
MEED MEANS BUSINESS

***Private Employers
Assess the
State Jobs Program***

December, 1984

*This study was funded by a major grant
from The Minneapolis Foundation*

M E E D

M E A N S

B U S I N E S S

Private Employers Assess

The State Jobs Program

by

Asha Rangan

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ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

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BACKGROUND AND OBJECTIVES

This report presents the findings of a survey conducted between August and November of 1984. The subjects were all private employers who participated in MEED since July 1983. A total of 3,217 questionnaires were mailed out by the program administrators, and at the time of reporting, 1,783 responses were received--a response rate of 55 percent. All 17 Service Delivery Areas (SDA) were adequately represented in the analysis; the responses were in proportion to the number of participating private employers in each region.

The major objectives of the survey were as follows:

1. To obtain detailed information on the dynamics of job creation in the private sector. Since research has shown small business to be the major creator of new jobs, we were particularly interested in the participation of small businesses in MEED.
2. To find out how private employers perceived administrative aspects of the MEED program.
3. To find out from the private employers how the wage subsidy worked for their businesses. Specifically, we wanted to know whether the subsidy improved the firms' performance.
4. To obtain detailed information on the characteristics of the firms that participated in MEED. Since the economic development impact of the program depends to a large extent on the kinds of businesses that participated, we obtained detailed information on export (out-of-state) performance, sector of industrial location, the age of the business, etc.

RESULTS

1. MEED IS HELPING VIBRANT BUT VULNERABLE SMALL BUSINESSES.

- * 83 percent of responding businesses had fewer than 20 employees.
- * 91 percent of firms who would not have created a job without MEED have less than 20 employees.
- * 72 percent of those businesses who would not have expanded, used MEED to solve cash flow problems.

2. PRIVATE EMPLOYERS FIND MEED EASY TO USE.

- * 92 percent of the employers said they filled their jobs with a minimum of red tape.
- * 84 percent were very satisfied with their MEED employees.

3. MEED SPURS ECONOMIC GROWTH IN INDIVIDUAL BUSINESSES.

- * 79 percent of the employers said MEED allowed them to expand, while 74 percent reported MEED improved their performance.
- * 53 percent stated MEED made it possible for them to invest in equipment or machinery.

4. MEED HELPS WINNERS.

MEED has supported firms which are not only above average job-creators and income-earners for Minnesota, but are also viewed as the industries of the future.

- * 50 percent of responding firms had sales outside Minnesota.
- * 95 percent of the employers said they had no present or future plans to relocate outside Minnesota.
- * Among manufacturing respondents, there were nearly twice as many high tech companies as any other type of firm.

MAJOR FINDINGS

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1. MEED HELPS VIBRANT YET VULNERABLE SMALL BUSINESSES

- * 95 percent of all responding businesses had fewer than 100 employees, and 83.4 percent had fewer than 20 employees.

Research by MIT economist, David Birch¹, as well as studies by the Brookings Institute², have shown that 78 to 82 percent of all new jobs in the nation are created by businesses with fewer than 100 employees. Businesses with fewer than 20 employees create 55 to 66 percent of all new jobs.

- * 83.7 percent of the jobs created by the 1,769 respondents were in businesses with fewer than 100 employees. 60.4 percent of these jobs were in businesses with fewer than 20 employees.

The Small Business Administration (SBA)³ reports that during the 1980-82 recessions, small firms with fewer than 20 employees generated virtually all of the 2.7 million new jobs, offsetting the loss of 1.7 million jobs incurred by large businesses. MEED is certainly reaching the most prolific generators of jobs.

- * 63 percent of the responding employers would not have expanded their workforce without the MEED wage subsidy.
- * 90.6 percent of those who would not have expanded without the subsidy were businesses with fewer than 20 employees.
- * 72 percent of those businesses who would not have created jobs without a subsidy cited a shortage of cash flow as the reason. The next most important factor was an inability to afford training new employees.

While small businesses have the greatest potential for creating jobs, it is also true that they face the greatest difficulty in acquiring capital.

Even growing, profitable firms have inadequate access to equity and long-term debt. The reasons are several: small firms generally have fewer assets to mortgage, and banks have traditionally required their smaller customers to pay higher interest rates than their "prime" clients.

In addition, tax credits are of little benefit to new, small firms that face a shortage of capital. Small, new firms seldom make a profit during their first couple of years. And even if they do, the firm must wait a year before applying for a tax credit. For small, job-creating firms, MEED may be one of the few sources of working capital.

2. PRIVATE EMPLOYERS FIND MEED EASY TO USE

- * 92 percent of the responding employers felt that they were able to fill their jobs with a minimum of red tape.
- * 84 percent of the respondents were very satisfied with the performance of their MEED employees.
- * 93.5 percent of the respondents found the rules easy to understand.

The above findings indicate that MEED has been successful in overcoming the Achilles' heel of several employment and training programs--the problem of attracting private employers. Too much paper work and excessive contact with government agencies scared private employers away in the case of several public programs (e.g., NAB-JOBS, CETA-OJT, early WIN programs)⁴. MEED has been able to overcome this major obstacle.

3. MEED SPURS ECONOMIC GROWTH IN INDIVIDUAL BUSINESSES

- * 79 percent of the responding employers agreed that MEED enabled them to expand their production or their scale of operations.
- * 74 percent of the responding employers mentioned that the subsidy improved the performance of their business.
- * 52.5 percent of the respondents claimed that the subsidy made it possible for them to invest in equipment and machinery.

- * 46.5 percent of the respondents mentioned that the subsidy enabled them to diversify into new areas.

The above findings indicate that MEED worked exactly like a capital subsidy, with two crucial differences. First, capital subsidies, unlike MEED, offer no guarantee of job creation. Second, with a wage subsidy, the jobs are targeted at the unemployed who are most in need. Otherwise, from the private employer's point of view a dollar is a dollar is a dollar...

4. MEED HELPS WINNERS

Since MEED's impact on economic development depends to a great extent on the kinds of firms it served, we analyzed the characteristics of the firms that participated in MEED. We found:

Exporters

- * 49.6 percent of the responding firms sold goods/services outside Minnesota.
- * 74.1 percent of the exporting businesses had fewer than 20 employees.

Some critics have suggested that a wage subsidy would be disproportionately used by declining firms, and that the subsidy would merely delay the demise of industrial "losers." The above findings refute that argument. Firms that export, or sell goods or services out-of-state, not only add to the Gross State Product (GSP), but also increase local employment opportunities. Most economists assert that exports are a key to economic growth.

Competitive Firms

- * 88.9 percent of all responding employers felt that the performance of their business over the past year was above average or average.

Manufacturing Firms

- * 19 percent of the responding businesses were in the manufacturing sector.

While only 8.6 percent of the firms in the SBA data base⁵ were in manufacturing, MEED, although serving a similar clientele, served twice as many manufacturing firms. We should note that manufacturing employment is very important from the point of view of economic development because of its multiplier effect, i.e., each job created in manufacturing is expected to spin off at least three other jobs in the service sector.

High Technology Firms

- * 17 percent of all manufacturers were "high technology" firms.

Within the manufacturing sector, high technology accounted for the largest number of firms--nearly twice as much as its nearest rival, printing and publishing. High technology firms are not only above-average income-earners for the state, but are also viewed as the industries of the future.

Retail and Service Firms

- * 55 percent of all MEED respondents were in Services and Retail Trade.
- * 44 percent of all Service firms were in Business, Professional and Related Services.

MEED served about the same percent of Retail and Service firms as are represented in the SBA data base.⁶ We should note, however, that the large number of Service firms were in Business and Professional Services--industries that are more likely to be export-oriented.

Job Creators and Job Retainers

- * 52 percent of all responding firms were older than 5 years; 48 percent were younger than 5 years.

Research shows that young firms face a very high probability of going out of business. Conversely, research also shows that young firms are the most prolific in creating jobs. MEED has struck a judicious balance between those firms that are the greatest job creators (firms younger than 5 years), and those that are older, and as a consequence more stable.

Home-Grown and Employment-Centered Firms

- * 95 percent of all responding employers stated that they had NO plans (short- or long-term) of relocating their business to another state.
- * 95.7 percent of all responding employers mentioned that they had no plans of buying equipment or machinery that would reduce their workforce.

Since MEED is a response to an unemployment problem that is caused in part by business relocation and the introduction of labor-displacing machinery, we wanted to find out whether the participating firms had such plans. The above findings indicate that MEED served businesses which seem to be labor-intensive and are firmly rooted in the state.

David Birch⁷ has shown that only 0.5 percent of the new jobs over a three-year period were found to result from inter-state migration of firms. Birch notes: "Development policies aimed at attracting new firms address a very small part of employment change, while policies aimed at assisting firms already in the state or firms wanting to get started here, hit at the heart of the matter."

Government may give indiscriminate tax credits and capital subsidies in the hope that jobs will eventually "trickle down." These policies may actually have an unintended consequence: labor-displacing investments may occur. MEED offers an alternative model of economic development--employment-centered growth.

FOOTNOTES

1. Birch, David, "The Job Generation Process,"
Mass: MIT, Program on Neighborhood & Regional Change, 1979.
- 2(a). Harris, Candee, "U.S. Establishment & Enterprise Microdata
Database Description," Brookings Institution, 1983.
- 2(b). Armington, Catherine, "Business Microdata Project,"
Washington, D.C.: The Brookings Institution, 1982.
3. The State of Small Business: A Report of the President,
Transmitted to the Congress, March, 1984.
4. Bishop, John, "The Targeted Jobs Tax Credit: What Has Been
Learned," A Statement Before the Subcommittee on Select
Revenue Measures, Committee on Ways and Means, U.S. House
of Representatives, April 10, 1984.
5. See (3) above.
6. See (3) above.
7. See (1) above.

E X H I B I T S

EXHIBIT 1A

DISTRIBUTION OF PARTICIPATING BUSINESSES CLASSIFIED BY NUMBER OF EMPLOYEES

<u>Number of Employees</u>	<u>Number of Businesses</u>	<u>Percent</u>	
Less than 20 employees	1,479	83.6	} 95.5
21-50 employees	152	8.6	
51-99 employees	59	3.3	
100 or more employees	<u>79</u>	<u>4.5</u>	
Total number of respondents	1,769	100.0	

EXHIBIT 1B

DISTRIBUTION OF MEED JOBS CREATED BY PARTICIPATING BUSINESSES CLASSIFIED BY FIRM SIZE

<u>Firm Size</u>	<u>Number of MEED Jobs Created</u>	<u>Percent of Total</u>
Less than 20 employees	2,948	60.4
21-99 employees	1,137	23.3
100 or more employees	<u>798</u>	<u>16.3</u>
Total	4,883	100.0

EXHIBIT 1C

PRIVATE EMPLOYERS' RESPONSE TO QUESTION:

WOULD YOU HAVE EXPANDED YOUR WORKFORCE TO ITS PRESENT SIZE WITHOUT THE MEED SUBSIDY?

<u>Response</u>	<u>Number of Employers</u>	<u>Percent of Total</u>
No, we would not have expanded our workforce to its present size without the MEED subsidy	988	59.1
No, we would not have expanded as quickly as we did	68	4.1
Yes, we would have expanded our workforce to its present size without the MEED subsidy	<u>616</u>	<u>36.8</u>
Total number of respondents	1,672	100.0

EXHIBIT 1D

BREAKDOWN OF BUSINESSES THAT SAID THEY WOULD NOT HAVE EXPANDED THEIR WORKFORCE WITHOUT MEED, CLASSIFIED BY FIRM SIZE

<u>Firm Size</u>	<u>Number of Businesses</u>	<u>Percent of Total</u>
Less than 20 employees	895	90.6
21-99 employees	75	7.6
100 or more employees	<u>18</u>	<u>1.8</u>
Total number of respondents	988	100.0

EXHIBIT 1E

REASONS CITED BY BUSINESSES FOR NOT EXPANDING WITHOUT SUBSIDY

<u>Reason</u>	<u>Number of Employers</u>	<u>Percent</u>
Could not afford to on account of inadequate cash flow	610	72.0
Could not afford to train new employee	132	15.6
Subsidy made it possible to experiment with new job	55	6.5
Other	<u>50</u>	<u>5.9</u>
Total citing reasons	847	100.0

EXHIBIT 2

PRIVATE EMPLOYERS' PERCEPTIONS OF ADMINISTRATIVE ASPECTS OF MEED

<u>Item/Perception</u>	<u>Number of Employers</u>	<u>Percent</u>
I was able to fill the jobs with a minimum of red tape		
* Strongly agree/Agree	1,553	92.2
* Disagree/Strongly disagree	<u>132</u>	<u>7.8</u>
Total	1,685	100.0
Don't know/Not applicable responses	84	
I am very satisfied with the performance of my MEED employee		
* Strongly agree/Agree	1,403	83.8
* Disagree/Strongly disagree	<u>272</u>	<u>16.2</u>
Total	1,675	100.0
Don't know/Not applicable responses	94	
The rules were easy to understand		
* Strongly agree/Agree	1,595	93.5
* Disagree/Strongly disagree	<u>110</u>	<u>6.5</u>
Total	1,705	100.0
Don't know/Not applicable responses	64	

EXHIBIT 2 (cont'd)

<u>Item/Perception</u>	<u>Number of Employers</u>	<u>Percent</u>
The six-month subsidy is too short		
* Strongly agree/Agree	996	64.6
* Disagree/Strongly disagree	<u>545</u>	<u>35.4</u>
Total	1,541	100.0
Don't know/Not applicable responses	228	
The twelve months without subsidy is too long		
* Strongly agree/Agree	920	64.1
* Disagree/Strongly disagree	<u>516</u>	<u>35.9</u>
Total	1,436	100.0
Don't know/Not applicable responses	333	

EXHIBIT 3A

PRIVATE EMPLOYERS' PERCEPTIONS OF MEED'S IMPACT ON THEIR BUSINESS

<u>Item/Perception</u>	<u>Number of Employers</u>	<u>Percent</u>
Hiring MEED workers made it possible to expand production/scale of operations		
* Strongly agree/Agree	1,213	79.0
* Disagree/Strongly disagree	<u>323</u>	<u>21.0</u>
Total	1,536	100.0
Don't know/Not applicable responses	233	
The subsidy did not improve my firm's performance		
* Strongly agree/Agree	417	25.9
* Disagree/Strongly disagree	<u>1,196</u>	<u>74.1</u>
Total	1,613	100.0
Don't know/Not applicable responses	156	
MEED made it possible for me to invest in machinery/equipment that my firm needs		
* Strongly agree/Agree	692	52.5
* Disagree/Strongly disagree	<u>626</u>	<u>47.5</u>
Total	1,318	100.0
Don't know/Not applicable responses	451	
MEED made it possible for my business to diversify into new areas		
* Strongly agree/Agree	603	46.5
* Disagree/Strongly disagree	<u>693</u>	<u>53.5</u>
Total	1,296	100.0
Don't know/Not applicable responses	473	

EXHIBIT 3B

PRIVATE EMPLOYERS' RESPONSES TO QUESTION:

DO YOU HAVE ANY PLANS (SHORT- OR LONG-TERM) OF RELOCATING YOUR BUSINESS TO ANOTHER STATE?

		<u>Percent</u>
Number responding Yes	80	4.6
Number responding No	<u>1,653</u>	<u>95.4</u>
Total number of respondents	1,733	100.0

EXHIBIT 3C

PRIVATE EMPLOYERS' RESPONSES TO QUESTION:

GIVEN THE NATURE OF YOUR BUSINESS, DO YOU HAVE PLANS OF BUYING MACHINERY/ EQUIPMENT THAT WILL REDUCE YOUR WORKFORCE WITHIN THE NEXT YEAR?

		<u>Percent</u>
Number responding Yes	74	4.3
Number responding No	<u>1,667</u>	<u>95.7</u>
Total number of respondents	1,741	100.0

EXHIBIT 4A

THE NUMBER OF PARTICIPATING BUSINESSES THAT SOLD (EXPORTED) GOODS/SERVICES
OUTSIDE MINNESOTA

	<u>Number of Businesses</u>	<u>Percent</u>
Sold goods/services outside Minnesota	870	49.6
Did not sell goods/services outside Minnesota	<u>885</u>	<u>50.4</u>
Total number of respondents	1,755	100.0

EXHIBIT 4B

BUSINESSES EXPORTING OUTSIDE MINNESOTA, CLASSIFIED BY FIRM SIZE

<u>Firm Size</u>	<u>Number of Businesses</u>	<u>Percent</u>
Less than 20 employees	645	74.1
21-50 employees	114	13.1
51-99 employees	47	5.4
100 or more employees	<u>64</u>	<u>7.4</u>
Total number of respondents	870	100.0

EXHIBIT 4C

EMPLOYERS' RESPONSE TO QUESTION:

HOW WOULD YOU DESCRIBE THE PERFORMANCE OF YOUR BUSINESS OVER THE PAST YEAR?

<u>Response</u>	<u>Number of Employers</u>	<u>Percent of Total</u>
Better than average	727	42.4
Average	799	46.6
Worse than average	<u>189</u>	<u>11.0</u>
Total	1,715	100.0

EXHIBIT 4D

DISTRIBUTION OF BUSINESSES BY INDUSTRIAL SECTOR FOR MEED PARTICIPANTS AND
U.S. SMALL BUSINESS*

<u>Industrial Sector</u>	<u>Number of MEED Businesses</u>	<u>Percent</u>	<u>Number of U.S. Small Businesses</u>	<u>Percent</u>
Agriculture	58	3.3	123,669	2.8
Manufacturing	339	19.2	377,145	8.6
Construction	133	7.5	622,209	14.2
Wholesale Trade	100	5.7	435,885	10.0
Retail Trade	444	25.1	1,266,821	29.1
Services	535	30.2	1,022,869	23.4
Finance, Insurance, Real Estate	120	6.8	330,147	7.6
Transportation, Com- munication, Utilities	<u>33</u>	<u>2.0</u>	<u>154,741</u>	<u>3.5</u>
Total	1,762	100.0	4,369,726	100.0

* Source: U.S. Small Business Administration, Office of Advocacy, Small
Business Data Base.

Percentages will not add up to 100 because of rounding.

EXHIBIT 4E

DETAILED INDUSTRIAL LOCATION OF SERVICE FIRMS THAT PARTICIPATED IN MEED

<u>Industry</u>	<u>Number of Firms</u>	<u>Percent</u>
Personal Services	85	15.9
Hotels and Other Lodging Places	33	6.2
Amusement and Recreation Services	15	2.8
Business Services	114	21.3
Professional and Related Services	123	23.0
Repair Services	96	17.9
Miscellaneous Services	<u>69</u>	<u>12.9</u>
Total	535	100.0

EXHIBIT 4F

DETAILED INDUSTRIAL LOCATION OF MANUFACTURING FIRMS THAT PARTICIPATED IN MEED

<u>Industry</u>	<u>Number of Firms</u>	<u>Percent</u>
High Technology*	59	17.4
Food and Kindred Products	16	4.7
Apparel	12	3.5
Lumber	16	4.7
Furniture and Fixtures	30	8.8
Paper and Allied Products	6	1.8
Printing and Publishing	32	9.4
Chemicals	3	1.0
Rubber and Plastic Products	19	5.6
Leather Products	1	.2
Stone, Clay, Glass	7	2.1
Fabricated Metal	26	7.7
Machinery except Electrical	19	5.6
Electrical Machinery	3	1.0
Transportation Equipment	9	2.6
Alternative Energy Products	5	1.5
Miscellaneous	<u>76</u>	<u>22.4</u>
Total	339	100.0

* Our definition of "high technology" industries is taken from Ann M. Lawson, "Technological Growth and High Technology in U.S. Industries", in Industrial Economics Review, U.S. Department of Commerce, Spring, 1982.

EXHIBIT 4G

AGE OF PARTICIPATING FIRMS

<u>Age Group</u>	<u>Number of Firms</u>	<u>Percent</u>
Less than 2 years	482	27.4
2-5 years	362	20.5
5 or more years	<u>919</u>	<u>52.1</u>
Total number of respondents	1,763	100.0

EXHIBIT 4H

NUMBER OF MEED PARTICIPANTS THAT WERE FEMALE- OR MINORITY-OPERATED

	<u>Number of Firms</u>	<u>Percent of Total</u>
Female-operated	252	14.2
Minority-operated	70	4.0
Total number of MEED participants	1,769	

A P P E N D I C E S

PRIVATE EMPLOYER SURVEY

- BUSINESS INFORMATION

- Part-time
- () 5 or less
- () 6 - 10
- () 11 - 20
- () 21 - 50
- () 51 - 99
- () 100 or more

10. How would you describe the performance of your business over the past year?
- ☐ better than average
☐ average
☐ worse than average
11. What percent of your business' total assets is invested in plant and equipment?
- ☐ less than 5 percent
☐ 6 - 10 percent
☐ 11 - 20 percent
☐ 21 - 40 percent
☐ 41 percent or more
12. Given the nature of your business, do you have plans of buying machinery/equipment that will reduce your workforce within the next year?
- ☐ Yes ☐ No
13. If answered yes to (12)above, what percent of your workforce do you think will be replaced?
- ☐ less than 10 percent
☐ 11 - 25 percent
☐ 26 - 50 percent
☐ more than 50 percent
14. Do you have any plans (short- or long-term) of relocating your business to another state?
- ☐ Yes ☐ No

MEED INFORMATION

15. How many employees have you hired through MEED since July 1983? _____
16. Have any of your MEED employees:
- (a) quit before completing six months (How many?) _____
(b) been fired before completing six months (How many?) _____
(c) quit after completing six months (How many?) _____
(d) been fired after completing six months (How many?) _____
17. Would you have expanded your workforce to its present size without the MEED subsidy?
- ☐ Yes Give reasons _____

- ☐ No Give reasons _____

18. For each job filled by a MEED employee, please provide the following information:

	EXAMPLE	<u>Job 1</u>	<u>Job 2</u>	<u>Job 3</u>	<u>Job 4</u>
Job type	Clerical	_____	_____	_____	_____
# MEED employees hired	<u>2</u>	_____	_____	_____	_____
# retained after subsidy	<u>1</u>	_____	_____	_____	_____
Hourly wage during subsidy	<u>\$4.00</u>	_____	_____	_____	_____
Hourly wage after subsidy	<u>\$4.10</u>	_____	_____	_____	_____
Did you provide any special training on-or off-the job?	Yes, trained employee in word processing	_____	_____	_____	_____

19. Please respond to the following statements regarding MEED's impact on your business. (Circle one number for each statement.)

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Disagree</u>	<u>Strongly Disagree</u>	<u>Don't Know Not Applicable</u>
1. My business would have survived without the MEED subsidy.	1	2	3	4	5
2. The subsidy did not improve my firm's performance.	1	2	3	4	5
3. MEED made it possible for me to invest in machinery/equipment that my firm needs.	1	2	3	4	5
4. Hiring MEED workers made it possible to expand production/scale of operations.	1	2	3	4	5
5. The six month subsidy is too short.	1	2	3	4	5
6. The twelve months without subsidy is too long.	1	2	3	4	5
7. I am very satisfied with the performance of my MEED employees.	1	2	3	4	5
8. MEED made it possible for my business to diversify into new areas.	1	2	3	4	5
9. I was able to fill the jobs with a minimum of red tape.	1	2	3	4	5
10. The rules were easy to understand.	1	2	3	4	5

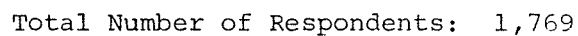
APPENDIX B

QUESTIONNAIRES MAILED OUT AND RECEIVED, CLASSIFIED BY SERVICE DELIVERY AREA

<u>Service Delivery Areas</u>	<u>Number of Questionnaires Mailed</u>	<u>Percent of Total</u>	<u>Number of Questionnaires Received</u>	<u>Percent of Total</u>
Region 1	156	4.8	74	4.2
Duluth and Region 3	530	16.5	243	13.6
Regions 2, 4 & 5	397	12.3	195	10.9
Regions 6E, 7E, 7W, 6W, 8	451	14.2	262	14.7
Regions 9 & 10	400	12.4	255	14.3
Minneapolis	287	8.9	144	8.1
Hennepin	300	9.3	178	9.9
Carver	32	.9	21	1.2
Scott	36	.9	20	1.1
St. Paul	115	3.6	115	6.4
Ramsey	89	2.8	43	2.4
Anoka	211	6.6	115	6.5
Dakota	108	3.4	58	3.3
Washington	<u>105</u>	<u>3.3</u>	<u>60</u>	<u>3.4</u>
	3,217	100.0	1,783	100.0

Note: Percentages may not add up to 100 percent because of rounding.

DISTRIBUTION OF PRIVATE EMPLOYERS WHO RESPONDED TO SURVEY BY COUNTY



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APPENDIX D

CLASSIFICATION SYSTEM FOR HIGH-TECH INDUSTRIES

Drugs

Petroleum Refining

Ordnance and Accessories

Office Computing and Accounting Machines

Electronic Computing Equipment

Electric Transmission and Dist. Equipment

Electrical Industrial Appliances

Household Appliances

Electric Lighting and Wiring Equipment

Radio and TV Receiving Equipment

Communications Equipment

Electronic Computing Accessories

Misc. Electrical Machinery/Equipment/Supplies

Engineering, Laboratory, Scientific and Research Instruments and Equipment

Measuring and Controlling Equipment

Optical Instruments and Lenses

Surgical, Medical, and Dental Instruments and Supplies

Ophthalmic Goods

Photographic Equipment

Watches, Clocks, etc.

Source: Ann M. Lawson, "Technological Growth and High Technology in U.S. Industries," in Industrial Economics Review, U.S. Dept. of Commerce, Spring, 1982.