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The Economics of Minnesota's Ruralplexes

Thomas F. Stinson

Minnesota's economy has performed admirably for more than forty years. No matter whether one looks at Gross State Product statistics, employment counts, or personal income data, the message is the same. Minnesota has grown faster than the national averages. In the early 1960s Minnesota ranked 25th among states in per-capita personal income and was at 95 percent of the U.S. average. In 2004, personal income per capita was 109 percent of the national average, and we ranked ninth. Since 1960 personal income per capita has grown at an average annual rate of 6.8 percent, 0.4 percentage points faster than the national average of 6.4 percent. Only in Mississippi, Alabama, Georgia, Tennessee, Virginia and South Carolina did the economy grow faster on a per-capita basis, and incomes in those states all started well behind Minnesota.

That remarkable record of growth occurred at the same time the structure of the state's economy was undergoing a fundamental transformation. In the 1960s Minnesota was a resource-based economy, where agriculture, mining, timber, and the manufacturing activity directly associated with processing those products accounted for more than 19 percent of Gross State Product (GSP). Nationally, those same resource-based sectors accounted for 13 percent of economic activity. But by 2001, the resource-based sectors' share of economic output had dropped nationally, especially in Minnesota. In 2001 the resource-based sectors accounted for just 6.5 percent of Minnesota's GSP, only 0.5 percentage points more than in the national economy. Over the past forty years Minnesota has become a diversified manufacturing- and services-based economy very similar to the national economy. Indeed, Minnesota's economy now is so similar to the national economy that the state is noted as one of the two or three states whose economy is most similar to the national economy.

That economic transformation did not occur because the resource-based sector failed to grow. Agriculture, mining, and the timber industry have grown substantially during the past forty years. Other sectors, however, have grown more rapidly. The services sector, which includes the important business services and health care sectors, has grown the most rapidly in Minnesota and nationally. In 1963 services accounted for just under 10 percent of Minnesota GSP. By 2001, services accounted for nearly 22 percent of statewide economic output. That same identical pattern can be seen at the national level as well, where the services sector grew from 10 percent to 21 percent of total economic output.

One important way in which Minnesota's economic progress has differed from that of the national economy is in the proportion of output coming from manufacturing outside the resource based industries. Nationally manufacturing's share of total output fell from 21 percent to 12 percent. In Minnesota manufacturing's share remained almost stable, falling from 13 percent to 12 percent.

Minnesota did face some difficult economic times. The combination of the twin national recessions of the 1980s, a sharp downturn in the iron mining industry and the U.S. farm crisis brought statewide economic hardship. Minnesota's much-applauded economic diversification was of little help when all the state's major economic sectors came upon hard times at same time. Statewide unemployment rates reached as high as 9 percent during that period, and they hovered above 8.5 percent for 10 months in 1982. Double-digit unemployment rates were common in some regions of the state.

But the periods when Minnesota underperformed the national economy were more than offset by times when the state significantly out-performed the national economy. The recession of 1990-91 was much weaker in Minnesota than in much of the rest of the nation and employment and incomes recovered more quickly. And the economic boom of the late 1990s was stronger in Minnesota than in most states. Minnesota's unemployment rate averaged just 2.7 percent in 1998 and 2.8 percent in 1999. In 1999 we tied with Nebraska for the lowest unemployment rate in the nation. Payroll employment increased by 53,000 (2.1 percent) in 1998 and by 66,000 (2.5 percent) in 1999. During the decade of the 1990s the number of jobs in Minnesota grew by more than 25 percent, from 2.124 million to 2.655 million. Nationally, payroll employment grew by 20 percent, only 80 percent as fast as Minnesota.

Minnesota's economy has dealt with the challenges presented during the last half of the twentieth century more successfully than its neighbors or any other Frost Belt state. It managed the transformation from a resource-based economy to a diversified manufacturing and services-based economy, and at the same time it has grown more rapidly than the national average. The progress in the economy has been statewide and the benefits of that growth have lifted the standard of living in Minnesota all across the income distribution. Poverty rates in Minnesota are low compared to other states and in recent years the lowest income counties in the state have been among those growing at the fastest rate.

Economic growth has occurred outside the Metroplex

Minnesota's remarkable economic performance is broadly known. What is not as broadly appreciated is how that growth has been spread across the entire state. Some casual observers, both inside the state and elsewhere in the nation, attribute the state's strong economic performance to the vitality of the state's major urban centers. They rightly note that the Minneapolis-St. Paul area is perennially on the list of the nation's strongest large metropolitan economies, and Rochester and St. Cloud have compiled impressive records of economic growth as well.

But while it might be natural to assume that the strong performance of the state's metropolitan areas came at the expense of the non-metro areas and economic growth in rural Minnesota must be lagging behind the national averages, that would not be true. What many fail to recognize is that Minnesota's non-metropolitan areas, for the most part, also out-performed the national economy during the latter part of the 20th century. Those statistics hold despite the catastrophic impact of the farm crisis of the 1980s on much of rural Minnesota.

Average annual growth rates in per-capita personal income in each of Minnesota's ruralplexes and its Metroplex are shown in Table 1. The statewide average growth rate and the national average growth rate also are provided for comparison purposes. Growth in per-capita personal income is generally assumed to be the best measure of the improvement in the average standard of living for a state or region. Between 1970 and 2000, personal income per capita increased at a 7.1-percent annual rate in Minnesota; nationally it grew at a 6.8-percent annual rate.

Minnesota's Metroplex did grow faster than the statewide average. The difference was small, though, 7.2 percent compared to 7.1 percent. But per-capita personal income growth rates in the Up North and Northwest Valley ruralplexes also exceeded the statewide average. And it was the Up North region, not the Metroplex, that showed the strongest growth rate. In the Up North ruralplex, per-capita personal income grew at a compounded annual rate of 7.4 percent over the thirty-year study period. Only in the Southwest Corn Belt region did per-capita personal income fail to exceed the U.S. average growth rate between 1970 and 2000.

Table 1: *Annual growth rate in per-capita personal income, 1970-2000.*

Northwest Valley	7.22%
Up North	7.36%
Central Lakes	7.17%
Southwest Corn Belt	6.75%
Southeast River Valley	6.91%
Metroplex	7.19%
State	7.08%
U.S.	6.85%

As the economy has evolved over the past 30 years the sources of income have also changed. Nationally, wages and proprietors' incomes were 77 percent of personal income in 1970; by 2000 they had fallen to 69 percent. Minnesota incomes followed the same pattern as those in the rest of the nation, but the differences between what occurred in the Metroplex and what happened in the state's five ruralplexes is important for those seeking to better understand the forces affecting the state's rural economies. Outside the Metroplex the proportion of personal income coming from earnings fell by nearly 15 percentage points, dropping from just under 75 percent to 60 percent. Earnings as a percent of personal income were lowest in the Southwest, where they were 58 percent in 2000, down from 73 percent in 1970. The Southeast River Valley ruralplex had the highest ratio of earnings to personal income in 2000, at 63 percent, but that was still six percentage points below the level in the Metroplex.

When wages and proprietors' incomes drop as a percentage of personal income, other sources of personal income must increase more rapidly. Those other sources of income include portfolio income and transfer payments. In Minnesota's ruralplexes the proportion of income that comes from transfer payments — primarily Social Security and Medicare, but also other pension payments as well — has become much more important and grown much more rapidly than in the Metroplex or statewide (see Figure 1).

In the Central Lakes area transfer payments are now 20 percent

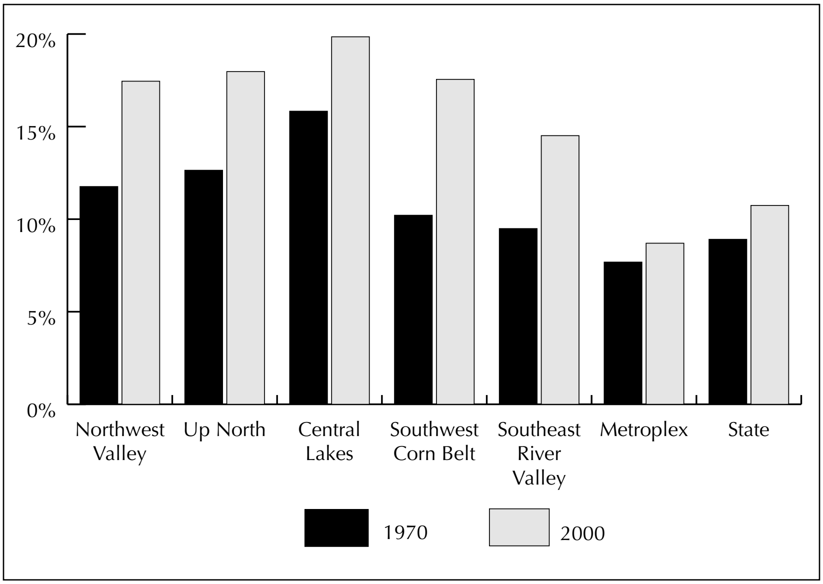

Figure 1: *Transfer payments as a percent of personal income, 1970 & 2000.*

of personal income, while in the Metroplex they are only 8 percent. In the Southwest Corn Belt and the Northwest Valley the proportion of personal income accounted for by transfer payments increased by 7 percentage points and 6 percentage points respectively. Even in the Southeast River Valley where the proportion of personal income coming from transfer payments is the smallest of the state's ruralplexes, transfer payments as a percentage of personal income are more than double the percentage in the Metroplex.

This relative reliance on transfer payments as a source of income is an important characteristic of the economies of Minnesota's ruralplexes that distinguishes them from the Metroplex. Policy makers need to recognize the importance of transfer payments, and by extension future Social Security and Medicare policy, to the future of the economies of Minnesota's ruralplexes. In five of the six ruralplexes, transfer payments are larger than farm proprietors' incomes, including both farm program payments and net income from farm operations. And as the ruralplexes age, transfer payments will play an even more important role in supporting local economies outside the metro areas of the state.

Strong statewide job growth has not carried into Minnesota's ruralplexes

Minnesota's job creation record has also been outstanding. Nationally, payroll employment grew by 76 percent between 1970 and 2000. In Minnesota, payroll employment grew more than 30 percent faster, increasing by 98 percent over that thirty-year time span. The number of individual farm proprietors fell nationally and in Minnesota, but the number of non-farm proprietors grew more rapidly in Minnesota than in the rest of the nation. The number of non-farm proprietors in Minnesota grew by 156 percent between 1970 and 2000.

Perhaps the biggest economic difference between Minnesota and the national economy is in manufacturing employment. Manufacturing employment in Minnesota grew by 41 percent during the last thirty years of the 20th century. Nationally, it declined by 3 percent. The services sector showed the most rapid employment growth. Both in Minnesota and nationally, services employment more than tripled between 1970 and 2000. Government employment also grew, but it grew more slowly in Minnesota than nationally, up 33 percent in Minnesota and 43 percent nationally.

When the employment statistics are broken down by region, several distinct differences emerge. The number of jobs in the Metroplex grew by 110 percent and the number in the Central Lakes

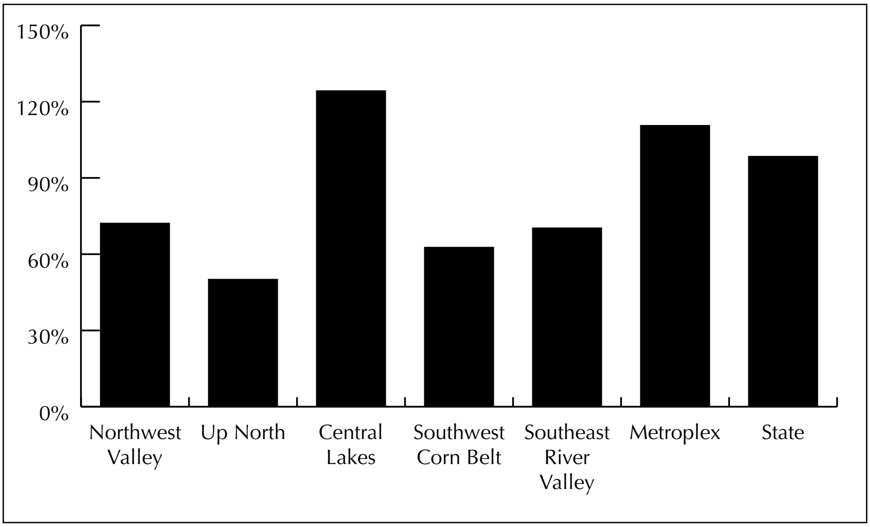

Figure 2: *Employment growth in Minnesota regions, 1970-2000.*

region by nearly 125 percent, but in all other regions employment growth lagged the national growth rate, increasing by 75 percent or less. Payroll employment in the Up North ruralplex lagged the most, growing by less than 50 percent (see Figure 2). The slow growth in employment observed in the ruralplexes re-emphasizes the important role that transfer payments have played in rural Minnesota.

When the employment data are examined in more detail, other surprises emerge. Perhaps the biggest is how manufacturing employment growth has been distributed across the state (see Figure 3). Manufacturing has been a success story in Minnesota for the past three decades, with manufacturing employment growing by more than 41 percent at a time when U.S. manufacturing employment was declining slightly. But while it might be thought that the strong employment growth observed in the Metroplex would reflect very strong manufacturing growth, it did not. Manufacturing employment growth was stronger on a percentage basis in four of the state's five ruralplexes than in the Metroplex. And while manufacturing employment in the Up North ruralplex grew by just 12 percent between 1970 and 2000, that was still 15 percentage points faster than the 3 percentage-point decline shown in the national averages. In the Southwestern Corn Belt and the Central Lakes ruralplexes manufacturing more than doubled. In the Northwest Valley ruralplex, manufacturing employment grew by 87 percent.

Where did employment growth lag in the ruralplexes? Other

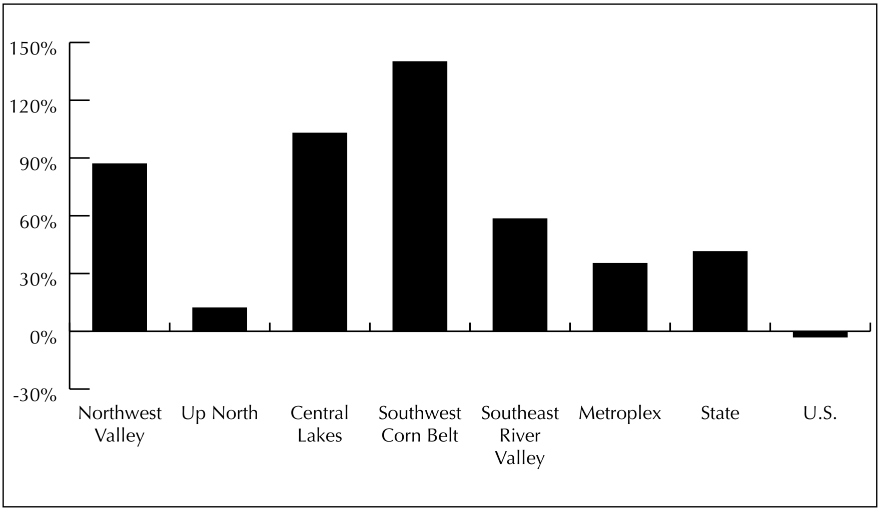

Figure 3: *Change in manufacturing employment, 1970-2000.*

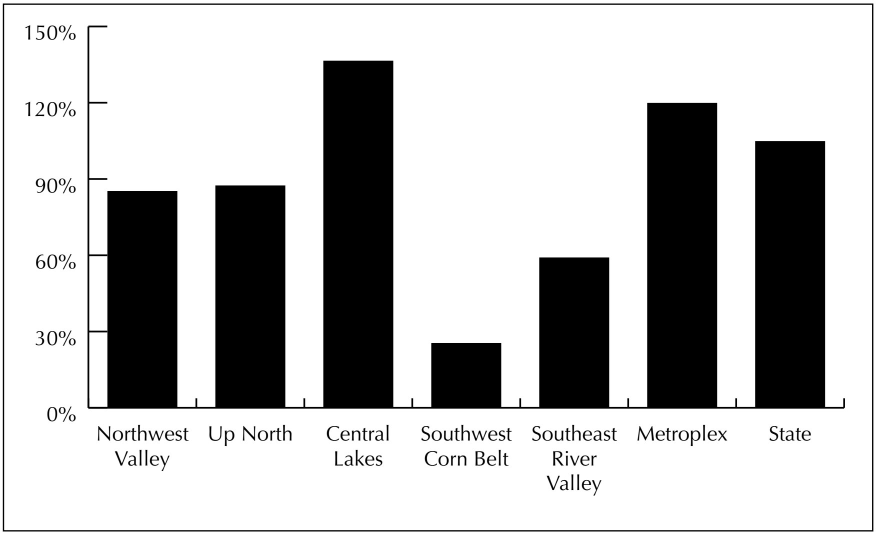

Figure 4: *Change in retail employment, 1970-2000.*

than in the Central Lakes area, retail trade grew much more slowly than in the Metroplex. All over Minnesota individuals expanded their shopping range, and big box stores in regional centers replaced smaller local stores. The size economies that accompanied those changes allowed more goods to be sold per worker. That increase in productivity kept prices down for the consumer, but it also reduced the demand for local retail employment. Retail employment grew by just 25 percent in the thirty years at the end of the 20th century in the Southwest Corn belt area, and by under 60 percent in the Southeast River Valley ruralplex (see Figure 4).

That same pattern was also observed in the growth in non-farm proprietorships, which include small retail activity as well as small service and manufacturing operations. The number of non-farm proprietorships in Minnesota grew by more than two times between 1970 and 2000, slightly faster than the national growth rate, but a major portion of that growth was in the Metroplex, where the number of proprietorships more than tripled. In the Southwestern Cornbelt, the Southeastern River Valley, and the Northwestern Valley, the growth of non-farm proprietorships was well below the state average.

Growth in the services sector was the source of the greatest growth in national employment between 1970 and 2000. That was also true in Minnesota. Nationally, employment in the services sector, which includes health care and business services as well as

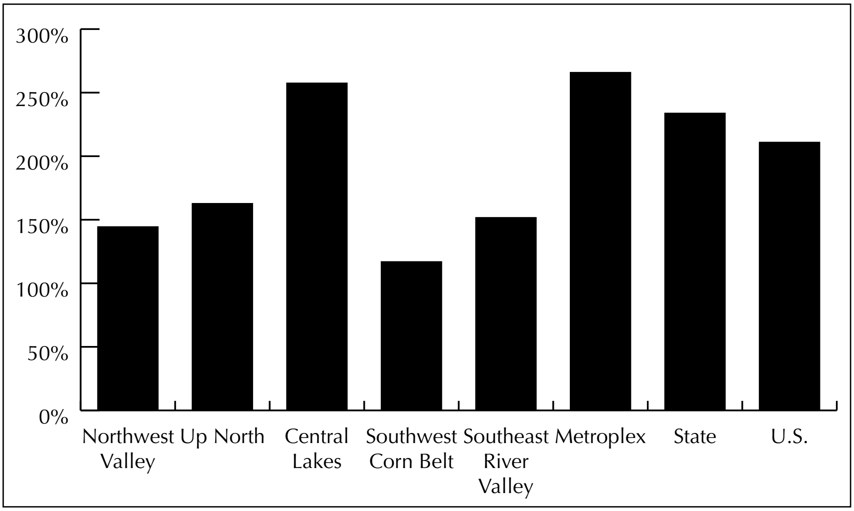

Figure 5: *Change in service employment, 1970-2000.*

personal services, grew by 211 percent, reaching a level more than triple its 1970 level. In Minnesota, services employment grew even faster, up 233 percent over that time period (see Figure 5). In the ruralplexes, however, growth rates were much slower. Only in the Central Lakes area did the rate of increase exceed the national rate. Again, the willingness to purchase outside the immediate vicinity of one's residence appears to have allowed consolidation of service delivery. For the Metroplex, its status as a major health services delivery center also contributed to its growth rate exceeding the national growth rate. The consolidation of health care delivery into the urban centers undoubtedly contributed to the slower growth of services employment in the ruralplexes.

Recent Changes in Employment

Minnesota's economy has not been as strong as the national average since the 2001 recession. Through September 2005 payroll employment in Minnesota had grown by just 0.6 percent since February 2001, 0.5 percentage points slower than the national growth rate. While U.S. job growth over the past four years has been disappointing, the lowest for a comparable period in the post World War II era, employment growth in Minnesota has been even weaker. Given the state's strong historical performance, its recent progress is even more of a disappointment.

Minnesota's manufacturing sector has not performed well since the start of the recession, but that is not the reason employment growth in Minnesota has lagged employment growth elsewhere in the nation since 2001. Manufacturing jobs in Minnesota have declined by 11.5 percent between February 2001 and September 2005, but nationally they are down 16 percent over that same period. Minnesota's financial sector and educational and health services have also grown faster than the U.S. average since the start of the recession. Where Minnesota has fallen behind is in the trade, transportation and utilities sector, the professional and business services sector, and the government sector. In each of those large employment sectors growth rates have significantly lagged the national averages.

Looking toward 2015

Minnesota will grow over the next decade. There will be more people working, and their wages will, on average, be higher, even after adjusting for inflation. Nationally, real per-capita personal income is forecast to increase by about 25 percent over the next decade. If historical patterns hold, Minnesota will match or exceed that national growth rate.

That leaves the question of the geographical distribution of that economic growth. Here the outlook is less clear. The growth will not be limited to the metropolitan areas of the state, but those areas are likely to get a disproportionate share of the growth, just as they have during the past decade. There is, though, concern for the future of the state's ruralplexes. Some wonder how well positioned they are for dealing with the challenges to the local economy that will occur over then next decade.

Agriculture, the mainstay of the Southwest and Northwest ruralplexes and an important contributor to the economies of two others, is unlikely to provide much of a boost to local economies. Agriculture is a mature industry, and while U.S. and Minnesota farmers are the most productive in the world, there is no reason to expect that farm proprietors' income will keep pace with the growth of the rest of the economy. Farm income in 2004 was at record levels, and farm income for 2005 is projected to be at the second highest level in history. Incomes of individual farmers will increase as output per farmer continues to grow, but even with strong production growth total farm income in Minnesota's ruralplexes is unlikely to increase its share of personal income. Minnesota's agricultural industry is not alone in that situation. Forecasters expect to see only modest growth in U.S. farm income over the next decade as well. Minnesota's other resource-based industries, mining and timber, are also mature industries and unlikely to grow as fast as the state economy.

That means that Minnesota's ruralplexes will need to find another source of income for their economies to remain strong. A key source of income will again be transfer payments. All of Minnesota is getting older, and by 2015 the baby boomers born in the 1950s will be approaching retirement age. As noted earlier, transfer payments are a relatively more important source of income in Minnesota's ruralplexes today than in the metropolitan areas, and a decade from now they will be even more important.

Even today the dollar values of transfer payments to the ruralplexes are substantially larger than farm income. As a greater and greater percentage of Minnesotans reach retirement age the importance of this source of income will only grow.

The growth in the importance of transfer payments to the local economy will be accompanied by further emphasis on the sectors providing services and goods desired by those at or approaching retirement age. Retail and services will continue to grow, but the pressures of price and selection are likely to cause further consolidation of activities and keep employment levels in those sectors from growing at the same rate as they would in areas where populations were growing more rapidly. An aging population will certainly purchase more services, and most services are not as susceptible to labor-saving productivity increases as the trade and manufacturing sectors. Health services are likely to be an even stronger growth sector than in the past due to the increased demand brought on by the aging of the population.

Assessing the outlook for manufacturing employment in the ruralplexes is challenging. Minnesota's record and rural Minnesota's record have been good since the 1970s, much stronger than the national averages. But since 2000, manufacturing employment in the state has fallen back substantially, with more than 60,000 manufacturing jobs lost between the peak level of employment in July 2000 and the time manufacturing began to grow again in 2004. Since then, manufacturing employment has increased slightly, by about 10,000 jobs. But there is no reason to suspect that manufacturing employment in Minnesota will quickly regain the levels observed in 2000.

Manufacturing employment falls in a recession, and the 2001 recession was no exception. The demand for manufactured goods declines, and manufacturing firms then layoff workers to hold inventories of finished goods at the level they deem to be appropriate. That same dynamic occurred in the 2001 recession as well. But in our increasingly interconnected global economy, more was going on.

Some production moved off shore. Competition from Asia or Mexico presents a real challenge for U.S. producers. When foreign workers receive only $0.40 an hour as in China, or even $2.40 per hour as in some other Asian countries, and U.S. manufacturing wages average $17 per hour, it is not always possible for U.S.-based production to compete on price. In the past the U.S. has been able to maintain manufacturing employment because of our productivity. Higher wages can be justified when workers produce more per hour or when the products they produce are valued higher. The question is whether our productivity advantages will hold up into the future. Maintaining that productivity advantage will be a major determinant of the demand for additional manufacturing workers in the U.S.

America's productivity advantage and Minnesota's productivity advantage have traditionally come from two sources. First, U.S. workers have had access to the newest and most sophisticated equipment and technology. That access is becoming less of an advantage. As the world has become more interconnected, technology is transferred more rapidly, and the production process improvements and new equipment designed in the U.S. are soon available elsewhere in the world. That means the gap between the productivity of U.S. workers and foreign workers is narrowing, and the future narrowing of that gap will continue to put pressure on U.S. manufacturing employment.

The second reason American workers have been more productive than their foreign counterparts is their skill level. Here both technical skills and soft skills are important. Over the years this has been an important advantage for the Minnesota worker. It has also been a major contributor to the strength of the manufacturing sector in Minnesota's ruralplexes. The quality of the Minnesota workforce, metro and rural, has been the state's competitive advantage. There is no reason to suspect that the quality of Minnesota's workforce will deteriorate over the next decade, but just holding the line will not be good enough. The productivity of the Minnesota workforce will need to continue to improve if we are to hold our share of manufacturing employment, because skill levels elsewhere in the world are continuing to increase. That is particularly important for the outlook in the ruralplexes. The quality of rural Minnesota's workforce has been a major contributor to the strength of the manufacturing employment growth outside the metropolitan area. Building further technical skills and further building on Minnesota's reputation as a state filled with productive, well educated workers who want to work will be particularly important to the economic outlook for the ruralplexes.

Looking toward the future, the manufacturing outlook in general and for rural Minnesota in particular is filled with question marks. The expansion of demand for goods and services that result from a growing global economy will also help support Minnesota manufacturing employment. Clearly a revaluation of the dollar against key Asian currencies will help keep Minnesota manufactured goods competitive. But that will not be enough.

There are other factors that will keep pressure on our manufacturing firms. An important consideration is the cost of getting goods from the factory floor to the consumer. When the U.S. was the source of most of the demand for manufactured goods, domestic producers had an advantage because transportation costs to market were smaller than those from producers overseas. Now, when the market growth is more global and the most rapidly growing portions of the market are overseas, transportation costs from the U.S. to foreign markets must be absorbed by U.S. manufacturers.

Shipping costs will be important in other ways as well. Firms like food processors, producing products for local consumption where shipping costs are high compared to the value of the product, are likely to continue operating locally. And firms like those in the medical technology industry, where the value of the product is high compared to its shipping cost, are also likely to continue to grow.

Intermediate goods for use in a domestic production line are also likely to continue to do well. In today's just-in-time manufacturing inventory systems, firms do not want to see their main assembly line shut down due to the lack of a key part currently waiting to be brought on shore from an overseas shipment. Similarly, sectors where production is very capital intensive and where the capital equipment is already in place are also likely to remain in operation in Minnesota, at least until their equipment needs replacement.

Looking forward, Minnesota and the ruralplexes in particular may want to concentrate on products where an implicit quality guarantee is important. Again, Minnesota's medical technology industry is an example of a sector where price is less important than the quality of the product. That same principle applies to other products as well, particularly items that are part of a larger product. If failure rates for a component produced locally are lower than for a similar part produced somewhere else in the world, that means that failure rates for the completed product will be less as well, and a lower failure rate is of value to the seller of the product. Ultimately that kind of productivity will be important in keeping manufacturing jobs in Minnesota as well.

With manufacturing employment likely to show, at best, only modest growth and the resource-based industries unlikely to provide any substantial increases in employment, the services and retail sectors will provide the employment growth in Minnesota's ruralplexes. That growth will be driven in large part by the increase in transfer payments expected as the baby boomers reach retirement age and begin drawing Social Security and pensions. The demand for services is also likely to increase. Increases in real wages means the implicit value of our non-working time will also increases. That increase in the value of our time away from work means that in the future we will be even more likely willing to pay others to do tasks that we formerly might have done ourselves. The demand for services of all types is expected to increase, but particularly that for services that once were done at the household level. Health care and medical services will continue to be an area of employment growth in the ruralplexes, although they are likely to be concentrated in the bigger communities and regional centers.

Conclusion

Minnesota has been very successful during the past half century. Our record of economic growth stands up well when compared to any other state. Once the state's reputation for cold winters and its location away from this country's major markets is factored in, Minnesota's economic performance is even more impressive. Adding the fact that per-capita personal incomes in Minnesota's ruralplexes grew faster than the national average, the state's record is truly remarkable. During the past forty-plus years Minnesota has more than met the challenge of transforming its economy from a resource-based economy to a more modern manufacturing/services-based economy.

But we cannot rest on past accomplishments. Extending the state's record of strong economic growth over the next decade or more will be a real challenge, particularly in Minnesota's ruralplexes. Choosing appropriate statewide and local strategies for dealing with the pressures of globalization, demographic shifts, and rapid technological change will be crucial, and workforce development efforts will become even more important as the structure of the Minnesota economy continues to evolve. The task ahead will be substantial for rural Minnesota, but rural Minnesota has shown that it is capable of meeting the challenges that lie ahead.

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Stinson conducted research on rural development topics as an economist for the U.S. Department of Agriculture before assuming his current position. A native of Washington State, he received a bachelor's degree in political science from Washington State University, and a Ph.D. in economics from the University of Minnesota. Stinson is a past president of the Minnesota Economic Association.