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The Effects of Nonmetropolitan Net Migration Rates on Selected Demographic and Economic Characteristics

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Introduction

This study focussed on the effects of net migration on employment in the nonmetropolitan sectors of the Agricultural Western Plains Division of the West North Central Region between 1970 and 1980. The states that constituted the division are North Dakota, South Dakota, Nebraska and Kansas.

By investigating the relationships between the rates of net migration and the changes in employment rates in the major industry groups in the nonmetropolitan counties, one may be able to determine: (1) the affect of net migration on declining agricultural employment, (2) the impact of increased nonagricultural employment opportunities in nonmetropolitan counties, and (3) whether the trends of the 1970s were a continuation of the peripheral growth around metropolitan areas, which resulted in a spillover into nonmetropolitan areas.

Throughout most of the Twentieth Century, the migration patterns in America reflected continuous out-migration from the rural and nonmetropolitan areas of the country to the metropolitan areas. This pattern changed abruptly in the 1970s when for the first time in at least 50 years, nonmetropolitan areas gained in every geographic subregion of the nation including the remote nonmetropolitan areas. Many demographers used this reversal to herald a historic demographic turnaround (Johnson, 1989).

Between 1970 and 1980, approximately three-fourths of all nonmetropolitan counties gained population either from natural increase, from

migration, or both. "Nonmetropolitan gains occurred in virtually every geographic subregion of the nation and did not depend primarily on people outside the labor force nor on any particular education, income or occupational group" (Johnson, 1989). Specifically, each year between 1970 and 1975, the metropolitan areas of the United States lost 131 people through out-migration to the nonmetropolitan areas for every 100 people they gained through in-migration. This was a reversal of the 1960s trend when an average of 94 people moved out for every 100 people that moved in (Morrison and Wheeler, 1976).

Fuguitt et al. (1989) described several factors associated with the growth of nonmetropolitan areas as correlates of nonmetropolitan growth. They include the continuation of the farm population exodus, modernization of nonmetropolitan areas, and increased nonagricultural employment opportunities in the service and manufacturing sectors providing more jobs. Johnson (1989) includes the shift in the relative value placed on economic and noneconomic factors in migration decisions. In addition, the U.S. Military "has concentrated its bases- and payrolls- in the less urban areas of the sun belt states (Palen, 1981)."

The pattern of net migration in favor of the nonmetropolitan sector in the North Central Region in the 1970s resembled that of the entire nation. Although the region lost population through high net out-migration, the nonmetropolitan sector had a higher growth rate than the metropolitan areas. This resulted, in part, from high in-migration rates from the urban centers to the nonmetropolitan sectors (Adamchak et al., 1985).

While many states in the North Central Region were experiencing high nonmetropolitan population gains, the Western Plains States "still had the largest number of counties registering population loss, but significantly fewer than during the 1960-1970 period. For example, during the 1960s, 18 counties in Kansas declined 15 percent or more, compared with only 1 county during the 1970s" (Adamchak et al., 1985).

Focussing on Agricultural Western Plains States, net migration rates for the nonmetropolitan sectors of the West North Central Region indicated a gain of 94,973 people (1.18 percent gain) during the 1970-1980 decade. This does not mean that all the nonmetropolitan counties in the West Division gained population through migration during the 1970s. Many counties reported net out-migration, but unlike the 1960s, net migration losses, especially in the Agricultural Western Plains States, lessened.

In the same way that migration affects population change, it can also impact the levels of employment and income. The influx of people including retirees, seasonal residents, and weekenders into the nonmetropolitan counties in the 1970s created a demand for services that stimulated business, created jobs and helped turn around the stagnant economy of the nonmetropolitan counties (Schwarzweiler, 1979).

Between 1970 and 1979, nonmetropolitan counties of the United States had a 23.9% increase in manufacturing jobs. In 1962, manufacturing employment in nonmetropolitan America employed 3.9 million workers but in 1978, as many as 5.7 million people were employed in manufacturing in all of nonmetropolitan America (Haren and Holling, 1979).

Increase in employment was not confined to the manufacturing industry alone. In fact, other industries, such as service, mining and construction had greater increases in employment than the manufacturing industry. This means that changes in employment were not equal throughout the industrial sector. This was due to the possible differential effects of migration on the different industries.

Between 1970-1977, nonmetropolitan wage and salary employment increased by 22 percent, doubling the percent gain in the metropolitan areas (Tweeten, 1980). Tweeten further stated that the largest percent gain in the nonmetropolitan areas was in the service producing industry with a major increase of 39.4 percent, followed by mining with an increase of 36.2 percent, and construction with an increase of 32.1 percent. Also, out of the 22 million

rural male and female workers, 9 percent were employed in agriculture, forestry, and fisheries while 23 percent were employed in manufacturing (Tweeten, 1980).

Methodology

The nonmetropolitan counties in the states in the Agricultural Western Plains Division (North Dakota, South Dakota, Nebraska, and Kansas) were classified into three groups: (1) those that were adjacent to metropolitan counties, ADJ, (2) those that were not adjacent to the metropolitan county but had at least 1 large town of 25,000 inhabitants, NALT, and (3) those that were not adjacent to a metropolitan county and were characterized by small towns, having no population of 25,000, NAST.

All the counties that fit into group one, ADJ, and group two, NALT, were used in the analysis because they were few in number. Several counties qualified for the NAST group. A stratified random sampling procedure was used to obtain a sample of nonmetropolitan counties. Table 1 shows the number of counties per group by state that were used in the analysis.

Table 1. County Classification By State

State	Adjacent (ADJ)	Non adjacent large town (NALT)	Non adjacent small town (NAST)
Plains Division	35	8	50
North Dakota	5	3	8
South Dakota	5	2	11
Nebraska	14	1	15
Kansas	11	2	16

For each county in the analysis, net migration and employment data were collected for 1970 and 1980 in each of the major industry groups. A

bivariate linear regression was used to analyze the extent to which net migration rates were correlated to changes in employment in each of the major industry groups by nonmetropolitan county grouping.

Findings

Findings presented in Table 2 can be summarized by county grouping as follows:

The Adjacent County Group (ADJ): Net migration rate was found to be significantly correlated to an increase in employment in the retail trade ($r=0.5670$), finance ($r=0.5815$), services ($r=0.5703$) and public administration ($r=0.5954$) industry groups. No significant correlation was found between net migration rate and increased employment in the other industry groups in this county category.

The Nonadjacent Large Town County Group (NALT): Significant correlations were found between net-migration rate and increased employment in the transportation ($r=0.8128$), the wholesale trade ($r=0.8312$) and in the service ($r=0.9232$) industry groups. No significant relationships existed between net migration rate and changes in employment in the other industry groups.

The Nonadjacent Small Town County Group (NAST): In this county group, significant relationships were found between net migration rate and increase in employment in three industry groups: mining and construction ($r=0.4563$), manufacturing ($r=0.5128$) and services ($r=0.5046$). Changes in employment in the other industry groups were not found to be significantly correlated to net migration rate.

Table 2. Correlation Coefficients

Industry group	Non adjacent Adjacent	Non adjacent Large town	Small town
Agriculture	0.0387	0.4492	0.0100
Mining and construction	0.2753	0.4880	0.4563*
Manufacturing	0.0883	0.2168	0.5128*
Transportation	0.2177	0.8128*	0.1030
Wholesale trade	0.0592	0.8312*	0.0616
Retail trade	0.5670*	0.4284	0.1510
Finance	0.5815*	0.4017	0.0854
Service	0.5703*	0.9233*	0.5046*
Public Administration	0.5954*	0.4030	0.2615

* Significant at $P = .05$

CONCLUSIONS AND DISCUSSIONS

By analyzing the three categories of nonmetropolitan counties, a differential impact of net migration rates on changes in employment in the industrial sectors was evident.

The relationship between net migration rates and economic variables did not indicate complete dominance by any particular industry group. The manufacturing, mining and construction industry groups were found significantly related to net migration rates in the nonadjacent and large town county category (NALT), while retail, finance, service, and public administration were found to be significantly related in the adjacent county category (ADJ). The nonadjacent small town counties on the other hand experienced a direct relationship between net migration rate and increased employment in the mining and construction, manufacturing and the service industry groups. This finding could imply that these county groups obtain a large percentage of their revenues from these respective industries, and this could build reliance on these industries. Such reliance could be advantageous when the industries are experiencing boom, but a period of recession for the industries may create

financial disaster for the county groups.

The only industry group which was significantly affected by net migration rates in the three county groups used for analysis was the service industry group. It was found that net migration rates significantly contributed to increase in employment in the service industry group in all county groups. Even though the mainstay of the economy of the division was agriculture, net-migration did not significantly contribute to an increase in employment in this industry in any county group.

These findings support the research of Adamchak et al. (1985), Morrison and Wheeler (1976), Beale (1976) and Johnson (1989) that the nonmetropolitan growth occurred in all types of rural areas and not just the suburbs of metropolitan centers.

Based on the pattern of the effects of net migration rates on changes in employment rates in the industry groups in the Agricultural Western Plains States, some implications are evident. First, these states traditionally rely heavily upon agriculture for revenue. However, this research indicated that net migration rates failed to significantly correlate to increased employment in the agriculture industry group in all county groups in the division. This may be an indication that agriculture continues to show declining opportunities for employment, in addition to being one of the lowest paying industries. It is our speculation that this phenomenon could have resulted from possible increased job mobility into the renewable resources and the service industries at the expense of agriculture and the nonrenewable resource industries. Second, the category related to each county group was that of the service industry. However, to depend heavily on the service industry is to rely on another low pay sector.

The trends of the 1980s reflected a return to the higher growth pattern in metropolitan areas as compared with nonmetropolitan areas. Metropolitan population and migration gains between 1980 and 1987 exceeded those in nonmetropolitan areas. Though the population gains of the 1970s

were not fully sustained, the patterns of the 1980s are closer to the 1970s trends than earlier decades. "The most current evidence from the 1980s certainly does not suggest a return to the substantial migration losses so characteristic of nonmetropolitan America during much of this century" (Johnson, 1989).

Policy planners need to be aware of the migration trends of the past. A more innovative and creative rural development policy is needed to sustain population retention and to encourage in-migration. "Many opportunities for industrial and retail expansion remain in nonmetropolitan areas, but corporate planners must select such locations with care given the uneven growth of the 1980s" (Johnson, 1989:324). Continued monitoring of the nonmetropolitan demographic trends are required and an assessment of impacts on changes in agricultural and rural development policies is required as we move into the Twenty-first Century.

Specific planning efforts could be directed toward the creation of a diverse economic base for each county. Such diverse economic base could improve the rate of civilian employment, and at the same time provide alternative sources of income for counties that obtained their financial resources from limited industry groups. These alternative resources will provide support for the counties if an economic recession should affect the industry group from which the county obtains most of its income.

Efforts should also be made to improve employment in the Agriculture industry group. Specific policies may be required to encourage people to return to Agriculture. Such policies may be especially directed to encourage the young adults, the educated and other skilled professionals to take up employment in agriculture. Policies are also needed to improve income in agriculture.

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