

ENTREPRENEURSHIP AND EMPLOYMENT GROWTH

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Creative entrepreneurship is obviously vital in any assessment of the future of employment and income in Minnesota. It is important to look at the nature of entrepreneurship in the state, its performance, and the location factors which explain its presence here. This is a large order and a subject which appears to have had little systematic study. In this essay I can explore only a small amount of data and draw a few tentative inferences.

When we describe the structure of the economy, we tend to speak of masses of jobs and types of work in abstract terms. Massive numbers shift about from one region or one class to another under the stimulus of "independent variables" or "trend-line projections". Such abstractions are essential shorthand in our complicated struggle to understand how the productive society operates. But there remains a gnawing concern about what the driving forces in that big machine really are. In Minnesota about 1.75 million people are in the labor force. The self-employed, including farmers, number slightly under one-quarter million. That means nearly 1.5 million Minnesotans work for a corporation, an individually-owned business, or a public agency.

Thus organizations are necessary to the creation and maintenance of those masses of jobs summarized in the statistics. There are roughly 55 thousand such job-creating non-farm organizations in the state. About 90 percent are business or professional firms; the others are governments or government agencies.

Somebody started each organization, built it, fashioned its management. There had to be an initial concept and a series of authoritative, risky decisions followed by actions concerning finance, personnel, production, sales,

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and research. There had to be creative entrepreneurs. This is true not only for all of the private firms but also in varying degree for services which are wholly or partly public--notably in the fields of education, transportation, utilities, and health.

Growth of Minnesota Manufacturing

Manufacturing has been an especially important and fast-growing contributor to Minnesota's livelihood since World War II. It is doubly interesting because its Minnesota location is marginal to the main concentrations of both the national and Midwest markets, remote from any large reservoir of low-priced labor, and remote from raw material sources for most of its industries. Hence industrial development has been heavily dependent on creative entrepreneurship to help to overcome these apparent inhibitions. (This discussion omits the mining industry, whose story is probably better known but whose 14 thousand jobs are monitored in a different set of records.)

About 10 percent of the establishments that employ people in Minnesota are manufacturing firms. Their importance is greater than that figure suggests. They provide over 20 percent of the state's employment--about five thousand establishments offer more than 300 thousand jobs. And they generate an even larger part of the goods and services we trade for imports from the rest of the nation and the world.

A small number of firms, of course, provide a large share of the jobs. For example, in the 7-county Twin Cities metropolitan area a 1965 survey showed that 106 thousand manufacturing jobs--more than half the metropolitan total--were provided by 135 plants; and those plants, in turn, were controlled by an even smaller number of national corporations listed in Fortune magazine's top industrials.*

*Allan R. Pred, Major Job-Providing Organizations and Systems of Cities, Washington: Association of American Geographers (Commission on College Geography Resource Paper No. 27), 1974.

Manufacturing jobs are geographically concentrated in the Twin Cities metropolitan area, as they have been since early settlement. At the time of the most recent national census of manufacturing in 1972, 65 percent of the state's industrial jobs were reported from the 7-county metropolitan area, and that ratio has not varied more than three points in this century. Outside the Twin Cities metro area more than two-thirds of the industrial jobs are concentrated south of a line through Eau Claire, Wisconsin, Brainerd, and Sioux Falls, South Dakota. That is the part of the Upper Midwest which lies nearest not only the Twin Cities market but also nearest the geographical centers of both the over-all national market and the Midwestern farm supply market. Industrial employment north of that line is scattered, but it clusters principally at Duluth, the paper mill centers, and the snowmobile capitals at Thief River Falls and Roseau.

Change has been the most important feature of manufacturing industry in the state since World War II--if not always.

Fast growth has been one aspect of the change in the past quarter century (Table 1). Between 1947 and 1972 industrial employment in Minnesota grew from 180 thousand to 302 thousand. Relative growth in Minnesota was 68 percent, compared with 32 percent for the nation. In the five years from 1967 to 1972, which included the beginning of the current period of uncertainty and adjustment, Minnesota manufacturing employment more closely followed the national trend. But even then it gained one percent while the national figure dropped by two percent.

Significant shifts have accompanied post-War growth. (1) The mix of industries has changed, with the greatest job increase in lines other than farm-product processing. The growth of the computer industry is well-known; less known perhaps are the other machine industries and the many plants that produce highly specialized goods for both consumer and industrial markets, regional

and national. (2) The importance of non-production employment has increased (Table 2). Many more manufacturing jobs are now in offices, sales, or research. That has been a national trend, but it has been especially strong in this state. In Minnesota the trend reflects the increasing importance of corporate headquarters, research and development, and location of some new production facilities outside the state while corporate headquarters continued to grow inside the state. (3) The importance of satellite manufacturing centers, within the major market and labor supply areas of Minnesota but outside the Twin Cities, has also increased. This, too, is part of a national shift in manufacturing production location away from the historic American manufacturing region and away from major metropolitan industrial areas to outlying smaller cities and the countryside.

The growing importance of this decentralization is pointed up in the changing pattern of manufacturing job location between the 1967 and 1972 censuses (Table 1). That was a period of relatively slow growth in industrial employment both in Minnesota and across the nation. There was a net increase of only three thousand manufacturing jobs in Minnesota in those five years. But that small net change masked great regional variations. The 7-county metropolitan area has a net loss of nearly 12 thousand jobs while the rest of the state gained more than 14 thousand. Meanwhile, the number of non-production manufacturing employees grew in the metropolitan area; so the loss was due entirely to a shift of investment in new production facilities to places beyond the suburban fringe.

Minnesota Entrepreneurship in the Growth of Industrial Employment

Behind this growth and change lies the collective and individual performance of the organizations and individuals who created the new jobs--hence created the new geographic patterns and product lines. Two sets of data suggest the role of Minnesota entrepreneurs. One set provides a look at new job creation in the

centers of greatest growth outside the Twin Cities area. The other set covers the growth of national corporate headquarters in the state.

A look at the major industrial growth centers outside the Twin Cities indicates the great importance of local entrepreneurs. The five urban areas which reported the largest gains in manufacturing jobs from 1947 to 1972 were St. Cloud, Hutchinson-Glencoe, Mankato, Owatonna, Rochester, and Winona. Each area added more than 2000 jobs, and the counties which contain those centers gained about 21 thousand industrial jobs in the 25-year period (Table 3).

Seventy-three firms accounted for nearly all of the gain--more than 19 thousand new jobs. New firms played a very important role. Nearly half the employment gain was produced by 25 plants which arrived newly on the scene in the post-War period.

Minnesota entrepreneurs, compared with "outsiders", were still more important (Table 4). They provided 70 percent of the new jobs created by the 73 growth firms. Fifty-nine percent of the new jobs were provided by Minnesota firms, mostly headquartered in the five local communities. Another 11 percent of the jobs were added at plants originally established by Minnesotans, though subsequently sold, and expanded by their new outside owners. The IBM plant at Rochester provided nearly all of the new employment by firms whose current headquarters and birthplaces are outside Minnesota; and one can only speculate on the indirect role of Minnesota entrepreneurship in that location decision.

A glance at the growth of national corporate headquarters also emphasizes the importance of local entrepreneurship in the Minnesota picture. America's largest 500 industrial corporations account for well over half the nation's industrial assets and jobs. Although there is an extreme concentration of headquarters of those firms in New York, Minnesota has long been one of the few states whose share of major corporate headquarters has exceeded its share of

the national population and wealth. Furthermore, the state's share of headquarters has gained substantially in recent years (Table 6). While seven of the nation's 500 largest corporations were Minnesota-based in 1961, the number had grown to 13 by 1974. In both years all but one of the firms was headquartered in the Twin Cities metropolitan area. The number of manufacturing jobs nationwide which were controlled by Twin Cities-based corporations grew from 100 thousand to 300 thousand in twelve years. That was the sixth largest gain among all U.S. metropolitan areas in both absolute and relative terms.*

Again, Minnesota entrepreneurship explains most of the pattern. Of the seven state-based firms in the top 500 in 1961, all were home-grown. Of the thirteen in 1974, all but one were originally established in Minnesota by local people. Most Minnesota jobs controlled by national corporations are traceable to Minnesota entrepreneurs. Of the 106 thousand Twin Cities manufacturing jobs controlled by major national corporations in a 1965 survey, 56 thousand were controlled by Minnesota-based corporations--the highest percentage in local control for any U.S. metropolitan area over 500 thousand population. Virtually all of those locally-based corporations were home-grown. The remaining 50 thousand jobs, though controlled by "outside" corporations, were more than 90 percent in plants and offices which had been established by Minnesota entrepreneurs and subsequently sold to outside firms, then expanded in their Minnesota locations.

The Larger Picture

Local entrepreneurship probably has been as important in other segments of the economy as it has been in manufacturing. In trade, finance, and services, many Minnesota-based firms come to mind which rank among the national leaders in their fields in sales and provision of jobs--Dayton Hudson, Super-Valu,

*Pred, op.cit.

Gamble-Red Owl, the Mayo Clinic, Northwest Bancorporation, First Bank Stock, the St. Paul Companies, and IDS are examples. All are home-grown. So are Northwest Airlines, North Central Airlines, Burlington Northern, the Soo Line, and a number of major trucking firms in the transportation field. Less easily identified are the smaller firms in finance and commerce and the thousands of farmers who have played the entrepreneurial role in that industry, which has quadrupled the value and sales of family farms in the past quarter-century. Even more subtle is the role of researchers and administrators in the public organizations, whose entrepreneurship brings to the state its portion of national income redistributed through the mysterious workings of federal programs and foundation grants.

The essential characteristics of this entrepreneurial activity are obvious in some ways, yet in other ways as elusive as the spark of creativity, itself. Like all the rest of us, an entrepreneur in action is responding to information about the needs and resources around him in the society. But his (or hers, of course) is a more complex, more nearly unique response. He uses more information than most other people, or he uses it more quickly, or both. He creates a new or critically modified institutional structure rather than simply working within an organization as he finds it. His use of information probably requires more work and more risk than those people less involved in organizing and reorganizing the resources of nature and man. Entrepreneurs are key nodes in the ever-spreading, intensifying international network of management, financial, and personnel information. Hence they are always known and coveted by others elsewhere, and they are always aware of opportunities elsewhere.

What, then governs the location of entrepreneurs? As far as the Minnesota experience is concerned, there appear to have been two major location factors: where entrepreneurs are bred and where they are attracted or retained.

An entrepreneurial breeding ground ought to be a place in which there is a relatively large amount of available information about labor, capital, markets, technology, and environment. It ought also to be a place where people have a relatively large amount of knowledge about how to use such information--how to put it together. And, finally, it must be a place in which people have the motivation to use their knowledge and information creatively.

Entrepreneurs, like other people, are likely to stay where they find amenity for living and encouragement to do what they do for their livelihood. What are amenities and encouragement?

Amenities are partly natural--climate, relief, water, forest. And they are partly cultural, within a wide range of tastes. To some, cultural amenities are community cohesion, traditional values of family stability; to others they are opportunities for riotous living. To some, amenities are open spaces and natural order; to others, the excitement of crowds and the performing arts. To some, amenity is an open society; to others it is closed society with a power elite. Perhaps entrepreneurs also congregate where they find others of like tastes.

Encouragement to do business in a place is both direct and indirect. There are direct financial incentives offered by the community. To some, the greatest encouragement might be simply a fair and open system in which prices reflect real costs, and social responsibilities are determined in free and open discussion. To others, encouragement might mean special privilege. Indirect community support might be public services and utilities and transportation. Or it might be simply public recognition and appreciation.

In Minnesota, these location factors have obviously had certain biases. They have been inclined toward amenities of water and forest, low density rural and urban settlements, many traditional family and community values, and an open society. Community encouragement or incentives have emphasized an open

system and extensive public services, especially education.

On the face of it, with those amenities and incentives there appears to have been considerable success in the breeding and retention of entrepreneurial talent in this part of the nation. That appears to be the chief reason for the observed growth of major firms and employment. Considerable talent has migrated into Minnesota because the state's entrepreneurs are a part of the international information network. They are searching as well as being sought. But on balance the state has undoubtedly produced a substantial export surplus of such talent. Given the amenities and incentives for entrepreneurs which have characterized Minnesota, one might expect that entrepreneurs with Minnesota roots or commitments are also biased toward the values and life styles of the region. They are a part of the culture and a part of the community.

Conclusion

Creative entrepreneurship is a critical resource with a delicate balance in the ecology of society. A relatively small number of people create most of the employment. As a result, those people also hold the power to affect the lives of others; hence there is a reaction by other people to limit or direct the use of that power. In such a situation there is a need for all to recognize subtle boundaries between productive and exploitive uses of power. For entrepreneurs a thin line separates creative from exploitive organization of people and natural resources. For the rest of the population an equally thin line separates protection against exploitive entrepreneurs, on the one hand, from exploitation of creative entrepreneurs, on the other hand.

There may be an important analogy with the environmental awakening since Earth Day. It is now widely appreciated that miraculous products of the laboratory

can yield undesired, unexpected results when those products are released in the environment. We do not know enough about most of the changing configuration of environmental systems to correlate such changes with human actions. Investment in laboratory sciences has far exceeded investment in earth sciences. We have discovered that we need a very much greater geographical network of regular observation and interpretation of the so-called natural environment system and man's use of it. No amount of regulation or rhetoric will narrow the gap.

Meanwhile, there have been remarkable refinements in techniques of management, marketing, finance, taxation, and regulation. The effect of these on creative entrepreneurship is not generally known. We know that in Minnesota people who have emerged as creative entrepreneurs have been an important resource. One can suspect that their emergence and rooting here have had something to do with education, attitudes, and environment. But it appears that investment in narrow aspects of management science has far exceeded investment in simple, empirical description and interpretation of the economic system. No amount of regulation, manipulation, or rhetoric will narrow the gap.

Just as there has been a widened realization that an ocean could be spoiled without anyone understanding what happened where; so there may come a widened realization that the resource of creative entrepreneurship could be spoiled inadvertently. If there is growing and enlightened concern about jobs and income, there may also emerge a need for more information and better understanding of the relations between society as a whole and its resource of job-creating entrepreneurship. Where, when, how, and why does creative entrepreneurship emerge, thrive, migrate, or put down roots?

Tables:

Table 1. Manufacturing employment change in Minnesota since World War II.

<u>Area</u>	<u>1947</u>	<u>1967</u>	<u>1972</u>
7-County Metro	123	207	195
Rest of State	57	93	107
Total	180	300	302

Table 2. Changing proportion of production workers in manufacturing employment.

		<u>Employment in thousands</u>		
		<u>1947</u>	<u>1968</u>	<u>1972</u>
Production:	U.S.	11916	14043	13394
	Minnesota	145	206	196
Non-Production:	U.S.	3374	5485	5525
	Minnesota	35	102	107
Non-Production as % of total	U.S.	22	28	29
	Minnesota	19	33	35

Table 3. Post-World War II industrial employment gains in five major growth centers outside the Twin Cities.

<u>Urban Area</u>	<u>Mfg. Emp. Gain in county 1947-1972</u>	<u>Gain 1952-1975 by firms w/ >100 emp. 1975</u>	<u>Number of Such Firms in 1975</u>	<u>Such Firms new since 1952</u>
St. Cloud	4100	3900	17	6
Hutchinson-Glencoe	3700	3200	4	2
Mankato	2600	2400	15	5
Owatonna	2000	2000	8	3
Rochester	5700	5400	10	2
Winona	2400	2500	18	7
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	20900	19400	73	25

Table 4. Number of new manufacturing jobs in five non-Twin Cities urban areas, divided according to location of headquarters of the job-providing firms.

<u>Urban Area</u>	<u>Hq. for jobs added by firms new since 1952</u>			<u>Hq. for jobs added by firms est. pre-1952</u>		
	<u>Local</u>	<u>M-StP</u>	<u>Outside</u>	<u>Local</u>	<u>M-StP</u>	<u>Outside</u>
St. Cloud	400	900	200	900	100	1400
Hutchinson-Glencoe	0	0	600	0	2600	0
Mankato	800	200	0	1400	0	0
Owatonna	600	0	0	1400	0	0
Rochester	0	0	4700	600	0	100
Winona	800	0	400	400	0	900
	2600	1100	5900	4700	2700	2400

Table 5. Founding years of major job-providing industrial firms in five fastest-growth, non-Twin Cities urban areas.

<u>Years</u>	<u>Number of firms founded</u>
1860-69	2
1870-79	1
1880-89	0
1890-99	4
1900-09	2
1910-19	3
1920-29	9
1930-39	3
1940-49	19
1950-59	12
1960-69	4
1970-75	2

Table 6. Minnesota-based firms in Fortune magazine list of 500 largest U.S. industrial corporations, ranked according to sales.

<u>Corporation</u>	<u>Rank 1974</u>	<u>Rank 1961</u>
3M	59	81
Honeywell	68	50
General Mills	94	83
Land O'Lakes	183	unlisted
Control Data	187	unlisted
Pillsbury	202	125
Hormel	215	126
International Multifoods	256	unlisted
Bemis	290	unlisted
Peavey	339	unlisted
Hoerner-Waldorf	357	unlisted
Green Giant	423	unlisted
American Hoist	469	unlisted
Archer Daniels Midland	(moved)	201
Minnesota & Ontario Paper	(merged)	439

Sources of data in Tables:

Tables 1 and 2: U.S. Census of Manufacturing.

Tables 3 and 4: County data from U.S. Census of Manufacturing.

Data for manufacturing firms from Directory of Minnesota Manufacturers, 1951 and 1975-76, published by Minnesota Department of Economic Development, St. Paul. Number of employees of individual firms estimated from the class groups shown in the directories, using the following assumptions:

<u>Directory Class Group</u>	<u>Assumed number of employees</u>
1-8	5
9-24	15
25-49	35
50-99	70
100-249	150
250-499	350
500-999	750
1500-749	600
750-999	800
1000-1999	1300
2000 or more	Actual plant employment

Table 5: Fortune, July 1961 and May 1975.

Table 6: Directory of Minnesota Manufacturers, 1975-76.