



UNITED STATES DEPARTMENT OF COMMERCE  
Bureau of the Census  
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AGE OF MANUFACTURING PLANTS

by

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What is the age breakdown of manufacturing plants in the United States? Which manufacturing industries are characterized by older or newer plants in comparison to the average age at the total manufacturing level? Are newer plants in some manufacturing industries more productive than older plants? The Bureau of the Census has developed a special file, based on the 1975 Annual Survey of Manufactures, which may have the information necessary to study these questions. The information contained in this file is described in the following paper and is used to develop an initial approach to study these questions.

A. Summary of Results - Establishments that started operations in 1950 or earlier accounted for nearly 60 percent of the total employment for all manufacturing. Interestingly, plants 25 years or older accounted for approximately 80 percent of the total employment in the Tobacco Products, Petroleum and Coal Products, and Primary Metal Products (including Steel) Industry Groups. For three of the four industries selected for additional research, there does not appear to be any conclusive difference between the newer plants and the older plants in terms of selected operating ratios. However, for the Inorganic Chemicals Industry, the newer plants appear to be more "productive" in terms of the operating ratios selected.

B. Source of Data - An inquiry concerning the first year of operations of a manufacturing plant was added to the 1975 Annual Survey of Manufactures (ASM), Form MA-100 (see Attachment A). The inquiry was added for use in a study of the average useable life span of machinery and equipment, which the Bureau of the Census was conducting for the Department of the Treasury. A file of establishment data containing the first year of operations information, as well as selected general statistics items and related operating ratios from the 1975 ASM, was then created (see Attachment B for a list of the general statistics items and operating ratios in the file). This file is the basis of our "Age of Plant" study.

Before discussing the first year of operations inquiry in detail, a brief description of the ASM survey sample seems appropriate. The ASM is an annual survey started in 1949 and conducted for each of the years between quinquennial censuses. The 1975 ASM was conducted using a probability sample of about 70,000 manufacturing establishments selected from a total of about 312,000 establishments. The sample was selected from the 1972 Census of Manufactures list supplemented by Social Security Administration (SSA) lists of new manufacturers that opened after 1972. As in the earlier surveys, companies rather than establishments were defined as the sampling units. The selected companies were required to submit separate reports for each of their plants so that new establishments of existing companies also were represented in the sample.

All companies that had any manufacturing establishments with 250 employees or more in the 1972 Census of Manufactures were included in the survey panel. These large companies, which were included with certainty, collectively account for more than two-thirds of total manufacturing employment. Smaller companies were sampled with probabilities ranging from 1.00 down to 0.005, in accordance with mathematical theory for optimum allocation of a sample.

C. First Year of Operations Inquiry - Attachment A contains a representation of the Item 13A, Plant History, inquiry as it appeared on the 1975 ASM form. The respondent was requested to complete the inquiry as follows:

1. In question 1, the respondent was requested to check the box (if 1950 or earlier) or indicate the year (if after 1950) that the company began to operate the plant. In many cases, the date the plant began operations lagged the date when the plant actually was constructed by a year or more. The year reported in question 1 was used as the first year of operations for those plants which were newly constructed.
2. In question 2, the respondent whose plant began operations after 1950 was requested to indicate whether the plant was newly constructed or leased completely equipped when started or whether the plant was purchased as a complete operating plant. The year the plant was newly constructed, leased, or purchased was also to be reported.
3. Question 3 only pertained to those plants which were purchased. The year that the plant originally began operations at its present location was to be reported (if known). This is the year that was used as the first year of operations for purchased plants. It should be noted that a large number of cases (particularly small plants) reported that they were purchased but did not know the original year the plant was started. These cases were excluded from the "Age of Plant" file.

Review of the first year of operations data was done in conjunction with review of the data needed for the study sponsored by the Treasury Department. This involved reviewing a time-series of data for establishments included in the ASM and/or census of manufactures between the years 1966-1975 and resulted in the identification of several establishments whose first year of operations information was inconsistent with the time-series of data. These problem cases were researched (the respondent occasionally indicated the reason on a report form) and frequently telephoned. Whenever one of the following situations was identified, the problem case was treated according

to Treasury Department specifications as described below. Unfortunately, many of these problem cases were probably never identified, especially when the situation described below occurred prior to 1966. It should be noted that individual respondents reported inconsistently in regard to the following situations.

1. For a plant which completely changed operations (such as converting from a textiles plant to a plastics plant) and which installed a new set of equipment due to the change, the desired date would be the first year of operations for the new operations.
2. For a plant which indicated that it was rebuilt due to fire or natural disaster, the year the plant began operations after being rebuilt was the desired date.
3. For a plant which indicated a change in location, the original first year of operations was used, if the plant remained in the same county. Otherwise, the year the plant began operations in the new county was used.
4. Finally, an establishment record identified as including general statistics data for two or more separate locations but reporting the first year of operations for only one of the locations was excluded from the "Age of Plant" file.

D. Coverage Problem - In addition to the large number of purchased establishments reporting that the original year the plant began operations was unknown, and the few cases involving the situations described above, nearly 25,000 cases either failed to answer the "Plant History" inquiry or reported inconsistent dates for questions 1 through 3 on the inquiry. An extensive telephone and mail followup was directed at the plants with 50 or more employees plus those establishments appearing on the Social Security Administration (SSA) lists of new manufacturers for 1974 and 1975. The followup was directed at these cases primarily because of the requirements for the Treasury-sponsored survey.

As a result of the followup and data review actions, 52,000 cases with "good" first years of operation remained in the "Age of Plant" file. These cases were tabulated on a weighted basis for the "Age of Plant" study and accounted for 86 percent of the total employment figure for all manufacturing as published in the 1975 ASM.

Because of the nonresponse rate and the resultant followup actions, it was expected that the 52,000 case "Age of Plant" file would be considerably biased towards establishments with 50 employees or more (as well as towards establishments which appeared on the SSA lists of new manufacturers for 1974 and 1975). However, as shown in Attachment C, establishments with less than 50 employees accounted for 11 percent of the total employment for the "Age of Plant" file on a weighted basis. This compares favorably with the 1975 ASM figures, i.e., 14 percent of the total employment for the plants with less than 50 employees.

E. Methodology of Study and Limitations of Methodology - Since our sample frame (the 1975 ASM) does not provide reliable estimates of establishment counts, it was decided to present the results of this study as a percent of the total manufacturing employment (or other general statistics item) for a given industry that was accounted for by each of five age of plant classes. It was decided to tabulate and analyze the general statistics data and operating ratios by age of plant class, rather than by each first year of operations, because of the relatively few establishments founded in a given year at the 4-digit Standard Industrial Classification (SIC) level. The five first year of operations classes are as follows:

1. 1950 and earlier
2. 1951 through 1960
3. 1961 through 1965
4. 1966 through 1970
5. 1971 through 1975

The percentage of the total manufacturing employment (or other general statistics item) in a given age class was computed by taking the ratio of the tabulated employment in the given class to the sum of the tabulated employment for all classes.

So far, we have described the limitations of the age of plant inquiry and the effect of our coverage activities on the file. However, there is one important limitation to this study that remains to be described. Within a given industry, there may be 30-year old establishments that have not significantly altered their plant or equipment over the years. There may also be establishments that have replaced all of their equipment and are essentially "new" although starting operations prior to 1950. According to the methodology of this study, these establishments would be grouped together for the purpose of comparing "productivity" ratios for different classes.

This problem might be resolved by changing the ranking criteria. Instead of using age of plant, the plants could be grouped based on the relative importance of the cumulative capital expenditures over a set number of years compared to the ending assets. Such a procedure for arraying plants was not done for this study, and we do not know what additional problems might be caused by such a procedure.

There are other difficulties in using only the age of plant as the basis for classifying establishments in an industry. In many industries, establishments making products falling into the same industry category may use a variety of processes with different "productivity" ratios. Also, within the same industry classification may be included establishments which are highly integrated and those which put only the finishing touches on an already highly fabricated item (the Steel Industry, SIC 331, included in this paper is an example of an industry consisting of integrated and non-integrated plants). This "establishment mix" situation could have a significant effect on the operating ratio for a given first year of operations class and could lead to erroneous conclusions when comparing the operating ratios for different age classes.

F. Sampling Errors - In addition to operational errors (errors of collection, response, etc.) and methodology limitations, the estimates are subject to sampling errors. The estimates developed from the ASM are apt to differ somewhat from the results of a survey covering all manufacturing companies but otherwise conducted under the same conditions as the actual ASM survey. The sampling errors - the differences between the estimates obtained and the results theoretically obtainable from a comparable complete coverage survey - are unknown. However, guides to the potential size of the sampling errors can be provided by computing the relative standard error of the estimate for each of the cells included in this study (the relative standard error is equal to the standard error divided by the estimated value to which it refers).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals, ranges that would include the comparable complete coverage value for specified percentages of all the possible samples. The complete coverage value would be included in the range:

1. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
2. From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
3. From three standard errors below to three standard errors above the derived estimate for nearly all possible samples.

Thus, if an estimated figure is shown as 50.0 with an associated relative standard error of 2 percent, there is approximately 67 percent confidence that the interval 49.0 to 51.0 includes the complete coverage total, about 95 percent confidence that the interval 48.0 to 52.0 includes the complete coverage total, and almost certain confidence that the interval 47.0 to 53.0 includes the complete coverage total.

Unfortunately, operational difficulties prevented us from computing the relative standard errors in time for these Joint Statistical Meetings. However, it should be noted that the published 1975 ASM relative standard errors for total employment at the all manufacturing level, for each 2-digit SIC Major Group (see Attachment D), and for all four of the 3- and 4-digit SIC industries included in this study are 2 percent or less. It should also be noted that the relative standard errors for the individual cells included in this study will be somewhat higher on the average than the ASM figures cited above. However, the magnitude of the difference is not expected to be greater than 3 or 4 percent on the average.

G. Results of the Study - As shown in Attachments D and E, establishments that started operations in 1950 or earlier accounted for 57 percent of the total employment for all manufacturing and 57 percent of the value added from manufacturing. For Major Industry Groups 21, Tobacco Products; 29, Petroleum and Coal Products; and 33, Primary Metal Products; establishments in the 1950 or earlier age group accounted for approximately 80 percent of the total employment for the industry group. On the other hand, for Major Industry Groups 23, Apparel; 24, Lumber and Wood Products; and 30, Fabricated Rubber and Plastics Products; establishments in the 1950 or earlier age group accounted for less than 50 percent of the total employment for the industry group. Furthermore, for these three groups, establishments that started operations in 1960 or earlier accounted for only 60 percent of the total employment. It should be noted that the figures in the 1971-1975 age group in Attachments D and E may be biased upwards because, as already noted, our followup actions concentrated on new plants originating in 1974 and 1975.

Charts 1-5 at the end of this paper contain graphs of selected general statistics items - total employment, value of shipments, and new capital expenditures for plant and equipment -- and selected operating ratios -- "value added by manufacturing<sup>1/</sup> per production-worker hour" (VA/MH) and "cost of materials plus salaries and wages (payroll) per dollar of shipments" ((CM+SW)/VS) -- by first year of operations class. These graphs are shown for the all manufacturing level and for four selected industries: SIC 281, Inorganic Chemicals; SIC 3079, Fabricated Plastics Products; SIC 331, Steel and Steel Products; and SIC 3573, Electronic Computing Equipment.

All Manufacturing Level - The general statistics data and operating ratios at the all manufacturing level are shown in Chart 1. We have already noted that the 1950 and earlier age group account for approximately 60 percent of the total employment. Also, of interest is the fact that the plants in the 1971-1975 age group account for only 7 percent of the total employment but 13 percent of the new capital expenditures.

The operating ratios at the all manufacturing level may be of interest to the reader. Conclusions regarding variations in operating ratios between age classes probably cannot be reached at the all manufacturing level, because of the many variables which are not accounted for by the methodology of the study. One such variable might be described as the "industry mix" (similar to the "establishment mix" situation described earlier). An example of this would be if many large petroleum refineries (with a high VA/MH) are constructed during the past 25 years and only a few other plants (consisting primarily of textile plants with a low VA/MH), then the VA/MH at the all manufacturing level would increase over the years. However, it would be erroneous to reach the conclusion that the newer plants are more "productive" in terms of VA/MH than the older plants. Because of this problem, it is useful to examine specific industries, although even for a specific industry the problem of "establishment mix" may be significant.

<sup>1/</sup> For most industries, value added by manufacture is derived by subtracting the total cost of materials (including materials, supplies, fuel, electric energy, cost of resales, and miscellaneous receipts) from the value of shipments (including resales) and other receipts, and adjusting the resulting amount by the net change in finished products and work-in-process inventories between the beginning and end of the year.

SIC 281, Inorganic Chemicals - The Inorganic Chemical Industry (Chart 2) resembles the all manufacturing level in terms of age of plants (55 percent of the total employment is accounted for by the plants founded in 1950 or earlier). Of interest, however, is the fact that the industry shows a progressive increase in VA/MH, as well as a decrease in (CM + SW)/VS, as the plants become "newer." At first, it was thought that the "industry mix" problem described previously was responsible for the trend. However, as the chart below illustrates, all 4-digit industries within SIC 281 increased over the years in terms of VA/MH. Thus, it seems unlikely that the "industry mix" within SIC 281 is solely responsible for the trend. Coverage for this industry is 92 percent in terms of total employment.

VA/MH by First Year of Operations Class  
for SIC 281, Inorganic Chemicals: 1975

Industry	Average VA/MH (1975)	First Year of Operations Class				
		1950 or earlier	1951- 1960	1961 1965	1966- 1970	1971- 1975
281	40.26	34.70	41.31	52.42	73.04	73.83
2812	48.41	34.60	67.37	58.53	78.21	(D)
2813	69.09	39.67	36.59	73.29	129.63	112.82
2816	30.28	22.44	37.96	28.42	32.37	112.04
2819	38.22	36.39	39.05	39.11	61.52	68.37

(D) Withheld to avoid disclosing figures for individual companies.

SIC 3079, Fabricated Plastics Products - The Fabricated Plastics Products Industry (see Chart 3) is a relatively young industry, with less than 30 percent of the total employment accounted for by plants founded in 1950 or earlier and less than 50 percent accounted for by the 1960 or earlier plants. Unlike SIC 281, the Plastics Industry does not exhibit a constant trend for VA/MH or (CM + SW)/VS. However, the "newer" plants (those constructed after 1950) do appear to be slightly more productive in terms of VA/MH than the "older" plants. Coverage for this industry is 74 percent in terms of total employment.

SIC 331, Steel - The Steel Industry (see Chart 4) appears to be relatively old with nearly 90 percent of the total employment accounted for by plants founded in 1950 or earlier. The operating ratios for SIC 331 do not indicate definitive patterns. Coverage for this industry is 82 percent in terms of total employment.



SIC 3573, Electronic Computing Equipment - This is another example of a "young" industry with only 30 percent of the total employment accounted for by plants founded in 1960 or earlier (see Chart 5). No definitive patterns are observed in the operating ratios graphs. Coverage for this industry is 89 percent in terms of total employment.

H. Suggested Special Tabulations - Our "work" with the "Age of Plant" file has suggested several areas where research seems appropriate. First, correlation of the age of plant data with relative size of the establishment (either based on total employment size or value of shipments data) would give information on whether small plants are clustered in the newer age classes or distributed proportionately in each of the age classes. Furthermore, size of establishment information might indicate a better correlation with the operating ratios than with the age of plant data.

A second study might be a correlation of the age of plant data with geographic information. This would give information on whether the newer plants are being constructed in the South, West, etc.

Finally, correlation of the age of plant data with other data items and other operating ratios (BTU's per man-hour of production workers, for example) might prove interesting. The correlated data item or operating ratio can be added to the "Age of Plant" file.

The Bureau of the Census will undertake special tabulations based on the "Age of Plant" file on a cost basis. These tabulations will be subject to review to make certain that the results are presented in statistical summaries and do not disclose data for individual companies. Inquiries about the "Age of Plant" file and requests for cost estimates for special tabulations should be sent to:

Mr. Milton Eisen  
Chief, Industry Division  
Bureau of the Census  
Washington, D. C. 20233

TABLE A

"Age of Plant" Inquiry on  
 1975 Annual Survey of Manufactures  
 Form MA-100

ITEM 13A - Plant History	1950 or earlier	After 1950 (Indicate year)
1. Year in which this company began to operate this plant	<input type="checkbox"/>	
2. This plant was: a. <input type="checkbox"/> Newly constructed or completely equipped when started b. <input type="checkbox"/> Purchased as complete operating plant .....		
3. If purchased, plant originally began operation at this location in: (if known)		

TABLE B - SELECTED GENERAL STATISTICS ITEMS AND SELECTED  
OPERATING RATIOS INCLUDED IN 1975 "AGE OF PLANT" FILE

<u>1975 General Statistics</u>	<u>1975 Operating Ratios</u>
1. Total employment*	1. Payroll per employee
2. Total salaries and wages	2. Production worker as percent of total employment
3. Production workers	3. Annual man-hours of production worker
4. Man-hours of production workers	4. Average hourly earnings of production workers
5. Workers wages	5. Cost of materials per dollar of shipments
6. Value added by manufacture*	6. Cost of materials and payroll per dollar of shipments*
7. Cost of materials	7. Value added per employee
8. Value of industry shipments*	8. Payrolls as percent of value added
9. Capital expenditures, new*	9. Value added per man-hour of production worker*
10. End-of-year inventories	10. End-of-year inventories per dollar of shipments

\*Used in this "Age of Plant" Study

TABLE C - TOTAL MANUFACTURING EMPLOYMENT  
BY EMPLOYMENT SIZE OF ESTABLISHMENT:

1972 Census of Manufactures, 1975 Annual  
Survey of Manufactures, and 1975 "Age of Plant" File  
(Cumulative Percentage)

Establishments with an average of -	Total Manufacturing Employment In Each Employment Size Category		
	1972 Census of Manufactures	1975 Annual Survey of Manufactures <sup>1/</sup>	1975 "Age of Plant" File <sup>1/</sup>
1-9 employees	2.8	2.6	1.6
10-49 employees	14.7	14.4	10.8
50-99 employees	24.7	24.1	20.5
100-249 employees	42.7	41.8	38.3
250-499 employees	58.1	57.3	54.5
500-999 employees	71.2	70.8	68.5
1000 employees or more	100.0	100.0	100.0

Note: Approximately 18,000 establishments included in the 1975 Annual Survey of  
Manufactures have been excluded from the 1975 "Age of Plant" file. These  
establishments account for 2.5 million employees on a weighted basis (nearly  
14 percent of the published 1975 Annual Survey of Manufactures figure at the  
total manufacturing level).

<sup>1/</sup> The 1975 Annual Survey of Manufactures and the 1975 "Age of Plant" figures have  
been tabulated on a weighted basis.

TABLE D - TOTAL EMPLOYMENT CONTRIBUTION BY FIRST YEAR OF OPERATIONS CLASS AND BY MAJOR INDUSTRY GROUP: 1975

Code	Industry Group	Number of Employees(1000)		Coverage Ratio (Percent)	First Year of Operations Class (Percent) 2/				
		Published 1/	Tabulated 2/		1950 and earlier	1951-1960	1961-1965	1966-1970	1971-1975
	All Manufacturing	17,216.3	14,758.1	86	57	16	9	11	7
20	Food and Kindred Products	1,527.3	1,299.4	85	65	12	8	9	6
21	Tobacco Products	66.2	63.9	97	81	(D)	5	4	(D)
22	Textile Mill Products	838.4	705.1	84	69	8	7	10	6
23	Apparel, Other Textile Products	1,212.5	844.9	70	47	15	12	14	12
24	Lumber and Wood Products	591.7	465.3	79	49	13	11	14	13
25	Furniture and Fixtures	397.8	329.4	83	54	15	9	11	12
26	Paper and Allied Products	589.5	548.4	93	61	15	9	11	5
27	Printing and Publishing	1,072.8	854.9	80	55	14	8	12	10
28	Chemicals, Allied Products	848.1	785.9	93	59	18	7	11	5
29	Petroleum and Coal Products	141.1	135.9	96	82	9	3	4	3
30	Rubber, Misc. Plastics Products	587.4	512.3	87	44	15	13	17	10
31	Leather, Leather Products	240.0	195.2	81	59	14	9	12	6
32	Stone, Clay, Glass Products	591.6	499.8	84	60	16	9	9	7
33	Primary Metal Industries	1,090.6	1,007.7	92	77	10	4	6	4
34	Fabricated Metal Products	1,419.9	1,147.4	81	53	17	9	12	9
35	Machinery, Except Electric	1,979.2	1,706.4	86	55	16	8	13	8
36	Electric, Electronic Equipment	1,520.9	1,392.6	92	41	27	12	13	7
37	Transportation Equipment	1,604.4	1,500.2	94	64	20	6	6	4
38	Instruments, Related Products	502.0	446.3	89	44	21	11	14	11
39	Misc. Manufacturing Industries	394.9	315.3	80	49	(D)	12	15	(D)

(D) Withheld to avoid disclosing figures for individual companies

1/ Source: 1975 Annual Survey of Manufactures

2/ Source: 1975 Age of Plant File

3/ The coverage ratio is equal to the ratio of the "tabulated" employment figure to the "published" employment figure.

TABLE E - VALUE ADDED CONTRIBUTION BY FIRST YEAR OF OPERATIONS CLASS AND BY MAJOR INDUSTRY GROUP, 1975

Code	Industry Group	Value Added (million dollars)		Coverage Ratio (Percent)	First Year of Operations Class (Percent)				
		Published <sup>1/</sup>	Tabulated <sup>2/</sup>		1950 and earlier	1951-1960	1961-1965	1966-1970	1971-1975
	All Manufacturing	441,850.0	384,819.3	87	57	17	8	11	7
20	Food and Kindred Products	48,142.0	42,680.2	89	65	12	8	9	6
21	Tobacco Products	3,722.0	3,686.1	99	85	(D)	1	1	(D)
22	Textile Mill Products	12,109.9	9,986.4	82	63	10	8	11	8
23	Apparel, Other Textile Products	13,381.2	10,118.6	76	48	14	12	15	11
24	Lumber and Wood Products	10,455.8	8,223.5	79	48	13	11	14	13
25	Furniture and Fixtures	6,310.6	5,315.0	84	53	16	9	12	11
26	Paper and Allied Products	17,926.8	17,079.7	95	58	17	9	12	4
27	Printing and Publishing	24,503.6	19,893.3	81	54	16	8	11	11
28	Chemicals, Allied Products	45,116.0	42,148.1	93	52	21	10	13	4
29	Petroleum and Coal Products	10,090.2	10,038.8	99	80	7	5	3	6
30	Rubber, Misc. Plastics Products	13,674.2	12,342.8	90	44	14	14	19	9
31	Leather, Leather Products	3,187.2	2,605.5	82	61	12	10	12	6
32	Stone, Clay, Glass Products	15,337.6	12,917.5	84	58	17	9	10	6
33	Primary Metal Industries	30,554.4	28,288.8	93	74	11	4	6	4
34	Fabricated Metal Products	34,095.8	28,388.0	83	52	17	10	12	9
35	Machinery, Except Electric	51,471.0	45,605.8	89	55	17	8	12	8
36	Electric, Electronic Equipment	34,804.4	32,361.7	93	42	28	11	12	7
37	Transportation Equipment	45,155.2	42,931.3	95	63	22	5	6	4
38	Instruments, Related Products	14,116.2	13,109.9	93	41	27	10	12	9
39	Misc. Manufacturing Industries	7,695.9	6,053.2	79	50	(D)	11	15	(D)

(D) Withheld to avoid disclosing figures for individual companies

<sup>1/</sup> Source: 1975 Annual Survey of Manufactures<sup>2/</sup> Source: 1975 Age of Plant File<sup>3/</sup> The coverage ratio is equal to the ratio of the "tabulated" value added figure to the "published" value added figure.

# ALL MANUFACTURING - 1975

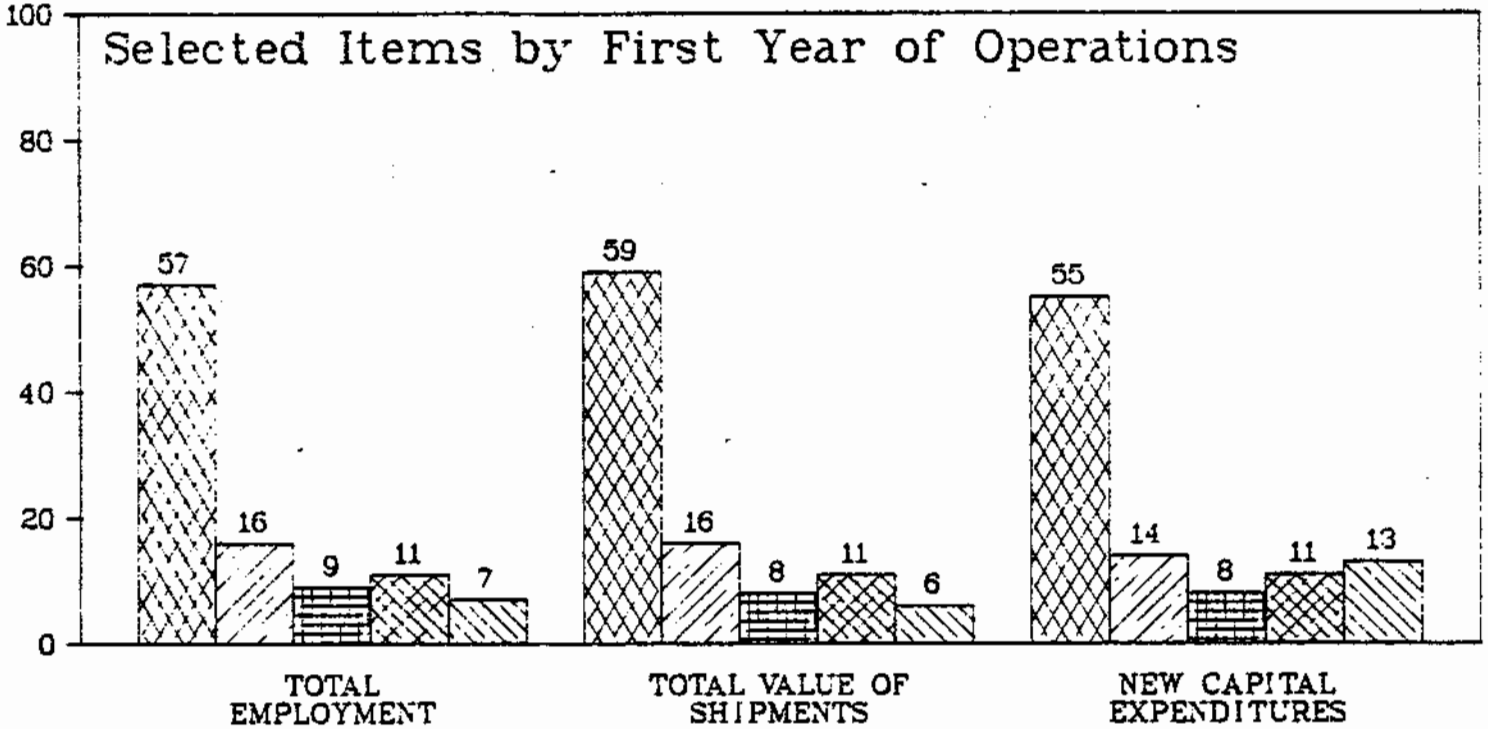
C H A R T  
1

## First Year of Operations:

- ☒ 1950 and earlier
- ▨ 1951 thru 1960
- ▩ 1961 thru 1965
- ▧ 1966 thru 1970
- ▦ 1971 thru 1975

Percent

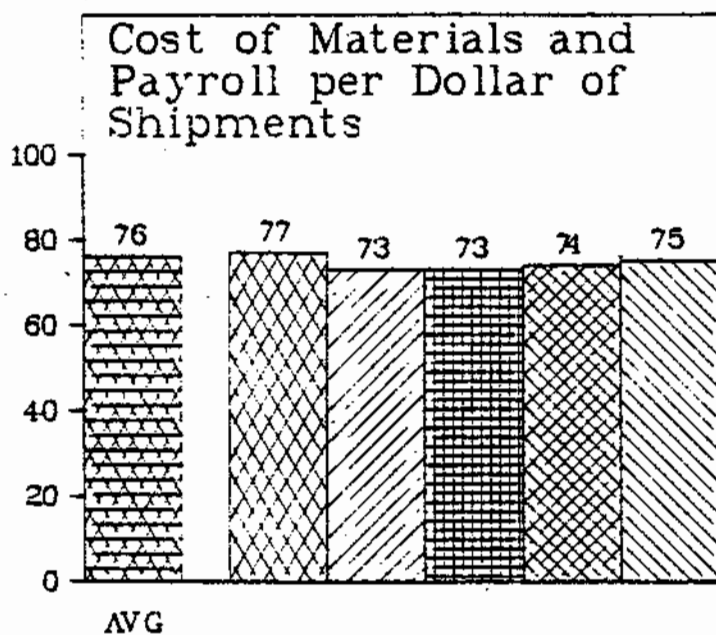
### Selected Items by First Year of Operations



## Operating Ratios by First Year of Operations

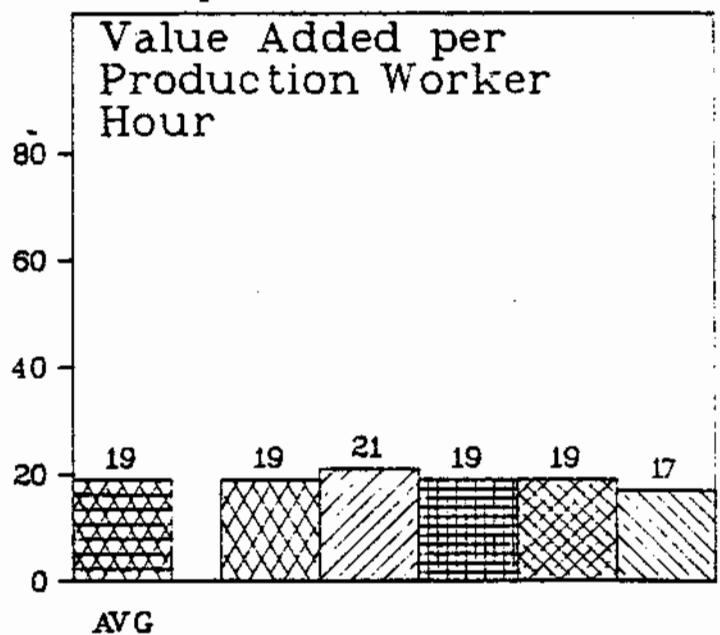
Percent

### Cost of Materials and Payroll per Dollar of Shipments



Dollars per hour

### Value Added per Production Worker Hour

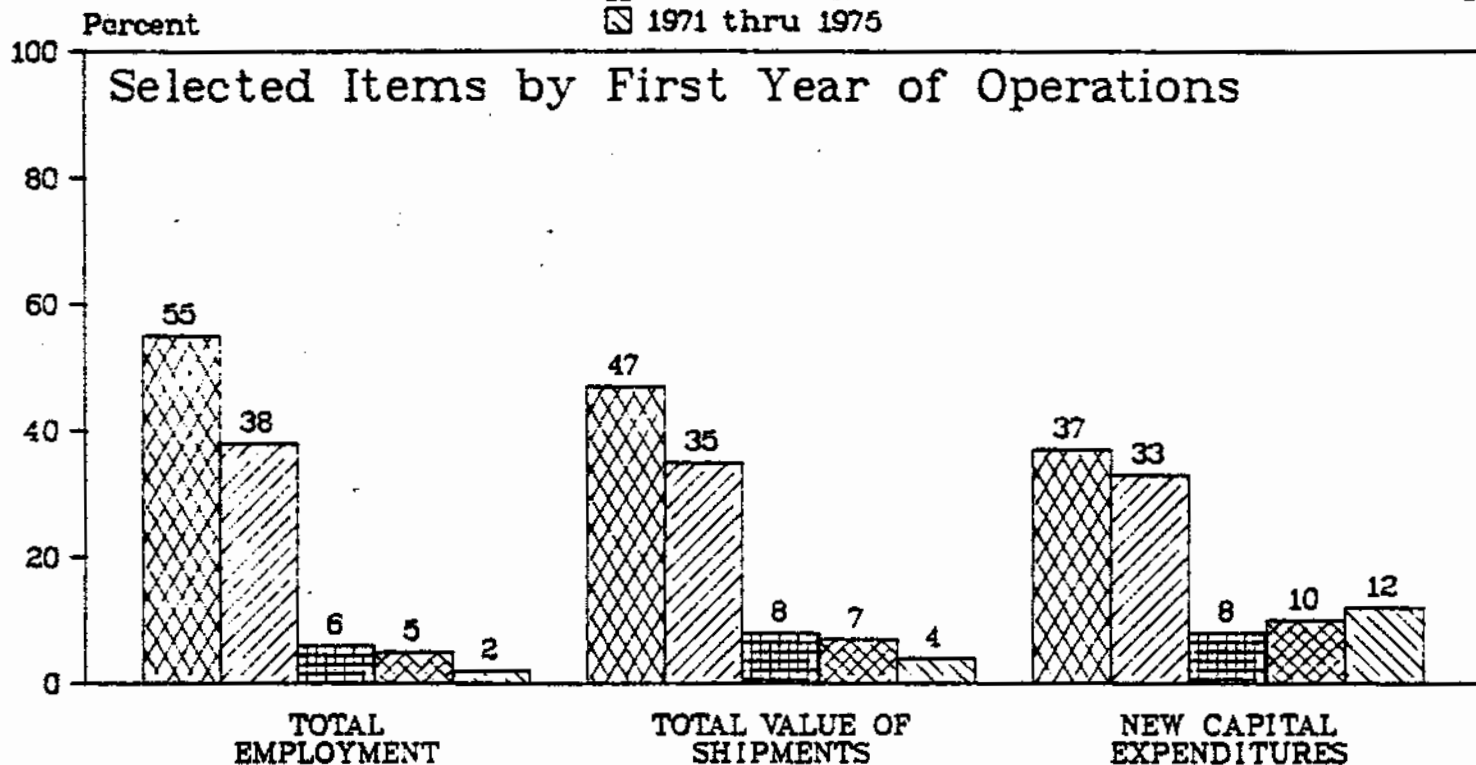


# INORGANIC CHEMICALS: 1975 (SIC 281)

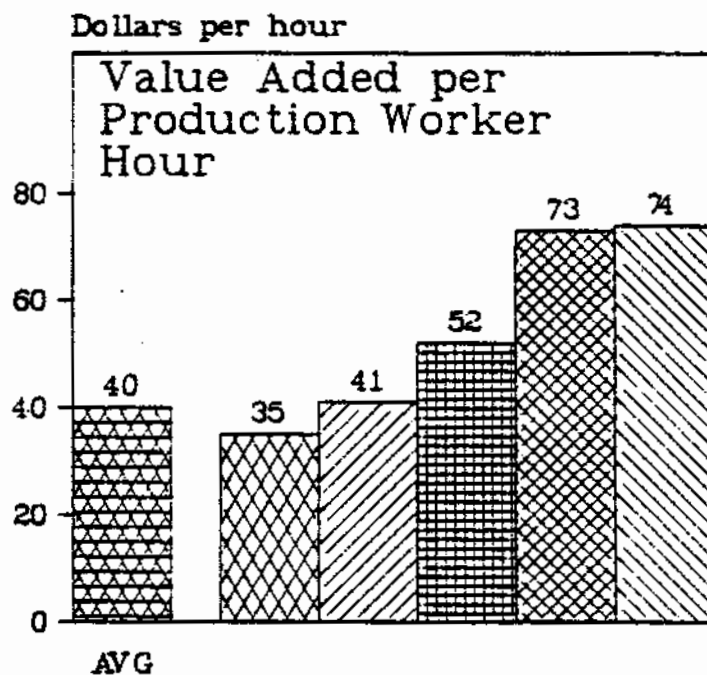
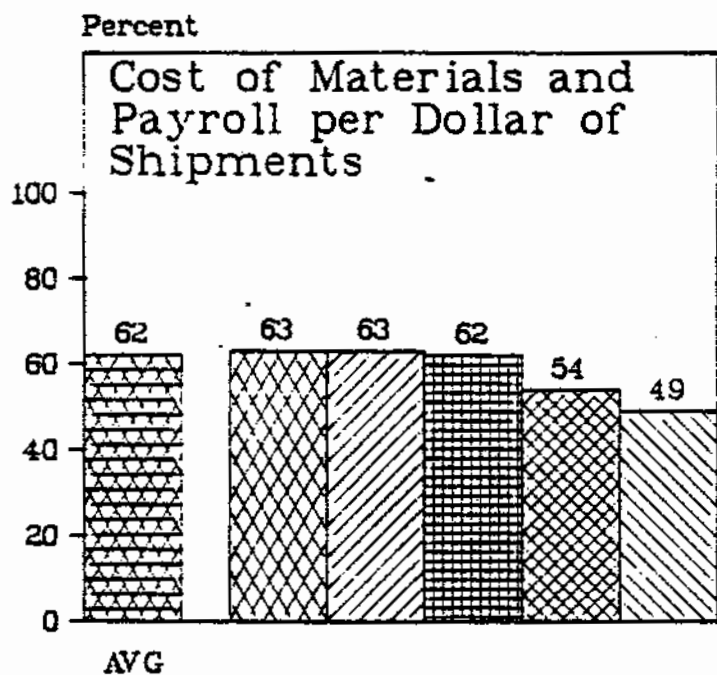
C  
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2

First Year of Operations:

- ☒ 1950 and earlier
- ▨ 1951 thru 1960
- ▩ 1961 thru 1965
- ▧ 1966 thru 1970
- ▦ 1971 thru 1975



## Operating Ratios by First Year of Operations





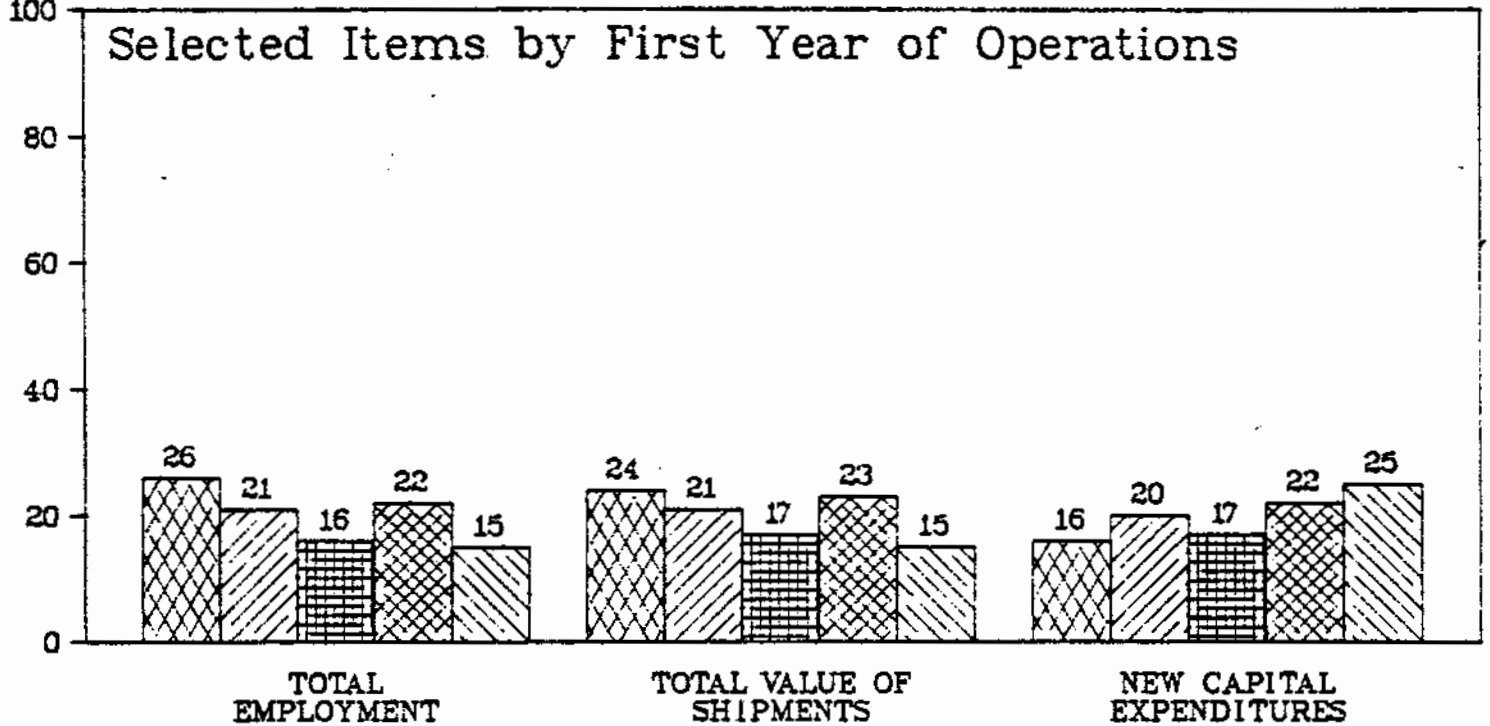
# FABRICATED PLASTICS PRODUCTS: 1975 (SIC 3079)

C H A R T  
3

## First Year of Operations:

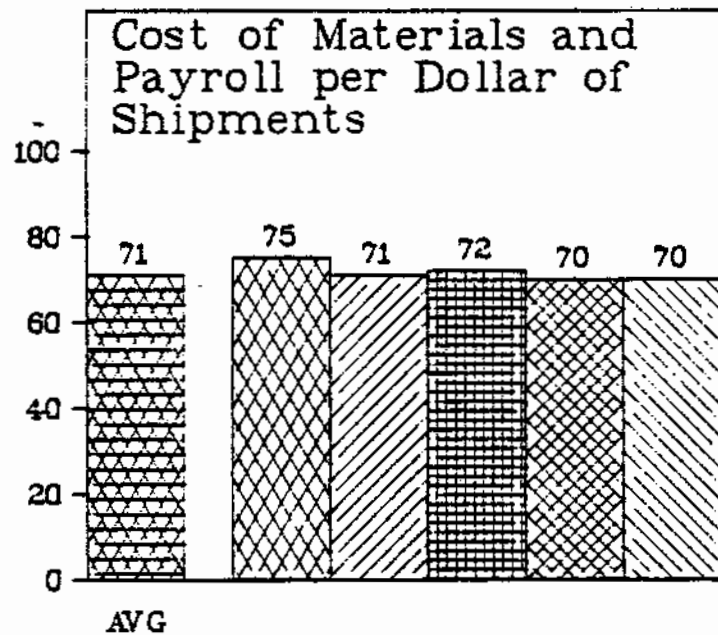
- ☒ 1950 and earlier
- ▨ 1951 thru 1960
- ▩ 1961 thru 1965
- ▧ 1966 thru 1970
- ▦ 1971 thru 1975

Percent

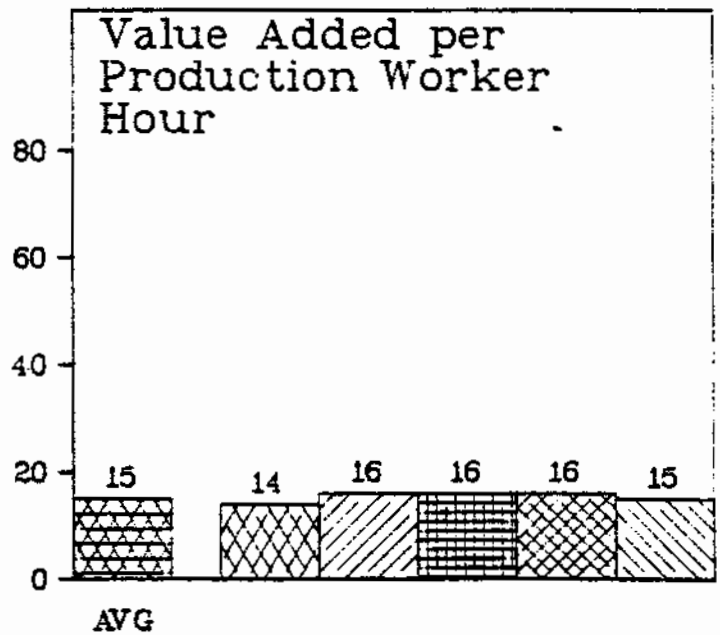


## Operating Ratios by First Year of Operations

Percent



Dollars per hour

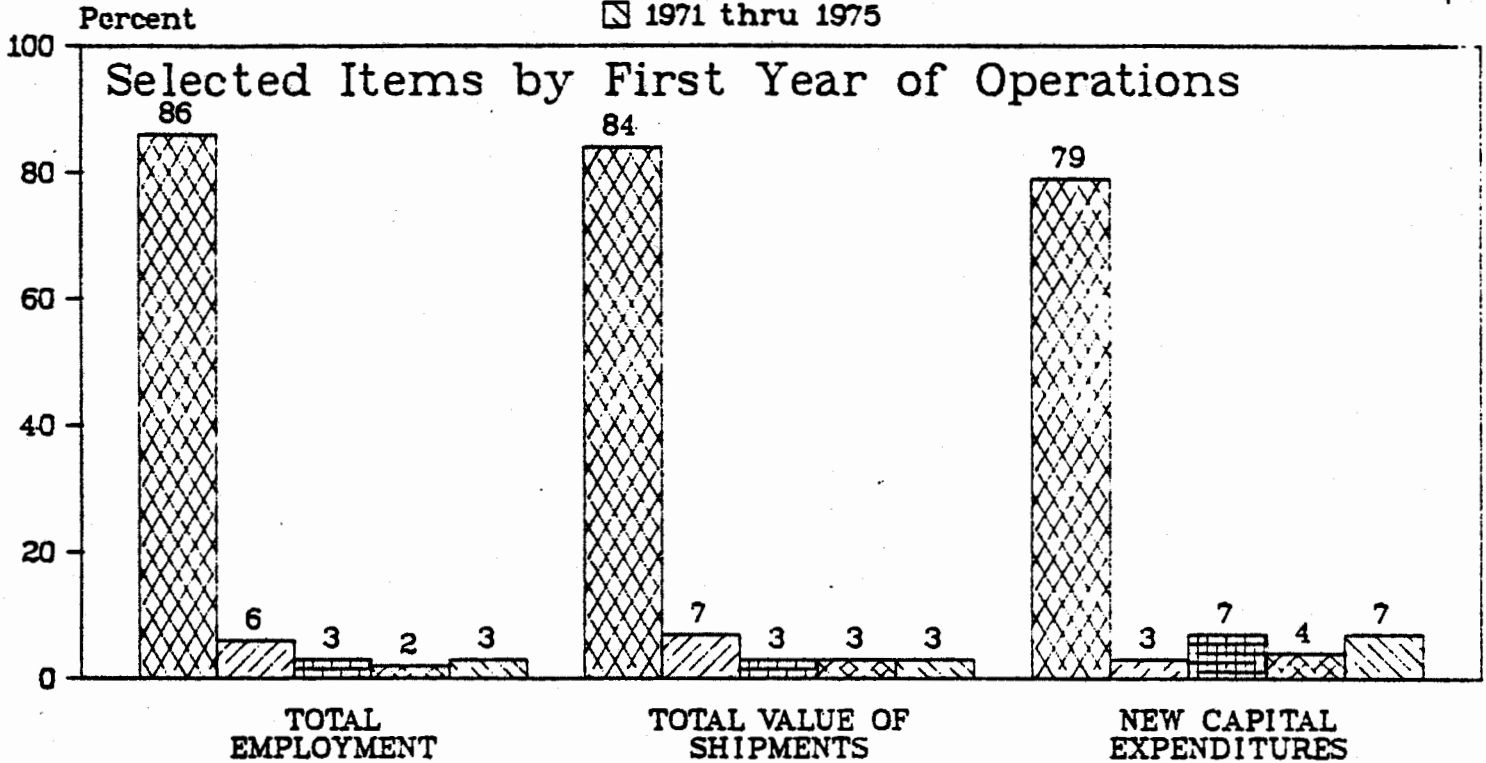


# PRIMARY STEEL PRODUCTS: 1975 (SIC 331)

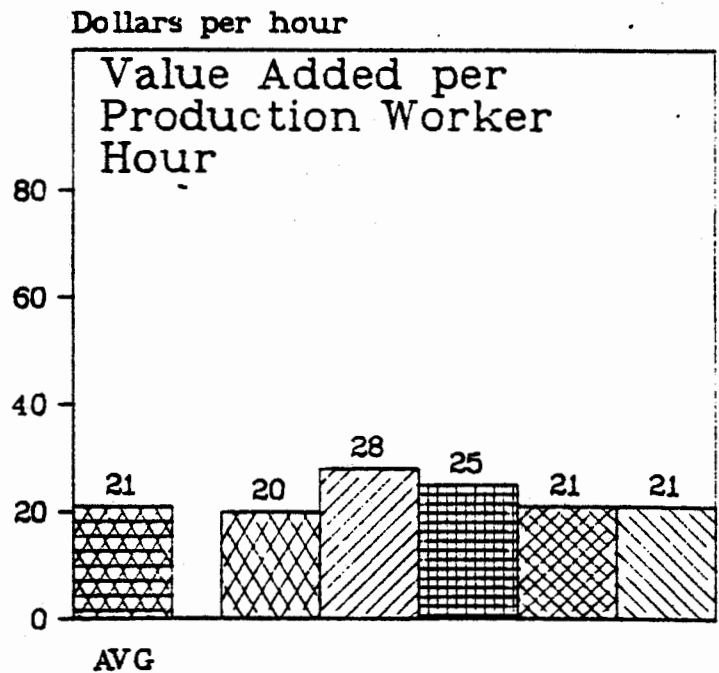
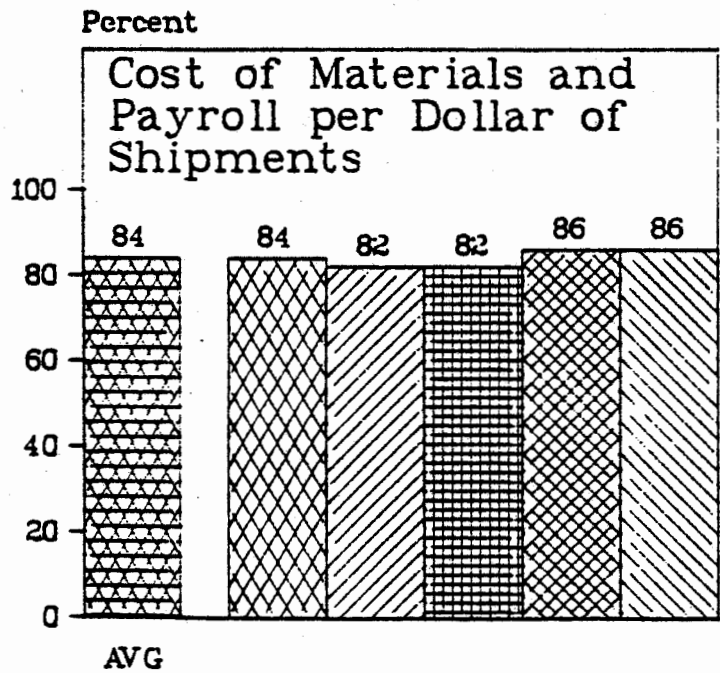
C  
H  
A  
R  
T  
  
4

First Year of Operations:

- ▣ 1950 and earlier
- ▤ 1951 thru 1960
- ▥ 1961 thru 1965
- ▦ 1966 thru 1970
- ▧ 1971 thru 1975



## Operating Ratios by First Year of Operations



# ELECTRONIC COMPUTING EQUIPMENT: 1975 (SIC 3573)

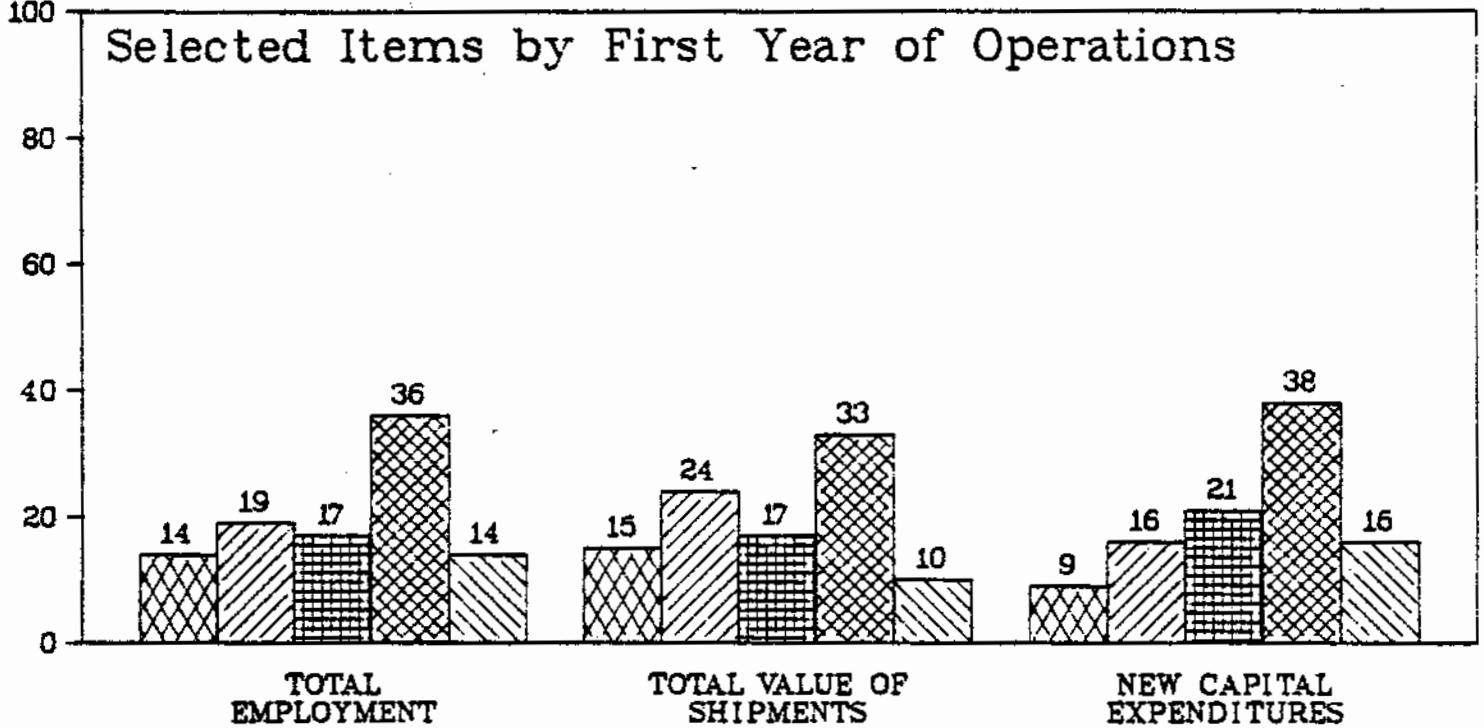
C  
H  
A  
R  
T

5

## First Year of Operations:

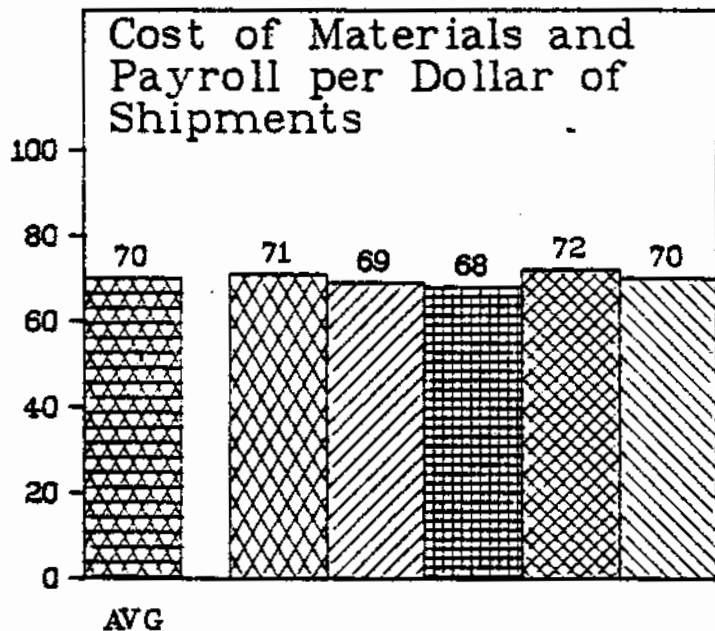
- ☒ 1950 and earlier
- ▨ 1951 thru 1960
- ▩ 1961 thru 1965
- ▧ 1966 thru 1970
- ▦ 1971 thru 1975

Percent

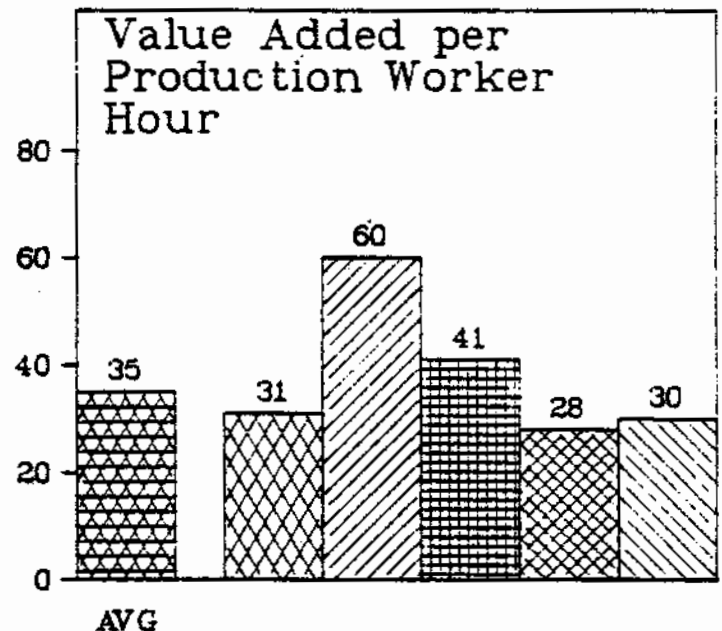


## Operating Ratios by First Year of Operations

Percent



Dollars per hour



Source: 1975 Annual Survey of Manufactures - Bureau of the Census