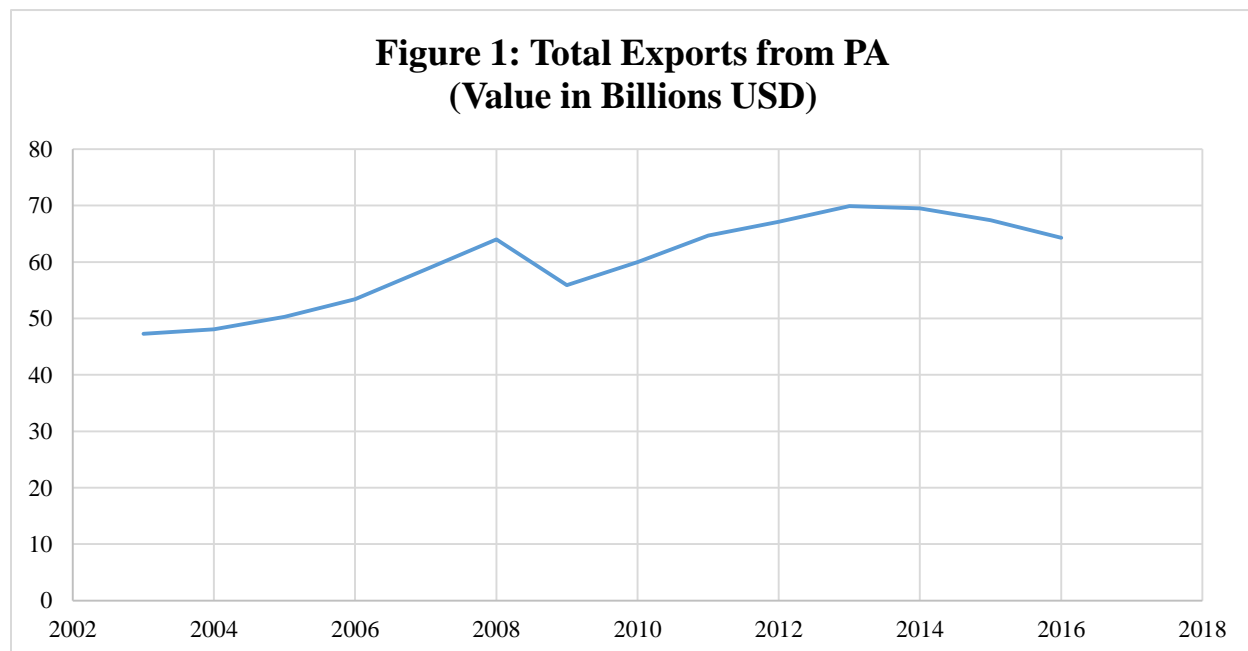
The state of Pennsylvania is dependent on the exporting of goods and services through world markets to contribute to its economic success. The U.S. Department of Commerce’s International Trade Administration (ITA) reported that in 2016, Pennsylvania’s largest market was Canada, exporting \$10.0 billion in goods and representing 27% of PA’s total goods exports.⁴ Other top trading partners from 2003-2016 were Mexico, China, the United Kingdom, and Japan. The value of all NAICS exports from Pennsylvania increased during this time by about 36%.

Pennsylvania, along with much of the country, has seen an increase in the number of manufacturing jobs and those workers whose jobs depend on exports. From the U.S. Department of Commerce’s International Trade Administration (ITA), in 2016 over 176,000 jobs were supported by goods exports from Pennsylvania. 92% of these jobs were supported by goods exports that were manufactured.

“Goods exports from Pennsylvania supported 176,514 U.S. jobs in 2016”

- Office of the United States Trade Representative

Agriculture in Pennsylvania also depends on exports, as Pennsylvania is the 21st largest agricultural exporting state in the country as of 2015. From the Office of the United States Trade Representative, Pennsylvania shipped \$2.0 billion in domestic agricultural exports abroad in 2015.⁵ **Figure 1** shows the total exports from PA from the years 2003 to 2016.



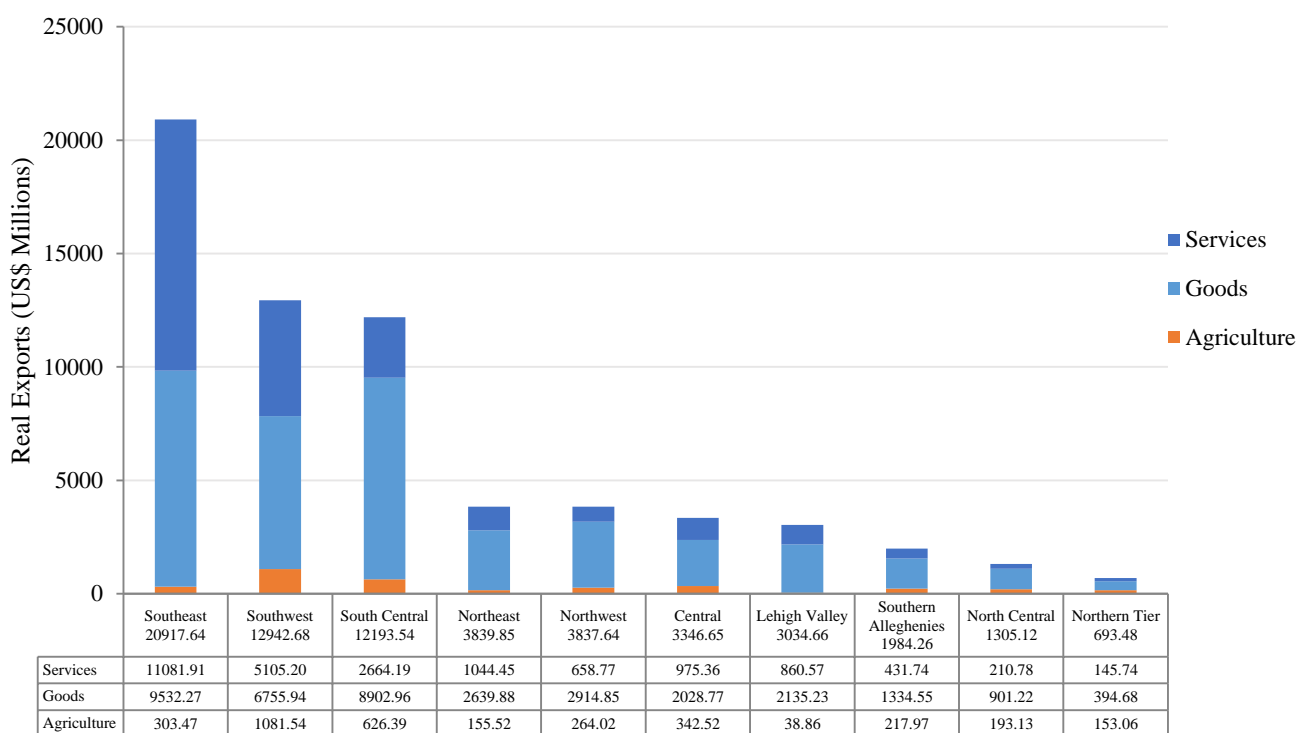
⁴ International Trade Administration, Pennsylvania Exports, Jobs & Foreign Investment

⁵ Office of the United States Trade Representative, Pennsylvania Trade Facts

An Analysis of Pennsylvania by Region: 2003-2016

Figure 2 shows the value of real exports by region per annum. Unsurprisingly, the Southeast region, which includes Philadelphia, the largest city in the state, exports the most by value. The Southeast region is followed by the Southwest region and the Southcentral region. It is worthwhile to note that although the Southeast region is significantly larger in terms of number of business establishments and population than the Southcentral region, Southcentral PA exported only about \$600 million less in *goods*, than the Southeast region. Southcentral PA exceeds the Southwest region, home to the large metropolitan area Pittsburgh, in terms of exported goods by over \$2.0 billion.

Figure 2: Total Real Exports by Pennsylvania Region: 2016

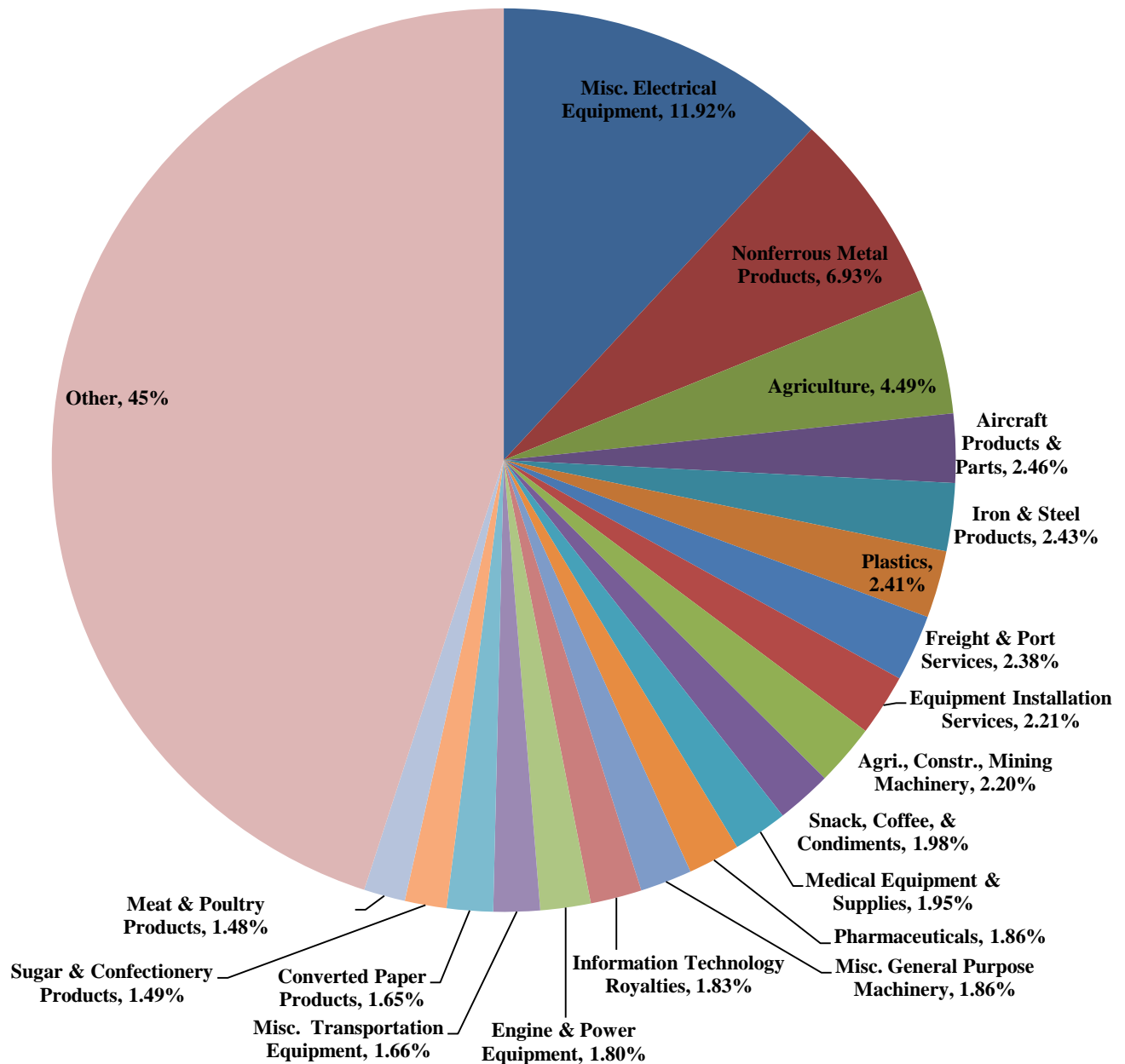


The Southcentral region exported only about \$600 million less in goods than the Southeast region in 2016

The Southcentral Region of Pennsylvania

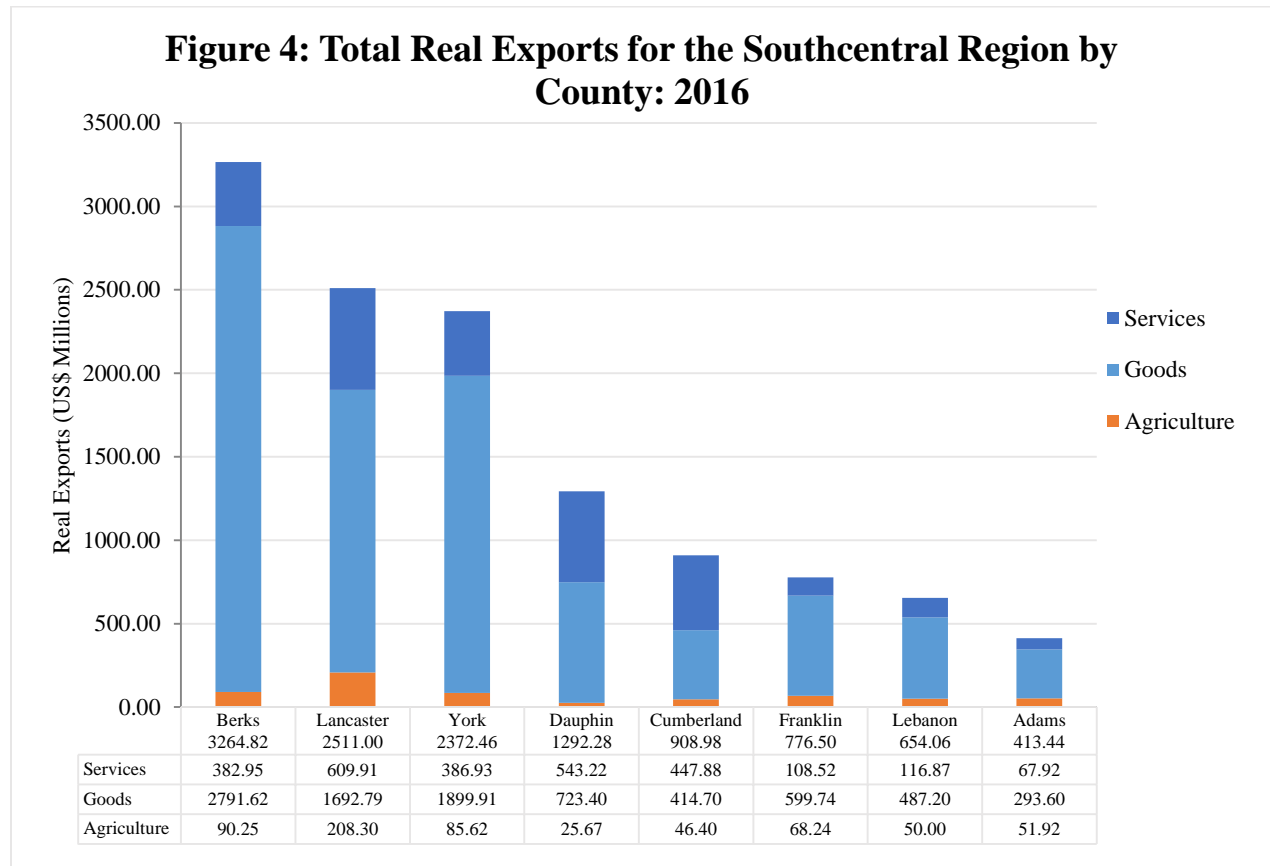
The Southcentral region of Pennsylvania is fortunate to have an extremely diverse array of industries within its bounds. The region as a whole exported around \$12.2 billion dollars in 2016, which includes over one hundred different types of products and services. As shown in **Figure 3**, the top five exports by value are misc. electrical equipment; nonferrous metal products; agriculture; aircraft products and parts; and iron and steel products.

Figure 3: Industry Share Of Combined Real Exports By Value In The Southcentral Region 2016



An Analysis of the Southcentral Region by County: 2003-2016

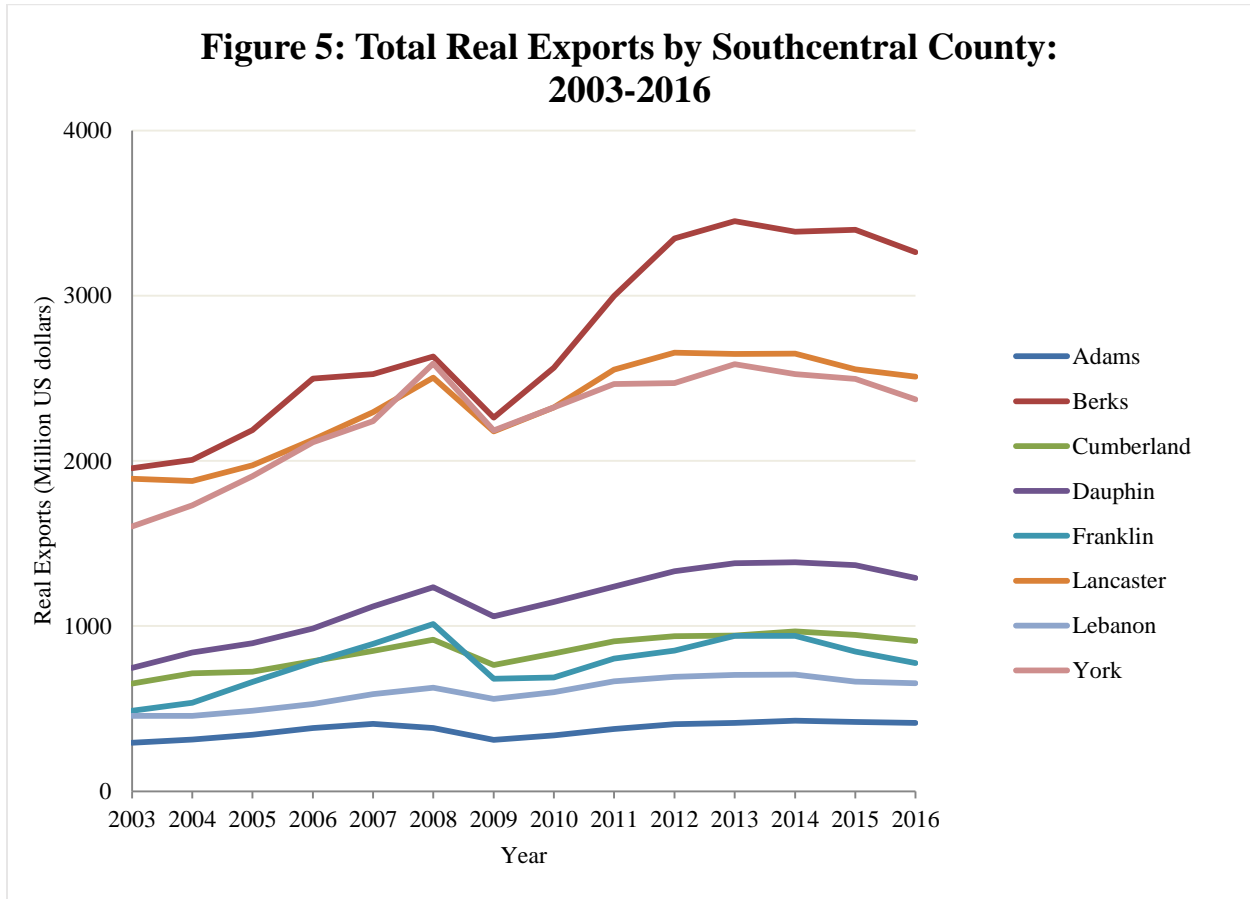
Figures 4 and 5 show the value of total exports for the Southcentral region by county. It is evident from both figures that Berks County exports the most among all counties in the region. Following Berks in terms of highest exporting counties are Lancaster and York.



The Southcentral region's exports accounted for 19% of total Pennsylvania exports in 2016

An Analysis of the Southcentral Region by County: 2003-2016

Figure 5: Total Real Exports by Southcentral County: 2003-2016



Berks County exports the most among all counties in the region, followed by Lancaster and York

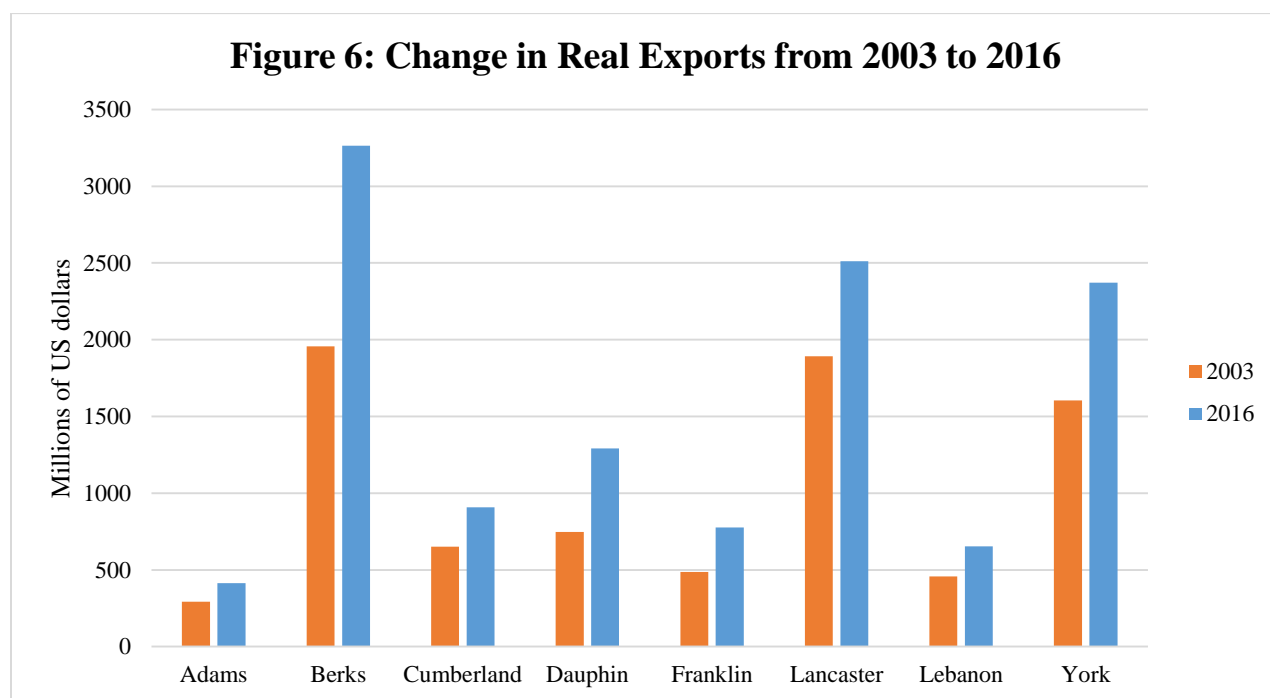
Change in Total Real Exports by County: 2003-2016

Every county in the region has increased the value of their exported goods and services as is shown in **Table 1** and **Figure 6**.

Table 1 compares the percentage changes in real export value among the eight counties. Dauphin County records the highest percent increase between 2003 and 2016, with an increase of above seventy percent. The region, as a whole, increased real export value over the same time period by fifty one percent.

Dauphin	73%
Berks	67%
Franklin	60%
York	48%
Lebanon	43%
Adams	41%
Cumberland	39%
Lancaster	33%
<i>Combined Regional</i>	51%

Figure 6 shows, in millions of 2016 dollars, the increase in export value by county from 2003 to 2016. Berks County shows the largest increase in real export value, increasing by a staggering \$1.3 billion, largely due to misc. electrical equipment.



Export Related Jobs in Southcentral Pennsylvania

The exports of goods and services directly and indirectly impact our economy in numerous ways. In particular, these exports affect American jobs. According to the U.S. Department of Commerce Employment and Trade Statistics, in 2016, goods and services exports supported an estimated 10.7 million U.S. jobs.⁶ Goods exports including agriculture supported the majority of these jobs, accounting for 6.3 million. Services exports supported the remaining 4.4 million jobs. **Table 2** shows export related jobs created from agriculture, goods and services exports for the Southcentral region by county in the year 2016.

County	Jobs Created from Agriculture Exports	Jobs Created from Goods Exports	Jobs Created from Services Exports	Jobs Created from Total Exports
Adams	371	1,776	497	2,644
Berks	652	13,873	2,711	17,235
Cumberland	350	2,355	3,317	6,022
Dauphin	191	3,833	3,966	7,990
Franklin	506	3,156	763	4,425
Lancaster	1,551	9,411	4,332	15,294
Lebanon	327	2,637	782	3,746
York	617	10,155	2,750	13,523
Total Jobs	4,565	47,196	19,118	70,879

Exports supported 70,879 jobs in the Southcentral region in 2016

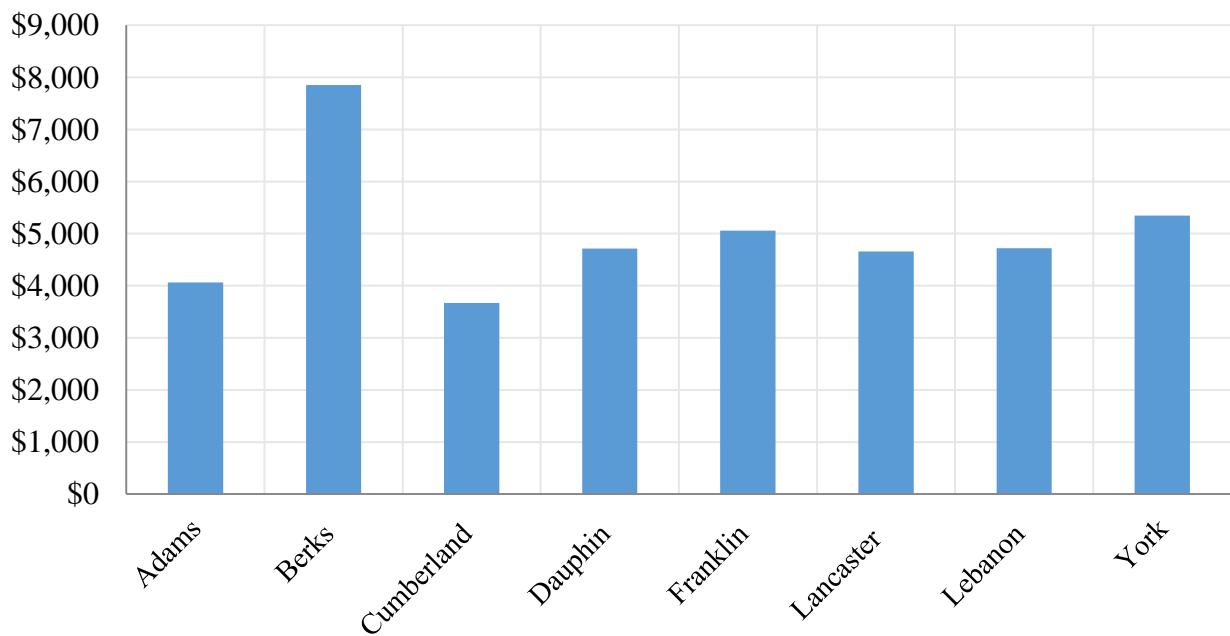
⁶ US Department of Commerce: Employment and Trade

Total Exports Per Capita in the Southcentral Region by County

Table 3 and Figure 7 show the total exports per capita in the Southcentral region by county in 2016. Berks County ranks number one for total exports per capita with \$7,853.18 followed by Franklin County and York County.

Table 3: Total Exports Per Capita in 2016	
County	Total Exports Per Capita
Adams	\$ 4,065.90
Berks	\$ 7,853.18
Cumberland	\$ 3,666.72
Dauphin	\$ 4,714.28
Franklin	\$ 5,056.54
Lancaster	\$ 4,657.44
Lebanon	\$ 4,720.53
York	\$ 5,345.68
<i>Combined Regional</i>	\$ 5,268.32

Figure 7: 2016 Total Exports Per Capita



Growth by Southcentral PA County: 2003-2016

Adams County

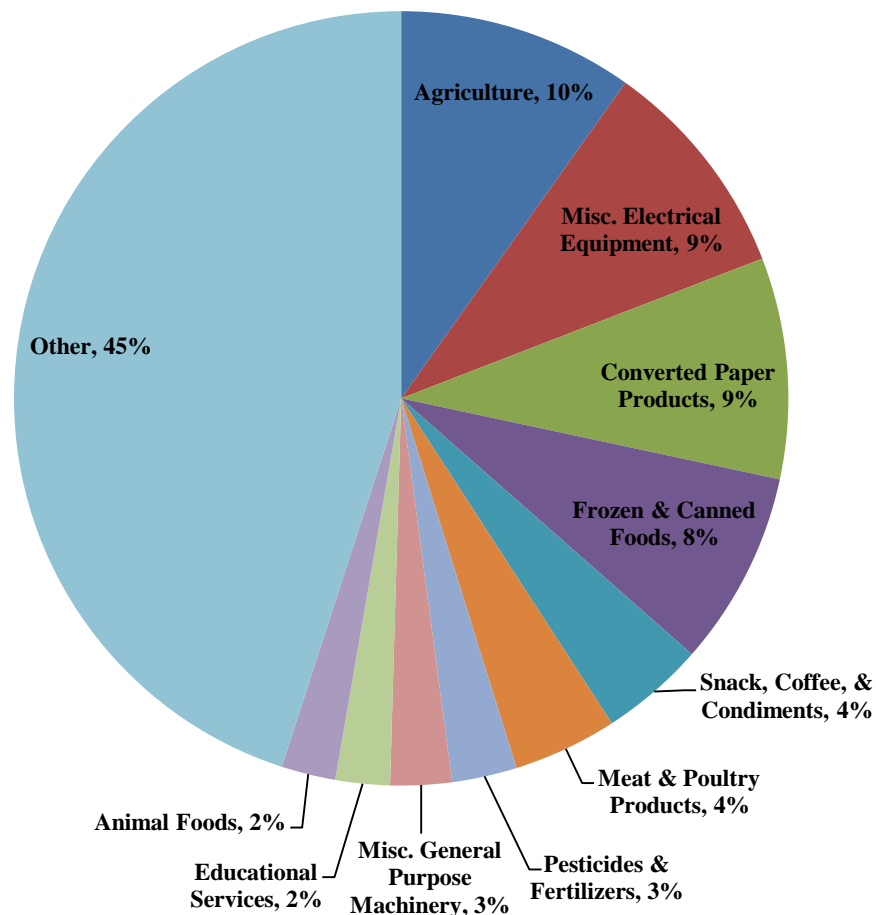
Adams County is the smallest county in the Southcentral PA region in terms of exports. Nonetheless, exports in this region have still increased by 41% from 2003 to 2016. In 2016, the top exporting industries for Adams County were agriculture, miscellaneous electrical equipment, and converted paper products.

Overall in 2016, Adams County exported \$51,920,000 in agriculture, \$293,600,000 in goods, and \$67,920,000 in services with a combined total of \$413,440,000 in real exports. According to the US Census Bureau, in 2016 the county had an estimated total population of 101,684.⁷ With that being said, Adams County had a total of \$4,065.90 in exports per capita.

Total Exports:
\$413,440,000
Total Jobs:
2,644

In 2016, a total of 2,644 jobs in Adams County were supported by exports. Exports of agriculture supported 371 jobs, exports of goods supported 1,776 jobs, and exports of services supported 497 jobs.

Adams County Top 10 Export Industries By Value In 2016



⁷ Census.gov, American FactFinder

Berks County

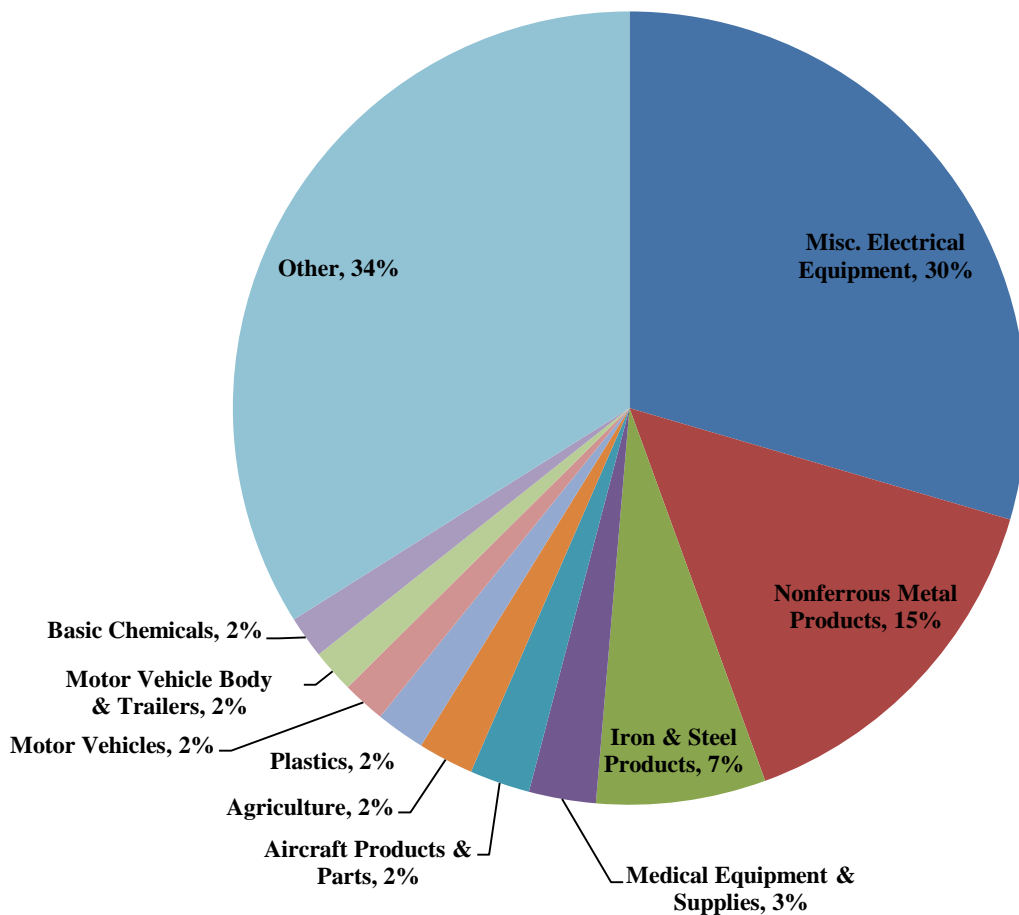
Berks County is the largest county in the Southcentral region in terms of exports and has experienced an overall real export value increase of 67% from 2003 to 2016. In 2016, the top industries that exported from Berks County were those of miscellaneous electrical equipment and nonferrous metal products.

In 2016, Berks County exported a total of \$3,264,820,000. Exports of goods made up the vast majority of total exports, accounting for \$2,791,620,000. Services followed, totaling \$382,950,000 and agriculture made up \$90,250,000 of real exports. According to the US Census Bureau, the 2016 population for Berks County was 415,732, accounting for nearly one-third of the total population in Pennsylvania.⁸ From this figure, Berks County exported a total of \$7,853.18 in exports per capita.

Total Exports:
\$3,264,820,000
Total Jobs:
17,235

A total of 17,235 jobs in Berks County were supported by exports in 2016. Exports of agriculture supported 652 jobs, exports of goods supported 13,873 jobs, and exports of services supported 2,711 jobs.

Berks County Top 10 Export Industries By Value In 2016



⁸ Census.gov, American FactFinder

Cumberland County

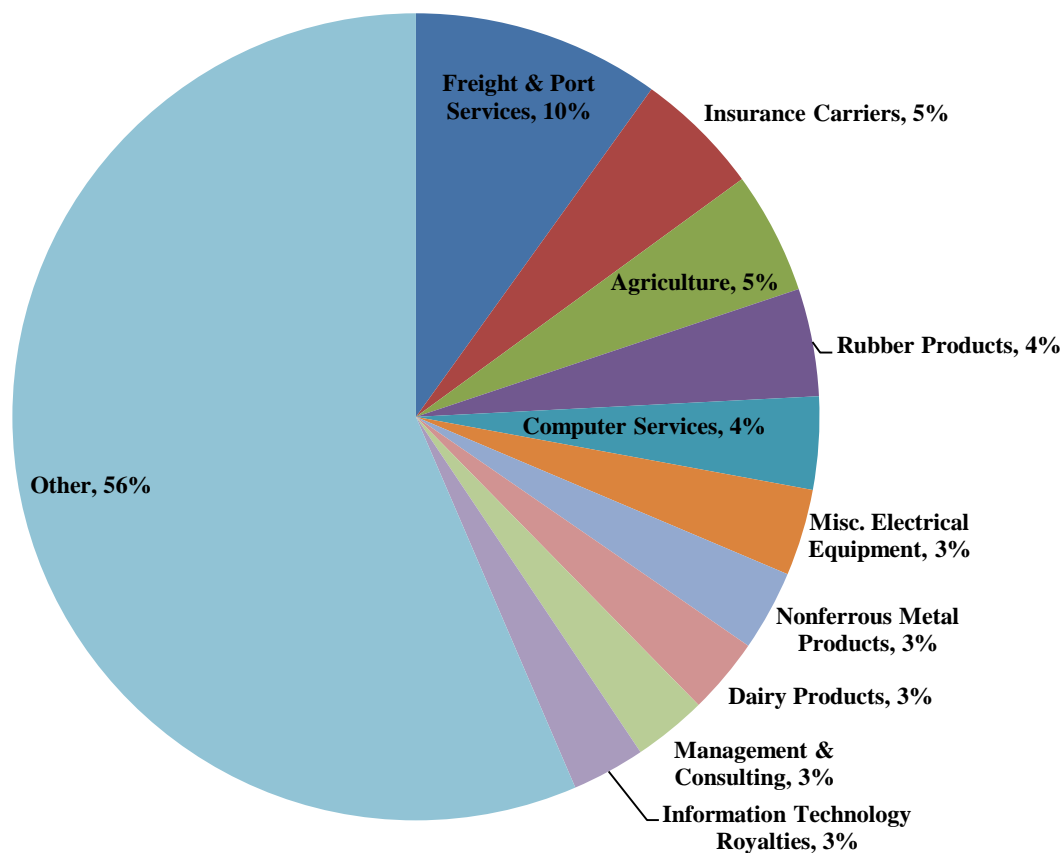
Cumberland County is a transportation gateway for the region. Due to its key location, it is not surprising that the top industry in the county is that of freight and port services. Those freight services are followed, with a large gap, by insurance services and agriculture. Cumberland County has experienced an overall real export value increase of 39% from 2003 to 2016.

Real exports for Cumberland County totaled \$908,980,000 in 2016. Exports of services accounted for the largest portion of this total at \$447,880,000, although exports in goods followed closely behind at \$414,700,000. Exports in agriculture accounted for \$46,400,000 of total exports. From Census.gov, the 2016 population for Cumberland County stands at 247,901, accounting for about one-fifth of the total Pennsylvania population.⁹ From this, Cumberland County exported \$3,666.72 per capita.

Total Exports:
\$908,980,000
Total Jobs:
6,022

A total of 6,022 jobs in Cumberland County were supported by exports in 2016. Exports of agriculture supported 350 jobs, exports of goods supported 2,355 jobs, and exports of services supported 3,317 jobs.

Cumberland County Top 10 Export Industries By Value In 2016



⁹ Census.gov, American FactFinder

Dauphin County

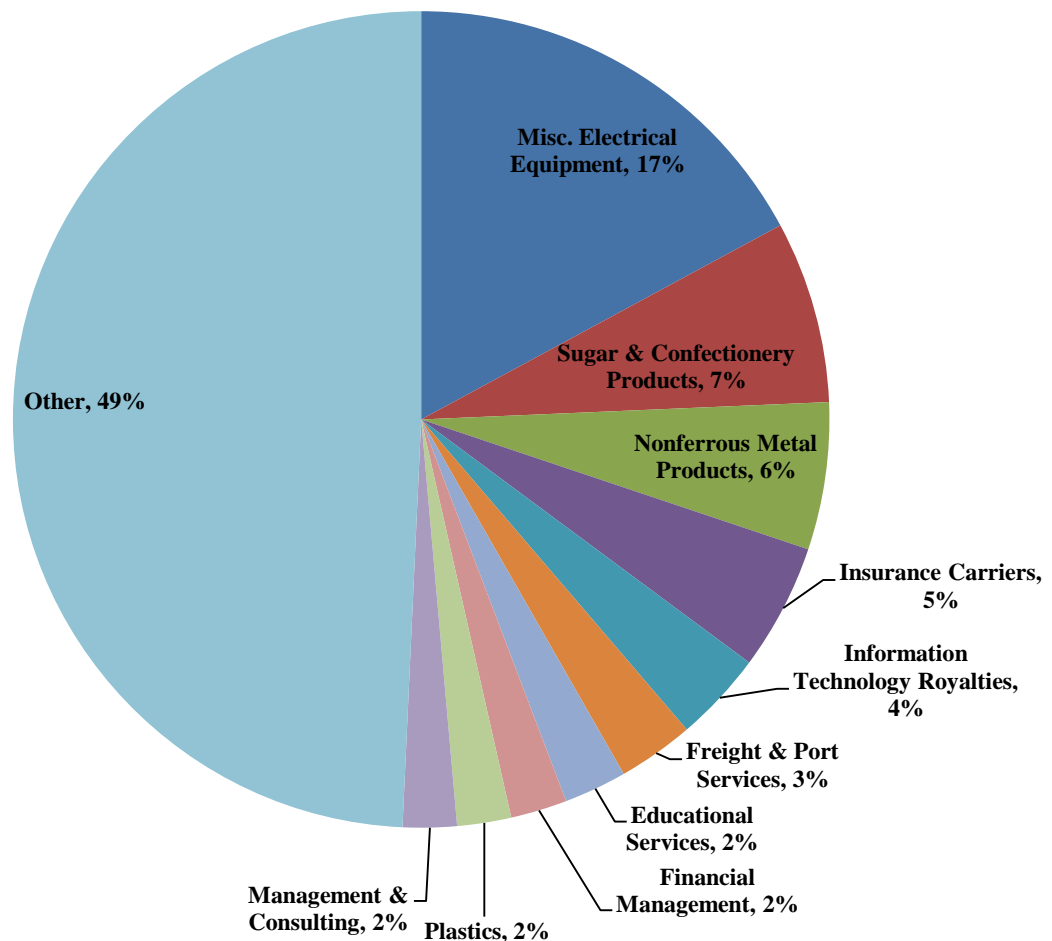
Dauphin County is home to Pennsylvania’s capitol of Harrisburg. Dauphin County has experienced an overall real export value increase of 73% from 2003 to 2016, which is the highest percentage change in the Southcentral region. Top industries in 2016 include miscellaneous electrical equipment and sugar and confectionary products.

In 2016, Dauphin County exported \$543,220,000 in services, \$723,400,000 in goods, and \$25,670,000 in agriculture, totaling \$1,292,280,000 in combined real exports. This figure placed Dauphin County fourth in exported goods and fourth in combined exports for the Southcentral region in 2016. According to Census.gov, in 2016 the county had a total population of 274,121.¹⁰ With this being said, Dauphin County had a total of \$4,714.28 in exports per capita.

Total Exports:
\$1,292,280,000
Total Jobs:
7,990

Exports from Dauphin County supported a total of 7,990 jobs in 2016. Exports of agriculture supported 191 jobs, exports of goods supported 3,833 jobs, and exports of services supported 3,966 jobs.

Dauphin County Top 10 Export Industries By Value In 2016



¹⁰ Census.gov, American FactFinder

Franklin County

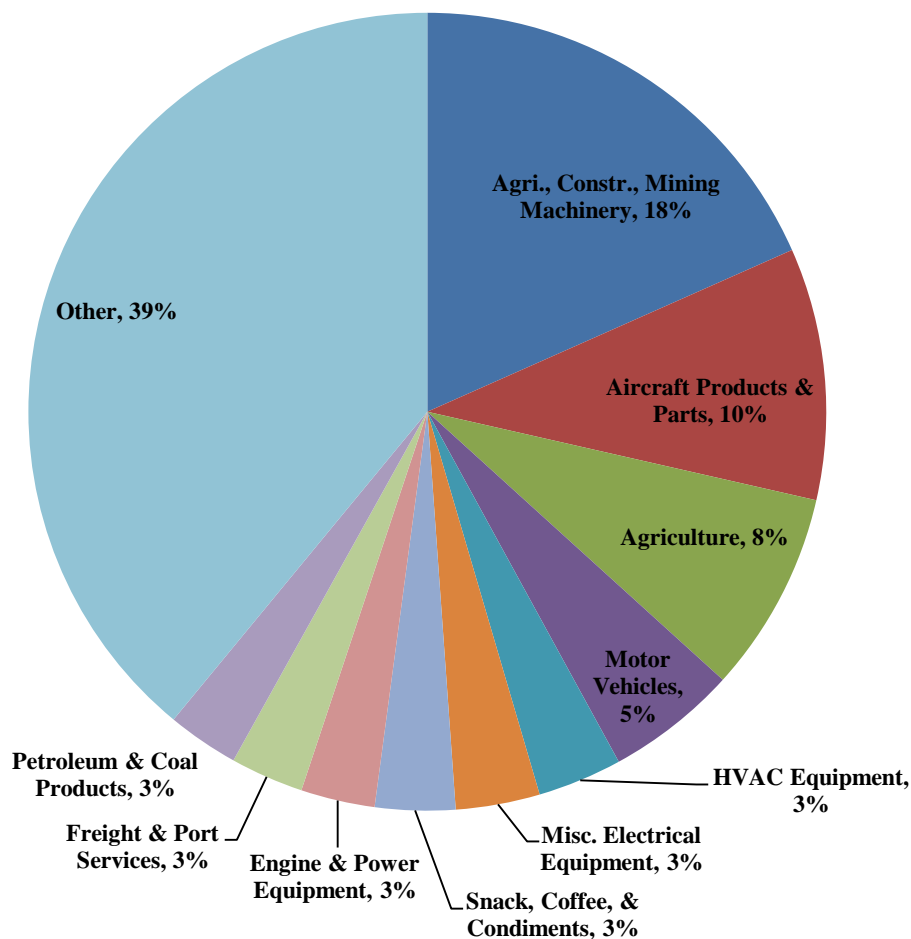
Franklin County is home to the largest agriculture, construction, and mining machinery industry in the Southcentral region. Franklin County has experienced an overall real export value increase of 60% from 2003 to 2016. Other top industries include aircraft products and parts along with agriculture.

Overall, Franklin County exported around \$599,700,000 in goods, \$108,520,000 in services, and \$68,240,000 in agriculture in 2016, totaling \$776,500,000 in real exports. Franklin County showed almost a 60% increase in real exports from 2003 to 2016, ranking the county number three in percent changed for the Southcentral region. From Census.gov, in 2016 the county had a total population of 153,564.¹¹ From this, Franklin County had a total of \$5,056.54 in exports per capita.

Total Exports:
\$776,500,000
Total Jobs:
4,425

Franklin County exports supported a total of 4,425 jobs in 2016. Exports of agriculture supported 506 jobs, exports of goods supported 3,156 jobs, and exports of services supported 763 jobs.

Franklin County Top 10 Export Industries By Value In 2016



¹¹ Census.gov, American FactFinder

Lancaster County

Lancaster County experienced the smallest increase in exports at a 33% change from 2003-2016, despite being the second largest exporter in the Southcentral PA region. In 2016, the top exporting industry was agriculture, with miscellaneous electrical equipment, and converted paper products following closely behind.

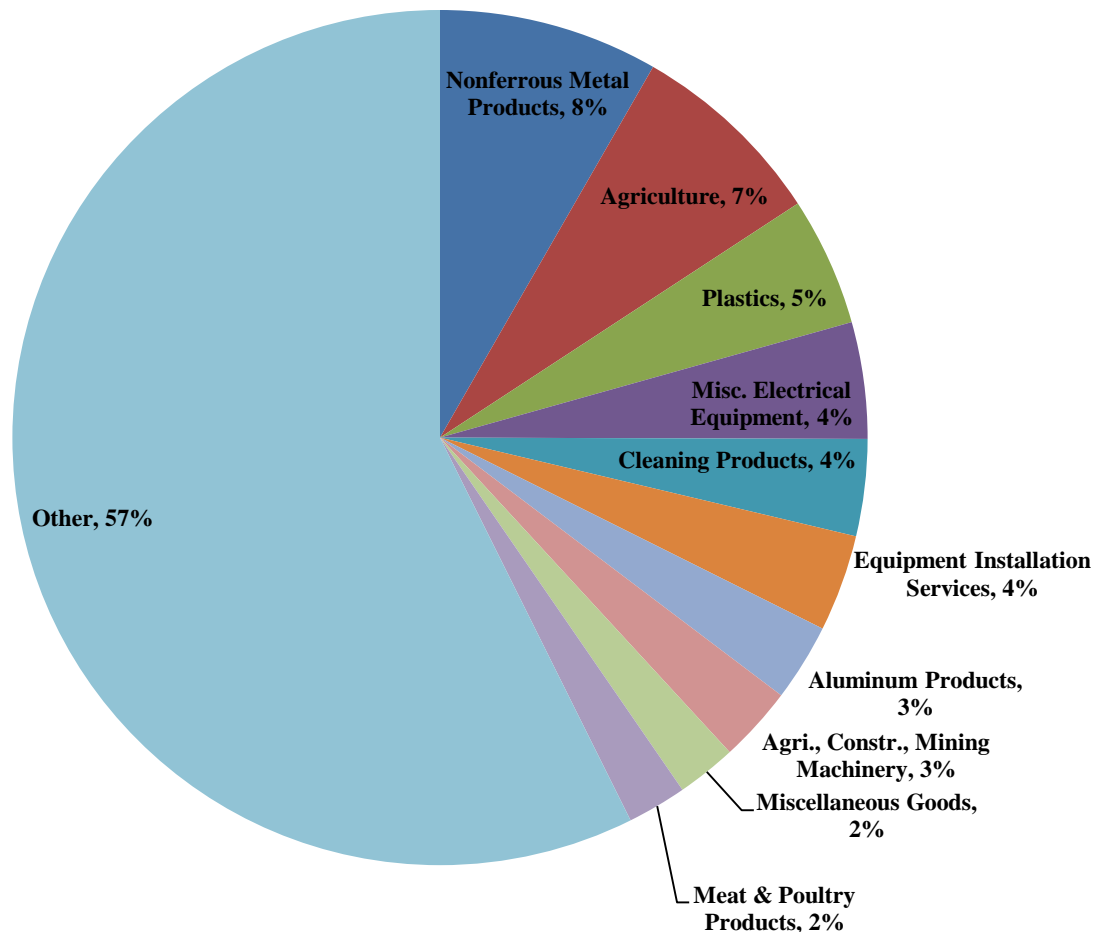
In 2016, Lancaster County exported \$208,300,000 in agriculture, \$1,692,790,000 in goods, and \$609,910,000 in services with a combined total of \$2,511,000,000 in real exports. According to Census.gov, the total county population in 2016 was 539,137.¹² With that being said, Lancaster County had a total of \$4,657.44 in exports per capita.

Total Exports:
\$2,511,000,000

Total Jobs:
15,294

In 2016, a total of 15,294 jobs in Lancaster County were supported by exports. Exports of agriculture supported 1,551 jobs, exports of goods supported 9,411 jobs, and exports of services supported 4,332 jobs.

Lancaster County Top 10 Export Industries By Value In 2016



¹² Census.gov, American FactFinder

Lebanon County

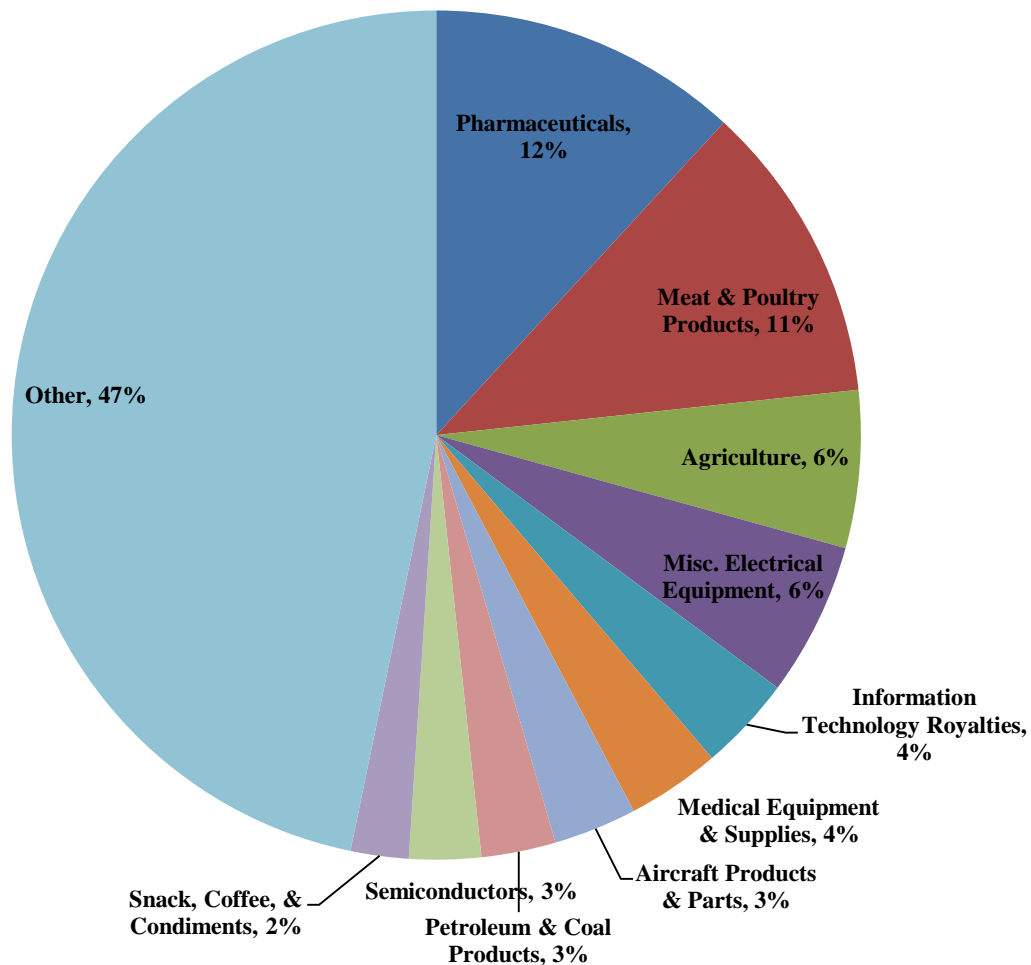
Lebanon County is the second smallest Southcentral PA County in terms of exports. Overall, real exports have increased by 43% from 2003 to 2016. The pharmaceuticals industry exported the most in 2016, followed by meat and poultry products.

For the region as a whole, Lebanon County has increased their exports since 2003 to \$654,060,000 in combined real exports in 2016. Breaking that figure down further, \$487,200,000 dollars accounted for total exports of goods, \$116,870,000 dollars accounted for total exports of services, and \$50,000,000 accounted for total agriculture exports. According to Census.gov, in 2016 the county had a total population of 138,557 people.¹³ From this figure, Lebanon County had a total of \$4,720.53 in exports per capita.

Total Exports:
\$654,060,000
Total Jobs:
3,746

A total of 3,746 jobs in Lebanon County were supported by exports in 2016. Exports of agriculture supported 327 jobs, exports of goods supported 2,637 jobs, and exports of services supported 782 jobs.

Lebanon County Top 10 Export Industries By Value In 2016



¹³Census.gov, American FactFinder

York County

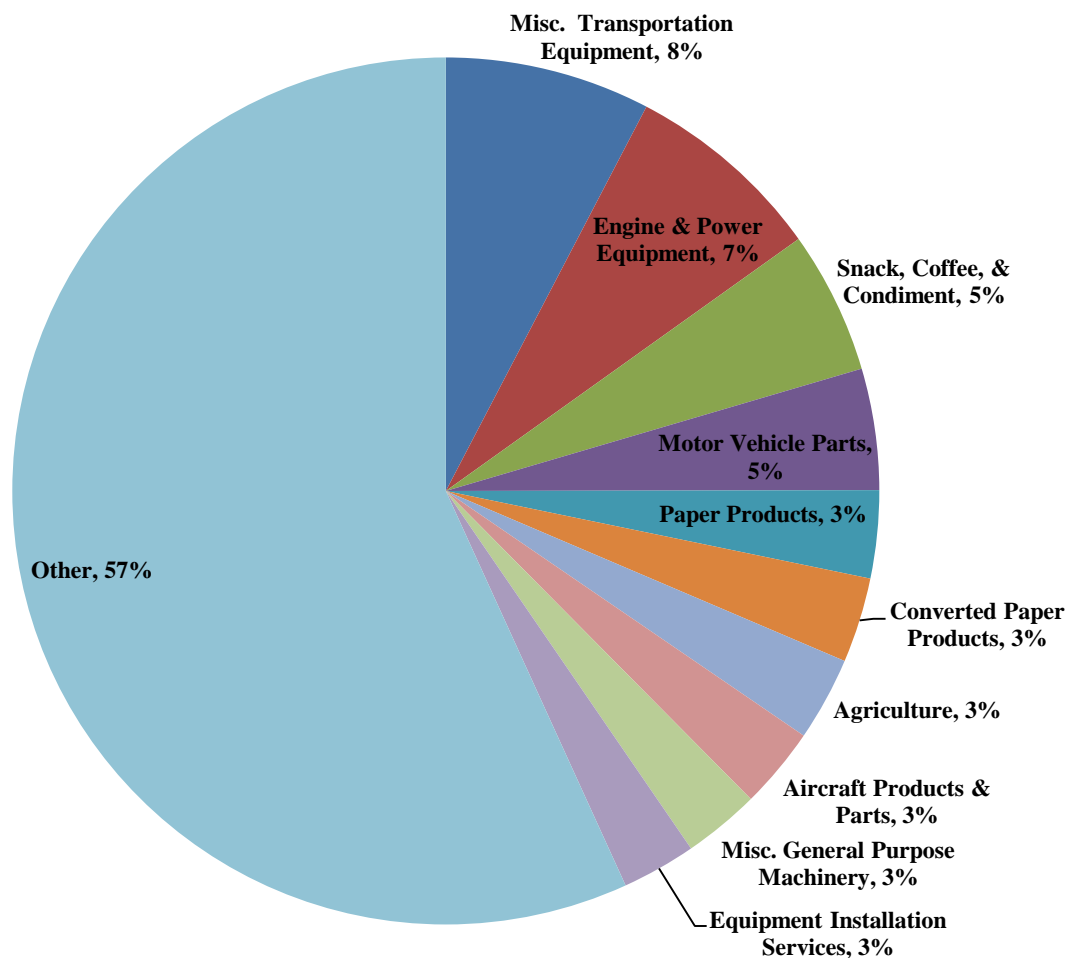
York County is the third largest county in terms of exports for the Southcentral region, increasing its exports by nearly 50% since 2003. The top exporting industry in 2016 was miscellaneous transportation equipment, followed closely by engine and power equipment.

In 2016, York County exported \$2,372,460,000 in total. Broken down, \$1,899,910,000 of these exports was goods, \$386,930,000 was services, and \$85,620,000 was from agriculture. According to Census.gov, the total county population in 2016 was 443,809.¹⁴ With that being said, York County had a total of \$5,345.68 in exports per capita.

In 2016, a total of 13,523 jobs in Lancaster County were supported by exports. Exports of agriculture supported 617 jobs, exports of goods supported 10,155 jobs, and exports of services supported 2,750 jobs.

Total Exports:
\$2,372,460,000
Total Jobs:
13,523

York County Top 10 Export Industries By Value In 2016



¹⁴ Census.gov, American FactFinder

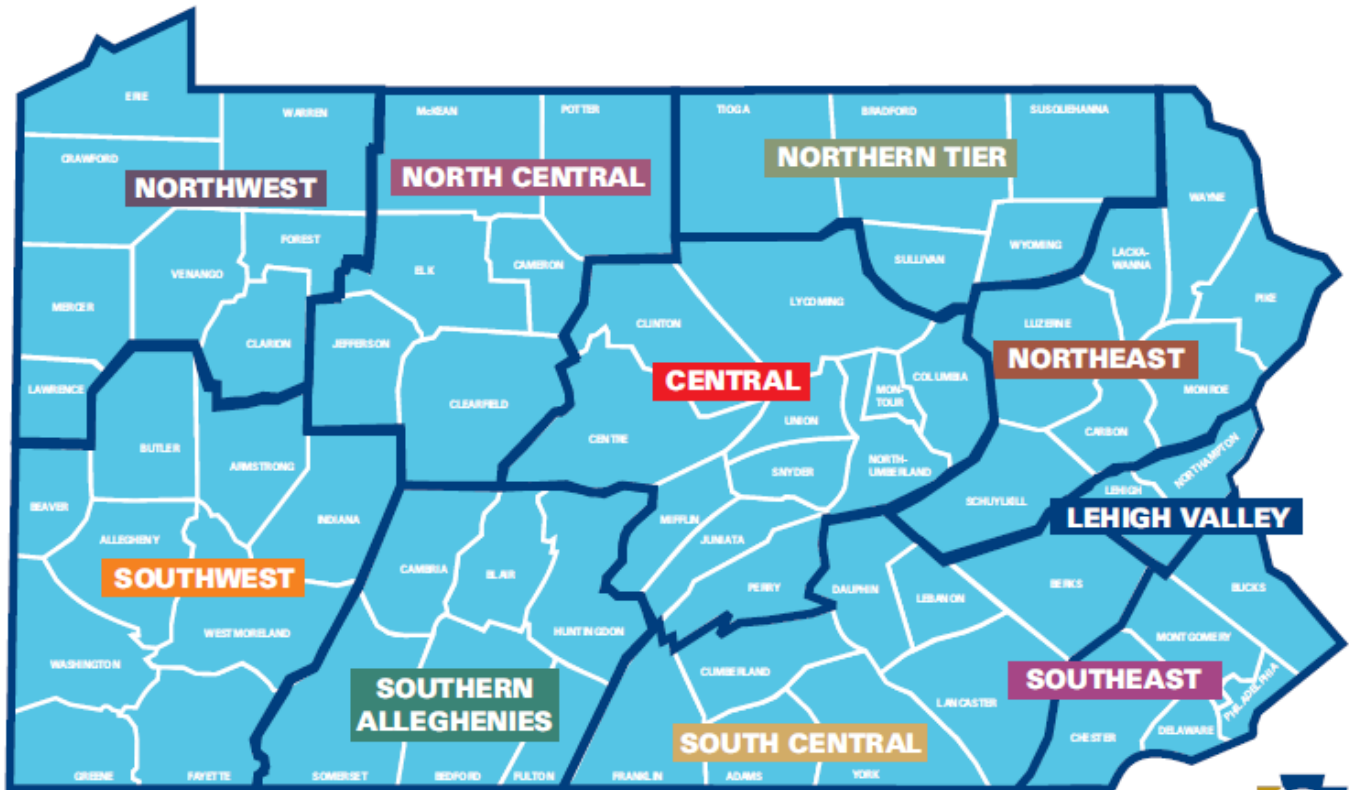
Appendix 1: A Map of Pennsylvania's Regional Export Network

— PENNSYLVANIA. BUILT TO ADVANCE. —



Office of International Business Development

Pennsylvania Regional Export Network



717.787.7190 | www.newPA.com/trade

