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# THE IMPACT OF IMMIGRATION ON A LOCAL ECONOMY: THE CASE OF DAWSON COUNTY, NEBRASKA

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**ABSTRACT**—The Hispanic population of Lexington, seat of Nebraska's Dawson County, increased nearly tenfold between 1990 and 2000, from just over 400 to about 4,000, and the city's population grew from 6,600 to over 10,000. Economic trends in the 1990s contrast sharply with the previous decade, when the county's population and overall employment declined rapidly. This episode of immigration provides a unique opportunity to analyze the economic impact of immigration on a local economy. Traditional models of immigration, which focus almost entirely on the effects of immigration on labor supply, predict that immigration depresses wages and raises unemployment rates. However, census data and other evidence on Dawson County's economy suggest exactly the opposite occurred during the 1990s. This article provides an explanation of the effects of immigration on Dawson County's economy that is considerably more accurate than the explanation that would be offered by traditional immigration models: immigration stimulated both labor supply and *demand*, thus explaining the subsequent rebound in employment, average wages, and economic growth.

KEY WORDS: immigration, labor market, Hispanics, Great Plains

## Introduction

Just as it did a century ago, immigration is changing local economies on the Great Plains. Nowhere are the recent effects of immigration more obvious than in Dawson County, Nebraska. Between 1990 and 2000, the Hispanic population of Lexington, Dawson County's seat, increased nearly tenfold, from just over 400 to about 4,000, and the city's population grew from 6,600 to over 10,000. Comparisons to earlier waves of immigrants are difficult at this point in time since we do not yet know how many of the recent immigrants will remain in Nebraska or how they will adapt to their new home over the course of the twenty-first century. Nevertheless, it is the immediate effects of immigration that receive the greatest attention, and after the 2000 census there are now sufficient data for an economic analysis of the recent wave of Hispanic immigration to the Great Plains. In this article, we examine the economic effects of the recent wave of Hispanic immigration to local rural economies in the Great Plains, with Dawson County as the test case.

The common belief is that immigrants will cause wages to decline or unemployment to increase. Recent surveys on the perceived impact of immigration show that about 75% of respondents agree that immigration lowers wages or raises unemployment (Scheve and Slaughter 2001). Yet detailed economic studies have found that immigration actually has little effect on local wages, unemployment, or government budget deficits. This apparent conflict between economic studies and common intuition suggests that the common intuition may simply be wrong. The recent surge in immigration to Dawson County offers a unique opportunity to study the economic effects of immigration and to help clarify the source of the apparent conflict between the evidence and intuition. If immigration indeed causes wages to fall, it should certainly be noticeable when such a large inflow of immigrants arrives in a rural county like Dawson.

## Unique Case of Dawson County

Dawson County is located in south-central Nebraska along Interstate 80 and the transcontinental railroad, some 220 miles west of Omaha. Primarily rural, Dawson County had a population of 24,365 in 2000, having experienced a 22% population increase between 1990 and 2000 (Iowa State University 2002). Nearly 75% of the county's population is concentrated in three towns: Lexington (10,011 residents in 2000), Gothenburg (3,619 residents), and Cozad (4,163 residents). US Census data show that the town of Lexington experienced a 52% increase in population from 1990 to 2000, after several decades of slow population declines (US Census Bureau 2002). The other two major towns experienced much slower rates of population growth: Gothenburg's population grew by 12% and Cozad's by 9%. Consistent with the population increase, Dawson County experienced positive net migration of 2,934 persons between 1990 and 2000, which was equal to 14.7% of the county's population in 1990 (NDED 2002).

This level of net migration, one of the highest in Nebraska, was largely due to Hispanic immigration. The percentage of the county's population that is Hispanic or Latino rose from 3.28% in 1990 to 25.36% in 2000 (US Census Bureau 2002). The increase in the Hispanic/Latino share of the population in Dawson County was the largest in the state. Most of the working-age Hispanic immigrants arriving in Dawson County found jobs in the meatpacking industry in Lexington. The Hispanic influx was so large that one of every two Lexington residents is now Hispanic or Latino. The influx of these immigrants began around 1990, when Iowa Beef Processors (IBP) opened a meatpacking plant in Lexington. The building occupied by IBP had been vacated in 1985 by New Holland, a major agricultural equipment manufacturer. The city subsequently worked hard to recruit new firms to occupy the vacant manufacturing facility. IBP retrofitted the facility and most of the new workers hired were Hispanics. Today, between 2,500 and 3,000 workers are employed in the meatpacking industry in Dawson County, making that industry the largest employer in the county.

## Incomplete Labor Supply Model of Immigration

The common belief is that immigration causes wages to decline. This belief is supported by an often-used labor-supply model from economics showing that wages will decline when immigration increases the supply of labor while the demand for labor remains constant. This labor-supply model is the only model of immigration presented in the top college textbooks on international economics (Pugel and Lindert 2000; Carbaugh 2003; Krugman and Obstfeld 2003, Salvatore 2004; Yarbrough and Yarbrough 2003), and even the noted immigration expert George Borjas has used the model to discuss the implications of immigration in several recent professional papers (Borjas 1995, 2001). Studies of specific episodes of rapid immigration have not found much support for the predictions of the labor-supply model of immigration. Card (1990) found that the so-called Mariel boatlift, which brought about 100,000 Cuban immigrants to Miami within a period of about two months in the early 1980s, had no effect on average wages in Miami. Card was not even able to find a negative effect on low-wage workers, the group most likely to feel the immediate competition of new immigrants. He did find that there was an increased outflow of native labor when the immigrants arrived. Studies of similar natural experiments, such as the return of overseas French after Algerian independence (Hunt 1992), the return of overseas Portuguese after the independence of Angola and

Mozambique in the early 1970s (Carrington and de Lima 1996), and the surge in Russian immigrants to Israel after the collapse of the Soviet Union (Friedberg 2001), all conclude that wages in the receiving countries did not change noticeably after a surge in immigration sharply increased the supply of labor.

If labor markets are not flexible, immigration could cause increased unemployment instead of declining wages. But there is little evidence that rapid immigration increases unemployment. Several of the above-mentioned studies find neither lower wages nor higher unemployment. Pope and Withers (1993) found that after accounting for all possible influences on employment in Australia over the period 1861 through 1991, "Immigration has worked to lower the unemployment rate" (p. 740). Friedberg and Hunt (1995) reached the following conclusion at the end of their extensive survey of the literature on the economic effects of immigration:

> Despite the popular belief that immigrants have a large adverse impact on the wages and employment opportunities of the native-born population, the literature on this question does not provide much support for this conclusion. . . . There is no evidence of economically significant reductions in native employment. (p. 42)

Clearly, immigration must cause changes to the labor market beyond an immediate increase in the supply of labor so that wages do not fall or unemployment does not rise.

## Accounting for the Full Effects of Immigration

Card (1990) found that the Mariel boatlift's effect on the labor force was partially offset by a reduction in the normal inflow of migrants from other parts of Florida and the southeastern United States. Also, natives left Miami to seek employment opportunities elsewhere. In short, immigration does not cause an overall increase in labor supply equal to the number of immigrants because there are likely to be offsetting changes in inflows and outflows of other workers.

Immigration also causes demand for labor to rise. Harrison (1983), Simon (1989), and Altonji and Card (1991) have pointed out that immigrants are consumers as well as producers. The arrival of immigrants not only raises the supply of labor, it increases the demand for goods and services that require productive resources such as labor. This is not to say

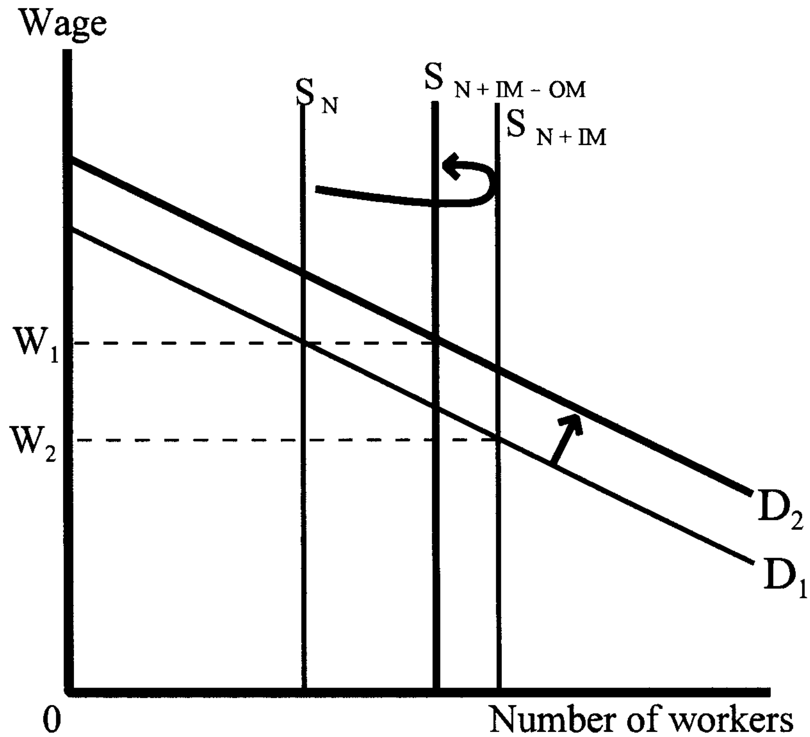


Figure 1. Immigration causes the wage to decline from $W_1$ to $W_2$ only if it increases the supply of workers from $S_N$ to $S_{N+IM}$ while everything else remains unchanged. However, there is no wage decline if immigration also raises labor demand from $D_1$ to $D_2$ and if outmigration of native workers offsets immigration's increase in the labor supply so that labor supply only increases to $S_{N+IM-OM}$

that the increased labor supply fully creates its own demand. However, some increase in the demand for labor is likely when immigrants arrive at their destination. Immigrants need homes, they need to eat, and they consume many other things in their new place of residence. If immigration causes the demand for labor to expand and, as Card (1990) found had occurred for Miami, other job seekers migrate to other labor markets, then immigration need not cause any decline in wages (Fig. 1). Consequently, an analysis of the economic effects of Hispanic immigration to a local economy such as Dawson County must identify how immigration affects both the net supply and demand for labor.

## Other Economic Effects of Immigration

There are also potential indirect, or *external,* effects of immigration. The rising population caused by immigration may increase competition, which enhances the efficiency with which the entire economy transforms inputs into output. The increase in the overall size of the economy also permits the exploitation of *economies of scale*. As emphasized by the population economist Simon (1992),

> A larger population implies a larger total demand for goods; with larger demand and higher production come division of labor and specialization, larger plants, larger industries, more learning-by-doing, and other related economies of scale. (p. 397)

Rosenberg (1994) attributes the growth of the US economy in the 1800s to the "rapid growth in demand and circumstances conducive to a high degree of product standardization" (p. 113), both of which were the result of the rapid growth of the US population fueled by the high rate of immigration during the latter half of the nineteenth century. For a community like Lexington, the increased competition and economies of scale are likely to result in benefits such as lower prices and better health care; the market becomes large enough for a Wal-Mart and it becomes economical to maintain a fully equipped hospital. The addition of such positive externalities to the effects of immigration could cause the real wage to actually rise in the market where immigrants seek work. If the wage does rise, there are gains to everyone in the destination economy, even the labor that competes directly with the new immigrants.

There may also be negative externalities associated with immigration. The arrival of immigrants can cause increased congestion in public services such as schools, roads, sewers, electric power systems, and parks. Many people criticize immigration because they feel their community is getting "too crowded," and some people blame immigrants for increased crime, diminished school performance, and the loss of a distinct local culture. Discussions of the economic effects of immigration in destination countries often focus on immigrants' use of public services and their receipts of government transfers. The evidence does not support the popular belief that immigrants are a large "fiscal burden" in that they use more services than they pay for through taxes. A 1992 study for the US Department of Health and Human Services (Kirchner and Baldwin 1992) found that in the United

States the increased fiscal burden of immigrants fell mostly on states and local governments, while the federal government enjoyed net gains from increased income tax and social security tax revenues. The reason for this is that, on average, immigrants arriving in the United States have been less educated and have larger families than natives, so they were more likely to use state and local government services. But because immigrants are also younger than natives, they are large net contributors to social security, a major federal program. Over time, however, the situation improves at the local government level. The evidence shows that the children of immigrants both pay more taxes and receive fewer transfers, while their increased incomes make them even greater net contributors to the federal budget and social security fund (Kirchner and Baldwin 1992). To quote a recent Federal Reserve Bank study (Zeretsky 1997), "When it's all added up . . . most long-run calculations show that immigrants make a net positive contribution to public coffers" (pp. 5-6).

It is difficult to estimate the external effects of immigration for a local economy such as Dawson County, especially since the full effects are not yet obvious. We can say something about the fiscal effects, however.

## Analysis of Immigration to Dawson County: Methods and Data

The methodology employed in this study has two important features. First, we improve upon earlier immigration studies by explicitly analyzing data on both the demand and supply sides of the destination economy, as well as the externalities generated by immigration. Specifically, we make use of county and local data to examine to what extent Hispanic immigration to Dawson County augmented labor demand, as well as labor supply. Second, in order to accurately identify the effects of immigration on the Dawson County economy, we control for any effects that regional and national economic forces exert on that economy. We therefore compare Dawson County with four other rural Nebraska counties that are very similar to Dawson County in terms of population, industry mix, and wage levels, except that they did not experience the relatively high level of immigration during the 1990s. We also adjusted all monetary variables used in this study for inflation using the national *Consumer Price Index* (USDL-BLS 2002a); all figures are in "real" terms.

We analyze a number of economic variables for Dawson County and the four comparison counties for 1970-99. Labor market conditions are described by annual wages paid to workers in the food industry, which includes meatpacking, annual wages paid to all manufacturing workers (including the food industry), annual wages paid to all workers, the amount of manufacturing employment, and county unemployment rates. Data on food wages were available only for Dawson County and only back to 1984 from the Nebraska Department of Labor. Data on manufacturing and general wages and manufacturing employment for all counties are available from the *Midwest PROfiles* website (Iowa State University 2002). Data on unemployment rates for 1970-89 were obtained from the Bureau of Labor Statistics website (USDL-BLS 2002b) and are available from the Nebraska Department of Labor website (Nebraska Department of Labor 2002) for the remaining years. Four annual variables are used to describe the strength of consumer demand in Dawson County: retail sales and home prices from *The Nebraska Databook* (NDED 2002), the number of businesses, published in *County Business Patterns* (US Census Bureau 1971-2000), and public school enrollment (Nebraska Department of Education 2002). The number of Hispanic residents by county was taken from *County Business Patterns* (US Census Bureau 1971-2000).

## Effects of Immigration on Dawson County Wages

The discussion above on the various influences of immigration on a local economy makes it clear that rapid immigration such as that experienced recently in Dawson County need not have had negative consequences for the wages of natives, the unemployment rate, or the taxpayer burden. Has that indeed been the case?

The evidence from Dawson County's labor market during the 1990s indicates that both the supply and demand curves for labor shifted to the right as immigrants arrived. In fact, the total demand for labor increased more than the supply of labor did because general wages rose by 7.8% from 1990 to 2000 while nearly 4,000 mostly Hispanic immigrants arrived (Table 1, col. 1). This rise in real wages came after a 13.6% decline in average real wages during the 1980s, the decade in which the New Holland plant closed and the population of Lexington declined. More detailed wage data for Dawson County offer us additional information on how the labor market has changed over the past three decades. Average real wages in the food industry, the industry where most immigrants found employment in the 1990s, rose by 15.6% between 1990 and 1999 (Table 1, col. 2). However, for the broader category of manufacturing, which includes the food industry, real wages fell between 1990 and 1999 (Table 1, col. 3). This fall in manufacturing wages reflects (1) the rise in the relative importance of food processing

TABLE 1

DAWSON COUNTY ECONOMY, 1970-99

| Year | (1) Real General wage ($) | (2) Real Food wage ($) | (3) Real manufacturing wage ($) | (4) Manufacturing employment (%) | (5) Unemployment rate (%) | (6) Real retail sales ($) | (7) Real home prices ($) | (8) Number of firms | (9) Public school enrollment (No. of students) |
|---|---|---|---|---|---|---|---|---|---|
| 1970 | 13,626 | | 19,590 | 1,930 | 3.4 | 126,866,845 | | 559 | 5,275 |
| 1975 | 13,578 | | 19,608 | 2,021 | 5.5 | 148,074,349 | | 607 | 4,833 |
| 1980 | 14,100 | | 21,807 | 2,755 | 4.1 | 143,328,883 | 45,198 | 620 | 4,812 |
| 1985 | 13,297 | 15,712 | 23,189 | 1,879 | 7.9 | 89,127,323 | 34,850 | 686 | 4,405 |
| 1990 | 12,184 | 13,944 | 18,187 | 1,790 | 2.7 | 101,884,544 | 27,723 | 681 | 4,318 |
| 1995 | 12,798 | 14,075 | 17,668 | 3,910 | 3.3 | 97,341,864 | 31,119 | 717 | 5,020 |
| 1999 | 13,135 | 16,116 | 17,724 | 4,244 | 3.0 | 94,819,928 | 33,751 | 712 | 5,035 |
| Percentage change from 1990 to 1999: | | | | | | | | | |
| | 7.81% | 15.58% | -2.55% | 137.09% | 11.1% | -6.93% | 21.74% | 4.55% | 16.60% |

Sources: Nebraska Department of Labor 2003 (food wages, unemployment rates); Iowa State University 2003 (general wages, manufacturing wages and manufacturing employment); NDED 2003 (retail sales, home prices); US Census Bureau 1971-2000 (number of businesses); and Nebraska Department of Education 2003 (public school enrollment).

in overall manufacturing employment and (2) the lower wages paid by the food-processing industry relative to other manufacturing industries. Thus, even as food industry wages rose, the average manufacturing wage fell because the county's industry mix shifted toward the lower-wage meatpacking industry.

Manufacturing wages had been falling in Dawson County before the arrival of the IBP plant in 1990. The decline in wages was especially sharp, about 22%, in the second half of the 1980s after the closure of the New Holland plant. During that five-year period, even the food industry wage fell. The opening of the IBP meatpacking plant in 1990 and the arrival of large numbers of immigrants seem to have reversed the negative trend in overall wages in the county. The opening of the IBP plant, built to supply meat to the national market, represented a large increase in demand for labor that exceeded the supply in Lexington. The arrival of the 4,000 immigrants further increased the demand for all types of labor in Lexington. As a result, the real food-industry wage increased during the 1990s as the meatpacking industry rose, even as the influx of immigrant workers accelerated.

## Employment Effects

Employment data for Dawson County also reflect the effects of the closing of the New Holland plant in 1985, the coming of the meatpacking industry in 1990, and the arrival of immigrant workers throughout the 1990s. The departure of New Holland caused a very sharp decline in manufacturing employment in 1985 (Table 1, col. 4). Employment recovered slowly during the second half of the 1980s as small manufacturers hired some of the experienced workers released by the departure of New Holland, but by 1990 total manufacturing employment was still well below the pre-1985 level. Then, beginning in 1990, the growth of the meatpacking industry and immigration resulted in a sharp increase in total manufacturing employment. By 2000, manufacturing employment was at an all-time high in Dawson County. The Dawson County unemployment rate also fluctuated throughout the 1970-1999 period (Table 1, col. 5). Unemployment reached a high of 7.9% in 1985, the year the New Holland plant closed. In the latter part of the 1980s, the unemployment rate fell to 2.7%. This fall in the unemployment rate was mainly the result of the out-migration of over 2,000 people from Dawson County; total employment did not rise between 1985 and 1990. Then, throughout the 1990s the unemployment rate remained low despite the arrival of very large numbers of immigrants. The low unemployment rate is perfectly compatible with the rise in wages described earlier.

## Demand Effects

The behavior of wages and unemployment in Dawson County during the 1990s suggests that rapid immigration had positive demand-side effects. The scope of the direct demand-side effects may have been small, however. Total real retail sales in Dawson County have fluctuated greatly since 1970 (Table 1, col. 6). In real terms, they reached a high in 1975, but by 1985, the year the New Holland plant closed, they had fallen back below the 1970 level. Retail sales recovered slightly by 1990 but were still less than they had been twenty years earlier. Then, during the 1990s they declined further, albeit at a very slow pace. The immigration and growth in employment during the 1990s seems to have, at best, slowed the decline in local retail sales compared to the early 1980s. Even though the outflow of native workers was more than compensated by the inflows of immigrants, the immigrants appear not to have generated as much new local demand for goods and services in the 1990s as the departing natives had generated more than a decade earlier. Total inflation-adjusted retail sales did rise above 1970s levels despite the increase in total population.

The lower demand for local goods and services is clearly not due to declining wages, since the average real wage in Dawson County rose by 7.8% during the 1990s. There are two possible reasons why retail sales in Dawson Country have not increased in tandem with the recent growth in population. On the one hand, there has been a secular decline in local retail sales across most rural counties in the Great Plains states as rural county residents increasingly traveled to larger cities to shop. Therefore, without the immigration, retail sales in Dawson County would have declined much more rapidly. On the other hand, immigrant workers have a lower propensity to spend locally than do native workers because they often remit significant portions of their incomes to family and relatives in their native countries.

The increase in average housing values in Dawson County during the 1990s may be a more accurate measure of immigration's demand-side effects. Demand for housing cannot spill over to neighboring counties or states as easily as retail sales do. Average real home prices in Dawson County fell by nearly 40% between 1980 and 1990, but they rose by 21.7% in real terms between 1990 and 1999 (Table 1, col. 7). The high-immigration years coincided with a reversal of housing price declines. Despite the rise in housing prices, the average selling price of homes in 1999 was still well below that of 1980, probably another manifestation of immigrants' lower propensity to spend their earnings.

Another indicator of the strength of consumer demand is the number of business establishments. The number of businesses rose steadily from 1970 to 1985 and declined during the second half of the 1980s, but the number was on average higher during the 1990s than in the 1980s (Table 1, col. 8). In sum, Hispanic immigration seems to have made a positive, if modest, contribution to maintaining Dawson County's private sector during the 1990s.

## Effect of Immigration on Public Services

Immigration and the subsequent rise in population have caused an increase in school enrolment in Dawson County (Table 1, col. 9). However, although the current population of Lexington is larger than ever before, immigrants have not swelled school enrollment as much as the 1960s baby boom did. In 1999 total school enrolment was still below that of the late 1960s, even though the county's population was higher in 1999. Many of the immigrant workers were single or came to Dawson County unaccompanied by their families. With time, the fiscal burden on local government may increase as immigrants set up local households and bring family to join them in Dawson County, although as immigrants take root in the community they will also increase local spending, which will increase local tax collection to cover the increased expenses on schools and other local government services.

## Putting Dawson County's Immigration in Perspective: A Comparison with Four Similar Nebraska Counties

The economic performance of Dawson County before and after the 1990s influx of Hispanic immigrants can be more accurately judged by comparing it to similar Nebraska counties that did not experience such a rapid inflow of immigrants. Recall that we mentioned above that retail sales might have declined, rather than remaining stagnant, in the absence of a large influx of immigrants. What has happened in Dawson County was clearly influenced by the overall economic conditions of the United States and the trends affecting the Great Plains. The effects of immigration on Dawson County must be separated from the overall economic trends that affected all communities on the Great Plains.

For purposes of comparison, we gathered data on four other Nebraska counties: Gage, Seward, Otoe, and Saline. These counties are similar in population size and have many of the characteristics of Dawson County but have not experienced Dawson County's rapid Hispanic immigration. Also, the meatpacking industry has a much smaller presence in these counties. Hence, they provide some insight into what Dawson County might have looked like in the absence of the establishment of the meatpacking industry and the arrival of several thousand immigrants.

The four comparison counties are all primarily rural and low-income. Their average population was just under 17,000 in 1999, and in 1998 the average individual income tax liability in the four counties was approximately $950, compared to $787 for Dawson County (Table 2). The Hispanic share of the population in 2000 averaged 2.73% in the four comparison counties, much lower than for Dawson County (US Census Bureau 2000, shown in Table 3). Unemployment rates in Dawson and the four comparison counties are also quite similar (compare Tables 1 and 2). For example, in 1999 Dawson's unemployment rate was 3%, slightly higher than the average of 2.7% for the four comparison counties (Nebraska Department of Labor 2002). During the 1990-2000 period, the four comparison counties all experienced some net in-migration, which averaged 7.08% of 1990 population, roughly half of Dawson's net in-migration (NDED 2002). In other words, these four comparison counties were growing rural counties, not declining ones that would bias the comparison. As has been the case for much of the Great Plains and the Midwest in general, all the counties gained some Hispanic residents (*The Economist* 2003).

The real manufacturing wage declined slightly during the 1990s in the four counties despite the positive net in-migration (Table 2). Recall that in Dawson County, the average real wage rose during the 1990s. In comparison to the other four counties, Dawson County's average real wages rose relatively faster during the 1990s in spite of, or more likely because of, the massive immigration. Before the 1990s Dawson County also differed from the four comparison counties; during the 1980s Dawson County suffered a greater decline in wages than did the other four counties. However, Dawson County's wider wage fluctuations still resulted in real average wages that were about the same as those in the comparison counties over the entire 1970-1999 period. Today, Dawson County's average real wage is slightly higher than in the four comparison counties (Iowa State University 2002).

In general, the populations, unemployment rates, and wages in Dawson County and the four comparison counties have been strongly correlated over the past 40 years. This correlation is in part reflective of the overall trend of in- and out-migration from these rural counties; when there are no jobs, people tend to leave and seek employment elsewhere. This mobility of native and immigrant labor supports the validity of the general labor-market

TABLE 2

REAL WAGES AND UNEMPLOYMENT RATES FOR COMPARISON COUNTIES IN NEBRASKA, 1970-99

| Year | Real annual general wage ($ | Ratio of Dawson to comparison counties | Real annual manufacturing wage ($) | Ratio of Dawson to comparison counties | Average unemployment rate (%) |
|---|---|---|---|---|---|
| 1970 | 12,533 | 1.087 | 17,519 | 1.118 | 3.08 |
| 1975 | 13,268 | 1.023 | 19,278 | 1.017 | 5.18 |
| 1980 | 12,948 | 1.089 | 19,950 | 1.093 | 3.4 |
| 1985 | 12,622 | 1.053 | 21,102 | 1.099 | 4.58 |
| 1990 | 12,194 | 0.999 | 20,100 | 0.905 | 2.0 |
| 1995 | 12,282 | 1.042 | 19,139 | 0.923 | 2.28 |
| 1999 | 12,746 | 1.031 | 18,464 | 0.96 | 2.7 |
| Percentage change from1990 to 1999: | | | | | |
| | 4.53% | 3.20% | -8.14% | 6.08% | 35.0% |

Sources: Midwest PROfiles, Iowa State University 2003 (general and manufacturing wages) and Nebraska Department of Labor 2003 (unemployment rates).
Note: Comparison counties were Gage, Seward, Otoe, and Saline.

model of immigration. Natives and immigrants respond to incentives and adjust their geographic location accordingly.

Inflation-adjusted retail sales in Dawson County and in the four comparison counties followed similar trends, indicating that regional trends drove most of these changes, not the unique economic conditions in any specific counties (NDED 2002). Dawson County's population, employment, wages, and home prices fluctuated more widely than did those same economic variables in the other four counties (Table 2). Unemployment was much more volatile, a result of the departure and arrival of very large employers in Lexington. The four comparison counties seem to have felt the 1991 recession much more than Dawson County, no doubt because of the arrival of IBP and the surge in immigrants in the latter. Dawson County saw no decline in local retail sales in 1991. Home prices also fluctuated relatively more in Dawson County, reflecting the greater volatility in the under-

TABLE 3

NUMBER OF HISPANIC RESIDENTS IN SELECTED NEBRASKA COUNTIES, 1970-2000

| Year | County | | | | |
|---|---|---|---|---|---|
| | Dawson | Gage | Seward | Otoe | Saline |
| 1970 | 396 | 0 | 0 | 249 | 102 |
| | (2.0%) | | | (1.6%) | (0.8%) |
| 1980 | 580 | 147 | 79 | 76 | 66 |
| | (2.6%) | (0.6%) | (0.5%) | (0.5%) | (0.5%) |
| 1990 | 656 | 84 | 150 | 131 | 84 |
| | (3.28%) | (0.4%) | (1.0%) | (0.9%) | (0.7%) |
| 2000 | 5,903 | 193 | 179 | 363 | 863 |
| | (25.36%) | (0.8%) | (1.1%) | (2.45%) | (6.58%) |

Source: US Census Bureau 1971-2000.

Note: Numbers in parentheses are percentage of county population.

lying sources of home demand, employment and wages (NDED 2002). In fact, throughout the 1990s Dawson County seems to have performed better than the comparison counties on nearly all counts; immigration does not seem to have been detrimental to Dawson County's economic health.

## Long-Run Growth Effects of Immigration

One final effect of immigration that needs to be investigated is immigration's role in generating long-run economic growth. Immigration can enhance economic growth by providing a country, or region, with inventors and entrepreneurs. The early social scientist William Petty wrote over 300 years ago that "it is more likely that one ingenious curious man may rather be found among 4 million than among 400 persons" (quoted in Simon 1996). That is, immigrants are not only workers (suppliers of labor) and consumers (demanders of labor), they are potentially also creators and entrepreneurs. Recent research on economic growth has distinguished the critical role of technological progress in generating long-run economic growth, and several well-known models of technological progress have underscored the importance of people as the creators of new ideas, knowledge, and technology; seminal works include Romer (1990), Aghion and Howitt (1992), and Grossman and Helpman (1991). There is evidence, recently summarized by Chiswick (2000), that immigrants are more likely to be innovators and creators and that they are harder workers than the average citizen in their native countries. Intuitively, given the difficulties that immigrants often encounter, they tend to be less averse to taking risks and more likely to make decisions that give greater weight to the long run over the short run. These characteristics clearly favor entrepreneurship and innovation.

However, the long-run effects of the large immigration to Dawson County cannot yet be clearly distinguished. There was a rise in the number of small businesses in Dawson County during the 1990s (Table 1, col. 8), but the number of businesses rose by similar proportions in the four comparison counties, so it is not clear whether immigrants had anything to do with the rise in Dawson County. Nevertheless, there are more business establishments in Dawson County today than ever before (NDED 2002). Immigration has not discouraged entrepreneurship. This remains an area for future research. The ultimate judgment of whether rapid immigration is good for the overall well-being of Dawson County's residents depends on whether it becomes a dynamic economy that continues to grow and develop independently of continued immigration flows. If Nebraska history repeats itself, the new immigrants to Dawson County will participate actively in the growth of their adopted county.

## Conclusions

One immediate conclusion that stands out in the data on Dawson County and the comparison counties is that the huge influx of foreigners has not had an adverse effect on the labor market. The wages in the food processing industry, where the immigrant workers are concentrated, and in the rest of the county economy, actually rose during the 1990s, despite the huge inflow of Hispanic immigrants. In fact, wage growth in Dawson County compares favorably with four similar Nebraska counties that did not receive such large inflows of immigrants.

The common belief that immigration must necessarily reduce wages and increase unemployment is clearly not supported by a broad analysis of the effects of the recent arrival of several thousand immigrants, mostly from Mexico, in Dawson County, Nebraska. A more complete view of the effects of immigration on the labor market suggests that immigration not only increases the supply of labor, which would by itself indeed cause wages to fall, but it also increases the demand for labor. Also, native workers may leave the area when large numbers of immigrants arrive, thus mitigating the impact of immigration on the local labor supply. Such shifts in labor demand and labor supply appear to explain Dawson County's experience during the 1990s quite well.

Immigration to Dawson County was a direct consequence of an increase in the demand for labor by the new IBP meatpacking plant that opened in Lexington in 1990. It increased labor demand as well when the many new residents used their income to purchase goods, services, and housing. In effect, the demand for local labor was driven by the nationwide demand for processed meats, which led IBP to open the plant in Lexington. It should not be surprising, therefore, that wages rose in Dawson County even as large numbers of immigrants arrived. After all, if the supply-push effect of immigration did not cause a wage decline in Miami, then certainly the demand-pull immigration in Dawson County was unlikely to cause a wage decline. Dawson County's experience during the 1990s also shows that native labor adjusts itself to eliminate any remaining tendency for wages to fall or unemployment to increase. A small outflow of native workers from Dawson County partially offset the inflow of immigrant workers, so that the net increase in the labor force was not quite as large as the immigration, by itself, would have caused.

All in all, the fluctuations in employment in Dawson County and the rapid inflows and outflows of people suggest that labor is quite mobile in the Great Plains. People in the Great Plains move quickly in response to incentives, and this means that wages and unemployment rates in the long run will not change much even when there are large changes in market conditions. History and economics suggest that economic conditions in the Great Plains will continue to change, which means that there will be more migration as well. Perhaps the only constant in the Great Plains *is* migration.

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*Call for Papers*

# Land and Water Issues on the Great Plains

THE CENTER FOR WESTEN STUDIES OF AUGUSTANA COLLEGE has issued a call for papers for the 36th Annual Dakota Conference, **April 23-24, 2004**. The conference theme is "The Great(er) Plains: Land and Water Issues for the 21st Century," the second in a series of programs designed to examine the major geographical and cultural identities of the Northern Plains.

As depopulation of the rural Northern Plains creates a new American frontier (defined as fewer than six residents per square mile), issues of land and water use pose particular challenges to those who remain. Papers addressing literary, historical, artistic, and archaeological contexts of and responses to water and land use on the Northern Plains are especially encouraged. Papers on related topics and from other disciplines are also welcome.

The conference awards cash prizes to presenters of winning papers in professional, amateur, and student categories.

Paper title, one-paragraph abstract, and one-paragraph presenter biography should be mailed to

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