

Size and Impact of the Plastics Industry on the U.S. Economy

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SIZE AND IMPACT

OF THE PLASTICS INDUSTRY ON THE U.S. ECONOMY

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Executive Summary

The U.S. plastics industry is large, accounting for 940,000 jobs divided among 16,806 facilities found in all 50 states. In 2014, the industry achieved a record high of \$427.3 billion in shipments. The plastics industry has been one of the U.S. economy's largest and fastest growing industries.

Most plastics are used in manufacturing, although the use of plastics in services such as information technology (IT) and health care delivery is becoming increasingly important. The aging of the world's population is setting up healthcare's perfect storm. There will be a collision of the largest generations ever to become elderly with the age sector that demands the most healthcare services. In many cases worldwide the number of 70 plus year old people will double. When a market doubles in demographic size the demand for products and services related to that market more than doubles.

Plastics is an employment success story for the U.S. economy. Employment of people in plastics manufacturing grew 0.3 percent per year from 1980 to 2014. Employment in manufacturing as a whole shrank 1.3 percent per year during that same time period, further highlighting plastics' strength and productivity.

Plastics were hit hard by the 2008-2009 global recession and evidenced recovery in 2012 when industry shipments reached \$383.2 billion. As illustrated in SPI's study, 2015 Global Business Trends, lower inflation, the lower value of the dollar and cheaper natural gas helped U.S. exports and thereby moderated the effects of the recession. Low inflation and cheap natural gas should help the plastics industry in the future.

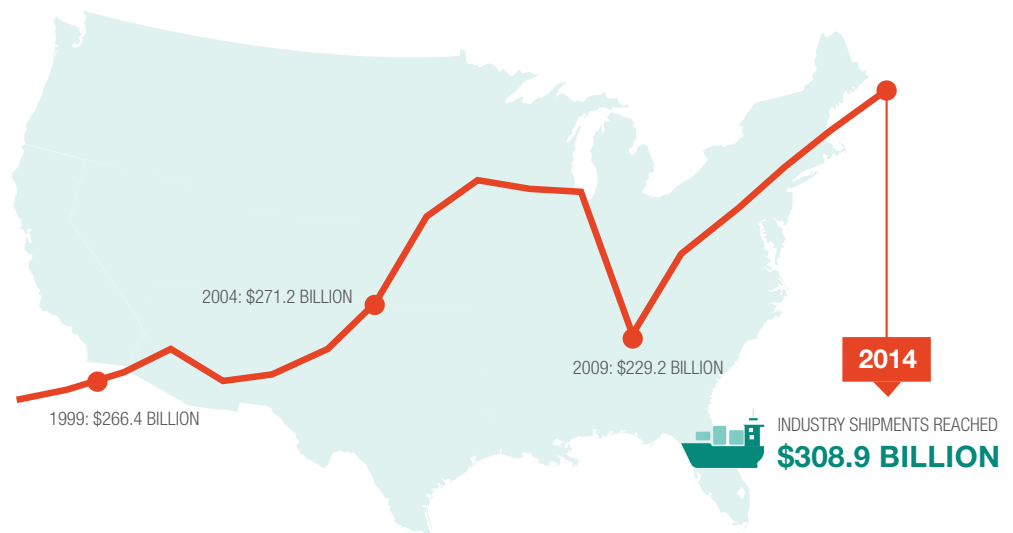
In 2014, for the first time since 1996, Texas replaced California as the state that employs the most people in the plastics industry. This change reflects differences in how states approach business and manufacturing in terms of tax, policy and regulatory policy. As a percentage of non-farm employment, the plastics industry is more important to Indiana, where it accounts for 16.4 of every 1,000 non-farm jobs. Michigan is a close second.

This report tells the story of the U.S. plastics industry in numbers. It answers several important questions, including: How big is the plastics industry? How does it compare with other industries? How fast is it growing? Where? How does it affect the rest of the economy?

KEY FACTS

- ▶ The U.S. plastics industry is large, accounting for 940,000 jobs and \$427.3 billion in shipments during 2014.
- ▶ Texas employs the most people in the plastics industry. As a percentage of total non-farm employment, the plastics industry is most important to Indiana, where it accounts for 16.4 of every 1,000 non-farm jobs. Michigan is a close second.
- ▶ Including suppliers to the plastics industry, jobs grow to 1.7 million, and total shipments grow to \$583.7 billion.
- ▶ The plastic products portion of the plastics industry was the 8th largest U.S. industry in 2013.
- ▶ The plastic materials and synthetics portion of the plastics industry (including rubber and fiber) was the 17th largest industry in 2013.
- ▶ A success story for the U.S. economy, plastics manufacturing employment grew 0.3 percent per year from 1980 to 2014. This is compared with manufacturing as a whole, which saw employment shrink 1.3 percent per year during those same years.
- ▶ The growth in plastics manufacturing employment slowed between 1995 and 2000 declined between 2000 and 2010, and then began growing again in 2011.
- ▶ Real plastics manufacturing shipments grew at a 2.6 percent annual rate from 1980 to 2014, while real value added grew 2.3 percent annually.
- ▶ Acceleration in the plastics industry reflects recovery from the recession and long-term trend growth.
- ▶ Although manufacturing is still the main outlet for plastics, an increasing share of plastics is going into services, including: Wholesale and Retail Trade; Finance, Insurance and Real Estate; and Healthcare.

PLASTICS INDUSTRY SHIPMENTS



INDUSTRY SIZE



Table 1 summarizes the plastics industry by dividing it into categories called: Plastics Manufacturing, Plastics Wholesale Trade, Captive Plastic Products Manufacturing, and Upstream Impacts. Captives are plastic processing activities located in establishments, such as automobile assembly and milk bottling plants, which are not classified by the government, or most economists, as being part of the plastics industry. The first three categories comprise what the authors call the Plastics Industry.

The following conclusions can be drawn from Table 1:

- ▶ The U.S. plastics industry, as documented by U.S. Government data, operated 16,806 manufacturing establishments, employed 734,000 people and made shipments worth \$357 billion in 2014. This excludes establishments producing captive plastic products or supplying goods and services to the plastics industry.
- ▶ When the authors included captives in their definition of the Plastics Industry, the number employed rose to 940,000 people in 2014. Another 779,000 people were employed by the upstream industries that supplied the industry, which brought the total 2014 employment impact to 1.7 million – 1.2 percent of the U.S. non-farm workforce.
- ▶ The plastics industry generated \$427 billion in shipments in 2014. Another \$156 billion was generated by upstream, supplying industries, bringing the total shipments impact of the plastics industry to \$584 billion.
- ▶ Table 1 does not include downstream impacts on the industries that use plastics, or on the consumers who buy the products containing plastics.

COMPARISONS WITH OTHER INDUSTRIES

In order to rank plastics among other industries, the authors considered 82 manufacturing industries defined by the 4-digit North American Industry Classification System (NAICS). Data were available through 2013.

- ▶ Plastic Products (NAICS 3261), which accounted for most of the plastic processing industry, was the 8th largest U.S. manufacturing industry in 2013 in terms of shipments.
- ▶ Resin, Synthetic Rubber and Artificial & Synthetic Fibers & Filament (NAICS 3252), which primarily includes the plastic materials and resins industry, was the 17th ranked manufacturing industry in 2013.

TABLE 1
PLASTICS INDUSTRY IMPACTS, 2014

	# of Estabs	Employees (thousands)	Value of Industry Shipments (\$Mil)
Plastics Manufacturing:			
NAICS 325211 Plastics Materials and Resins	1,170	66.1	96,314.6
NAICS 325991 & 3261 Plastics Products	11,099	607.3	206,296.5
NAICS 3332201 Plastics Working Machinery	432	11.3	3,375.8
NAICS 33351105 Molds for Plastics	<u>700</u>	<u>15.8</u>	<u>2,892.8</u>
Plastics Manufacturing Totals	13,401	700.5	308,879.7
Plastics Wholesale Trade:			
NAICS 424610 Wholesale Trade for Plastics Materials, Forms and Shapes	3,405	33.4	2,892.8
Government-Documented Plastics Industry	<u>16,806</u>	<u>733.9</u>	<u>357,373.6</u>
Captive Plastic Products:	<u>#N/A</u>	<u>205.9</u>	<u>69,959.4</u>
Plastics Industry:	<u>#N/A</u>	<u>939.9</u>	<u>427,333.0</u>
Upstream Impacts:	<u>#N/A</u>	<u>779.4</u>	<u>156,401.7</u>
Full Impact *	<u>#N/A</u>	<u>1,719.3</u>	<u>583,734.7</u>

* Excluding downstream impacts

RATE OF GROWTH



TABLE 2
COMPARATIVE GROWTH RATES, 1980-2014

	Plastics Manufacturing	All Manufacturing
Employment	0.3%	-1.3%
Real Shipments	2.6%	0.8%
Real Value Added	2.3%	0.8%
Productivity Growth	2.3%	2.1%

FIGURE 1
PLASTICS MANUFACTURING GROWTH RATES
(SHIPMENTS ARE CORRECTED FOR INFLATION)



Real value added in the plastics manufacturing industry grew 2.3 percent per year from 1980 to 2014. The real value of shipments by this industry grew 2.6 percent per year.

- ▶ Over the last 34 years, plastics industry employment, real shipments and real value added fared better than manufacturing as a whole. Plastics are still relatively new compared to other materials and productivity in the industry is still growing.
- ▶ Employment in the plastics manufacturing industry grew 0.3 percent per year between 1980 and 2014. This is an accomplishment, because employment in all of U.S. manufacturing fell 1.3 percent per year during that period.
- ▶ Employment in the larger category, plastics manufacturing plus plastics wholesale trade, also grew 0.3 percent per year. (Growth rate data are not available for captive and upstream industries.)
- ▶ Real value added in the plastics manufacturing industry grew 2.3 percent per year from 1980 to 2014. The real value of shipments by this industry grew 2.6 percent per year.
- ▶ By one measure – the real shipments growth rate minus the employment growth rate (2.6 – 0.3) – productivity in Plastics Manufacturing grew 2.3 percent per year from 1980 to 2014, which is better than the 2.1 percent per year productivity growth for manufacturing as a whole.
- ▶ The number of plastics industry establishments, which had been falling for more than a decade, leveled off starting in 2010. Employment stopped rising in 2000, fell through 2010, and then began rising again in 2011. This mirrors what happened to the rest of the manufacturing industry, in response to consolidation, outsourcing, trade imbalances, and the recessions in 2000-2001 and 2008-2009.
- ▶ Low inflation, cheap natural gas/gas liquids and a growing economy have turned things around. Lower world oil prices recently improved the competitive positions of overseas plastics producers, but the U.S. continues to be competitively advantaged.

LOCATION



- ▶ The plastics industry is found in all 50 states, wherever there are people and manufacturing activities. Table 3 illustrates that, Texas has the most Plastics Industry employees, followed by California, Ohio, Michigan, Illinois, Indiana, Pennsylvania, Wisconsin, North Carolina and New York.
- ▶ Texas is very populous – second only to California – so maybe it isn’t surprising that Texas is first in terms of total plastics employment, especially since it is so well endowed with the petrochemical facilities that supply plastics plants. An alternative measure, plastics industry employees per 1,000 non-farm employees, indicates how concentrated the plastics industry is in a given state – or how much that state specializes in plastics. Using this alternative measurement, Table 4 shows that Indiana has the largest number of plastics industry employees per 1,000 non-farm employees, followed closely by Michigan, and then by Ohio, Wisconsin, Kentucky, South Carolina, Illinois, Alabama, Tennessee, North Carolina and Iowa.
- ▶ The states with the highest concentrations of plastics industry employees tend to have the highest concentrations of manufacturing activity, which is consistent with the fact that most plastic products go into manufactured goods.

TABLE 3
TOP STATES FOR PLASTICS EMPLOYMENT
 (PLASTICS INDUSTRY, 2014)

Rank	State	Plastic Employment (thousands)
1	Texas	77.0
2	California	73.8
3	Ohio	73.7
4	Michigan	66.5
5	Illinois	50.6
6	Indiana	48.8
7	Pennsylvania	48.1
8	Wisconsin	39.2
9	North Carolina	36.3
10	New York	30.7
	U.S. Total	939.9

TABLE 4
TOP STATES FOR PLASTICS CONCENTRATION
 (PLASTICS INDUSTRY, 2014)

Rank	State	Plastic Employment (thousands)
1	Indiana	16.4
2	Michigan	15.9
3	Ohio	13.8
4	Wisconsin	13.8
5	Kentucky	13.4
6	South Carolina	12.5
7	Alabama	10.6
8	Tennessee	9.3
9	North Carolina	8.8
10	Iowa	8.7
	U.S. Average	6.8

UPSTREAM + DOWNSTREAM IMPACTS



UPSTREAM (SUPPLIER) IMPACTS

Jobs are created in the plastics industry, but they are also created in the industries that, directly or indirectly, supply goods and services to the plastics industry. These industries supply fuel, spare parts, office supplies, transportation services, etc. As discussed in connection with Table 1, the employment and shipments of these upstream industries contribute significantly to the impact of plastics on the economy.

- ▶ During 2014, upstream industries accounted for 779,000 jobs in order to supply goods and services to the plastics industry — about 0.83 upstream jobs for every job in the industry itself.
- ▶ During 2014, upstream industries generated \$156 billion in shipments in order to supply goods and services to the plastics industry.

DOWNSTREAM (USER) IMPACTS

Some plastic products, such as toys and wastebaskets, are “final goods,” ready for use. Most are “intermediate goods,” which are sent on to other manufacturing steps for processing or assembly. Ultimately, all plastic products wind up as part of some kind of final good or service.

- ▶ In 2014, an impressive 33.7 percent of the final consumption of plastic products, on a value basis, wound up in some form of service, like wholesale and retail trade, healthcare, food services & drinking places, and other services.
- ▶ Construction accounted for 9.0 percent of final plastic products, a percentage that decreased by the ongoing housing slump.
- ▶ A large share went into non-durable goods – 30.6 percent: food, tobacco and spirits 9.1 percent; plastic products 15.1 percent; and other non-durables 6.4 percent.
- ▶ Durable goods accounted for the remaining 26.8 percent share: transportation equipment 12.5 percent; furniture and related 2.4 percent; and other durables 11.9 percent.
- ▶ In terms of who is ultimately buying these plastics-containing goods and services in 2014, 74.0 percent went to personal consumption by households, 28.3 percent went into private fixed investment (by households and businesses), and 12.5 percent was used by state, local and federal government agencies.⁹
- ▶ The most intense final user of plastic products in 2014, in terms of the value of plastic products per dollar of final product or service was the plastic products industry itself, followed by: soft drinks and ice; mattresses, blinds and shades; snack foods; and seasonings and dressings.

In the sections that follow, the authors provide data, discuss definitions and methodology, and develop the conclusions summarized here.

⁹ These percentages add up to more than 100 percent, because we have not deducted the 14.9 percent that, on a net basis, was provided by imports – not supplied by domestic producers. The deduction would be required if the authors were using National Income and Product Account (NIPA) accounting.



I. WHAT IS INCLUDED IN THE PLASTICS INDUSTRY AND HOW IT IS MEASURED



In order to understand how this study was developed, one needs to know what is included in the “plastics industry” and what kinds of data are used to measure it. The authors use a range of data sources, primarily from the U.S. government, in order to develop a complete picture of the plastics industry and its impacts. These data sources have different coverage areas, which lead to some differing industry definitions.

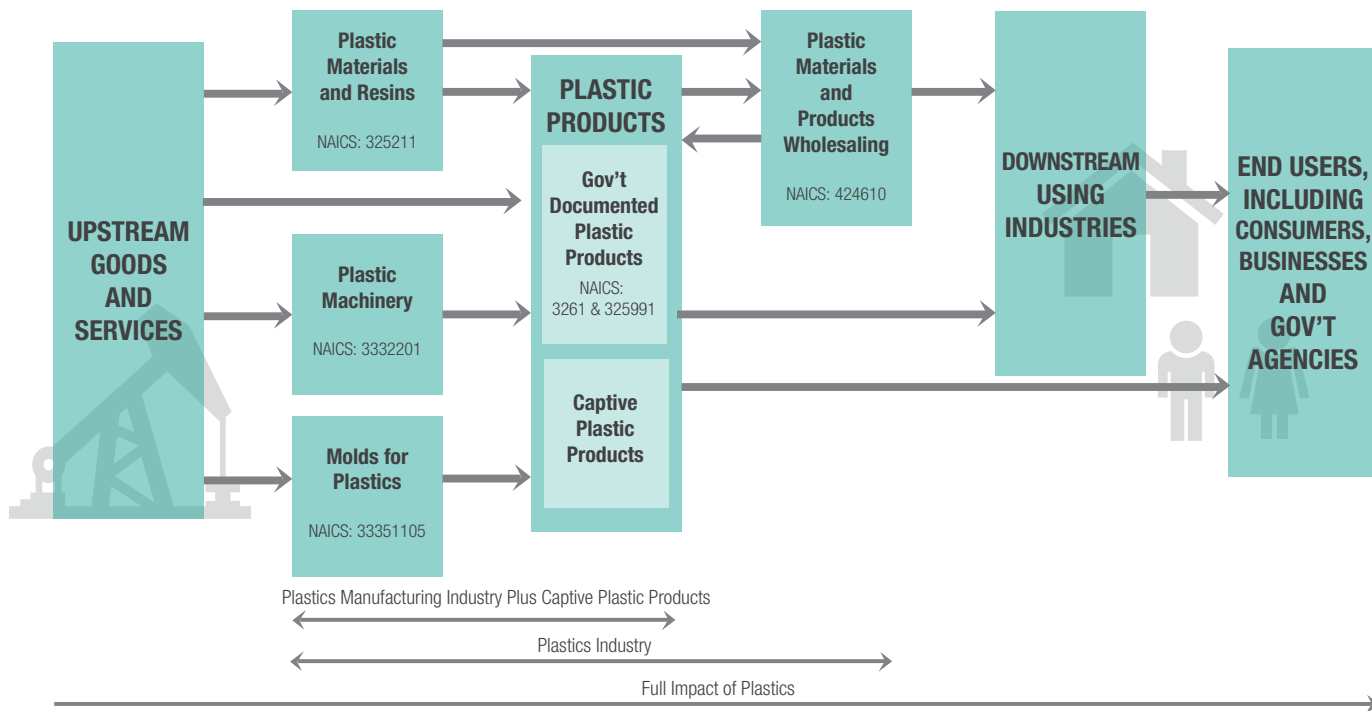
The overall structure of the plastics industry is represented by Figure 2, which shows the flow of goods and services into the plastics industry and into the economy as a whole. Figure 2 also provides a road map to help

the reader navigate through the plastics industry definitions and concepts used in this report. The left-hand, or upstream, side of Figure 2 shows upstream goods and services, such as chemicals and transportation, flowing into the plastic materials and resins industry, as well as into industries producing plastics working machinery and molds for plastics. The plastic resins, machines and molds are then provided to the Plastic Products manufacturers, or processors, who convert the resins into bottles, film, pipe and other plastic products.

Most plastic products are categorized under the North American Industry Classification System (NAICS) code 3261, “Plastic Products Manufacturing,” which is covered by government survey reports. This study also includes NAICS 325991, “Custom Compounding of Purchased Resins,” as part of plastic products. The authors refer to these two categories as “Government-Documented Plastic Products.”

Captive plastic products represent the other major part of plastic products. They are produced in plastic processing activities similar to those measured by the government, but they are not located in establishments that the government identifies as being plastics-related.

FIGURE 2
PLASTICS-RELATED GOODS AND SERVICES FLOWS:
THE FULL IMPACT OF PLASTICS ON THE ECONOMY



Captive plastic products include such items as plastic milk jugs that are blow molded in dairy establishments and automobile bumpers that are injection molded in automotive parts manufacturing plants. The authors estimate captives by tracking plastic resins that are shipped to establishments with NAICS codes other than 3261.

A portion of plastic materials and resins go on to plastics wholesale trade firms, which sell them to downstream users or to upstream plastics facilities. Most plastic products are provided directly to downstream using industries, such as automobile manufacturers and home appliance plants, where additional assembly or processing steps are performed. Some Plastic Products go directly to end users, including households, businesses and government agencies, without further processing. (See the right-hand block in [Figure 2](#).) Examples of such plastic products ready for final consumption include children’s toys, plastic tote-bins for manufacturers, and specialty items such as plastic eye shields for military personnel.

As [Figure 2](#) shows, the full impact of plastics covers goods and services flowing from upstream goods and services on through to downstream, end uses. full impact is estimated in this study. Usually, the study refers to the “Plastics Industry,” which includes everything from the boxes on the left for plastic materials and resins, Plastics machinery and molds for plastics, to the box on the right for plastic materials and products wholesaling. All of these activi-

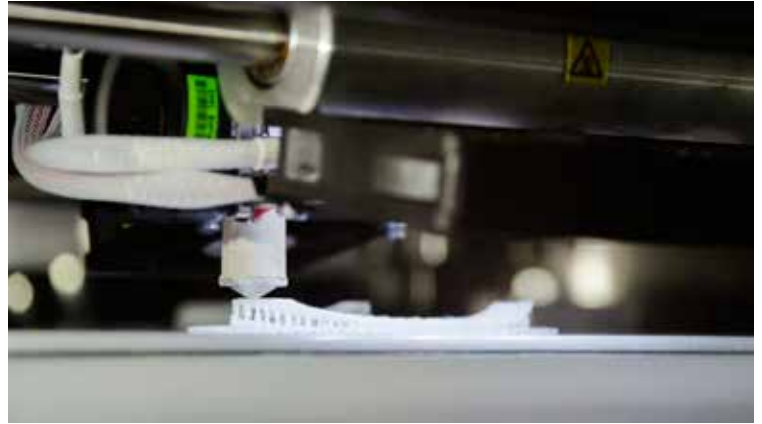
ties, except for captive plastic products, are covered by government data. Sometimes the study refers to the government-documented plastics industry, which includes everything in the plastics industry except captives. Data on plastics wholesale trade are limited, particularly at the state level, so some of the study’s conclusions are based on an industry sub-sector called the plastic manufacturing industry, which includes everything in the government-documented plastics industry except wholesale trade.

Table 5 presents the same information in a different form. Instead of trying to master all of these concepts now, the reader should refer back to [Figure 2](#) or Table 5 when industry definitions are encountered in this report.

TABLE 5
PLASTICS INDUSTRY DEFINITIONS USED IN THIS STUDY

DEFINITIONS	SEGMENTS								
	Upstream Goods & Service Suppliers	Plant & Equipment Suppliers	Plastics Mold & Machinery Makers	Plastic Resin Producers	Gov’t Doc. Plastic Product Makers (Processors)	Captive Plastic Product Makers (Processors)	Plastics Wholesale Trade Firms	Downstream Using Industries	End Users
Upstream (Supplier) Impacts	Included	Included							
Plastics Industry			Included	Included	Included	Included	Included		
Plastics Manufacturing Industry			Included	Included	Included				
Government-Documented Plastics Industry			Included	Included	Included		Included		
Captive Plastics Industry						Included			
Downstream (Purchaser) Impacts								Included	Included
Plastics Final Demand Content									Included
Full Impact of Plastics	Included	Included	Included	Included	Included	Included	Included	Included	Included

II. THE SIZE OF THE U.S. PLASTICS INDUSTRY



1.3% Rise
annually 2009-2014

This study measures the plastics industry primarily in terms of employment and the value of shipments. In some cases, it also uses measures such as payroll, value added, new capital expenditures and the number of establishments. See [Table 6](#). In 2014, the plastics industry, including plastic materials and resins, government-documented plastic products, plastics working machinery, molds for plastics, plastics wholesale trade and captive plastic products, generated \$427.3 billion in shipments and employed 939,900 people, who had a total payroll of \$45.9 billion. (As explained in the [glossary](#), a “shipment” is the movement of goods from one business establishment to another.)

The data are more complete for plastics manufacturing than for the entire plastics industry. Plastics manufacturing employed 526,200 production workers, which was 75 percent of all plastics manufacturing employees. The others were researchers, supervisors and various “white collar” personnel. Plastics manufacturing generated \$308.9 billion in shipments, which were made up of the cost of materials purchased and the value that was added to those materials. Plastics manufacturing establishments purchased about 59 cents worth of materials for every dollar of goods that they shipped in 2014.

In recent years, the plastics industry has been consolidating, and shrinking in terms of employees and number of establishments. The number of establishments continued to decline during the 2009-2014 period, but employment started rising again, at a 1.3 percent annual rate. See [Table 7](#). Shipment levels for plastics manufacturing as a whole rose from 2009 to 2014 at a 6.5 percent annual rate.

As shown [Figure 3](#), the bulk of plastics industry employment falls into two categories, all other, and Captive Plastic Products. “All other” includes a wide range of plastic processing operations, the most notable being injection molding. The remainder of employment is divided into a number of smaller categories, such as resin, machinery, molds, and wholesale trade.

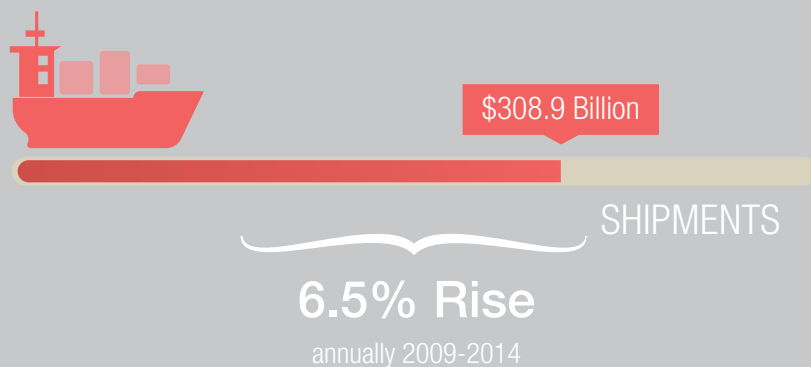


TABLE 6
SELECTED DATA ON THE PLASTICS INDUSTRY, 2014

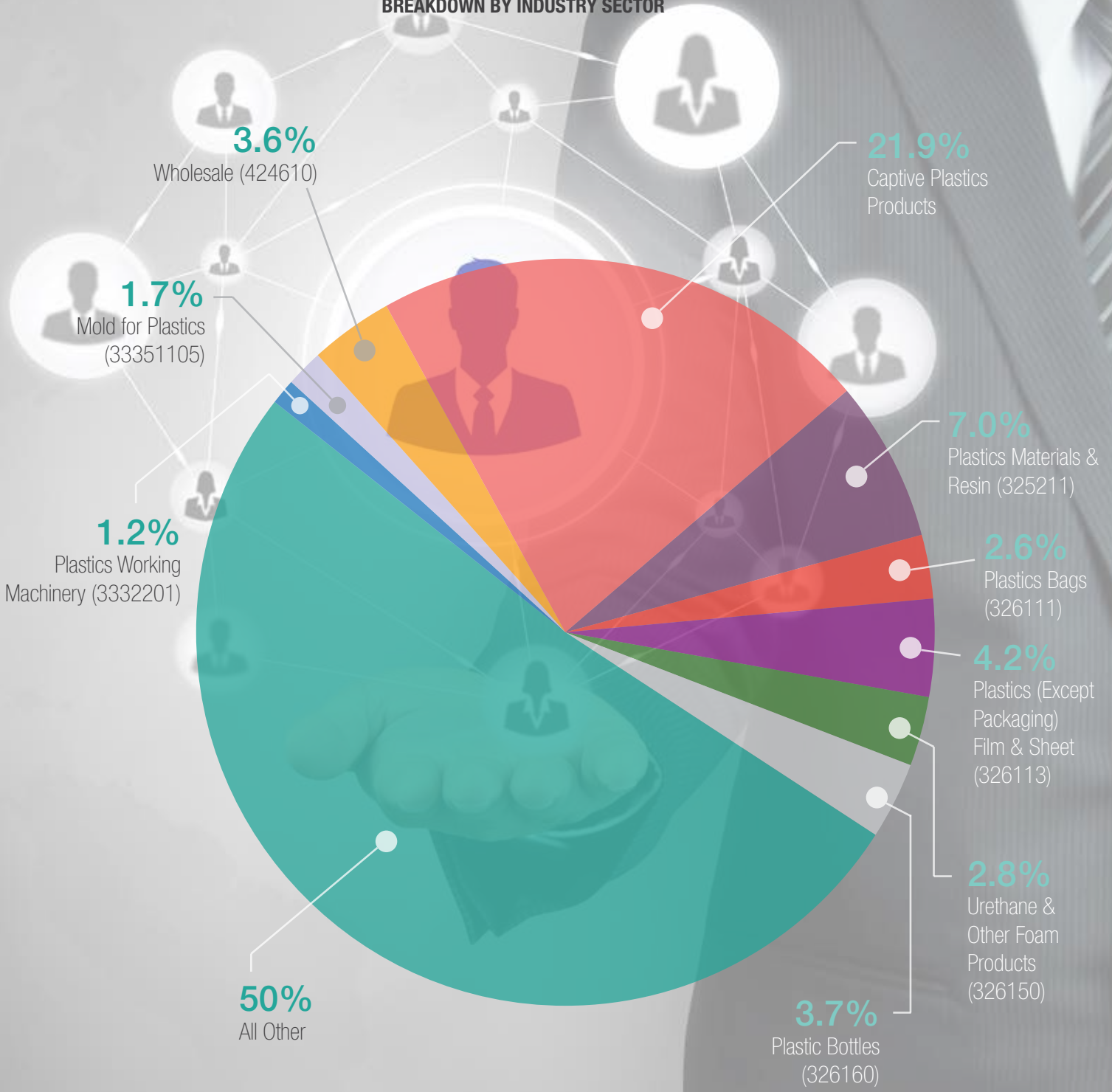
	# Estabs	# Employees (Thous)	Annual Payroll (\$Mil)	Average Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expen- ditures (\$Mil)
PLASTICS MANUFACTURING									
Plastics Materials and Resins, NAICS 325211	1,170	66.1	4,945.7	43.9	2,820.6	28,687.2	67,783.2	96,314.6	3,985.4
Custom Compounding, NAICS 325991	430	18.1	1,000.6	12.0	526.9	3,763.3	7,586.0	11,294.3	245.5
Plastics Bags, NAICS 326111	344	24.6	1,155.8	19.5	738.2	4,232.5	5,746.8	9,937.3	245.5
Plastics Packaging Film & Sheet, NAICS 326112	433	31.7	1,734.0	25.2	1,251.6	5,598.8	8,807.0	14,360.8	591.5
Plastics (Except Pkg) Film & Sheet, NAICS 326113	570	39.5	2,370.7	28.2	1,333.8	9,834.8	11,477.8	21,177.5	596.0
Plastics Profile Shapes, NAICS 326121	398	19.1	984.3	14.3	598.4	4,201.5	3,279.1	7,530.6	216.5
Plastics Pipe & Pipe Fittings, NAICS 326122	498	21.1	946.5	16.5	640.9	4,281.7	6,571.4	10,668.1	266.1
Laminated Plate, Sheet & Film, NAICS 326130	230	10.2	519.0	7.4	311.5	1,802.9	1,802.6	3,605.5	90.7
Polystyrene Foam Products, NAICS 326140	445	24.7	1,024.9	19.5	682.1	4,442.8	5,411.6	9,656.4	197.9
Urethane & Other Foam Products, NAICS 326150	632	28.5	1,285.7	21.5	734.2	4,148.6	6,550.1	10,889.1	181.2
Plastics Bottles, NAICS 326160	465	31.1	1,392.5	25.4	1,029.4	5,079.2	7,491.5	12,620.6	580.8
Other Plastics Product Manufacturing, NAICS 32619	6,663	358.7	15,379.2	274.0	9,366.9	48,432.8	46,403.6	94,556.4	3,509.0
Plastics Working Machinery, NAICS 3332201	432	11.3	661.4	6.7	294.1	1,592.0	1,660.0	3,375.8	66.1
Molds for Plastics, NAICS 33351105	700	15.8	865.3	12.2	601.5	1,806.5	1,086.5	2,892.8	175.4
Total Plastics Manufacturing	13,401	700.5	34,265.6	526.2	20,930.0	127,904.3	181,657.1	308,879.7	11,013.2
Wholesale Trade for Plastics Materials, Forms and Shapes (NAICS 424610)*	3,405	33.4	2,164.3	#N/A	#N/A	#N/A	#N/A	48,493.9	#N/A
Government Documented Plastics Industry	16,806	733.9	36,429.9	#N/A	#N/A	#N/A	#N/A	357,373.6	#N/A
Captive Plastic Products	#N/A	205.9	9,425.2	157.1	5,837.6	32,491.1	37,685.6	69,959.4	2,301.3
Plastics Industry Totals	#N/A	939.9	45,855.2	#N/A	#N/A	#N/A	#N/A	427,333.0	#N/A

* The Wholesale Trade for Plastics Materials, Forms and Shapes "shipments" figure of \$48,493.9 million is actually a "sales" number and therefore does not include shipments among establishments of the same enterprise or company.

TABLE 7
PLASTICS INDUSTRY SECTORS
(ANNUALIZED RATES OF GROWTH)

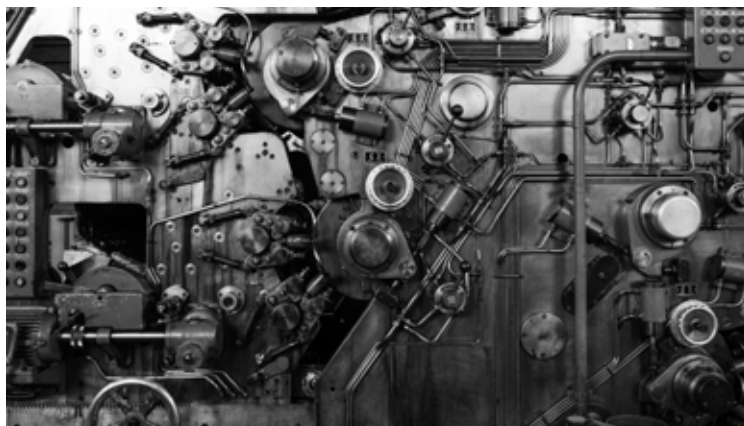
	Number of Establishments		Number of Employees		Value of Shipments	
	2004-2009	2009-2014	2004-2009	2009-2014	2004-2009	2009-2014
PLASTICS MANUFACTURING						
Plastics Materials and Resins, NAICS 325211	4.7%	2.1%	0.7%	1.7%	0.7%	7.6%
Custom Compounding, NAICS 325991	-2.6%	-1.7%	-4.1%	1.8%	-3.0%	8.4%
Plastics Bags, NAICS 326111	-2.6%	-0.5%	-0.3%	-3.9%	1.1%	2.2%
Plastics Packaging Film & Sheet, NAICS 326112	3.6%	2.7%	0.6%	4.8%	4.0%	8.7%
Plastics Packaging Film & Sheet, NAICS 326112	3.6%	2.7%	0.6%	4.8%	4.0%	8.7%
Plastics Profile Shapes, NAICS 326121	-4.9%	-1.3%	-8.3%	2.6%	-8.3%	12.6%
Plastics Pipe & Pipe Fittings, NAICS 326122	1.3%	1.0%	-0.2%	1.0%	-1.3%	10.0%
Laminated Plate, Sheet & Film, NAICS 326130	-1.8%	-1.0%	-1.2%	1.3%	1.4%	5.7%
Polystyrene Foam Products, NAICS 326140	-2.8%	-0.4%	-3.4%	-1.0%	1.3%	3.6%
Urethane & Other Foam Products, NAICS 326150	0.8%	-1.0%	-5.2%	2.1%	-1.8%	7.3%
Plastics Bottles, NAICS 326160	1.7%	0.0%	0.5%	-0.6%	4.3%	2.7%
All Other Plastics Product Mfg NAICS 32619	-1.3%	-0.8%	-6.0%	1.5%	-2.7%	5.1%
Plastics Working Machinery, NAICS 3332201	-1.3%	0.1%	-2.9%	1.0%	-1.9%	6.0%
Molds for Plastics, NAICS 33351105	-7.9%	-1.1%	-8.4%	4.1%	-6.8%	9.1%
TOTAL PLASTICS MANUFACTURING	-1.4%	-0.4%	-4.3%	1.3%	-0.9%	6.5%
Wholesale Trade for Plastics Materials, Forms and Shapes (NAICS 424610) #	-0.6%	0.7%	-1.3%	0.0%	-0.3%	4.6%
Government Documented Plastics Industry	-1.2%	-0.2%	-4.2%	1.2%	-0.8%	6.2%

FIGURE 3
PLASTICS INDUSTRY EMPLOYMENT, 2014
BREAKDOWN BY INDUSTRY SECTOR



U.S. Total: 939,855

III. How the Plastics Industry Compares with Other Industries



The authors obtained shipments data to compare the sizes of individual industries through 2013.

They also obtained data through 2014 to compare the growth rates of selected industry aggregates in terms of employment, value added, shipments and productivity.

A. Plastics Industry Shipments Ranked with Those of Other Individual Manufacturing Industries

The size of manufacturing industries with respect to shipments depends on how the industries are defined. Using data at the 4-digit NAICS level, [Table 8](#) shows that plastic products (NAICS 3261) accounted for \$173.2 billion in shipments in 2013, which made it the 8th largest manufacturing industry. That ranking has been stable since 2008.

Resin, synthetic rubber, and artificial and synthetic fibers and filaments (NAICS 3252) ranked 17th in 2013. A key component of the plastics industry, Plastic materials and resins, accounted for 91.8 percent of NAICS 3252 shipments in 2013.

B. Growth of the Plastics Industry Compared to Total Manufacturing

To facilitate the calculation of growth rates, the authors used the concept of the plastics manufacturing Industry, for which more complete government data are available, rather than for the entire plastics industry. Plastics manufacturing represented 74.5 percent of all plastics industry employment in 2014 ([see Table 6](#)). It excludes captives and wholesale trade, but it still provides a good approximation to the growth patterns of the plastics industry.

[Table 9](#) shows employment, real value added and real shipments in the plastics manufacturing industry from 1980 through 2014. The data reflect the negative effects of the 2000-2001 and 2008-2009 recessions. The figures at the bottom show that, from 1980 to 2014, a period of 34 years, plastics manufacturing employment grew 0.3 percent per year, real value added grew 2.3 percent per year and real shipments grew 2.6 percent per year. “Real” means that the data were corrected for inflation.⁹ When wholesale trade for plastic materials, forms and shapes (NAICS 424610) is included, employment also grew 0.3 percent per year. The trend deteriorated through 2010 and then began improving.

[Figures 4.5 and 6](#) compare the growth of plastics manufacturing with all manufacturing on the basis of employment, real value of shipments and real value added. In all three categories, plastics manufacturing gained on all manufacturing until about 10 years ago. The gains have stopped, or have been delayed, as: (1) newer industries have come to the fore, such as pharmaceuticals and electronics; (2) the plastics industry was perhaps more subject to outsourcing than other industries; and (3) the plastics industry was hit especially hard by the recent recession. The plastics industry, and especially the resin-producing part of it, is early in the supply chain, which normally means more cyclicality — a stronger reaction to recessions.¹⁰ Nevertheless, plastics manufacturing is still way ahead of all manufacturing, and the United States may be gaining manufacturing competitiveness and reversing outsourcing because of lower inflation, a cheaper dollar and low cost shale gas — a trend that should help the Plastics Industry disproportionately.¹¹



All manufacturing, and the United States may be gaining manufacturing competitiveness and reversing outsourcing because of lower inflation, a cheaper dollar and low cost shale gas.

⁹ The data were corrected for inflation using the GDP deflator, a broad measure of inflation that covers the entire economy.

¹⁰ Compared to most industries, there is more supply chain and, therefore, more inventory between the plastics industry and final consumption. Inventories cause cyclicality, because they have to be built up and then worked off as the economy speeds up and slows down.

¹¹ See the SPI study, *Global Business Trends* 2013, Section III-G.

TABLE 8
TOP 25 INDUSTRIES RANKED BY SHIPMENTS
(CURRENT DOLLARS, 4-DIGIT NAIC BASIS)

NAICS Code	Industry Descriptions	2013 Shipments (\$Mil)	2013 Rank	2012 Rank	2011 Rank	2010 Rank	2009 Rank	2008 Rank	2007 Rank	2006 Rank	2005 Rank	2004 Rank
3241	Petroleum And Coal Products	795,636	1	1	1	1	1	1	1	1	1	1
3361	Motor Vehicles	361,467	2	2	2	2	5	3	2	2	2	2
3251	Basic Chemicals	260,581	3	3	3	3	4	2	3	5	5	6
3364	Aerospace Products And Parts	256,599	4	4	5	5	3	5	6	7	7	8
3254	Pharmaceuticals And Medicines	223,409	5	5	4	4	2	4	4	4	4	4
3363	Motor Vehicle Parts	205,269	6	7	7	7	7	6	5	3	3	3
3116	Meat Products And Meat Packaging Products	205,012	7	6	6	6	6	7	8	8	8	7
3261	Plastics Products	173,191	8	8	8	8	8	8	7	6	6	5
3345	Navigational, Measuring, Electromedical, And	141,627	9	9	9	9	9	9	9	10	10	10
3344	Semiconductors And Other Electronic Component	131,625	10	10	10	10	11	10	10	9	9	9
3112	Grain And Oilseed Milling Products	129,261	11	11	11	11	10	12	15	17	16	14
3331	Agriculture And Construction Machinery	110,991	12	13	14	18	19	17	20	19	22	27
3121	Beverages	105,561	13	14	16	12	12	19	16	15	13	13
3311	Iron And Steel And Ferroalloy	104,148	14	12	12	14	26	11	12	12	15	15
3115	Dairy Products	102,891	15	15	13	15	17	18	18	27	18	18
3339	Other General Purpose Machinery	101,812	16	17	19	21	23	20	19	20	21	25
3252	Resin, Synthetic Rubber, & Artificial & Synt	101,112	17	16	15	13	21	14	13	13	12	16
3391	Medical Equipment And Supplies	98,411	18	18	18	16	13	21	23	21	20	26
3119	Foods, Neso	98,054	19	19	20	20	16	24	24	26	26	22
3222	Converted Paper Products	89,534	20	20	17	17	14	16	14	14	14	12
3314	Nonferrous Metal (Except Aluminum) And Pro	89,495	21	24	27	30	35	32	32	37	46	50
3256	Soaps, Cleaning Compounds, And Toilet Prep	85,245	22	21	21	23	18	23	21	24	23	23
3329	Other Fabricated Metal Products	83,018	23	25	23	27	29	26	28	28	28	28
3221	Pulp, Paper, And Paperboard Mill Products	80,581	24	22	23	22	20	22	22	18	17	17
3231	Printing, Publishing And Similar Products	79,213	25	23	22	19	15	13	11	11	11	11
	All Others	<u>1,760,194</u>										
	Total	5,973,937										

* Includes rubber and manmade fibers. Plastics Materials & Resins represented 91.8 percent of NAICS 3252 category shipments in 2013.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, and Probe Economics LLC

TABLE 9
GROWTH OF THE PLASTICS INDUSTRY
(NOT INCLUDING CAPTIVES)

Year	PLASTICS MANUFACTURING*					
	PLASTICS MFG & TRADE^ # Employ (Thous)	Employment (Thous)	Change	Value Added (\$Billion 2014)^+	Value of Shipments (\$Billion 2014)^+	Change
2014	733.9	700.5	2.3%	127.9	308.9	3.6%
2013	717.7	684.7	0.3%	123.7	298.1	3.0%
2012	715.4	682.9	5.3%	119.7	289.5	5.6%
2011	680.8	648.7	1.0%	109.9	274.1	4.4%
2010	673.5	642.0	-1.0%	113.5	262.6	14.6%
2009	681.7	648.2	-15.1%	103.1	229.2	-20.3%
2008	799.6	763.3	-4.3%	112.2	287.6	-2.7%
2007	834.4	797.2	-2.8%	126.8	295.6	-3.6%
2006	857.4	820.5	-2.0%	131.4	306.7	1.8%
2005	873.6	836.9	-1.0%	135.1	301.2	11.0%
2004	881.5	845.1	-5.7%	128.5	271.2	4.1%
2003	931.9	895.7	-3.9%	123.8	260.5	1.3%
2002	968.2	932.3	-3.0%	125.4	257.2	1.1%
2001	999.3	961.0	-4.6%	117.4	254.4	-8.0%
2000	1,047.2	1,007.4	1.3%	129.4	276.4	3.8%
1999	1,035.6	994.0	2.5%	132.4	266.4	3.5%
1998	1,012.2	969.4	1.7%	127.6	257.3	1.0%
1997	996.7	953.0	2.7%	121.7	254.6	4.1%
1996	967.7	927.7	-1.1%	116.6	244.6	-1.1%
1995	976.1	937.6	3.9%	117.7	247.3	7.8%
1994	938.4	902.3	4.6%	112.9	229.4	10.1%
1993	897.5	862.7	3.6%	101.3	208.4	3.7%
1992	866.2	832.7	8.1%	99.0	201.1	9.6%
1991	802.6	770.2	-3.4%	85.9	183.5	-5.3%
1990	830.1	797.7	-0.3%	90.3	193.7	-3.2%
1989	830.8	778.8	2.1%	93.6	197.8	22.4%
1988	807.8	778.8	2.1%	93.6	197.8	22.4%
1987	791.3	162.7	8.3%	89.5	161.6	2.9%
1986	731.5	704.0	0.5%	80.3	157.0	3.0%
1985	727.6	700.7	2.1%	72.0	152.5	-0.9%
1984	712.6	686.2	7.7%	72.2	153.9	11.7%
1983	663.2	637.3	0.7%	63.1	137.8	7.5%
1982	657.7	633.0	0.0%	57.6	128.2	-2.6%
1981	565.1	632.9	-0.7%	58.2	131.5	1.7%
1980	658.9	637.3	-3.2%	58.9	129.3	-3.8%
Compound Growth Rates						
1980-1985	2.0%	1.9%		4.1%	3.4%	
1985-1990	2.7%	2.6%		4.6%	4.9%	
1990-1995	3.3%	3.3%		5.4%	5.0%	
1995-2000	1.4%	1.4%		1.9%	2.3%	
2000-2005	-3.6%	-3.6%		0.9%	1.7%	
2005-2010	-5.1%	-5.2%		-3.4%	-2.7%	
2010-2014	2.2%	2.2%		3.0%	4.1%	
1980-2014	0.3%	0.3%		2.3%	2.6%	

* Includes NAICS 325211, 325991, 3261, 33322201, 33351105, ^ Also includes NAICS 424610. +Adjusted for Inflation using the GDP Deflator.

FIGURE 4
EMPLOYMENT
 (INDEXES, 1980 = 100)

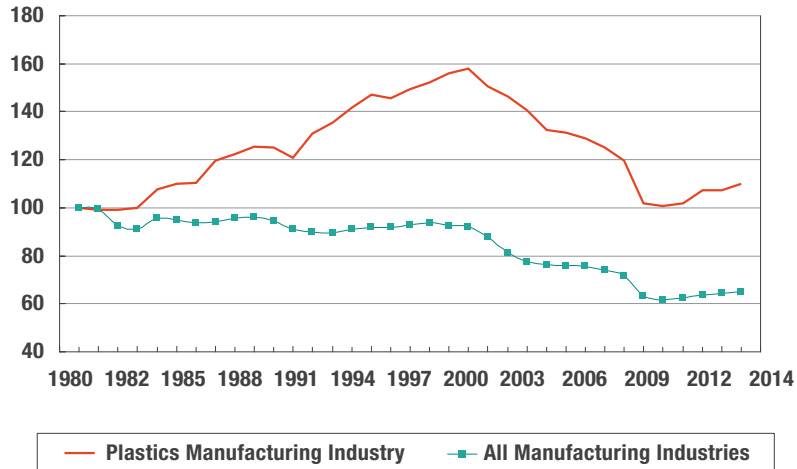


FIGURE 5
REAL VALUE OF SHIPMENTS
 (INDEXES, 1980 = 100)

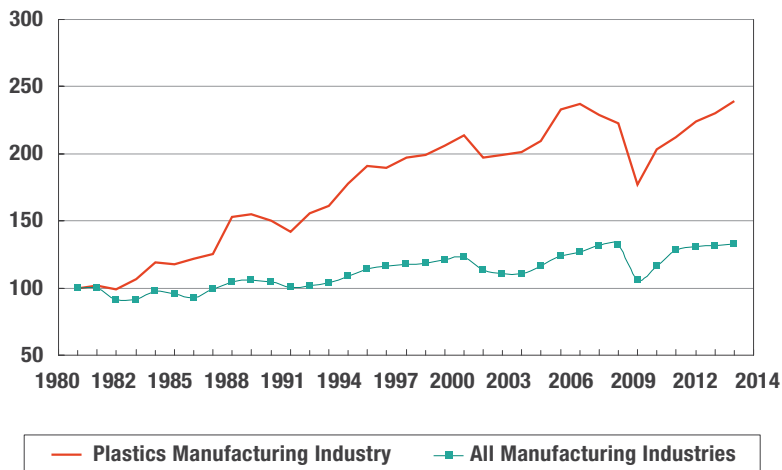
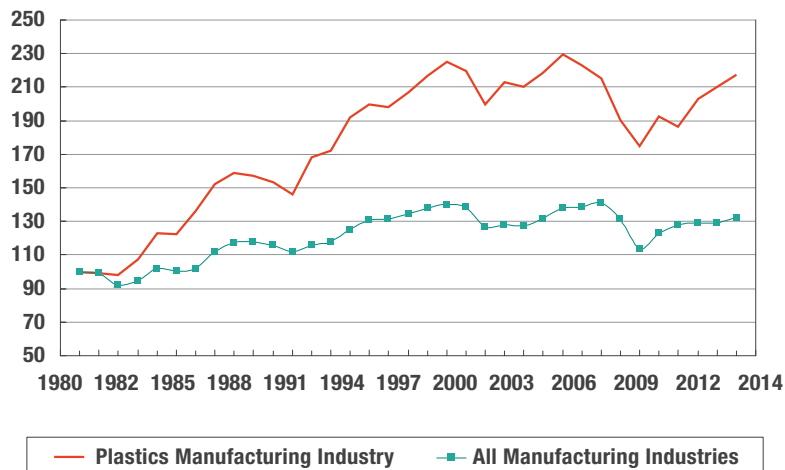


FIGURE 6
REAL VALUE ADDED
 (INDEXES, 1980 = 100)



IV. Where the Plastics Industry is Located



[Appendix A](#) contains many of the data shown in [Table 6](#), broken down by state. This section shows state rankings and presents the main results graphically.

[Figure 7](#) shows that Texas has the highest employment in the plastics industry, which fits with the fact that Texas is the second most populous state and has a large petrochemical industry, including plastic resin production. California is the most populous state, which gives it a high plastics industry ranking – second. Filling out the top 10 are Ohio, Texas, Michigan, Illinois, Indiana, Pennsylvania, Wisconsin, North Carolina and New York.

[Table 10](#) shows that the state employment rankings have changed a little since 2004. In years past, there was a clear movement of manufacturing and plastics operations from the Northeast, Mid-Atlantic and Midwest to the South. There is still some movement from the first two regions to the South, but the Midwest and South have now reached some kind of equilibrium. The states involved with shale oil and gas development, such as Texas, Louisiana and North Dakota, are seeing growth in their plastics industry in support of that development.

As demonstrated in [Figures 8 through 13](#), each sector of the plastics industry is distributed differently by state. The plastic materials and Resins segment is concentrated in Texas, where raw materials are abundant and the petrochemical infrastructure is excellent. Texas is followed by Ohio and Michigan. Illinois, South Carolina, Louisiana, Pennsylvania, North Carolina, California and Indiana probably have high rankings because of their proximity to major end users – manufacturers. As discussed on the previous page, shale oil and gas development also tends to drive plastics industry development toward particular states.

Plastic products are often hollow or have shapes not conducive to packing and long-distance shipping. Also, from the

standpoint of service and delivery, manufacturers prefer that their processors be located nearby. As a result, plastic products activities tend to be located near manufacturing sites, such as automobile and appliance assembly plants.⁹ Ohio employs the most people in plastic products, followed by California, Michigan, Texas and Indiana.

The plastic machinery industry is similarly concentrated in the manufacturing belt, where many plastic processors are concentrated. Ohio has the most employees in plastic machinery, followed by Michigan, Illinois, New York, Pennsylvania and Massachusetts.

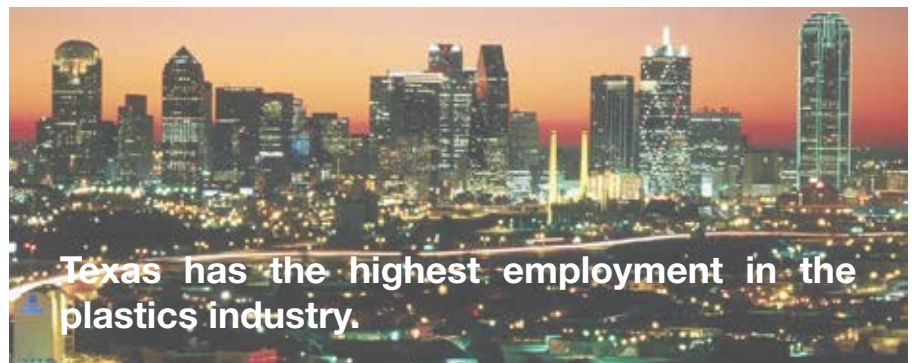
The location of the plastic mold industry seems to be related to the location of plastic products manufacturers (plastic processors), which use the molds. There also is significant “captive” mold activity located within plastic product establishments. Michigan the most people working in Molds for Plastics, followed by Ohio, California, Illinois, Wisconsin and Pennsylvania. Many of these states have extensive Plastic Products activity and might also have concentrations of machinists and other skilled workers needed to make molds.

Plastics wholesale trade is scattered around the country, indicating that wholesalers serve a wide range of customers. California and Texas, the two most populous states, employed the most people working in plastics wholesale trading employment. The 3rd ranked state, Illinois, is a center of plastic processing and a major logistics hub.

Captive plastic products operations are found at manufacturing sites, such as automobile assembly plants, that are large enough to produce their own plastic products or require the kinds of plastic products that are expensive to transport (such as milk jugs). Texas has the most captive plastic products activity, followed by California, Ohio, Michigan and Indiana.

Because the states that rank highest in plastics employment are often also the most populous, the authors also examine the concentration of plastics activity, as measured by the ratio of the number of plastics industry employees to the total number of non-farm employees in the state.

As [Table 11](#) indicates, Indiana has the greatest concentration of plastics industry personnel – 16.4 per thousand non-farm employees – followed closely by Michigan, and then by Ohio, Wisconsin, Kentucky and South Carolina.

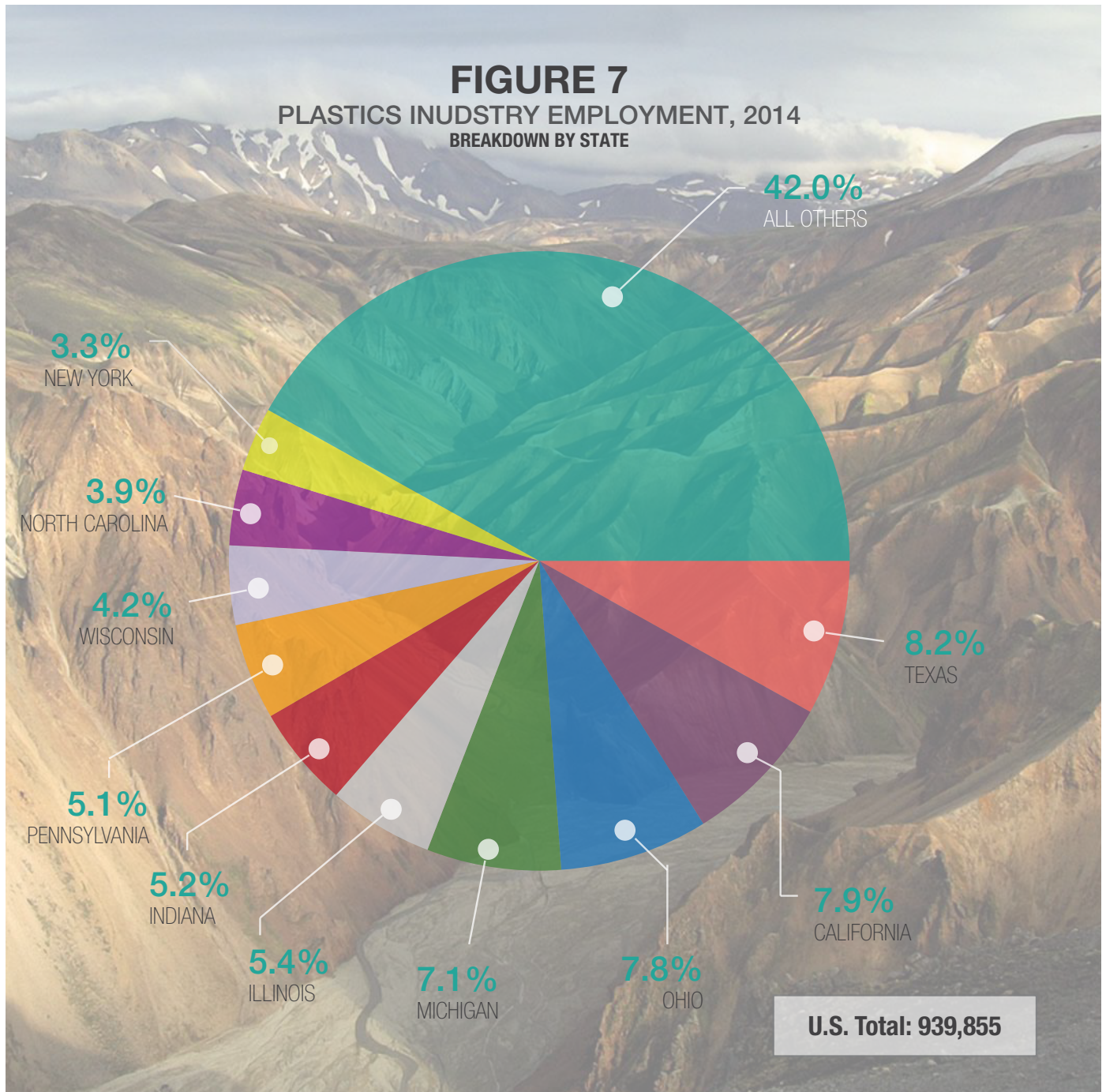


⁹ Plastic merchandise bags and builders' ware are notable exceptions. They are delivered directly to retailers like Walmart, Home Depot and A&P.

The state rankings fluctuate from year to year, but changes over a period of 10 years are considered significant. From 2004 to 2014, Alabama gained 13 ranking points, followed by Nebraska with 8, and Kansas and Delaware with 7. On the losing side, Mississippi lost 11 ranking points, followed by New Hampshire with 9 and Missouri with 7. Alabama’s gain could be attributed to the new automobile factories that have been built there, but, otherwise, there are no clear patterns.¹⁰

The overall concentration of plastics employment throughout the U.S. has decreased in recent years. In 2014, the average concentration in the country was 6.8 plastics employees per 1,000 non-farm workers, down from 10.2 in 2004. Plastics employment in Indiana, the state with the highest plastics concentration, declined from 21.6 employees per 1,000 non-farm workers in 2004 to 16.4 in 2014. These declines in concentration primarily reflect the decline of manufacturing relative to other sectors, especially services.

Figure 14 displays these concentrations on a map of the U.S. States with the darker shades have higher plastics concentrations, which are mostly located around the Midwest manufacturing belt. New concentrations have shown up in the emerging manufacturing zones of the South – especially Kentucky, Alabama and South Carolina.



¹⁰ The rankings for certain states, such as Delaware, Missouri and Mississippi, are affected by recent data revisions and may have been influenced by the appearance or disappearance of one or two plants.

TABLE 10
PLASTICS INDUSTRY EMPLOYMENT RANKED BY STATE
NAICS 523211, 325911, 3261, 333220, 33351105, 424610, PLUS CAPTIVES
(THOUSANDS OF EMPLOYEES, 2014)

	Without Captives	Captives	Total	Percent of Total	Rank 2014	Rank 2012	Rank 2011	Rank 2010	Rank 2009	Rank 2007	Rank 2006	Rank 2005	Rank 2004
U.S. Total	773.9	205.9	939.9	100%	-	-	-	-	-	-	-	-	-
Texas	55.5	21.5	77.0	8.2%	1	3	3	3	2	3	3	4	4
California	57.2	16.6	73.8	7.9%	2	1	1	1	1	1	1	1	1
Ohio	59.1	14.6	73.7	7.8%	3	2	2	2	2	2	2	2	2
Michigan	53.9	12.6	66.5	7.1%	4	4	4	4	4	4	4	3	3
Illinois	40.8	9.8	50.6	5.4%	5	5	5	5	5	5	5	5	5
Indiana	38.6	10.2	48.8	5.2%	6	7	7	7	6	7	7	7	7
Pennsylvania	40.0	8.1	48.1	5.1%	7	6	6	6	7	6	6	6	6
Wisconsin	32.0	7.2	39.2	4.2%	8	8	8	8	8	8	8	10	10
North Carolina	27.7	8.6	36.3	3.9%	9	9	10	10	9	10	9	8	8
New York	25.0	5.7	30.7	3.3%	10	10	9	9	10	9	10	9	9
Georgia	21.6	6.1	27.7	2.9%	11	12	12	11	12	13	13	13	13
Tennessee	19.1	7.1	26.2	2.8%	12	11	11	12	11	12	12	11	12
Kentucky	19.1	5.8	24.9	2.7%	13	15	16	16	14	16	15	16	19
South Carolina	17.9	6.4	24.4	2.6%	14	13	14	14	15	17	17	15	14
New Jersey	18.0	3.1	21.2	2.3%	15	14	13	13	13	11	11	12	11
Minnesota	15.8	4.8	20.7	2.2%	16	17	17	18	17	15	16	17	18
Alabama	14.6	5.8	20.4	2.2%	17	21	21	21	21	23	22	22	21
Massachusetts	15.2	4.8	20.0	2.1	18	16	15	15	18	14	14	14	16
Florida	15.2	4.1	19.2	2.0%	19	19	19	19	16	20	20	20	20
Missouri	13.6	3.5	17.1	1.8%	20	20	20	20	20	18	18	19	17
Virginia	13.6	3.2	16.9	1.8%	21	18	18	17	19	19	19	18	15
Washington	11.2	2.9	14.2	1.5%	22	22	22	22	22	22	23	23	22
Iowa	10.2	3.2	13.4	1.4%	23	23	23	23	23	21	21	21	24
Louisiana	6.1	4.9	11.0	1.2%	24	27	27	27	29	28	29	27	31
Kansas	9.2	1.3	10.5	1.1%	25	26	26	26	25	27	28	28	28
Connecticut	7.7	2.4	10.1	1.1%	26	24	24	24	24	24	24	25	26
Arkansas	7.5	1.6	9.0	1.0%	27	25	25	25	27	26	26	26	25
All Other	68.4	20.0	88.4	9.4%	-	-	-	-	-	-	-	-	-

Source: Derived from the Appendix [A-1](#), [A-2](#) and [A-5](#), and from prior studies.

FIGURE 8
PLASTIC MATERIALS & RESINS (325211)
 BREAKDOWN OF NUMBER OF EMPLOYEES BY STATE, 2014

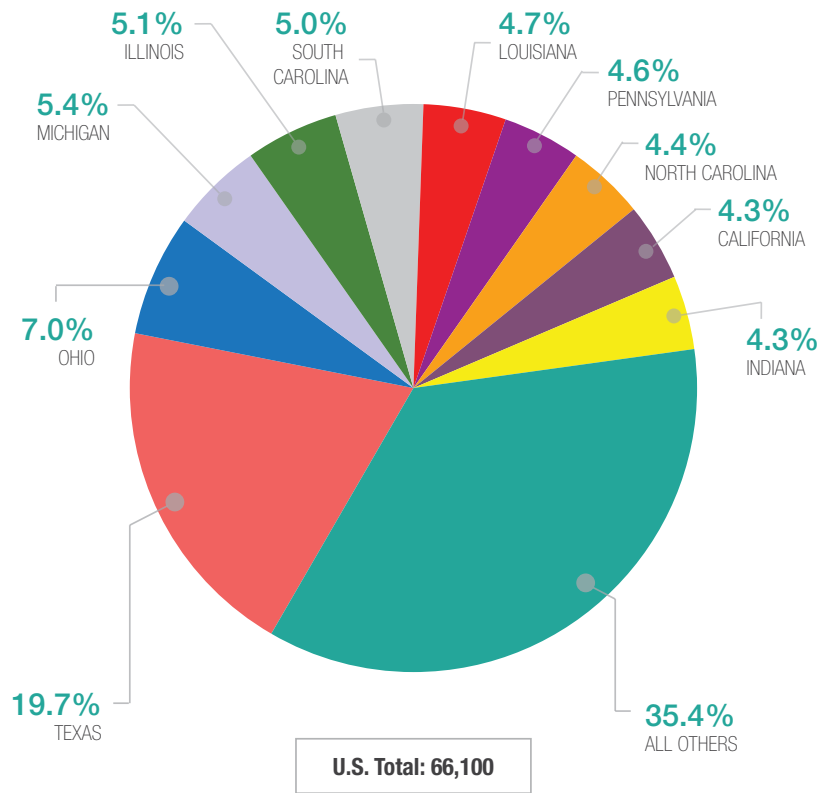


FIGURE 9
PLASTIC PRODUCTS (325991 & 3261)
 BREAKDOWN OF NUMBER OF EMPLOYEES BY STATE, 2014

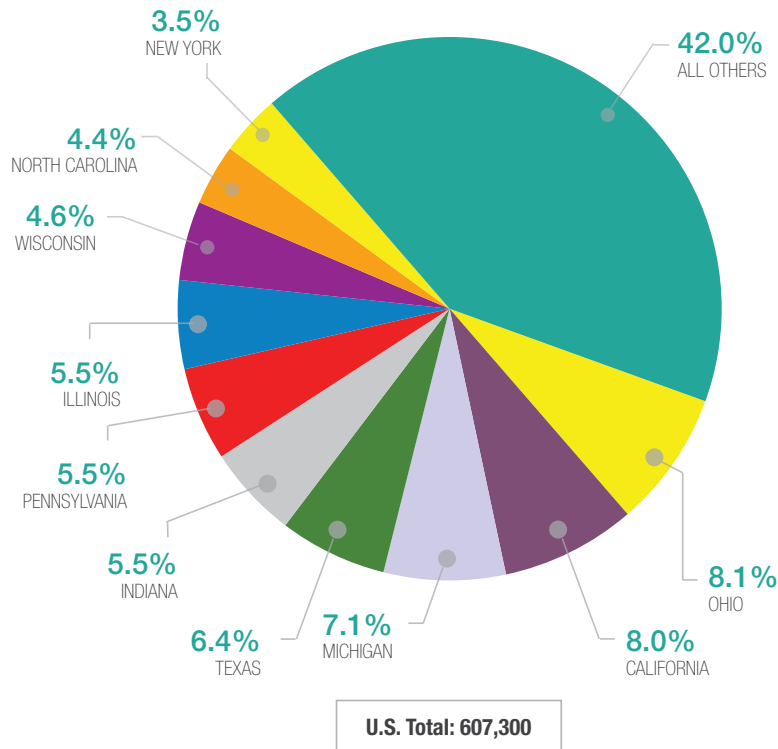


FIGURE 10
PLASTICS MACHINERY (3332201)
 BREAKDOWN OF NUMBER OF EMPLOYEES BY STATE, 2014

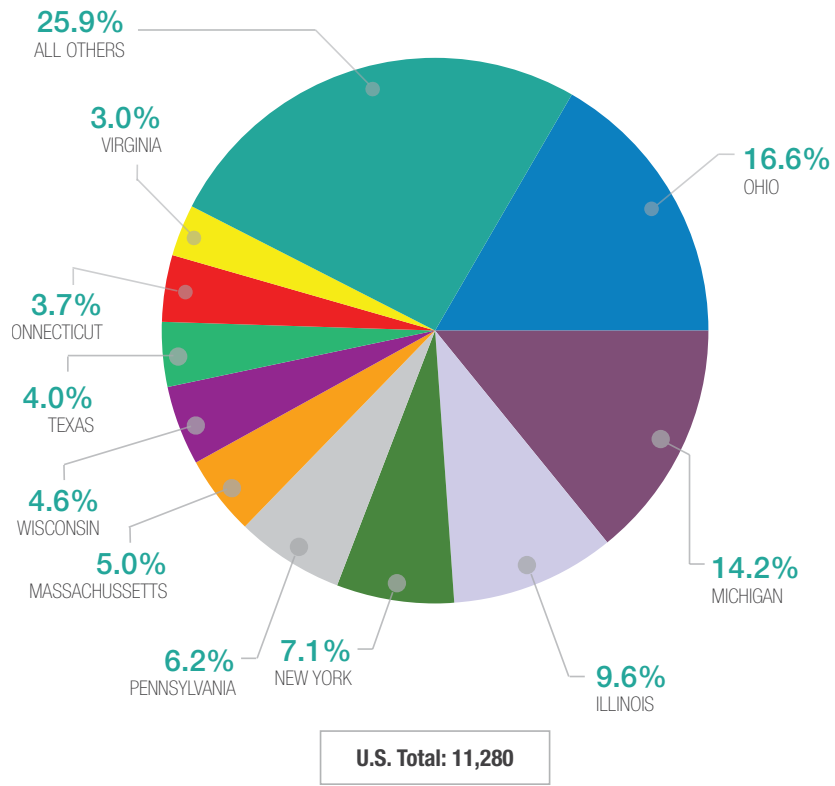


FIGURE 11
MOLDS FOR PLASTICS (33351105)
 BREAKDOWN OF NUMBER OF EMPLOYEES BY STATE, 2014

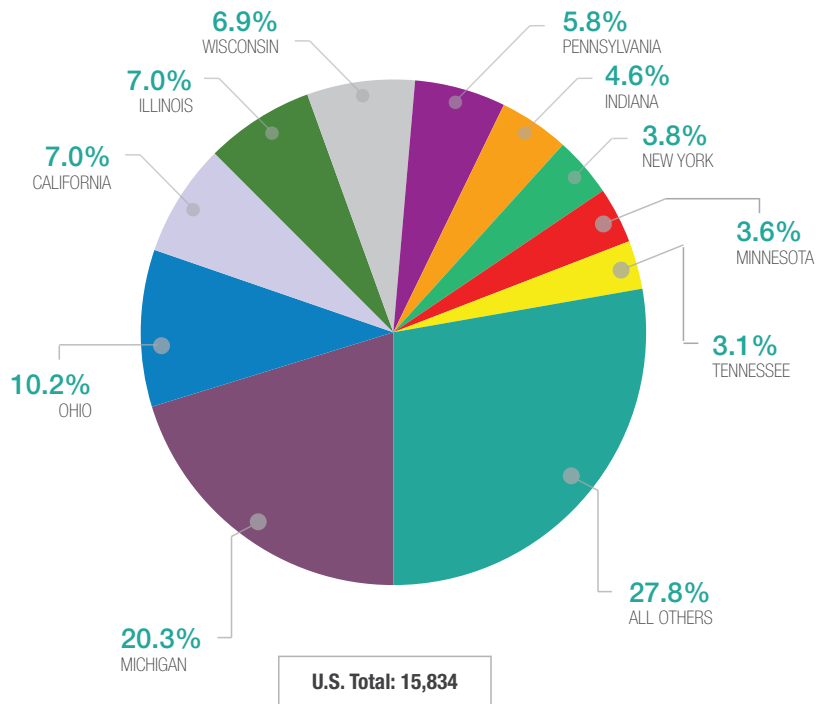


FIGURE 12
PLASTICS WHOLESALE TRADE (424610)
 BREAKDOWN OF NUMBER OF EMPLOYEES BY STATE, 2014

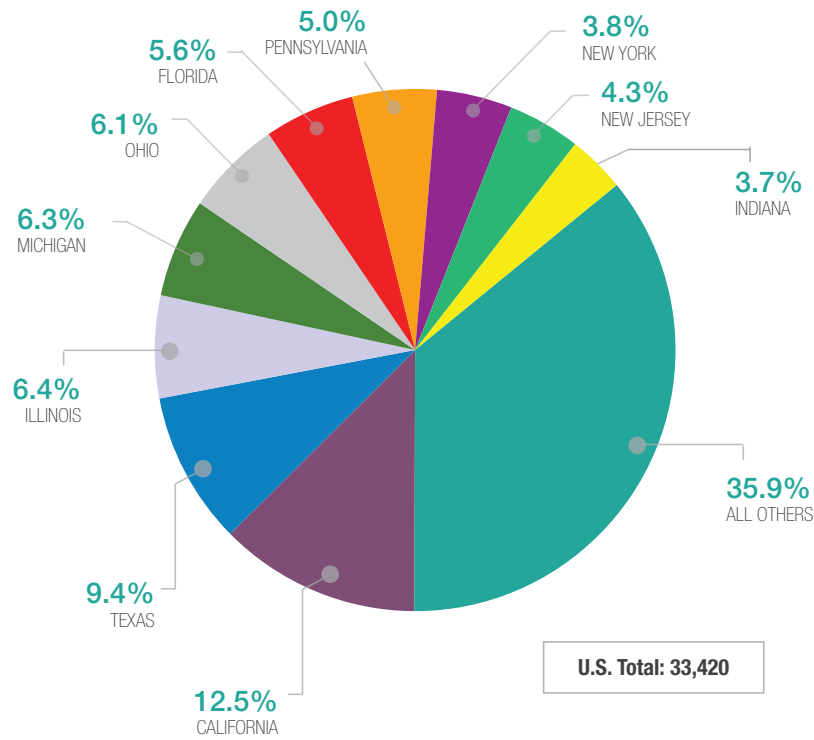


FIGURE 13
CAPTIVE PLASTIC PRODUCTS
 BREAKDOWN OF NUMBER OF EMPLOYEES BY STATE, 2014

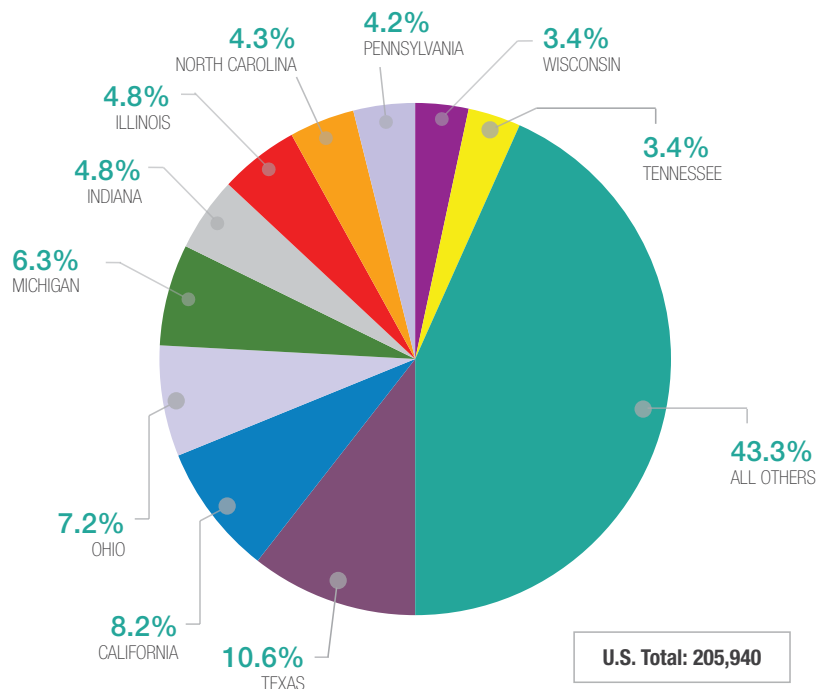
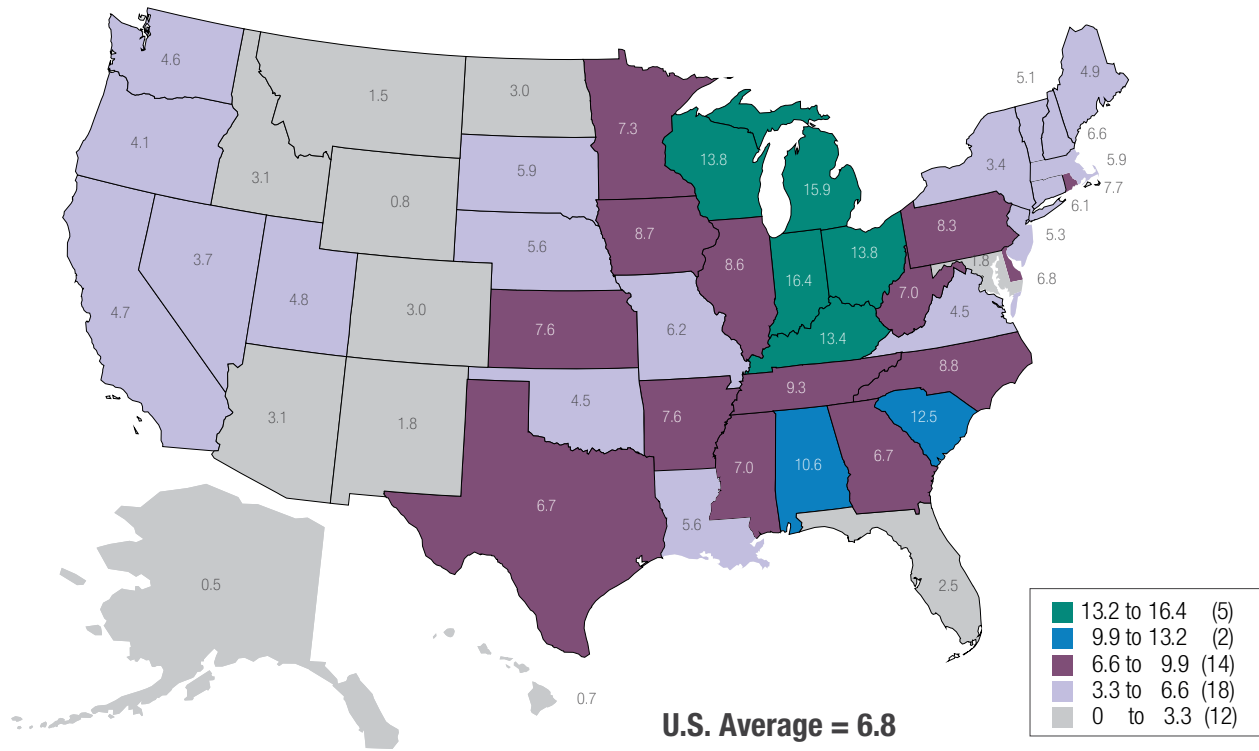


TABLE 11
PLASTICS EMPLOYMENT CONCENTRATION:
PLASTICS INDUSTRY EMPLOYEES PER THOUSAND NON-FARM EMPLOYEES
RANKED BY STATE, 2014

	Plastics Industry Employees	Total Non-Farm Employees	Plastics Employees Per Thousand Non-Farm Employees	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank
				2014	2012	2011	2010	2009	2007	2006	2005	2004
U.S. Total	939.9	139,235.7	6.8	-	-	-	-	-	-	-	-	-
Indiana	48.8	2,980.3	16.4	1	2	1	1	1	1	1	1	1
Michigan	66.5	4,179.7	15.9	2	1	2	2	2	2	2	2	2
Ohio	73.7	5,330.7	13.8	3	3	3	3	3	3	3	3	3
Wisconsin	39.2	2,845.1	13.8	4	4	4	4	4	4	4	4	5
Kentucky	24.9	1,857.8	13.4	5	5	6	5	5	5	5	5	8
South Carolina	24.4	1,948.6	12.5	6	6	5	6	6	6	6	7	4
Alabama	20.4	1,923.2	10.6	7	15	15	16	12	21	20	19	20
Tennessee	26.2	2,815.4	9.3	8	8	8	8	7	12	10	9	10
North Carolina	36.3	4,141.9	8.8	9	13	13	13	14	15	15	15	12
Iowa	13.4	1,548.2	8.7	10	10	10	10	9	11	13	10	15
Illinois	50.6	5,872.5	8.6	11	7	7	7	8	7	7	11	9
Pennsylvania	48.1	5,790.1	8.3	12	11	11	12	15	14	14	14	14
Rhode Island	3.7	477.3	7.7	13	9	9	9	10	8	9	6	7
Arkansas	9.0	1,188.8	7.6	14	14	12	11	13	13	11	12	11
Kansas	10.5	1,392.6	7.6	15	20	21	21	17	17	17	25	22
Minnesota	20.7	2,813.4	7.3	16	18	19	19	18	16	16	16	17
Mississippi	7.8	1,119.5	7.0	17	12	14	14	11	9	8	8	6
West Virginia	5.3	762.4	7.0	18	21	20	20	22	20	19	20	18
Delaware	3.0	437.7	6.8	19	35	35	34	33	26	27	21	26
Texas	77.0	11,550.2	6.7	20	22	22	22	21	22	23	18	25
Georgia	27.7	4,155.6	6.7	21	24	24	25	24	27	26	27	21
New Hampshire	4.2	647.8	6.6	22	19	17	17	19	10	12	13	13
Missouri	17.1	2,734.0	6.2	23	23	23	24	23	18	18	24	16
Connecticut	10.1	1,666.1	6.1	24	16	16	15	16	24	21	26	24
South Dakota	2.5	423.4	5.9	25	36	36	36	36	31	31	32	31
Massachusetts	20.0	3,413.5	5.9	26	25	25	23	26	23	22	23	23
Nebraska	5.6	993.3	5.6	27	27	27	27	29	33	32	35	35
All Other	243.2	64,266.6	3.8	-	-	-	-	-	-	-	-	-

Source: [Appendix A-22](#), and prior studies.

FIGURE 14
PLASTICS EMPLOYEES PER 1,000 NON-FARM EMPLOYEES, 2014



V. UPSTREAM (SUPPLIER) IMPACTS



Jobs are not only created in the plastics industry, but also in industries that supply goods and services to it, such as fuel, spare parts, office supplies and transportation services.

The authors quantified the jobs and shipments created in these upstream industries by using the input-output model developed by the INFORUM Program at the University of Maryland. The results are shown in detail in [Tables 12](#) and [13](#).

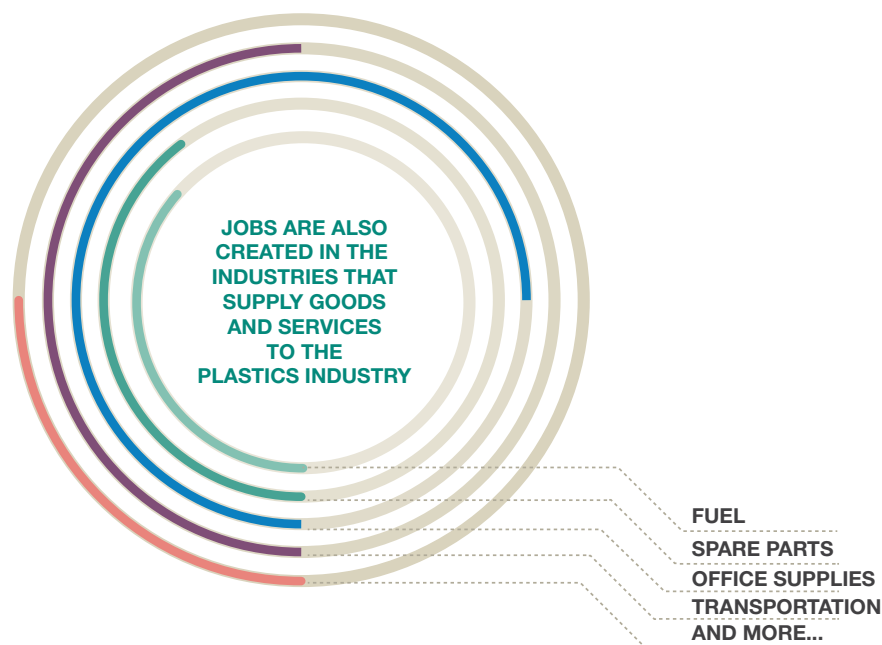
[Table 12](#) shows jobs created in the various industries that supply goods and services directly or indirectly to the plastics industry. Supplying “directly” means that the industry delivers its goods and services directly to a plastics industry establishment, whether that establishment is in the business of making plastic materials and resins, plastic machinery, plastic molds or plastic products, or in the business of wholesale trade services. An example of an “indirect” job is a worker supplying services to an industry that subsequently delivers goods and services to the plastics industry, or to another industry, which has its goods eventually reaching the plastics industry after a number of transactions. Input-output models track all of these transactions.

As [Table 12](#) indicates, in addition to 573,000 jobs in plastic products,⁹ there were 282,000 direct jobs in industries supporting plastic products, 395,000 indirect jobs and 46,000 “Other” jobs, for a total of 723,000 jobs in support industries. “Other” jobs are in certain plant and equipment sectors that are not otherwise accounted for by the INFORUM model. There were a total of 1,295 jobs in the plastic products industry or in support of it. To those jobs, the authors added 424,000 captive jobs, thus bringing the total number

of jobs to 1,719,000. This amounted to 1.2 percent of the U.S. non-farm employees.

Analogous to [Table 12](#), the shipments in [Table 13](#) are divided among direct shipments, Indirect shipments and “other” shipments, depending on whether the goods and services were delivered directly to a plastics establishment; provided to other establishments that eventually supplied plastics establishments; or related to certain plant and equipment activities that would not otherwise be counted. This report is concerned only with domestic jobs and shipments, so column 4 of [Table 13](#) deducts the import content of the shipments on the left, to provide a domestic subtotal. After deducting the effect of imports, [Table 13](#) shows that \$255 billion of domestic shipments were generated by establishments supplying the plastic products industry directly or indirectly (the domestic subtotal). To this subtotal is added the \$183 billion in shipments by the plastic products industry itself, giving the subtotal of \$437 billion. Shipments by captive plastic products producers and their direct and indirect suppliers added another \$146 billion, resulting in a grand total of \$584 billion in shipments generated directly or indirectly by the Plastics Industry.¹⁰

[Figure 15](#) shows how these jobs and shipments are distributed among the various industry components. The authors’ input-output modeling method has added 779,500 jobs and \$156.3 billion in shipments in the upstream industries, totaling 1,719,300 and \$583.7 billion in shipments.



⁹ The employment data from the INFORUM model are from the U.S. Bureau of Labor Statistics (BLS) and do not match exactly with the U.S. Bureau of the Census data found in [Table 6](#). The two agencies treat auxiliary, non-producing locations differently. The data in [Table 12](#) include central offices, sales offices, technical service centers, research labs, etc.

¹⁰ The shipment figures in [Table 13](#) are a good measure of how much stuff is being shipped around, but they do involve double counting. For instance, shipments of plastic products include the value of the plastic resins that were purchased from others to make those products, but the value of that resin is also reported in the “Chemicals” line higher up in the table. [Table 12](#) does not involve double counting.

TABLE 12
DOMESTIC JOBS RELATED, DIRECTLY OR INDIRECTLY,
TO THE U.S. PLASTICS INDUSTRY
(THOUSANDS OF JOBS, 2014)

Industry	Direct Jobs	Indirect Jobs	Other Jobs*	Subtotal	Captive Jobs	Total Jobs
Agriculture	0	12	0	12	4	16
Oil, Gas and Coal Extration	0	6	0	6	2	9
Other Minerals	0	3	0	3	1	5
Construction	7	10	5	22	6	27
Manufacturing	107	76	17	201	62	263
Non-Durables	55	37	1	92	31	123
Food, Tobacco & Spirits	0	1	0	1	0	1
Apparel, Textiles, Leather	1	1	0	2	1	3
Paper	11	5	0	17	6	22
Printing	0	2	0	2	1	3
Chemicals	41	26	0	68	23	91
Petroleum and Coal Products	0	1	0	1	0	1
Rubber Products	0	1	0	1	0	1
Plastic Products	0	0	0	0	0	0
Durables	53	39	17	109	31	140
Wood Products	5	3	0	8	3	10
Stone, Clay, Glass	5	2	0	7	2	9
Primary Metals	0	3	0	3	1	4
Fabricated Metal Products	22	18	3	43	14	57
Machinery	13	4	12	28	6	34
Computer & Electronic Products	3	4	0	7	2	9
Electrical Equipment & Appliances	2	2	1	4	1	5
Transportation Equipment	0	1	0	2	1	2
Furniture & Related	2	0	0	3	1	3
Misc. Manufacturing	1	2	0	4	1	5
Services	167	289	23	478	154	633
Transportation & Warehousing	21	35	2	58	19	78
Wholesale & Retail Trade	41	51	5	97	31	128
Finance, Insurance, Real Estate	8	30	1	39	13	52
Utilities	3	5	0	8	3	10
Information	2	6	1	9	3	11
Prof, Tech, Scientific Services	24	40	7	71	21	92
Management Services	20	29	1	51	17	67
Admin, Support, Waste Services	25	55	3	83	27	110
Other	22	39	2	63	21	84
Total (all industries)	282	395	46	723	230	952
Plastic Products Jobs				573	194	767
Total Jobs				1,295	424	1,719

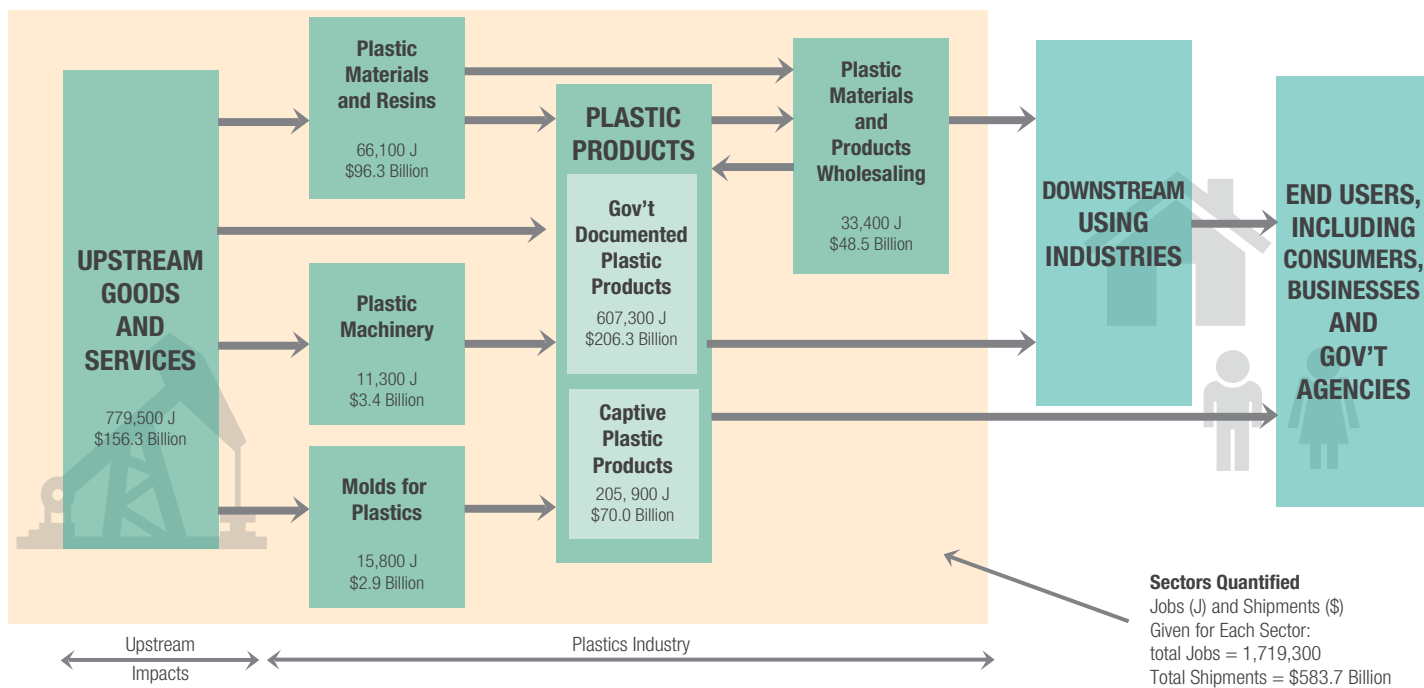
* "Other Jobs" are certain plant and equipment jobs that are not otherwise included. (Rounded to zero)

TABLE 13
DOMESTIC SHIPMENTS RELATED, DIRECTLY OR INDIRECTLY,
TO THE U.S. PLASTICS INDUSTRY
(MILLIONS OF DOLLARS, 2014)

Industry	Direct Shipments	Indirect Shipments	Other Shipments*	Less Import Content	Domestic Subtotal	Captive Shipments	Total Shipments
Agriculture	36	2,967	8	230	2,782	94	3,722
Oil, Gas and Coal Extration	135	16,267	47	7,491	8,958	3,022	11,980
Other Minerals	17	1,197	27	-69	1,309	435	1,743
Construction	1,199	1,583	433	5	3,211	942	4,152
Manufacturing	82,568	84,021	2,716	32,143	137,162	45,593	182,755
Non-Durables	64,581	66,489	204	22,394	108,880	36,854	145,734
Food, Tobacco & Spirits	107	929	5	99	942	318	1,259
Apparel, Textiles, Leather	366	312	4	224	459	154	613
Paper	4,901	3,201	29	936	7,195	2,430	9,625
Printing	9	251	6	11	255	84	339
Chemicals	57,662	54,280	92	19,780	92,254	31,254	123,508
Petroleum and Coal Products	1,368	7,253	62	1,209	7,473	2,513	9,986
Rubber Products	168	264	6	135	304	101	405
Plastic Products	0	0	0	0	0	0	0
Durables	17,987	17,532	2,512	9,749	28,282	8,739	37,021
Wood Products	1,265	972	10	404	1,843	621	2,464
Stone, Clay, Glass	1,374	644	28	417	1,628	543	2,171
Primary Metals	417	3,532	163	1,137	2,976	954	3,930
Fabricated Metal Products	5,464	5,795	362	1,413	10,207	3,339	13,546
Machinery	5,770	1,997	68	1,457	2,046	671	2,716
Computer & Electronic Products	1,437	1,997	68	1,457	2,046	671	2,716
Electrical Equipment & Appliances	974	983	76	989	1,045	328	1,373
Transportation Equipment	414	775	80	464	805	246	1,050
Furniture & Related	289	62	18	34	335	107	442
Misc. Manufacturing	584	792	75	556	895	278	1,173
Services	36,484	65,444	2,378	2,992	101,315	33,552	134,867
Transportation & Warehousing	4,976	8,188	196	304	13,056	4,361	17,418
Wholesale & Retail Trade	9,384	10,206	598	-441	20,929	6,895	27,824
Finance, insurance, Real Estate	3,103	11,975	273	179	15,172	5,053	20,225
Utilities	2,603	4,531	47	41	7,140	2,405	9,545
Information	1,222	2,698	145	31	4,035	1,319	5,354
Prof, Tech, Scientific Services	5,266	9,383	753	699	14,703	4,731	19,433
Management Services	5,179	7,623	156	24	12,934	4,333	17,268
Admin, Support, Waste Services	2,027	4,868	116	36	6,976	2m326	9,302
Other	2,724	5,672	94	2,120	6,976	2,128	8,498
Total (all industries)	120,439	171,439	5,610	42,792	254,736	84,484	339,220
Plastic Products Shipments					182,593	61,921	244,514
Total Shipments					437,330	146,405	583,735

* "Other Shipments" are certain plant and equipment shipments that are not otherwise included.

FIGURE 15
PLASTICS-RELATED GOODS AND SERVICES:
IMPACTS OF PLASTICS QUANTIFIED, 2014



VI. WHERE PLASTICS END UP: HOW DOWNSTREAM (USING) INDUSTRIES ARE AFFECTED



So far, this report has addressed the left-hand two-thirds of [Figure 2](#), covering the plastics industry and its upstream impacts. Now it will focus on where plastic products go and how they affect end users. Some plastic products are shipped to final users, but most are delivered to industrial or service establishments that utilize them in further processing and development of services. Ultimately, all of those plastic products wind up in some form of a final good or service. This section uses the INFORUM input-output model, which traces plastic products to the final user, be it a household buying food wrap, a business buying machinery, a government agency buying computers, or a hospital providing services.

The model traces plastic products to their final disposition by National Income and Product Account (NIPA) category. These are the components of gross domestic product (GDP) that are frequently discussed in the press. [Appendix D](#) shows that 74.0 percent of Plastics Products in 2014 wound up in some sort of personal consumption. This means toys, eating utensils, detergent bottles, motor vehicles, refrigerators, etc. The next largest share of Plastics Products, 28.3 percent, ended up in private fixed investment, which means residential and non-residential equipment, software and structures, plus inventories (the sum of five categories in [Appendix D](#)). State, local and federal government purchases of final goods and services accounted for another 12.5 percent of plastics products final demand. Some plastics products were imported, net of exports, so 14.9 percent of it is deducted in order to show just the domestic effect. This is analogous to how GDP is computed:

$$\text{GDP} = \text{Consumption} + \text{Investment} + \text{Government Spending} + \text{Net Exports}$$

The model also traces plastic products to their final disposition broken down by the classes of products and services that embody the plastics. As shown in [Figure 16](#), most plastic products go into manufactured

goods, but manufacturing is accounting for a shrinking share of the U.S. economy. Manufacturing employment accounted for only 8.7 percent of total non-farm employment in 2014. It should not be surprising, therefore, that 33.7 percent of plastic products went into services – wholesale and retail trade, health services, food services and drinking places, and other services. The kinds of plastic products that get consumed as part of services could include, for instance, bags, sterile packaging, intravenous tubing, signage, drink containers, other food service items, and automotive repair parts. Construction accounted for 9.0 percent share of the plastic products that made it into final demand. The remaining plastic products went into durable and, especially, non-durable goods. Among the durables, transportation equipment accounted for 12.5 percent of the total, furniture and related accounted for 2.4 percent, and other durables accounted for 11.9 percent. Among the non-durables, food, tobacco and spirits accounted for 9.1 percent of the total, plastic products accounted for 15.1 percent, and other non-durables accounted for 6.4 percent. What does it mean that plastic products are part of the final consumption of plastic products? Most plastic products are ultimately consumed as part of some other product or service, but some plastic products – 15.1 percent of them by value – are final goods in their own right. These are things like toys, plastic cups, shower curtains, and plastic ice scrapers for cars.

The reader now knows that plastic products are incorporated into many different goods and services. Could some of those goods and services be more important to the Plastic Products industry than others, in terms of the total value of plastic products involved. Conversely, could plastic products be more important to some user industries than others, based on how much of the total value of its product or service that is accounted for by plastic products? To answer these two questions, the INFORUM model made it possible for the authors to prepare [Tables 14](#) and [15](#).



Table 14 shows the final demand industries most important to plastics in terms of the value of plastic products involved in 2014. The first column of numbers shows the total amount of final demand produced by each industry. The plastic products industry, for instance, produced \$37.3 billion of final goods in 2014.

The second column in Table 14 gives the plastic products content for each industry. It shows that the plastic products content of final plastic products produced in 2014 was \$39.4 billion. One expects plastic products to contain a lot of plastics, because they are, by definition, made of plastics.

The third column of numbers gives the cents worth of plastic products contained in a dollar's worth of final goods and services produced by each industry. The plastic products content of plastic products is shown to be 105.5 percent, which is greater than the value of the products produced. This seemingly nonsensical result occurs because significant amounts of plastic products are also exported and are not included in the denominator, found in the first column.

The next largest destination for plastic products in final goods was automobiles, followed by state and local government, and then hospitals. Prior to the home building downturn that started in 2007, the single family residential structures category – now 10th – was much further up the list. State and local governments consume a wide variety of goods and services. Hospitals use Plastic Products like oxygen masks, sharp containers, intravenous fluid bags and tubing. Even though these products are generally not heavy and may not represent large volume, their values per ton are relatively high.

Some of the industries identified in Table 14 contain a relatively large value of plastic products per dollar of final value. To pursue this line of thinking, Table 15 ranks final demand industries

by cents worth of plastic products contained per dollar's worth of final product – called “plastics intensity.” Some industries have over 10 cents worth of plastic products per dollar of value, and some have much less. The average across all industries is 1.3 cents per dollar of value.

Looking at individual industries, we have already discussed the first-ranked industry – all plastic products. The next four highest-ranked industries in terms of plastics intensity are: soft drinks and ice; mattresses, blinds and shades; snack foods; and seasonings and dressings. The second industry, mattresses, blinds and shades, probably uses a lot of plastics products, like foam, film and sheet, in its actual products. The other three likely spend a lot on plastic packaging. Because these industries spend so much per dollar of output on plastics, they are the ones that are most interested in what is happening in the plastics industry, in terms of product development, supply, demand and price.

FIGURE 16
FINAL CONSUMPTION OF PLASTIC PRODUCTS, 2014:
PRODUCTS AND SERVICES CONTAINING PLASTICS

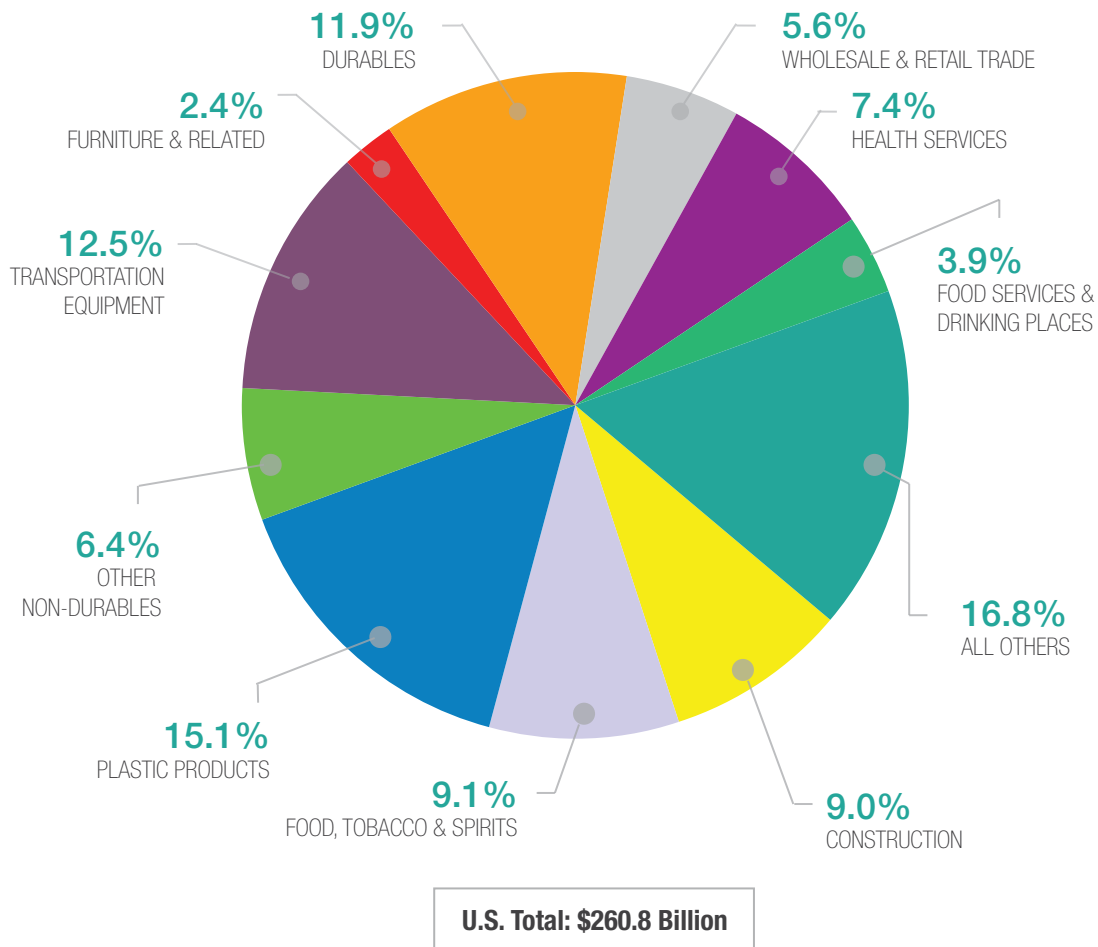


TABLE 14
PLASTIC PRODUCTS CONTENT OF FINAL DEMAND BY INDUSTRY, 2014
(RANKED BY VALUE OF PLASTIC PRODUCTS CONTENT)

Rank		Millions of Dollars		Cents per \$ of Final Demand
		Final Demand	Plastics Content	
1	All Plastic Products	37,284	39,353	105.5
2	Automobiles	519,517	23,046	4.4
3	State and Local General Government	1,620,400	10,017	0.6
4	Hospitals	911,030	7,131	0.8
5	Other Residential Structures	175,664	7,086	4.0
6	Soft Drinks and Ice	41,939	6,124	14.6
7	Wholesale Trade	831,679	5,659	0.7
8	Limited-Service Restaurants	313,446	5,602	1.8
9	Other Retail	724,329	4,955	0.7
10	Single-Family Residential Structures	189,585	4,771	2.5
11	Office of Physicians	450,582	4,600	1.0
12	Automotive Repair and Maintenance	171,645	3,936	2.3
13	Snack Foods	30,297	3,603	11.9
14	Household and Institutional Furniture	46,394	3,470	7.5
15	Full-Service Restaurants	219,701	3,365	1.5
16	Pharmaceuticals and Medicines	253,015	2,885	1.1
17	Federal General Government (defense)	618,900	2,783	0.4
18	Toilet Preparations	37,695	2m595	6.9
19	Motor Vehicle Parts	72,742	2,542	3.5
20	Other Nonresidential Structures	140,201	2,337	1.7
21	Educational and Vocational Structures	93,419	2,326	2.5
22	Aircraft	116,096	2,305	2.0
23	Food and Beverage Stores	191,734	2,296	1.2
24	Soap and Cleaning Compounds	38,012	2,241	5.9
25	Housing Services	1,848,189	2,041	0.1
	All Other Industries	<u>10,600,702</u>	<u>103,702</u>	<u>1.0</u>
	Total	20,294,098	260,770.8	1.3

TABLE 15
PLASTIC PRODUCTS CONTENT OF FINAL DEMAND BY INDUSTRY, 2014
(RANKED BY PLASTICS INTENSITY -- CENTS PER DOLLAR OF FINAL DEMAND)

Rank		Millions of Dollars		Cents per \$ of Final Demand
		Final Demand	Plastics Content	
1	All Plastic Products	37,284	39,353	105.5
2	Soft Drives and Ice	41,939	6,124	14.6
3	Mattresses, Blinds and Shades	11,743	1,630	13.9
4	Snack Foods	30,397	3,603	11.9
5	Seasonings and Dressings	13,944	1,466	10.5
6	Coffee and Tea	12,042	1,164	9.7
7	Ophthalmic Goods	9,611	888	9.2
8	Sign Manufacturing	7,854	663	8.4
9	Household and Institutional Furniture	46,294	3,470	7.5
10	All Other Transportation Equipment	4,589	333	7.3
11	Power-Driven Handtool Manufacturing	7,993	568	7.1
12	Toilet Preparations	37,695	2,595	6.9
13	Manufacturing and Reproducing Magnetic and Optical Med	2,022	126	6.2
14	Soap and Cleaning Compounds	38,012	2,241	5.9
15	Household Refrigerators and Home Freezers	8,190	476	5.8
16	Paper Bag and Coated and Treated Paper	6,220	350	5.6
17	Computer Terminals and Other Computer Peripherals	28,381	1,559	5.5
18	Office Supplies (except paper)	3,415	187	5.5
19	Office Furniture (including fixtures)	19,624	1,047	5.3
20	Household Laundry Equipment	6,055	315	5.2
21	Other Major Household Appliances	3,318	161	4.9
22	Lawn and Garden Equipment	6,958	355	4.8
23	Surgical and Medical Instruments	33,546	1,606	4.8
24	Wood Kitchen Cabinet and Countertops	1,020	49	4.8
25	Totalizing Fluid Meters and Counting Devices	3,144	145	4.6
	All Other Industries	<u>19,872,907</u>	<u>190,318</u>	<u>1.0</u>
	Total	20,294,098	260,771	1.3

APPENDIX A: DETAILED DATA BY STATE



A1: PLASTICS INDUSTRY

(NAICS 325211, 325991, 3261, 3332201, 33351105, AND 424610 PLUS CAPTIVES) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Empl (Thous)	Annual Payroll (\$Mil)	Value of Industry Shipments (\$Mil)*
U.S. Total	#N/A	939.9	45,855.2	427,333.0
Alabama	#N/A	20.4	930.4	9,294.8
Alaska	#N/A	0.2	11.5	83.7
Arizona	#N/A	8.0	366.0	2,938.3
Arkansas	#N/A	9.0	377.1	3,849.7
California	#N/A	73.8	3,507.8	24,555.7
Colorado	#N/A	7.5	370.6	1,600.5
Connecticut	#N/A	10.1	550.1	4,517.5
Delaware	#N/A	3.0	148.4	1,073.8
District of Columbia	#N/A	0.0	0.9	15.9
Florida	#N/A	19.2	941.6	9,828.2
Georgia	#N/A	27.7	1,282.9	14,206.3
Hawaii	#N/A	0.4	18.6	128.1
Idaho	#N/A	2.0	84.7	752.1
Illinois	#N/A	50.6	2,665.7	18,404.4
Indiana	#N/A	48.8	2,258.5	19,119.9
Iowa	#N/A	13.4	617.1	4,191.2
Kansas	#N/A	10.5	483.6	3,701.8
Kentucky	#N/A	24.9	1,112.0	11,046.3
Louisiana	#N/A	11.0	661.1	14,043.5
Maine	#N/A	2.9	132.4	1,122.0
Maryland	#N/A	4.6	312.9	2,642.1
Massachusetts	#N/A	20.0	1,097.7	6,698.6
Michigan	#N/A	66.5	3,210.6	22,202.9
Minnesota	#N/A	20.7	1,002.1	8,145.7
Mississippi	#N/A	7.8	357.4	4,290.7
Missouri	#N/A	17.1	813.4	7,947.3
Montana	#N/A	0.7	31.9	248.1
Nebraska	#N/A	5.6	234.3	1,769.6
Nevada	#N/A	4.5	212.3	2,262.6
New Hampshire	#N/A	4.2	214.3	1,751.1
New Jersey	#N/A	21.2	1,055.2	9,538.5
New Mexico	#N/A	1.5	68.1	425.7
New York	#N/A	30.7	1,499.3	9,629.8
North Carolina	#N/A	36.3	1,700.7	13,474.4
North Dakota	#N/A	1.4	65.0	460.9
Ohio	#N/A	73.7	3,436.3	33,631.0
Oklahoma	#N/A	7.4	324.8	2,671.3
Oregon	#N/A	7.0	328.1	2,457.1
Pennsylvania	#N/A	48.1	2,287.5	23,201.3
Rhode Island	#N/A	3.7	175.5	1,975.9
South Carolina	#N/A	24.4	1,212.5	7,483.7
South Dakota	#N/A	2.5	106.9	870.1
Tennessee	#N/A	26.2	1,202.1	11,458.1
Texas	#N/A	77.0	4,260.3	78,146.6
Utah	#N/A	6.4	279.9	1,964.2
Vermont	#N/A	1.6	69.8	436.5
Virginia	#N/A	16.9	856.9	7,206.3
Washington	#N/A	14.2	647.5	4,696.5
West Virginia	#N/A	5.3	325.7	4,324.9
Wisconsin	#N/A	39.2	1,930.8	10,753.9
Wyoming	#N/A	0.2	14.5	93.9

* NAICS 424610 "shipments" are actually "sales" numbers and therefore do not include shipments among establishments

A2: GOVERNMENT DOCUMENTED PLASTICS INDUSTRY

(PLASTICS MANUFACTURING AND WHOLESALE TRADE, NAICS 325211, 325991, 3261, 3332201, 33351105, 424610) SELECTED STATISTICS IN 2014, BY STATE

	# of Establishments	# of Employees (Thous)	Annual Payroll (\$Mil)	Annual Sales (\$Mil)
U.S. Total	16,803	733.9	36,429.9	357,373.6
Alabama	209	14.6	666.1	7,332.6
Alaska	14	0.2	10.6	76.6
Arizona	220	6.1	279.6	2,297.1
Arkansas	134	7.5	305.9	3,321.7
California	1,900	57.2	2,748.1	18,917.3
Colorado	260	6.1	304.8	1,112.0
Connecticut	246	7.7	439.3	3,695.4
Delaware	50	2.3	116.9	839.9
District of Columbia	1	0.0	0.7	14.5
Florida	746	15.2	754.6	8,439.8
Georgia	476	21.6	1,004.4	12,139.6
Hawaii	25	0.4	16.5	112.8
Idaho	67	1.6	66.3	616.0
Illinois	941	40.8	2,217.6	15,078.5
Indiana	613	38.6	1,791.7	15,655.0
Iowa	180	10.2	468.5	3,088.2
Kansas	155	9.2	424.8	3,265.8
Kentucky	243	19.1	845.5	9,068.4
Louisiana	135	6.1	437.7	12,385.4
Maine	61	2.5	112.1	971.6
Maryland	125	3.4	260.7	2,254.9
Massachusetts	408	15.2	876.8	5,058.5
Michigan	952	53.9	2,634.5	17,926.9
Minnesota	431	15.8	781.6	6,508.6
Mississippi	136	6.0	275.2	3,680.4
Missouri	324	13.6	655.3	6,773.2
Montana	27	0.5	24.0	189.9
Nebraska	84	4.3	176.3	1,339.3
Nevada	110	3.7	178.0	2,007.9
New Hampshire	108	3.2	167.1	1,400.4
New Jersey	541	18.0	912.3	8,478.0
New Mexico	41	0.9	44.5	250.7
New York	714	25.0	1,240.6	7,709.1
North Carolina	539	27.7	1,305.5	10,540.9
North Dakota	35	1.1	52.9	371.4
Ohio	1,134	59.1	2,767.3	28,665.1
Oklahoma	161	5.7	248.8	2,106.8
Oregon	217	5.3	250.0	1,877.6
Pennsylvania	784	40.0	1,917.3	20,454.0
Rhode Island	91	2.9	138.4	1,700.8
South Carolina	258	17.9	917.3	5,292.7
South Dakota	47	1.9	78.7	660.7
Tennessee	365	19.1	875.9	9,037.6
Texas	1,154	55.5	3,276.2	70,841.9
Utah	188	4.4	187.6	1,279.2
Vermont	33	1.3	56.5	338.1
Virginia	196	13.6	708.2	6,102.9
Washington	289	11.2	514.0	3,705.0
West Virginia	61	4.3	280.7	3,991.1
Wisconsin	568	32.0	1,603.2	8,322.2
Wyoming	11	0.2	12.6	79.6

A3: PLASTICS MANUFACTURING INDUSTRY WITH CAPTIVES (NAICS 325211, 325991, 3261, 3332201, AND 33351105 PLUS CAPTIVES) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	#N/A	906.4	43,690.8	683.3	26,767.6	160,398.5	219,342.7	378,839.1	13,314.5
Alabama	#N/A	20.0	915.3	14.8	591.2	3,490.1	5,021.8	8,683.6	389.2
Alaska	#N/A	0.2	10.8	0.1	6.8	32.2	34.4	67.4	1.8
Arizona	#N/A	7.7	349.1	5.8	210.9	1,351.0	1,409.0	2,725.5	94.3
Arkansas	#N/A	8.9	370.8	7.1	250.7	1,410.7	1,854.1	3,699.4	82.1
California	#N/A	69.6	3,257.7	52.6	1,949.9	10,749.9	11,993.3	20,319.8	729.6
Colorado	#N/A	7.1	343.6	4.7	192.2	977.8	1,222.0	1,269.8	67.2
Connecticut	#N/A	9.5	511.6	6.8	279.3	1,491.7	2,120.3	3,602.3	113.8
Delaware	#N/A	2.8	136.6	1.7	58.0	184.9	206.0	792.8	12.4
District of Columbia	#N/A	0.0	0.9	0.0	0.5	4.8	10.7	15.9	0.6
Florida	#N/A	17.4	817.6	13.6	516.9	2,356.3	2,743.5	6,876.8	190.5
Georgia	#N/A	26.6	1,212.4	20.6	792.0	4,998.5	6,913.7	12,529.1	315.4
Hawaii	#N/A	0.4	16.7	0.3	10.0	47.3	67.3	115.9	4.1
Idaho	#N/A	2.0	83.0	1.6	56.7	362.5	366.9	734.7	15.1
Illinois	#N/A	48.5	2,523.4	34.6	1,427.6	9,239.5	10,882.1	15,016.7	705.4
Indiana	#N/A	47.6	2,177.2	37.8	1,406.4	5,476.4	6,532.0	17,182.9	560.8
Iowa	#N/A	13.2	602.7	9.6	359.7	2,024.1	2,677.5	3,847.5	163.1
Kansas	#N/A	10.3	472.5	7.9	307.3	1,796.0	2,142.0	3,437.3	87.6
Kentucky	#N/A	24.6	1,089.3	19.0	713.7	4,029.1	6,108.6	10,505.0	499.5
Louisiana	#N/A	10.8	649.1	8.3	405.7	1,224.0	13,622.7	13,758.3	554.8
Maine	#N/A	2.9	129.2	2.1	79.7	506.3	531.4	1,095.1	25.9
Maryland	#N/A	4.4	299.1	4.1	186.7	1,200.0	1,271.2	2,314.6	67.9
Massachusetts	#N/A	19.3	1,054.5	13.8	574.2	3,695.3	3,799.3	6,069.6	224.7
Michigan	#N/A	64.4	3,071.3	46.4	1,770.5	9,497.8	10,298.5	18,886.2	650.8
Minnesota	#N/A	19.9	949.0	13.5	584.3	3,130.0	3,494.1	6,881.6	249.5
Mississippi	#N/A	7.7	348.5	6.2	236.8	1,087.6	1,995.9	4,078.4	109.2
Missouri	#N/A	16.3	764.5	12.6	486.2	2,448.4	3,541.6	6,781.1	258.2
Montana	#N/A	0.7	30.9	0.3	20.3	92.4	145.2	241.2	7.8
Nebraska	#N/A	5.4	225.1	4.3	142.6	786.6	773.6	1,550.8	57.2
Nevada	#N/A	4.4	206.3	3.6	134.1	795.7	1,183.0	2,160.9	33.4
New Hampshire	#N/A	4.1	203.3	3.0	125.8	719.1	803.7	1,492.9	61.2
New Jersey	#N/A	19.7	959.7	13.2	518.4	3,120.1	3,190.1	7,264.2	253.7
New Mexico	#N/A	1.4	63.5	1.0	39.2	157.5	192.2	316.3	13.7
New York	#N/A	29.1	1,390.0	22.0	784.7	4,554.1	4,943.6	7,027.8	337.8
North Carolina	#N/A	35.2	1,630.9	26.9	881.3	5,232.1	6,088.9	11,812.7	373.8
North Dakota	#N/A	1.3	57.3	0.9	34.1	228.7	197.7	278.6	17.4
Ohio	#N/A	71.7	3,300.8	55.2	2,151.0	12,386.8	15,683.2	30,406.1	1,133.2
Oklahoma	#N/A	7.1	305.3	5.5	196.0	1,256.1	1,959.4	2,206.4	89.0
Oregon	#N/A	6.6	307.6	4.9	174.2	1,098.5	1,408.9	2,232.6	53.6
Pennsylvania	#N/A	46.4	2,175.1	35.7	1,396.5	8,335.5	11,395.6	20,527.5	666.8
Rhode Island	#N/A	3.6	166.8	2.5	91.9	683.7	1,074.0	1,770.2	54.9
South Carolina	#N/A	23.5	1,158.2	17.3	612.7	3,289.8	4,034.7	6,191.0	246.3
South Dakota	#N/A	2.5	105.5	2.0	63.0	366.2	474.6	837.0	30.0
Tennessee	#N/A	25.8	1,176.9	20.1	749.8	5,032.3	6,253.0	10,858.2	347.4
Texas	#N/A	73.8	4,050.5	56.8	2,589.1	24,970.9	42,109.4	73,151.7	2,384.4
Utah	#N/A	6.2	271.7	4.6	159.5	1,044.3	1,325.5	1,734.1	88.4
Vermont	#N/A	1.5	68.9	1.2	40.8	203.5	229.6	432.8	15.4
Virginia	#N/A	16.6	840.6	12.2	521.9	3,055.0	3,494.6	6,820.6	228.1
Washington	#N/A	13.7	623.3	10.4	392.6	2,097.1	2,210.2	4,363.9	123.8
West Virginia	#N/A	5.3	322.7	4.4	248.7	1,944.5	2,173.3	4,253.0	131.3
Wisconsin	#N/A	38.4	1,880.0	29.5	1,236.8	6,100.3	7,099.0	9,544.8	389.7
Wyoming	#N/A	0.2	13.4	0.2	8.8	35.9	40.0	76.6	2.7

A4: PLASTICS MANUFACTURING INDUSTRY
 (NAICS 325211, 325991, 3261, 3332201, 33351105) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	13,399	700.5	34,265.6	526.2	20,930.0	127,904.3	181,657.1	308,879.7	11,013.2
Alabama	169	14.2	651.0	10.4	427.4	2,578.7	3,964.8	6,721.4	324.6
Alaska	12	0.1	9.9	0.1	6.2	28.9	30.6	60.3	1.6
Arizona	178	5.8	262.7	4.4	157.4	1,053.1	1,063.6	2,084.2	73.2
Arkansas	117	7.4	299.6	5.9	206.6	1,165.5	1,569.7	3,171.4	64.8
California	1,423	53.0	2,498.1	39.9	1,479.4	8,131.0	8,956.0	14,681.4	544.2
Colorado	200	5.6	277.8	3.7	151.4	750.9	958.8	781.3	51.2
Connecticut	192	7.1	400.9	4.9	210.7	1,109.8	1,677.5	2,780.2	86.7
Delaware	39	2.1	105.1	1.2	38.5	76.3	80.0	558.9	4.7
District of Columbia	1	0.0	0.7	0.0	0.4	4.1	9.9	14.5	0.6
Florida	502	13.3	630.6	10.4	401.0	1,711.4	1,995.6	5,488.4	144.8
Georgia	373	20.5	934.0	16.0	619.5	4,038.5	5,800.4	10,462.4	247.4
Hawaii	17	0.3	14.6	0.2	8.7	40.2	59.0	100.6	3.6
Idaho	53	1.6	64.7	1.3	45.4	299.3	293.6	598.5	10.6
Illinois	743	38.7	2,075.3	27.2	1,150.1	7,694.7	9,090.5	11,690.8	596.0
Indiana	544	37.4	1,710.4	30.0	1,117.3	3,867.0	4,665.5	13,718.0	446.8
Iowa	155	10.0	454.1	7.1	267.7	1,511.8	2,083.4	2,744.5	126.8
Kansas	132	9.1	413.7	6.9	270.9	1,593.5	1,907.2	3,001.3	73.2
Kentucky	213	18.8	822.8	14.5	548.6	3,110.4	5,043.2	8,527.1	434.4
Louisiana	109	5.9	425.8	4.6	267.3	453.8	12,729.5	12,100.1	500.2
Maine	50	2.4	108.9	1.8	67.2	436.4	450.3	944.8	21.0
Maryland	101	3.2	247.0	3.2	154.4	1,020.1	1,062.6	1,927.4	55.1
Massachusetts	325	14.5	833.6	10.2	437.4	2,933.5	2,915.8	4,429.5	170.8
Michigan	806	51.8	2,495.2	36.8	1,413.7	7,511.7	7,995.0	14,610.1	510.1
Minnesota	360	15.0	728.5	9.8	447.7	2,369.6	2,612.2	5,244.6	195.7
Mississippi	121	5.9	266.3	4.8	185.9	804.1	1,667.2	3,468.1	89.1
Missouri	257	12.9	606.3	10.0	388.2	1,903.0	2,909.2	5,607.0	219.5
Montana	24	0.5	23.1	0.2	15.4	65.4	113.9	183.1	5.9
Nebraska	72	4.2	167.1	3.3	106.7	586.7	541.8	1,120.5	43.0
Nevada	87	3.6	172.0	3.0	112.9	677.4	1,045.8	1,906.1	25.0
New Hampshire	87	3.1	156.0	2.2	96.5	556.3	614.8	1,142.2	49.7
New Jersey	391	16.6	816.8	10.8	429.9	2,627.5	2,618.9	6,203.7	218.8
New Mexico	31	0.9	39.9	0.6	24.6	76.2	98.0	141.3	7.9
New York	519	23.4	1,131.3	17.6	624.4	3,662.0	3,908.9	5,107.1	274.7
North Carolina	440	26.6	1,235.7	20.4	636.6	3,869.6	4,508.8	8,879.3	277.3
North Dakota	26	1.0	45.2	0.7	26.7	187.1	149.5	189.1	14.5
Ohio	961	57.0	2,631.8	44.0	1,736.7	10,080.3	13,008.2	25,440.3	969.9
Oklahoma	128	5.4	229.2	4.3	148.9	993.9	1,655.3	1,641.9	70.4
Oregon	176	4.9	229.5	3.6	125.9	829.3	1,096.7	1,653.1	34.5
Pennsylvania	663	38.3	1,805.0	29.5	1,167.2	7,059.5	9,915.7	17,780.2	576.4
Rhode Island	75	2.8	129.8	1.9	68.9	556.0	925.8	1,495.1	45.9
South Carolina	207	17.1	863.0	12.4	429.9	2,272.1	2,854.5	4,000.0	174.3
South Dakota	42	1.9	77.3	1.5	45.6	268.9	361.7	627.6	23.1
Tennessee	314	18.7	850.7	14.6	547.9	3,908.0	4,949.1	8,437.7	267.8
Texas	830	52.3	3,066.4	40.4	1,979.6	21,578.1	38,174.5	65,847.1	2,144.1
Utah	159	4.2	179.4	3.1	102.3	726.2	956.5	1,049.1	65.8
Vermont	29	1.3	55.7	1.0	32.6	157.8	176.6	334.4	12.2
Virginia	153	13.4	692.0	9.7	429.9	2,542.5	2,900.2	5,717.1	191.8
Washington	235	10.8	489.8	8.1	309.8	1,636.6	1,676.2	3,372.5	91.2
West Virginia	51	4.3	277.7	3.6	220.8	1,789.4	1,993.4	3,919.2	120.3
Wisconsin	506	31.2	1,552.4	24.1	1,033.9	4,970.9	5,789.1	7,113.1	309.7
Wyoming	6	0.2	11.5	0.1	7.6	29.2	32.2	62.3	2.2

A5: CAPTIVE PLASTICS INDUSTRY

SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs*	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	#N/A	205.9	9,425.2	157.1	5,837.6	32,494.1	37,685.6	69,959.4	2,301.3
Alabama	#N/A	5.8	264.4	4.4	163.7	911.4	1,057.0	1,962.2	64.5
Alaska	#N/A	0.0	0.9	0.0	0.6	3.3	3.8	7.0	0.2
Arizona	#N/A	1.9	86.4	1.4	53.5	297.9	345.5	641.3	21.1
Arkansas	#N/A	1.6	71.1	1.2	44.1	245.2	284.4	528.0	17.4
California	#N/A	16.6	759.6	12.7	470.5	2,618.9	3,037.3	5,638.4	185.5
Colorado	#N/A	1.4	65.8	1.1	40.8	226.9	263.2	488.5	16.1
Connecticut	#N/A	2.4	110.8	1.8	68.6	381.8	442.9	822.1	27.0
Delaware	#N/A	0.7	31.5	0.5	19.5	108.6	126.0	233.9	7.7
District of Columbia	#N/A	0.0	0.2	0.0	0.1	0.6	0.7	1.4	0.0
Florida	#N/A	4.1	187.1	3.1	115.9	644.9	747.9	1,388.4	45.7
Georgia	#N/A	6.1	278.4	4.6	172.5	959.9	1,113.3	2,066.7	68.0
Hawaii	#N/A	0.0	2.1	0.0	1.3	7.1	8.2	15.3	0.5
Idaho	#N/A	0.4	18.3	0.3	11.4	63.2	73.3	136.2	4.5
Illinois	#N/A	9.8	448.1	7.5	277.5	1,544.8	1,791.6	3,325.9	109.4
Indiana	#N/A	10.2	466.8	7.8	289.1	1,609.3	1,866.5	3,464.9	114.0
Iowa	#N/A	3.2	148.6	2.5	92.0	512.3	594.2	1,103.0	36.3
Kansas	#N/A	1.3	58.7	1.0	36.4	202.5	234.9	436.0	14.3
Kentucky	#N/A	5.8	266.5	4.4	165.0	918.7	1,065.5	1,977.9	65.1
Louisiana	#N/A	4.9	223.4	3.7	138.4	770.1	893.2	1,658.1	54.5
Maine	#N/A	0.4	20.3	0.3	12.5	69.8	81.0	150.4	4.9
Maryland	#N/A	1.1	52.2	0.9	32.3	179.8	208.6	387.2	12.7
Massachusetts	#N/A	4.8	221.0	3.7	136.8	761.8	883.5	1,640.0	53.9
Michigan	#N/A	12.6	576.1	9.6	356.8	1,986.1	2,303.4	4,276.1	140.7
Minnesota	#N/A	4.8	220.5	3.7	136.6	760.4	881.8	1,637.0	53.9
Mississippi	#N/A	1.8	82.2	1.4	50.9	283.4	328.7	610.3	20.1
Missouri	#N/A	3.5	158.2	2.6	98.0	545.3	632.5	1,174.1	38.6
Montana	#N/A	0.2	7.8	0.1	4.9	27.0	31.3	58.2	1.9
Nebraska	#N/A	1.3	58.0	1.0	35.9	199.9	231.8	430.3	14.2
Nevada	#N/A	0.7	34.3	0.6	21.3	118.3	137.2	254.7	8.4
New Hampshire	#N/A	1.0	47.2	0.8	29.3	162.9	188.9	350.7	11.5
New Jersey	#N/A	3.1	142.9	2.4	88.5	492.6	571.3	1,060.5	34.9
New Mexico	#N/A	0.5	23.6	0.4	14.6	81.3	94.3	175.0	5.8
New York	#N/A	5.7	258.8	4.3	160.3	892.1	1,034.6	1,920.7	63.2
North Carolina	#N/A	8.6	395.2	6.6	244.8	1,362.5	1,580.2	2,933.4	96.5
North Dakota	#N/A	0.3	12.1	0.2	7.5	41.6	48.2	89.5	2.9
Ohio	#N/A	14.6	669.0	11.2	414.4	2,306.5	2,675.0	4,965.9	163.4
Oklahoma	#N/A	1.7	76.1	1.3	47.1	262.2	304.1	564.5	18.6
Oregon	#N/A	1.7	78.1	1.3	48.4	269.2	312.2	579.5	19.1
Pennsylvania	#N/A	8.1	370.1	6.2	229.2	1,276.0	1,479.9	2,747.3	90.4
Rhode Island	#N/A	0.8	37.1	0.6	23.0	127.8	148.2	275.1	9.1
South Carolina	#N/A	6.4	295.2	4.9	182.8	1,017.7	1,180.3	2,191.0	72.1
South Dakota	#N/A	0.6	28.2	0.5	17.5	97.3	112.8	209.4	6.9
Tennessee	#N/A	7.1	326.1	5.4	202.0	1,124.3	1,303.9	2,420.6	79.6
Texas	#N/A	21.5	984.1	16.4	609.5	3,392.8	3,934.9	7,304.7	240.3
Utah	#N/A	2.0	92.3	1.5	57.2	318.2	369.0	685.0	22.5
Vermont	#N/A	0.3	13.3	0.2	8.2	45.7	53.0	98.4	3.2
Virginia	#N/A	3.2	148.7	2.5	92.1	512.5	594.4	1,103.4	36.3
Washington	#N/A	2.9	133.6	2.2	82.7	460.5	534.1	991.4	32.6
West Virginia	#N/A	1.0	45.0	0.7	27.9	155.1	179.9	333.9	11.0
Wisconsin	#N/A	7.2	327.6	5.5	202.9	1,129.4	1,309.9	2,431.7	80.0
Wyoming	#N/A	0.0	1.9	0.0	1.2	6.7	7.7	14.3	0.5

* The number of establishments is not reported reliable estimates were unavailable.

A6: PLASTICS MATERIALS AND RESINS (NAICS 325211) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	1,170	66.1	4,945.7	43.9	2,820.6	28,687.2	67,783.2	96,314.6	3,985.4
Alabama	23	2.3	163.3	1.5	99.8	1,000.4	2,415.3	3,527.3	137.8
Alaska	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arizona	14	0.2	7.6	0.1	4.7	80.2	193.5	282.6	11.0
Arkansas	8	0.2	8.2	0.1	5.0	81.2	192.7	287.9	9.3
California	110	2.9	157.2	2.2	101.0	571.3	1,002.0	0.0	36.0
Colorado	9	0.1	9.2	0.1	5.6	49.4	119.3	174.2	6.8
Connecticut	21	0.6	35.7	0.4	21.8	272.2	657.2	959.8	37.5
Delaware	5	0.4	27.6	0.0	16.9	0.0	0.0	0.0	0.0
District of Columbia	1	0.0	0.7	0.0	0.4	4.1	9.9	14.5	0.6
Florida	31	1.9	130.3	1.7	91.8	0.0	0.0	1,627.2	25.8
Georgia	48	1.5	83.5	1.2	52.5	431.7	723.4	0.0	38.0
Hawaii	1	0.0	0.7	0.0	0.4	4.2	10.2	14.9	0.6
Idaho	5	0.1	2.8	0.1	1.7	38.1	92.0	134.4	5.3
Illinois	69	3.4	261.6	2.3	144.5	2,158.0	2,843.9	0.0	179.2
Indiana	38	2.9	196.9	2.2	127.6	0.0	0.0	3,002.5	140.8
Iowa	9	0.6	42.8	0.4	29.4	254.5	614.5	897.4	35.1
Kansas	8	0.2	12.5	0.2	7.7	106.1	256.1	374.0	1.9
Kentucky	33	2.2	188.6	1.5	115.3	970.3	2,342.7	3,421.3	133.7
Louisiana	22	3.1	295.4	2.2	196.0	0.0	12,003.1	11,869.7	476.7
Maine	1	0.1	4.1	0.0	2.5	24.4	58.9	86.0	3.4
Maryland	6	0.2	7.7	0.1	4.7	72.2	174.4	254.7	10.0
Massachusetts	41	1.8	124.1	1.1	67.1	593.0	652.1	0.0	48.8
Michigan	67	3.6	338.7	0.0	90.0	1,113.4	1,152.3	2,382.3	83.8
Minnesota	25	0.8	45.3	0.5	27.7	360.1	869.4	1,269.7	49.6
Mississippi	15	0.7	51.8	0.6	37.4	0.0	0.0	1,738.8	48.9
Missouri	15	0.7	39.7	0.5	24.2	313.5	757.0	1,105.5	43.2
Montana	2	0.1	4.5	0.0	2.7	26.5	64.0	93.5	3.7
Nebraska	4	0.1	3.5	0.1	2.5	0.0	0.0	0.0	0.8
Nevada	6	0.1	4.8	0.1	2.5	31.2	53.6	0.0	0.0
New Hampshire	8	0.3	13.6	0.2	8.3	116.5	281.3	410.9	16.1
New Jersey	34	1.3	82.9	0.9	43.3	386.1	543.0	1,995.0	77.9
New Mexico	1	0.0	0.7	0.0	0.4	3.9	9.4	13.7	0.5
New York	34	0.9	46.4	0.6	28.4	198.1	241.8	460.5	52.0
North Carolina	52	2.9	180.6	2.2	0.0	0.0	0.0	0.0	0.0
North Dakota	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	85	4.6	310.3	3.5	188.1	1,660.7	2,886.1	4,791.9	183.3
Oklahoma	9	0.4	17.4	0.3	10.6	175.1	422.8	617.5	24.1
Oregon	17	0.4	26.4	0.2	16.1	161.9	390.9	570.9	22.3
Pennsylvania	55	3.1	186.4	2.0	114.0	1,354.5	3,270.3	2,935.8	186.6
Rhode Island	15	0.4	17.7	0.3	10.8	187.0	451.6	659.5	25.8
South Carolina	23	3.3	196.7	2.6	126.7	0.0	0.0	0.0	0.0
South Dakota	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tennessee	19	0.7	37.7	0.4	23.0	296.8	716.6	1,046.6	40.9
Texas	106	13.0	1,269.9	8.2	749.5	13,535.0	28,274.4	43,994.9	1,633.7
Utah	10	0.1	5.4	0.1	3.3	62.0	149.8	218.8	8.5
Vermont	1	0.0	0.7	0.0	0.4	4.0	9.7	14.2	0.6
Virginia	11	0.8	50.4	0.5	30.8	333.3	804.6	1,175.0	45.9
Washington	8	0.1	7.5	0.1	4.6	59.4	143.5	209.5	8.2
West Virginia	6	1.5	163.0	1.3	131.7	1,311.8	1,526.5	2,964.9	90.9
Wisconsin	37	1.7	83.1	1.3	47.0	284.9	403.2	716.7	0.0
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A7: PLASTICS PRODUCTS MANUFACTURING (NAICS 325991 & 3261) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mill)	Avg Production Workers (Thous)	Production Worker Wages (\$Mill)	Value Added (\$Mill)	Cost of Materials (\$Mill)	Value of Industrial Shipments (\$Mill)	Capital Expenditures (\$Mill)
U.S. Total	11,097	607.3	27,793.2	463.4	17,213.8	95,818.8	111,127.4	206,296.5	6,786.2
Alabama	138	11.8	477.9	8.7	321.3	1,565.2	1,539.4	3,169.8	183.7
Alaska	12	0.1	9.9	0.1	6.2	28.9	30.6	60.3	1.6
Arizona	147	5.3	238.1	4.0	150.7	940.4	844.2	1,737.7	61.5
Arkansas	99	7.1	286.8	5.7	198.5	1,070.5	1,355.1	2,848.8	55.0
California	1,221	48.8	2,266.1	36.7	1,334.3	7,377.5	7,835.7	14,353.0	496.8
Colorado	173	5.3	253.9	3.5	136.1	694.3	820.8	593.8	43.9
Connecticut	147	5.9	320.1	4.1	177.8	725.9	930.0	1,652.7	45.2
Delaware	32	1.6	75.8	1.1	20.5	72.6	77.7	552.8	4.3
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	442	11.0	478.9	8.4	293.7	1,665.2	1,967.0	3,780.2	116.7
Georgia	311	18.8	839.0	14.7	564.6	3,584.7	5,053.6	10,413.4	208.9
Hawaii	16	0.3	13.9	0.2	8.3	36.0	48.8	85.7	3.0
Idaho	46	1.5	60.4	1.2	42.6	261.2	201.6	464.1	5.4
Illinois	591	33.1	1,695.2	23.4	935.3	5,245.8	6,064.7	11,187.2	401.3
Indiana	451	33.7	1,469.8	27.2	960.0	3,779.4	4,613.8	10,687.7	293.1
Iowa	134	9.2	400.7	6.6	231.4	1,228.2	1,446.4	1,790.1	89.1
Kansas	116	8.7	391.2	6.6	258.4	1,458.4	1,628.5	2,573.2	69.6
Kentucky	168	16.3	620.3	12.8	423.1	2,113.0	2,667.1	5,039.9	300.5
Louisiana	85	2.8	125.7	2.3	68.1	443.9	720.3	214.4	22.6
Maine	47	2.4	104.4	1.8	64.4	411.2	391.0	857.5	17.6
Maryland	90	3.0	233.4	3.1	146.4	935.4	880.9	1,649.9	42.6
Massachusetts	255	11.9	651.4	8.5	342.8	2,199.1	2,155.0	4,164.9	113.8
Michigan	595	43.4	1,862.5	33.2	1,132.9	5,756.4	6,433.1	11,104.9	371.4
Minnesota	294	13.5	641.1	8.7	392.2	1,924.2	1,694.4	3,829.4	140.2
Mississippi	104	5.1	212.8	4.1	147.6	799.3	1,663.5	1,720.5	39.9
Missouri	221	11.6	536.0	9.1	342.1	1,524.9	2,114.4	4,389.6	168.9
Montana	21	0.4	18.3	0.1	12.5	38.8	49.9	89.5	2.2
Nebraska	63	4.0	161.7	3.2	103.1	583.1	539.0	1,113.8	42.0
Nevada	78	3.5	166.4	2.9	109.9	645.4	991.6	1,904.8	24.9
New Hampshire	72	2.7	134.9	2.0	83.6	421.5	320.1	703.0	32.3
New Jersey	330	14.8	698.6	9.6	367.8	2,186.8	1,992.1	4,067.4	137.1
New Mexico	29	0.9	39.0	0.6	24.1	71.6	88.0	126.3	7.3
New York	444	21.1	1,020.7	16.2	558.8	3,329.5	3,572.0	4,397.7	214.2
North Carolina	363	23.2	1,028.5	17.8	620.8	3,796.9	4,448.1	8,735.2	275.4
North Dakota	24	1.0	43.5	0.7	25.8	181.9	145.4	179.4	14.2
Ohio	745	48.9	2,123.5	38.2	1,440.6	7,975.4	9,584.9	19,602.2	760.6
Oklahoma	114	4.8	198.6	3.8	131.0	781.8	1,201.0	968.0	44.0
Oregon	147	4.4	197.4	3.2	105.9	656.8	693.8	1,073.6	11.5
Pennsylvania	545	33.6	1,522.2	26.5	1,004.7	5,485.1	6,407.3	14,354.4	369.9
Rhode Island	50	2.2	103.5	1.5	52.9	360.9	462.4	814.9	19.8
South Carolina	176	13.6	658.4	9.8	297.5	2,253.1	2,843.6	3,983.7	172.5
South Dakota	42	1.8	77.1	1.5	45.4	268.4	361.4	626.8	23.1
Tennessee	276	17.5	789.1	13.7	508.7	3,559.0	4,189.9	7,286.4	222.1
Texas	686	38.7	1,773.4	31.7	1,215.2	7,992.0	9,850.5	21,745.3	507.1
Utah	140	4.0	170.4	2.9	96.7	659.2	802.8	813.3	56.5
Vermont	26	1.2	50.6	0.9	29.2	144.4	161.0	305.0	10.7
Virginia	132	12.3	619.1	9.0	387.5	2,147.2	2,040.7	4,420.9	143.8
Washington	203	10.0	447.3	7.5	279.8	1,487.2	1,480.0	3,087.2	79.4
West Virginia	44	2.7	113.3	2.3	88.2	474.6	465.2	949.6	29.1
Wisconsin	413	27.9	1,365.7	21.6	920.3	4,457.6	5,233.2	5,980.9	288.6
Wyoming	5	0.1	6.8	0.1	4.4	19.1	26.0	45.9	1.3

A8: CUSTOM COMPOUNDING OF PURCHASED RESIN

(NAICS 325991) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	430	18.1	1,000.6	12.0	526.9	3,763.3	7,586.0	11,294.3	245.5
Alabama	4	0.3	13.3	0.2	9.6	0.0	0.0	314.6	0.0
Alaska	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arizona	4	0.0	0.4	0.0	0.2	2.2	4.5	6.2	0.1
Arkansas	3	0.0	0.1	0.0	0.1	1.3	2.6	3.7	0.1
California	35	1.0	52.7	0.8	39.1	0.0	0.0	0.0	0.0
Colorado	6	0.1	2.9	0.0	2.0	0.0	0.0	0.0	3.5
Connecticut	7	0.3	28.1	0.2	0.0	65.1	273.1	188.0	4.1
Delaware	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	14	0.3	13.3	0.2	9.4	32.8	79.2	0.0	2.9
Georgia	13	0.7	39.3	0.4	26.2	175.8	551.7	611.2	16.6
Hawaii	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Idaho	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Illinois	21	0.5	27.6	0.3	15.4	0.0	0.0	0.0	0.0
Indiana	21	1.4	90.2	1.0	54.2	0.0	0.0	1,570.7	14.8
Iowa	4	0.1	3.8	0.1	2.1	26.0	53.6	75.2	1.7
Kansas	3	0.2	9.7	0.1	5.4	37.9	78.1	109.5	2.4
Kentucky	5	0.2	7.7	0.1	4.3	61.7	72.4	101.5	2.2
Louisiana	3	0.1	5.1	0.0	0.0	0.0	0.0	0.0	0.0
Maine	1	0.1	3.3	0.0	1.8	12.7	26.2	36.7	0.8
Maryland	3	0.2	9.1	0.1	5.1	35.6	47.5	102.8	2.3
Massachusetts	13	0.4	26.6	0.2	0.0	130.6	248.0	244.7	5.4
Michigan	24	1.0	60.3	0.6	0.0	0.0	0.0	698.5	0.0
Minnesota	7	0.7	41.3	0.4	23.0	142.3	293.2	411.0	9.1
Mississippi	7	0.4	28.3	0.3	21.7	94.0	704.3	0.0	3.7
Missouri	5	0.2	8.4	0.1	4.7	42.3	87.2	122.2	2.7
Montana	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nebraska	1	0.0	0.6	0.0	0.3	2.2	4.5	6.3	0.1
Nevada	3	0.2	10.2	0.1	5.7	39.8	82.0	115.0	2.5
New Hampshire	3	0.0	1.3	0.0	0.7	5.4	11.1	15.6	0.3
New Jersey	16	0.6	31.4	0.0	17.5	0.0	0.0	0.0	0.0
New Mexico	1	0.0	0.5	0.0	0.3	2.0	4.2	5.9	0.1
New York	15	1.2	80.6	0.8	0.0	634.3	1,269.3	1,584.8	24.4
North Carolina	15	0.6	21.1	0.4	11.7	0.0	0.0	410.1	0.0
North Dakota	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	33	1.7	56.8	1.1	58.0	464.7	1,132.5	1,338.0	70.0
Oklahoma	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oregon	2	0.1	3.4	0.0	1.9	13.4	27.6	38.7	0.9
Pennsylvania	29	0.9	52.9	0.6	34.5	0.0	0.0	0.0	10.2
Rhode Island	4	0.4	21.3	0.3	11.9	83.0	171.1	239.9	5.3
South Carolina	15	0.5	29.3	0.4	0.0	0.0	0.0	0.0	12.9
South Dakota	2	0.2	9.9	0.1	5.5	38.6	79.6	111.5	2.5
Tennessee	19	1.7	93.8	1.3	76.2	1,027.0	1,110.9	1,757.8	26.4
Texas	40	1.0	58.8	0.8	46.6	365.1	718.5	916.0	0.0
Utah	5	0.0	0.5	0.0	0.4	2.2	4.6	6.7	0.1
Vermont	1	0.1	3.2	0.0	1.8	12.6	26.0	36.5	0.8
Virginia	4	0.1	5.9	0.0	0.0	0.0	0.0	0.0	0.0
Washington	4	0.0	0.8	0.0	0.5	2.2	4.6	6.4	0.1
West Virginia	5	0.2	9.5	0.1	6.0	37.6	77.4	108.5	9.5
Wisconsin	14	0.7	37.0	0.4	23.3	173.0	340.5	0.0	7.0
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A9: UNSUPPORTED PLASTICS BAG MANUFACTURING (NAICS 326111) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	344	24.6	1,155.8	19.5	738.2	4,232.5	5,746.8	9,937.3	290.9
Alabama	6	0.8	11.3	0.0	7.2	0.0	178.8	0.0	0.0
Alaska	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arizona	3	0.0	0.9	0.0	0.6	4.5	6.1	10.5	0.3
Arkansas	4	0.7	32.4	0.5	20.7	118.4	161.9	277.9	8.2
California	42	1.6	75.0	1.6	58.1	297.6	390.0	1,008.6	23.2
Colorado	1	0.1	2.7	0.0	1.7	9.9	13.6	23.3	0.7
Connecticut	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delaware	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	14	0.5	25.0	0.4	15.3	106.9	131.2	350.1	14.6
Georgia	4	0.2	12.4	0.2	8.9	84.7	118.0	294.4	4.4
Hawaii	2	0.1	2.7	0.0	1.7	9.8	13.4	23.0	0.7
Idaho	1	0.2	8.0	0.1	5.1	29.2	39.9	68.6	2.0
Illinois	27	2.5	144.8	0.0	0.0	0.0	0.0	0.0	31.3
Indiana	5	0.4	19.6	0.4	18.0	0.0	0.0	0.0	0.0
Iowa	5	0.3	15.4	0.0	0.0	0.0	0.0	0.0	0.0
Kansas	5	0.6	22.9	0.6	17.2	114.2	182.5	0.0	8.8
Kentucky	3	0.4	17.1	0.3	10.9	62.5	85.4	146.6	4.3
Louisiana	5	0.4	14.8	0.3	9.7	74.5	114.6	0.0	0.0
Maine	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maryland	5	0.2	8.9	0.2	8.8	33.9	71.5	79.4	2.3
Massachusetts	6	0.4	23.6	0.3	15.1	61.1	83.5	143.4	4.2
Michigan	10	0.6	40.2	0.4	25.3	120.2	175.1	0.0	7.9
Minnesota	6	0.1	2.7	0.0	1.8	0.0	0.0	0.0	0.0
Mississippi	1	0.1	2.6	0.0	1.7	9.7	13.2	22.7	0.7
Missouri	5	0.4	17.9	0.4	14.9	0.0	0.0	0.0	3.6
Montana	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nebraska	1	0.0	0.4	0.0	0.3	1.6	2.2	3.8	0.1
Nevada	4	0.5	19.3	0.6	21.1	89.1	264.8	529.9	0.0
New Hampshire	2	0.1	2.6	0.0	1.7	9.6	13.1	22.5	0.7
New Jersey	17	0.6	25.7	0.5	16.4	110.6	151.2	259.5	7.6
New Mexico	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New York	30	1.3	59.7	1.2	45.0	290.8	268.2	0.0	14.3
North Carolina	5	0.4	16.5	0.4	11.8	64.0	86.0	217.2	4.5
North Dakota	1	0.0	0.4	0.0	0.3	1.6	2.2	3.8	0.1
Ohio	20	0.8	37.0	0.8	31.0	205.0	188.9	557.5	13.2
Oklahoma	2	0.4	16.6	0.3	10.6	60.8	83.2	142.8	4.2
Oregon	2	0.0	0.5	0.0	0.3	1.7	2.3	3.9	0.1
Pennsylvania	14	1.5	61.6	1.3	53.8	346.8	415.8	1,110.5	20.4
Rhode Island	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Carolina	5	0.4	20.1	0.5	0.0	107.6	89.8	0.0	7.6
South Dakota	1	0.0	0.4	0.0	0.3	1.6	2.2	3.8	0.1
Tennessee	7	0.3	12.2	0.3	10.6	67.6	68.6	197.1	0.0
Texas	36	4.7	214.3	4.7	189.9	1,079.5	1,536.4	3,849.1	57.6
Utah	7	0.5	21.7	0.5	0.0	159.0	168.8	0.0	0.0
Vermont	1	0.0	0.4	0.0	0.3	1.6	2.1	3.7	0.1
Virginia	6	1.0	51.0	0.8	32.6	178.1	243.5	418.0	12.3
Washington	4	0.4	16.8	0.3	10.7	61.3	83.9	144.0	4.2
West Virginia	1	0.1	2.5	0.0	1.6	9.3	12.7	21.7	0.6
Wisconsin	17	1.4	74.6	1.3	57.1	248.1	282.1	0.0	26.0
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A10: UNSUPPORTED PLASTICS PACKAGING FILM & SHEET MANUFACTURING

(NAICS 326112) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	433	31.7	1,734.0	25.2	1,251.6	5,598.8	8,807.0	14,360.8	591.5
Alabama	4	0.1	0.0	0.1	0.0	25.3	58.1	64.6	2.7
Alaska	1	0.0	0.0	0.0	0.0	0.4	0.6	0.9	0.0
Arizona	7	0.4	18.5	0.3	15.4	58.2	83.5	0.0	4.3
Arkansas	4	1.0	52.4	0.9	48.6	203.3	314.6	904.8	12.7
California	43	2.1	110.1	1.6	71.0	389.5	508.8	0.0	49.9
Colorado	5	0.2	11.4	0.1	6.9	28.0	48.5	0.0	3.0
Connecticut	3	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Delaware	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	14	0.4	18.7	0.3	14.7	64.0	92.1	268.4	4.0
Georgia	20	2.1	105.3	1.7	85.1	516.2	806.0	2,284.8	33.2
Hawaii	1	0.0	0.0	0.0	0.0	2.2	3.6	5.7	0.2
Idaho	1	0.0	0.0	0.0	0.0	2.3	3.7	5.9	0.2
Illinois	33	0.5	147.4	0.4	97.4	93.3	618.8	238.5	9.8
Indiana	11	2.2	124.0	1.7	88.6	0.0	0.0	0.0	0.0
Iowa	3	0.2	14.2	0.0	0.0	0.0	0.0	0.0	0.0
Kansas	4	0.6	25.0	0.5	22.8	115.0	147.3	0.0	8.8
Kentucky	10	0.2	0.0	0.1	0.0	32.7	52.6	83.6	154.5
Louisiana	4	0.5	21.7	0.4	19.2	45.9	145.6	0.0	2.4
Maine	1	0.0	0.0	0.0	0.0	0.4	0.6	0.9	0.0
Maryland	4	0.0	0.0	0.1	6.7	35.6	51.0	5.3	0.2
Massachusetts	10	0.2	0.0	0.1	0.0	26.9	43.2	68.7	2.8
Michigan	9	0.4	25.3	0.3	17.7	78.2	125.5	0.0	3.8
Minnesota	12	0.5	0.0	0.0	24.2	0.0	0.0	0.0	0.0
Mississippi	3	0.1	4.0	0.1	3.0	12.0	16.9	0.0	0.0
Missouri	13	1.6	98.3	1.3	75.1	365.3	640.0	1,750.8	44.4
Montana	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nebraska	1	0.0	0.0	0.0	0.0	0.4	0.6	1.0	0.0
Nevada	2	0.0	0.0	0.0	0.0	6.7	10.8	17.2	0.7
New Hampshire	2	0.0	0.0	0.0	0.0	6.4	10.3	16.4	0.7
New Jersey	20	0.2	0.0	0.1	0.0	26.9	43.3	68.9	2.8
New Mexico	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New York	19	1.2	64.2	0.9	43.6	149.0	242.2	0.0	14.3
North Carolina	12	1.1	60.3	1.0	44.0	243.7	458.5	1,222.1	24.7
North Dakota	1	0.0	0.0	0.0	0.0	2.2	3.6	5.7	0.2
Ohio	29	2.0	97.2	1.6	73.9	420.7	655.0	1,867.9	53.9
Oklahoma	4	0.1	0.0	0.1	0.0	24.5	39.4	62.7	2.6
Oregon	3	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0
Pennsylvania	19	2.6	130.0	1.9	89.8	382.5	404.7	1,344.0	21.6
Rhode Island	2	0.2	0.0	0.1	0.0	28.1	45.3	71.9	3.0
South Carolina	11	1.9	110.6	1.5	0.0	394.8	541.5	1,627.3	21.2
South Dakota	1	0.0	0.0	0.0	0.0	0.4	0.6	1.0	0.0
Tennessee	13	1.3	77.4	0.9	48.9	211.0	356.8	969.5	31.1
Texas	30	1.7	94.9	1.4	72.5	315.7	458.9	1,335.1	20.9
Utah	4	0.2	0.0	0.1	0.0	24.0	0.0	0.0	0.0
Vermont	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	3	0.1	0.0	0.1	0.0	13.6	21.9	34.8	1.4
Washington	2	0.0	0.0	0.0	0.0	6.6	10.5	16.8	0.7
West Virginia	1	0.0	0.0	0.0	0.0	6.2	10.0	15.8	0.7
Wisconsin	36	5.5	323.0	4.6	282.6	1,236.2	1,732.0	0.0	53.9
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A11: UNSUPPORTED PLASTICS FILM AND SHEET (EXCEPT PACKAGING) MANUFACTURING

(NAICS 326113) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	570	39.5	2,370.7	28.2	1,333.8	9,834.8	11,477.8	21,177.5	596.0
Alabama	5	0.8	33.5	0.5	24.0	327.3	98.4	521.5	12.5
Alaska	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arizona	2	0.1	3.8	0.0	2.2	16.6	19.5	36.9	1.0
Arkansas	3	0.2	10.1	0.1	5.8	48.5	57.1	108.1	2.8
California	61	2.9	190.3	2.2	112.0	670.6	851.7	0.0	40.5
Colorado	9	0.4	16.8	0.3	9.6	96.0	113.0	213.9	1.6
Connecticut	14	0.6	58.6	0.4	33.6	0.0	0.0	0.0	0.0
Delaware	7	0.4	20.6	0.2	9.2	0.0	0.0	119.3	0.0
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	22	0.3	12.5	0.2	7.5	39.6	51.1	116.0	2.2
Georgia	19	1.5	96.3	1.1	52.5	520.5	707.8	1,577.1	23.4
Hawaii	1	0.0	0.7	0.0	0.4	2.8	3.3	6.3	0.2
Idaho	1	0.0	0.7	0.0	0.4	2.9	3.4	6.4	0.2
Illinois	28	1.4	80.7	1.0	0.0	354.4	417.2	790.0	20.7
Indiana	25	2.3	127.4	1.8	84.8	521.4	574.9	1,378.9	59.7
Iowa	6	0.5	32.9	0.0	0.0	102.3	119.1	0.0	0.0
Kansas	4	0.5	29.3	0.4	18.8	103.4	137.3	305.2	7.1
Kentucky	10	1.4	80.3	1.1	49.2	302.1	468.1	978.0	0.0
Louisiana	4	0.2	9.9	0.2	6.7	35.8	68.8	0.0	0.0
Maine	2	0.2	11.0	0.1	6.3	47.3	55.7	105.5	2.8
Maryland	5	0.8	45.1	0.0	30.3	0.0	102.9	0.0	0.0
Massachusetts	16	1.3	100.4	0.9	54.7	288.6	434.3	924.7	17.7
Michigan	21	0.8	39.7	0.6	26.5	147.1	194.2	0.0	21.1
Minnesota	15	0.9	50.8	0.0	26.2	205.4	186.1	496.0	0.0
Mississippi	4	0.3	16.9	0.2	9.7	80.4	86.9	153.1	4.7
Missouri	13	0.5	28.8	0.5	15.3	0.0	0.0	0.0	3.8
Montana	1	0.1	4.1	0.1	2.3	17.6	20.8	39.3	1.0
Nebraska	5	0.1	3.9	0.0	2.2	16.8	19.8	37.5	1.0
Nevada	5	0.4	25.2	0.3	14.5	108.9	128.2	242.8	6.4
New Hampshire	3	0.1	3.8	0.0	2.2	16.5	19.5	36.9	1.0
New Jersey	23	0.8	37.8	0.6	0.0	115.2	205.4	411.1	12.7
New Mexico	3	0.1	6.1	0.1	4.0	20.9	11.6	0.0	1.0
New York	19	1.2	50.8	1.1	35.7	175.9	170.2	0.0	6.1
North Carolina	19	1.4	99.0	0.9	48.5	501.0	451.5	1,172.3	47.4
North Dakota	1	0.0	0.7	0.0	0.4	2.8	3.3	6.3	0.2
Ohio	41	2.3	161.0	1.8	107.0	738.2	615.0	1,695.5	41.8
Oklahoma	9	0.9	44.3	0.7	26.0	167.6	373.7	0.0	12.8
Oregon	5	0.4	15.2	0.3	0.0	106.8	125.8	238.1	6.2
Pennsylvania	24	2.1	117.5	1.6	69.7	463.7	706.6	1,488.2	28.1
Rhode Island	5	0.2	11.5	0.1	6.6	49.5	58.2	110.3	2.9
South Carolina	8	1.1	73.6	0.9	52.6	277.1	461.9	0.0	42.0
South Dakota	1	0.1	3.9	0.0	2.2	16.9	19.9	37.7	1.0
Tennessee	13	0.8	43.8	0.6	31.2	214.0	414.9	818.6	0.0
Texas	33	4.0	238.7	3.2	142.7	1,582.4	1,422.0	3,752.3	76.4
Utah	7	0.1	6.1	0.1	3.5	5.2	0.0	0.0	0.0
Vermont	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	13	2.4	166.6	1.7	102.4	655.0	680.7	1,676.4	50.7
Washington	12	1.0	44.8	0.8	34.6	252.1	296.8	394.4	14.7
West Virginia	1	0.1	3.7	0.0	2.1	16.0	18.8	35.6	0.9
Wisconsin	23	1.6	110.7	1.1	57.3	398.6	498.8	1,140.7	19.3
Wyoming	1	0.0	0.7	0.0	0.4	2.9	3.4	6.4	0.2

A12: UNSUPPORTED PLASTICS PROFILE SHAPE MANUFACTURING (NAICS 326121) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	398	19.1	984.3	14.3	598.4	4,201.5	3,279.1	7,530.6	216.5
Alabama	4	0.3	15.2	0.2	8.0	0.0	0.0	0.0	4.4
Alaska	1	0.1	3.2	0.0	2.0	13.7	10.7	25.6	0.7
Arizona	9	0.4	17.5	0.3	10.8	83.4	65.1	155.3	4.5
Arkansas	6	0.6	24.4	0.4	15.1	125.7	98.1	473.8	7.8
California	39	1.0	45.5	0.7	25.7	253.4	125.3	525.9	9.3
Colorado	2	0.0	0.5	0.0	0.3	2.4	1.8	4.4	0.1
Connecticut	7	0.4	19.1	0.3	11.8	82.4	64.3	153.4	4.2
Delaware	2	0.2	9.2	0.1	5.7	39.5	30.8	73.6	2.2
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	15	0.2	11.8	0.1	4.5	43.6	18.8	87.4	3.9
Georgia	11	0.6	32.9	0.4	13.9	152.5	51.1	278.9	5.1
Hawaii	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Idaho	2	0.1	3.3	0.0	2.0	14.3	11.1	26.6	0.8
Illinois	22	1.6	74.3	1.3	50.0	398.3	285.9	966.5	11.1
Indiana	14	1.0	45.6	0.7	22.6	187.5	148.9	469.6	18.7
Iowa	4	0.1	6.8	0.1	5.8	21.5	11.3	0.0	0.0
Kansas	3	0.0	1.2	0.0	0.8	2.4	5.4	11.4	0.0
Kentucky	3	0.2	9.6	0.1	6.0	41.5	32.4	77.3	2.3
Louisiana	1	0.0	0.5	0.0	0.3	2.3	1.8	4.4	0.1
Maine	1	0.1	3.1	0.0	1.9	13.4	10.5	24.9	0.7
Maryland	3	0.0	0.4	0.0	0.3	1.9	1.7	4.0	0.1
Massachusetts	9	0.8	31.1	0.6	19.3	176.4	137.7	328.5	9.6
Michigan	21	1.1	49.8	0.9	29.3	216.5	218.0	0.0	7.9
Minnesota	12	0.2	11.8	0.1	7.3	46.9	28.3	106.8	2.6
Mississippi	2	0.2	9.3	0.1	5.8	40.2	31.4	74.8	2.2
Missouri	4	0.2	10.6	0.2	6.6	41.6	28.0	0.0	0.0
Montana	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nebraska	1	0.1	3.2	0.0	2.0	13.9	10.8	25.8	0.8
Nevada	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Hampshire	6	0.2	17.7	0.2	11.0	53.5	41.7	99.6	2.9
New Jersey	15	0.6	31.3	0.4	19.4	129.3	100.9	240.8	7.0
New Mexico	1	0.0	0.5	0.0	0.3	2.1	1.7	4.0	0.1
New York	15	0.8	59.5	0.5	38.7	0.0	0.0	0.0	15.4
North Carolina	14	0.6	41.6	0.3	11.1	118.1	181.7	0.0	14.1
North Dakota	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	34	1.5	69.1	1.2	45.7	322.7	228.5	782.0	14.7
Oklahoma	4	0.0	1.0	0.0	0.6	3.8	3.0	0.0	0.1
Oregon	5	0.2	6.9	0.1	4.2	32.5	19.5	0.0	0.0
Pennsylvania	23	1.5	83.1	1.2	51.5	374.9	377.2	1,065.2	20.2
Rhode Island	2	0.0	0.5	0.0	0.3	2.3	1.8	4.3	0.1
South Carolina	9	0.7	35.8	0.6	25.7	279.7	243.1	0.0	5.9
South Dakota	1	0.0	0.5	0.0	0.3	2.3	1.8	4.3	0.1
Tennessee	12	1.1	56.8	0.9	41.8	311.4	174.1	0.0	10.3
Texas	18	0.6	27.9	0.5	18.1	159.2	135.9	421.2	4.2
Utah	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vermont	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	3	0.2	15.9	0.0	11.4	0.0	0.0	0.0	5.2
Washington	14	0.6	33.3	0.5	24.4	157.8	132.2	406.1	8.8
West Virginia	2	0.2	8.9	0.1	5.5	38.5	30.0	71.6	2.1
Wisconsin	25	1.1	53.1	0.9	30.2	195.7	174.7	528.3	6.1
Wyoming	1	0.0	0.6	0.0	0.3	2.4	1.9	4.4	0.1

A13: PLASTICS PIPE & PIPE FITTING MANUFACTURING

(NAICS 326121) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	398	19.1	984.3	14.3	598.4	4,201.5	3,279.1	7,530.6	216.5
Alabama	4	0.3	15.2	0.2	8.0	0.0	0.0	0.0	4.4
Alaska	1	0.1	3.2	0.0	2.0	13.7	10.7	25.6	0.7
Arizona	9	0.4	17.5	0.3	10.8	83.4	65.1	155.3	4.5
Arkansas	6	0.6	24.4	0.4	15.1	125.7	98.1	473.8	7.8
California	39	1.0	45.5	0.7	25.7	253.4	125.3	525.9	9.3
Colorado	2	0.0	0.5	0.0	0.3	2.4	1.8	4.4	0.1
Connecticut	7	0.4	19.1	0.3	11.8	82.4	64.3	153.4	4.2
Delaware	2	0.2	9.2	0.1	5.7	39.5	30.8	73.6	2.2
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	15	0.2	11.8	0.1	4.5	43.6	18.8	87.4	3.9
Georgia	11	0.6	32.9	0.4	13.9	152.5	51.1	278.9	5.1
Hawaii	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Idaho	2	0.1	3.3	0.0	2.0	14.3	11.1	26.6	0.8
Illinois	22	1.6	74.3	1.3	50.0	398.3	285.9	966.5	11.1
Indiana	14	1.0	45.6	0.7	22.6	187.5	148.9	469.6	18.7
Iowa	4	0.1	6.8	0.1	5.8	21.5	11.3	0.0	0.0
Kansas	3	0.0	1.2	0.0	0.8	2.4	5.4	11.4	0.0
Kentucky	3	0.2	9.6	0.1	6.0	41.5	32.4	77.3	2.3
Louisiana	1	0.0	0.5	0.0	0.3	2.3	1.8	4.4	0.1
Maine	1	0.1	3.1	0.0	1.9	13.4	10.5	24.9	0.7
Maryland	3	0.0	0.4	0.0	0.3	1.9	1.7	4.0	0.1
Massachusetts	9	0.8	31.1	0.6	19.3	176.4	137.7	328.5	9.6
Michigan	21	1.1	49.8	0.9	29.3	216.5	218.0	0.0	7.9
Minnesota	12	0.2	11.8	0.1	7.3	46.9	28.3	106.8	2.6
Mississippi	2	0.2	9.3	0.1	5.8	40.2	31.4	74.8	2.2
Missouri	4	0.2	10.6	0.2	6.6	41.6	28.0	0.0	0.0
Montana	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nebraska	1	0.1	3.2	0.0	2.0	13.9	10.8	25.8	0.8
Nevada	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Hampshire	6	0.2	17.7	0.2	11.0	53.5	41.7	99.6	2.9
New Jersey	15	0.6	31.3	0.4	19.4	129.3	100.9	240.8	7.0
New Mexico	1	0.0	0.5	0.0	0.3	2.1	1.7	4.0	0.1
New York	15	0.8	59.5	0.5	38.7	0.0	0.0	0.0	15.4
North Carolina	14	0.6	41.6	0.3	11.1	118.1	181.7	0.0	14.1
North Dakota	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	34	1.5	69.1	1.2	45.7	322.7	228.5	782.0	14.7
Oklahoma	4	0.0	1.0	0.0	0.6	3.8	3.0	0.0	0.1
Oregon	5	0.2	6.9	0.1	4.2	32.5	19.5	0.0	0.0
Pennsylvania	23	1.5	83.1	1.2	51.5	374.9	377.2	1,065.2	20.2
Rhode Island	2	0.0	0.5	0.0	0.3	2.3	1.8	4.3	0.1
South Carolina	9	0.7	35.8	0.6	25.7	279.7	243.1	0.0	5.9
South Dakota	1	0.0	0.5	0.0	0.3	2.3	1.8	4.3	0.1
Tennessee	12	1.1	56.8	0.9	41.8	311.4	174.1	0.0	10.3
Texas	18	0.6	27.9	0.5	18.1	159.2	135.9	421.2	4.2
Utah	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vermont	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	3	0.2	15.9	0.0	11.4	0.0	0.0	0.0	5.2
Washington	14	0.6	33.3	0.5	24.4	157.8	132.2	406.1	8.8
West Virginia	2	0.2	8.9	0.1	5.5	38.5	30.0	71.6	2.1
Wisconsin	25	1.1	53.1	0.9	30.2	195.7	174.7	528.3	6.1
Wyoming	1	0.0	0.6	0.0	0.3	2.4	1.9	4.4	0.1

A14: LAMINATED PLASTICS PLATE, SHEET, & SHAPE MANUFACTURING

(NAICS 326130) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	230	10.2	519.0	7.4	311.5	1,802.9	1,802.6	3,605.5	90.7
Alabama	2	0.0	0.5	0.0	0.3	1.8	1.8	3.5	0.1
Alaska	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arizona	4	0.4	18.2	0.3	10.9	64.7	64.7	127.2	3.2
Arkansas	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California	18	0.2	10.6	0.2	6.6	44.7	40.6	104.3	4.6
Colorado	6	0.1	3.0	0.0	1.8	10.7	10.7	21.0	0.5
Connecticut	7	0.1	4.6	0.1	0.0	22.3	22.3	43.8	1.0
Delaware	1	0.0	0.5	0.0	0.3	1.7	1.7	3.4	0.1
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	14	0.2	6.8	0.0	1.5	17.1	10.3	0.0	0.6
Georgia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hawaii	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Idaho	1	0.0	0.5	0.0	0.3	1.8	1.8	3.5	0.1
Illinois	5	0.2	10.6	0.2	6.8	0.0	0.0	0.0	0.0
Indiana	7	0.5	21.8	0.4	12.8	0.0	0.0	0.0	7.0
Iowa	6	0.2	12.1	0.2	6.9	54.2	52.3	0.0	0.0
Kansas	4	0.2	9.4	0.1	5.1	32.1	38.3	0.0	0.0
Kentucky	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Louisiana	1	0.0	0.5	0.0	0.3	1.8	1.8	3.5	0.1
Maine	2	0.3	17.8	0.3	10.7	63.3	63.3	124.6	3.2
Maryland	3	0.0	1.0	0.0	0.6	5.7	5.7	11.2	0.3
Massachusetts	7	0.2	9.9	0.1	5.9	29.5	32.3	67.6	1.7
Michigan	10	0.2	12.3	0.2	5.1	45.2	78.8	0.0	6.3
Minnesota	8	0.0	0.8	0.0	0.5	5.1	5.1	10.0	0.3
Mississippi	1	0.1	2.9	0.0	1.8	10.4	10.4	20.5	0.5
Missouri	3	0.0	1.4	0.0	0.6	4.7	3.6	0.0	0.3
Montana	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nebraska	3	0.0	0.2	0.0	0.1	1.8	1.7	3.4	0.1
Nevada	2	0.8	38.3	0.5	23.0	136.0	136.0	267.5	6.8
New Hampshire	2	0.1	2.9	0.0	1.7	10.3	10.3	20.3	0.5
New Jersey	10	0.5	27.5	0.3	16.5	86.9	86.9	170.9	4.3
New Mexico	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New York	6	0.0	2.0	0.0	1.1	5.5	4.4	12.2	0.3
North Carolina	11	0.7	34.3	0.7	28.2	228.7	158.8	480.8	0.0
North Dakota	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	26	1.4	71.8	0.9	36.4	230.9	319.3	675.6	22.8
Oklahoma	4	0.2	8.6	0.1	5.2	30.6	30.6	60.2	1.5
Oregon	7	0.1	5.7	0.0	0.0	23.3	25.5	0.0	0.0
Pennsylvania	11	0.6	38.2	0.5	21.6	199.5	290.7	599.8	17.2
Rhode Island	1	0.0	0.5	0.0	0.3	1.8	1.8	3.5	0.1
South Carolina	4	0.5	22.7	0.0	13.2	0.0	0.0	0.0	0.0
South Dakota	2	0.2	8.7	0.1	5.2	30.8	30.8	60.5	1.5
Tennessee	3	0.2	8.7	0.1	5.3	31.0	31.0	61.0	1.5
Texas	11	1.1	55.3	0.9	40.7	296.2	159.2	564.2	0.0
Utah	2	0.1	3.0	0.0	1.8	10.6	10.6	20.8	0.5
Vermont	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	3	0.3	12.4	0.2	7.4	0.0	0.0	0.0	0.0
Washington	5	0.2	8.7	0.1	5.2	30.9	30.8	60.7	1.5
West Virginia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wisconsin	9	0.5	24.1	0.4	19.5	31.6	29.0	0.0	2.1
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A15: POLYSTYRENE FOAM PRODUCT MANUFACTURING

(NAICS 326140) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	445	24.7	1,024.9	19.5	682.1	4,442.8	5,411.6	9,656.4	197.9
Alabama	5	0.5	21.3	0.4	15.0	104.7	86.3	0.0	0.0
Alaska	2	0.1	2.6	0.1	1.7	11.3	14.1	25.0	0.5
Arizona	6	0.4	12.4	0.3	8.7	219.9	54.2	354.7	3.3
Arkansas	7	0.5	17.6	0.4	10.1	82.1	87.6	0.0	2.8
California	65	2.6	101.2	2.0	59.2	495.6	670.9	1,510.7	15.7
Colorado	7	0.1	5.4	0.1	3.6	25.7	39.7	56.5	1.2
Connecticut	5	0.2	7.8	0.1	5.2	29.0	36.1	63.9	1.3
Delaware	2	0.1	2.6	0.1	1.7	11.2	13.9	24.6	0.5
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	21	0.7	24.9	0.6	17.9	97.6	143.9	0.0	4.3
Georgia	30	2.2	91.8	1.7	60.2	372.0	559.9	1,192.5	23.0
Hawaii	1	0.1	2.6	0.1	1.8	11.5	14.3	25.4	0.5
Idaho	4	0.1	2.7	0.1	1.8	11.8	14.6	25.9	0.5
Illinois	13	1.1	50.5	0.9	33.6	189.9	236.3	418.4	8.5
Indiana	15	1.1	48.2	0.9	35.2	0.0	0.0	0.0	5.2
Iowa	6	1.0	35.5	0.9	26.5	140.8	116.6	0.0	13.6
Kansas	4	0.1	2.6	0.1	1.7	11.3	14.1	24.9	0.5
Kentucky	3	0.0	1.0	0.0	0.7	0.0	0.0	0.0	0.0
Louisiana	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maine	1	0.2	7.4	0.1	4.9	32.2	40.1	71.0	1.5
Maryland	4	0.2	6.5	0.2	4.4	33.9	42.2	74.8	1.5
Massachusetts	10	0.4	20.4	0.3	13.6	59.6	53.3	0.0	0.0
Michigan	22	1.0	50.3	0.8	28.8	190.4	245.6	556.9	14.3
Minnesota	9	0.3	16.6	0.3	11.0	61.4	76.4	135.3	2.8
Mississippi	8	0.6	21.7	0.5	14.8	87.1	100.4	240.9	0.0
Missouri	14	0.4	21.5	0.3	13.2	103.4	91.5	251.1	2.9
Montana	1	0.1	2.8	0.1	1.8	12.0	14.9	26.4	0.5
Nebraska	2	0.2	7.7	0.2	5.1	33.4	41.5	73.6	1.5
Nevada	1	0.1	2.7	0.1	1.8	11.9	14.8	26.1	0.5
New Hampshire	3	0.0	2.0	0.0	1.3	0.0	0.0	0.0	0.0
New Jersey	8	0.4	26.7	0.3	17.7	73.3	91.2	161.5	3.3
New Mexico	3	0.1	2.4	0.0	1.6	10.6	13.2	23.3	0.5
New York	14	1.3	56.2	1.1	35.8	344.2	262.6	0.0	8.0
North Carolina	16	0.6	24.5	0.4	14.8	155.4	170.5	410.4	7.4
North Dakota	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	23	0.7	32.7	0.5	21.7	146.9	194.7	437.5	10.4
Oklahoma	3	0.1	2.6	0.1	1.8	11.4	14.2	25.2	0.5
Oregon	1	0.0	0.4	0.0	0.3	1.9	2.4	4.3	0.1
Pennsylvania	17	2.2	96.9	1.9	76.2	309.1	629.7	1,203.0	20.8
Rhode Island	1	0.0	0.4	0.0	0.3	1.9	2.4	4.2	0.1
South Carolina	10	0.5	19.6	0.4	12.3	0.0	68.5	150.6	10.2
South Dakota	1	0.1	2.6	0.1	1.8	11.5	14.3	25.3	0.5
Tennessee	10	0.3	8.9	0.2	5.9	46.6	58.0	102.6	2.1
Texas	30	2.7	101.3	2.2	68.9	599.0	726.0	1,700.2	20.4
Utah	7	0.3	9.5	0.2	6.3	48.7	60.6	107.2	2.2
Vermont	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	9	0.4	15.8	0.3	10.4	90.8	129.2	0.0	0.0
Washington	6	0.4	11.5	0.3	7.6	74.5	46.0	122.3	1.2
West Virginia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wisconsin	10	0.6	22.3	0.4	13.0	77.1	104.9	0.0	3.2
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A16: URETHANE AND OTHER FOAM PRODUCT (EXCEPT POLYSTYRENE) MANUFACTURING (NAICS 326150) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	632	28.5	1,285.7	21.5	734.2	4,148.6	6,550.1	10,889.1	181.2
Alabama	2	0.1	2.7	0.0	1.6	9.1	14.9	23.7	0.4
Alaska	1	0.0	0.4	0.0	0.3	1.5	2.4	3.9	0.1
Arizona	8	0.2	7.7	0.1	4.4	25.9	42.2	67.4	1.2
Arkansas	7	0.2	7.9	0.0	0.0	27.4	37.3	0.0	0.8
California	77	2.5	109.4	1.9	67.8	311.5	488.7	883.7	30.7
Colorado	9	0.2	10.4	0.1	5.9	0.0	0.0	0.0	1.7
Connecticut	9	0.4	28.2	0.2	10.6	135.1	114.8	279.8	9.1
Delaware	1	0.1	2.6	0.0	1.5	8.8	14.3	22.9	0.4
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	20	0.6	24.9	0.5	16.5	110.9	213.8	359.0	9.9
Georgia	17	0.7	34.0	0.6	19.4	107.1	174.6	278.8	4.8
Hawaii	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Idaho	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Illinois	16	0.8	46.3	0.6	26.4	125.9	456.5	327.7	8.5
Indiana	27	1.9	76.0	1.5	50.8	230.4	355.1	645.7	5.9
Iowa	5	0.2	8.8	0.1	5.8	17.8	38.8	0.0	0.0
Kansas	4	0.2	6.4	0.1	3.6	24.2	39.4	62.9	0.4
Kentucky	15	1.0	41.3	0.8	29.6	202.8	279.4	535.4	0.0
Louisiana	4	0.0	1.6	0.0	0.9	5.6	9.2	14.7	0.3
Maine	5	0.1	5.9	0.1	2.6	0.0	0.0	44.5	0.0
Maryland	2	0.3	15.6	0.3	8.9	52.2	85.0	135.8	2.3
Massachusetts	14	1.0	68.8	0.6	27.8	138.7	154.4	325.6	8.7
Michigan	34	2.2	91.9	1.7	58.2	262.8	357.2	690.4	9.9
Minnesota	12	0.2	6.6	0.1	3.7	0.0	0.0	0.0	0.0
Mississippi	21	1.2	42.8	1.1	31.7	129.2	316.3	488.0	4.2
Missouri	10	0.5	25.8	0.4	14.6	98.1	145.3	271.4	9.3
Montana	1	0.0	0.5	0.0	0.3	1.6	2.6	4.1	0.1
Nebraska	1	0.0	0.4	0.0	0.3	1.5	2.4	3.9	0.1
Nevada	4	0.1	6.0	0.1	0.0	31.6	50.1	90.0	0.8
New Hampshire	1	0.0	0.4	0.0	0.3	1.5	2.4	3.8	0.1
New Jersey	15	0.5	26.7	0.4	0.0	106.2	100.4	209.9	3.6
New Mexico	4	0.2	7.2	0.1	4.1	24.3	39.6	63.2	1.1
New York	16	0.8	38.3	0.6	20.9	133.1	162.7	0.0	5.7
North Carolina	58	3.5	129.7	2.9	85.0	396.3	535.1	1,033.9	15.3
North Dakota	1	0.1	2.7	0.0	1.5	9.1	14.8	23.6	0.4
Ohio	36	1.6	65.0	1.3	42.3	247.4	297.4	606.4	14.9
Oklahoma	11	0.4	10.1	0.3	5.8	56.3	91.7	81.9	3.7
Oregon	6	0.3	12.4	0.2	7.1	42.7	69.6	111.2	1.9
Pennsylvania	23	1.4	56.2	1.0	38.4	244.9	364.6	678.0	4.3
Rhode Island	4	0.2	5.8	0.1	3.3	26.2	42.7	68.2	1.2
South Carolina	4	0.3	16.1	0.2	0.0	0.0	0.0	0.0	0.0
South Dakota	3	0.2	7.9	0.1	4.5	26.4	43.0	68.7	1.2
Tennessee	21	0.9	41.0	0.8	29.4	142.9	261.1	442.9	7.6
Texas	61	2.1	102.8	1.5	56.5	401.4	766.1	1,281.4	0.0
Utah	7	0.2	5.7	0.1	3.5	49.3	108.3	172.5	0.2
Vermont	1	0.1	2.6	0.0	1.5	8.6	14.1	22.5	0.4
Virginia	9	0.3	20.6	0.2	14.1	0.0	0.0	0.0	4.5
Washington	6	0.3	22.7	0.0	0.0	47.2	43.5	102.2	1.5
West Virginia	5	0.2	9.0	0.1	5.2	29.0	32.5	68.7	1.5
Wisconsin	17	0.6	29.9	0.5	17.9	95.9	166.1	290.7	2.8
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A17: PLASTICS BOTTLE MANUFACTURING

(NAICS 326160) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	465	31.1	1,392.5	25.4	1,029.4	5,079.2	7,491.5	12,620.6	580.8
Alabama	5	0.3	15.5	0.3	12.9	73.0	84.6	179.5	4.9
Alaska	1	0.0	0.4	0.0	0.3	1.6	2.3	4.1	0.2
Arizona	9	0.2	11.7	0.2	8.7	0.0	0.0	0.0	0.0
Arkansas	5	0.1	4.3	0.0	0.0	22.0	27.3	0.0	1.8
California	51	2.9	123.0	2.5	92.6	477.7	762.9	1,427.9	58.2
Colorado	5	0.2	10.8	0.2	7.5	34.8	66.8	117.1	2.8
Connecticut	4	0.3	14.1	0.0	10.4	0.0	0.0	105.7	0.0
Delaware	2	0.1	2.5	0.0	1.9	9.3	13.7	24.5	1.1
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	23	0.9	40.8	0.8	34.8	218.9	302.2	602.3	27.4
Georgia	25	1.9	78.5	1.6	58.1	319.6	470.0	743.4	36.5
Hawaii	2	0.1	2.6	0.0	1.9	9.6	14.1	25.3	1.1
Idaho	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Illinois	32	2.6	122.6	2.4	105.4	439.3	664.4	1,270.1	30.0
Indiana	18	1.6	66.6	1.5	53.6	145.1	478.2	719.4	17.1
Iowa	9	0.7	32.9	0.6	23.3	139.5	243.0	437.6	24.2
Kansas	6	0.2	11.3	0.2	9.2	30.5	57.6	0.0	9.6
Kentucky	8	1.1	35.9	0.7	25.7	0.0	0.0	0.0	18.7
Louisiana	6	0.5	25.3	0.5	0.0	127.8	184.7	0.0	10.7
Maine	2	0.1	2.5	0.0	1.9	9.2	13.6	24.2	1.1
Maryland	8	0.8	35.3	0.7	26.2	138.7	204.0	364.6	15.8
Massachusetts	7	0.4	21.8	0.4	19.1	118.9	82.2	0.0	4.8
Michigan	6	0.5	24.8	0.5	24.3	84.8	155.5	0.0	5.3
Minnesota	3	0.1	3.1	0.1	2.6	9.7	11.5	24.3	0.0
Mississippi	1	0.0	0.4	0.0	0.3	1.6	2.3	4.2	0.2
Missouri	21	1.5	66.6	1.3	50.9	204.5	261.9	536.2	51.3
Montana	1	0.0	0.5	0.0	0.3	1.7	2.5	4.4	0.2
Nebraska	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nevada	4	0.1	6.5	0.1	5.0	0.0	0.0	0.0	0.0
New Hampshire	7	0.2	11.6	0.2	10.1	69.9	66.0	92.3	3.7
New Jersey	17	1.5	54.6	0.0	28.2	201.4	0.0	0.0	28.8
New Mexico	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New York	14	0.6	30.7	0.6	23.3	0.0	0.0	0.0	12.9
North Carolina	12	0.6	28.4	0.6	21.2	133.6	129.0	302.2	0.0
North Dakota	1	0.1	2.6	0.0	1.9	9.6	14.2	25.3	1.1
Ohio	29	3.2	142.4	2.8	128.7	610.7	1,031.3	1,877.3	68.6
Oklahoma	4	0.2	7.5	0.1	5.6	29.8	43.8	78.2	3.4
Oregon	3	0.0	1.1	0.0	1.0	5.2	7.6	13.6	0.6
Pennsylvania	32	2.3	106.7	2.2	83.6	465.0	824.3	1,481.0	47.2
Rhode Island	1	0.1	2.6	0.0	1.9	9.6	14.2	25.3	1.1
South Carolina	7	0.5	22.9	0.0	0.0	114.5	216.3	0.0	16.8
South Dakota	2	0.1	2.6	0.0	1.9	9.6	14.1	25.3	1.1
Tennessee	8	0.5	36.4	0.3	0.0	109.3	119.8	264.2	10.9
Texas	26	1.5	74.1	1.4	64.8	312.0	517.2	955.1	28.7
Utah	10	0.2	9.4	0.2	8.7	43.4	39.4	0.0	0.0
Vermont	1	0.1	2.5	0.0	1.8	9.2	13.5	24.1	1.0
Virginia	5	0.4	16.6	0.4	11.9	79.4	0.0	174.5	7.9
Washington	9	0.8	32.6	0.7	22.1	113.1	137.9	286.6	8.4
West Virginia	1	0.1	2.5	0.0	1.8	9.1	13.4	23.9	1.0
Wisconsin	11	0.9	44.4	0.8	33.9	127.0	184.1	356.8	14.5
Wyoming	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

A18: OTHER PLASTICS PRODUCT MANUFACTURING

(NAICS 32619) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	6,661	358.7	15,379.2	274.0	9,366.9	48,432.8	46,403.6	94,556.4	3,509.0
Alabama	87	7.8	333.6	6.2	220.5	1,024.1	1,016.5	2,062.4	153.2
Alaska	6	0.0	3.2	0.0	2.0	0.4	0.4	0.8	0.0
Arizona	89	3.1	135.9	2.3	81.0	418.9	433.4	860.7	40.3
Arkansas	55	3.4	109.4	2.9	78.4	331.5	399.3	744.1	13.2
California	743	30.2	1,363.1	21.8	750.6	4,045.2	3,427.3	7,508.7	231.4
Colorado	114	3.6	176.4	2.3	87.1	425.6	432.6	0.0	24.6
Connecticut	88	3.3	156.9	2.6	104.3	380.1	401.1	787.5	25.1
Delaware	16	0.9	37.3	0.6	0.0	0.0	0.0	279.2	0.0
District of Columbia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	263	6.5	275.9	4.9	154.9	821.9	706.9	1,535.9	42.3
Georgia	154	8.1	320.1	6.4	218.8	1,155.3	1,357.2	2,520.2	51.1
Hawaii	9	0.1	5.3	0.1	2.5	0.0	0.0	0.0	0.3
Idaho	31	1.0	37.0	0.8	27.2	161.1	68.9	230.0	0.0
Illinois	380	21.4	962.2	15.8	581.9	3,500.9	3,220.2	6,746.0	266.6
Indiana	292	20.7	826.4	16.7	520.7	2,559.1	2,892.7	5,471.1	157.4
Iowa	73	5.3	218.2	4.2	145.9	630.1	639.5	1,277.4	49.6
Kansas	66	5.7	249.8	4.5	154.4	859.2	737.3	1,598.1	31.9
Kentucky	102	11.3	407.1	9.1	282.7	1,303.1	1,513.1	2,843.7	111.0
Louisiana	42	0.7	28.3	0.6	17.3	75.4	79.1	0.0	3.8
Maine	30	1.3	50.8	1.0	32.5	220.4	162.3	393.8	6.7
Maryland	50	0.3	108.8	1.6	53.4	586.2	251.6	842.0	16.9
Massachusetts	161	6.7	340.9	4.8	181.9	1,133.3	831.4	1,970.4	56.2
Michigan	423	34.7	1,432.8	26.6	899.7	4,470.5	4,702.1	9,159.2	280.9
Minnesota	200	10.2	494.7	7.3	282.8	1,362.4	995.4	2,367.7	122.6
Mississippi	50	2.1	77.9	1.6	53.1	304.8	335.5	639.5	21.7
Missouri	126	6.0	250.1	4.5	141.4	632.2	797.3	1,457.9	50.6
Montana	14	0.2	9.4	0.0	6.9	0.0	0.0	0.0	0.0
Nebraska	40	3.4	132.5	2.7	83.9	449.7	360.3	799.5	34.0
Nevada	49	1.2	49.9	0.9	31.5	162.8	168.5	335.3	7.2
New Hampshire	42	1.9	89.7	1.4	52.7	235.9	126.5	363.7	21.6
New Jersey	185	9.0	431.0	6.7	247.9	1,305.5	1,164.4	2,463.8	64.6
New Mexico	15	0.4	19.7	0.3	12.0	0.0	0.0	0.0	3.7
New York	289	12.4	566.8	9.2	307.7	1,596.7	1,192.4	2,800.7	111.8
North Carolina	188	12.5	516.5	9.3	303.7	1,649.7	1,830.9	3,486.3	151.1
North Dakota	16	0.5	23.1	0.4	12.3	64.1	0.0	114.5	3.3
Ohio	444	32.6	1,341.5	25.3	867.5	4,364.0	4,598.6	8,977.0	434.7
Oklahoma	61	1.8	68.2	1.4	48.0	239.1	274.5	517.2	8.3
Oregon	105	3.1	142.1	2.3	84.8	364.3	295.9	663.8	0.0
Pennsylvania	334	17.4	730.4	13.3	451.8	2,477.3	1,996.0	4,518.9	164.9
Rhode Island	30	1.2	60.8	0.8	28.3	158.4	125.0	287.2	6.1
South Carolina	96	7.0	300.2	5.2	187.3	1,046.7	1,133.7	2,205.8	54.5
South Dakota	25	1.1	38.8	0.9	23.6	117.5	135.6	256.0	14.2
Tennessee	159	9.8	373.6	7.6	232.0	1,275.1	1,390.5	2,672.5	126.0
Texas	351	16.6	677.6	12.7	431.1	2,304.4	2,459.2	4,771.3	233.3
Utah	81	2.2	103.1	1.7	65.1	235.8	267.1	506.1	53.4
Vermont	21	0.9	39.2	0.7	21.9	100.3	86.8	187.3	7.5
Virginia	69	6.8	303.3	5.2	190.9	1,130.3	965.4	2,117.1	59.5
Washington	129	5.9	254.3	4.4	161.9	633.3	577.8	1,217.6	32.5
West Virginia	24	1.7	68.7	1.6	60.1	281.0	196.8	480.3	9.4
Wisconsin	243	14.7	634.1	11.0	377.3	1,838.6	1,655.7	3,516.4	149.5
Wyoming	1	0.0	2.7	0.0	1.7	0.9	0.8	1.7	0.1

A19: PLASTICS WORKING MACHINERY AND EQUIPMENT, EXCLUDING PATTERNS & MOLDS

(NAICS 3332201) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	432	11.3	661.4	6.7	294.1	1,592.0	1,660.0	3,375.8	66.1
Alabama	#N/A	0.1	4.4	0.1	2.1	13.0	10.1	24.3	0.7
Alaska	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arizona	#N/A	0.1	4.2	0.0	2.0	12.4	9.7	23.2	0.7
Arkansas	#N/A	0.1	3.8	0.1	2.6	11.2	20.3	32.4	0.3
California	#N/A	0.3	16.1	0.2	6.8	38.2	36.2	77.2	1.5
Colorado	#N/A	0.0	2.4	0.0	1.2	7.2	5.6	13.3	0.4
Connecticut	#N/A	0.4	29.9	0.2	11.1	84.6	75.8	167.7	2.9
Delaware	#N/A	0.0	0.2	0.0	0.1	0.7	0.5	1.3	0.0
District of Columbia	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	#N/A	0.1	6.3	0.1	3.4	15.0	13.1	30.2	0.4
Georgia	#N/A	0.1	8.6	0.0	2.5	15.1	17.1	34.0	0.4
Hawaii	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Idaho	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Illinois	#N/A	1.1	56.4	0.7	24.3	171.8	107.0	287.9	3.5
Indiana	#N/A	0.2	8.1	0.1	2.9	14.8	11.9	27.9	0.8
Iowa	#N/A	0.0	1.7	0.0	0.8	5.0	3.9	9.2	0.3
Kansas	#N/A	0.2	9.7	0.1	4.7	28.6	22.2	53.3	1.6
Kentucky	#N/A	0.0	1.3	0.0	0.6	3.8	2.9	7.0	0.2
Louisiana	#N/A	0.0	0.3	0.0	0.1	0.8	0.6	1.5	0.0
Maine	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maryland	#N/A	0.0	0.4	0.0	0.2	1.1	0.9	2.0	0.1
Massachusetts	#N/A	0.6	38.3	0.3	16.6	100.4	77.4	184.4	2.9
Michigan	#N/A	1.6	102.9	1.0	47.3	245.1	188.3	435.0	10.9
Minnesota	#N/A	0.2	9.3	0.1	4.1	19.6	18.5	40.1	0.9
Mississippi	#N/A	0.0	1.5	0.0	0.7	4.3	3.4	8.0	0.2
Missouri	#N/A	0.2	6.2	0.1	4.8	10.6	11.8	24.1	0.8
Montana	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nebraska	#N/A	0.0	1.2	0.0	0.6	3.6	2.8	6.7	0.2
Nevada	#N/A	0.0	0.2	0.0	0.1	0.7	0.6	1.4	0.0
New Hampshire	#N/A	0.0	2.4	0.0	1.1	7.0	5.5	13.1	0.4
New Jersey	#N/A	0.3	22.6	0.2	10.6	32.0	70.2	105.2	1.6
New Mexico	#N/A	0.0	0.2	0.0	0.1	0.7	0.5	1.2	0.0
New York	#N/A	0.8	33.4	0.4	15.0	74.3	61.6	143.8	2.1
North Carolina	#N/A	0.2	11.4	0.1	4.7	33.4	28.6	64.8	2.0
North Dakota	#N/A	0.0	1.8	0.0	0.9	5.2	4.1	9.7	0.3
Ohio	#N/A	1.9	113.1	1.0	49.4	230.0	398.1	657.3	6.4
Oklahoma	#N/A	0.2	10.3	0.1	4.9	30.2	23.5	56.4	1.7
Oregon	#N/A	0.0	1.6	0.0	0.8	4.6	3.6	8.6	0.3
Pennsylvania	#N/A	0.7	48.9	0.3	13.5	114.1	173.5	297.6	11.4
Rhode Island	#N/A	0.1	4.1	0.0	2.0	8.1	11.8	20.7	0.3
South Carolina	#N/A	0.1	3.1	0.1	2.3	9.0	6.4	16.2	0.5
South Dakota	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tennessee	#N/A	0.1	4.7	0.1	2.3	13.8	10.8	25.8	0.8
Texas	#N/A	0.5	15.5	0.4	9.5	31.3	39.5	73.6	1.2
Utah	#N/A	0.0	1.7	0.0	0.8	4.9	3.8	9.2	0.3
Vermont	#N/A	0.0	0.3	0.0	0.1	0.8	0.6	1.4	0.0
Virginia	#N/A	0.3	20.9	0.2	10.3	58.7	53.2	115.6	2.1
Washington	#N/A	0.3	15.2	0.2	8.3	39.4	35.4	75.8	0.9
West Virginia	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wisconsin	#N/A	0.5	36.7	0.3	17.9	86.0	88.2	185.5	3.8
Wyoming	#N/A	0.0	0.3	0.0	0.1	0.8	0.7	1.6	0.0

A20: INDUSTRIAL INJECTION-TYPE MOLDS MADE OF METAL FOR PLASTICS (NAICS 33351105) SELECTED STATISTICS IN 2014, BY STATE

	# of Estabs	# of Employees (Thous)	Annual Payroll (\$Mil)	Avg Production Workers (Thous)	Production Worker Wages (\$Mil)	Value Added (\$Mil)	Cost of Materials (\$Mil)	Value of Industrial Shipments (\$Mil)	Capital Expenditures (\$Mil)
U.S. Total	700	15.8	865.3	12.2	601.5	1,806.3	1,086.5	2,892.8	175.4
Alabama	#N/A	0.1	5.3	0.1	4.1	0.0	0.0	0.0	2.4
Alaska	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arizona	#N/A	0.2	12.8	0.1	0.0	20.2	16.2	40.7	0.0
Arkansas	#N/A	0.0	0.8	0.0	0.6	2.6	1.6	2.3	0.1
California	#N/A	1.1	58.8	0.8	37.3	144.1	82.1	251.2	10.0
Colorado	#N/A	0.2	12.3	0.0	8.5	0.0	13.2	0.0	0.0
Connecticut	#N/A	0.2	15.2	0.2	0.0	27.1	14.5	0.0	1.2
Delaware	#N/A	0.0	1.4	0.0	1.0	3.0	1.8	4.8	0.3
District of Columbia	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	#N/A	0.3	15.2	0.3	12.2	31.3	15.6	50.7	1.9
Georgia	#N/A	0.1	2.9	0.0	0.0	7.1	6.3	14.9	0.0
Hawaii	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Idaho	#N/A	0.0	1.5	0.0	1.0	0.0	0.0	0.0	0.0
Illinois	#N/A	1.1	62.2	0.9	46.1	119.2	74.9	215.7	12.0
Indiana	#N/A	0.7	35.6	0.6	26.8	72.8	39.8	0.0	12.1
Iowa	#N/A	0.2	9.0	0.2	6.1	24.2	18.6	47.7	2.3
Kansas	#N/A	0.0	0.2	0.0	0.2	0.5	0.3	0.8	0.1
Kentucky	#N/A	0.3	12.7	0.2	9.6	23.3	30.4	58.8	0.0
Louisiana	#N/A	0.1	4.4	0.1	3.0	9.1	5.5	14.6	0.9
Maine	#N/A	0.0	0.3	0.0	0.2	0.8	0.5	1.3	0.1
Maryland	#N/A	0.1	5.4	0.0	3.0	11.4	6.4	20.8	2.6
Massachusetts	#N/A	0.3	19.8	0.2	10.9	41.1	31.3	80.2	5.3
Michigan	#N/A	3.2	191.1	2.6	143.6	396.8	221.3	687.9	44.1
Minnesota	#N/A	0.6	32.8	0.4	23.8	65.7	29.9	105.3	4.9
Mississippi	#N/A	0.0	0.2	0.0	0.2	0.5	0.3	0.8	0.0
Missouri	#N/A	0.4	24.4	0.3	17.0	54.0	26.0	87.8	6.6
Montana	#N/A	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0
Nebraska	#N/A	0.0	0.7	0.0	0.5	0.0	0.0	0.0	0.0
Nevada	#N/A	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0
New Hampshire	#N/A	0.1	5.1	0.1	3.5	11.2	7.9	15.2	0.9
New Jersey	#N/A	0.2	12.7	0.2	8.2	22.7	13.6	36.2	2.2
New Mexico	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New York	#N/A	0.6	30.8	0.5	22.2	60.1	33.5	105.1	6.4
North Carolina	#N/A	0.3	15.2	0.2	11.1	39.3	32.1	79.3	0.0
North Dakota	#N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ohio	#N/A	1.6	84.9	1.3	58.6	214.2	139.1	388.9	19.5
Oklahoma	#N/A	0.1	3.0	0.1	2.3	6.7	8.0	0.0	0.5
Oregon	#N/A	0.1	4.1	0.1	3.1	5.9	8.5	0.0	0.5
Pennsylvania	#N/A	0.9	47.4	0.7	35.1	105.8	64.6	192.4	8.5
Rhode Island	#N/A	0.1	4.6	0.0	3.2	0.0	0.0	0.0	0.0
South Carolina	#N/A	0.1	4.9	0.0	3.4	10.0	4.4	0.0	1.3
South Dakota	#N/A	0.0	0.2	0.0	0.2	0.5	0.3	0.8	0.0
Tennessee	#N/A	0.5	19.3	0.4	13.9	38.4	31.7	78.9	4.0
Texas	#N/A	0.1	7.6	0.1	5.4	19.8	10.2	33.2	2.0
Utah	#N/A	0.0	1.9	0.0	1.5	0.0	0.0	7.8	0.5
Vermont	#N/A	0.1	4.1	0.1	2.9	8.6	5.2	13.8	0.8
Virginia	#N/A	0.0	1.6	0.0	1.2	3.3	1.7	5.6	0.0
Washington	#N/A	0.4	19.7	0.3	17.1	50.6	17.3	0.0	2.8
West Virginia	#N/A	0.0	1.4	0.0	1.0	2.9	1.8	4.7	0.3
Wisconsin	#N/A	1.1	66.8	0.9	48.7	142.3	64.6	230.0	17.4
Wyoming	#N/A	0.1	4.4	0.1	3.1	9.3	5.6	14.8	0.9

A21: WHOLESALE TRADE FOR PLASTICS MATERIALS & BASIC FORMS & SHAPES (NAICS 424610) SELECTED STATISTICS IN, BY STATE, 2014

	# of Establishments	# of Employees (Thous)	Annual Payroll (\$Mil)	Annual Sales (\$Mil)
U.S. Total	3,404	33.4	2,164.3	48,493.9
Alabama	40	0.4	15.1	611.1
Alaska	2	0.0	0.7	16.3
Arizona	42	0.3	16.9	212.9
Arkansas	17	0.1	6.3	150.3
California	477	4.2	250.0	4,235.9
Colorado	60	0.4	27.0	330.7
Connecticut	54	0.6	38.4	915.3
Delaware	11	0.2	11.8	281.0
District of Columbia	0	0.0	0.0	0.0
Florida	244	1.9	124.0	2,951.4
Georgia	103	1.1	70.5	1,677.2
Hawaii	8	0.0	1.9	12.2
Idaho	14	0.0	1.6	17.5
Illinois	198	2.1	142.3	3,387.7
Indiana	69	1.2	81.4	1,937.0
Iowa	25	0.2	14.4	343.7
Kansas	23	0.2	11.1	264.5
Kentucky	30	0.3	22.7	541.3
Louisiana	26	0.2	12.0	285.2
Maine	11	0.1	3.2	26.8
Maryland	24	0.2	13.8	327.5
Massachusetts	83	0.7	43.2	629.0
Michigan	146	2.1	139.3	3,316.8
Minnesota	71	0.8	53.1	1,264.1
Mississippi	15	0.1	8.9	212.3
Missouri	67	0.7	49.0	1,166.2
Montana	3	0.0	1.0	6.9
Nebraska	12	0.1	9.2	218.8
Nevada	23	0.1	6.0	101.8
New Hampshire	21	0.2	11.0	258.2
New Jersey	150	1.4	95.5	2,274.3
New Mexico	10	0.1	4.6	109.4
New York	195	1.6	109.3	2,602.0
North Carolina	99	1.0	69.8	1,661.7
North Dakota	9	0.1	7.7	182.3
Ohio	173	2.0	135.5	3,224.9
Oklahoma	33	0.3	19.5	464.9
Oregon	41	0.4	20.5	224.5
Pennsylvania	121	1.7	112.3	2,673.8
Rhode Island	16	0.1	8.6	205.7
South Carolina	51	0.8	54.3	1,292.7
South Dakota	5	0.0	1.4	33.1
Tennessee	51	0.4	25.2	599.9
Texas	324	3.2	209.8	4,994.9
Utah	29	0.1	8.2	230.1
Vermont	4	0.0	0.9	3.7
Virginia	43	0.2	16.2	385.7
Washington	54	0.4	24.2	332.5
West Virginia	10	0.0	3.0	71.9
Wisconsin	62	0.8	50.8	1,209.1
Wyoming	5	0.0	1.1	17.3

A22: NUMBER OF EMPLOYEES IN PLASTICS INDUSTRY VERSUS OVERALL ECONOMY BY STATE, 2014 (THOUSANDS OF EMPLOYEES)

	Plastics Industry								Overall Economy		Plastics Empl per 1,000 Non-Farm Empl
	NAICS 325211 Plastic Materials & Resins	NAICS 325911 & 3261 Plastic Products	NAICS 3332201 Plastics Machinery	NAICS 33351105 Molds for Plastics	Plastics Mfg	NAICS 424610 Plastics Trade	Captive Plastics Products	Total Plastics Industry	Total Mfg	Total Non- Farm Empl	
U.S. Total	66.1	607.3	11.3	15.8	700.5	33.4	205.9	939.9	12,174.7	139,235.7	6.8
Alabama	2.3	11.8	0.1	0.1	14.2	0.4	5.8	20.4	252.6	1,923.2	10.6
Alaska	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	14.2	337.4	0.5
Arizona	0.2	5.3	0.1	0.2	5.8	0.3	1.9	8.0	156.5	2,568.4	3.1
Arkansas	0.2	7.1	0.1	0.0	7.4	0.1	1.6	9.0	154.7	1,188.8	7.6
California	2.9	48.8	0.3	1.1	53.0	4.2	16.6	73.8	1,269.6	15,645.1	4.7
Colorado	0.1	5.3	0.0	0.2	5.6	0.4	1.4	7.5	136.6	2,460.8	3.0
Connecticut	0.6	5.9	0.4	0.2	7.1	0.6	2.4	10.1	159.7	1,666.1	6.1
Delaware	0.4	1.6	0.0	0.0	2.1	0.2	0.7	3.0	25.7	437.7	6.8
District of Columbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	753.8	0.0
Florida	1.9	11.0	0.1	0.3	13.3	1.9	4.1	19.2	330.5	7,824.5	2.5
Georgia	1.5	18.8	0.1	0.1	20.5	1.1	6.1	27.7	367.2	4,155.6	6.7
Hawaii	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.4	13.7	625.3	0.7
Idaho	0.1	1.5	0.0	0.0	1.6	0.0	0.4	2.0	60.0	655.1	3.1
Illinois	3.4	33.1	1.1	1.1	38.7	2.1	9.8	50.6	579.3	5,872.5	8.6
Indiana	2.9	33.7	0.2	0.7	37.4	1.2	10.2	48.8	507.1	2,980.3	16.4
Iowa	0.6	9.2	0.0	0.2	10.0	0.2	3.2	13.4	216.7	1,548.2	8.7
Kansas	0.2	8.7	0.2	0.0	9.1	0.2	1.3	10.5	162.2	1,392.6	7.6
Kentucky	2.2	16.3	0.0	0.3	18.8	0.3	5.8	24.9	234.5	1,857.8	13.4
Louisiana	3.1	2.8	0.0	0.1	5.9	0.2	4.9	11.0	147.7	1,980.7	5.6
Maine	0.1	2.4	0.0	0.0	2.4	0.1	0.4	2.9	50.2	604.4	4.9
Maryland	0.2	3.0	0.0	0.1	3.2	0.2	1.1	4.6	103.4	2,619.0	1.8
Massachusetts	1.8	11.9	0.6	0.3	14.5	0.7	4.8	20.0	249.7	3,413.5	5.9
Michigan	3.6	43.4	1.6	3.2	51.8	2.1	12.6	66.5	575.9	4,179.7	15.9
Minnesota	0.8	13.5	0.2	0.6	15.0	0.8	4.8	20.7	312.1	2,813.4	7.3
Mississippi	0.7	5.1	0.0	0.0	5.9	0.1	1.8	7.8	139.3	1,119.5	7.0
Missouri	0.7	11.6	0.2	0.4	12.9	0.7	3.5	17.1	256.2	2,734.0	6.2
Montana	0.1	0.4	0.0	0.0	0.5	0.0	0.2	0.7	18.9	453.8	1.5
Nebraska	0.1	4.0	0.0	0.0	4.2	0.1	1.3	5.6	97.3	993.3	5.6
Nevada	0.1	3.5	0.0	0.0	3.6	0.1	0.7	4.5	41.6	1,215.3	3.7
New Hampshire	0.3	2.7	0.0	0.1	3.1	0.2	1.0	4.2	66.5	647.8	6.6
New Jersey	1.3	14.8	0.3	0.2	16.6	1.4	3.1	21.2	242.6	3,962.2	5.3
New Mexico	0.0	0.9	0.0	0.0	0.9	0.1	0.5	1.5	28.1	820.2	1.8
New York	0.9	21.1	0.8	0.6	23.4	1.6	5.7	30.7	452.3	9,083.9	3.4
North Carolina	2.9	23.2	0.2	0.3	26.6	1.0	8.6	36.3	449.1	4,141.9	8.8
North Dakota	0.0	1.0	0.0	0.0	1.0	0.1	0.3	1.4	26.0	461.5	3.0
Ohio	4.6	48.9	1.9	1.6	57.0	2.0	14.6	73.7	673.0	5,330.7	13.8
Oklahoma	0.4	4.8	0.2	0.1	5.4	0.3	1.7	7.4	138.7	1,653.7	4.5
Oregon	0.4	4.4	0.0	0.1	4.9	0.4	1.7	7.0	178.9	1,721.4	4.1
Pennsylvania	3.1	33.6	0.7	0.9	38.3	1.7	8.1	48.1	567.2	5,790.1	8.3
Rhode Island	0.4	2.2	0.1	0.1	2.8	0.1	0.8	3.7	40.9	477.3	7.7
South Carolina	3.3	13.6	0.1	0.1	17.1	0.8	6.4	24.4	230.1	1,948.6	12.5
South Dakota	0.0	1.8	0.0	0.0	1.9	0.0	0.6	2.5	42.4	423.4	5.9
Tennessee	0.7	17.5	0.1	0.5	18.7	0.4	7.1	26.2	325.2	2,815.4	9.3
Texas	13.0	38.7	0.5	0.1	52.3	3.2	21.5	77.0	884.7	11,550.2	6.7
Utah	0.1	4.0	0.0	0.0	4.2	0.1	2.0	6.4	120.6	1,327.9	4.8
Vermont	0.0	1.2	0.0	0.1	1.3	0.0	0.3	1.6	31.2	309.9	5.1
Virginia	0.8	12.3	0.3	0.0	13.4	0.2	3.2	16.9	231.6	3,774.0	4.5
Washington	0.1	10.0	0.3	0.4	10.8	0.4	2.9	14.2	289.1	3,075.8	4.6
West Virginia	1.5	2.7	0.0	0.0	4.3	0.0	1.0	5.3	47.8	762.4	7.0
Wisconsin	1.7	27.9	0.5	1.1	31.2	0.8	7.2	39.2	464.8	2,845.1	13.8
Wyoming	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.2	9.8	292.5	0.8

APPENDIX B: INPUT-OUTPUT METHODOLOGY: MEASURING UPSTREAM, DOWNSTREAM AND CAPTIVE IMPACTS



A. Introduction

At first glance, most observers would think that government data account for most of the plastics industry by including resins, plastics products, molds, machinery, and wholesale trade. In fact, the impact of plastics on the U.S. economy is much larger than these primary segments. The plastics industry buys raw materials, equipment and other products and services from a variety of industries, and it sells products to a number of downstream industries. Also, one needs to account for captive plastics operations, which are found in industries that process plastics as part of their activities, but are not counted as plastics processors by government statistics.

This section explains how SPI estimated captive activities, as well as the up- and down-stream impacts of the plastics industry. Input-output analysis provides the tool necessary to do this.

B. Input-Output Models

First, the reader needs to understand input-output concepts, how they are applied in this study and the details of the INFORUM input-output model developed at the University of Maryland.

1. Input-Output Concepts

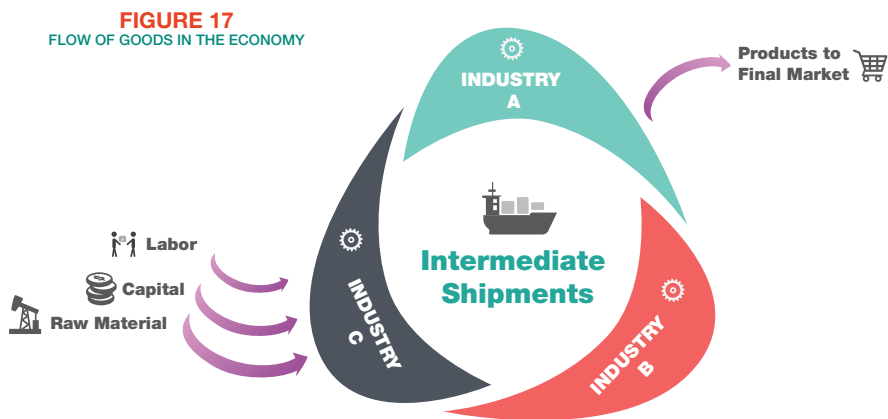
Gross domestic product (GDP), a measure of final goods and services, is the most widely known measure of overall economic activity, but it provides little information about the activities of industries, such as the plastics industry, which largely provide intermediate rather than final goods and services. Intermediate goods and services are transacted among industries and, since they are not ready for final use, are not counted in GDP. Input-output modeling provides a way to account for these intermediate transactions.

Such models quantify the output of each industry that is purchased from, and shipped to, each other industry. The industries covered in the models are categorized by the North American Industrial Classification System (NAICS) numbering system.

Production in the economy starts with labor, capital and raw materials, which are processed by an interactive system of intermediate industries, as shown in Figure 17. Industry A could be chemicals, which provides raw materials to industry B, plastics. Plastics are then used in industry C, packaging, which in turn is purchased by industry A. After a number of passes among the various intermediate

industries, goods are transferred to final, end-use markets for consumption. Final markets include personal consumption, business fixed investment, government spending, and net exports, which are the only sectors counted in GDP.

Please note that Figure 17 also illustrates the distinction between direct and indirect shipments, a concept that will be used later. The plastics shipped to industry C, packaging, are provided directly, as the arrow suggests. Industry B also supplies industry A, chemicals, but it does so indirectly, by way of industry C. The plastics that the packaging industry consumes directly are consumed indirectly by the chemicals industry.



When the government calculated that GDP amounted to \$17.4 trillion in 2014, it only counted the goods and services used in final markets. Much of the industrial activity – the shipments among industries A, B and C in Figure 17 – are not counted in GDP. To do so would be double counting, because the value of intermediate goods purchased is already included in the value of the final goods counted as part of GDP.

In other words, if Company 1 buys benzene from Company 2 to make expanded polystyrene beads, and then sells those beads to Company 3, to make coffee cups, none of these transactions is (or should be) counted in GDP. Only the sale of coffee cups to the final consumer is counted.

Figure 18 provides another view of input-output modeling, using the same three industries, A, B, and C. It shows how such a model traces the total output of an industry to other industries or to final markets.

Following Row A horizontally demonstrates that, of the total output of \$130, industry A sells \$10 back to itself, \$2 to Industry B and \$50 to Industry C. Of the Final Markets portion of output, \$30 goes to consumers, \$10 to businesses for investment, and \$28 to governments.

On the next Row, industry B sells \$3 to Industry A, \$15 to Industry C, \$30 to consumers, \$10 for investment, \$10 for government spending, and \$2 in exports. Industry C sells all its output to Industry B and to final consumers.

The total outputs of Industries A, B and C add up to \$290, but GDP would only be \$185 because GDP only counts goods shipped to final markets. To avoid double counting, it makes sense to keep track of activity only at the final point along the production sequence, where all activity has been captured. However, that does not describe what happens before output reaches final markets, in the intermediate flows, where the plastics industry primarily operates. Those intermediate flows are of interest, which is why the authors adopted an input-output modeling approach.

The University of Maryland INFORUM model is much more detailed, utilizing 360 industry sectors. For a more detailed discussion of input-output techniques, see books by Miller and Blair.⁹

⁹ Ronald E. Miller and Peter D. Blair, *Input-Output Analysis: Foundations and Extensions*, 2nd Edition. Cambridge, UK: Cambridge University Press, 2009.

2. Use of Input-Output Models in this Report

SPI used the INFORUM model to measure three effects of the plastics industry: upstream, captive, and downstream. See [Figure 2](#) of the main report. Upstream industries produce expendable and capitalized items needed by the plastics resins industry (NAICS 325211), including monomers, spare parts (MROs), capital equipment and other materials. [Tables 12](#) and [13](#) tabulate employment and shipments in these upstream industries, for both direct and indirect shipments. Direct shipments of chemicals, MROs and other items are made directly to plastics resin establishments. Indirect shipments are made first to other industries which, in turn, ship their products (containing these inputs) to plastics resin establishments.

Most of the resins produced in NAICS 325211 move downstream to plastics products producers (NAICS 3261). But, some move within the industry or to other industries, and a significant portion moves into industries with captive plastics processing operations, such as dairy products and toy manufacturing.

The output of the plastics products (NAICS 3261) industry is used downstream into a variety of final goods and services, including automobiles, refrigerators and healthcare, which are then delivered to households, businesses and governments in final markets.

FIGURE 18
A SIMPLE INPUT-OUTPUT MODEL

		Producers (Intermediate Buyers)			Final Markets				Totals
		A	B	C	Con- sumers	Invest- ment	Gov't	Net Exports	
Products	A	10	2	50	30	10	28		130
	B	3		15	30	10	10	2	70
	C		25		65				90
					125	20	38	2	

GDP = \$185

Total Shipments = \$290

C. Captives

Plastics activity is undercounted in government statistics because many plastics product operations are buried in the data of other industries. The INFORUM input-output model provides estimates of direct shipments by the plastics materials and resins industry (NAICS 325211) to all other industries, as is shown in [Appendix C](#). It shows that resin was purchased by many of the 352 industries in the INFORUM model. The resin was molded, calendared, extruded or mixed into the products of a variety of industry sectors, ranging from “fluid milk manufacturing” to “buttons, pins and miscellaneous manufacturing.”

To the extent that the resin-using operations of these industries are similar to those in plastics products operations (NAICS 3261), the authors designate them “captive operations” and include them as part of the plastics industry.

Some of the industries in [Appendix C](#) process resin in ways that would not be considered, by everyone, to be associated with the plastics industry. For instance, industry 100, “paint and coating manufacturing,” purchases alkyd, urethane, epoxy and other types of resins and mixes them into paint formulations. Probe Economics does not believe that such a mixing activity constitutes enough plastics processing activity to be considered part of the plastics industry. The same judgment was made about Industries 101 and 104, “Adhesives” and “Printing Ink”. Most of the resin purchased by these industries probably is blended or compounded into

products without much “plastics” processing. At the same time, these industries might purchase plastics resin to manufacture their own containers. These would be captives operations.

In order to keep its estimates conservative, Probe Economics eliminated 112 out of the 226 industries in [Appendix C](#), which accounted for 45.0 percent of all resin shipments made to non-NAICS 3261 industries. The “yes/no” column in [Appendix C](#) indicates which industries were included or not included among the “captives.”

Working with data in [Appendix C](#), SPI derived the following disposition of Resin (NAICS 325211) shipments in 2014:

In order to estimate the total size of the U.S. captive plastics industry, SPI assumed that all plastics resins shipped to captive establishments supported plastics product activities with the same technologies as those within NAICS 3261. For instance, if ABC Dairies, Inc. bought high-density polyethylene resin, SPI assumed that ABC processed it with the same amount of labor and capital that would be required to utilize that resin within the average NAICS 3261 establishment.

[Appendix C](#) shows that the plastics products industry (INFORUM Industries 106-111), which is the same as NAICS 3261), purchased \$45.2 billion from the plastics materials and resins industry (NAICS 325211) in order to support the \$182.6 billion in shipments it made in 2014. This amounted to 25.0 cents worth of plastics resins per dollar of plastics products shipments in 2014.

Plastics activity is undercounted in government statistics because many plastics product operations are buried in the data of other industries.



A similar utilization of resin is assumed to apply to captive operations. SPI considered the plastics resins that were shipped to industries that were judged to have captive operations and assigned them \$1 of output per 25.0 cents of plastics resins purchased. This calculation produced the estimate of \$70.0 billion in captive plastics product operations in 2014, or 35.9 percent of \$195.0 billion, the size of the officially acknowledged plastics products industry (NAICS 3261). The additional 35.9 percent of plastics products activity found among the captive operations means that plastics product shipments in 2014 should be \$265.0 billion rather than the \$195.0 billion that was generated by the NAICS 3261 sector alone.

TABLE 16
DISPOSITION OF RESIN SHIPMENTS IN 2014
 (DOLLAR VALUE BASIS)

Plastics Products (NAICS 3261) Establishments	61.9%
Captive Plastics Establishments (non-NAICS 3261)	21.0%
Other Establishments	17.2%
Total	100.0%

D. Impact on Supplying Industries (Upstream)

Upstream industries supply goods and services to industries further downstream. Hundreds of upstream industries supply the needs of the plastics industry. All of these industries must employ people and make shipments in order to meet these needs. Using the INFORUM input-output model, SPI estimated shipments and employment in these upstream sectors. The model treats expendable and capitalized items separately. Expendable items are inputs like services, raw materials and spare parts, which have a short life, at least for tax purposes. Capitalized items include buildings and machinery. They have a long life – over one year – and are capitalized in tax returns. The expendable and capitalized segments were combined in [Tables 12](#) and [13](#) in the main text. The total impact of the plastics industry was shown to be much larger than can be measured with government data. The resulting total was 1.7 million jobs and \$584 billion in shipments.

E. Downstream Effects: Plastics Products Content of U.S. Final Demand

Once produced, most plastics products are shipped to other industries for further processing or assembly. Ultimately, they are incorporated in final goods and services. Some plastics products, such as toys and wastebaskets, are already final goods and require no further processing. INFORUM’s input-output model tracks plastics products all the way to final goods and services. The results of the model are shown in [Figure 16](#) and [Appendices D](#) and [E](#).

The third column of [Appendix D](#) shows how the final demand for plastics products in 2014, \$182.6 billion, is distributed across the 352 INFORUM industries. The other columns of [Appendix D](#) show that how final demand was distributed across categories of output defined by the National Income and Product Accounts (NIPA) – known to most people as the “GDP” accounts. The bottom of the Appendix shows that 74.0 percent of plastics products in 2014 wound up in some sort of personal consumption. This means toys, eating utensils, detergent bottles, motor vehicles, refrigerators, etc. The next largest share of plastics products, 28.3 percent, ended up in private fixed investment, which means residential and non-residential equipment, software and structures, plus inventories (the sum of five categories in [Appendix D](#)). State, local and federal government purchases of final goods and services accounted for another 12.5 percent of plastics products final demand. Some plastics products were imported, net of exports, so 14.9 percent of it is deducted in order to show just the domestic effect.

[Appendix E](#) shows where final plastics products end up in 352 different industry sectors. The first numerical column shows the final demand generated by each industry. The next column shows the dollar value of the contained plastics products, and the final column gives the cents of plastics products that are contained in a dollar’s worth of final demand generated by industry. Industry 1, “oilseed farming,” generated \$24.9 billion in final demand, but only contained \$111.7 million in plastics products. The “plastics intensity,” or cents of plastics products per dollar of final demand, is only .04 cents. Some industries are much more plastics intensive. Industry 214, “automobiles,” uses 4.4 cents of plastics products per dollar of final demand. The data in [Appendices D](#) and [E](#) are ranked, analyzed and summarized in section F of the main text.

APPENDIX C: DIRECT SALES OF RESIN, IDENTIFICATION OF CAPTIVES



APPENDIX C

DIRECT SALES OF RESIN TO OTHER INDUSTRIES IN 2014: WHICH ONES ARE CAPTIVE?

Sector		Sales (\$Mil)	Captive?
12	Support activities for agriculture and forestry	0.00	No
18	Stone mining and quarrying	0.04	No
19	Other nonmetallic mineral mining and quarrying	0.15	No
24	Water, sewage and other systems	0.00	No
35	Nonresidential maintenance and repair	13.88	No
38	Other animal foods	0.06	No
39	Flour milling and malt	0.30	No
40	Wet corn milling	1.09	No
41	Soybean and other oilseed processing	0.02	No
42	Fats and oils refining and blending	0.11	No
43	Breakfast cereal manufacturing	0.02	No
45	Frozen food manufacturing	0.03	No
46	Fruit and vegetable canning, pickling, and drying	1.97	No
47	Fluid milk and butter	155.51	Yes
48	Cheese manufacturing	9.84	Yes
49	Dry, condensed, and evaporated dairy products	19.78	Yes
50	Ice cream and frozen desserts	9.07	Yes
51	Animal (except poultry) slaughtering, rendering, and processing	0.69	No
55	Cookies, crackers, pasta, and tortillas	0.01	No
57	Coffee and tea	0.17	No
59	Seasonings and dressings	13.39	No
60	All other food	7.53	No
61	Soft drinks and ice	4.49	Yes
64	Distilleries	4.04	Yes
66	Fiber, yarn, and thread mills	7.87	No
67	Fabric mills	603.23	No
68	Textile and fabric finishing and fabric coating mills	314.04	No
69	Carpet and rug mills	0.84	No
70	Curtain and linen mills	27.82	No
71	Other textile product mills	159.28	No
72	Apparel	5.81	Yes
73	Leather and allied products	76.14	Yes
74	Sawmills and wood preservation	14.30	No
75	Veneer, plywood, and engineered wood products	649.24	No
76	Millwork	48.83	No
77	All other wood products	45.04	No
78	Pulp mills	1.23	No
79	Paper and paperboard mills	197.85	Yes
80	Paperboard containers	145.84	Yes
81	Paper bag and coated and treated paper	832.62	Yes
82	Stationery products	8.80	No
83	Sanitary paper products	189.11	No
84	All other converted paper products	8.18	No
85	Printing	46.95	No
86	Support activities for printing	2.58	No
87	Petroleum refineries	1.06	No
88	Asphalt products	3.20	No
89	Other petroleum and coal products	3.66	No
90	Petrochemicals	105.50	No
91	Industrial gas	14.29	No

Sector		Sales (\$Mil)	Captive?
92	Synthetic dyes and pigments	6.20	Yes
93	Other basic inorganic chemicals	28.68	Yes
94	Other basic organic chemicals	502.44	No
95	Plastics materials and resins	4,545.93	Yes
96	Synthetic rubber and artificial and synthetic fibers and filaments	1,805.68	No
97	Fertilizer manufacturing	1.16	No
98	Pesticide and other agricultural chemicals	11.94	No
99	Pharmaceuticals and medicines	12.73	Yes
100	Paint and coating manufacturing	2,566.87	No
101	Adhesives	752.24	No
102	Soap and cleaning compounds	62.45	Yes
103	Toilet preparations	4.10	Yes
104	Printing ink manufacturing	202.23	No
105	All other chemical products and preparations	2,725.06	No
106	Plastics packaging materials and unlaminated film and sheets	12,218.98	No
107	Plastics pipe, pipe fitting, and unlaminated profile shapes	5,411.18	No
108	Laminated plastics plate, sheet (except packaging), and shapes	431.14	No
109	Plastic foam products	2,817.30	No
110	Plastic bottles	4,191.00	No
111	Other plastics products	20,168.60	No
112	Tires	74.33	No
113	Rubber and plastics hoses and belting	153.76	No
114	Other rubber products	402.95	No
115	Clay products and refractories	1.80	No
116	Glass and glass products	186.05	Yes
117	Cement	9.48	No
118	Ready-mix concrete	0.02	No
119	Concrete pipes, bricks and blocks	0.06	No
120	Other concrete products	2.48	No
121	Lime and gypsum products	0.04	No
122	Abrasive products	11.22	No
123	Cut stone and stone products	16.15	No
124	Other non-metallic mineral products	63.01	No
125	Primary ferrous metal products	20.63	No
126	Primary aluminum products	10.63	No
127	Aluminum product manufacturing from purchased aluminum	11.37	No
128	Primary smelting and refining of copper	0.03	No
129	Primary smelting and refining of nonferrous metal (except copper and aluminum)	27.62	No
130	Copper rolling, drawing, extruding and alloying	10.15	No
131	Nonferrous metal (except copper and aluminum) rolling, drawing, extruding and alloy	74.78	No
132	Ferrous metal foundries	0.58	No
133	Nonferrous metal foundries	0.72	No
134	Forging and stamping	165.28	Yes
135	Cutlery and handtools	72.56	Yes
136	Plate work and fabricated structural product	36.42	Yes
137	Ornamental and architectural metal products	113.48	Yes
138	Power boiler and heat exchanger	0.49	No
139	Metal tank (heavy gauge)	24.77	No
140	Metal can, box, and other metal container (light gauge)	1.95	Yes
141	Hardware	46.42	Yes
142	Spring and wire products	5.21	Yes
143	Machine shops	10.79	No

Sector		Sales (\$Mil)	Captive?
144	Turned products and screws, nuts and bolts	1.42	No
145	Coating, engraving, heat treating and allied activities	214.79	Yes
146	Metal valves	47.74	Yes
147	Ball and roller bearings	0.08	No
148	Ammunition, arms, ordnance, and accessories	76.26	Yes
149	Fabricated pipes and pipe fittings	38.70	Yes
150	Other fabricated metal products	155.09	Yes
151	Farm machinery and equipment	0.65	Yes
152	Lawn and garden equipment	0.71	Yes
153	Construction machinery	0.43	Yes
154	Mining and oil and gas field machinery	3.05	Yes
155	Other industrial machinery	8.68	Yes
156	Plastics and rubber industry machinery	2.66	Yes
157	Semiconductor machinery	4.70	Yes
158	Vending, commercial, service industry and office machinery	78.55	Yes
159	Optical instruments and lenses	3.76	Yes
160	Photographic and photocopying equipment	29.08	Yes
161	Air purification and ventilation equipment	0.03	Yes
162	Heating equipment (except warm air furnaces)	27.77	Yes
163	Air conditioning, refrigeration, and warm air heating equipment	208.98	Yes
164	Industrial molds	125.63	No
165	Metal cutting and forming machine tools	0.62	Yes
166	Special tool, die, jig, and fixtures	23.71	Yes
167	Cutting and machine tool accessory, rolling mill, and other metalworking machinery	0.54	No
168	Turbine and turbine generator set units manufacturing	0.18	No
169	Speed changers and mechanical power transmission equipment	1.43	No
170	Other engine equipment manufacturing	4.90	No
171	Pump and pumping equipment manufacturing	3.13	Yes
172	Air and gas compressor manufacturing	0.61	Yes
173	Material handling equipment manufacturing	2.78	Yes
174	Power-driven handtool manufacturing	0.91	Yes
175	Other general purpose machinery manufacturing	2.28	Yes
176	Packaging machinery manufacturing	0.82	Yes
177	Industrial process furnace and oven manufacturing	1.43	Yes
178	Fluid power process machinery	0.83	Yes
179	Computers	0.95	Yes
180	Computer storage devices	2.24	Yes
181	Computer terminals and other computer peripherals	9.33	Yes
182	Telephone apparatus	6.25	Yes
183	Broadcast and wireless communications equipment	9.29	Yes
184	Other communications equipment	5.85	Yes
185	Audio and video equipment	2.98	Yes
186	Semiconductors and related devices	10.86	No
187	Other electronic components	162.98	No
188	Electromedical and electrotherapeutic apparatus	18.44	Yes
189	Search, detection, and navigation instruments	42.62	Yes
190	Automatic environmental controls	23.64	Yes
191	Industrial process variable instruments	64.29	Yes
192	Totalizing fluid meters and counting devices	146.97	Yes
193	Electricity and signal testing instruments	17.10	Yes
194	Analytical laboratory instruments	23.99	Yes
195	Irradiation apparatus manufacturing	83.72	Yes

Sector		Sales (\$Mil)	Captive?
196	Watch, clock, and other measuring and controlling devices	16.08	Yes
197	Manufacturing and reproducing magnetic and optical media and software	135.12	Yes
198	Electric lamp bulbs and parts	0.21	Yes
199	Lighting fixtures	49.03	Yes
200	Small electrical appliances	211.44	Yes
201	Household cooking appliances	37.23	Yes
202	Household refrigerators and home freezers	142.53	Yes
203	Household laundry equipment	110.42	Yes
204	Other major household appliances	108.48	Yes
205	Power, distribution, and specialty transformers	1.27	Yes
206	Motors and generators	25.23	Yes
207	Switchgear and switchboard apparatus	64.64	Yes
208	Relays and industrial controls	31.54	Yes
209	Storage batteries	32.10	Yes
210	Primary battery manufacturing	7.87	Yes
211	Communication and energy wires and cables	591.01	Yes
212	Wiring devices	542.76	Yes
213	Carbon and graphite and miscellaneous electrical equipment	3.28	Yes
214	Automobiles	7.53	Yes
215	Heavy duty trucks	1.92	Yes
216	Motor vehicle bodies	1.51	Yes
217	Truck trailer manufacturing	0.80	Yes
218	Motor homes, trailers and campers	97.54	Yes
219	Motor vehicle parts	2,050.30	Yes
220	Aircraft	0.45	Yes
221	Aircraft engines and engine parts	4.20	Yes
222	Other aircraft parts and auxiliary equipment	0.73	Yes
223	Guided missiles and space vehicles	0.80	Yes
224	Propulsion units and parts for space vehicles and guided missiles	0.72	Yes
225	Railroad rolling stock	0.41	Yes
226	Ship building and repairing	0.40	No
227	Boat building	269.42	No
228	Motorcycles, bicycles, and parts	1.76	Yes
229	Military armored vehicles, tanks, and tank components	57.54	Yes
230	All other transportation equipment	1.56	Yes
231	Wood kitchen cabinet and countertops	5.27	No
232	Household and institutional furniture	175.44	Yes
233	Office furniture (including fixtures)	130.68	Yes
234	Mattresses, blinds and shades	2.17	Yes
235	Surgical and medical instruments	642.55	Yes
236	Surgical appliances and supplies	205.63	Yes
237	Dental equipment and supplies	1.64	Yes
238	Ophthalmic goods	98.42	Yes
240	Jewelry and silverware	0.55	Yes
241	Sporting and athletic goods	264.88	Yes
242	Dolls, toys, and games	161.23	Yes
243	Office supplies (except paper)	5.55	Yes
244	Sign manufacturing	129.12	Yes
245	All other miscellaneous manufacturing	975.83	Yes
247	Motor vehicle and parts dealers	4.72	No
255	Transit and ground passenger transportation	3.82	No
289	Architectural, engineering, and related services	102.53	No

Sector		Sales (\$Mil)	Captive?
291	Custom computer programming services	2.04	No
292	Computer systems design services	13.95	No
296	Scientific research and development services	0.18	No
297	Advertising, public relations, and related services	64.66	Yes
307	Investigation and security services	0.00	No
310	Waste management and remediation services	0.02	No
311	Elementary and secondary schools	0.01	No
312	Junior colleges, colleges, universities, and professional schools	0.09	No
313	Other educational services	0.00	No
317	Outpatient care centers	0.01	No
319	Home health care services	0.02	No
320	Other ambulatory health care services	0.00	No
321	Hospitals	0.17	No
324	Social assistance, and child day care services	0.00	No
325	Performing arts	0.00	No
327	Museums, historical sites, zoos, and parks	0.00	No
328	Amusements, gambling, & recreation activities	1.12	No
347	Federal general government (nondefense)	1.21	No
348	State and local general government	1.86	No
349	Scrap	<u>44.71</u>	No
	Total	73,128.99	

APPENDIX D: PLASTICS PRODUCTS FINAL DEMAND BY NIPA CATEGORY



Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Equipment Investment	Private Nonresidential Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Spending	Federal Non-defense Spending	State and Local Spending
1	Oilseed farming	0.00	0.00	0.00	0.00	0.00	-0.01	111.76	-7.99	0.00	0.00	0.00
2	Grain farming	28.68	0.00	0.00	0.00	0.00	22.49	255.85	-54.91	0.00	0.00	0.00
3	Vegetable and melon farming	78.99	0.00	0.00	0.00	0.00	0.28	0.18	-28.31	0.00	0.00	0.00
4	Fruit and tree nut farming	56.53	0.00	0.00	0.00	0.00	6.19	0.19	-44.53	0.00	0.00	0.00
5	Greenhouse, nursery, and floriculture production	532.43	0.00	0.00	0.00	0.00	6.81	22.95	-111.60	0.00	0.00	0.00
6	Other crop farming	1.56	0.00	0.00	0.00	0.00	5.79	50.62	-8.69	0.00	0.00	0.00
7	Cattle ranching and dairy farming	2.41	0.00	0.00	0.00	0.00	35.40	0.00	-15.62	0.00	0.00	0.00
8	Poultry and egg production	46.74	0.00	0.00	0.00	0.00	22.15	0.00	-0.69	0.00	0.00	0.00
9	Animal production, except cattle and poultry and eggs	10.94	0.00	0.00	0.00	0.00	2.77	1.87	-3.72	0.00	0.00	0.00
10	Forestry and logging	8.32	0.00	0.00	0.00	0.00	1.22	14.58	-7.48	0.00	0.00	0.00
11	Fishing, hunting and trapping	50.93	0.00	0.00	0.00	0.00	0.40	8.37	-99.17	0.00	0.00	0.00
12	Support activities for agriculture and forestry	0.99	0.00	0.00	0.00	0.00	0.00	0.00	-0.69	0.00	0.00	0.00
13	Crude oil extraction	0.00	0.00	0.00	0.00	0.00	-1.56	15.28	-644.44	0.00	0.00	0.00
14	Natural gas extraction	-0.57	0.00	0.00	0.00	0.00	0.46	17.72	-18.75	0.00	0.00	0.00
15	Coal mining	58.19	0.38	0.00	0.00	0.00	0.61	60.07	-2.88	0.00	0.00	0.00
16	Iron, gold, silver, and other metal ore mining	54.12	0.00	3.56	0.00	0.00	0.35	20.46	29.75	0.00	0.00	0.00
17	Copper, nickel, lead, and zinc mining	23.79	0.00	0.00	0.00	0.00	0.07	23.85	-0.14	0.00	0.00	0.00
18	Stone mining and quarrying	-0.20	0.00	0.00	0.00	0.00	0.00	0.47	-0.67	0.00	0.00	0.00
19	Other nonmetallic mineral mining and quarrying	3.53	1.74	0.00	0.00	0.00	0.08	7.56	-5.84	0.00	0.00	0.00
20	Drilling oil and gas wells	162.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Other support activities for mining	317.67	0.00	7.86	0.00	0.00	0.04	14.52	-7.19	0.00	0.00	0.00
22	Electric power generation, transmission, and distribution	494.53	499.49	0.00	0.00	0.00	0.00	3.54	-8.49	0.00	0.00	0.00
23	Natural gas distribution	160.68	158.64	0.00	0.00	0.00	0.00	2.04	0.00	0.00	0.00	0.00
24	Water, sewage and other systems	427.10	423.03	0.00	0.00	0.00	0.00	4.07	0.00	0.00	0.00	0.00
25	Health care structures	1,181.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.59	29.39	149.59
26	Manufacturing structures	467.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84	3.94	14.86
27	Power and communication structures	1,910.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.13	10.46	243.35
28	Educational and vocational structures	2,326.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.14	10.51	1,915.49
29	Highways and streets	986.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.85	9.75	958.93
30	Commercial structures, including farm structures	1,821.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.78	47.62	110.28
31	Other nonresidential structures	2,337.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.14	85.46	1,163.87
32	Single-family residential structures	4,771.48	0.00	0.00	0.00	4,735.88	0.00	0.00	0.00	24.72	0.00	10.88
33	Multifamily residential structures	603.59	0.00	0.00	0.00	543.15	0.00	0.00	0.00	5.42	0.00	55.02
34	Other residential structures	7,086.21	0.00	0.00	0.00	6,964.44	0.00	0.00	0.00	4.30	0.00	117.48
35	Nonresidential maintenance and repair	3.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Equipment Investment	Private Nonresidential Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
36	Residential maintenance and repair	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00
37	Dog and cat food	441.32	0.00	0.00	0.00	0.00	1.45	48.37	-16.85	0.00	0.00	0.00
38	Other animal foods	38.20	0.00	0.00	0.00	0.00	0.56	55.25	-9.33	0.00	0.00	0.00
39	Flour milling and malt	74.70	0.00	0.00	0.00	0.00	2.15	57.08	-25.91	0.00	0.00	0.00
40	Wet corn milling	7.86	0.00	0.00	0.00	0.00	1.10	47.46	-16.25	0.00	0.00	0.00
41	Soybean and other oilseed processing	8.90	0.00	0.00	0.00	0.00	0.61	103.64	-61.24	0.00	0.00	0.00
42	Fats and oils refining and blending	104.88	0.00	0.00	0.00	0.00	3.50	23.23	-6.95	0.00	0.00	0.00
43	Breakfast cereal manufacturing	190.49	0.00	0.00	0.00	0.00	-1.32	22.17	-13.11	0.00	0.00	0.00
44	Sugar and confectionery products	839.88	0.00	0.00	0.00	0.00	5.81	147.50	-251.37	0.00	0.00	0.00
45	Frozen food manufacturing	570.13	0.00	0.00	0.00	0.00	2.57	51.18	-65.76	0.00	0.00	0.00
46	Fruit and vegetable canning, pickling, and drying	796.80	0.00	0.00	0.00	0.00	-8.12	161.07	-224.01	0.00	0.00	0.00
47	Fluid milk and butter	801.67	0.00	0.00	0.00	0.00	6.46	7.40	-18.45	0.00	0.00	0.00
48	Cheese manufacturing	294.20	0.00	0.00	0.00	0.00	4.92	0.00	-26.17	0.00	0.00	0.00
49	Dry, condensed, and evaporated dairy products	255.99	0.00	0.00	0.00	0.00	4.20	93.36	-29.93	0.00	0.00	0.00
50	Ice cream and frozen desserts	71.93	0.00	0.00	0.00	0.00	0.00	17.92	-1.94	0.00	0.00	0.00
51	Animal (except poultry) slaughtering, rendering, and processing	1,135.13	0.00	0.00	0.00	0.00	6.22	101.81	-108.94	0.00	0.00	0.00
52	Poultry processing	1,179.90	0.00	0.00	0.00	0.00	9.09	25.22	-14.94	0.00	0.00	0.00
53	Seafood product preparation and packaging	70.02	0.00	0.00	0.00	0.00	0.40	7.23	-59.63	0.00	0.00	0.00
54	Bread and bakery product manufacturing	778.10	0.00	0.00	0.00	0.00	2.71	45.58	-64.61	0.00	0.00	0.00
55	Cookies, crackers, pasta, and tortillas	594.80	0.00	0.00	0.00	0.00	1.60	26.13	-22.96	0.00	0.00	0.00
56	Snack foods	3,357.32	0.00	0.00	0.00	0.00	24.18	262.42	-245.24	0.00	0.00	0.00
57	Coffee and tea	1,080.64	0.00	0.00	0.00	0.00	5.41	77.91	-194.08	0.00	0.00	0.00
58	Flavoring syrups and concentrates	8.49	0.00	0.00	0.00	0.00	-0.53	27.95	-122.52	0.00	0.00	0.00
59	Seasonings and dressings	1,258.76	0.00	0.00	0.00	0.00	11.51	196.03	-257.87	0.00	0.00	0.00
60	All other food	791.78	0.00	0.00	0.00	0.00	5.75	331.85	-295.66	0.00	0.00	0.00
61	Soft drinks and ice	5,836.05	0.00	0.00	0.00	0.00	10.03	278.14	-453.70	0.00	0.00	0.00
62	Breweries	320.70	0.00	0.00	0.00	0.00	1.46	29.67	-47.26	0.00	0.00	0.00
63	Wineries	109.08	0.00	0.00	0.00	0.00	2.15	16.59	-48.24	0.00	0.00	0.00
64	Distilleries	267.18	0.00	0.00	0.00	0.00	1.65	44.40	-159.10	0.00	0.00	0.00
65	Tobacco products	157.51	0.00	0.00	0.00	0.00	0.25	5.86	-4.96	0.00	0.00	0.00
66	Fiber, yarn, and thread mills	0.83	0.00	0.00	0.00	0.00	0.51	16.70	-8.40	0.00	0.00	0.00
67	Fabric mills	16.60	0.00	0.00	0.00	0.00	1.23	41.31	-67.80	0.00	0.00	0.00
68	Textile and fabric finishing and fabric coating mills	9.74	0.00	0.00	0.00	0.00	4.60	21.82	-36.92	0.00	0.00	0.00
69	Carpet and rug mills	149.93	0.79	0.00	0.00	13.11	3.34	16.08	-44.74	0.00	0.00	0.30
70	Curtain and linen mills	186.33	0.00	0.00	0.00	0.00	-0.41	13.02	-209.13	0.00	0.00	0.00
71	Other textile product mills	100.22	0.00	0.00	0.00	0.00	3.03	44.14	-147.07	0.00	0.02	0.00
72	Apparel	651.64	0.00	0.00	0.00	0.00	2.70	19.93	-649.89	0.00	0.00	0.00

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Equipment Investment	Private Nonres Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
73	Leather and allied products	1,638.86	0.00	0.00	0.00	0.00	47.05	93.52	-1,649.26	0.00	0.00	0.00
74	Sawmills and wood preservation	-11.13	0.00	0.00	0.00	0.00	1.26	20.53	-32.92	0.00	0.00	0.00
75	Veneer, plywood, and engineered wood products	-31.55	0.00	0.00	0.00	0.00	2.08	9.69	-43.33	0.00	0.00	0.00
76	Millwork	-25.46	0.00	0.00	0.00	0.00	3.41	8.60	-37.47	0.00	0.00	0.00
77	All other wood products	165.69	98.62	0.00	0.00	113.88	6.58	17.22	-83.03	0.00	0.38	0.00
78	Pulp mills	20.29	0.00	0.00	0.00	0.00	0.08	59.57	-39.36	0.00	0.00	0.00
79	Paper and paperboard mills	218.01	232.34	0.00	0.00	0.00	0.33	155.73	-170.39	0.00	0.00	0.00
80	Paperboard containers	28.51	14.75	0.00	0.00	0.00	1.11	50.26	-37.62	0.00	0.00	0.00
81	Paper bag and coated and treated paper	58.00	79.31	0.00	0.00	0.00	0.94	270.06	-292.31	0.00	0.00	0.00
82	Stationery products	40.98	25.24	0.00	0.00	0.00	0.05	37.46	-21.77	0.00	0.00	0.00
83	Sanitary paper products	172.87	174.53	0.00	0.00	0.00	-5.00	10.45	-7.10	0.00	0.00	0.00
84	All other converted paper products	4.98	16.77	0.00	0.00	0.00	0.08	4.65	-16.52	0.00	0.00	0.00
85	Printing	35.23	32.32	0.00	0.00	0.00	0.53	23.79	-21.41	0.00	0.00	0.00
86	Support activities for printing	0.43	0.00	0.00	0.00	0.00	-0.05	0.81	-0.33	0.00	0.00	0.00
87	Petroleum refineries	626.31	591.18	0.00	0.00	0.00	0.00	296.51	-261.38	0.00	0.00	0.00
88	Asphalt products	1.52	0.00	0.00	0.00	0.00	0.00	4.43	-2.91	0.00	0.00	0.00
89	Other petroleum and coal products	110.39	98.31	0.00	0.00	0.00	0.00	12.50	-0.42	0.00	0.00	0.00
90	Petrochemicals	1.39	0.00	0.00	0.00	0.00	1.89	59.33	-59.83	0.00	0.00	0.00
91	Industrial gas	4.62	0.60	0.00	0.00	0.00	0.31	5.94	-2.23	0.00	0.00	0.00
92	Synthetic dyes and pigments	5.60	0.00	0.00	0.00	0.00	0.26	32.23	-26.89	0.00	0.00	0.00
93	Other basic inorganic chemicals	95.03	0.57	73.18	0.00	0.00	2.57	256.70	-237.98	0.00	0.00	0.00
94	Other basic organic chemicals	191.82	38.49	0.00	0.00	0.00	12.02	876.09	-734.78	0.00	0.00	0.00
95	Plastics materials and resins	429.92	0.00	0.00	0.00	0.00	5.52	736.53	-312.14	0.00	0.00	0.00
96	Synthetic rubber and artificial and synthetic fibers and filaments	35.00	0.00	0.00	0.00	0.00	1.95	109.16	-76.11	0.00	0.00	0.00
97	Fertilizer manufacturing	-63.04	2.87	0.00	0.00	0.00	0.70	32.56	-99.16	0.00	0.00	0.00
98	Pesticide and other agricultural chemicals	112.83	71.92	0.00	0.00	0.00	1.79	77.72	-38.59	0.00	0.00	0.00
99	Pharmaceuticals and medicines	1,475.06	2,397.70	0.00	0.00	0.00	3.79	483.16	-1,409.58	0.00	0.00	0.00
100	Paint and coating manufacturing	81.62	15.98	0.00	0.00	0.00	1.79	106.46	-42.60	0.00	0.00	0.00
101	Adhesives	113.17	54.91	0.00	0.00	0.00	1.11	82.37	-25.22	0.00	0.00	0.00
102	Soap and cleaning compounds	2,037.51	1,780.20	0.00	0.00	0.00	3.03	457.37	-203.09	0.00	0.00	0.00
103	Toilet preparations	2,062.29	2,100.07	0.00	0.00	0.00	3.13	491.99	-532.90	0.00	0.00	0.00
104	Printing ink manufacturing	13.53	0.00	0.00	0.00	0.00	0.16	18.95	-5.57	0.00	0.00	0.00
105	All other chemical products and preparations	161.41	61.68	0.00	0.00	0.00	2.75	205.34	-108.36	0.00	0.00	0.00
106	Plastics packaging materials and un laminated film and sheets	3,704.23	3,361.41	0.00	0.00	0.00	214.44	4,846.66	-4,718.28	0.00	0.00	0.00
107	Plastics pipe, pipe fitting, and unlaminated profile shapes	812.70	0.00	0.00	0.00	0.00	145.40	1,914.71	-1,247.41	0.00	0.00	0.00
108	Laminated plastics plate, sheet (except packaging), and straps	40.51	0.00	0.00	0.00	0.00	40.51	0.00	0.00	0.00	0.00	0.00
109	Plastic foam products	1,668.92	1,543.93	22.45	0.00	7.64	94.90	0.00	0.00	0.00	0.00	0.00

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Equipment Investment	Private Nonresidential Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
110	Plastic bottles	0.00	0.00	0.00	0.00	0.00	107.14	758.50	-1,140.98	0.00	0.00	0.00
111	Other plastics products	3,699.61	11,799.67	0.00	0.00	0.00	454.81	14,040.43	-22,595.29	0.00	0.00	0.00
112	Tires	61.23	362.06	0.00	0.00	0.00	3.03	137.05	-440.92	0.00	0.00	0.00
113	Rubber and plastics hoses and belting	-11.85	8.86	0.00	0.00	0.00	0.44	32.97	-54.12	0.00	0.00	0.00
114	Other rubber products	4.00	44.56	4.44	0.00	0.62	3.57	78.35	-127.65	0.00	0.12	0.00
115	Clay products and refractories	-15.21	16.50	0.00	0.00	0.00	1.49	10.05	-43.25	0.00	0.00	0.00
116	Glass and glass products	26.38	76.15	0.00	0.00	0.00	5.62	84.77	-140.15	0.00	0.00	0.00
117	Cement	-2.30	0.00	0.00	0.00	0.00	-0.04	0.85	-3.11	0.00	0.00	0.00
118	Ready-mix concrete	1.53	0.00	0.00	0.00	0.00	-0.06	1.59	0.00	0.00	0.00	0.00
119	Concrete pipes, bricks and blocks	0.71	0.00	0.00	0.00	0.00	0.28	0.93	-0.50	0.00	0.00	0.00
120	Other concrete products	-31.59	0.86	0.00	0.00	0.00	0.58	7.67	-40.69	0.00	0.00	0.00
121	Lime and gypsum products	1.11	0.12	0.00	0.00	0.00	0.31	1.53	-0.86	0.00	0.00	0.00
122	Abrasive products	-8.27	2.94	0.00	0.00	0.00	1.26	19.29	-31.76	0.00	0.00	0.00
123	Cut stone and stone products	2.34	35.91	0.00	0.00	0.00	0.19	0.84	-34.61	0.00	0.00	0.00
124	Other non-metallic mineral products	9.50	4.19	0.00	0.00	0.00	4.23	39.93	-38.85	0.00	0.00	0.00
125	Primary ferrous metal products	-218.73	8.13	0.00	0.00	0.00	10.64	164.40	-401.90	0.00	0.00	0.00
126	Primary aluminum products	-54.28	0.00	0.00	0.00	0.00	0.35	9.40	-64.02	0.00	0.00	0.00
127	Aluminum product manufacturing from purchased aluminum	1.25	0.00	0.00	0.00	0.00	0.84	61.15	-60.74	0.00	0.00	0.00
128	Primary smelting and refining of copper	-23.35	0.00	0.00	0.00	0.00	0.11	4.01	-27.47	0.00	0.00	0.00
129	Primary nonferrous smelting and refining (ex copper & aluminum)	-115.34	0.00	0.00	0.00	0.00	1.11	71.19	-187.65	0.00	0.00	0.00
130	Copper rolling, drawing, extruding and alloying	-4.01	0.00	0.00	0.00	0.00	0.60	21.09	-25.70	0.00	0.00	0.00
131	Nonferrous metal (ex copper & aluminum) roll, draw, extrud & alloy	-9.75	1.18	0.00	0.00	0.00	1.65	56.65	-69.23	0.00	0.00	0.00
132	Ferrous metal foundries	0.47	0.00	0.00	0.00	0.00	1.08	9.65	-10.25	0.00	0.00	0.00
133	Nonferrous metal foundries	7.98	1.92	0.00	0.00	0.00	0.50	6.32	-0.76	0.00	0.00	0.00
134	Forging and stamping	14.11	6.21	0.00	0.00	0.00	6.31	7.58	-5.99	0.00	0.00	0.00
135	Cutlery and handtools	30.01	136.50	7.04	0.00	0.00	0.64	48.05	-162.28	0.02	0.00	0.05
136	Plate work and fabricated structural product	1.81	0.83	1.19	0.00	0.00	2.95	25.99	-29.15	0.00	0.00	0.00
137	Ornamental and architectural metal products	7.60	0.00	5.46	0.00	0.00	1.36	16.66	-15.88	0.00	0.00	0.00
138	Power boiler and heat exchanger	29.99	0.00	35.14	0.00	0.00	0.81	19.35	-25.35	0.00	0.03	0.00
139	Metal tank (heavy gauge)	42.60	0.00	39.21	0.00	0.00	0.73	15.74	-13.08	0.00	0.00	0.00
140	Metal can, box, and other metal container (light gauge)	4.44	1.31	1.86	0.00	0.00	0.00	9.84	-8.60	0.01	0.01	0.02
141	Hardware	-147.82	14.43	8.07	0.00	0.00	1.70	67.59	-239.60	0.00	0.00	0.00
142	Spring and wire products	-8.18	1.93	0.00	0.00	0.00	1.59	21.69	-33.39	0.00	0.00	0.00
143	Machine shops	7.38	0.00	0.00	0.00	0.00	6.80	0.00	0.00	0.00	0.58	0.00
144	Turned products and screws, nuts and bolts	-16.70	2.70	0.00	0.00	0.00	3.35	29.47	-52.21	0.00	0.00	0.00
145	Coating, engraving, heat treating and allied activities	2.49	0.00	0.00	0.00	0.00	2.49	0.00	0.00	0.00	0.00	0.00
146	Metal valves	-51.09	0.00	54.90	0.00	0.00	7.98	200.77	-316.55	1.63	0.00	0.18

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Investment	Private Nonres Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense Spending	State and Local Spending
147	Ball and roller bearings	0.00	0.00	0.00	0.00	0.00	0.62	10.12	-15.40	0.00	0.00	0.00
148	Ammunition, arms, ordnance, and accessories	146.72	152.18	0.00	0.00	0.00	-1.58	25.26	-46.03	16.89	0.00	0.00
149	Fabricated pipes and pipe fittings	12.12	0.00	11.37	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00
150	Other fabricated metal products	-18.11	43.43	9.20	0.00	0.00	2.39	143.41	-218.18	0.02	0.18	1.43
151	Farm machinery and equipment	500.63	0.00	548.32	0.00	0.00	5.46	238.78	-295.12	0.02	0.38	2.79
152	Lawn and garden equipment	332.44	45.00	281.21	0.00	0.00	0.81	6.20	-2.51	0.06	0.00	1.67
153	Construction machinery	857.20	0.00	788.83	0.00	0.00	11.78	339.76	-304.58	1.62	0.00	19.79
154	Mining and oil and gas field machinery	462.08	0.00	299.46	0.00	0.00	6.80	218.69	-62.87	0.00	0.00	0.00
155	Other industrial machinery	407.52	11.29	380.94	0.00	0.00	0.61	182.61	-169.82	0.19	0.04	1.65
156	Plastics and rubber industry machinery	33.28	0.00	53.52	0.00	0.00	0.16	15.33	-35.74	0.01	0.00	0.00
157	Semiconductor machinery	251.55	0.00	182.54	0.00	0.00	-5.49	169.73	-95.23	0.00	0.00	0.00
158	Vending, commercial, service industry and office machinery	191.97	7.74	233.20	0.00	0.00	-0.12	37.21	-96.62	2.94	0.04	7.58
159	Optical instruments and lenses	109.97	1.80	203.83	0.00	0.00	0.70	137.28	-254.73	20.46	0.00	0.62
160	Photographic and photocopying equipment	41.28	16.04	26.37	0.00	0.00	0.32	13.41	-15.65	0.04	0.00	0.75
161	Air purification and ventilation equipment	43.80	0.00	58.23	0.00	0.00	0.32	21.26	-36.03	0.00	0.00	0.02
162	Heating equipment (except warm air furnaces)	47.79	59.69	2.62	0.00	0.00	0.59	15.60	-30.71	0.00	0.00	0.00
163	Air conditioning, refrigeration, and warm air heating equipment	102.20	39.19	161.76	0.00	0.00	0.24	104.16	-207.58	3.05	0.00	1.38
164	Industrial molds	202.91	0.00	242.05	0.00	0.00	1.47	26.62	-67.22	0.00	0.00	0.00
165	Metal cutting and forming machine tools	63.40	1.44	120.42	0.00	0.00	2.91	30.98	-96.35	0.05	0.05	3.90
166	Special tool, die, jig, and fixtures	131.46	0.00	143.27	0.00	0.00	0.99	7.59	-20.39	0.00	0.00	0.00
167	Cutting/machine tool accessory, rolling mill, & other mach.	44.86	0.00	46.79	0.00	0.00	2.27	46.65	-50.86	0.00	0.00	0.00
168	Turbine and turbine generator set units manufacturing	126.72	0.00	75.53	0.00	0.00	2.04	78.14	-30.27	0.43	0.13	0.71
169	Speed changers and mechanical power transmission equipment	-33.76	0.00	0.00	0.00	0.00	1.62	43.02	-78.41	0.00	0.00	0.00
170	Other engine equipment manufacturing	39.06	16.91	79.96	0.00	0.00	-1.20	324.87	-385.37	0.00	0.02	3.87
171	Pump and pumping equipment manufacturing	292.81	0.00	258.38	0.00	0.00	8.01	146.65	-129.49	5.12	0.03	4.11
172	Air and gas compressor manufacturing	164.59	0.00	138.00	0.00	0.00	4.14	101.72	-79.51	0.23	0.00	0.00
173	Material handling equipment manufacturing	395.00	0.00	415.05	0.00	0.00	3.48	94.61	-122.78	0.82	0.03	3.79
174	Power-driven handtool manufacturing	247.28	236.88	255.40	0.00	0.00	0.63	65.06	-320.73	0.00	0.00	10.04
175	Other general purpose machinery manufacturing	604.93	17.18	607.10	0.00	0.00	15.06	488.47	-528.47	0.49	0.02	5.08
176	Packaging machinery manufacturing	59.31	0.00	83.60	0.00	0.00	0.68	14.50	-39.47	0.00	0.00	0.00
177	Industrial process furnace and oven manufacturing	13.58	0.00	11.21	0.00	0.00	0.06	7.01	-4.75	0.00	0.00	0.06
178	Fluid power process machinery	-2.87	0.00	3.45	0.00	0.00	0.06	37.52	-44.18	0.27	0.00	0.00
179	Computers	300.70	439.74	1,047.63	0.00	0.00	1.06	154.22	-1,376.33	17.82	0.91	15.64
180	Computer storage devices	-40.92	68.97	87.46	0.00	0.00	1.94	55.13	-259.63	3.78	0.02	1.41
181	Computer terminals and other computer peripherals	-522.82	689.33	531.39	0.00	0.00	1.55	312.10	-2,081.77	9.47	0.31	14.81
182	Telephone apparatus	-28.56	10.50	219.74	0.00	0.00	2.90	46.56	-323.38	9.13	0.20	5.79
183	Broadcast and wireless communications equipment	-182.40	75.75	290.66	0.00	0.00	-2.78	190.86	-784.03	43.28	1.87	1.98

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Investment	Private Nonres Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
184	Other communications equipment	1.47	22.05	0.00	0.00	0.00	2.12	14.64	-30.95	0.54	0.00	1.30
185	Audio and video equipment	1,292.23	293.27	0.00	0.00	10.27	2.01	172.82	-1,639.90	0.00	0.00	13.56
186	Semiconductors and related devices	0.00	0.00	0.00	0.00	0.00	23.62	432.24	-365.01	0.00	0.00	0.00
187	Other electronic components	12.68	0.00	0.00	0.00	0.00	15.95	262.96	-315.34	0.00	0.00	0.25
188	Electromedical and electrotherapeutic apparatus	74.66	645.62	0.00	0.00	0.00	-0.25	199.40	-321.57	5.76	0.19	0.34
189	Search, detection, and navigation instruments	0.74	256.17	0.00	0.00	0.00	7.63	91.07	-80.87	105.51	0.73	1.77
190	Automatic environmental controls	0.00	0.00	0.00	0.00	0.00	0.65	6.17	-27.45	0.00	0.00	0.00
191	Industrial process variable instruments	0.00	134.73	0.00	0.00	0.00	2.92	155.58	-139.98	0.05	0.00	2.27
192	Totalizing fluid meters and counting devices	0.00	125.51	0.00	0.00	0.00	0.20	16.38	-109.00	0.00	0.00	2.61
193	Electricity and signal testing instruments	0.00	46.92	0.00	0.00	0.00	0.19	93.20	-75.44	12.36	0.01	0.22
194	Analytical laboratory instruments	0.00	278.17	0.00	0.00	0.00	0.14	200.60	-144.83	0.00	0.00	1.20
195	Irradiation apparatus manufacturing	0.00	120.36	0.00	0.00	0.00	1.57	86.46	-83.40	1.77	0.03	0.43
196	Watch, clock, and other measuring and controlling devices	125.87	70.68	0.00	0.00	0.00	3.30	80.14	-136.80	0.00	0.00	1.24
197	Manufacturing & reproducing magnetic & optical media & software	-17.63	18.53	0.00	0.00	0.00	0.15	70.36	-143.32	0.00	0.00	0.00
198	Electric lamp bulbs and parts	-15.72	0.00	0.00	0.00	0.00	0.23	9.46	-46.28	0.00	0.00	0.00
199	Lighting fixtures	-150.42	21.81	0.00	0.00	0.00	0.86	31.58	-261.86	0.00	0.00	0.27
200	Small electrical appliances	23.00	8.61	0.00	0.00	0.87	-0.14	33.10	-384.61	0.05	0.01	2.32
201	Household cooking appliances	135.15	0.71	0.00	0.00	68.08	-0.31	23.07	-155.06	0.04	0.00	2.10
202	Household refrigerators and home freezers	191.03	7.39	0.00	0.00	121.75	-1.14	38.75	-284.75	0.00	0.00	5.80
203	Household laundry equipment	187.22	11.90	0.00	0.00	0.00	-0.88	36.04	-127.50	0.00	0.00	0.10
204	Other major household appliances	69.97	2.14	0.00	0.00	31.98	1.46	44.87	-91.21	0.00	0.00	0.00
205	Power, distribution, and specialty transformers	0.12	70.50	0.00	0.00	0.00	0.94	8.88	-43.27	0.00	0.05	1.05
206	Motors and generators	-36.39	48.76	0.00	0.00	0.00	4.50	91.85	-186.35	0.07	0.03	2.27
207	Switchgear and switchboard apparatus	38.29	98.82	0.00	0.00	0.00	0.55	24.66	-89.47	0.00	0.07	0.71
208	Relays and industrial controls	-34.84	15.89	0.00	0.00	0.00	2.64	68.38	-124.94	2.21	0.03	0.95
209	Storage batteries	48.45	13.89	0.00	0.00	0.00	1.92	96.78	-170.84	0.00	0.00	0.00
210	Primary battery manufacturing	83.26	0.00	0.00	0.00	0.00	0.37	13.81	-14.95	0.00	0.00	0.00
211	Communication and energy wires and cables	-17.03	3.14	0.00	0.00	0.00	3.47	66.98	-90.67	0.03	0.02	0.00
212	Wiring devices	-3.81	0.66	0.00	0.00	0.00	1.55	42.39	-48.42	0.00	0.00	0.00
213	Carbon and graphite and miscellaneous electrical equipment	112.10	183.79	0.00	0.00	0.00	9.13	119.39	-220.15	5.93	0.03	4.94
214	Automobiles	15,025.99	10,253.87	0.00	0.00	0.00	66.62	2,631.05	-8,019.70	35.64	49.71	62.99
215	Heavy duty trucks	931.93	-737.98	0.00	0.00	0.00	14.63	292.28	-468.89	626.65	326.05	879.18
216	Motor vehicle bodies	55.54	13.06	0.00	0.00	0.00	19.93	8.61	-5.95	0.00	19.10	0.00
217	Truck trailer manufacturing	176.45	109.09	0.00	0.00	0.00	10.27	32.49	-25.04	46.57	3.08	0.00
218	Motor homes, trailers and campers	408.58	313.13	0.00	0.00	0.00	6.58	103.78	-46.60	0.00	0.00	0.00
219	Motor vehicle parts	-1,361.81	365.53	0.00	0.00	0.00	368.09	1,777.01	-3,903.94	0.00	5.16	0.43
220	Aircraft	2,054.46	23.44	0.00	0.00	0.00	136.55	1,149.39	-250.46	272.92	3.34	0.52

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Investment	Private Nonres Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
221	Aircraft engines and engine parts	140.95	3.59	0.00	0.00	0.00	5.42	295.20	-165.24	1.98	0.00	0.00
222	Other aircraft parts and auxiliary equipment	512.97	0.00	0.00	0.00	0.00	81.64	951.71	-520.38	0.00	0.00	0.00
223	Guided missiles and space vehicles	37.29	0.41	0.00	0.00	0.00	2.91	20.12	-0.43	10.09	4.20	0.00
224	Propulsion units and parts for space vehicles and guided missiles	3.97	0.00	0.00	0.00	0.00	0.34	2.63	-2.12	0.00	3.11	0.00
225	Railroad rolling stock	68.24	56.29	0.00	0.00	0.00	1.74	27.17	-19.94	0.05	0.09	2.85
226	Ship building and repairing	423.43	170.97	0.00	0.00	0.00	-4.74	45.03	-26.92	237.46	1.13	0.50
227	Boat building	106.52	20.02	0.00	0.00	0.00	2.76	84.77	-45.61	1.56	1.90	0.35
228	Motorcycles, bicycles, and parts	-10.47	1.72	0.00	0.00	0.00	1.21	18.94	-46.07	0.00	0.00	1.23
229	Military armored vehicles, tanks, and tank components	44.42	0.00	0.00	0.00	0.00	-1.48	32.97	-10.17	23.11	0.00	0.00
230	All other transportation equipment	318.21	226.26	58.17	0.00	0.00	-0.55	44.75	-14.93	1.76	0.00	2.74
231	Wood kitchen cabinet and countertops	7.99	0.00	35.39	0.00	0.00	6.39	6.86	-40.66	0.00	0.00	0.00
232	Household and institutional furniture	1,301.96	729.74	0.00	0.00	22.77	12.70	236.55	-2,168.23	0.00	0.74	34.09
233	Office furniture (including fixtures)	821.16	917.31	0.00	0.00	0.25	0.10	55.08	-225.62	0.25	0.16	40.18
234	Mattresses, blinds and shades	1,382.86	1,419.05	172.86	0.00	10.56	1.86	23.78	-247.43	0.00	0.00	2.17
235	Surgical and medical instruments	1,137.13	1,067.63	0.00	0.00	0.00	-0.35	523.23	-468.94	1.31	0.01	2.10
236	Surgical appliances and supplies	340.57	216.07	0.00	0.00	0.00	0.60	236.28	-445.90	0.13	0.12	5.06
237	Dental equipment and supplies	47.21	51.10	0.00	0.00	0.00	3.60	27.67	-36.02	0.57	0.06	0.22
238	Ophthalmic goods	525.29	746.22	0.00	0.00	0.00	15.86	126.25	-363.04	0.00	0.00	0.00
239	Dental laboratories	-0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00
240	Jewelry and silverware	87.99	190.54	0.00	0.00	0.00	2.23	43.56	-148.35	0.00	0.00	0.00
241	Sporting and athletic goods	340.80	446.00	53.58	0.00	0.00	41.01	58.35	-262.02	0.00	0.00	3.88
242	Dolls, toys, and games	-15.38	368.32	0.00	0.00	0.00	-0.08	25.23	-408.84	0.00	0.00	0.00
243	Office supplies (except paper)	93.78	149.58	2.84	0.00	0.00	8.71	21.63	-92.89	0.00	0.00	3.92
244	Sign manufacturing	643.08	0.00	621.00	0.00	0.00	15.99	25.73	-19.64	0.00	0.00	0.00
245	All other miscellaneous manufacturing	588.24	468.75	182.57	0.00	0.00	43.60	197.88	-305.83	0.14	0.00	1.13
246	Wholesale trade	5,923.70	2,990.88	1,141.36	0.44	14.57	51.63	1,288.87	264.75	41.20	10.27	31.04
247	Motor vehicle and parts dealers	1,055.38	949.55	105.72	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
248	Food and beverage stores	2,296.04	2,290.18	5.85	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
249	General merchandise stores	704.53	693.63	9.06	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00
250	Other retail	4,954.59	4,743.66	145.63	0.00	32.36	0.00	0.00	0.00	0.00	0.00	0.00
251	Air transportation	299.06	243.40	4.15	0.00	0.08	0.25	145.25	-94.92	0.31	0.05	0.13
252	Rail transportation	63.51	20.03	6.85	0.00	0.11	0.38	35.09	-0.92	0.74	0.40	0.84
253	Water transportation	201.76	131.07	0.23	0.00	0.00	0.28	41.16	29.00	0.02	0.00	0.00
254	Truck transportation	1,039.11	610.98	170.72	0.16	3.09	10.93	252.01	-24.50	5.41	1.24	4.88
255	Transit and ground passenger transportation	216.92	216.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
256	Pipeline transportation	32.60	13.81	0.00	0.00	0.00	-1.99	20.78	0.00	0.00	0.00	0.00

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Equipment Investment	Private Nonres Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
257	Scenic and sightseeing transportation and support	76.59	0.00	0.00	0.00	0.00	0.00	80.10	-0.04	0.00	0.00	0.00
258	Couriers and messengers	42.12	0.00	0.00	0.00	0.00	0.00	345.34	95.97	0.00	0.00	0.00
259	Warehousing and storage	3.21	0.00	0.00	0.00	0.00	0.00	19.46	0.00	0.00	0.00	0.00
260	Newspaper publishers	30.39	0.00	0.00	0.00	0.00	-0.47	3.00	-0.91	0.00	0.00	0.00
261	Periodical publishers	69.10	0.00	0.90	0.00	0.00	-1.43	8.31	-0.82	0.00	0.00	0.00
262	Book publishers	42.82	0.00	16.32	0.00	0.00	3.44	6.80	-3.53	0.00	0.00	0.00
263	Directory, mailing list, and other publishers	69.55	0.00	4.60	0.00	0.00	-5.13	1.75	-5.28	0.00	0.00	0.00
264	Software publishers	86.45	0.00	149.32	0.00	0.00	-0.11	111.02	-5.31	2.35	3.69	8.54
265	Motion picture and video industries	70.22	0.00	93.53	0.00	0.00	0.16	53.37	-10.67	0.00	0.00	0.00
266	Sound recording industries	22.17	0.00	13.34	0.00	0.00	0.33	2.54	-4.90	0.00	0.00	0.00
267	Radio and television broadcasting	22.28	0.00	30.66	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
268	Cable and other subscription programming	0.00	0.00	139.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
269	Wired telecommunications carriers	990.84	36.83	0.00	0.00	0.00	0.00	54.12	-0.66	0.00	0.00	0.00
270	Wireless telecommunications carriers (except satellite)	972.27	0.00	0.00	0.00	0.00	0.00	3.74	0.00	0.00	0.00	0.00
271	Satellite, telecommunications resellers, and all other telecomm	46.04	0.00	0.00	0.00	0.00	0.00	22.89	-0.11	0.00	0.00	0.00
272	Data processing, hosting, and related services	0.00	0.00	0.00	0.00	0.00	0.00	8.96	-2.93	0.00	0.00	0.00
273	Other information services	64.24	0.00	0.00	0.00	0.00	0.00	6.81	-1.04	0.00	0.00	0.00
274	Monetary authorities and depository credit intermediation	375.48	0.00	0.00	0.00	0.00	0.00	59.02	-0.14	0.00	0.00	0.00
275	Nondepository credit intermediation and related activities	99.88	0.00	0.00	0.00	0.00	0.00	62.19	0.00	0.00	0.00	0.00
276	Securities and commodity contracts intermediation and brokerage	72.50	0.00	0.00	0.00	0.00	0.00	49.00	0.00	0.00	0.00	0.00
277	Other financial investment activities	314.78	0.00	0.00	0.00	0.00	0.00	88.18	0.00	0.00	0.00	0.00
278	Insurance carriers	505.58	0.00	0.00	0.00	17.11	0.00	30.88	-88.23	0.00	0.00	0.00
279	Insurance agencies, brokerages, and related activities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
280	Funds, trusts, and other financial vehicles	253.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281	Housing services	2,041.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
282	Other real estate	16.23	0.00	13.10	0.00	472.26	0.00	17.45	0.00	0.00	0.00	0.00
283	Automotive equipment rental and leasing	285.16	0.00	0.00	0.00	0.00	0.00	12.26	0.00	0.00	0.00	0.00
284	Consumer goods and general rental centers	46.71	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	0.00	0.00
285	Commercial & industrial machinery & equipment rental & leasing	1.85	0.00	0.00	0.00	0.00	0.00	24.04	0.00	0.00	0.00	0.00
286	Lessors of nonfinancial intangible assets	176.13	0.00	0.00	0.00	0.00	0.00	176.13	0.00	0.00	0.00	0.00
287	Legal services	230.40	169.15	0.00	0.00	40.93	0.00	25.01	-4.68	0.00	0.00	0.00
288	Accounting, tax preparation, bookkeeping, and payroll services	25.58	28.15	0.00	0.00	0.00	0.00	2.97	-5.54	0.00	0.00	0.00
289	Architectural, engineering, and related services	716.13	0.00	456.33	0.00	20.00	0.00	449.73	-209.93	0.00	0.00	0.00
290	Specialized design services	39.77	42.08	0.00	0.00	0.00	0.00	0.83	-3.13	0.00	0.00	0.00
291	Custom computer programming services	213.76	0.00	0.00	0.00	0.00	0.00	3.58	-7.26	4.97	12.59	8.41
292	Computer systems design services	14.51	0.00	37.56	0.00	0.00	0.00	30.81	-56.19	2.12	0.00	0.21

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Equipment Investment	Private Nonres Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
293	Other computer related services, including facilities management	3.20	0.00	0.00	0.00	0.00	0.00	15.26	-12.06	0.00	0.00	0.00
294	Management consulting services	1.57	0.00	0.00	0.00	0.00	0.00	105.50	-103.92	0.00	0.00	0.00
295	Environmental and other technical consulting services	0.45	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00
296	Scientific research and development services	1,783.24	21.23	0.00	1,147.44	0.00	0.00	135.97	-83.92	222.92	266.19	73.40
297	Advertising, public relations, and related services	37.65	16.80	0.00	0.00	0.00	0.00	79.95	-59.09	0.00	0.00	0.00
298	All other miscellaneous professional, scientific, & tech services	14.76	0.00	0.00	0.00	0.00	0.00	20.42	-5.66	0.00	0.00	0.00
299	Photographic services	70.77	59.20	0.00	11.31	0.00	0.00	0.57	-0.30	0.00	0.00	0.00
300	Veterinary services	139.03	139.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
301	Management of companies and enterprises	0.83	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.00
302	Office administrative services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
303	Facilities support services	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
304	Employment services	0.75	2.52	0.00	0.00	0.00	0.00	0.51	-2.29	0.00	0.00	0.00
305	Business support services	21.50	22.15	0.00	0.00	0.00	0.00	0.18	-0.84	0.00	0.00	0.00
306	Travel arrangement and reservation services	70.72	62.47	0.00	0.00	0.00	0.00	8.25	0.00	0.00	0.00	0.00
307	Investigation and security services	51.12	51.50	0.00	0.00	0.00	0.00	0.44	-0.81	0.00	0.00	0.00
308	Services to buildings and dwellings	144.43	144.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.00
309	Other support services	10.04	5.90	0.00	0.00	0.00	0.00	4.14	0.00	0.00	0.00	0.00
310	Waste management and remediation services	130.89	131.93	0.00	0.00	0.00	0.00	0.63	-1.66	0.00	0.00	0.00
311	Elementary and secondary schools	187.20	187.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
312	Junior colleges, colleges, universities, and professional schools	1,911.09	1,904.42	0.00	0.00	0.00	0.00	20.73	-14.05	0.00	0.00	0.00
313	Other educational services	246.19	239.85	0.00	0.00	0.00	0.00	6.34	0.00	0.00	0.00	0.00
314	Offices of physicians	4,600.13	4,599.12	0.00	0.00	0.00	0.00	1.02	0.00	0.00	0.00	0.00
315	Offices of dentists	1,020.81	1,020.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
316	Offices of other health practitioners	403.01	403.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
317	Outpatient care centers	923.27	923.23	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
318	Medical and diagnostic laboratories	290.31	290.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	Home health care services	1,413.83	1,413.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	Other ambulatory health care services	1,159.82	1,159.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
321	Hospitals	7,103.42	7,122.08	0.00	0.00	0.00	0.00	8.68	-27.35	0.00	0.00	0.00
322	Nursing and community care facilities	1,574.81	1,574.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
323	Residential mental retardation, health, substance abuse services	242.66	242.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
324	Social assistance, and child day care services	1,183.86	1,183.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
325	Performing arts	113.81	95.79	0.00	11.79	0.00	0.00	8.58	-2.35	0.00	0.00	0.00
326	Spectator sports	45.76	45.74	0.00	0.00	0.00	0.00	0.30	-0.28	0.00	0.00	0.00
327	Museums, historical sites, zoos, and parks	57.65	57.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
328	Amusements, gambling, & recreation activities	1,054.66	1,054.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sector	Plastics Embodied in Final Demand	Personal Consumption Expenditure	Private Durable Equipment Investment	Private Nonres Structures Investment	Private Intellectual Property Investment	Residential Structures	Inventory Change	Exports	Imports	Federal Defense Spending	Federal Non-defense spending	State and Local Spending
329	Accommodation	539.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330	Full-service restaurants	3,364.89	0.00	0.00	0.00	0.00	0.00	15.19	0.00	0.00	0.00	0.00
331	Limited-service restaurants	5,602.17	0.00	0.00	0.00	0.00	0.00	17.58	0.00	0.00	0.00	0.00
332	All other food and drinking places	1,286.00	0.00	0.00	0.00	0.00	0.00	4.77	0.00	0.00	0.00	0.00
333	Automotive repair and maintenance	3,936.10	0.00	0.00	0.00	0.00	0.00	1.36	0.00	0.00	0.00	0.00
334	Electronic and precision equipment repair and maintenance	23.06	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
335	Commercial and industrial machinery and equipment repair & maint	0.09	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
336	Personal and household goods repair and maintenance	140.84	0.00	0.00	0.00	0.00	0.00	0.05	-35.82	0.00	0.00	0.00
337	Personal care services	431.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
338	Death care services	356.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
339	Dry-cleaning and laundry services	55.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
340	Other personal services	351.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
341	Religious, grantmaking, civic & professional organizations	493.67	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.00
342	Private households	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
343	Postal service	16.70	0.00	0.00	0.00	0.00	0.00	0.85	-0.93	0.00	0.00	0.00
344	Other federal government enterprises	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
345	Other state and local government enterprises	828.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
346	Federal general government (defense)	2,783.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,783.24	0.00	0.00
347	Federal general government (nondefense)	1,121.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,121.08	0.00
348	State and local general government	10,017.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10,017.18
349	Scrap	-125.86	1.06	-203.83	0.00	0.00	2.27	174.87	-100.23	0.00	0.00	0.00
350	Used and secondhand goods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
351	Noncomparable imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
352	Rest of the world adjustment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Plastic Products Demand	182,593.36	135,209.59	27,355.83	6,685.87	13,246.59	2,538.46	50,964.87	-78,177.42	4,711.57	2,037.21	16,083.06
	Percent of Total	100.0%	74.0%	15.0%	3.7%	7.3%	1.4%	27.9%	-42.8%	2.6%	1.1%	8.8%

APPENDIX E: FINAL DEMAND AND PLASTICS PRODUCTS CONTENT BY INDUSTRY



APPENDIX E
PLASTIC PRODUCTS CONTENT OF FINAL DEMAND BY INDUSTRY, 2014
(TOTAL VALUE AND CENTS PER DOLLAR OF FINAL DEMAND)

	Millions of Dollars		Cents Per \$
	Final Demand	Plastics Content	of Final Demand
Oilseed farming	24,912.7	111.7	0.4
Grain farming	23,150.7	307.0	1.3
Vegetable and melon farming	23,303.9	79.4	0.3
Fruit and tree nut farming	23,818.2	62.9	0.3
Greenhouse, nursery, and floriculture production	13,694.2	562.2	4.1
Other crop farming	11,219.5	58.0	0.5
Cattle ranching and dairy farming	5,323.3	37.8	0.7
Poultry and egg production	7,610.7	68.9	0.9
Animal production, except cattle and poultry and eggs	5,900.1	15.6	0.3
Forestry and logging	7,454.2	15.8	0.2
Fishing, hunting and trapping	8,912.3	59.7	0.7
Support activities for agriculture and forestry	186.5	1.0	0.5
Crude oil extraction	6,785.0	13.7	0.2
Natural gas extraction	9,822.1	18.2	0.2
Coal mining	9,066.0	61.1	0.7
Iron, gold, silver, and other metal ore mining	3,226.9	24.4	0.8
Copper, nickel, lead, and zinc mining	3,894.5	23.9	0.6
Stone mining and quarrying	101.8	0.5	0.5
Other nonmetallic mineral mining and quarrying	1,703.3	9.4	0.6
Drilling oil and gas wells	90,496.2	162.1	0.2
Other support activities for mining	69,194.9	324.9	0.5
Electric power generation, transmission, and distribution	176,332.3	503.0	0.3
Natural gas distribution	53,796.0	160.7	0.3
Water, sewage and other systems	39,347.9	427.1	1.1
Health care structures	44,436.7	1,181.8	2.7
Manufacturing structures	52,329.2	467.1	0.9
Power and communication structures	113,789.1	1,910.6	1.7
Educational and vocational structures	93,419.3	2,326.2	2.5
Highways and streets	76,958.8	986.7	1.3
Commercial structures, including farm structures	94,519.7	1,821.0	1.9
Other nonresidential structures	140,200.7	2,337.1	1.7
Single-family residential structures	189,584.8	4,771.5	2.5
Multifamily residential structures	38,603.7	603.6	1.6
Other residential structures	175,663.9	7,086.2	4.0
Nonresidential maintenance and repair	113.6	3.0	2.6
Residential maintenance and repair	18.2	0.4	2.2
Dog and cat food	20,749.1	491.1	2.4
Other animal foods	6,402.4	94.0	1.5
Flour milling and malt	7,846.0	133.9	1.7
Wet corn milling	4,150.9	56.4	1.4
Soybean and other oilseed processing	13,494.0	113.2	0.8
Fats and oils refining and blending	6,107.3	131.6	2.2
Breakfast cereal manufacturing	10,023.5	211.3	2.1
Sugar and confectionery products	29,833.1	993.2	3.3
Frozen food manufacturing	26,008.8	623.9	2.4
Fruit and vegetable canning, pickling, and drying	32,997.4	949.7	2.9
Fluid milk and butter	22,762.5	815.5	3.6
Cheese manufacturing	16,315.0	299.1	1.8

	Millions of Dollars		Cents Per \$
	Final Demand	Plastics Content	of Final Demand
Dry, condensed, and evaporated dairy products	11,445.0	353.6	3.1
Ice cream and frozen desserts	2,748.9	89.8	3.3
Animal (except poultry) slaughtering, rendering, and proce	87,587.2	1,243.2	1.4
Poultry processing	35,663.6	1,214.2	3.4
Seafood product preparation and packaging	6,157.9	77.7	1.3
Bread and bakery product manufacturing	45,202.4	826.4	1.8
Cookies, crackers, pasta, and tortillas	24,766.0	622.5	2.5
Snack foods	30,297.3	3,602.6	11.9
Coffee and tea	12,042.2	1,164.0	9.7
Flavoring syrups and concentrates	1,104.0	35.9	3.3
Seasonings and dressings	13,944.2	1,466.3	10.5
All other food	25,563.2	1,129.4	4.4
Soft drinks and ice	41,938.7	6,124.2	14.6
Breweries	32,099.4	351.8	1.1
Wineries	19,040.0	127.8	0.7
Distilleries	13,668.9	313.2	2.3
Tobacco products	66,605.7	163.6	0.2
Fiber, yarn, and thread mills	1,937.4	18.0	0.9
Fabric mills	5,477.5	59.1	1.1
Textile and fabric finishing and fabric coating mills	1,482.0	36.2	2.4
Carpet and rug mills	10,135.1	183.6	1.8
Curtain and linen mills	12,906.9	198.9	1.5
Other textile product mills	7,670.7	147.4	1.9
Apparel	113,074.0	674.3	0.6
Leather and allied products	51,957.3	1,779.4	3.4
Sawmills and wood preservation	4,039.3	21.8	0.5
Veneer, plywood, and engineered wood products	1,717.5	11.8	0.7
Millwork	660.8	12.0	1.8
All other wood products	10,789.1	248.7	2.3
Pulp mills	5,824.0	59.6	1.0
Paper and paperboard mills	27,840.9	388.4	1.4
Paperboard containers	3,247.0	66.1	2.0
Paper bag and coated and treated paper	6,220.1	350.3	5.6
Stationery products	1,944.3	62.7	3.2
Sanitary paper products	7,740.2	180.0	2.3
All other converted paper products	1,120.5	21.5	1.9
Printing	6,844.7	56.6	0.8
Support activities for printing	51.8	0.8	1.5
Petroleum refineries	418,207.3	887.7	0.2
Asphalt products	509.6	4.4	0.9
Other petroleum and coal products	9,322.0	110.8	1.2
Petrochemicals	9,843.6	61.2	0.6
Industrial gas	723.7	6.8	0.9
Synthetic dyes and pigments	3,334.0	32.5	1.0
Other basic inorganic chemicals	16,793.4	333.0	2.0
Other basic organic chemicals	42,281.7	926.6	2.2
Plastics materials and resins	34,070.8	742.1	2.2
Synthetic rubber and artificial and synthetic fibers and fila	7,499.1	111.1	1.5
Fertilizer manufacturing	4,694.1	36.1	0.8
Pesticide and other agricultural chemicals	6,567.4	151.4	2.3
Pharmaceuticals and medicines	253,015.3	2,884.6	1.1

	Millions of Dollars		Cents Per \$
	Final Demand	Plastics Content	of Final Demand
Paint and coating manufacturing	3,178.6	124.2	3.9
Adhesives	3,291.1	138.4	4.2
Soap and cleaning compounds	38,012.3	2,240.6	5.9
Toilet preparations	37,695.2	2,595.2	6.9
Printing ink manufacturing	2,077.7	19.1	0.9
All other chemical products and preparations	12,075.5	269.8	2.2
All Plastic Products	37,284.0	39,352.6	105.5
Tires	19,190.4	502.1	2.6
Rubber and plastics hoses and belting	2,878.4	42.3	1.5
Other rubber products	4,117.4	131.7	3.2
Clay products and refractories	4,606.9	28.0	0.6
Glass and glass products	8,550.2	166.5	1.9
Cement	201.4	0.8	0.4
Ready-mix concrete	208.9	1.5	0.7
Concrete pipes, bricks and blocks	76.6	1.2	1.6
Other concrete products	278.3	9.1	3.3
Lime and gypsum products	354.5	2.0	0.6
Abrasive products	1,787.3	23.5	1.3
Cut stone and stone products	3,678.2	36.9	1.0
Other non-metallic mineral products	2,082.6	48.4	2.3
Primary ferrous metal products	16,886.3	183.2	1.1
Primary aluminum products	1,048.4	9.7	0.9
Aluminum product manufacturing from purchased aluminu	5,115.6	62.0	1.2
Primary smelting and refining of copper	859.9	4.1	0.5
Primary smelting and refining of nonferrous metal (except	8,347.4	72.3	0.9
Copper rolling, drawing, extruding and alloying	3,117.8	21.7	0.7
Nonferrous metal (except copper and aluminum) rolling, d	4,279.0	59.5	1.4
Ferrous metal foundries	1,169.8	10.7	0.9
Nonferrous metal foundries	1,286.4	8.7	0.7
Forging and stamping	1,862.8	20.1	1.1
Cutlery and handtools	8,271.2	192.3	2.3
Plate work and fabricated structural product	2,926.8	31.0	1.1
Ornamental and architectural metal products	1,657.5	23.5	1.4
Power boiler and heat exchanger	4,916.3	55.3	1.1
Metal tank (heavy gauge)	4,601.9	55.7	1.2
Metal can, box, and other metal container (light gauge)	1,418.5	13.0	0.9
Hardware	2,779.7	91.8	3.3
Spring and wire products	1,242.5	25.2	2.0
Machine shops	450.2	7.4	1.6
Turned products and screws, nuts and bolts	3,529.6	35.5	1.0
Coating, engraving, heat treating and allied activities	262.4	2.5	0.9
Metal valves	14,928.2	265.5	1.8
Ball and roller bearings	2,296.6	10.7	0.5
Ammunition, arms, ordnance, and accessories	15,090.5	192.7	1.3
Fabricated pipes and pipe fittings	1,002.5	12.1	1.2
Other fabricated metal products	9,997.1	200.1	2.0
Farm machinery and equipment	32,352.2	795.8	2.5
Lawn and garden equipment	6,958.1	335.0	4.8
Construction machinery	60,130.2	1,161.8	1.9
Mining and oil and gas field machinery	26,544.3	524.9	2.0
Other industrial machinery	27,469.4	577.3	2.1

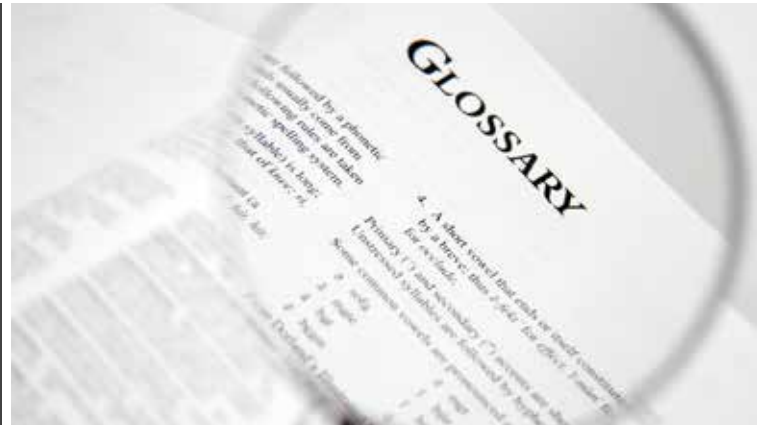
	Millions of Dollars		Cents Per \$
	Final Demand	Plastics Content	of Final Demand
Plastics and rubber industry machinery	6,369.5	69.0	1.1
Semiconductor machinery	17,811.5	346.8	1.9
Vending, commercial, service industry and office machine	13,226.3	288.6	2.2
Optical instruments and lenses	7,932.1	364.7	4.6
Photographic and photocopying equipment	2,838.7	56.9	2.0
Air purification and ventilation equipment	4,587.4	79.8	1.7
Heating equipment (except warm air furnaces)	2,805.5	78.5	2.8
Air conditioning, refrigeration, and warm air heating equip	15,330.2	309.8	2.0
Industrial molds	8,556.9	270.1	3.2
Metal cutting and forming machine tools	12,787.1	159.7	1.2
Special tool, die, jig, and fixtures	10,706.6	151.9	1.4
Cutting and machine tool accessory, rolling mill, and other	5,879.8	95.7	1.6
Turbine and turbine generator set units manufacturing	19,227.1	157.0	0.8
Speed changers and mechanical power transmission equi	4,737.8	44.6	0.9
Other engine equipment manufacturing	16,406.8	424.4	2.6
Pump and pumping equipment manufacturing	16,457.1	422.3	2.6
Air and gas compressor manufacturing	10,685.2	244.1	2.3
Material handling equipment manufacturing	30,238.9	517.8	1.7
Power-driven handtool manufacturing	7,993.3	568.0	7.1
Other general purpose machinery manufacturing	26,536.2	1,133.4	4.3
Packaging machinery manufacturing	7,167.4	98.8	1.4
Industrial process furnace and oven manufacturing	3,126.1	18.3	0.6
Fluid power process machinery	5,067.7	41.3	0.8
Computers	68,979.6	1,677.0	2.4
Computer storage devices	9,084.7	218.7	2.4
Computer terminals and other computer peripherals	28,381.3	1,559.0	5.5
Telephone apparatus	13,882.8	294.8	2.1
Broadcast and wireless communications equipment	59,585.7	601.6	1.0
Other communications equipment	1,605.7	42.1	2.6
Audio and video equipment	44,158.2	1,784.2	4.0
Semiconductors and related devices	28,423.1	455.9	1.6
Other electronic components	15,443.2	291.8	1.9
Electromedical and electrotherapeutic apparatus	34,757.1	925.7	2.7
Search, detection, and navigation instruments	31,897.9	463.6	1.5
Automatic environmental controls	322.6	6.8	2.1
Industrial process variable instruments	12,439.7	295.5	2.4
Totalizing fluid meters and counting devices	3,143.6	144.7	4.6
Electricity and signal testing instruments	11,968.9	152.9	1.3
Analytical laboratory instruments	18,088.7	480.1	2.7
Irradiation apparatus manufacturing	9,177.8	210.6	2.3
Watch, clock, and other measuring and controlling device	15,365.8	262.7	1.7
Manufacturing and reproducing magnetic and optical med	2,021.5	125.7	6.2
Electric lamp bulbs and parts	1,809.9	30.6	1.7
Lighting fixtures	4,479.8	111.4	2.5
Small electrical appliances	12,289.1	407.6	3.3
Household cooking appliances	8,703.3	290.2	3.3
Household refrigerators and home freezers	8,189.5	475.8	5.8
Household laundry equipment	6,055.4	314.7	5.2
Other major household appliances	3,317.9	161.2	4.9
Power, distribution, and specialty transformers	5,798.0	81.5	1.4
Motors and generators	8,758.9	150.0	1.7

	Millions of Dollars		Cents Per \$
	Final Demand	Plastics Content	of Final Demand
Switchgear and switchboard apparatus	6,641.3	127.8	1.9
Relays and industrial controls	6,950.1	90.1	1.3
Storage batteries	5,424.1	219.3	4.0
Primary battery manufacturing	5,331.0	98.2	1.8
Communication and energy wires and cables	6,191.3	73.6	1.2
Wiring devices	3,329.2	44.6	1.3
Carbon and graphite and miscellaneous electrical equipm	15,433.1	332.2	2.2
Automobiles	519,516.7	23,045.7	4.4
Heavy duty trucks	39,673.9	1,400.8	3.5
Motor vehicle bodies	2,923.0	61.5	2.1
Truck trailer manufacturing	9,869.4	201.5	2.0
Motor homes, trailers and campers	11,810.0	455.2	3.9
Motor vehicle parts	72,742.3	2,542.1	3.5
Aircraft	116,095.7	2,304.9	2.0
Aircraft engines and engine parts	31,288.8	306.2	1.0
Other aircraft parts and auxiliary equipment	29,702.0	1,033.4	3.5
Guided missiles and space vehicles	8,885.8	37.7	0.4
Propulsion units and parts for space vehicles and guided	1,780.7	6.1	0.3
Railroad rolling stock	11,715.4	88.2	0.8
Ship building and repairing	16,382.9	450.3	2.7
Boat building	3,988.7	152.1	3.8
Motorcycles, bicycles, and parts	4,234.7	35.6	0.8
Military armored vehicles, tanks, and tank components	4,400.5	54.6	1.2
All other transportation equipment	4,588.7	333.1	7.3
Wood kitchen cabinet and countertops	1,020.3	48.6	4.8
Household and institutional furniture	46,294.5	3,470.2	7.5
Office furniture (including fixtures)	19,623.6	1,046.8	5.3
Mattresses, blinds and shades	11,742.7	1,630.3	13.9
Surgical and medical instruments	33,546.0	1,606.1	4.8
Surgical appliances and supplies	26,437.2	786.5	3.0
Dental equipment and supplies	3,377.6	83.2	2.5
Ophthalmic goods	9,611.1	888.3	9.2
Dental laboratories	-1.0	0.0	0.9
Jewelry and silverware	39,697.1	236.3	0.6
Sporting and athletic goods	15,892.7	602.8	3.8
Dolls, toys, and games	14,806.1	393.5	2.7
Office supplies (except paper)	3,415.0	186.7	5.5
Sign manufacturing	7,854.1	662.7	8.4
All other miscellaneous manufacturing	27,880.9	894.1	3.2
Wholesale trade	831,678.6	5,658.9	0.7
Motor vehicle and parts dealers	166,496.7	1,055.4	0.6
Food and beverage stores	191,734.2	2,296.0	1.2
General merchandise stores	200,492.8	704.5	0.4
Other retail	724,329.2	4,954.6	0.7
Air transportation	145,597.1	394.0	0.3
Rail transportation	26,358.8	64.4	0.2
Water transportation	40,708.0	172.8	0.4
Truck transportation	158,293.5	1,063.6	0.7
Transit and ground passenger transportation	37,972.4	216.9	0.6
Pipeline transportation	4,324.0	32.6	0.8
Scenic and sightseeing transportation and support activities	18,887.8	156.7	0.8

	Millions of Dollars		Cents Per \$
	Final Demand	Plastics Content	of Final Demand
Couriers and messengers	14,151.5	387.5	2.7
Warehousing and storage	5,473.5	22.7	0.4
Newspaper publishers	6,850.7	32.9	0.5
Periodical publishers	12,108.4	76.9	0.6
Book publishers	29,502.8	69.4	0.2
Directory, mailing list, and other publishers	5,874.3	70.8	1.2
Software publishers	139,078.1	361.3	0.3
Motion picture and video industries	81,310.0	217.3	0.3
Sound recording industries	15,276.3	38.4	0.3
Radio and television broadcasting	15,648.7	53.0	0.3
Cable and other subscription programming	16,140.8	139.7	0.9
Wired telecommunications carriers	227,157.6	1,081.8	0.5
Wireless telecommunications carriers (except satellite)	133,407.4	976.0	0.7
Satellite, telecommunications resellers, and all other telec	19,226.5	68.9	0.4
Data processing, hosting, and related services	1,477.8	9.0	0.6
Other information services	27,037.7	71.1	0.3
Monetary authorities and depository credit intermediation	232,274.0	434.5	0.2
Nondepository credit intermediation and related activities	51,297.2	162.1	0.3
Securities and commodity contracts intermediation and br	60,349.2	121.5	0.2
Other financial investment activities	153,766.4	403.0	0.3
Insurance carriers	352,170.0	553.6	0.2
Insurance agencies, brokerages, and related activities	0.0	0.0	#N/A
Funds, trusts, and other financial vehicles	148,572.5	253.2	0.2
Housing services	1,848,189.0	2,041.3	0.1
Other real estate	121,705.5	519.0	0.4
Automotive equipment rental and leasing	50,870.8	297.4	0.6
Consumer goods and general rental centers	27,468.0	49.1	0.2
Commercial and industrial machinery and equipment rent	6,018.2	25.9	0.4
Lessors of nonfinancial intangible assets	64,382.9	176.1	0.3
Legal services	136,506.1	235.1	0.2
Accounting, tax preparation, bookkeeping, and payroll ser	19,986.7	31.1	0.2
Architectural, engineering, and related services	88,155.4	926.1	1.1
Specialized design services	4,075.8	42.9	1.1
Custom computer programming services	268,284.4	221.0	0.1
Computer systems design services	17,029.5	70.7	0.4
Other computer related services, including facilities mana	4,935.7	15.3	0.3
Management consulting services	33,015.1	105.5	0.3
Environmental and other technical consulting services	135.6	0.4	0.3
Scientific research and development services	474,388.4	1,867.2	0.4
Advertising, public relations, and related services	14,705.2	96.7	0.7
All other miscellaneous professional, scientific, and techni	3,910.8	20.4	0.5
Photographic services	8,665.6	71.1	0.8
Veterinary services	25,500.4	139.0	0.5
Management of companies and enterprises	317.4	0.8	0.3
Office administrative services	0.0	0.0	#N/A
Facilities support services	0.0	0.0	#N/A
Employment services	2,349.5	3.0	0.1
Business support services	4,759.8	22.3	0.5
Travel arrangement and reservation services	19,938.8	70.7	0.4
Investigation and security services	9,257.6	51.9	0.6
Services to buildings and dwellings	18,076.2	144.4	0.8

	Millions of Dollars		Cents Per \$
	Final Demand	Plastics Content	of Final Demand
Other support services	622.7	10.0	1.6
Waste management and remediation services	18,298.1	132.6	0.7
Elementary and secondary schools	49,636.4	187.2	0.4
Junior colleges, colleges, universities, and professional sc	233,564.1	1,925.1	0.8
Other educational services	67,984.8	246.2	0.4
Offices of physicians	450,581.9	4,600.1	1.0
Offices of dentists	116,517.4	1,020.8	0.9
Offices of other health practitioners	85,940.8	403.0	0.5
Outpatient care centers	124,000.2	923.3	0.7
Medical and diagnostic laboratories	35,407.9	290.3	0.8
Home health care services	92,345.5	1,413.8	1.5
Other ambulatory health care services	31,410.0	1,159.8	3.7
Hospitals	911,030.5	7,130.8	0.8
Nursing and community care facilities	174,561.1	1,574.8	0.9
Residential mental retardation, mental health, substance a	43,952.8	242.7	0.6
Social assistance, and child day care services	171,796.1	1,183.9	0.7
Performing arts	44,817.4	116.2	0.3
Spectator sports	19,817.9	46.0	0.2
Museums, historical sites, zoos, and parks	14,318.0	57.6	0.4
Amusements, gambling, & recreation activities	176,131.2	1,054.7	0.6
Accommodation	118,258.4	539.3	0.5
Full-service restaurants	219,700.7	3,364.9	1.5
Limited-service restaurants	313,446.3	5,602.2	1.8
All other food and drinking places	81,246.8	1,286.0	1.6
Automotive repair and maintenance	171,645.0	3,936.1	2.3
Electronic and precision equipment repair and maintenanc	4,357.0	23.1	0.5
Commercial and industrial machinery and equipment repa	18.1	0.1	0.5
Personal and household goods repair and maintenance	18,720.6	176.7	0.9
Personal care services	76,751.2	431.5	0.6
Death care services	21,844.5	356.7	1.6
Dry-cleaning and laundry services	13,457.0	55.8	0.4
Other personal services	57,155.5	351.2	0.6
Religious, grantmaking, civic & professional organizations	174,452.1	493.7	0.3
Private households	19,153.1	0.0	0.0
Postal service	9,005.4	17.6	0.2
Other federal government enterprises	0.0	0.0	#N/A
Other state and local government enterprises	66,633.7	828.2	1.2
Federal general government (defense)	618,900.0	2,783.2	0.4
Federal general government (nondefense)	346,300.0	1,121.1	0.3
State and local general government	1,620,400.0	10,017.2	0.6
Scrap	-2,066.0	-25.6	1.2
Used and secondhand goods	5,412.6	0.0	0.0
Noncomparable imports	106,561.6	0.0	0.0
Rest of the world adjustment	28,231.3	0.0	0.0
TOTALS	20,294,098.0	260,770.8	1.3

GLOSSARY



TERM	DESCRIPTION
Activity	Any economic endeavor. Sometimes used interchangeably with the word “operation.”
Capitalized	A “capitalized” input item that is treated, for tax purposes, as a capital good and depreciated. The good, often a piece of plant or equipment, is assumed to have a life greater than one year.
Captive	An operation (or activity) which does not conform with the NAICS code of the establishment in which it is housed. Captive operations usually produce goods that are incorporated in the main product or service produced by the establishment, but not always. Our definition of “captive” includes goods that are manufactured for sale “as is.”
Captive Plastic Products	Plastic products that are produced in captive operations and not in establishments with NAICS 3261 or 325991.
Consumption	The production of a good in a country, plus imports, minus exports. Sometimes called “apparent consumption.” This definition of consumption considers imports and exports of the goods “as is” and does not consider trade in derivative (downstream) products.
Direct	In the context of input-output models, “direct” shipments are made directly to the industry being studied. Direct employment is employment in the shipping industries (See definition of “indirect”). The term “direct requirement” is also used and means the same thing.
Downstream	Industries, or activities, that purchase from, or produce derivative products of, the industry being studied. The industry could be just one step downstream, as plastic products are to plastic resins, or it could be all the way downstream and produce final goods, such as ball-point pens.
Establishment	A contiguous facility where goods or services are produced. Normally this is a plant enclosed by a fence or set of walls. A facility is sometimes split into multiple establishments if distinctly different activities are conducted there.
Expendable	An “expendable” input item that has a short life (normally less than one year) and is expensed for tax purposes. Examples are raw materials and spare parts. (See the definition of “Capitalized.”)
Export Value	The total dollar amount of a good that is exported from a country during a period of time, valued on the Free Alongside Ship (FAS) basis. Freight from the producing location to the loading point is included.
Final Good	A good that is ready to be used, without further processing. The three main categories of final goods are personal consumption, investment and government spending.
Good	A physical quantity, not a service.
Gross Domestic Product (GDP)	Gross Domestic Product -- The broadest measure of the output of goods and services in an economy.
Growth Rate	The compound annual percent growth that would yield the increase that was observed. Unless the word “real” is used, or it is otherwise indicated that the data have been corrected for inflation, the growth rates stated are “nominal,” which means that they have not been corrected for inflation.
HDPE	High density polyethylene.
Indirect	In the context of input-output models, “indirect” shipments are not made directly to the industry being studied, but are made indirectly through other industries. (See definition of “direct”.)

TERM	DESCRIPTION
Industry	A collection of activities within the economy that produce similar products with similar methods. Normally they have a common NAICS code.
INFORUM	Interindustry (input-output) research program at the University of Maryland.
Intermediate Good	A good that is partially processed and is not yet a final good.
Input-Output	A type of computer model that keeps track of the goods moving into, and out of, each industry. The goods can be raw materials, intermediate goods or final goods.
LDPE	Low density polyethylene.
LLDPE	Linear low density polyethylene.
Merchant Market	A market for the exchange of goods or services among “arms length” buyers and sellers. Such a market does not encompass shipments, or transfers, among units of the same organization.
Model	A system of mathematical equations that describes the behavior of some aspect of the economy.
NAICS Code	North American Industrial Classification System code -- a method of categorizing industries or sectors.
NIPA	National Income and Product Accounts. These are the broadest and most comprehensive sets of measures quantifying the output of the economy. “NIPA Account” is often used synonymously with “GDP Account.” NIPA data are developed by the U.S. Bureau of Economic Analysis.
Nominal Growth	Growth in monetary data that have not been corrected for inflation. See definitions of Real Growth and Growth Rate.
Operation	A distinct economic activity, normally occurring within one company.
Plastics Industry	A collection of sectors within the economy that produce, support the production of, or sell plastic products. The sectors include Plastics Manufacturing, Captive Plastics and Wholesale Trade.
Plastics Manufacturing	A collection of manufacturing industries that produce, or support the production of, plastic products. These industries include NAICS codes 325211, 325991, 3261, 3332201 and 33351105.
Plastics Manufacturing and Trade	Everything included in Plastics Manufacturing, plus NAICS 424610, “Wholesale Trade for Plastic Materials & Basic Forms & Shapes.”
Plastic Products	Products made of plastic resins. These include all of the products produced by NAICS 3261 and NAICS 325991.
Plastic Resins	Polymeric materials that are used to make plastic products. They have a NAICS code of 325211.
Plastics	A class of synthetic materials made of thermoplastic or thermoset polymers. Fibers, coatings, adhesives, sealants, thickeners and various low viscosity polymers are not included.
PVC	Polyvinyl chloride.
Real Growth	Growth in economic data that have been corrected for inflation and thus are stated in the dollars of a particular year. Sometimes terms such as “2008 Dollars” or “2008\$” are used to identify real dollar figures.
Resins	See description of Plastic Resins.
Sector	A portion of the economy.
Shipments	The dollar value of goods shipped from a manufacturing or wholesaling establishment.
SIC Code	Standard Industrial Classification Code. An older method of categorizing industries or sectors.
Upstream	Activities that produce raw materials or other goods that are used by the industry being studied.
Value Added	The shipments of an industry or establishment minus the dollar value of raw materials and intermediate goods purchased.
Value of Product Shipments	The value of all shipments of products with a given NAICS code, regardless the NAICS code of the establishment that did the shipping.

TERM

DESCRIPTION

Value of Industry Shipments

The value of all shipments from establishments with a given NAICS code, regardless of the NAICS code of the product.

Wholesale Trade

The activity of consolidating, storing and reselling goods for commercial or industrial customers, without substantially altering the goods. A wholesaler is also sometimes called a “middleman.”

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