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Structure of Employment in South Dakota's Manufacturing and Processing Sector

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STRUCTURE OF EMPLOYMENT
IN SOUTH DAKOTA'S
MANUFACTURING AND PROCESSING SECTOR

by

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STRUCTURE OF EMPLOYMENT
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Introduction

The descriptive research reported in this publication was part of a larger study carried out in South Dakota State University's Economics Department from 1978 through 1982 on rural industrial development in South Dakota. Factors influencing rural industrial development at the local level were reported in Goeken and Goeken and Dobbs. A Master of Science Research Paper in Sociology by Au Yeung drew and reported on some of the data contained in the present publication. The Sociology Research Paper also contained an examination of the effects of industrial development on local population changes in South Dakota.

Presented in the present publication are descriptive findings on the structure of employment in South Dakota's manufacturing and processing sector (hereafter simply referred to as the manufacturing sector). Data for this descriptive profile were taken from a questionnaire sent in 1979 to all manufacturing and processing firms in South Dakota. The survey was jointly developed by SDSU's Economics Department and the Industrial Division of South Dakota's Department of Economic and Tourism Development (now the Department of State Development). Questionnaires were returned by 278 firms (out of more than 800 then in the State), though all questionnaires were not complete or useable in every respect.

Responses to this questionnaire (found in the Annex) are summarized in sixteen tables. The discussion of those tables is organized as follows in this report. In the section immediately following, a brief profile of the firms responding to the survey is presented (Tables 1-3). Next, a male/female breakdown of the workforce is presented (Tables 4 and 5).

Occupational category information is presented next (Tables 6 and 7), followed by information on education and training of the manufacturing sector work force (Tables 8-12). Salary, payroll, and capital investment information is presented last (Tables 13-16). A brief summary then completes the text of this publication.

Profile of Firms in Survey

Nearly 40% of the responding firms, 97 out of 254, became established in their respective communities in the 1970's decade (Table 1). However, nearly 10% were already established at the turn of the century.

More than 60% of those which began operations since 1970 were new firms at the time of establishment in their respective communities (Table 2). A small proportion (5%) were relocated firms, some from elsewhere within South Dakota. The remainder (32%) were subsidiary or branch plant operations at the time of local establishment; the "home" or "main" offices for most of these operations were in states other than South Dakota.

Printing and publishing and food processing Standard Industrial Classification (SIC) categories were the two largest groups of responding firms (SIC No's. 27 and 20 in Table 1). Machinery manufacture (SIC 35) was next in line.

Changes in employee numbers for the various types of firms between 1970 and 1979 are shown in Table 3. Changes per firm were largest for the firms in the instruments category (SIC 38). Declines per firm were largest for the firms in the metal mining category (SIC 10). (Although crops, metal mining, and nonmetallic metal mining are grouped with manufacturing and processing firms, those three categories are really quite different in nature than the others and will receive little attention hereafter in this report.) There was quite a bit of employment growth per firm in the textile mill, apparel, rubber and plastics, metal industries, machinery, and electrical categories. In some cases, of course, growth or decline involves only a few firms, so Table 3 needs to be interpreted with caution.

Male/Female Breakdown

Data in Table 4 show the number and percentages of manufacturing employees included in the survey, by sex and SIC category. Various kinds of firms draw on male and female portions of the work force in different proportions. Twelve industry categories have males making up more than half of their employment, while eight have females making up more than half (Table 4). Overall, the manufacturing sector work force (according to data from responding firms) is roughly 60% male and 40% female.

Male and female employment per firm in the various SIC categories are shown in Table 5. We can see relatively high female employment per firm in the apparel, printing, electrical, and instruments categories. Overall employment per firm, excluding metal mining, is highest in the apparel and printing categories, followed by the instruments, electrical, and food categories.

A note of caution regarding these data is in order here. Total employment (27,270) in Tables 4, 5, and 6 and employment in the printing category (12,237) in Tables 4 and 5 seem quite high. Recall that these data cover only firms responding to the survey. South Dakota Department of Labor reports indicate that there were only 27,500 employees in the entire manufacturing sector in 1979. It appears that many of the responding printing firms must have included newspaper carriers in their responses on employee numbers. Thus, Tables 4, 5, and 6 show much higher employee numbers than do standard State Department of Labor statistics.

Occupational Categories

Although female employment is quite important in South Dakota's manufacturing sector, it is heavily concentrated in the secretarial and production occupational categories (Table 6). The professional, sales, and other occupational categories are made up largely of male employees. While

women increasingly entered the State's work force during the 1970's, their entry was frequently in the less well paid assembly, typing, and clerical positions.

More than 80% of the manufacturing sector positions in South Dakota are considered production oriented (Table 7). Professional and secretarial occupations are next largest in the sector. Less than 3% of the positions are in sales. Of course, as indicated in Table 7, the occupational breakdown differs among SIC categories.

Education and Training

Most of the manufacturing jobs in South Dakota do not require a high level of formal education (Table 8). Although educational levels vary by industrial classification, over 80% of the manufacturing employees have 12 years or less of formal schooling. Those with that level of education are concentrated in the production occupational category (Table 9). Secretarial and sales employees have somewhat more formal education, and nearly 50% of the professional category employees have 16 years or more of formal education.

Among the firms reporting some vocational education, nearly 90% of the employees had less than one year of such education (Table 10). This may suggest that the South Dakota manufacturing sector, as it existed in 1979, did not require much in the way of specialized pre-employment skills for most of its work force. The employment categories showing the largest incidence of vocational education equaling one year or more were the sales and other categories (Table 11).

Only a small proportion of South Dakota employees in the manufacturing sector receive "special" on-the-job training, according to survey respondents (Table 12). Much on-the-job training no doubt takes place, but it apparently is not usually in highly structured, fixed-duration forms.

Salaries, Payrolls, and Capital Investments

Average employee salaries and wages for different segments of the South Dakota manufacturing sector are shown in Table 13. The quality of reported data on the questionnaires was far from perfect, so Table 13 should only be considered "indicative" of the wage and salary picture as it existed in 1979. There could be a great deal of reporting error and many omissions in individual SIC categories.

Average salaries and wages overall were reported to be \$12,680. The high was \$14,192, in the food category (SIC 20). The relatively low averages in SIC categories 25 and 31 could conceivably indicate a good deal of part-time or seasonal employment.

Average firm sizes as measured by payroll and capital investment are shown in Tables 14 and 15, respectively. With the exception of the crops and mining categories, apparel firms are largest in terms of annual payroll and instruments firms are largest in terms of capital investment.

Capital intensities, as measured by capital investment per dollar of annual payroll, are shown in Table 16. (This table was derived from the raw data, rather than from averages in Tables 14 and 15, since payroll and capital investment data were not both complete or useable on some questionnaires. This is implied by the different number of reporting firms indicated for Tables 14, 15, and 16.) We can see in this table that food processing firms are the most capital intensive (ratio of 5.53). Apparel manufacturing firms are the least capital intensive (ratio of 0.32) or, stated otherwise, the most labor intensive. In other words, capital equipment required per worker is high in food processing and low in apparel manufacturing. This is consistent with general observation of these types of firms in South Dakota.

Summary and Implications

South Dakota experienced substantial growth in its manufacturing sector during the 1970's. Growth was frequently in the form of so-called "light manufacturing" firms, usually ones producing durable goods. By 1979, 40% of the State's manufacturing sector work force was made up of women. Some SIC categories--such as apparel, leather, and electrical manufacturing--had work forces which were more than 60% females.

The levels of formal and vocational education found in the survey done for this study tend to indicate that the State's manufacturing sector work force is largely semi-skilled and unskilled. This helps explain the relatively low level of salaries and wages found in South Dakota. Many women and men, with good work habits but without highly marketable skills, have found employment opportunities in the State's expanding manufacturing sector. This has allowed many people to remain in the State, to supplement farm or other income coming into the household, or to move out of even lower paying or more seasonal agricultural or service jobs. Thus, manufacturing growth has provided very real benefits to the State's people.

Nevertheless, it seems evident that the low-skill, labor-intensive nature of many of these jobs leaves them quite vulnerable to foreign competition in the years ahead. South Dakota is one of the last remaining outposts in the U.S. of relatively inexpensive labor. As manufacturing capabilities continue to improve in less developed countries, even manufacturing firms drawing on South Dakota labor may find it increasingly difficult to compete. There is thus a need, as we look ahead to the future, to identify more highly technical manufacturing industries in which the U.S. might hope to maintain a comparative advantage. Fostering the growth of those industries in South Dakota may necessitate an upgrading of the education and skills of the State's workforce. Over time, this might bring about a manufacturing sector that provides higher paying and longer lasting employment.

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Table 1. Years Manufacturing Firms in the Survey Were Established, by SIC Category

Standard Industrial Classification (SIC) Categories	Number of Firms Established in Each Time Period					Total Firms in Category
	1861-1899	1900-1929	1930-1959	1960-1969	1970-1979	
01 Crops	0	1	4	1	0	6
10 Metal Mining	1	0	0	0	1	2
14 Nonmetallic Mining	0	1	2	2	3	8
20 Food	0	8	15	6	10	39
22 Textile Mill	*	*	*	*	*	*
23 Apparel	0	0	2	0	1	3
24 Lumber	1	2	7	2	4	16
25 Furniture	0	0	0	0	3	3
26 Paper	0	0	0	0	1	1
27 Printing	23	9	4	4	7	47
28 Chemicals	0	1	4	0	6	11
30 Rubber, Plastics	0	0	0	2	8	10
31 Leather	0	0	0	1	2	3
32 Stone, Concrete	0	2	7	4	6	19
33 Metal Industries	0	0	2	0	0	2
34 Metal Products	0	1	5	2	6	14
35 Machinery	0	1	5	9	17	32
36 Electrical	0	0	1	5	7	13
37 Transportation	0	0	2	3	6	11
38 Instruments	0	0	1	0	2	3
39 Miscellaneous Manufacturing	0	1	1	2	7	11
TOTAL	25	27	62	43	97	254

*Insufficient data or data of questionable reliability.

Table 2. The Origins of Manufacturing Firms Established in South Dakota Since 1970

	Origins	No. of Firms	% of Firms
I.	NEW	60	62.5
II.	RELOCATED:		
	From within South Dakota	3	3.1
	From other states	2	2.1
III.	NEW SUBSIDIARY OR BRANCH:		
	Main office in South Dakota	7	7.3
	Main office in other states	24	25.0
TOTAL		96	100.0

Table 3. Employee Growth in South Dakota Manufacturing Firms between 1970 and 1979, by SIC Category

Standard Industrial Classification (SIC) Category	Changes in Number of Employees Per Firm
01 Crops	4.3
10 Metal Mining	-57.0
14 Nonmetallic Mining	-15.0
20 Food	8.0
22 Textile Mill	42.0
23 Apparel	81.5
24 Lumber	14.8
25 Furniture	12.7
26 Paper	7.0
27 Printing	5.2
28 Chemicals	6.8
30 Rubber, Plastics	38.8
31 Leather	- 1.0
32 Stone, Concrete	- 6.2
33 Metal Industries	61.5
34 Metal Products	7.0
35 Machinery	52.4
36 Electrical	114.6
37 Transportation	20.7
38 Instruments	311.5
39 Miscellaneous Manufacturing	23.5
All Categories	25.6

*Number of firms included in these tabulations = 241.

Table 4. The Number and Percentage of Manufacturing Employees Included in the Survey, by Sex and SIC Categories, 1979

Standard Industrial Classification (SIC) Categories	Employment in Manufacturing Firms in 1979*					
	Male Employees		Female Employees		Total Employment	
	No.	%	No.	%	No.	%
01 Crops	64	68.8	29	31.2	93	100
10 Metal Mining	1,488	92.2	126	7.8	1,614	100
14 Nonmetallic Mining	70	27.7	183	72.3	253	100
20 Food	3,783	84.6	687	15.4	4,470	100
22 Textile Mill	30	44.1	38	55.9	68	100
23 Apparel	223	33.7	438	66.3	661	100
24 Lumber	473	80.4	115	19.6	588	100
25 Furniture	32	57.1	24	42.9	56	100
26 Paper	5	71.4	2	28.6	7	100
27 Printing	5,683	46.4	6,554	53.6	12,237	100
28 Chemicals	160	86.0	26	14.0	186	100
30 Rubber, Plastics	322	53.5	280	46.5	602	100
31 Leather	42	31.6	91	68.4	133	100
32 Stone, Concrete	364	68.7	166	31.3	530	100
33 Metal Industries	--	--	--	--	--	--
34 Metal Products	551	91.5	51	8.5	602	100
35 Machinery	1,698	81.1	395	18.9	2,093	100
36 Electrical	573	32.9	1,171	67.1	1,744	100
37 Transportation	294	75.6	95	24.4	389	100
38 Instruments	270	46.3	313	53.7	583	100
39 Miscellaneous Manufacturing	139	38.5	222	61.5	361	100
Overall	16,264	59.6	11,006	40.4	27,270	100

*Number of firms included in these tabulations = 242.

Table 5. Employment Size of Manufacturing Firms in South Dakota, by SIC Category

Standard Industrial Classification (SIC) Categories	Employment by Manufacturing Firms in Survey*					
	Male Employees		Female Employees		All Employees	
	No.	No./Firm	No.	No./Firm	No.	No./Firm
01 Crops	64	10.7	29	4.8	93	15.5
10 Metal Mining	1,488	1,488.0	126	126.0	1,614	1,614.0
14 Nonmetallic Mining	70	8.8	183	22.9	253	31.6
20 Food	3,783	99.6	687	18.1	4,470	117.6
22 Textile Mill	30	30.0	38	38.0	68	68.0
23 Apparel	223	111.5	438	219.0	661	330.5
24 Lumber	473	31.5	115	7.7	588	39.2
25 Furniture	32	10.7	24	8.0	56	18.7
26 Paper	5	5.0	2	2.0	7	7.0
27 Printing	5,683	126.3	6,554	145.6	12,237	271.9
28 Chemicals	160	13.3	26	2.2	186	15.5
30 Rubber, Plastics	322	32.2	280	28.0	602	60.2
31 Leather	42	14.0	91	30.3	133	44.3
32 Stone, Concrete	364	21.4	166	9.8	530	31.2
33 Metal Industries	--	--	--	--	--	--
34 Metal Products	551	36.7	51	3.4	602	40.1
35 Machinery	1,698	65.3	395	15.2	2,093	80.5
36 Electrical	573	44.1	1,171	90.1	1,744	134.2
37 Transportation	294	24.5	95	7.9	389	32.4
38 Instruments	270	90.0	313	104.3	583	194.3
39 Miscellaneous Manufacturing	139	12.6	222	20.2	361	32.8
All Categories	16,264	67.2	11,006	45.5	27,270	112.7

*Number of firms included in these tabulations = 242.

Table 6. Occupational Breakdown of Manufacturing Employees According to Sex
in South Dakota, 1979*

Occupational Category	Male Employees		Female Employees		All Employees	
	No.	%	No.	%	No.	%
Professional	1,375	88.7	175	11.3	1,550	100
Sales	580	87.6	82	12.4	662	100
Secretarial	221	18.3	986	81.7	1,207	100
Production	13,065	57.6	9,633	42.4	22,698	100
Other	1,023	88.7	130	11.3	1,153	100
Overall	16,264	59.6	11,006	40.4	27,270	100

*Number of firms included in these tabulations = 242.

Table 7. Occupational Categories of Manufacturing Employees in South Dakota, by SIC Category

Standard Industrial Classification (SIC) Category	Employees in Each Occupational Category											
	Professional		Sales		Secretarial		Production		Other		All Employees	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
01 Crops	12	12.9	21	22.6	14	15.1	37	39.8	9	9.7	93	100
10 Metal Mining	113	7.0	0	0	71	4.4	1,113	69.0	317	19.6	1,614	100
14 Nonmetallic Mining	24	9.5	5	2.0	15	5.9	204	80.6	5	2.0	253	100
20 Food	449	9.3	295	6.1	585	12.2	3,405	70.9	70	1.5	4,804	100
22 Textile Mill	1	1.5	1	1.5	2	2.9	41	60.3	23	33.8	68	100
23 Apparel	82	12.4	14	2.1	66	10.0	457	69.1	42	6.4	661	100
24 Lumber	71	10.1	139	19.8	38	5.4	357	50.9	97	13.8	702	100
25 Furniture	4	7.1	1	1.8	2	3.6	14	25.0	35	62.5	56	100
26 Paper	1	14.3	0	0	1	14.3	2	28.6	3	42.9	7	100
27 Printing	197	1.6	116	0.9	324	2.6	11,578	94.6	22	0.2	12,237	100
28 Chemicals	37	19.9	23	12.4	22	11.8	60	32.3	44	23.7	186	100
30 Rubber, Plastics	28	4.7	2	0.3	17	2.8	548	91.0	7	1.2	602	100
31 Leather	2	1.5	0	0	5	3.8	126	94.7	0	0	133	100
32 Stone, Concrete	58	10.9	9	1.7	27	5.1	417	78.7	19	3.6	530	100
33 Metal Industries	25	17.1	5	3.4	21	14.4	95	65.1	0	0	146	100
34 Metal Products	45	7.5	41	6.8	50	8.3	342	56.8	124	20.6	602	100
35 Machinery	162	7.7	41	1.9	118	5.6	1,714	81.4	70	3.3	2,105	100
36 Electrical	151	8.7	20	1.1	93	5.3	1,291	74.0	189	10.8	1,744	100
37 Transportation	39	10.0	19	4.9	23	5.9	303	77.9	5	1.3	389	100
38 Instruments	51	8.7	23	3.9	27	4.6	411	70.5	71	12.2	583	100
39 Miscellaneous Manufacturing	32	8.9	3	0.8	15	4.2	310	85.9	1	0.3	361	100
All Categories	1,584	5.7	778	2.8	1,536	5.5	22,825	81.9	1,153	4.1	27,876	100

Table 8. Formal Education of Manufacturing Employees in South Dakota, by SIC Category

Standard Industrial Classification (SIC) Categories	Level of Formal Education*							
	12 years or less		13-15 years		16 years or more		All levels	
	No.	%	No.	%	No.	%	No.	%
01 Crops	81	76.4	11	10.4	14	13.2	106	100
10 Metal Mining	1,676	94.1	42	2.4	64	3.5	1,782	100
14 Nonmetallic Mining	84	96.6	1	1.2	2	2.2	87	100
20 Food	3,069	78.6	704	18.0	133	3.4	3,906	100
22 Textile Mill	58	85.3	4	5.9	6	8.8	68	100
23 Apparel	--	--	--	--	--	--	--	--
24 Lumber	450	80.8	40	7.2	67	12.0	557	100
25 Furniture	45	80.4	6	10.7	5	8.9	56	100
26 Paper	3	42.9	2	28.6	2	28.6	7	100
27 Printing	466	63.1	152	20.6	120	16.3	738	100
28 Chemicals	108	65.9	30	18.3	26	15.8	164	100
30 Rubber, Plastics	505	90.2	33	5.9	22	3.9	560	100
31 Leather	125	94.0	6	4.5	2	1.5	133	100
32 Stone, Concrete	321	83.8	43	11.2	19	5.0	383	100
33 Metal Industries	--	--	--	--	--	--	--	--
34 Metal Products	214	70.2	52	17.0	39	12.8	305	100
35 Machinery	1,469	78.6	253	13.5	148	7.9	1,870	100
36 Electrical	1,165	77.7	235	15.7	99	6.6	1,499	100
37 Transportation	223	81.7	34	12.5	16	5.8	273	100
38 Instruments	8	66.7	4	33.3	0	0	12	100
39 Miscellaneous Manufacturing	87	88.8	7	7.1	4	4.1	98	100
Overall	10,157	80.6	1,659	13.2	788	6.2	12,604	100

*Number of firms in these tabulations = 118.

Table 9. Formal Education of Manufacturing Employees in South Dakota by Category of Occupation, 1979

Occupational Category	Level of Education*							
	12 years or less		13-15 years		16 years or more		All levels	
	No.	%	No.	%	No.	%	No.	%
Professional	261	28.6	214	23.4	438	48.0	913	100
Sales	298	55.2	141	26.1	101	18.7	540	100
Secretarial	572	68.2	207	24.7	60	7.2	839	100
Production	7,172	86.0	1,005	12.0	167	2.0	8,344	100
Other	1,854	94.2	92	4.7	22	1.1	1,968	100
Overall	10,157	80.6	1,659	13.2	788	6.3	12,604	100

*Number of firms in these tabulations = 118.

Table 10. Vocational Education of Manufacturing Employees in South Dakota, by SIC Category

Standard Industrial Classification (SIC) Categories	Level of Vocational Education*							
	Less than 1 year**		1-2 years		More than 2 years		All levels	
	No.	%	No.	%	No.	%	No.	%
01 Crops	13	65.0	1	5.0	6	30.0	20	100
10 Metal Mining	--	--	--	--	--	--	--	--
14 Nonmetallic Mining	19	100.0	0	0	0	0	19	100
20 Food	3,280	93.3	206	5.9	28	0.8	3,514	100
22 Textile Mill	--	--	--	--	--	--	--	--
23 Apparel	--	--	--	--	--	--	--	--
24 Lumber	170	89.0	20	10.5	1	0.5	191	100
25 Furniture	0	0	0	0	1	100.0	1	100
26 Paper	7	100.0	0	0	0	0	7	100
27 Printing	131	84.5	16	10.3	8	5.2	155	100
28 Chemicals	28	100.0	0	0	0	0	28	100
30 Rubber, Plastics	453	96.2	14	3.0	4	0.8	471	100
31 Leather	2	100.0	0	0	0	0	2	100
32 Stone, Concrete	284	94.7	15	5.0	1	0.3	300	100
33 Metal Industries	--	--	--	--	--	--	--	--
34 Metal Products	178	90.0	15	7.6	5	2.4	198	100
35 Machinery	1,171	88.3	125	9.4	30	2.3	1,326	100
36 Electrical	473	63.9	264	35.7	3	0.4	740	100
37 Transportation	187	60.7	117	38.0	4	1.3	308	100
38 Instruments	5	83.3	1	16.7	0	0	6	100
39 Miscellaneous Manufacturing	1	100.0	0	0	0	0	1	100
Overall	6,402	87.9	794	10.9	91	1.2	7,287	100

*Number of firms in these tabulations = 91.

**Includes those with none.

Table 11. Vocational Education of Manufacturing Employees in South Dakota, by Occupational Category

Occupational Category	Level of Vocational Education*							
	Less than 1 year**		1-2 years		More than 2 years		All levels	
	No.	%	No.	%	No.	%	No.	%
Professional	589	90.3	39	6.0	24	3.7	652	100
Sales	242	63.4	137	35.9	3	0.8	382	100
Secretarial	324	76.2	92	21.6	9	2.1	425	100
Production	5,173	92.5	372	6.7	48	0.9	5,593	100
Other	74	31.5	154	65.5	7	3.0	235	100
Overall	6,402	87.9	794	10.9	91	1.2	7,287	100

*Number of firms in these tabulations = 91.

**Includes those with none.

Table 12. Proportion of Employees in the Survey Receiving Special Training after Having Been Employed by the Firm, by SIC Categories

Standard Industrial Classification (SIC) Categories	Mean Percent Receiving Special Training*
01 Crops	4.0
10 Metal Mining	5.0
14 Nonmetallic Mining	1.4
20 Food	13.6
22 Textile Mill	--
23 Apparel	0.7
24 Lumber	8.5
25 Furniture	33.3
26 Paper	0
27 Printing	8.3
28 Chemicals	11.3
30 Rubber, Plastics	1.3
31 Leather	33.3
32 Stone, Concrete	13.2
33 Metal Industries	--
34 Metal Products	13.4
35 Machinery	15.9
36 Electrical	10.0
37 Transportation	38.3
38 Instruments	2.5
39 Miscellaneous Manufacturing	0.7
Overall	12.3

*Number of firms included in these calculations = 212.

Table 13. Employee Salaries and Wages in South Dakota, by SIC Category

Standard Industrial Classification (SIC) Categories	Average Employee Salaries and Wages*
01 Crops	\$ 9,793
10 Metal Mining	13,323
14 Nonmetallic Mining	13,064
20 Food	14,192
22 Textile Mill	**
23 Apparel	11,002
24 Lumber	11,402
25 Furniture	4,314
26 Paper	9,857
27 Printing	7,456
28 Chemicals	**
30 Rubber, Plastics	8,704
31 Leather	5,310
32 Stone, Concrete	8,567
33 Metal Industries	10,914
34 Metal Products	11,029
35 Machinery	10,521
36 Electrical	8,006
37 Transportation	8,462
38 Instruments	13,154
39 Miscellaneous Manufacturing	12,513
Overall	12,680

*Number of firms included in these tabulations = 225.

**Insufficient data or data of questionable reliability.

Table 14. Annual Payroll for South Dakota Manufacturing Firms

Standard Industrial Classification (SIC) Categories	Annual Payroll Per Firm*
01 Crops	\$ 189,833
10 Metal Mining	13,000,000
14 Nonmetallic Mining	184,857
20 Food	1,991,757
22 Textile Mill	--
23 Apparel	4,194,000
24 Lumber	445,786
25 Furniture	54,000
26 Paper	69,000
27 Printing	182,500
28 Chemicals	565,917
30 Rubber, Plastics	157,000
31 Leather	297,500
32 Stone, Concrete	186,167
33 Metal Industries	1,609,500
34 Metal Products	326,067
35 Machinery	744,840
36 Electrical	438,909
37 Transportation	288,636
38 Instruments	3,669,000
39 Miscellaneous Manufacturing	1,684,500
Overall	\$ 867,530

*Number of firms included in these tabulations = 230.

Table 15. Capital Investment for South Dakota Manufacturing Firms

Standard Industrial Classification (SIC) Categories	Capital Investment Per Firm*
01 Crops	\$ 467,333
10 Metal Mining	39,800,000
14 Nonmetallic Mining	1,061,143
20 Food	1,315,686
22 Textile Mill	200,000
23 Apparel	1,481,000
24 Lumber	845,667
25 Furniture	66,333
26 Paper	200,000
27 Printing	336,349
28 Chemicals	1,704,546
30 Rubber, Plastics	165,000
31 Leather	63,000
32 Stone, Concrete	749,762
33 Metal Industries	1,744,500
34 Metal Products	358,000
35 Machinery	1,149,069
36 Electrical	359,909
37 Transportation	531,364
38 Instruments	5,063,000
39 Miscellaneous Manufacturing	2,760,111
Overall	\$ 1,095,202

*Number of firms included in these tabulations = 233.

Table 16. Capital Investment per Dollar of Payroll, for South Dakota Manufacturing Firms

Standard Industrial Classification (SIC) Categories	Capital Investment Per Dollar of Annual Payroll (Mean)*
01 Crops	2.88
10 Metal Mining	1.57
14 Nonmetallic Mining	4.75
20 Food	5.53
22 Textile Mill	--
23 Apparel	0.32
24 Lumber	1.75
25 Furniture	1.58
26 Paper	2.90
27 Printing	2.79
28 Chemicals	3.79
30 Rubber, Plastics	1.88
31 Leather	1.67
32 Stone, Concrete	5.06
33 Metal Industries	1.17
34 Metal Products	2.01
35 Machinery	1.86
36 Electrical	2.50
37 Transportation	2.05
38 Instruments	1.55
39 Miscellaneous Manufacturing	3.12
Overall	3.15

*Number of firms included in these tabulations = 207.

Annex. Questionnaire Used in Study
 CONFIDENTIAL: NO INDIVIDUAL FIRM STATISTICS TO BE PUBLISHED

Firm Name _____ Phone _____
 Address _____
 City _____ Zip Code _____

1. History of Firm

- a. What year did your firm begin production operations in the present community? _____
- b. Which of the following describes your firm as it was at the time established in this community? Check one:
 (1) New firm _____
 (2) Relocated firm _____
 (3) New subsidiary or branch plant _____
- c. If a relocated firm (2), please specify previous location:
 City _____ State _____
- d. If a subsidiary or branch plant (3), please specify location of parent company:
 City _____ State _____

2. Products of Firm

- a. Please list and describe the major products or product groups which your firm produces, processes, and/or fabricates and indicate the percentage of total sales which this product or product group makes up.

Product (including brand name)	Layman's Description	% of Total Sales
(1) _____	_____	_____
(2) _____	_____	_____
(3) _____	_____	_____
(4) _____	_____	_____
(5) _____	_____	_____
(6) _____	_____	_____
(7) _____	_____	_____
(8) _____	_____	_____

Total = 100%

- b. What percent of your firm's products is in the form of:
 (1) intermediate goods (for further processing by another firm)? _____ %
 (2) final goods (finished products ready for final consumers)? _____ %
 Total = 100 %

3. Characteristics of Firm

- a. What is the size of your plant? _____ (square feet)
- b. What is your capital investment in plant and equipment? \$ _____
- c. What is your sales volume (annually)? \$ _____
- d. What is your payroll (annually)? \$ _____

4. Questions Pertaining to Expanding Plants Only

- a. What is your estimated cost of expansion? \$ _____
- b. When is expansion expected to be completed? _____ (date)
- c. What is the size of the expansion? _____ (square feet)
- d. How many employees will be added by the expansion? _____

Manager's Name _____

After completing both pages, return questionnaire to: South Dakota Industrial Division
 P.O. Box 5004
 620 S. Cliff
 Sioux Falls, South Dakota 57103

5. Employee Numbers and Demographic Characteristics

- a. What is the current (1979) total employment of your firm in this community? _____ employees
- b. What was the approximate total in 1970? _____ employees
- c. Please break this employment down among the following occupational and sex categories, both for the current year (1979) and for the year 1970. If your firm began operation at the present location after 1970, indicate the employee numbers for the first year of production operations:

Occupational Category	Specify number of employees					
	1970 (or *)			1979		
	Male	Female	Total	Male	Female	Total
Professional &/or managerial						
Sales						
Secretarial & Clerical						
Production (include foremen)						
Other (please specify type)						
Total						

*If production operations began after 1970, enter that year (same as 1,a on previous page) and enter employee numbers for that year.

6. Employee Education and Training

- a. Please indicate the approximate number of employees in each occupational category which have the following education and training levels:

Occupational Category	Elementary-High School-College: approximate number in each category				Additional education of Vocational Training nature: approximate number in each category			
	12 yrs. or less (high school degree or less)	13-15 (some college)	16+ (4 yr. college degree or more)	Total employees (same as last column of ques. #5)	None, or less than 1 yr.	1-2 yrs.	More than 2 yrs.	Total employees (same as last column of ques. #5)
Professional &/or managerial								
Sales								
Secretarial & Clerical								
Production (include foremen)								
Other (please specify type)								
Total								

- b. What proportion of your employees receive special training after having become employed with your firm? (Do not include routine on-the-job training or training sessions of only a few days duration.) Approximately _____%
- c. Please briefly describe the four most common types of training received by those employees referred to in "b":

Skills taught	Where training received (including that at plant)	Duration of the training (in weeks)
(1) _____	_____	_____
(2) _____	_____	_____
(3) _____	_____	_____
(4) _____	_____	_____