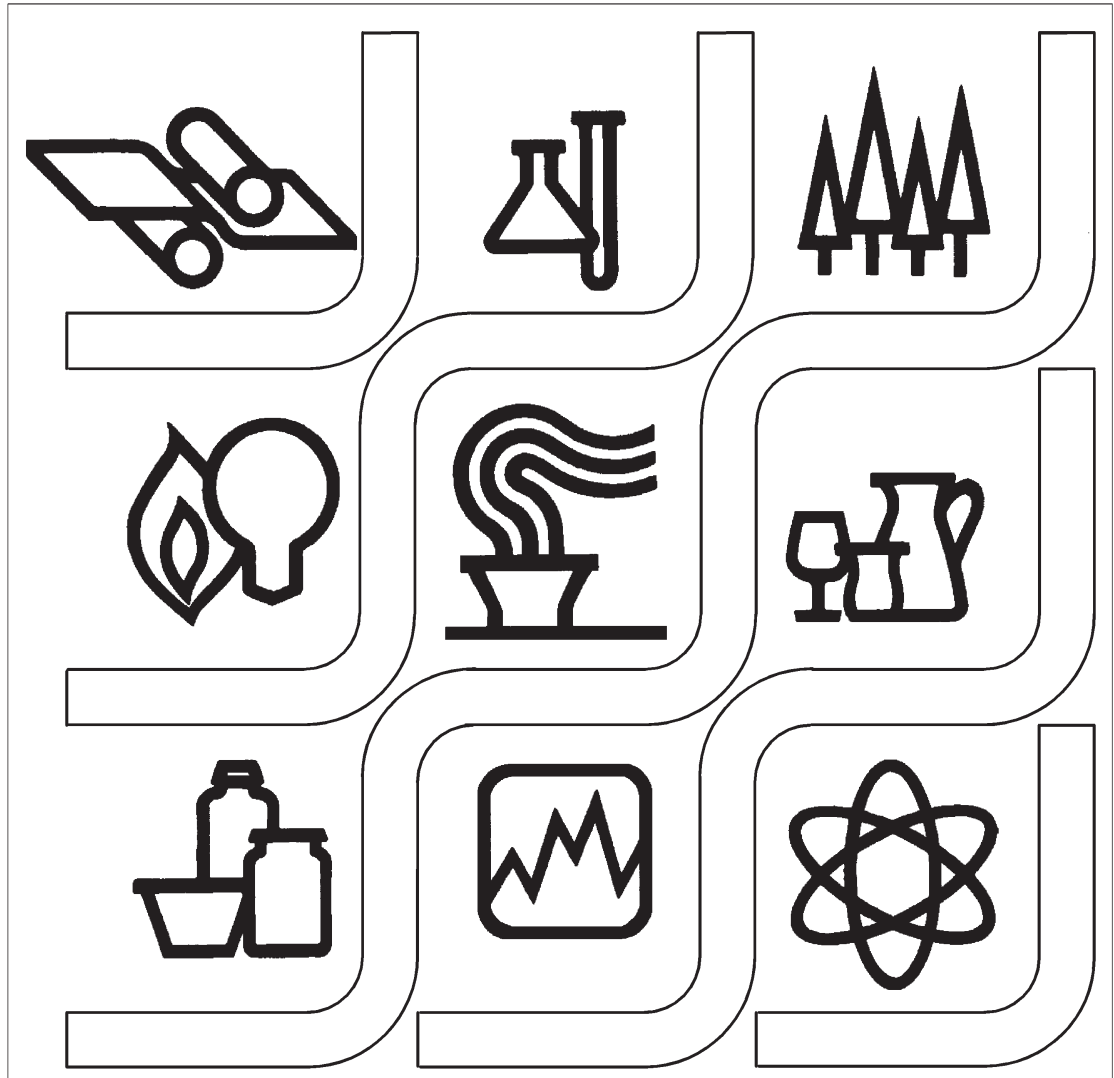


CURRENT INDUSTRIAL REPORTS

Survey of Plant Capacity: 1997

MQ-C1(97)



U.S. Department of Commerce
Economics and Statistics Administration
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Acknowledgments

This report was prepared under the direction of **William K. Mittendorf**, Assistant Division Chief, Manufacturing and Construction Division. Within the Manufacturing and Construction Division, the preparation of this report was performed under the supervision of **Elinor Champion**, Chief, Environment, Technology, and Innovation Branch, and **Ron Taylor**.

Review and analysis of the MQ-C1, Survey of Plant Capacity data were performed by **Mai Weismantle** and **David Gromos** assisted by **Ronald Scarlett**.

The sampling and methodology of the Survey of Plant Capacity were developed under the direction of **Brian Greenburg**, Assistant Division Chief for Research and Methodology. The sample design, estimation, and quality measures were developed by **Gary Kusch** and **Daniel Tulp Jr.**, under the supervision of **Stacey Cole**, Chief, Manufacturing Programs Methodology Branch.

The computer programs used to collect, tabulate and impute the Survey of Plant Capacity data were developed under the direction of **Sarah Baumgardner**, Assistant Division Chief for Economic Surveys, Economic Statistical Methods and Programming Division. The programs were developed by **Steven Potemkin**, and **Alan Bolin** under the supervision of **Francis Bush**, Chief, Current Economic Indicators Branch. The computer system used to analyze and edit the Survey of Plant Capacity data was designed and programmed by **Loi Nguyen** and under the supervision of **James Monahan**, Chief, Statistical Computing Staff.

Lillie M. Skinner coordinated the various phases of the publication process.

The staff of Administrative and Customer Services Division, **Walter C. Odom**, Chief, performed publication planning, design, composition, editorial review, and printing planning and procurement. **Margaret A. Smith** provided publication coordination and editing.

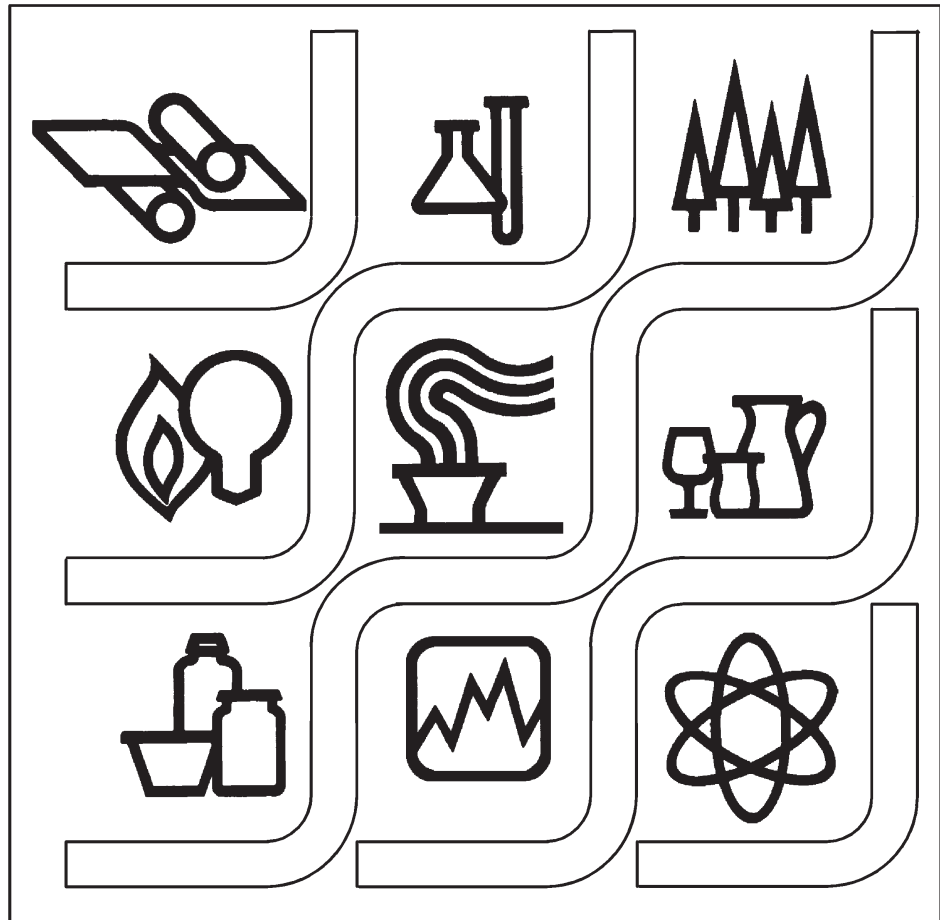
A special acknowledgment is due to the many businesses whose cooperation was essential to the success of this report.

CURRENT INDUSTRIAL REPORTS

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Issued March 1999



U.S. Department of Commerce

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SUGGESTED CITATION

U.S. Bureau of the Census, *Survey of Plant Capacity: 1997*, MQ-C1(97), U.S. Government Printing Office, Washington, DC 1999.

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Introduction

SUMMARY OF 1997 SURVEY RESULTS

U.S. domestic manufacturing plants used an estimated 75 percent (± 1 percentage point) of their full production capacity for the fourth quarter of 1997 and 76 percent (± 1 percentage point) for the fourth quarter of 1996. Durable goods industries in the fourth quarter of 1997 operated at a 1-percent lower rate (± 1 percentage point) than nondurable goods industries with a full production utilization rate of 75 percent compared to 76 percent for nondurable goods industries. Advance processing industries for 1997 operated at a 4-percent lower rate (± 1 percentage point) than primary processing industries with a full production utilization rate of 74 percent compared with 78 percent for primary processing industries. Durable goods industries are manufacturing industries in which products have a normal life expectancy of 3 years or more. Standard Industrial Classification (SIC) major industries 24, 25, 32, 33, 34, 35, 36, 37, 38, and 39 are considered durable goods industries. Nondurable goods industries are manufacturing industries in which products generally have a life expectancy of less than 3 years. SIC major industries 20, 21, 22, 23, 26, 27, 28, 29, 30, and 31 are nondurable goods industries. Primary processing industries are industries in which products are generally the first processed output of raw materials in the manufacturing process. SIC major industries 22, 24, 26, 29, 30, 32, 33, and 34 are classified as the primary processing industries. Advance processing industries are industries in which products are considered finished manufactured items. SIC major industries 20, 21, 23, 25, 27, 31, 35, 36, 37, 38, and 39 are advance processing industries.

Among the major industries with the lowest utilization rates of their full production capacity in the fourth quarter of 1997 were leather and leather products (SIC 31) at 71 percent and instruments and related products (SIC 38) at 72 percent. Among the industries with the highest utilization rates for 1997 were paper and allied products (SIC 26) at 85 percent and primary metal industries (SIC 33) at 84 percent. Full production capacity is broadly defined as the maximum level of production an establishment could attain under normal operating conditions. In this report, the full production utilization rate is a ratio of the actual level of operations to the full production level.

The utilization rates based on the national emergency production level of operations generally follow the trends for full production rates. National emergency production is broadly defined as the greatest level of production an

establishment can expect to sustain for 1 year or more under national emergency conditions. The national emergency production utilization rate is a ratio of the actual level operations to the national emergency production level. Table 1a summarizes full production utilization rates and table 1b summarizes emergency production utilization rates, at two-, three-, and four-digit SIC industry levels, for fourth quarters 1992 through 1997. Table 2 shows both full and emergency production utilization rates, at the two-, three-, and four-digit SIC industry levels, for fourth quarters 1997 and 1996. Estimates are subject to sampling variability and nonsampling error. The range at which estimates are tested in this report is at the 90-percent confidence level. Appendix A contains reproductions of the survey form and instructions; Appendix B describes the qualification of the data; and Appendix C contains a description of the survey sample and estimating procedure.

REVISIONS TO THE SURVEY OF PLANT CAPACITY UTILIZATION

For the 1990 through 1996 surveys, data were collected at 2-year intervals. Beginning with the 1997 survey, data will be collected annually.

The reader should note that the Bureau of the Census used new criteria for defining capacity levels beginning with 1990 Survey of Plant Capacity Utilization. In prior capacity utilization surveys, the Bureau of the Census used preferred level of operation and practical capacity. Preferred level of operation was defined as a level that a plant preferred not to exceed because of costs or other considerations. Implicit in the preferred level was the idea that there was a level of production at which profits for a plant are maximized. At preferred level of operation, a plant's marginal revenue for its operations would equal its marginal costs. Practical capacity was defined as the maximum level of production that a plant could reasonably expect to attain using a realistic employee work schedule and the machinery and equipment in place during the time period covered by the survey.

In developing new definitions of capacity levels for the Survey of Plant Capacity Utilization, the Bureau of the Census sought to improve the consistency of reporting across industries for the survey, and also to make it less difficult for respondents to report estimates of capacity levels in the survey. Due to definitional differences in capacity, care should be taken when comparing the utilization rates from the 1990 through 1997 surveys with

previous Bureau of the Census surveys of plant capacity utilization and other measures of capacity. Other measures of capacity employ different methodologies which may yield different utilization levels.

INDUSTRIAL CLASSIFICATION

Industrial classification definitions from the present back to the 1990 survey will differ from prior years' survey estimates for certain industries. These estimates are classified by revised manufacturing industries definitions described in the 1987 edition of the Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols appear frequently in the tables:

- Represents zero.
- (D) Withheld to avoid disclosing data for individual companies.
- (S) Data suppressed because they did not meet publication standards. This includes data cells with strong evidence of bias or where the level of imputation exceeds 50 percent.
- (X) Not applicable.
- n.e.c. Not elsewhere classified.
- SIC Standard Industrial Classification.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
	All industries	75	76	76	80	78	77
	Durable goods industries	75	74	75	78	76	75
	Nondurable goods industries	76	78	78	82	81	80
	Advanced processing industries	74	75	75	78	77	76
	Primary processing industries	78	79	78	84	82	80
20	Food and kindred products	73	75	75	79	79	78
201	Meat products	84	83	85	86	85	85
2011	Meat packing plants	81	82	85	86	84	86
2013	Sausages and other prepared meats	84	77	79	80	84	80
2015	Poultry slaughtering and processing	87	88	89	89	87	88
202	Dairy products	79	80	78	82	82	78
2021	Creamery butter	88	83	81	75	80	63
2022	Cheese, natural and processed	90	91	92	85	88	83
2023	Dry, condensed, and evaporated dairy products	74	78	78	78	73	77
2024	Ice cream and frozen desserts	72	75	73	75	73	65
2026	Fluid milk	78	77	74	86	86	81
203	Preserved fruits and vegetables	73	75	74	77	79	75
2032	Canned specialties	80	78	77	76	78	87
2033	Canned fruits and vegetables	60	65	64	75	78	70
2034	Dehydrated fruits, vegetables, and soups	69	74	68	80	80	80
2035	Pickles, sauces, and salad dressings	71	72	73	71	72	64
2037	Frozen fruits and vegetables	83	89	90	92	91	70
2038	Frozen specialties, n.e.c.	81	82	80	75	80	87
204	Grain mill products	78	81	79	83	83	82
2041	Flour and other grain mill products	85	87	86	91	89	83
2043	Cereal breakfast foods	81	88	83	84	85	85
2044	Rice milling	83	87	87	95	94	93
2045	Prepared flour mixes and doughs	73	70	68	84	86	74
2046	Wet corn milling	92	95	94	96	96	96
2047	Dog and cat food	79	78	77	83	85	73
2048	Prepared feeds, n.e.c.	66	70	69	69	68	80
205	Bakery products	76	76	77	79	81	80
2051	Bread, cake, and related products	76	82	80	80	83	82
2052	Cookies and crackers	73	67	71	77	77	76
2053	Frozen bakery products, except bread	78	78	82	80	90	87
206	Sugar and confectionery products	71	75	76	77	78	75
2061	Raw cane sugar	96	97	97	94	95	91
2062	Cane sugar refining	83	91	89	78	(D)	(D)
2063	Beet sugar	100	92	93	100	100	82
2064	Candy and other confectionery products	65	71	76	75	78	69
2066	Chocolate and cocoa products	71	77	72	78	79	79
2067	Chewing gum ¹	(X)	(X)	(X)	(X)	(X)	(D)
2068	Salted and roasted nuts and seeds	75	76	66	70	(D)	73
207	Fats and oils	84	80	83	82	81	85
2074	Cottonseed oil mills	94	78	92	95	96	92
2075	Soybean oil mills	97	95	93	87	83	92
2076	Vegetable oil mills, n.e.c.	86	73	84	75	73	96
2077	Animal and marine fats and oils	78	76	73	80	78	86
2079	Edible fats and oils, n.e.c.	75	75	76	74	80	78
208	Beverages	66	70	71	76	73	75
2082	Malt beverages	75	76	76	79	75	84
2083	Malt	99	97	97	100	92	97
2084	Wines, brandy, and brandy spirits	80	73	75	57	56	83
2085	Distilled and blended liquors	65	65	66	76	81	78
2086	Bottled and canned soft drinks	67	71	70	74	72	63
2087	Flavoring extracts and syrups, n.e.c.	51	59	64	83	81	80
209	Miscellaneous food and kindred products	67	67	67	73	72	72
2091	Canned and cured fish and seafoods	62	69	81	70	72	80
2092	Fresh or frozen prepared fish	56	62	63	63	69	73
2095	Roasted coffee	71	66	69	64	60	84
2096	Potato chips and similar snacks	75	75	76	89	83	78
2097	Manufactured ice	31	38	38	(S)	(S)	(S)
2098	Macaroni and spaghetti	95	81	80	84	90	90
2099	Food preparations, n.e.c.	63	63	61	72	72	69
21	Tobacco products	74	78	81	86	83	86
211	Cigarettes	72	77	80	87	83	87
2111	Cigarettes	72	77	80	87	83	87
212	Cigars	86	86	87	73	64	83
2121	Cigars	86	86	87	73	64	83
213	Chewing and smoking tobacco	(D)	(D)	(D)	88	85	89
2131	Chewing and smoking tobacco	(D)	(D)	(D)	88	85	89
214	Tobacco stemming and redrying	86	82	74	75	71	77
2141	Tobacco stemming and redrying	86	82	74	75	71	77
22	Textile mill products	81	81	82	87	85	84
221	Broadwoven fabric mills, cotton	89	88	87	97	97	92
2211	Broadwoven fabric mills, cotton	89	88	87	97	97	92
222	Broadwoven fabric mills, manmade fiber and silk	90	88	89	90	88	92
2221	Broadwoven fabric mills, manmade fiber and silk	90	88	89	90	88	92
223	Broadwoven fabric mills, wool	81	77	78	86	85	80
2231	Broadwoven fabric mills, wool	81	77	78	86	85	80
224	Narrow fabric mills	68	74	71	78	81	93
2241	Narrow fabric mills	68	74	71	78	81	93

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
22	Textile mill products—Con.						
225	Knitting mills	80	79	81	84	81	82
2251	Women's hosiery, except socks	80	83	85	(S)	(S)	82
2252	Hosiery, n.e.c.	91	92	90	85	85	84
2253	Knit outerwear mills	78	76	79	83	83	88
2254	Knit underwear mills	80	78	85	81	63	95
2257	Weft knit fabric mills	72	71	74	86	(S)	74
2258	Lace and warp knit fabric mills	85	84	83	84	81	75
2259	Knitting mills, n.e.c.	(D)	81	76	90	88	79
226	Textile finishing, except wool	81	82	81	88	87	74
2261	Finishing plants, cotton	87	89	87	91	92	66
2262	Finishing plants, manmade	78	79	79	87	85	79
2269	Finishing plants, n.e.c.	78	79	75	87	86	78
227	Carpets and rugs	80	76	78	84	85	82
2273	Carpets and rugs	80	76	78	84	85	82
228	Yarn and thread mills	83	85	81	90	90	86
2281	Yarn spinning mills	82	85	80	92	90	87
2282	Throwing and winding mills	83	88	85	(S)	(S)	87
2284	Thread mills	89	84	85	79	79	82
229	Miscellaneous textile goods	76	78	81	84	84	84
2295	Coated fabrics, not rubberized	84	79	81	83	82	76
2296	Tire cord and fabrics	81	93	91	92	91	93
2297	Nonwoven fabrics	71	74	79	84	83	87
2298	Cordage and twine	74	70	74	77	80	80
2299	Textile goods, n.e.c.	77	85	83	85	84	82
23	Apparel and other textile products	77	80	79	85	86	85
231	Men's and boys' suits and coats	75	82	80	76	75	85
2311	Men's and boys' suits and coats	75	82	80	76	75	85
232	Men's and boys' furnishings	73	79	84	90	87	90
2321	Men's and boys' shirts	80	78	79	89	88	92
2322	Men's and boys' underwear and nightwear	79	85	86	86	67	96
2323	Men's and boys' neckwear	82	78	78	65	73	86
2325	Men's and boys' trousers and slacks	67	78	92	98	93	90
2326	Men's and boys' work clothing	78	84	85	87	75	94
2329	Men's and boys' clothing, n.e.c.	77	77	75	84	85	86
233	Women's and misses' outerwear	78	81	81	86	89	85
2331	Women's, misses', and juniors' blouses and shirts	79	81	86	95	95	77
2335	Women's, misses', and juniors' dresses	83	84	84	83	87	82
2337	Women's, misses', and juniors' suits and coats	74	85	83	(S)	(S)	92
2339	Women's, misses', and juniors' outerwear, n.e.c.	76	78	76	91	92	92
234	Women's and children's undergarments	83	88	80	89	90	90
2341	Women's and children's underwear	94	95	92	90	92	90
2342	Brassieres, girdles, and allied garments	73	81	70	88	88	88
235	Hats, caps, and millinery	75	78	76	87	86	85
2353	Hats, caps, and millinery	75	78	76	87	86	85
236	Girls' and children's outerwear	76	87	86	86	89	83
2361	Girls' and children's dresses and blouses	75	83	83	78	84	89
2369	Girls' and children's outerwear, n.e.c.	77	89	88	91	93	77
237	Fur goods	91	95	91	(S)	(S)	95
2371	Fur goods	91	95	91	(S)	(S)	95
238	Miscellaneous apparel and accessories	73	73	74	72	78	80
2381	Fabric dress and work gloves	70	73	82	82	84	86
2384	Robes and dressing gowns	75	73	75	(S)	(S)	90
2385	Waterproof outerwear	77	72	76	(S)	92	93
2386	Leather and sheep-lined clothing	79	84	100	85	88	89
2387	Apparel belts	80	67	78	62	64	68
2389	Apparel and accessories, n.e.c.	68	75	65	85	91	82
239	Miscellaneous fabricated textile products	78	78	74	83	83	78
2391	Curtains and draperies	70	79	75	81	83	81
2392	Housefurnishings, n.e.c.	84	81	74	83	88	80
2393	Textile bags	65	71	60	73	75	73
2394	Canvas and related products	65	60	62	60	60	80
2395	Pleating and stitching	69	66	61	(S)	(S)	75
2396	Automotive and apparel trimmings	78	83	78	87	89	81
2397	Schiffli machine embroideries	64	83	86	85	90	81
2399	Fabricated textile products, n.e.c.	82	79	75	88	79	72
24	Lumber and wood products	75	78	77	80	81	80
241	Logging	93	92	89	(S)	(S)	91
2411	Logging	93	92	89	(S)	(S)	91
242	Sawmills and planing mills	76	77	73	79	82	85
2421	Sawmills and planing mills, general	76	77	73	78	81	87
2426	Hardwood dimension and flooring mills	79	76	73	85	87	78
2429	Special product sawmills, n.e.c.	38	59	68	77	59	59
243	Millwork, plywood, and structural members	69	78	77	78	79	75
2431	Millwork	61	74	69	71	71	68
2434	Wood kitchen cabinets	72	78	79	87	89	81
2435	Hardwood veneer and plywood	84	83	81	86	85	85
2436	Softwood veneer and plywood	84	86	95	95	92	87
2439	Structural wood members, n.e.c.	72	77	74	66	66	65
244	Wood containers	79	74	77	73	70	83
2441	Nailed wood boxes and shook	65	57	56	61	58	73
2448	Wood pallets and skids	86	80	83	74	71	87
2449	Wood containers, n.e.c.	62	69	74	86	79	80

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
24	Lumber and wood products—Con.						
245	Wood buildings and mobile homes	77	75	79	81	80	76
2451	Mobile homes	77	74	80	83	81	82
2452	Prefabricated wood buildings	74	78	77	79	77	68
249	Miscellaneous wood products	74	75	74	85	79	74
2491	Wood preserving	62	65	67	80	86	70
2493	Reconstituted wood products	82	86	88	92	92	87
2499	Wood products, n.e.c.	72	68	64	78	68	68
25	Furniture and fixtures	77	75	74	81	80	77
251	Household furniture	77	78	78	86	83	83
2511	Wood household furniture	82	83	79	87	84	85
2512	Upholstered household furniture	78	79	83	87	86	88
2514	Metal household furniture	71	69	62	87	82	72
2515	Mattresses and bedsprings	71	70	73	80	77	84
2517	Wood television and radio cabinets	59	68	86	66	63	64
2519	Household furniture, n.e.c.	75	86	84	82	82	86
252	Office furniture	79	71	69	72	74	71
2521	Wood office furniture	80	69	67	65	71	76
2522	Office furniture, except wood	78	71	70	75	74	70
253	Public building and related furniture	79	87	81	85	84	76
2531	Public building and related furniture	79	87	81	85	84	76
254	Partitions and fixtures	74	71	70	82	83	69
2541	Wood partitions and fixtures	71	68	67	79	83	70
2542	Partitions and fixtures, except wood	76	75	74	85	84	68
259	Miscellaneous furniture and fixtures	74	73	72	80	78	78
2591	Drapery hardware and blinds and shades	85	77	74	86	83	79
2599	Furniture and fixtures, n.e.c.	69	71	70	77	75	78
26	Paper and allied products	85	85	85	87	86	84
261	Pulp mills	94	92	90	97	92	91
2611	Pulp mills	94	92	90	97	92	91
262	Paper mills	94	91	92	98	98	93
2621	Paper mills	94	91	92	98	98	93
263	Paperboard mills	96	95	91	99	97	96
2631	Paperboard mills	96	95	91	99	97	96
265	Paperboard containers and boxes	77	77	78	81	79	84
2652	Setup paperboard boxes	72	75	75	77	78	86
2653	Corrugated and solid fiber boxes	78	78	80	82	78	88
2655	Fiber cans, drums, and similar products	76	78	76	77	77	85
2656	Sanitary food containers	72	69	69	80	81	75
2657	Folding paperboard boxes	76	76	78	82	81	81
267	Miscellaneous converted paper products	80	82	82	81	81	75
2671	Paper coated and laminated, packaging	80	82	80	79	79	78
2672	Paper coated and laminated, n.e.c.	87	90	87	79	75	79
2673	Bags plastics, laminated, and coated	80	82	83	70	68	78
2674	Bags uncoated paper and multiwall	81	80	84	90	87	77
2675	Die-cut paper and board	58	64	65	47	49	63
2676	Sanitary paper products	84	84	88	91	92	71
2677	Envelopes	79	76	78	88	90	89
2678	Stationery products	65	71	70	80	76	79
2679	Converted paper products, n.e.c.	72	77	73	90	91	82
27	Printing and publishing	77	81	81	83	83	82
271	Newspapers	77	83	84	78	83	84
2711	Newspapers	77	83	84	78	83	84
272	Periodicals	79	88	92	(S)	(S)	84
2721	Periodicals	79	88	92	(S)	(S)	84
273	Books	88	83	81	86	84	89
2731	Book publishing	89	83	80	(S)	(S)	91
2732	Book printing	83	85	86	87	87	80
274	Miscellaneous publishing	68	77	77	(S)	(S)	64
2741	Miscellaneous publishing	68	77	77	(S)	(S)	64
275	Commercial printing	77	78	80	83	83	84
2752	Commercial printing, lithographic	76	77	79	83	83	84
2754	Commercial printing, gravure	91	90	92	(S)	(S)	93
2759	Commercial printing, n.e.c.	76	81	83	84	82	82
276	Manifold business forms	65	70	73	79	78	79
2761	Manifold business forms	65	70	73	79	78	79
277	Greeting cards	70	75	75	80	73	79
2771	Greeting cards	70	75	75	80	73	79
278	Blankbooks and bookbinding	69	73	72	74	74	74
2782	Blankbooks and looseleaf binders	74	77	74	73	72	70
2789	Bookbinding and related work	58	65	68	77	77	87
279	Printing trade services	73	75	76	81	81	81
2791	Typesetting	73	78	81	(S)	75	81
2796	Platemaking services	73	74	74	82	84	82
28	Chemicals and allied products	75	75	73	78	78	78
281	Industrial inorganic chemicals	81	82	82	83	78	80
2812	Alkalies and chlorine	88	86	86	96	96	96
2813	Industrial gases	84	86	90	69	63	73
2816	Inorganic pigments	95	93	90	87	88	91
2819	Industrial inorganic chemicals, n.e.c.	78	79	78	85	80	79

See footnotes at end of table.

4 SURVEY OF PLANT CAPACITY

CURRENT INDUSTRIAL REPORTS

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
28	Chemicals and allied products—Con.						
282	Plastics materials and synthetics	89	86	86	87	85	86
2821	Plastics materials and resins	89	83	84	86	84	88
2822	Synthetic rubber	81	87	89	91	84	82
2823	Cellulosic manmade fibers	(D)	(D)	(D)	73	75	80
2824	Organic fibers, noncellulosic	92	92	89	91	88	86
283	Drugs	71	70	68	70	72	76
2833	Medicinals and botanicals	87	84	90	80	89	86
2834	Pharmaceutical preparations	69	67	63	67	70	74
2835	Diagnostic substances	76	72	74	73	70	90
2836	Biological products, except diagnostic	72	86	99	94	97	95
284	Soaps, cleaners, and toilet goods	66	67	63	78	75	72
2841	Soap and other detergents	66	58	57	72	70	74
2842	Polishes and sanitation goods	60	69	57	76	75	68
2843	Surface active agents	79	79	78	82	71	85
2844	Toilet preparations	67	72	68	82	78	70
285	Paints and allied products	66	69	68	69	67	75
2851	Paints and allied products	66	69	68	69	67	75
286	Industrial organic chemicals	79	85	84	89	90	82
2861	Gum and wood chemicals	90	90	81	73	65	84
2865	Cyclic crudes and intermediates	82	85	84	88	86	89
2869	Industrial organic chemicals, n.e.c.	78	84	84	89	91	81
287	Agricultural chemicals	87	91	87	88	84	82
2873	Nitrogenous fertilizers	92	96	97	93	90	92
2874	Phosphatic fertilizers	94	98	99	87	84	94
2875	Fertilizers, mixing only	50	71	70	77	77	56
2879	Agricultural chemicals, n.e.c.	90	90	83	88	83	80
289	Miscellaneous chemical products	71	73	72	82	83	79
2891	Adhesives and sealants	67	71	71	82	78	75
2892	Explosives	72	71	75	78	81	72
2893	Printing ink	66	72	64	77	79	79
2895	Carbon black	94	92	96	99	98	88
2899	Chemical preparations, n.e.c.	72	72	73	82	86	83
29	Petroleum and coal products	83	83	80	89	87	87
291	Petroleum refining	91	90	88	95	93	93
2911	Petroleum refining	91	90	88	95	93	93
295	Asphalt paving and roofing materials	55	57	53	70	70	61
2951	Asphalt paving mixtures and blocks	47	49	44	62	64	50
2952	Asphalt felts and coatings	68	73	70	80	78	79
299	Miscellaneous petroleum and coal products	69	66	65	69	71	73
2992	Lubricating oils and greases	66	63	61	66	68	69
2999	Petroleum and coal products, n.e.c.	87	83	85	89	90	90
30	Rubber and miscellaneous plastics products	75	79	78	85	83	78
301	Tires and inner tubes	90	92	92	94	92	94
3011	Tires and inner tubes	90	92	92	94	92	94
302	Rubber and plastics footwear	76	71	74	73	84	79
3021	Rubber and plastics footwear	76	71	74	73	84	79
305	Hose and belting and gaskets and packing	76	76	76	80	83	80
3052	Rubber and plastics hose and belting	79	76	78	87	80	77
3053	Gaskets, packing, and sealing devices	74	75	75	76	84	82
306	Fabricated rubber products, n.e.c.	74	76	74	76	76	80
3061	Mechanical rubber goods	80	77	73	63	69	74
3069	Fabricated rubber products, n.e.c.	69	75	75	89	83	85
308	Miscellaneous plastics products, n.e.c.	73	78	77	86	83	76
3081	Unsupported plastics film and sheet	78	84	83	88	90	80
3082	Unsupported plastics profile shapes	75	81	81	89	89	79
3083	Laminated plastics plate, sheet, and profile shapes	80	85	79	89	85	82
3084	Plastics pipe	82	88	86	88	89	79
3085	Plastics bottles	81	85	83	89	88	85
3086	Plastics foam products	71	72	73	79	78	80
3087	Custom compounding of purchased plastics resins	69	75	75	85	80	72
3088	Plastics plumbing fixtures	74	72	74	69	63	66
3089	Plastics products, n.e.c.	72	77	76	87	82	73
31	Leather and leather products	71	75	76	78	77	81
311	Leather tanning and finishing	73	78	75	83	78	73
3111	Leather tanning and finishing	73	78	75	83	78	73
313	Footwear cut stock	70	77	67	69	77	88
3131	Footwear cut stock	70	77	67	69	77	88
314	Footwear, except rubber	74	74	81	80	79	81
3142	House slippers	66	73	76	81	76	72
3143	Men's footwear, except athletic	74	70	79	76	78	85
3144	Women's footwear, except athletic	73	84	86	86	83	87
3149	Footwear, except rubber, n.e.c.	76	78	80	89	82	(S)
315	Leather gloves and mittens	68	72	74	87	88	68
3151	Leather gloves and mittens	68	72	74	87	88	68
316	Luggage	65	71	73	64	61	80
3161	Luggage	65	71	73	64	61	80
317	Handbags and personal leather goods	68	76	63	88	90	89
3171	Women's handbags and purses	63	79	72	89	(S)	96
3172	Personal leather goods, n.e.c.	73	73	57	88	91	79

See footnotes at end of table.

Table 1a. **Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.**

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
31	Leather and leather products—Con.						
319	Leather goods, n.e.c.	67	75	76	77	77	85
3199	Leather goods, n.e.c.	67	75	76	77	77	85
32	Stone, clay, and glass products	78	78	78	81	78	77
321	Flat glass	91	87	86	99	98	94
3211	Flat glass	91	87	86	99	98	94
322	Glass and glassware, pressed or blown	90	87	91	93	90	90
3221	Glass containers	94	90	90	93	93	94
3229	Pressed and blown glass, n.e.c.	87	86	92	93	88	86
323	Products of purchased glass	74	77	77	84	81	77
3231	Products of purchased glass	74	77	77	84	81	77
324	Cement, hydraulic	92	86	86	97	91	83
3241	Cement, hydraulic	92	86	86	97	91	83
325	Structural clay products	72	78	75	87	83	78
3251	Brick and structural clay tile	92	87	83	89	83	79
3253	Ceramic wall and floor tile	75	83	77	95	95	87
3255	Clay refractories	49	61	63	80	75	70
3259	Structural clay products, n.e.c.	71	64	68	69	64	77
326	Pottery and related products	75	77	80	82	80	79
3261	Vitreous plumbing fixtures	82	86	83	97	92	82
3262	Vitreous china table and kitchenware	93	85	90	90	87	83
3263	Semivitreous table and kitchenware	76	83	86	86	83	83
3264	Porcelain electrical supplies	68	69	76	69	68	77
3269	Pottery products, n.e.c.	71	77	77	80	79	76
327	Concrete, gypsum, and plaster products	74	72	70	69	66	67
3271	Concrete block and brick	71	77	80	81	72	78
3272	Concrete products, n.e.c.	74	74	73	81	82	65
3273	Ready-mixed concrete	70	65	62	58	55	64
3274	Lime	84	81	81	89	81	83
3275	Gypsum products	95	96	94	95	91	83
328	Cut stone and stone products	73	76	77	80	79	76
3281	Cut stone and stone products	73	76	77	80	79	76
329	Miscellaneous nonmetallic mineral products	79	81	81	84	82	83
3291	Abrasive products	71	74	73	84	84	83
3292	Asbestos products	(X)	(X)	(X)	74	(D)	84
3295	Minerals, ground or treated	76	80	82	82	79	80
3296	Mineral wool	91	91	90	88	87	91
3297	Nonclay refractories	78	82	81	75	71	75
3299	Nonmetallic mineral products, n.e.c.	82	81	80	82	(D)	74
33	Primary metal industries	84	84	84	87	83	80
331	Blast furnace and basic steel products	86	85	85	90	86	83
3312	Blast furnaces and steel mills	89	87	88	92	87	84
3313	Electrometallurgical products	82	80	81	78	81	82
3315	Steel wire and related products	79	81	79	86	86	83
3316	Cold finishing of steel shapes	82	77	79	85	82	81
3317	Steel pipe and tubes	73	78	79	87	82	80
332	Iron and steel foundries	80	81	81	81	75	72
3321	Gray and ductile iron foundries	82	83	85	84	78	72
3322	Malleable iron foundries	86	84	82	88	83	76
3324	Steel investment foundries	73	75	72	72	66	72
3325	Steel foundries, n.e.c.	81	80	80	79	75	69
333	Primary nonferrous metals	89	87	87	88	84	93
3331	Primary copper	92	88	86	92	86	96
3334	Primary aluminum	87	88	88	85	84	99
3339	Primary nonferrous metals, n.e.c.	88	84	88	86	83	81
334	Secondary nonferrous metals	84	86	87	89	88	85
3341	Secondary nonferrous metals	84	86	87	89	88	85
335	Nonferrous rolling and drawing	85	85	84	85	83	81
3351	Copper rolling and drawing	91	92	91	91	86	84
3353	Aluminum sheet, plate, and foil	91	89	86	91	81	88
3354	Aluminum extruded products	85	83	83	84	76	76
3355	Aluminum rolling and drawing, n.e.c.	82	80	85	89	(D)	(D)
3356	Nonferrous rolling and drawing, n.e.c.	75	76	72	81	(D)	(D)
3357	Nonferrous wire drawing and insulating	84	85	86	82	89	80
336	Nonferrous foundries (castings)	77	78	78	82	80	72
3363	Aluminum die-castings	79	77	81	85	83	77
3364	Nonferrous die-castings, except aluminum	72	82	79	83	79	74
3365	Aluminum foundries	75	78	76	77	75	71
3366	Copper foundries	69	76	75	83	81	80
3369	Nonferrous foundries, n.e.c.	86	81	76	83	83	(S)
339	Miscellaneous primary metal products	80	79	77	82	81	66
3398	Metal heat treating	80	79	74	83	77	64
3399	Primary metal products, n.e.c.	80	79	81	81	86	69
34	Fabricated metal products	74	74	73	79	78	74
341	Metal cans and shipping containers	84	85	81	87	86	82
3411	Metal cans	86	87	82	89	88	82
3412	Metal barrels, drums, and pails	66	73	72	75	74	84
342	Cutlery, handtools, and hardware	75	77	76	85	83	82
3421	Cutlery	86	90	89	90	92	93
3423	Hand and edge tools, n.e.c.	71	72	74	81	76	77
3425	Saw blades and handsaws	77	81	75	86	84	82
3429	Hardware, n.e.c.	74	76	75	86	86	82

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
34	Fabricated metal products—Con.						
343	Plumbing and heating, except electric	72	71	70	80	77	68
3431	Metal sanitary ware	71	75	75	89	89	79
3432	Plumbing fixture fittings and trim	73	71	70	75	74	74
3433	Heating equipment, except electric	71	71	68	84	81	59
344	Fabricated structural metal products	72	73	71	75	75	71
3441	Fabricated structural metal	80	78	70	71	68	72
3442	Metal doors, sash, and trim	67	74	71	78	78	77
3443	Fabricated plate work (boiler shops)	73	71	72	77	82	73
3444	Sheet metal work	66	69	70	76	74	63
3446	Architectural metal work	72	73	72	72	73	76
3448	Prefabricated metal buildings	77	75	77	79	78	80
3449	Miscellaneous metal work	75	76	74	71	69	69
345	Screw machine products, bolts, etc.	75	73	74	82	80	77
3451	Screw machine products	72	69	70	80	79	77
3452	Bolts, nuts, rivets, and washers	78	77	79	84	81	77
346	Metal forgings and stampings	75	74	73	80	78	76
3462	Iron and steel forgings	83	78	70	73	73	60
3463	Nonferrous forgings	82	81	81	79	77	73
3465	Automotive stampings	81	73	75	87	88	87
3466	Crowns and closures	70	76	73	78	80	83
3469	Metal stampings, n.e.c.	66	74	71	73	69	71
347	Metal services, n.e.c.	73	73	72	80	77	72
3471	Plating and polishing	72	72	71	84	79	73
3479	Metal coating and allied services	75	74	74	76	74	72
348	Ordnance and accessories, n.e.c.	70	61	61	69	67	65
3482	Small arms ammunition	66	67	68	58	52	56
3483	Ammunition, except for small arms, n.e.c.	57	52	49	66	61	69
3484	Small arms	73	71	84	91	87	88
3489	Ordnance and accessories, n.e.c.	86	59	57	67	76	56
349	Miscellaneous fabricated metal products	75	75	75	78	78	76
3491	Industrial valves	76	73	74	77	82	72
3492	Fluid power valves and hose fittings	78	77	77	81	78	81
3493	Steel springs, except wire	69	60	67	72	68	64
3494	Valves and pipe fittings, n.e.c.	70	71	68	86	85	68
3495	Wire springs	78	80	80	84	84	81
3496	Miscellaneous fabricated wire products	68	72	72	83	82	77
3497	Metal foil and leaf	89	87	86	70	83	85
3498	Fabricated pipe and fittings	73	76	76	78	75	68
3499	Fabricated metal products, n.e.c.	75	76	77	76	71	80
35	Industrial machinery and equipment	73	72	73	79	76	74
351	Engines and turbines	70	73	71	85	79	83
3511	Turbines and turbine generator sets	56	68	60	85	84	90
3519	Internal combustion engines, n.e.c.	77	75	77	86	75	79
352	Farm and garden machinery	76	74	72	76	77	60
3523	Farm machinery and equipment	81	76	72	78	77	58
3524	Lawn and garden equipment	62	67	73	73	78	68
353	Construction and related machinery	76	76	74	79	74	68
3531	Construction machinery	79	81	75	81	74	68
3532	Mining machinery	71	76	76	63	62	60
3533	Oil and gas field machinery	75	71	66	77	78	72
3534	Elevators and moving stairways	75	71	69	73	72	68
3535	Conveyors and conveying equipment	73	74	74	84	78	68
3536	Hoists, cranes, and monorails	72	75	75	82	82	69
3537	Industrial trucks and tractors	75	72	76	75	73	72
354	Metalworking machinery	74	74	76	81	78	78
3541	Machine tools, metal cutting types	73	74	76	79	65	70
3542	Machine tools, metal forming types	86	76	80	76	77	74
3543	Industrial patterns	81	74	79	78	71	55
3544	Special dies, tools, jigs, and fixtures	72	74	75	82	85	81
3545	Machine tool accessories	78	76	77	82	78	76
3546	Power-driven handtools	80	77	80	76	69	83
3547	Rolling mill machinery	83	87	91	69	85	80
3548	Welding apparatus	78	79	74	86	86	84
3549	Metalworking machinery, n.e.c.	75	80	74	79	72	75
355	Special industry machinery	70	71	73	79	75	80
3552	Textile machinery	63	67	64	73	79	72
3553	Woodworking machinery	72	67	69	69	69	69
3554	Paper industries machinery	79	87	92	89	82	81
3555	Printing trades machinery	70	74	74	87	79	73
3556	Food products machinery	72	71	71	80	81	79
3559	Special industry machinery, n.e.c.	69	69	72	78	72	84
356	General industrial machinery	73	73	74	79	76	72
3561	Pumps and pumping equipment	73	70	68	77	77	65
3562	Ball and roller bearings	83	81	83	91	80	82
3563	Air and gas compressors	73	75	72	82	75	66
3564	Blowers and fans	63	65	66	73	75	66
3565	Packaging machinery	73	77	81	83	84	85
3566	Speed changers, drives, and gears	77	76	82	77	76	78
3567	Industrial furnaces and ovens	73	71	73	68	64	74
3568	Power transmission equipment, n.e.c.	77	76	72	81	78	67
3569	General industrial machinery, n.e.c.	70	73	73	73	72	72
357	Computer and office equipment	75	73	77	77	77	77
3571	Electronic computers	75	69	74	73	73	75
3572	Computer storage devices	88	96	85	86	94	88
3575	Computer terminals	77	85	88	(S)	78	75
3577	Computer peripheral equipment, n.e.c.	72	69	82	82	77	76
3578	Calculating and accounting equipment	71	82	78	78	74	73
3579	Office machines, n.e.c.	65	76	79	85	88	83

See footnotes at end of table.

Table 1a. **Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.**

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
35	Industrial machinery and equipment—Con.						
358	Refrigeration and service machinery	68	67	68	79	76	76
3581	Automatic vending machines	65	67	70	80	73	76
3582	Commercial laundry equipment	83	77	82	89	93	69
3585	Refrigeration and heating equipment	68	65	67	79	77	76
3586	Measuring and dispensing pumps	73	74	79	76	73	67
3589	Service industry machinery, n.e.c.	67	68	69	78	72	79
359	Industrial machinery, n.e.c.	75	72	72	77	77	72
3592	Carburetors, pistons, rings, and valves	82	83	79	93	82	81
3593	Fluid power cylinders and actuators	72	71	68	67	64	59
3594	Fluid power pumps and motors	79	78	76	84	79	50
3596	Scales and balances, except laboratory	62	68	71	85	83	85
3599	Industrial machinery, n.e.c.	75	72	71	76	77	75
36	Electronic and other electric equipment	75	75	77	81	79	76
361	Electric distribution equipment	78	78	76	72	70	75
3612	Transformers, except electronic	78	74	73	77	76	73
3613	Switchgear and switchboard apparatus	78	80	79	69	67	76
362	Electrical industrial apparatus	73	76	76	84	80	77
3621	Motors and generators	74	80	80	82	79	81
3624	Carbon and graphite products	85	85	87	89	86	82
3625	Relays and industrial controls	71	71	71	84	79	76
3629	Electrical industrial apparatus, n.e.c.	70	76	74	85	83	69
363	Household appliances	73	76	79	82	84	79
3631	Household cooking equipment	61	66	66	72	72	62
3632	Household refrigerators and freezers	73	69	79	80	82	78
3633	Household laundry equipment	80	81	83	89	(D)	(D)
3634	Electric housewares and fans	69	74	74	88	88	86
3635	Household vacuum cleaners	77	83	82	70	75	79
3639	Household appliances, n.e.c.	85	93	90	92	(D)	(D)
364	Electric lighting and wiring equipment	73	73	73	81	80	77
3641	Electric lamp bulbs and tubes	70	70	71	85	85	82
3643	Current-carrying wiring devices	69	74	70	83	83	76
3644	Noncurrent-carrying wiring devices	78	74	71	80	79	75
3645	Residential lighting fixtures	68	74	74	74	73	59
3646	Commercial lighting fixtures	73	71	73	80	76	74
3647	Vehicular lighting equipment	80	78	82	81	81	83
3648	Lighting equipment, n.e.c.	77	74	73	78	78	82
365	Household audio and video equipment	70	73	74	85	86	74
3651	Household audio and video equipment	65	69	69	85	86	68
3652	Prerecorded records and tapes	79	79	84	84	86	87
366	Communications equipment	70	70	72	75	74	75
3661	Telephone and telegraph apparatus	71	71	75	79	80	77
3663	Radio and television communications equipment	70	68	71	70	67	72
3669	Communications equipment, n.e.c.	69	73	66	84	81	86
367	Electronic components and accessories	79	78	81	84	81	75
3671	Electron tubes	79	86	84	69	69	80
3672	Printed circuit boards	76	77	81	83	78	86
3674	Semiconductors and related devices	83	80	84	90	87	73
3675	Electronic capacitors	79	82	86	88	85	75
3676	Electronic resistors	70	61	65	60	60	76
3677	Electronic coils and transformers	68	67	71	76	73	71
3678	Electronic connectors	67	70	69	68	62	75
3679	Electronic components, n.e.c.	69	74	73	79	77	74
369	Miscellaneous electrical equipment and supplies	76	78	78	80	76	81
3691	Storage batteries	80	78	86	80	77	86
3692	Primary batteries, dry and wet	83	79	79	86	83	88
3694	Engine electrical equipment	76	78	77	92	91	85
3695	Magnetic and optical recording media	79	87	87	91	89	87
3699	Electrical equipment and supplies, n.e.c.	68	71	70	61	54	72
37	Transportation equipment	75	72	72	73	72	72
371	Motor vehicles and equipment	79	77	81	82	79	73
3711	Motor vehicles and car bodies	82	77	85	82	80	71
3713	Truck and bus bodies	65	69	73	70	66	74
3714	Motor vehicle parts and accessories	77	79	79	84	80	76
3715	Truck trailers	73	75	77	89	81	63
3716	Motor homes	60	54	52	59	59	52
372	Aircraft and parts	70	65	58	60	63	75
3721	Aircraft	67	61	54	55	59	70
3724	Aircraft engines and engine parts	74	80	70	66	66	73
3728	Aircraft parts and equipment	73	67	59	67	70	88
373	Ship and boat building and repairing	67	70	69	67	69	71
3731	Ship building and repairing	66	72	73	67	71	73
3732	Boat building and repairing	68	65	62	66	64	63
374	Railroad equipment	86	80	81	82	82	67
3743	Railroad equipment	86	80	81	82	82	67
375	Motorcycles, bicycles, and parts	86	89	88	88	88	93
3751	Motorcycles, bicycles, and parts	86	89	88	88	88	93
376	Guided missiles, space vehicles, parts	72	65	66	66	62	65
3761	Guided missiles and space vehicles	78	69	74	71	67	72
3764	Space propulsion units and parts	59	53	47	51	45	45
3769	Space vehicle equipment, n.e.c.	59	60	59	65	67	53
379	Miscellaneous transportation equipment	60	62	61	70	71	72
3792	Travel trailers and campers	60	62	63	71	72	66
3795	Tanks and tank components	47	50	46	53	56	68
3799	Transportation equipment, n.e.c.	69	72	74	91	87	83

See footnotes at end of table.

Table 1a. Full Production Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	Full production rate					
		1997	1996	1995	1994	1993	1992
38	Instruments and related products	72	71	71	71	70	73
381	Search and navigation equipment	69	58	60	56	56	66
3812	Search and navigation equipment	69	58	60	56	56	66
382	Measuring and controlling devices	67	70	71	75	73	71
3821	Laboratory apparatus and furniture	69	81	83	75	76	78
3822	Environmental controls	68	73	72	70	66	84
3823	Process control instruments	63	64	66	68	66	72
3824	Fluid meters and counting devices	81	81	73	92	86	90
3825	Instruments to measure electricity	66	72	73	74	73	70
3826	Analytical instruments	67	68	71	83	81	69
3827	Optical instruments and lenses	75	72	72	79	77	59
3829	Measuring and controlling devices, n.e.c.	67	67	65	76	70	68
384	Medical instruments and supplies	72	77	75	75	75	76
3841	Surgical and medical instruments	69	73	71	65	64	69
3842	Surgical appliances and supplies	72	76	77	87	85	86
3843	Dental equipment and supplies	76	76	74	78	78	82
3844	X-ray apparatus and tubes	73	81	74	81	80	76
3845	Electromedical equipment	80	83	81	78	79	69
385	Ophthalmic goods	85	78	79	84	83	81
3851	Ophthalmic goods	85	78	79	84	83	81
386	Photographic equipment and supplies	83	82	83	92	85	88
3861	Photographic equipment and supplies	83	82	83	92	85	88
387	Watches, clocks, watchcases, and parts	70	67	65	67	61	69
3873	Watches, clocks, watchcases, and parts	70	67	65	67	61	69
39	Miscellaneous manufacturing industries	73	74	76	75	75	71
391	Jewelry, silverware, and plated ware	79	83	81	83	81	71
3911	Jewelry, precious metal	78	82	80	89	86	68
3914	Silverware and plated ware	82	86	90	78	83	87
3915	Jewelers' materials and lapidary work	79	79	75	63	65	63
393	Musical instruments	73	79	80	86	78	76
3931	Musical instruments	73	79	80	86	78	76
394	Toys and sporting goods	69	68	72	72	72	67
3942	Dolls and stuffed toys	58	63	69	56	71	59
3944	Games, toys, and children's vehicles	71	66	70	70	73	77
3949	Sporting and athletic goods, n.e.c.	68	69	73	73	72	64
395	Pens, pencils, office, and art supplies	77	79	81	73	70	72
3951	Pens and mechanical pencils	71	78	79	60	57	74
3952	Lead pencils and art goods	83	85	87	92	90	92
3953	Marking devices	82	80	81	85	86	52
3955	Carbon paper and inked ribbons	76	72	76	64	63	72
396	Costume jewelry and notions	73	72	74	74	75	81
3961	Costume jewelry	72	71	75	70	74	81
3965	Fasteners, buttons, needles, and pins	76	75	72	83	76	81
399	Miscellaneous manufactures	74	76	76	75	75	73
3991	Brooms and brushes	67	68	71	61	59	75
3993	Signs and advertising specialties	75	74	72	77	75	64
3995	Burial caskets	81	85	87	90	90	80
3996	Hard surface floor coverings, n.e.c.	71	76	76	88	85	83
3999	Manufacturing industries, n.e.c.	75	78	80	73	76	77

¹SIC 2067, Chewing Gum is combined with SIC 2064 as of 1994.

Note: Some data are revised to include additional information. See Introduction for a discussion of the revision.

Table 1b. **National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997**

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
	All industries	56	57	57	63	61	62
	Durable goods industries	53	54	54	59	57	58
	Nondurable goods industries	59	60	60	67	67	66
	Advanced processing industries	54	55	54	60	59	60
	Primary processing industries	60	61	61	69	67	68
20	Food and kindred products	58	60	61	66	66	68
201	Meat products	65	63	64	74	74	67
2011	Meat packing plants	59	62	66	76	74	62
2013	Sausages and other prepared meats	69	58	59	71	74	70
2015	Poultry slaughtering and processing	69	67	65	76	75	69
202	Dairy products	71	69	68	74	74	64
2021	Creamery butter	87	68	65	63	68	62
2022	Cheese, natural and processed	86	84	86	80	81	58
2023	Dry, condensed, and evaporated dairy products	62	67	68	71	67	65
2024	Ice cream and frozen desserts	60	59	57	65	66	50
2026	Fluid milk	72	68	66	78	78	73
203	Preserved fruits and vegetables	60	55	60	63	65	68
2032	Canned specialties	71	71	69	57	64	85
2033	Canned fruits and vegetables	47	36	48	57	58	69
2034	Dehydrated fruits, vegetables, and soups	54	55	52	61	57	67
2035	Pickles, sauces, and salad dressings	57	55	55	61	60	51
2037	Frozen fruits and vegetables	74	82	82	86	86	66
2038	Frozen specialties, n.e.c.	67	69	66	68	73	76
204	Grain mill products	66	69	67	72	71	74
2041	Flour and other grain mill products	67	85	84	85	82	82
2043	Cereal breakfast foods	68	80	76	72	68	78
2044	Rice milling	52	80	75	93	93	91
2045	Prepared flour mixes and doughs	56	55	53	70	72	52
2046	Wet corn milling	92	67	66	96	96	96
2047	Dog and cat food	76	76	75	79	83	70
2048	Prepared feeds, n.e.c.	54	55	53	54	53	63
205	Bakery products	55	62	64	67	69	76
2051	Bread, cake, and related products	53	69	70	65	70	78
2052	Cookies and crackers	58	51	56	70	67	73
2053	Frozen bakery products, except bread	63	61	64	68	70	66
206	Sugar and confectionery products	60	62	63	64	65	68
2061	Raw cane sugar	95	95	96	94	95	80
2062	Cane sugar refining	59	78	66	71	(D)	(D)
2063	Beet sugar	100	92	93	96	95	78
2064	Candy and other confectionery products	53	56	60	59	59	64
2066	Chocolate and cocoa products	67	72	69	67	78	77
2067	Chewing gum ¹	(X)	(X)	(X)	(X)	(X)	(D)
2068	Salted and roasted nuts and seeds	63	62	53	60	(D)	55
207	Fats and oils	72	66	72	74	70	81
2074	Cottonseed oil mills	92	69	85	95	95	92
2075	Soybean oil mills	96	94	92	86	83	92
2076	Vegetable oil mills, n.e.c.	74	69	80	58	51	96
2077	Animal and marine fats and oils	51	52	55	65	72	80
2079	Edible fats and oils, n.e.c.	72	59	61	58	59	72
208	Beverages	50	55	56	59	58	64
2082	Malt beverages	67	74	73	74	72	83
2083	Malt	88	97	97	99	91	97
2084	Wines, brandy, and brandy spirits	63	61	64	44	45	74
2085	Distilled and blended liquors	43	38	38	38	39	50
2086	Bottled and canned soft drinks	47	53	55	62	60	55
2087	Flavoring extracts and syrups, n.e.c.	36	43	44	53	51	60
209	Miscellaneous food and kindred products	53	53	53	59	57	62
2091	Canned and cured fish and seafoods	54	59	70	61	68	63
2092	Fresh or frozen prepared fish	42	40	41	44	46	65
2095	Roasted coffee	55	59	60	61	58	73
2096	Potato chips and similar snacks	57	61	61	68	61	68
2097	Manufactured ice	16	31	31	(S)	(S)	(S)
2098	Macaroni and spaghetti	85	77	76	79	84	79
2099	Food preparations, n.e.c.	53	50	49	57	55	59
21	Tobacco products	52	70	72	78	75	76
211	Cigarettes	52	72	74	81	78	78
2111	Cigarettes	52	72	74	81	78	78
212	Cigars	65	57	59	47	40	42
2121	Cigars	65	57	59	47	40	42
213	Chewing and smoking tobacco	(D)	(D)	(D)	60	58	72
2131	Chewing and smoking tobacco	(D)	(D)	(D)	60	58	72
214	Tobacco stemming and redrying	42	74	67	57	54	58
2141	Tobacco stemming and redrying	42	74	67	57	54	58
22	Textile mill products	69	67	69	79	77	77
221	Broadwoven fabric mills, cotton	85	83	83	97	96	91
2211	Broadwoven fabric mills, cotton	85	83	83	97	96	91
222	Broadwoven fabric mills, manmade fiber and silk	84	81	84	88	87	91
2221	Broadwoven fabric mills, manmade fiber and silk	84	81	84	88	87	91
223	Broadwoven fabric mills, wool	66	58	59	77	76	69
2231	Broadwoven fabric mills, wool	66	58	59	77	76	69
224	Narrow fabric mills	47	56	60	71	75	63
2241	Narrow fabric mills	47	56	60	71	75	63

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
22	Textile mill products—Con.						
225	Knitting mills	61	58	61	77	72	71
2251	Women's hosiery, except socks	65	73	74	(S)	(S)	67
2252	Hosiery, n.e.c.	82	63	67	74	72	77
2253	Knit outerwear mills	69	55	57	79	75	67
2254	Knit underwear mills	52	45	51	63	46	77
2257	Weft knit fabric mills	42	53	57	82	(S)	72
2258	Lace and warp knit fabric mills	70	70	70	77	70	71
2259	Knitting mills, n.e.c.	(D)	64	71	85	84	56
226	Textile finishing, except wool	75	75	73	83	82	70
2261	Finishing plants, cotton	76	79	77	83	83	65
2262	Finishing plants, manmade	74	74	71	82	81	74
2269	Finishing plants, n.e.c.	76	76	72	86	85	69
227	Carpets and rugs	76	68	71	72	74	71
2273	Carpets and rugs	76	68	71	72	74	71
228	Yarn and thread mills	77	71	69	88	88	85
2281	Yarn spinning mills	77	67	64	91	89	85
2282	Throwing and winding mills	75	80	81	(S)	(S)	85
2284	Thread mills	85	81	83	79	79	81
229	Miscellaneous textile goods	61	63	67	70	68	77
2295	Coated fabrics, not rubberized	65	54	66	50	46	62
2296	Tire cord and fabrics	71	89	85	83	82	87
2297	Nonwoven fabrics	61	61	65	82	81	81
2298	Cordage and twine	58	51	52	65	65	77
2299	Textile goods, n.e.c.	58	77	74	76	75	79
23	Apparel and other textile products	38	45	44	53	55	59
231	Men's and boys' suits and coats	43	42	40	54	54	47
2311	Men's and boys' suits and coats	43	42	40	54	54	47
232	Men's and boys' furnishings	26	38	40	43	45	57
2321	Men's and boys' shirts	40	35	33	40	41	43
2322	Men's and boys' underwear and nightwear	43	40	52	35	61	50
2323	Men's and boys' neckwear	34	42	40	55	61	54
2325	Men's and boys' trousers and slacks	18	42	50	38	41	67
2326	Men's and boys' work clothing	35	34	34	49	43	69
2329	Men's and boys' clothing, n.e.c.	31	36	36	63	68	68
233	Women's and misses' outerwear	47	52	50	65	63	64
2331	Women's, misses', and juniors' blouses and shirts	68	64	72	94	95	52
2335	Women's, misses', and juniors' dresses	48	68	71	68	80	67
2337	Women's, misses', and juniors' suits and coats	46	47	38	(S)	(S)	60
2339	Women's, misses', and juniors' outerwear, n.e.c.	42	42	40	59	53	73
234	Women's and children's undergarments	49	53	49	74	74	70
2341	Women's and children's underwear	45	46	48	75	77	63
2342	Brassieres, girdles, and allied garments	57	68	50	72	71	85
235	Hats, caps, and millinery	46	40	40	58	48	55
2353	Hats, caps, and millinery	46	40	40	58	48	55
236	Girls' and children's outerwear	41	39	43	57	62	57
2361	Girls' and children's dresses and blouses	39	34	35	65	64	57
2369	Girls' and children's outerwear, n.e.c.	42	42	50	54	61	56
237	Fur goods	68	62	60	(S)	(S)	91
2371	Fur goods	68	62	60	(S)	(S)	91
238	Miscellaneous apparel and accessories	28	33	35	49	52	57
2381	Fabric dress and work gloves	40	39	45	38	38	75
2384	Robes and dressing gowns	28	26	27	(S)	(S)	44
2385	Waterproof outerwear	33	40	41	(S)	64	83
2386	Leather and sheep-lined clothing	76	70	88	68	76	37
2387	Apparel belts	20	27	30	48	55	55
2389	Apparel and accessories, n.e.c.	31	36	33	63	54	66
239	Miscellaneous fabricated textile products	47	48	42	52	53	56
2391	Curtains and draperies	28	31	29	55	58	56
2392	Housefurnishings, n.e.c.	49	53	47	51	54	66
2393	Textile bags	36	38	34	43	49	44
2394	Canvas and related products	38	37	42	46	44	52
2395	Pleating and stitching	42	46	40	(S)	(S)	52
2396	Automotive and apparel trimmings	49	52	46	57	58	64
2397	Schiffli machine embroideries	42	74	82	80	87	70
2399	Fabricated textile products, n.e.c.	58	46	39	49	46	42
24	Lumber and wood products	47	52	52	53	54	52
241	Logging	59	80	75	(S)	(S)	66
2411	Logging	59	80	75	(S)	(S)	66
242	Sawmills and planing mills	46	48	46	43	44	53
2421	Sawmills and planing mills, general	49	49	47	42	43	55
2426	Hardwood dimension and flooring mills	36	41	42	49	51	46
2429	Special product sawmills, n.e.c.	25	39	41	54	51	56
243	Millwork, plywood, and structural members	47	53	53	54	55	47
2431	Millwork	43	53	50	49	52	35
2434	Wood kitchen cabinets	43	43	43	45	42	51
2435	Hardwood veneer and plywood	46	67	67	62	57	78
2436	Softwood veneer and plywood	78	76	85	94	92	84
2439	Structural wood members, n.e.c.	49	52	49	57	56	53
244	Wood containers	43	42	42	56	53	53
2441	Nailed wood boxes and shooks	46	34	36	41	32	40
2448	Wood pallets and skids	45	44	43	61	61	72
2449	Wood containers, n.e.c.	32	44	48	46	41	30

See footnotes at end of table.

Table 1b. **National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.**

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
24	Lumber and wood products—Con.						
245	Wood buildings and mobile homes	36	38	42	44	44	43
2451	Mobile homes	36	35	41	42	43	40
2452	Prefabricated wood buildings	39	50	44	47	47	49
249	Miscellaneous wood products	52	59	60	71	68	59
2491	Wood preserving	44	41	43	58	68	58
2493	Reconstituted wood products	78	79	81	86	85	79
2499	Wood products, n.e.c.	41	53	51	61	56	51
25	Furniture and fixtures	42	47	46	52	52	52
251	Household furniture	36	45	43	55	52	54
2511	Wood household furniture	32	47	43	60	57	55
2512	Upholstered household furniture	37	43	46	52	52	60
2514	Metal household furniture	48	51	44	56	49	48
2515	Mattresses and bedsprings	38	37	37	46	44	44
2517	Wood television and radio cabinets	42	46	58	39	38	46
2519	Household furniture, n.e.c.	57	68	71	71	70	79
252	Office furniture	53	53	53	42	45	50
2521	Wood office furniture	44	47	47	29	33	56
2522	Office furniture, except wood	56	55	55	49	51	48
253	Public building and related furniture	53	55	54	67	64	65
2531	Public building and related furniture	53	55	54	67	64	65
254	Partitions and fixtures	45	45	45	57	56	50
2541	Wood partitions and fixtures	38	38	41	50	52	48
2542	Partitions and fixtures, except wood	53	53	51	66	61	51
259	Miscellaneous furniture and fixtures	44	44	46	50	49	50
2591	Drapery hardware and blinds and shades	50	57	52	42	40	67
2599	Furniture and fixtures, n.e.c.	42	40	43	58	56	43
26	Paper and allied products	74	74	74	78	77	75
261	Pulp mills	92	92	90	96	92	91
2611	Pulp mills	92	92	90	96	92	91
262	Paper mills	94	89	91	93	95	92
2621	Paper mills	94	89	91	93	95	92
263	Paperboard mills	95	93	89	97	95	95
2631	Paperboard mills	95	93	89	97	95	95
265	Paperboard containers and boxes	61	59	60	66	64	63
2652	Setup paperboard boxes	43	37	38	42	43	53
2653	Corrugated and solid fiber boxes	62	59	64	71	67	65
2655	Fiber cans, drums, and similar products	56	56	54	44	45	42
2656	Sanitary food containers	64	59	60	65	64	66
2657	Folding paperboard boxes	63	61	58	72	72	67
267	Miscellaneous converted paper products	66	69	68	72	71	68
2671	Paper coated and laminated, packaging	69	69	66	74	74	75
2672	Paper coated and laminated, n.e.c.	77	84	76	65	62	73
2673	Bags plastics, laminated, and coated	70	70	72	65	63	66
2674	Bags uncoated paper and multiwall	67	62	67	78	76	71
2675	Die-cut paper and board	47	54	55	34	36	47
2676	Sanitary paper products	78	76	79	86	85	67
2677	Envelopes	61	61	55	78	79	78
2678	Stationery products	43	45	42	70	66	64
2679	Converted paper products, n.e.c.	45	57	54	79	78	72
27	Printing and publishing	54	54	53	66	68	59
271	Newspapers	52	48	50	62	64	59
2711	Newspapers	52	48	50	62	64	59
272	Periodicals	58	55	45	(S)	(S)	43
2721	Periodicals	58	55	45	(S)	(S)	43
273	Books	61	68	67	76	71	73
2731	Book publishing	58	68	66	(S)	(S)	75
2732	Book printing	74	71	72	81	81	67
274	Miscellaneous publishing	36	38	37	(S)	(S)	49
2741	Miscellaneous publishing	36	38	37	(S)	(S)	49
275	Commercial printing	57	56	59	64	64	67
2752	Commercial printing, lithographic	57	56	59	67	68	67
2754	Commercial printing, gravure	82	79	86	(S)	(S)	89
2759	Commercial printing, n.e.c.	53	55	54	52	49	61
276	Manifold business forms	52	56	59	65	66	70
2761	Manifold business forms	52	56	59	65	66	70
277	Greeting cards	64	69	68	62	56	59
2771	Greeting cards	64	69	68	62	56	59
278	Blankbooks and bookbinding	55	58	56	55	53	42
2782	Blankbooks and looseleaf binders	61	62	57	53	50	41
2789	Bookbinding and related work	43	50	53	60	59	46
279	Printing trade services	54	54	56	62	62	65
2791	Typesetting	58	56	62	(S)	50	70
2796	Platemaking services	52	53	53	68	70	62
28	Chemicals and allied products	63	62	60	66	65	66
281	Industrial inorganic chemicals	76	77	78	62	55	77
2812	Alkalies and chlorine	87	83	83	96	96	96
2813	Industrial gases	78	78	88	68	61	66
2816	Inorganic pigments	94	90	89	80	80	90
2819	Industrial inorganic chemicals, n.e.c.	72	74	74	57	49	75

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
28	Chemicals and allied products—Con.						
282	Plastics materials and synthetics	83	78	78	84	80	85
2821	Plastics materials and resins	82	76	76	81	77	86
2822	Synthetic rubber	71	71	71	91	82	79
2823	Cellulosic manmade fibers	(D)	(D)	(D)	73	74	79
2824	Organic fibers, noncellulosic	89	82	86	90	88	86
283	Drugs	56	53	51	58	63	59
2833	Medicinals and botanicals	77	82	89	80	88	84
2834	Pharmaceutical preparations	54	50	47	55	60	59
2835	Diagnostic substances	57	48	48	59	56	41
2836	Biological products, except diagnostic	61	85	99	90	91	91
284	Soaps, cleaners, and toilet goods	54	55	51	56	54	56
2841	Soap and other detergents	53	49	48	52	51	55
2842	Polishes and sanitation goods	46	60	45	43	42	50
2843	Surface active agents	63	61	59	54	42	83
2844	Toilet preparations	57	58	55	68	64	58
285	Paints and allied products	55	49	48	57	58	52
2851	Paints and allied products	55	49	48	57	58	52
286	Industrial organic chemicals	75	80	80	86	88	80
2861	Gum and wood chemicals	90	90	81	72	64	83
2865	Cyclic crudes and intermediates	77	71	69	86	84	88
2869	Industrial organic chemicals, n.e.c.	74	82	82	87	89	79
287	Agricultural chemicals	74	77	73	78	70	69
2873	Nitrogenous fertilizers	92	96	97	92	87	66
2874	Phosphatic fertilizers	93	97	97	98	83	94
2875	Fertilizers, mixing only	29	41	40	61	60	45
2879	Agricultural chemicals, n.e.c.	77	76	70	73	64	68
289	Miscellaneous chemical products	52	55	56	65	65	59
2891	Adhesives and sealants	49	54	54	65	60	51
2892	Explosives	40	49	51	70	75	63
2893	Printing ink	44	45	42	50	52	58
2895	Carbon black	93	92	93	96	94	80
2899	Chemical preparations, n.e.c.	56	58	60	67	69	62
29	Petroleum and coal products	70	73	70	77	76	77
291	Petroleum refining	89	88	86	92	90	93
2911	Petroleum refining	89	88	86	92	90	93
295	Asphalt paving and roofing materials	29	39	35	48	49	37
2951	Asphalt paving mixtures and blocks	21	29	29	37	39	25
2952	Asphalt felts and coatings	56	64	61	69	65	70
299	Miscellaneous petroleum and coal products	52	51	50	43	47	53
2992	Lubricating oils and greases	48	47	46	39	42	47
2999	Petroleum and coal products, n.e.c.	82	79	81	82	82	89
30	Rubber and miscellaneous plastics products	58	59	58	71	69	68
301	Tires and inner tubes	83	83	83	87	85	92
3011	Tires and inner tubes	83	83	83	87	85	92
302	Rubber and plastics footwear	39	62	60	60	66	69
3021	Rubber and plastics footwear	39	62	60	60	66	69
305	Hose and belting and gaskets and packing	63	65	65	68	72	66
3052	Rubber and plastics hose and belting	66	65	67	80	75	66
3053	Gaskets, packing, and sealing devices	61	65	64	63	71	65
306	Fabricated rubber products, n.e.c.	61	58	56	68	65	70
3061	Mechanical rubber goods	71	60	55	58	57	68
3069	Fabricated rubber products, n.e.c.	54	56	57	78	73	71
308	Miscellaneous plastics products, n.e.c.	55	56	56	70	68	65
3081	Unsupported plastics film and sheet	66	74	74	79	81	66
3082	Unsupported plastics profile shapes	47	67	69	80	77	66
3083	Laminated plastics plate, sheet, and profile shapes	61	72	67	78	74	65
3084	Plastics pipe	73	79	77	77	78	74
3085	Plastics bottles	70	79	77	69	69	82
3086	Plastics foam products	62	59	61	51	51	65
3087	Custom compounding of purchased plastics resins	50	67	68	74	68	63
3088	Plastics plumbing fixtures	45	55	64	38	40	55
3089	Plastics products, n.e.c.	53	50	50	73	70	64
31	Leather and leather products	39	44	42	57	55	57
311	Leather tanning and finishing	55	52	50	68	63	68
3111	Leather tanning and finishing	55	52	50	68	63	68
313	Footwear cut stock	40	51	33	31	34	77
3131	Footwear cut stock	40	51	33	31	34	77
314	Footwear, except rubber	36	37	37	55	54	55
3142	House slippers	26	52	52	54	54	48
3143	Men's footwear, except athletic	34	35	35	56	56	49
3144	Women's footwear, except athletic	42	43	41	53	54	73
3149	Footwear, except rubber, n.e.c.	39	39	40	55	44	(S)
315	Leather gloves and mittens	28	34	36	50	49	46
3151	Leather gloves and mittens	28	34	36	50	49	46
316	Luggage	32	50	52	51	47	51
3161	Luggage	32	50	52	51	47	51
317	Handbags and personal leather goods	36	53	46	77	74	56
3171	Women's handbags and purses	25	54	47	75	(S)	53
3172	Personal leather goods, n.e.c.	57	52	46	78	76	63

See footnotes at end of table.

Table 1b. **National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.**

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
31	Leather and leather products—Con.						
319	Leather goods, n.e.c.	34	39	39	50	51	66
3199	Leather goods, n.e.c.	34	39	39	50	51	66
32	Stone, clay, and glass products	51	58	56	66	65	68
321	Flat glass	84	83	82	95	95	91
3211	Flat glass	84	83	82	95	95	91
322	Glass and glassware, pressed or blown	88	86	89	89	87	86
3221	Glass containers	91	87	85	88	90	90
3229	Pressed and blown glass, n.e.c.	85	85	92	90	84	82
323	Products of purchased glass	57	59	60	78	76	73
3231	Products of purchased glass	57	59	60	78	76	73
324	Cement, hydraulic	86	83	83	91	86	83
3241	Cement, hydraulic	86	83	83	91	86	83
325	Structural clay products	59	68	66	78	76	73
3251	Brick and structural clay tile	82	84	80	84	79	75
3253	Ceramic wall and floor tile	63	78	71	91	90	85
3255	Clay refractories	45	44	46	66	63	61
3259	Structural clay products, n.e.c.	41	55	61	48	44	68
326	Pottery and related products	61	66	69	67	66	73
3261	Vitreous plumbing fixtures	82	86	83	79	74	82
3262	Vitreous china table and kitchenware	59	74	77	61	59	77
3263	Semivitreous table and kitchenware	64	67	84	50	50	83
3264	Porcelain electrical supplies	54	57	62	65	64	72
3269	Pottery products, n.e.c.	56	61	63	62	64	62
327	Concrete, gypsum, and plaster products	35	43	41	51	51	57
3271	Concrete block and brick	45	65	67	65	57	65
3272	Concrete products, n.e.c.	53	46	44	65	68	52
3273	Ready-mixed concrete	23	32	32	39	40	55
3274	Lime	82	79	78	73	66	81
3275	Gypsum products	92	88	86	95	91	76
328	Cut stone and stone products	55	46	41	60	64	54
3281	Cut stone and stone products	55	46	41	60	64	54
329	Miscellaneous nonmetallic mineral products	65	70	67	66	62	71
3291	Abrasive products	57	65	60	71	70	71
3292	Asbestos products	(X)	(X)	(X)	74	(D)	84
3295	Minerals, ground or treated	59	66	68	68	65	71
3296	Mineral wool	88	87	86	67	61	87
3297	Nonclay refractories	62	66	63	53	48	61
3299	Nonmetallic mineral products, n.e.c.	54	54	52	59	(D)	44
33	Primary metal industries	75	74	74	78	75	72
331	Blast furnace and basic steel products	82	80	80	85	82	79
3312	Blast furnaces and steel mills	88	85	86	89	85	82
3313	Electrometallurgical products	68	67	68	69	72	81
3315	Steel wire and related products	70	72	70	80	76	76
3316	Cold finishing of steel shapes	76	69	71	80	80	75
3317	Steel pipe and tubes	60	61	63	68	67	63
332	Iron and steel foundries	62	63	64	70	66	63
3321	Gray and ductile iron foundries	64	63	65	72	69	63
3322	Malleable iron foundries	60	58	57	84	80	67
3324	Steel investment foundries	48	62	60	64	58	68
3325	Steel foundries, n.e.c.	69	65	64	65	60	57
333	Primary nonferrous metals	86	81	84	82	76	90
3331	Primary copper	92	87	85	89	83	95
3334	Primary aluminum	87	88	87	85	84	99
3339	Primary nonferrous metals, n.e.c.	80	66	75	65	62	75
334	Secondary nonferrous metals	74	76	75	83	81	82
3341	Secondary nonferrous metals	74	76	75	83	81	82
335	Nonferrous rolling and drawing	77	75	75	73	72	73
3351	Copper rolling and drawing	87	89	88	85	80	75
3353	Aluminum sheet, plate, and foil	84	82	79	86	74	82
3354	Aluminum extruded products	78	76	76	82	75	73
3355	Aluminum rolling and drawing, n.e.c.	82	68	65	82	(D)	(D)
3356	Nonferrous rolling and drawing, n.e.c.	62	60	58	73	(D)	(D)
3357	Nonferrous wire drawing and insulating	77	74	74	63	69	70
336	Nonferrous foundries (castings)	58	62	62	67	63	53
3363	Aluminum die-castings	68	66	70	77	73	72
3364	Nonferrous die-castings, except aluminum	53	57	53	56	53	58
3365	Aluminum foundries	53	61	60	63	59	42
3366	Copper foundries	44	48	48	60	58	61
3369	Nonferrous foundries, n.e.c.	65	67	64	66	65	(S)
339	Miscellaneous primary metal products	68	66	64	74	74	56
3398	Metal heat treating	69	67	63	76	72	57
3399	Primary metal products, n.e.c.	65	65	65	72	78	56
34	Fabricated metal products	53	52	53	61	59	58
341	Metal cans and shipping containers	72	73	69	77	76	78
3411	Metal cans	78	77	74	84	83	82
3412	Metal barrels, drums, and pails	45	49	48	48	49	54
342	Cutlery, handtools, and hardware	56	58	56	65	62	60
3421	Cutlery	59	74	73	85	87	66
3423	Hand and edge tools, n.e.c.	54	52	52	69	64	51
3425	Saw blades and handsaws	69	71	67	73	70	76
3429	Hardware, n.e.c.	55	57	54	58	57	65

See footnotes at end of table.

Table 1b. National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
34	Fabricated metal products—Con.						
343	Plumbing and heating, except electric.....	51	50	49	54	52	55
3431	Metal sanitary ware.....	54	56	55	84	85	67
3432	Plumbing fixture fittings and trim.....	53	52	52	55	52	64
3433	Heating equipment, except electric.....	47	46	44	47	46	44
344	Fabricated structural metal products.....	49	47	47	55	55	52
3441	Fabricated structural metal.....	57	51	47	50	49	55
3442	Metal doors, sash, and trim.....	46	48	46	62	62	50
3443	Fabricated plate work (boiler shops).....	52	53	53	63	64	65
3444	Sheet metal work.....	44	41	43	52	53	41
3446	Architectural metal work.....	44	40	40	51	50	55
3448	Prefabricated metal buildings.....	59	54	55	53	54	65
3449	Miscellaneous metal work.....	43	47	46	57	54	51
345	Screw machine products, bolts, etc.....	52	50	51	59	58	56
3451	Screw machine products.....	49	49	50	53	53	50
3452	Bolts, nuts, rivets, and washers.....	55	51	53	65	64	60
346	Metal forgings and stampings.....	54	53	56	69	66	62
3462	Iron and steel forgings.....	61	56	50	65	65	49
3463	Nonferrous forgings.....	59	57	69	68	67	67
3465	Automotive stampings.....	66	57	59	78	76	70
3466	Crowns and closures.....	57	63	59	71	75	76
3469	Metal stampings, n.e.c.....	40	48	52	59	55	59
347	Metal services, n.e.c.....	56	54	53	62	59	59
3471	Plating and polishing.....	53	52	51	60	57	57
3479	Metal coating and allied services.....	59	56	56	65	61	63
348	Ordnance and accessories, n.e.c.....	38	44	46	51	51	47
3482	Small arms ammunition.....	52	50	52	41	37	34
3483	Ammunition, except for small arms, n.e.c.....	21	34	34	54	53	54
3484	Small arms.....	42	51	63	71	66	53
3489	Ordnance and accessories, n.e.c.....	71	48	47	42	47	43
349	Miscellaneous fabricated metal products.....	57	57	57	60	58	61
3491	Industrial valves.....	56	55	56	69	67	55
3492	Fluid power valves and hose fittings.....	61	62	61	52	49	71
3493	Steel springs, except wire.....	58	49	54	71	67	54
3494	Valves and pipe fittings, n.e.c.....	59	60	56	73	71	53
3495	Wire springs.....	65	62	62	71	72	67
3496	Miscellaneous fabricated wire products.....	55	52	51	62	59	67
3497	Metal foil and leaf.....	82	79	78	64	66	78
3498	Fabricated pipe and fittings.....	56	53	54	59	58	58
3499	Fabricated metal products, n.e.c.....	49	54	55	51	48	60
35	Industrial machinery and equipment	52	52	53	61	59	58
351	Engines and turbines.....	59	57	58	78	64	74
3511	Turbines and turbine generator sets.....	55	63	56	82	60	81
3519	Internal combustion engines, n.e.c.....	61	55	59	75	67	70
352	Farm and garden machinery.....	54	59	56	68	69	51
3523	Farm machinery and equipment.....	60	63	57	72	72	52
3524	Lawn and garden equipment.....	42	48	54	60	63	50
353	Construction and related machinery.....	54	54	53	61	56	52
3531	Construction machinery.....	60	58	55	69	63	48
3532	Mining machinery.....	49	52	51	44	42	47
3533	Oil and gas field machinery.....	59	56	51	49	47	65
3534	Elevators and moving stairways.....	52	52	51	52	56	41
3535	Conveyors and conveying equipment.....	48	51	52	60	50	54
3536	Hoists, cranes, and monorails.....	43	44	46	66	67	60
3537	Industrial trucks and tractors.....	46	46	49	56	57	49
354	Metalworking machinery.....	55	54	53	62	61	62
3541	Machine tools, metal cutting types.....	55	56	59	64	54	58
3542	Machine tools, metal forming types.....	61	58	61	51	50	59
3543	Industrial patterns.....	55	51	55	63	52	49
3544	Special dies, tools, jigs, and fixtures.....	51	51	52	62	65	67
3545	Machine tool accessories.....	55	44	46	67	67	55
3546	Power-driven handtools.....	65	58	60	61	55	67
3547	Rolling mill machinery.....	64	64	67	49	56	66
3548	Welding apparatus.....	58	53	50	68	67	77
3549	Metalworking machinery, n.e.c.....	47	58	54	59	57	46
355	Special industry machinery.....	45	42	43	56	52	54
3552	Textile machinery.....	41	39	38	49	49	56
3553	Woodworking machinery.....	47	46	48	42	44	47
3554	Paper industries machinery.....	48	61	65	76	75	68
3555	Printing trades machinery.....	44	45	46	51	45	50
3556	Food products machinery.....	50	46	47	58	55	51
3559	Special industry machinery, n.e.c.....	44	39	39	56	52	55
356	General industrial machinery.....	52	54	54	60	57	56
3561	Pumps and pumping equipment.....	54	56	53	72	62	46
3562	Ball and roller bearings.....	73	69	72	86	78	74
3563	Air and gas compressors.....	54	56	54	65	59	50
3564	Blowers and fans.....	39	43	43	55	56	53
3565	Packaging machinery.....	46	49	51	51	53	67
3566	Speed changers, drives, and gears.....	56	58	64	65	64	72
3567	Industrial furnaces and ovens.....	45	41	43	41	38	62
3568	Power transmission equipment, n.e.c.....	61	58	53	67	63	49
3569	General industrial machinery, n.e.c.....	49	55	55	48	49	53
357	Computer and office equipment.....	55	57	60	57	56	60
3571	Electronic computers.....	62	60	64	57	56	61
3572	Computer storage devices.....	60	73	65	65	63	77
3575	Computer terminals.....	31	56	66	(S)	47	39
3577	Computer peripheral equipment, n.e.c.....	52	49	52	59	51	60
3578	Calculating and accounting equipment.....	33	33	32	47	50	49
3579	Office machines, n.e.c.....	42	54	54	53	62	46

See footnotes at end of table.

Table 1b. **National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997—Con.**

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
35	Industrial machinery and equipment—Con.						
358	Refrigeration and service machinery	51	48	49	67	62	62
3581	Automatic vending machines	56	54	55	60	55	65
3582	Commercial laundry equipment	50	50	53	74	71	58
3585	Refrigeration and heating equipment	52	51	52	71	67	65
3586	Measuring and dispensing pumps	48	46	49	64	62	47
3589	Service industry machinery, n.e.c.	47	41	41	56	51	59
359	Industrial machinery, n.e.c.	47	50	50	62	62	56
3592	Carburetors, pistons, rings, and valves	72	71	71	89	78	68
3593	Fluid power cylinders and actuators	50	47	46	55	50	46
3594	Fluid power pumps and motors	66	62	60	80	76	39
3596	Scales and balances, except laboratory	42	44	47	53	54	54
3599	Industrial machinery, n.e.c.	45	49	48	60	61	58
36	Electronic and other electric equipment	59	58	59	63	60	60
361	Electric distribution equipment	56	58	57	56	55	58
3612	Transformers, except electronic	56	53	55	65	65	61
3613	Switchgear and switchboard apparatus	56	61	59	51	51	56
362	Electrical industrial apparatus	51	55	54	58	53	61
3621	Motors and generators	54	64	66	59	57	75
3624	Carbon and graphite products	72	72	74	81	80	77
3625	Relays and industrial controls	48	50	47	58	50	52
3629	Electrical industrial apparatus, n.e.c.	44	45	44	44	42	55
363	Household appliances	54	56	57	71	73	67
3631	Household cooking equipment	39	47	46	64	64	54
3632	Household refrigerators and freezers	52	48	54	58	61	60
3633	Household laundry equipment	74	70	72	84	(D)	(D)
3634	Electric housewares and fans	49	52	52	70	71	65
3635	Household vacuum cleaners	65	66	65	64	66	75
3639	Household appliances, n.e.c.	61	65	61	89	(D)	(D)
364	Electric lighting and wiring equipment	54	51	50	58	58	58
3641	Electric lamp bulbs and tubes	51	44	44	66	65	71
3643	Current-carrying wiring devices	55	60	55	64	63	54
3644	Noncurrent-carrying wiring devices	63	50	48	55	54	64
3645	Residential lighting fixtures	43	43	42	36	34	48
3646	Commercial lighting fixtures	51	55	54	56	61	46
3647	Vehicular lighting equipment	63	57	60	75	75	73
3648	Lighting equipment, n.e.c.	48	45	45	57	58	63
365	Household audio and video equipment	56	57	57	67	64	56
3651	Household audio and video equipment	49	52	50	61	58	47
3652	Prerecorded records and tapes	74	69	73	81	82	85
366	Communications equipment	55	53	52	54	52	58
3661	Telephone and telegraph apparatus	56	54	57	61	61	55
3663	Radio and television communications equipment	56	53	50	50	46	62
3669	Communications equipment, n.e.c.	43	51	45	41	41	56
367	Electronic components and accessories	68	64	66	71	67	60
3671	Electron tubes	70	72	69	64	62	61
3672	Printed circuit boards	62	53	56	68	65	72
3674	Semiconductors and related devices	76	69	71	84	80	58
3675	Electronic capacitors	70	73	80	76	72	60
3676	Electronic resistors	51	45	48	40	39	55
3677	Electronic coils and transformers	45	47	49	60	58	57
3678	Electronic connectors	57	55	54	57	58	64
3679	Electronic components, n.e.c.	55	59	56	58	52	59
369	Miscellaneous electrical equipment and supplies	52	56	58	61	60	59
3691	Storage batteries	57	67	71	78	77	71
3692	Primary batteries, dry and wet	69	54	56	66	66	69
3694	Engine electrical equipment	54	60	59	67	68	72
3695	Magnetic and optical recording media	76	80	82	71	84	83
3699	Electrical equipment and supplies, n.e.c.	37	40	42	41	38	41
37	Transportation equipment	54	54	52	54	53	57
371	Motor vehicles and equipment	57	55	58	61	60	55
3711	Motor vehicles and car bodies	56	52	58	62	59	50
3713	Truck and bus bodies	37	44	43	52	48	49
3714	Motor vehicle parts and accessories	61	63	63	61	62	68
3715	Truck trailers	57	53	51	78	72	58
3716	Motor homes	30	30	27	32	32	36
372	Aircraft and parts	54	56	42	44	46	66
3721	Aircraft	56	58	51	44	48	69
3724	Aircraft engines and engine parts	54	58	45	48	47	58
3728	Aircraft parts and equipment	49	53	30	41	42	71
373	Ship and boat building and repairing	47	43	45	51	50	51
3731	Ship building and repairing	50	44	49	50	50	52
3732	Boat building and repairing	41	41	38	53	53	49
374	Railroad equipment	58	59	60	48	50	62
3743	Railroad equipment	58	59	60	48	50	62
375	Motorcycles, bicycles, and parts	54	63	62	74	73	80
3751	Motorcycles, bicycles, and parts	54	63	62	74	73	80
376	Guided missiles, space vehicles, parts	51	47	48	54	49	48
3761	Guided missiles and space vehicles	61	50	53	57	53	49
3764	Space propulsion units and parts	33	39	35	48	37	44
3769	Space vehicle equipment, n.e.c.	45	40	42	41	45	46
379	Miscellaneous transportation equipment	34	41	42	32	35	41
3792	Travel trailers and campers	36	38	38	25	33	39
3795	Tanks and tank components	28	35	34	31	31	34
3799	Transportation equipment, n.e.c.	38	47	51	42	40	54

See footnotes at end of table.

Table 1b. **National Emergency Capacity Utilization Rates by Industry: Fourth Quarters 1992 Through 1997**—Con.

[For meaning of abbreviations and symbols, see introductory text]

SIC code	Industry	National emergency rate					
		1997	1996	1995	1994	1993	1992
38	Instruments and related products	49	50	50	51	50	54
381	Search and navigation equipment	45	43	42	42	42	49
3812	Search and navigation equipment	45	43	42	42	42	49
382	Measuring and controlling devices	43	46	47	49	48	45
3821	Laboratory apparatus and furniture	47	44	51	49	53	52
3822	Environmental controls	49	49	48	42	45	52
3823	Process control instruments	37	43	44	48	47	43
3824	Fluid meters and counting devices	53	56	49	62	62	72
3825	Instruments to measure electricity	46	47	49	50	50	38
3826	Analytical instruments	39	47	49	44	42	58
3827	Optical instruments and lenses	43	48	47	48	52	51
3829	Measuring and controlling devices, n.e.c.	45	46	45	52	46	40
384	Medical instruments and supplies	51	52	53	52	52	60
3841	Surgical and medical instruments	55	57	55	51	52	51
3842	Surgical appliances and supplies	43	51	53	50	49	70
3843	Dental equipment and supplies	56	51	50	50	52	64
3844	X-ray apparatus and tubes	54	57	52	55	59	70
3845	Electromedical equipment	53	45	50	59	59	56
385	Ophthalmic goods	70	62	63	64	65	72
3851	Ophthalmic goods	70	62	63	64	65	72
386	Photographic equipment and supplies	68	70	71	74	67	74
3861	Photographic equipment and supplies	68	70	71	74	67	74
387	Watches, clocks, watchcases, and parts	31	40	37	59	54	44
3873	Watches, clocks, watchcases, and parts	31	40	37	59	54	44
39	Miscellaneous manufacturing industries	44	48	45	53	54	52
391	Jewelry, silverware, and plated ware	45	56	49	53	52	49
3911	Jewelry, precious metal	47	48	47	55	57	53
3914	Silverware and plated ware	47	67	69	48	47	39
3915	Jewelers' materials and lapidary work	36	46	44	48	41	50
393	Musical instruments	39	41	42	42	44	32
3931	Musical instruments	39	41	42	42	44	32
394	Toys and sporting goods	41	45	43	56	57	58
3942	Dolls and stuffed toys	39	57	62	50	63	43
3944	Games, toys, and children's vehicles	44	50	53	51	56	66
3949	Sporting and athletic goods, n.e.c.	40	42	39	60	57	56
395	Pens, pencils, office, and art supplies	44	52	51	53	51	55
3951	Pens and mechanical pencils	56	59	58	32	30	61
3952	Lead pencils and art goods	49	42	42	89	87	86
3953	Marking devices	34	49	46	82	84	29
3955	Carbon paper and inked ribbons	40	47	69	56	59	63
396	Costume jewelry and notions	41	50	50	64	64	60
3961	Costume jewelry	37	43	46	59	61	53
3965	Fasteners, buttons, needles, and pins	50	70	63	77	69	76
399	Miscellaneous manufactures	46	47	44	51	54	49
3991	Brooms and brushes	41	39	41	47	44	49
3993	Signs and advertising specialties	46	51	43	49	51	55
3995	Burial caskets	38	48	50	74	73	43
3996	Hard surface floor coverings, n.e.c.	60	67	69	79	72	77
3999	Manufacturing industries, n.e.c.	44	42	41	46	52	43

¹SIC 2067, Chewing Gum is combined with SIC 2064 as of 1994.

Note: Some data are revised to include additional information. See Introduction for a discussion of the revision.

Appendix A.
MQ-C1 Report Form and Instructions

The MQ-C1 form and instructions are shown on the following pages.

FORM **MQ-C1**
(1-15-98)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

SURVEY OF PLANT CAPACITY UTILIZATION FOURTH QUARTER 1997 (October-December)

NOTICE – Response to this inquiry **is required by law (title 13, United States Code)**. By section 9 of the same law, your report to the Census Bureau is **confidential**. It may be seen only by sworn Census employees and may be used only for statistical purposes. The law also provides that copies retained in your files are immune from legal process.

In correspondence pertaining to this report refer to the **CENSUS FILE NUMBER (CFN) (11 digits)**

IMPORTANT

PLEASE READ INSTRUCTIONS AND DEFINITIONS BEFORE COMPLETING FORM

Please correct errors in name, address, and ZIP Code. ENTER street and number if not shown.

Item 1 OPERATIONAL STATUS

Mark (X) ONE box which best describes this establishment at the end of 1997. See instructions for reporting.

12 In operation – Complete items 2 through 6.

13 Temporarily idle – See instruction sheet – Complete items 2–6.

14 Sold or leased to another company
See instruction sheet

15 Permanently ceased operations –
See instruction sheet.

} Give date	16	Month	Year

Item 2 VALUE OF PRODUCTION

ACTUAL PRODUCTION

	4th QTR. 1997		4th QTR. 1996	
\$	Mil.	Thou.	Mil.	Thou.
a. Report market value of actual production for the 4th quarter of 1997	23			

FULL PRODUCTION CAPABILITY

	4th QTR. 1997		4th QTR. 1996	
\$	Mil.	Thou.	Mil.	Thou.
b. Estimate the market value of production of this plant as if it had been operating at full production capability in the 4th quarter of 1997.	34			

Assume:

- only machinery and equipment **in place and ready to operate**.
- **normal** downtime.
- availability of labor, materials, utilities, etc. **ARE NOT** limiting factors.

- the number of shifts, hours of operation, and overtime pay that can be **sustained** under **normal** conditions and a **realistic** work schedule in the long run.
- the **same product mix** as in the fourth quarter.

Is your estimate of actual production divided by full production a reasonable estimate of your sustainable capacity use in the 4th quarter?

Yes No – Please review your full production estimate

c. If your estimate of 1997 fourth quarter **full production capability** has changed compared to 1996, mark (X) the primary reasons.

- 35 Building capital expenditures
- 36 Machinery capital expenditures – Include new, replaced, or enhanced machinery
- 37 Building retirements
- 38 Machinery retirements
- 39 Price changed but product mix is the same
- 40 Revised estimation assumption with no change in plant or operations

- 41 Change in method of operation
- 42 Change in product mix or product specifications
- 43 Change in material input
- 48 Other – Specify ↴

49 _____

Item 3 WORK PATTERNS OF FOURTH QUARTER OPERATIONS 1997

Column (1) – Report work patterns for actual operations in the 4th quarter of 1997.
 Column (2) – Mark (X) if work patterns varied by shift (only if plant operated more than 1 shift).
 Column (3) – Report work patterns as if the plant operated at full production capability as defined in item 2b.

Characteristics of work patterns.

- a. Number of shifts per day
- b. Days per week in operation
- c. Plant hours per week in operation
- d. Weeks in operation in the quarter.
- e. Average number of production workers
- f. Total hours worked by production workers during the fourth quarter
- g. Overtime hours included in total hours

	Actual operations (Number) (1)			Mark (X) if varied by shift. (2)	Full production capability (Number) (3)		
	Mil.	Thou.	Hrs.		Mil.	Thou.	Hrs.
90							
91							
92							
93							
94							
95							
96							

Item 4 FOURTH QUARTER ACTUAL OPERATIONS VS FULL PRODUCTION CAPABILITY FOR 1997

a. If this plant's actual production in the 4th quarter was less than full production capability, mark (X) the primary reasons:

- | | | |
|--|--|---|
| 51 <input type="checkbox"/> Not most profitable to operate at full production capability | 55 <input type="checkbox"/> Lack of sufficient fuel or electric energy | 60 <input type="checkbox"/> Strike or work stoppage |
| 52 <input type="checkbox"/> Insufficient supply of materials | 56 <input type="checkbox"/> Equipment limitations | 61 <input type="checkbox"/> Seasonal operations |
| 53 <input type="checkbox"/> Insufficient orders | 57 <input type="checkbox"/> Storage limitations | 62 <input type="checkbox"/> Environmental restrictions |
| 54 <input type="checkbox"/> Insufficient supply of local labor force/skills | 58 <input type="checkbox"/> Logistics/transportation constraints | 63 <input type="checkbox"/> Other – Specify <input checked="" type="checkbox"/> |
| | 59 <input type="checkbox"/> Sufficient inventory of finished goods on hand | 69 _____ |

b. If actual operations in the 4th quarter were less than full production capability, how quickly could you increase to that level, if necessary? Assume sufficient demand for your product. Mark (X) the shortest amount of time you would require.

- 71 Less than 3 months 72 3 to 6 months 73 7 to 12 months 74 More than one year

Item 5 NATIONAL EMERGENCY PRODUCTION

	NATIONAL EMERGENCY PRODUCTION			
	4th QTR. 1997		4th QTR. 1996	
\$	Mil.	Thou.	Mil.	Thou.
99				

a. Estimate the value of production for this plant as if it had been operating under national emergency conditions in the 4th quarter of 1997.

Assume:

- full use of all your machinery and equipment, including that requiring reconditioning.
- plant production as close to 168 hours per week as possible, including extra shifts.
- minimal downtime.
- funding, labor, materials, components, utilities, etc., are fully available to you and your suppliers.
- your product mix is permitted to change.
- you can sell all of your output

See the instruction sheet for additional guidance.

b. If actual operations in the 4th quarter were less than national emergency production, how quickly could you increase to the national emergency production level if given emergency priority by the government? Mark (X) the shortest amount of time you would require.

- 82 Less than 3 months 83 3 to 6 months 84 7 to 12 months 85 More than one year

911 Remarks

Item 6 PERSON TO BE CONTACTED REGARDING THIS REPORT – Print name and telephone number.

Name	Telephone →	Area code	Number
	()		

RETURN COMPLETED FORM TO

BUREAU OF THE CENSUS
 1201 EAST 10TH STREET
 JEFFERSONVILLE, IN 47132-0001

MQ-C1-1
(12-87)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

INSTRUCTIONS AND DEFINITIONS 1997 SURVEY OF PLANT CAPACITY UTILIZATION

AUTHORITY AND CONFIDENTIALITY – Response to this inquiry is required by law (Title 13, U.S. Code). By section 9, of Title 13, U.S. Code, your report to the Census Bureau is confidential. It may be seen only by sworn Census Bureau employees and may be used only for statistical purposes. The data cannot be used for regulation or enforcement. Copies of your report retained in your files are immune from legal process. Response is not required to any information collection form unless it displays a valid approval number from the Office of Management and Budget. This 8-digit number appears in the upper right corner of the form.

PLEASE READ CAREFULLY BEFORE COMPLETING FORM

PUBLIC REPORTING

Public reporting burden for this collection of information is estimated to average 2 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Associate Director for Administration/Comptroller, Attn: Paperwork Reduction Project 0607-0175, Room 3104, FB-3, Bureau of the Census, Washington, DC 20233.

WHO SHOULD REPORT?

This report covers the manufacturing plant named in the address box of the form. If your company operates more than one location, **REPORT ONLY FOR THOSE PLANTS SELECTED FOR THIS SAMPLE SURVEY.** A report form and instruction sheet are enclosed for each plant selected.

Since some of the information necessary to complete this form may not be in your records, **CONSULT THE PLANT MANAGER** on questions regarding full production capability and emergency production.

WHAT TO REPORT?

This survey form primarily asks for 3 levels of operating capability of this plant in the fourth quarter of 1997:

(1) the market value of actual goods produced;

(2) the value of products that could have been produced if the plant was operating at full capacity in the fourth quarter; and

(3) the value of products that could have been produced if required in a national emergency.

The instructions and definitions on this sheet offer more detail and guidance to help you respond.

If 1996 data are NOT printed on the form, you do not need to enter data for that period. Comparable data for 1996 are printed on the form if the plant was selected to participate in the 1996 survey.

WHEN TO REPORT

Complete the survey form and return it in the enclosed return envelope by the date printed on the top of the form. If you have misplaced the return envelope, mail the completed form to:

Bureau of the Census
1201 East 10th Street
Jeffersonville, IN 47132-0001

HOW TO REPORT

Answer all questions on the report form beginning with item 1. Follow the instructions for each item given on this sheet.

Report market value of production figures in **thousands of dollars.** For example, if value of production is 1,125,788 dollars, enter the figure as follows:

Mil.	Thou.
1	126

For information concerning the possible use of reporting formats other than the form provided, such as computer diskettes or printouts, contact Mr. Ron Taylor at (301) 457-4701.

NAME AND ADDRESS

Review the name and address of this plant printed in the top right corner of the report form. Line out any errors and make any necessary corrections or additions in the address box.

Item 1 – OPERATIONAL STATUS

Report the status of operations at this plant at the end of 1997 by marking the appropriate box.

In Operation – Complete items 2 through 6.

Idle Plants – Complete items 2 through 6.

- a. If this plant was temporarily idle during the **entire fourth quarter** report actual operations for the various items as zero where appropriate.
- b. If this plant was temporarily idle during **only part of the fourth quarter** report the actual operations for the time the plant was in operation.

For both cases, report full production and emergency production capabilities based on the plant's peak quarterly production during 1997.

Sold or Leased Plant – If this plant was sold or leased to another company, indicate the month and year this action took place.

- a. If you still maintain records for this plant, complete items 2 through 6.
- b. If you do not have 4th quarter information about this plant, complete item 6 only and return the form.

Permanently Ceased Operations – Indicate the month and year when operations ceased at this plant. If the plant was in operation at ANY time during the fourth quarter of 1997, complete items 2 through 6. Report full production and emergency production capabilities, as if the plant operated the **entire** quarter.

SPECIAL NOTE:

Seasonal Operations

- a. If this plant is usually temporarily idle during the fourth quarter *due to seasonal factors*, report as instructed for idle plants.
- b. If this plant was not temporarily idle during the fourth quarter, but its operations vary substantially from quarter to quarter, *due to seasonal factors*, complete items 2 through 6, and report full production and national emergency production capabilities based on the plant's peak quarterly production during the year.

For both types of seasonal operations, check "Seasonal Operations" in item 4a if actual operations are less than full production capability.

Item 2 – VALUE OF PRODUCTION**Item 2a – MARKET VALUE OF PRODUCTION**

Report the value of production based on estimated sales price(s) of what was produced during the fourth quarter, not fourth quarter sales. If production at this plant consists of only interplant transfers, use method (2) below to calculate market value of production.

Three methods – to estimate market value of goods produced during the fourth quarter:

- (1) Estimate the sales price(s) of item(s) produced, then multiply the sales price(s) by the total number of items produced during the fourth quarter.
- (2) Use book figures of actual production costs plus an estimate of markup to cover overhead and profit.
- (3) Use fourth quarter value of shipments f.o.b. (freight on board) from the plant (including the value of interplant transfers within a company, in addition to direct costs of production, but excluding resales and miscellaneous receipts) plus any additions or subtractions to the finished stock of inventories present before the fourth quarter (excluding materials and supplies). [Value of production = value of shipments + value of ending inventory – value of beginning inventory].

SPECIAL NOTE:

Do **not** include manufacturing contracted to others. If you contract out all of your manufacturing, please state this in the "Remarks" section, complete item 6, and return the form. **Job shops and custom orders:** For actual production, report value of work done in the fourth quarter of 1997.

Publishing/printing plants: For actual production, report your printing sales only (NOT advertising sales) for the location named in the address box of the form. Do not include any printing that is contracted out.

Item 2b – FULL PRODUCTION CAPABILITY

Read the definition and assumptions regarding full production capability. Estimate your market value of products that would have been produced if the plant was operating at full capacity in the fourth quarter. Use one of the two methods suggested below or your own computations.

Be careful to distinguish between full production that **COULD** be sustained in the long run and emergency production levels which would **NOT** be sustainable in the long run.

Full Production Capability – The maximum level of production that this establishment could reasonably expect to attain under **normal** and **realistic** operating conditions. In estimating market value at full production capability, consider the following:

- Assume **only** the machinery and equipment in place and ready to operate will be utilized. Do not include facilities or equipment that would require extensive reconditioning before they can be made operable.
- Assume **normal** downtime, maintenance, repair, and cleanup. If full production requires additional shifts or hours of operation, then appropriate downtime should be considered in the estimate.

Item 2b – FULL PRODUCTION CAPABILITY – Continued

- Assume number of shifts, hours of plant operations, and overtime pay that can be sustained under **normal** conditions and a **realistic** work schedule.
- Assume availability of labor, materials, utilities, etc., are **not** limiting factors.
- Assume a product mix that was **typical** or representative of your production during the fourth quarter. If your plant is subject to short-run variation assume the product mix of the current period.
- Do not assume increased use of productive facilities outside the plant for services (such as contracting out subassembly work) in excess of the proportion that would be normal during the fourth quarter.

SPECIAL NOTE:

Job shops and custom orders: For full production, estimate the market value of work that you could have accomplished under sustainable operating conditions and if you had sufficient orders.

Publishing/printing plants: For full production, report printing sales for this location as if it were running at peak circulation.

Two Methods to estimate market value of production when operating at full production capability:

- (1) If you have a reliable or accurate estimate of your plant's sustainable capacity utilization rate: **Divide** your market value of production at **actual** operations (item 2c) by your current **rate of capacity** utilization (in decimal form). For example, if your value of actual operations for the fourth quarter is \$1,200,000 and your plant is currently at 80% capacity, divide \$1,200,000 by 0.80 for a full production capability of \$1,500,000.

$$\frac{\text{Actual Value of Production}}{\text{Capacity Utilization Rate}} = \text{Market value of production at Full Capacity}$$

Your plant's capacity utilization rate should be based on a capacity output measure that your plant could have sustained under **normal**, not emergency, conditions.

- (2) For each product, estimate the number of items that could have been produced if operating at full production, as defined by the assumptions given. Multiply the number of items produced by its sales price (or market value). For example, if you can produce 25,000 items in the fourth quarter, under full production criteria, and the sales price (market value) for each item is \$4.50, then multiply 25,000 times \$4.50 for a full production capability of \$112,500.

$$\text{Number of items produced} \times \text{Sales price (Market Value)} = \text{Market value of production at Full Capacity}$$

If producing **more than one product**, **sum** the market values of production at full production estimated for each product (assuming the same product mix) for a **total** value of full production for the plant.

Enter your estimate for value of full production in item 2b.

Divide your estimate for actual production by full production capability. **Is this a reasonable percentage of your sustainable capacity use in the 4th quarter of 1997?** Mark (X) yes or no. If no, please review your full production capability estimate. If yes, continue with the next item.

Item 2c – Comparing full production capability between fourth quarters of 1996 and 1997

If the value of full production for the fourth quarter of 1997 differs from 1996, mark (X) the primary reasons for the change.

Item 3 – WORK PATTERNS OF FOURTH QUARTER OPERATIONS

In column 1, report work patterns for the following characteristics covering actual operations in the 4th quarter of 1997:

Number of shifts per day – Report the average number of shifts per day in the fourth quarter. Report partial shifts in decimal form. For example, for an 8 hour shift and a 4 hour shift, report 1.5 shifts. Do not consider maintenance, administrative, or support operations as additional shifts. Do not consider overtime hours as fractional shifts.

If your plant has departments or assembly lines that operate at varied periods of time, report number of shifts, days per week, hours per week and weeks in operation in the quarter for the production department operating the greatest number.

Days per week in operation – Report the most typical pattern during the quarter.

Plant hours per week – Report the typical number of hours the plant was in production during a single week (out of 168 maximum hours). Do not report the number of person hours worked (see below).

Weeks in operation in the quarter – Report the total number of weeks the plant operated during the fourth quarter.

Number of production workers – Report all production workers at this establishment who received pay for part of the pay period which included November 12th. Include all persons on paid sick leave, paid holidays, and paid vacation during this pay period. Include temporary production workers whose services are obtained through temporary employment agencies.

Item 3 – WORK PATTERNS OF FOURTH QUARTER OPERATIONS – Continued

Include workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power plant), record keeping, and other closely associated services. Include truck drivers delivering ready-mixed concrete.

Exclude all nonproduction personnel, including those engaged in supervision above line-supervisor level, sales, sales delivery (truck drivers and helpers), advertising, credit, collection, installation and servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional and technical.

Total hours worked by production workers during the fourth quarter – Report all production hours worked, including overtime hours, but excluding paid vacations, holidays, or sick leave. Include hours worked by temporary production workers.

Overtime hours included in total hours above – Report total number of overtime hours included in the reported number of production worker hours.

In column 2, mark (X) if work patterns varied by shift (if the plant operated more than 1 shift). **In column 3**, report work patterns as if the plant operated at full production capability as defined in item 2b.

Item 4 – ACTUAL OPERATIONS VS. FULL PRODUCTION CAPABILITY

Compare the actual value of production in the fourth quarter of 1997 to the estimated value of full production.

Item 4a – Mark (X) reasons why your actual operations were less than the estimated value of full production capability, if appropriate.

Item 4b – Select a time period that would have been reasonable to increase output to full production level.

Item 5 – NATIONAL EMERGENCY PRODUCTION

Read the definition and assumptions regarding national emergency production. Estimate your value of production under national emergency conditions for the fourth quarter of 1997. Use your own computations or methods similar to those described for estimating full production capability.

SPECIAL NOTE: Your value of production at national emergency levels should be **greater than or equal to** your value of full production capability. If it is less than your full production capability, please review your computations.

National Emergency Production – The maximum level of production that this plant could expect to attain and sustain for one year or more under national emergency conditions.

National emergency conditions are situations, such as a military mobilization or natural disaster, which are likely to create widespread excess demand requiring additional work shifts.

For example, military mobilization may require increased production of food, clothing, building supplies, and conversion of plants to produce alternative products in addition to traditional defense hardware. Devastation from natural disasters, such as hurricanes, floods, earthquakes, or fire, may require increased production of similar goods as well as increased production to compensate for plants damaged or destroyed.

In estimating national emergency production, consider the following:

- Assume full use of **all** machinery and equipment in place (including machinery and equipment that would require extensive reconditioning before they could be made operable).
- Assume minimal downtime and **multi-work shift** operations.
- Assume plant production as close to 168 hours per week as possible, including extra shifts (e.g., operating 7 days per week, 24 hours per day less minimal downtime).
- Assume overtime pay, availability of labor, materials, utilities, etc., are **fully available** to you and your suppliers.
- Assume you can sell all your output.
- Assume your product mix can change.
- Assume increased use of productive facilities outside the plant for services (such as contracting out subassembly work) in excess of the proportion that would be normal during the fourth quarter.

SPECIAL NOTE

Jobs shops and custom orders: For national emergency production, estimate the market value of work that could have been done if you received additional orders assuming maximum number of employees working multiple shifts that the facility can accommodate. **Publishing/printing plants:** For national emergency production, report value of printing if operating machinery as close to 168 hours/week as possible.

Item 5b – Select a time period that would have been reasonable to increase output to emergency production level, if required.

If you have any questions concerning the definitions or instructions, please contact the Special Studies Branch of the Manufacturing and Construction Division on (301) 457-4681.

MQ-C1-L1
(1-98)



UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, DC 20233-0001
OFFICE OF THE DIRECTOR

FROM THE DIRECTOR
BUREAU OF THE CENSUS

The Census Bureau is conducting the 1997 Survey of Plant Capacity in cooperation with the Federal Reserve Board and the Department of Defense. This survey measures changes in the use of production facilities. Private companies and industry analysts use the data for assessing industry trends, market potential, and capacity to produce current and future products. Government analysts use the estimates for developing monetary and fiscal policy, predicting investment demand, and assessing industry's ability to meet increasing demand for goods quickly in a crisis situation.

We have selected your manufacturing plant for the 1997 survey and have enclosed the materials you need to participate. Please report information covering the fourth quarter of 1997. **Please read the instructions, complete the form, and return it by the date printed on the form.** Federal law requires your response to this form and requires us to keep your report strictly confidential. Only sworn Census Bureau employees will see your information, and they will use it only for statistical purposes.

We recognize that not all firms keep records of capacity utilization, and capacity may change as products and production methods change. Please utilize your business expertise and judgment to complete this form. Due to the nature of the questions asked, **please enlist the help of plant managers or engineers** and use the "Remarks" section to provide any needed explanations.

Thank you in advance for your cooperation. If you have any questions or would like assistance, please call my staff on 1-301-457-4681. If you need additional forms or an extension in reporting time, please call our processing office on 1-812-218-3331.

Sincerely,

Martha Farnsworth Riche

Enclosures

Appendix B.

Qualifications of the Data

DEFINITIONS AND CONCEPTS

Although survey respondents were provided detailed instructions for estimating full production capacity and national emergency production capacity (see Appendix A), it is extremely difficult to translate the concept of plant capacity into a working definition which is applicable to all industries and situations. A host of problems are inherent in any attempt to measure capacity. Following are some of the more significant:

1. Telephone conversations with respondents have revealed that there are a variety of methods by which plants can measure their capacity. For example, it is customary for petroleum refineries to use an engineering concept of capacity based on maximum throughput during around-the-clock operations, with allowance made for maintenance or other necessary downtime. Other industries use different methods. They might base capacity on the maximum number of work hours of their labor force, on a past peak performance period, or on any number of other methods.

In order to improve the consistency of reporting across industries, the Bureau of the Census made an attempt to prescribe a standardized method for calculating levels of capacity and capacity utilization. Respondents across industries were asked to report production by the plant for actual, full production, and national emergency levels of production, in terms of market value of production, and given specific assumptions to follow in estimating each level of production (see Appendix A). The capacity utilization rates estimates produced in this report are calculated as a ratio of actual value of production to full production and national emergency values of production.

2. Full production limitations. Respondents were instructed as follows when estimating full production capacity: "Do not consider overtime pay, availability of labor, materials, utilities, etc., to be limiting factors." However, some respondents appear to be unrealistic in reporting their full production operations. For example, some establishments defined full production capacity as continuous operations (7 days a week, 24 hours a day) even though they were currently operating a single shift and admitted they could not expect realistically to operate continuously with their present plant and equipment or within their industry or locality. Census staff members have discussed the most questionable estimates with respondents and adjusted the

reports were appropriate; however, there is a distinct element of subjectivity, and it is apparent that not all plants have defined full production capacity in realistic terms.

3. National emergency production limitations. Some individual plants do not differentiate between their full production capacity and national emergency capacity, while some do. Therefore, for some individual plants, the levels of capacity and capacity utilization rates calculated for full production and national emergency are the same. For these plants, no measurable difference between full production and national emergency capacity levels or capacity utilization can be obtained.

Census staff members have discussed the most questionable estimates with respondents and adjusted the reports where appropriate; however, there is a distinct element of subjectivity, and it is apparent that not all plants have defined national emergency capacity in realistic terms.

4. Year-to-year variations in reported data. There is considerable year-to-year change in reported capacity and capacity utilization for individual plants. Some of this reflects real change in capacity due to additions or retirements of plant and equipment, change in product mix, or change in productivity. Other changes; however, are the result of response variations which are part of the nonsampling errors described in the following section on sampling and nonsampling errors. These variations, which often result from different personnel completing the form, include different judgmental decisions about work patterns and what plant and equipment to include in estimating capacity. At the summary levels, the individual establishment changes (either up or down) have a tendency to cancel each other.

SAMPLING AND NONSAMPLING ERRORS

The survey estimates are subject to both sampling and nonsampling errors. Nonsampling errors include various response and operational errors; errors of collection, reporting, transcription, and bias due to nonresponse, etc. These errors would also occur if a complete canvass were conducted under the same conditions as this survey. Most of the important operational errors were detected and corrected in the course of the review of the data for reasonableness and consistency.

However, because of the definitional and conceptual problems associated with this survey, it is likely that the response errors are greater in magnitude than for other manufacturing surveys in which respondents are asked to report data that are generally kept as a matter of record. Explicit measures of the nonsampling errors are not available. As derived, the estimated standard errors, which are discussed below, include part of the effect of these nonsampling errors. The total error, though, will exceed the standard errors shown and, for particular estimates, may exceed the standard errors by a considerable amount.

The panel selected for this survey was sampled using probabilities proportionate to size whereby each sampling unit was given an independent chance of selection. The particular sample selected was but one of many similar probability samples that could have resulted using this sampling methodology. Probabilities were assigned so that an expected sample size of approximately 17,000 would result, but the independent feature of the sample design does not preclude samples being drawn of a size other than 17,000. Each of the possible samples would yield somewhat different sets of results. The sampling errors—the differences between the estimates obtained from the sample actually selected and the results theoretically obtainable from a comparable complete canvass of the same target universe—are unknown. However, the estimated standard error of the level of the utilization rate and the estimated standard error for the year-to-year change are guides to the potential size of the sampling error.

The estimated standard error of a utilization rate, or of a year-to-year change in a utilization rate, may be used to define a confidence interval about that rate or change such that the complete coverage result will be included within that interval with known probability. As examples:

1. The interval defined by one standard error below the estimate of level or change to one standard error above contains the complete coverage result with approximately 67-percent confidence.
2. The interval defined by two standard errors below and above the estimate of level or change contains the complete coverage result with approximately 95-percent confidence.
3. The interval defined by three standard errors below and above the estimate of level or change contains the complete coverage result with approximately 99-percent confidence.

Thus, an inference that the complete coverage result lies within the indicated intervals would, with the prescribed confidences, be correct. For example, if an estimated utilization rate is shown as 80 percent, with an associated standard error of 3 percent, there is approximately 67-percent confidence that the interval 77 percent to 83 percent includes the complete coverage rate, about 95-percent confidence that the interval 74 percent to 86 percent would include the complete coverage rate, and approximately 99-percent confidence that the interval 71 percent to 89 percent would include the complete coverage rate.

Note that the estimates of the standard errors are derived from the sample and are also subject to sampling error.

Appendix C.

Description of Survey Sample and Estimating Procedure

SURVEY SAMPLE

The estimates presented in this report are derived from a probability sample which initially contains approximately 17,300 manufacturing establishments. The sample selected for the 1996 survey was used for the 1997 survey. The 1996 sample was originally selected from the 1992 Census of Manufactures supplemented with newly formed manufacturing plants from 1993 through 1995. The 1996 sample was then augmented with a sample of new plants formed during 1996 to yield the final sample for the 1997 survey. The number of new plants in 1996 to be selected was determined so as to offset the attrition rate from the 1996 sample, thus maintaining the total sample size of approximately 17,300 establishments.

The 1992 Census of Manufactures universe contained about 370,000 establishments. Approximately 237,000 records were mailed a census form while the remainder were imputed based on administrative data obtained from Internal Revenue Service and/or Social Security Administration records. These small administrative record cases were not part of the sampling frame for the Survey of Plant Capacity Utilization. All major manufacturing industry groups are represented in the survey.

For the original sampling operation, probabilities of selection were assigned proportionate to census of manufactures' total value of shipments. Actual probabilities were based upon predetermined reliability constraints on industry total value of shipments. The manufacturing industries were split into two basic groups. One group was the 188 industries identified by the Department of Defense (DOD) for the 1994 survey as primary industries. The remaining manufacturing industries comprised the second group. For each group five priority categories were defined. The five categories corresponded to levels of improvement desired in the industry relative standard errors obtained in the 1994 survey. These levels of improvement were determined by examining how actual, observed relative standard errors on 1994 industry utilization rates related to the relative standard error constraints on industry shipments that were used to control the sample allocation by industry in 1994. We defined the categories based on a judgement of how much, if at all, the previous constraints should be reduced. The categories ranged from priority category 1 (industries in need of most improvement over their 1994 relative standard errors) to priority category 5 (industries in need of no improvement over their 1994 relative standard errors). Depending on the category, the sample control constraints

were lowered in progressively larger amounts from the constraints used in 1994. For the same category, DOD industry constraints were lowered more than non-DOD industry constraints. This was so even for category 5, where the DOD industry constraints were lowered slightly and the non-DOD constraints were not changed. The constraints assigned to these categories were made subject to the overall limitation of the sample size being about 17,300 establishments. When selected, an establishment's sample weight was the inverse of its probability of selection. Probabilities were adjusted prior to sampling if its inverse exceeded 120.

ESTIMATING PROCEDURE

The estimated full production rates shown in this report for the four-digit SIC industries in Table 1 were computed in the following manner:

$$R_j = \frac{\sum_i WT_{ij} VPA_{ij}}{\sum_i WT_{ij} VPF_{ij}}$$

where R_j is the utilization rate for the j th four-digit SIC industry, WT_{ij} is the sampling weight for establishment i in four-digit industry j ; VPA_{ij} is the actual value of production for establishment i in four-digit industry j ; VPF_{ij} is the value of production at the full production level; and the summations are for those establishments reporting value of production at both actual and full production level. (National emergency production rates are computed similarly, by substituting national emergency production (VPE) for VPF in the above formula.) This method does not require the estimation of data for individual nonrespondents. The process assumes that utilization rates for nonrespondents are the same as the average rates for respondents.

The estimated rates for the level of utilization shown in this report for the three- and two-digit SIC industries were computed in the following manner:

$$R_{(K)} = \frac{\sum_j VA_j}{\sum_j \left(\frac{VA_j}{R_j} \right)}$$

where $R_{(K)}$ is the utilization for the K th industry group (K can be three- or two-digit SIC or U.S. total); VA_j is the value added for the j th four-digit industry as published in the most

recent ASM or census of manufactures; and VA_j/R_j is the value added for the j th four-digit industry adjusted to full production or national emergency production levels of operation.

Value added is defined as the difference between sales values and the cost of merchandise sold without further manufacture, processing, or assembly.

Value added is used when aggregating three- and two-digit SIC industry measures to avoid duplication in figures of production that result when products of some establishments are also input materials for other establishments.

Most users of industrial data consider value added to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas. Therefore, using value added in the methodology to derive utilization rate measures should provide better estimates.

Estimates of the variances on these estimates for utilization rates of four-digit SIC industries were computed as:

$$\sigma^2(R_j) = \sigma^2(A_j/B_j) = \frac{1}{B_j^2} [\sigma^2(A_j) + R_j^2 \sigma^2(B_j) - 2R_j \sigma(A_j B_j)]$$

where $A_j = \sum_i (WT_{ij}) (VPA_{ij})$

$B_j = \sum_i (WT_{ij}) (VPF_{ij})$

$\sigma^2(A_j) = \text{Variance of } A_j = \sum_i (WT_{ij}) (WT_{ij} - 1) (VPA_{ij})^2$

$\sigma^2(B_j) = \text{Variance of } B_j = \sum_i (WT_{ij}) (WT_{ij} - 1) (VPF_{ij})^2$

$$\sigma(A_j B_j) = \text{Covariance of } A_j \text{ and } B_j = \sum_i (WT_{ij})(WT_{ij} - 1) (VPA_{ij})(VPF_{ij})$$

Estimates of variances of higher level aggregates $R_{(K)}$ were computed as follows:

$$\sigma^2(R_{(K)}) = \frac{1}{\left[\sum_j \left(\frac{VA_j}{R_j}\right)^2\right]} \left[\sum_j \sigma^2(VA_j) + R_{(K)}^2 \left[\sum_j \left(\frac{VA_j^2}{R_j^4}\right) (\sigma^2(R_j)) \right] - 2R_{(K)} \sum_j \left(\frac{1}{R_j}\right) \sigma^2(VA_j) \right]$$

where $\sigma^2(VA_j)$ is the ASM estimate of variance for value added in industry j , and where the summations range over the set of four-digit industries comprising the higher level industry group K . When census year value added data are utilized, then the variance terms $\sigma^2(VA_j)$ reduce to zero.

Estimates of the year-to-year change in the utilization rates at all SIC levels is the difference between the 2 yearly rates. We have not directly calculated estimates of the variances of the year-to-year change. For this publication, we assumed no correlation between the yearly rates. This assumption almost certainly results in an overstatement of the actual variances of change. Estimates of the variances of the year-to-year change between 1997 and 1996 were computed as:

$$\sigma_{97-96} = \sqrt{\sigma_{97}^2 + \sigma_{96}^2}$$