



RESEARCH MEMORANDUM

TO: Ohio Arts Council
FROM: Michael C. Carroll, Ph.D., Director
SUBJECT: Measuring Ohio's Creative Economy
DATE: February 4, 2015

Research Statement

The purpose of this memorandum is to identify and measure the annual economic impact created by the “creative industries” in Ohio. The baseline data used in this report is from Federal and State sources such as the Bureau of Labor Statistics, Economic Development Administration, Internal Revenue Service, and the Ohio Department of Development. All of the economic forecasts were based on reported data. No forecasts were begun with an assumed or estimated parameter. The agency information was taken as datum and no attempt was made to verify or audit financial systems and procedures of the data reporting agencies. Every attempt was made to accurately measure and spatially place the relevant, “real” economic impacts. It should be noted that this memorandum contains only openly reported activities and no attempt was made to estimate “off the books” activity.

Michael C. Carroll, Ph.D

The Economic Impact of Ohio's Creative Industries: 2015

EXECUTIVE SUMMARY

The purpose of this study is to demonstrate the economic impact the “creative industries” has on the State of Ohio.

Results in Brief:

- Creative industries contribute more than \$31.8 billion to Ohio's economy annually
- Creative industries support 230,965 jobs in Ohio's economy annually
- Creative industries generate \$1.13 billion in state and local tax revenue annually
- Creative industries generate \$2.25 billion in federal tax revenues annually
- Creative industries generate \$8.6 billion in employee compensation annually
- Creative industries are spread throughout Ohio and are not only present in urban areas

Industries Included:

Much has been written as to which industries should be labeled “creative.” To simplify the analysis and give the study a sense of continuity, the industries selected are those identified by the *Americans for the Arts*. The industries generally fall into six main classifications:

- Museums and Collections;
- Performing Arts;
- Visual Arts/Photography;
- Film, Radio, and Television;
- Design and Publishing;
- Art Schools and Services.

Why is this important?

The creative industries are part of what has become known as the knowledge economy. Knowledge industries rely on investments in human capital rather than physical plant and equipment. Creativity and innovation spur economic growth as advances in and access to new technology become more important than low cost production sites. Manufacturing can be outsourced, but access to new technology is often place dependent.

The Economic Impact of Ohio's Creative Industries: 2015

METHODOLOGY

This section outlines the general methodology used to calculate the economic impact. A brief discussion of the models employed is followed by a description of the pertinent data used in the economic calculations. The primary data which includes industry employment levels and local demographic characteristics is taken from state and national data sources.

General Economic Forecasting Model Specification

This study employed an Input/Output model to make the primary economic forecasts. Input/Output methodology allows the examination of forward and backward linkages that are present in any regional economy. The model measures the total annual economic activity that results from inter- and intra-industry transactions. The model breaks the economy into approximately 523 separate sectors with each sector representing an individual industry. It then uses a sectoring scheme developed by the IMPLAN Group and is closely related to the Bureau of Economic Analysis (BEA) REIS model. The IMPLAN model is an approximate 523 by 523 (row x column) matrix that shows all the economic activity between the individual sectors. The entries in the matrix are based on the dollar amount that each industry sells to (and purchases from) other industries in the Ohio economy. It measures the amount of final consumption by the residents of the region, as well as how much each industry exports from the area. The model uses data collected at the county level, which are obtained from the IMPLAN Group and the BEA. County data is in turn aggregated or “rolled-up” to form service areas such as local areas, states or larger geographic regions such as the Midwest.

Input/Output models estimate economic impacts by taking advantage of the relatively stable patterns in the flow of goods and services within the economy. Predictions can be made of an industry's total economic impact by examining the purchasing patterns of the

individual sectors. The BEA collects extensive data on these regional trade flows and reports their findings annually.

Spatial patterns are then defined through a Geographical Information System (GIS) interface. This GIS interface affords the ability to spatially locate and describe the economic phenomena under consideration. It further allows the forecasting model to accurately describe (+/-30 ft. from a centroid location) the physical location of any economic activity reported. Economic activity, once accurately defined, can be tracked through to its ultimate destination. Any degradation of the economic impact is assumed to be a function of distance decay or information/transportation infrastructure inadequacies.

Primary Data

Once the primary (direct) impact is identified, it is necessary to estimate the ultimate impact on the economy. This study's forecasting model utilizes variables from a variety of national data sets. To reduce potential confusion, a specific definition of the major variables may be of use.

The IMPLAN industry data used was the 2013 (released December 2014) dataset. The base data was then adjusted for inflation using the GDP deflator method for a 2015 model specification. All the multipliers used in the estimates are Type III SAM multipliers.

Industry Output

Industry output represents the value of the industry's total production. Industry output can be thought of as the value of industry sales plus or minus inventory changes. It should be emphasized that industry output is not a measure of an industry's income and therefore, cannot be directly compared to the Gross State Product (GSP) numbers reported by the BEA. The value of industry output is typically higher than GSP. It is a more comprehensive measure and therefore, is a better measure of true economic impacts. The IMPLAN model estimates the industry output data, which is derived from the U.S. Census Bureaus' Economic Census, the Annual Survey of Manufacturers, and the Bureau of Labor Statistics growth model.

Employment

Employment is the total number of full-time wage and salary employees, plus the number of self-employed workers within a particular industry. Part-time workers' hours are aggregated into full-time equivalents (2,080 hours) and reported with the full-time workers. In our process, each year's activity is computed separately so that the employment effects are computed each year.

No single source of employment data is adequate for accurately estimating employment impacts. Due to nondisclosure rules, the employment figure reported by government agencies often underestimates true employment in a given county. In accordance with U.S. Code Title 13, Section 9, no datum is published that would disclose the operations of an individual employer or put an individual employer at an unfair disadvantage. In this study, as we narrow our focus to the county level, the number of firms representing an industry inevitably decreases. It is not uncommon for a single business establishment to be the sole operator in that industry in a particular county. If this is the case, the employment numbers are not disclosed and the employment in that region is understated. Fortunately, it is possible to reconstruct a region's employment by combining data from a variety of sources. Non-disclosure rules require that the individual reporting agency not reveal confidential information. However, other government agencies may report the missing data in another form. For example, the U.S. Department of Labor collects labor data as part of the Unemployment Insurance ES-202 program. These data are for "covered employees" of the Unemployment Insurance Program. Workers not "covered," such as self-employed workers, would not be included in the data. However, "not covered" workers would be included in the employment figures captured by the Department of Census County Business Patterns. By carefully combining the employment figures reported in the ES-202 data set, the County Business Patterns, the REIS data and the Internal Revenue Service Quarterly Payroll File (FICA), a fairly comprehensive employment figure can be reconstructed. The raw data is then "sectored" into the appropriate SICs and in turn, combined into the necessary industry vectors and IMPLAN matrices.

INDUSTRIES SELECTED

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- Museums and Collections;
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- Film, Radio, and Television;
- Design and Publishing;
- Art Schools and Services.

Table 1
Americans for the Arts
Definition of the *Creative Industries*:

Museums and Collections

Museums
Zoos and Botanical
Historical Society
Planetarium

Performing Arts

Music Groups
Orchestras
Composing and Arranging
Recording/Playback Equipment
Recorded Music Sales
Studios
Concert Management
Instruments (manufacturing/distribution)
Professional Companies
Amateur Companies
Dance Companies
Opera Companies
Costume/Scenery Rental
Theatrical Productions
Casting and Booking Agents
Ticket Agencies
Performing Arts Centers
Dance Halls and Studios
Theatrical Equipment

Entertainers

Actors

Visual Arts/Photography

Stone, Clay, and Glass

Jewelry

Stained Glass

Textiles

Home Furnishing Crafts

Artist Studios

Art Galleries

Studios

Commercial Photography

Photo Finishing Labs

Photography Equipment

Retail Stores

Services and Supplies

Film, Radio, and Television

Production

Distribution

Services

Equipment

Theaters

Video Retail

Television Stations

Radio Stations

Producers

Disk Jockeys

Design and Publishing

Architects

Architecture Supplies

Commercial and Industrial

Interior

House

Art Periodicals

Arts Publishing

Books

Book Clubs

Advertising Agencies

Display Products

Schools and Services

Arts Councils

Art Schools

Arts and Crafts Instruction

Dance Schools and Instruction

Music and Drama Schools

Agents and Brokers
Patents and Licensing

The estimates were made using the IMPLAN model and the specific IMPLAN industrial classifications are given below:

IMPLAN Sectors

- Radio and television broadcasting;
- Advertising and related services;
- Specialized design services;
- Architectural services;
- Ornamental and architectural metal work manufacturing;
- Motion picture and video industries;
- Museums;
- Photographic services
- Video Retail
- Sign manufacturing;
- Promoters of performing arts;
- Independent artists, writers, and performers;
- Performing arts companies;
- Sound recording industries;
- Book publishers and newspapers;
- Custom architectural woodwork and millwork;
- Musical instrument manufacturing;
- Cable networks and program distribution;
- Audio and video media reproduction.

RESULTS

The economic impact of the creative industries in Ohio is quite significant. Generating more than \$31.8 billion dollars in economic activity and supporting 230,965 jobs annually. Employee compensation (wages and benefits) of arts related firms totaled \$8.6 billion dollars and proprietors of arts businesses earned \$1.7 billion. Further, the fiscal impacts are also significant. The creative industries generate nearly \$1.13 billion dollars for state and local government and in excess of \$2.25 billion annually for the Federal government. Detailed impacts are included in the table that follows.

Economic Impact by Industry

Sector	Description	Output	Employment
0	Total	\$31,802,208,643	230,965
1	Oilseed farming	\$791,383	1
2	Grain farming	\$3,704,716	20
3	Vegetable and melon farming	\$1,484,025	19
4	Fruit farming	\$339,584	13
5	Tree nut farming	\$27,084	0
6	Greenhouse, nursery, and floriculture production	\$1,778,173	38
7	Tobacco farming	\$1,989	0
8	Cotton farming	\$0	0
9	Sugarcane and sugar beet farming	\$5,999	0
10	All other crop farming	\$1,979,403	37
11	Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$1,669,622	10
12	Dairy cattle and milk production	\$3,639,941	41
13	Poultry and egg production	\$5,200,648	29
14	Animal production, except cattle and poultry and eggs	\$2,895,325	54
15	Forestry, forest products, and timber tract production	\$49,005	0
16	Commercial logging	\$2,067,185	20
17	Commercial fishing	\$178,612	5
18	Commercial hunting and trapping	\$226,277	4
19	Support activities for agriculture and forestry	\$575,306	18
20	Extraction of natural gas and crude petroleum	\$63,951,165	51
21	Extraction of natural gas liquids	\$6,276,393	6
22	Coal mining	\$607,550	1
23	Iron ore mining	\$0	0
24	Gold ore mining	\$0	0
25	Silver ore mining	\$0	0
26	Lead and zinc ore mining	\$0	0
27	Copper ore mining	\$0	0
28	Uranium-radium-vanadium ore mining	\$0	0
29	Other metal ore mining	\$0	0
30	Stone mining and quarrying	\$1,963,092	6
31	Sand and gravel mining	\$940,247	4
32	Other clay, ceramic, refractory minerals mining	\$22,675	0
33	Potash, soda, and borate mineral mining	\$0	0
34	Phosphate rock mining	\$0	0

Economic Impact by Industry

Sector	Description	Output	Employment
35	Other chemical and fertilizer mineral mining	\$81,173	0
36	Other nonmetallic minerals	\$12,330	0
37	Drilling oil and gas wells	\$17,932	0
38	Support activities for oil and gas operations	\$2,613,316	11
39	Metal mining services	\$19,344	0
40	Other nonmetallic minerals services	\$112,317	1
41	Electric power generation - Hydroelectric	\$19,899	0
42	Electric power generation - Fossil fuel	\$94,436,033	48
43	Electric power generation - Nuclear	\$15,962,135	14
44	Electric power generation - Solar	\$0	0
45	Electric power generation - Wind	\$985,570	0
46	Electric power generation - Geothermal	\$79,214	0
47	Electric power generation - Biomass	\$7,430,327	2
48	Electric power generation - All other	\$159,196	0
49	Electric power transmission and distribution	\$191,469,351	141
50	Natural gas distribution	\$27,076,888	37
51	Water, sewage and other systems	\$7,106,335	18
52	Construction of new health care structures	\$0	0
53	Construction of new manufacturing structures	\$0	0
54	Construction of new power and communication structures	\$0	0
55	Construction of new educational and vocational structures	\$0	0
56	Construction of new highways and streets	\$0	0
57	Construction of new commercial structures, including farm structures	\$0	0
58	Construction of other new nonresidential structures	\$0	0
59	Construction of new single-family residential structures	\$0	0
60	Construction of new multifamily residential structures	\$0	0
61	Construction of other new residential structures	\$0	0
62	Maintenance and repair construction of nonresidential structures	\$120,431,621	679
63	Maintenance and repair construction of residential structures	\$59,575,258	311
64	Maintenance and repair construction of highways, streets, bridges, and tunnels	\$0	0

Economic Impact by Industry

Sector	Description	Output	Employment
65	Dog and cat food manufacturing	\$5,507,146	4
66	Other animal food manufacturing	\$5,842,387	4
67	Flour milling	\$1,895,311	1
68	Rice milling	\$0	0
69	Malt manufacturing	\$0	0
70	Wet corn milling	\$2,167,406	1
71	Soybean and other oilseed processing	\$1,487,087	0
72	Fats and oils refining and blending	\$864,971	0
73	Breakfast cereal manufacturing	\$655,196	1
74	Beet sugar manufacturing	\$599,460	1
75	Sugar cane mills and refining	\$77,393	0
76	Nonchocolate confectionery manufacturing	\$487,818	1
77	Chocolate and confectionery manufacturing from cacao beans	\$21,185	0
78	Confectionery manufacturing from purchased chocolate	\$794,463	3
79	Frozen fruits, juices and vegetables manufacturing	\$475,136	1
80	Frozen specialties manufacturing	\$7,782,430	22
81	Canned fruits and vegetables manufacturing	\$4,963,247	9
82	Canned specialties	\$2,997,477	4
83	Dehydrated food products manufacturing	\$0	0
84	Fluid milk manufacturing	\$10,579,250	13
85	Creamery butter manufacturing	\$103,973	0
86	Cheese manufacturing	\$2,781,402	3
87	Dry, condensed, and evaporated dairy product manufacturing	\$9,590,451	6
88	Ice cream and frozen dessert manufacturing	\$1,388,106	3
89	Animal, except poultry, slaughtering	\$2,885,966	5
90	Meat processed from carcasses	\$10,112,261	20
91	Rendering and meat byproduct processing	\$348,187	1
92	Poultry processing	\$6,141,873	23
93	Seafood product preparation and packaging	\$3,984	0
94	Bread and bakery product, except frozen, manufacturing	\$6,605,610	52
95	Frozen cakes and other pastries manufacturing	\$610,796	3
96	Cookie and cracker manufacturing	\$4,190,423	11
97	Dry pasta, mixes, and dough manufacturing	\$1,571,171	3
98	Tortilla manufacturing	\$51,323	0
99	Roasted nuts and peanut butter manufacturing	\$4,048,622	5

Economic Impact by Industry

Sector	Description	Output	Employment
100	Other snack food manufacturing	\$7,539,426	9
101	Coffee and tea manufacturing	\$190,886	0
102	Flavoring syrup and concentrate manufacturing	\$9,664,425	4
103	Mayonnaise, dressing, and sauce manufacturing	\$1,146,287	2
104	Spice and extract manufacturing	\$1,236,836	2
105	All other food manufacturing	\$754,489	2
106	Bottled and canned soft drinks & water	\$34,957,859	41
107	Manufactured ice	\$433,357	3
108	Breweries	\$11,944,385	11
109	Wineries	\$2,590,425	8
110	Distilleries	\$149,303	0
111	Tobacco product manufacturing	\$0	0
112	Fiber, yarn, and thread mills	\$11,291	0
113	Broadwoven fabric mills	\$256,300	1
114	Narrow fabric mills and schiffli machine embroidery	\$38,066	0
115	Nonwoven fabric mills	\$581,989	1
116	Knit fabric mills	\$2,885	0
117	Textile and fabric finishing mills	\$356,482	1
118	Fabric coating mills	\$112,103	0
119	Carpet and rug mills	\$5,051	0
120	Curtain and linen mills	\$336,729	2
121	Textile bag and canvas mills	\$275,845	2
122	Rope, cordage, twine, tire cord and tire fabric mills	\$48,337	0
123	Other textile product mills	\$288,006	2
124	Hosiery and sock mills	\$0	0
125	Other apparel knitting mills	\$0	0
126	Cut and sew apparel contractors	\$39,486	1
127	Men's and boys' cut and sew apparel manufacturing	\$166,230	1
128	Women's and girls' cut and sew apparel manufacturing	\$44,910	0
129	Other cut and sew apparel manufacturing	\$97,660	1
130	Apparel accessories and other apparel manufacturing	\$95,495	1
131	Leather and hide tanning and finishing	\$3,037	0
132	Footwear manufacturing	\$18,285	0
133	Other leather and allied product manufacturing	\$101,945	1

Economic Impact by Industry

Sector	Description	Output	Employment
134	Sawmills	\$6,045,336	25
135	Wood preservation	\$471,636	1
136	Veneer and plywood manufacturing	\$2,333,799	10
137	Engineered wood member and truss manufacturing	\$1,513,994	9
138	Reconstituted wood product manufacturing	\$626,952	1
139	Wood windows and door manufacturing	\$4,835,902	27
140	Cut stock, resawing lumber, and planing	\$1,362,512	8
141	Other millwork, including flooring	\$3,235,240	19
142	Wood container and pallet manufacturing	\$2,271,091	18
143	Manufactured home (mobile home) manufacturing	\$857	0
144	Prefabricated wood building manufacturing	\$105,000	1
145	All other miscellaneous wood product manufacturing	\$1,604,335	10
146	Pulp mills	\$70,463	0
147	Paper mills	\$11,357,686	15
148	Paperboard mills	\$4,076,488	5
149	Paperboard container manufacturing	\$14,783,310	35
150	Paper bag and coated and treated paper manufacturing	\$7,848,436	17
151	Stationery product manufacturing	\$1,286,504	4
152	Sanitary paper product manufacturing	\$2,907,776	4
153	All other converted paper product manufacturing	\$520,932	2
154	Printing	\$177,932,174	1,087
155	Support activities for printing	\$14,470,205	131
156	Petroleum refineries	\$160,780,139	15
157	Asphalt paving mixture and block manufacturing	\$1,672,652	2
158	Asphalt shingle and coating materials manufacturing	\$2,011,254	2
159	Petroleum lubricating oil and grease manufacturing	\$6,831,718	6
160	All other petroleum and coal products manufacturing	\$1,641,879	1
161	Petrochemical manufacturing	\$1,930,358	0
162	Industrial gas manufacturing	\$6,649,021	7
163	Synthetic dye and pigment manufacturing	\$1,571,262	2
164	Other basic inorganic chemical manufacturing	\$1,689,736	2

Economic Impact by Industry

Sector	Description	Output	Employment
165	Other basic organic chemical manufacturing	\$6,751,531	3
166	Plastics material and resin manufacturing	\$4,564,792	3
167	Synthetic rubber manufacturing	\$840,622	1
168	Artificial and synthetic fibers and filaments manufacturing	\$42,194	0
169	Nitrogenous fertilizer manufacturing	\$7,995,124	4
170	Phosphatic fertilizer manufacturing	\$237,634	0
171	Fertilizer mixing	\$1,478,167	2
172	Pesticide and other agricultural chemical manufacturing	\$415,356	0
173	Medicinal and botanical manufacturing	\$4,683	0
174	Pharmaceutical preparation manufacturing	\$17,891,075	13
175	In-vitro diagnostic substance manufacturing	\$278,918	1
176	Biological product (except diagnostic) manufacturing	\$120,352	0
177	Paint and coating manufacturing	\$11,588,056	15
178	Adhesive manufacturing	\$1,654,234	2
179	Soap and other detergent manufacturing	\$9,120,819	6
180	Polish and other sanitation good manufacturing	\$3,209,491	4
181	Surface active agent manufacturing	\$311,062	0
182	Toilet preparation manufacturing	\$4,973,830	6
183	Printing ink manufacturing	\$3,308,485	7
184	Explosives manufacturing	\$77,324	0
185	Custom compounding of purchased resins	\$2,740,637	5
186	Photographic film and chemical manufacturing	\$2,475,816	4
187	Other miscellaneous chemical product manufacturing	\$6,736,624	9
188	Plastics packaging materials and unlaminated film and sheet manufacturing	\$6,542,992	15
189	Unlaminated plastics profile shape manufacturing	\$3,097,233	9
190	Plastics pipe and pipe fitting manufacturing	\$1,933,803	4
191	Laminated plastics plate, sheet (except packaging), and shape manufacturing	\$3,099,495	10
192	Polystyrene foam product manufacturing	\$1,482,312	4
193	Urethane and other foam product (except polystyrene) manufacturing	\$1,829,470	5
194	Plastics bottle manufacturing	\$2,612,938	6
195	Other plastics product manufacturing	\$16,354,881	62
196	Tire manufacturing	\$3,966,855	8

Economic Impact by Industry

Sector	Description	Output	Employment
197	Rubber and plastics hoses and belting manufacturing	\$390,399	1
198	Other rubber product manufacturing	\$2,094,677	7
199	Pottery, ceramics, and plumbing fixture manufacturing	\$320,093	2
200	Brick, tile, and other structural clay product manufacturing	\$1,351,538	5
201	Flat glass manufacturing	\$204,032	1
202	Other pressed and blown glass and glassware manufacturing	\$3,680,216	14
203	Glass container manufacturing	\$1,143,358	3
204	Glass product manufacturing made of purchased glass	\$1,670,220	7
205	Cement manufacturing	\$674,609	1
206	Ready-mix concrete manufacturing	\$4,056,574	13
207	Concrete block and brick manufacturing	\$1,460,382	6
208	Concrete pipe manufacturing	\$66,761	0
209	Other concrete product manufacturing	\$1,597,163	8
210	Lime manufacturing	\$361,689	1
211	Gypsum product manufacturing	\$941,700	2
212	Abrasive product manufacturing	\$3,050,511	9
213	Cut stone and stone product manufacturing	\$912,011	7
214	Ground or treated mineral and earth manufacturing	\$221,056	0
215	Mineral wool manufacturing	\$904,619	2
216	Miscellaneous nonmetallic mineral products manufacturing	\$291,601	1
217	Iron and steel mills and ferroalloy manufacturing	\$22,660,113	20
218	Iron, steel pipe and tube manufacturing from purchased steel	\$3,034,801	6
219	Rolled steel shape manufacturing	\$7,353,821	9
220	Steel wire drawing	\$189,733	1
221	Alumina refining and primary aluminum production	\$542,759	1
222	Secondary smelting and alloying of aluminum	\$202,380	0
223	Aluminum sheet, plate, and foil manufacturing	\$360,162	0
224	extruding	\$794,122	2
225	Nonferrous metal (exc aluminum) smelting and refining	\$93,404	0

Economic Impact by Industry

Sector	Description	Output	Employment
226	Copper rolling, drawing, extruding and alloying	\$440,864	0
227	Nonferrous metal, except copper and aluminum, shaping	\$295,705	1
228	Secondary processing of other nonferrous metals	\$430,472	0
229	Ferrous metal foundries	\$1,024,403	4
230	Nonferrous metal foundries	\$424,729	2
231	Iron and steel forging	\$800,187	2
232	Nonferrous forging	\$354,803	1
233	Custom roll forming	\$2,121,542	6
234	Crown and closure manufacturing and metal stamping	\$2,337,984	10
235	Cutlery, utensil, pot, and pan manufacturing	\$190,212	0
236	Handtool manufacturing	\$242,917	1
237	Prefabricated metal buildings and components manufacturing	\$117,424	0
238	Fabricated structural metal manufacturing	\$1,392,619	5
239	Plate work manufacturing	\$535,736	2
240	Metal window and door manufacturing	\$1,203,170	5
241	Sheet metal work manufacturing	\$1,331,353	6
242	Ornamental and architectural metal work manufacturing	\$326,313,619	1,567
243	Power boiler and heat exchanger manufacturing	\$97,340	0
244	Metal tank (heavy gauge) manufacturing	\$133,647	0
245	Metal cans manufacturing	\$1,751,388	2
246	Metal barrels, drums and pails manufacturing	\$183,989	1
247	Hardware manufacturing	\$1,245,323	4
248	Spring and wire product manufacturing	\$1,342,401	6
249	Machine shops	\$15,623,604	98
250	Turned product and screw, nut, and bolt manufacturing	\$2,378,032	11
251	Metal heat treating	\$2,509,713	8
252	Metal coating and nonprecious engraving	\$4,719,141	18
253	Electroplating, anodizing, and coloring metal	\$3,374,022	23
254	Valve and fittings, other than plumbing, manufacturing	\$1,463,981	4
255	manufacturing	\$923,756	2
256	Ball and roller bearing manufacturing	\$609,649	2

Economic Impact by Industry

Sector	Description	Output	Employment
257	Small arms ammunition manufacturing	\$19,978	0
258	Ammunition, except for small arms, manufacturing	\$22,518	0
259	Small arms, ordnance, and accessories manufacturing	\$50,619	0
260	Fabricated pipe and pipe fitting manufacturing	\$511,148	2
261	Other fabricated metal manufacturing	\$1,791,474	8
262	Farm machinery and equipment manufacturing	\$67,214	0
263	Lawn and garden equipment manufacturing	\$216,307	0
264	Construction machinery manufacturing	\$98,336	0
265	Mining machinery and equipment manufacturing	\$25,159	0
266	Oil and gas field machinery and equipment manufacturing	\$43,273	0
267	Food product machinery manufacturing	\$14,573	0
268	Semiconductor machinery manufacturing	\$27,242	0
269	Sawmill, woodworking, and paper machinery	\$12,237	0
270	Printing machinery and equipment manufacturing	\$193,964	1
271	All other industrial machinery manufacturing	\$87,393	0
272	Optical instrument and lens manufacturing	\$1,990	0
273	Photographic and photocopying equipment manufacturing	\$5,204	0
274	Other commercial service industry machinery manufacturing	\$617,618	2
275	Air purification and ventilation equipment manufacturing	\$127,011	1
276	Heating equipment (except warm air furnaces) manufacturing	\$238,422	1
277	Air conditioning, refrigeration, and warm air heating equipment manufacturing	\$1,133,971	3
278	Industrial mold manufacturing	\$106,009	1
279	Special tool, die, jig, and fixture manufacturing	\$119,352	1
280	Cutting tool and machine tool accessory manufacturing	\$232,997	1
281	Machine tool manufacturing	\$133,880	0
282	Rolling mill and other metalworking machinery manufacturing	\$24,763	0
283	Turbine and turbine generator set units manufacturing	\$6,687	0

Economic Impact by Industry

Sector	Description	Output	Employment
284	Speed changer, industrial high-speed drive, and gear manufacturing	\$77,579	0
285	Mechanical power transmission equipment manufacturing	\$34,882	0
286	Other engine equipment manufacturing	\$107,160	0
287	Pump and pumping equipment manufacturing	\$135,466	0
288	Air and gas compressor manufacturing	\$50,817	0
289	manufacturing	\$2,776	0
290	Elevator and moving stairway manufacturing	\$3,075	0
291	Conveyor and conveying equipment manufacturing	\$112,836	0
292	Overhead cranes, hoists, and monorail systems manufacturing	\$10,794	0
293	Industrial truck, trailer, and stacker manufacturing	\$410,601	1
294	Power-driven handtool manufacturing	\$30,349	0
295	Welding and soldering equipment manufacturing	\$155,756	0
296	Packaging machinery manufacturing	\$40,479	0
297	Industrial process furnace and oven manufacturing	\$10,780	0
298	Fluid power cylinder and actuator manufacturing	\$66,488	0
299	Fluid power pump and motor manufacturing	\$27,268	0
300	Scales, balances, and miscellaneous general purpose machinery manufacturing	\$70,762	0
301	Electronic computer manufacturing	\$83,193	0
302	Computer storage device manufacturing	\$0	0
303	Computer terminals and other computer peripheral equipment manufacturing	\$2,951,002	6
304	Telephone apparatus manufacturing	\$465,493	1
305	Broadcast and wireless communications equipment manufacturing	\$95,474	0
306	Other communications equipment manufacturing	\$470,698	1
307	Audio and video equipment manufacturing	\$64,600	0
308	Bare printed circuit board manufacturing	\$55,402	0
309	Semiconductor and related device manufacturing	\$6,430,996	7

Economic Impact by Industry

Sector	Description	Output	Employment
310	Capacitor, resistor, coil, transformer, and other inductor manufacturing	\$32,583	0
311	Electronic connector manufacturing	\$28,575	0
312	Printed circuit assembly (electronic assembly) manufacturing	\$735,632	3
313	Other electronic component manufacturing	\$130,124	1
314	Electromedical and electrotherapeutic apparatus manufacturing	\$69,103	0
315	Search, detection, and navigation instruments manufacturing	\$4,452	0
316	Automatic environmental control manufacturing	\$58,809	0
317	Industrial process variable instruments manufacturing	\$317,009	1
318	Totalizing fluid meter and counting device manufacturing	\$35,365	0
319	Electricity and signal testing instruments manufacturing	\$3,722	0
320	manufacturing	\$68,172	0
321	Irradiation apparatus manufacturing	\$11,315	0
322	Watch, clock, and other measuring and controlling device manufacturing	\$125,808	0
323	Blank magnetic and optical recording media manufacturing	\$116,124	0
324	Software and other prerecorded and record reproducing	\$80,432,957	265
325	Electric lamp bulb and part manufacturing	\$630,892	2
326	Lighting fixture manufacturing	\$75,375	0
327	Small electrical appliance manufacturing	\$193,244	0
328	Household cooking appliance manufacturing	\$0	0
329	Household refrigerator and home freezer manufacturing	\$79,617	0
330	Household laundry equipment manufacturing	\$296,157	1
331	Other major household appliance manufacturing	\$189,500	0
332	Power, distribution, and specialty transformer manufacturing	\$1,812,337	5
333	Motor and generator manufacturing	\$553,541	1
334	Switchgear and switchboard apparatus manufacturing	\$446,643	1

Economic Impact by Industry

Sector	Description	Output	Employment
335	Relay and industrial control manufacturing	\$684,010	2
336	Storage battery manufacturing	\$305,221	1
337	Primary battery manufacturing	\$339,172	1
338	Fiber optic cable manufacturing	\$76,400	0
339	Other communication and energy wire manufacturing	\$240,994	0
340	Wiring device manufacturing	\$615,923	2
341	Carbon and graphite product manufacturing	\$448,942	1
342	All other miscellaneous electrical equipment and component manufacturing	\$41,180	0
343	Automobile manufacturing	\$3,863,869	2
344	Light truck and utility vehicle manufacturing	\$15,027,803	8
345	Heavy duty truck manufacturing	\$64,875	0
346	Motor vehicle body manufacturing	\$128,745	0
347	Truck trailer manufacturing	\$6,804	0
348	Motor home manufacturing	\$850,334	2
349	Travel trailer and camper manufacturing	\$775,199	3
350	Motor vehicle gasoline engine and engine parts manufacturing	\$1,355,126	2
351	Motor vehicle electrical and electronic equipment manufacturing	\$2,509,759	6
352	Motor vehicle steering, suspension component (except spring), & brake systems manufacturing	\$2,314,373	5
353	Motor vehicle transmission and power train parts manufacturing	\$1,473,862	2
354	Motor vehicle seating and interior trim manufacturing	\$287,037	1
355	Motor vehicle metal stamping	\$517,828	1
356	Other motor vehicle parts manufacturing	\$5,178,105	10
357	Aircraft manufacturing	\$2,858	0
358	Aircraft engine and engine parts manufacturing	\$227,946	0
359	Other aircraft parts and auxiliary equipment manufacturing	\$263,154	1
360	Guided missile and space vehicle manufacturing	\$0	0
361	Propulsion units and parts for space vehicles and guided missiles manufacturing	\$2,204	0
362	Railroad rolling stock manufacturing	\$11,857	0
363	Ship building and repairing	\$637	0

Economic Impact by Industry

Sector	Description	Output	Employment
364	Boat building	\$54,073	0
365	Motorcycle, bicycle, and parts manufacturing	\$92,457	0
366	Military armored vehicle, tank, and tank component manufacturing	\$22,256	0
367	All other transportation equipment manufacturing	\$134,765	0
368	Wood kitchen cabinet and countertop manufacturing	\$2,334,056	17
369	manufacturing	\$336,729	2
370	Nonupholstered wood household furniture manufacturing	\$1,219,365	9
371	Other household nonupholstered furniture manufacturing	\$610,215	2
372	Institutional furniture manufacturing	\$65,893	0
373	Wood office furniture manufacturing	\$10,230	0
374	Custom architectural woodwork and millwork	\$157,554,109	976
375	Office furniture, except wood, manufacturing	\$14,904	0
376	Showcase, partition, shelving, and locker manufacturing	\$3,022,475	16
377	Mattress manufacturing	\$842,903	3
378	Blind and shade manufacturing	\$70,636	0
379	manufacturing	\$579,620	2
380	Surgical appliance and supplies manufacturing	\$2,044,648	8
381	Dental equipment and supplies manufacturing	\$191,168	1
382	Ophthalmic goods manufacturing	\$594,797	3
383	Dental laboratories	\$313,137	4
384	Jewelry and silverware manufacturing	\$208,910	1
385	Sporting and athletic goods manufacturing	\$594,219	3
386	Doll, toy, and game manufacturing	\$1,093,753	3
387	Office supplies (except paper) manufacturing	\$901,898	4
388	Sign manufacturing	\$532,336,564	3,914
389	Gasket, packing, and sealing device manufacturing	\$702,233	4
390	Musical instrument manufacturing	\$78,719,607	585
391	Fasteners, buttons, needles, and pins manufacturing	\$80,042	0
392	Broom, brush, and mop manufacturing	\$1,238,399	5
393	Burial casket manufacturing	\$157,727	1
394	All other miscellaneous manufacturing	\$6,930,711	32
395	Wholesale trade	\$515,409,159	2,340

Economic Impact by Industry

Sector	Description	Output	Employment
396	Retail - Motor vehicle and parts dealers	\$91,224,618	754
397	Retail - Furniture and home furnishings stores	\$23,860,837	247
398	Retail - Electronics and appliance stores	\$17,753,984	313
399	Retail - Building material and garden equipment and supplies stores	\$67,009,085	729
400	Retail - Food and beverage stores	\$99,636,056	1,553
401	Retail - Health and personal care stores	\$48,147,566	609
402	Retail - Gasoline stores	\$33,802,168	477
403	Retail - Clothing and clothing accessories stores	\$50,165,758	603
404	Retail - Sporting goods, hobby, musical instrument and book stores	\$21,119,373	384
405	Retail - General merchandise stores	\$118,157,387	1,717
406	Retail - Miscellaneous store retailers	\$28,687,021	768
407	Retail - Nonstore retailers	\$87,745,130	825
408	Air transportation	\$81,541,295	230
409	Rail transportation	\$13,937,636	43
410	Water transportation	\$4,260,080	6
411	Truck transportation	\$159,811,720	1,069
412	Transit and ground passenger transportation	\$50,278,766	787
413	Pipeline transportation	\$2,470,515	8
414	Scenic and sightseeing transportation and support activities for transportation	\$36,138,160	298
415	Couriers and messengers	\$111,178,760	1,448
416	Warehousing and storage	\$80,430,941	773
417	Newspaper publishers	\$1,477,462,725	11,211
418	Periodical publishers	\$71,752,568	241
419	Book publishers	\$1,644,278,880	3,367
420	Directory, mailing list, and other publishers	\$71,421,657	198
421	Greeting card publishing	\$1,332,267	4
422	Software publishers	\$29,464,018	100
423	Motion picture and video industries	\$1,352,460,863	7,323
424	Sound recording industries	\$189,634,825	279
425	Radio and television broadcasting	\$1,944,017,487	9,151
426	Cable and other subscription programming	\$119,497,725	229
427	Wired telecommunications carriers	\$245,082,897	554
428	Wireless telecommunications carriers (except satellite)	\$75,070,918	91
429	Satellite, telecommunications resellers, and all other telecommunications	\$13,631,072	70

Economic Impact by Industry

Sector	Description	Output	Employment
430	Data processing, hosting, and related services	\$72,993,668	280
431	News syndicates, libraries, archives and all other information services	\$52,517,700	61
432	Internet publishing and broadcasting and web search portals	\$254,993,905	339
433	Monetary authorities and depository credit intermediation	\$377,940,030	1,436
434	Nondepository credit intermediation and related activities	\$124,845,455	778
435	Securities and commodity contracts intermediation and brokerage	\$82,386,378	1,085
436	Other financial investment activities	\$122,920,246	688
437	Insurance carriers	\$460,060,237	1,407
438	Insurance agencies, brokerages, and related activities	\$186,527,550	1,027
439	Funds, trusts, and other financial vehicles	\$34,054,024	286
440	Real estate	\$1,159,731,665	5,723
441	Owner-occupied dwellings	\$814,017,979	0
442	Automotive equipment rental and leasing	\$54,321,925	235
443	General and consumer goods rental except video tapes and discs	\$19,332,857	226
444	Video tape and disc rental	\$213,613,490	1,530
445	Commercial and industrial machinery and equipment rental and leasing	\$91,643,587	339
446	Lessors of nonfinancial intangible assets	\$93,327,772	40
447	Legal services	\$174,312,168	1,214
448	Accounting, tax preparation, bookkeeping, and payroll services	\$155,217,132	1,690
449	Architectural, engineering, and related services	\$1,141,955,349	9,419
450	Specialized design services	\$1,876,650,849	9,909
451	Custom computer programming services	\$40,065,353	248
452	Computer systems design services	\$53,594,159	502
453	Other computer related services, including facilities management	\$80,183,677	582
454	Management consulting services	\$185,448,950	1,416
455	Environmental and other technical consulting services	\$28,821,405	296
456	Scientific research and development services	\$4,026,105	19
457	Advertising, public relations, and related services	\$4,406,924,799	27,242

Economic Impact by Industry

Sector	Description	Output	Employment
458	Photographic services	\$533,458,692	4,075
459	Veterinary services	\$17,698,128	253
460	Marketing research and all other miscellaneous professional, scientific, and technical services	\$141,676,050	587
461	Management of companies and enterprises	\$363,228,162	1,486
462	Office administrative services	\$86,626,997	920
463	Facilities support services	\$18,687,927	104
464	Employment services	\$342,848,574	7,082
465	Business support services	\$68,150,395	1,142
466	Travel arrangement and reservation services	\$18,730,483	122
467	Investigation and security services	\$32,016,998	776
468	Services to buildings	\$75,310,374	1,316
469	Landscape and horticultural services	\$41,428,894	579
470	Other support services	\$42,671,423	489
471	Waste management and remediation services	\$50,286,974	219
472	Elementary and secondary schools	\$30,598,186	789
473	Junior colleges, colleges, universities, and professional schools	\$68,247,978	745
474	Other educational services	\$47,398,513	1,106
475	Offices of physicians	\$210,938,914	1,568
476	Offices of dentists	\$71,211,261	591
477	Offices of other health practitioners	\$63,913,254	500
478	Outpatient care centers	\$69,191,273	487
479	Medical and diagnostic laboratories	\$12,504,132	137
480	Home health care services	\$43,508,429	1,011
481	Other ambulatory health care services	\$18,708,057	226
482	Hospitals	\$430,906,859	3,234
483	Nursing and community care facilities	\$93,828,501	1,536
484	Residential mental retardation, mental health, substance abuse and other facilities	\$22,223,034	481
485	Individual and family services	\$44,012,614	1,086
486	Community food, housing, and other relief services, including rehabilitation services	\$20,785,472	349
487	Child day care services	\$32,334,860	740
488	Performing arts companies	\$683,259,479	11,166
489	Commercial Sports Except Racing	\$217,282,986	2,489
490	Racing and Track Operation	\$1,837,097	60
491	Promoters of performing arts and sports and agents for public figures	\$1,341,940,905	24,779

Economic Impact by Industry

Sector	Description	Output	Employment
492	Independent artists, writers, and performers	\$488,946,573	4,501
493	Museums, historical sites, zoos, and parks	\$520,696,757	6,107
494	Amusement parks and arcades	\$5,532,336	83
495	Gambling industries (except casino hotels)	\$36,217,441	253
496	Other amusement and recreation industries	\$22,897,657	428
497	Fitness and recreational sports centers	\$15,282,271	374
498	Bowling centers	\$2,365,329	56
499	Hotels and motels, including casino hotels	\$57,852,024	674
500	Other accommodations	\$2,634,437	39
501	Full-service restaurants	\$200,849,777	4,261
502	Limited-service restaurants	\$193,165,226	3,599
503	All other food and drinking places	\$116,887,084	1,546
504	Automotive repair and maintenance, except car washes	\$102,086,675	1,223
505	Car washes	\$8,133,540	166
506	Electronic and precision equipment repair and maintenance	\$18,979,005	158
507	Commercial and industrial machinery and equipment repair and maintenance	\$46,614,723	402
508	Personal and household goods repair and maintenance	\$30,607,861	185
509	Personal care services	\$45,631,375	1,062
510	Death care services	\$11,390,738	230
511	Dry-cleaning and laundry services	\$14,728,633	437
512	Other personal services	\$49,535,772	765
513	Religious organizations	\$20,976,488	185
514	Grantmaking, giving, and social advocacy organizations	\$30,496,607	395
515	Business and professional associations	\$33,765,293	397
516	Labor and civic organizations	\$41,886,642	981
517	Private households	\$4,000,556	313
518	Postal service	\$95,908,847	855
519	Federal electric utilities	\$0	0
520	Other federal government enterprises	\$603,051	8
521	State government passenger transit	\$0	0
522	State government electric utilities	\$0	0
523	Other state government enterprises	\$0	0
524	Local government passenger transit	\$34,088,126	361
525	Local government electric utilities	\$10,377,899	18
526	Other local government enterprises	\$98,491,216	351

Economic Impact by Industry

Sector	Description	Output	Employment
527	* Not an industry (Used and secondhand goods)	\$0	0
528	* Not an industry (Scrap)	\$0	0
529	* Not an industry (Rest of world adjustment)	\$0	0
530	* Not an industry (Noncomparable foreign imports)	\$0	0
531	* Employment and payroll of state govt, non-education	\$0	0
532	* Employment and payroll of state govt, education	\$0	0
533	* Employment and payroll of local govt, non-education	\$0	0
534	* Employment and payroll of local govt, education	\$0	0
535	* Employment and payroll of federal govt, non-military	\$0	0
536	* Employment and payroll of federal govt, military	\$0	0