The Economic Performance and Industrial Structure of the North Dakota Economy

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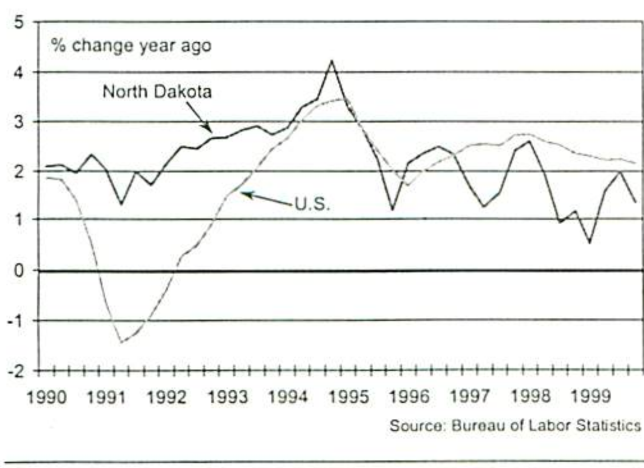
Executive Summary

Economic Performance

Over the course of the past decade, employment growth in North Dakota managed to stay very near the average pace for the U.S. Average annualized job growth in North Dakota actually exceeded the U.S. for the decade, although much of North Dakota's growth occurred early in the decade. For the past three years, job growth in North Dakota has lagged the U.S. average by nearly one percentage point. Nevertheless, the net gain in North Dakota's payroll employment exceeded 63,000 during the 1990s, an increase of nearly 24% that is well above the 20% increase nationwide. In an apparent contradiction, North Dakota's measured labor force grew by just 14,000 during this time. Several factors may have contributed to rapid job growth and the apparent imbalance with the growth of the labor force. First, business services, linked through telecommunications, have provided many new job opportunities in services and trade, many of which are in rural regions of the state. Second, there is a measurement problem when workers move from family farm work to payroll jobs. A family farm worker (not a hired worker) is not counted for the purposes of payroll employment, but he or she is counted as an employed member of the labor force. If the farm family member takes a new payroll job off the farm, the count of workers in the labor force remains unchanged, but the count of payroll jobs increases by one. Thus, the measurement of payroll employment can increase more rapidly than the labor force.

Employment



Source: Bureau of Labor Statistics

Productivity in North Dakota, however, has not kept up with the nation. Over the ten-year period, productivity fell from 30% below the U.S. average to 33% below average. This productivity gap, as measured by output per worker, is a serious detriment to the long-term potential of the state's competitiveness. So far, however, income growth has managed to stay close to the U.S. average, but without emergency farm support payments in recent years the state would have fallen behind.

North Dakota's weakened position during the second half of the decade is directly attributable to a falloff in exports, primarily farm commodities. Exports fell by over 12% from $837 million in 1997 to $747 in 1999. At its peak, export trade accounted for nearly 5.5% of gross state product. This has since fallen to under 4.5%.[1]

Industrial Structure

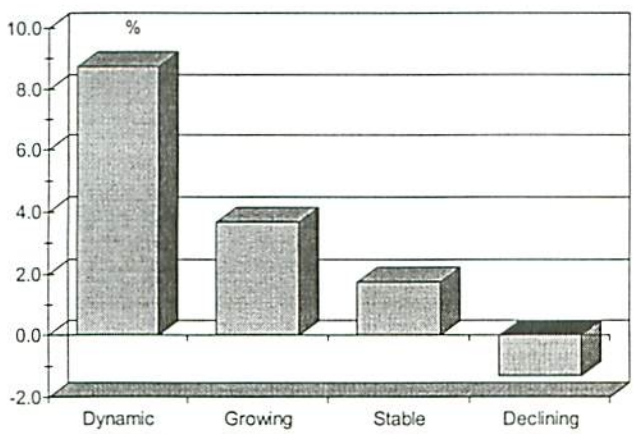
North Dakota's industrial structure differs from the U.S. average in several key ways. First, it has a huge dependence upon government employment. In North Dakota, over 21% of payroll workers are on government payrolls versus 15% nationwide. This is partially due to federal civilian employment, whose 3% share of total employment is larger than the 2% share nationwide. But it is state and local government that makes the real difference, employing 18% of state's civilian workforce, versus 13% nationwide. State and local government employment is rather large in every state because it includes public education, but North Dakota still has a disproportionately high share. On the other hand, manufacturing employs a very low 7% share of the workforce versus 14% nationwide. Finance and services employment is also below average.

[1] Exports by origin of movement are from the Massachusetts Institute of Social and Economic Research (MISER). This series attempts to ascertain the transportation origin of exports—i.e., it allocates exports to states based on where the export journey began. Reliability is fairly good with respect to manufactured exports. However, reliability is a problem with regard to exports of non-manufactured goods: The series tends to overstate exports of bulk commodities (i.e. grain) from states with large ports where commodities are stored (e.g., Louisiana) and understate exports from states that actually produce the grain. As a result, the level of crop exports from North Dakota may be understated if farm production is transferred to a location out of state before export.

Agriculture marks another difference between North Dakota and much of the rest of the nation. Agriculture's role in the state economy is five times as large as it is nationwide, with direct farm production (on a value-added basis) accounting for approximately 7.6% of total economic output versus 1.5% nationwide. When adding in farm-related industries such as food processing and the transportation and distribution of food products, this figure rises to nearly 13% of the economy versus less than 5% nationwide. Moreover, these figures have remained rather constant over the past 30 years.

While agriculture remains a constant factor in the economy, the diversity of North Dakota's economy has improved over the past several decades. RFA's index of diversity for North Dakota has risen from 0.50 in 1971 to 0.62 in 1999 (where 1.0 indicates an industrial structure identical to the U.S.) Yet, the state's diversity has not changed any more than most other states. Throughout the past 30 years, the diversity index for North Dakota has remained about equal to the median value of all states. In other words, other states are diversifying as much or more than is North Dakota.

Employment Growth by Industry Group, 1988-1998



Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, RFA

Approximately 28% of North Dakota's current workforce is employed in industries that are classified as either dynamic or growing. Industries in these categories are increasing their concentration at a rate greater than the national average, and they are expanding rapidly. Dynamic industries, by definition, have grown by more than 3% annually over the past ten years. Growing industries have expanded by at least 1% per year.

The composition of North Dakota's dynamic industries illustrates how the state's economy has diversified over the past ten years in several directions (see Tables 1 through 5 that follow the Executive Summary). They include business services, including call centers and telemarketing ventures that have moved into the state. The dynamic industries also include several types of manufacturing, such as industrial machinery, transportation equipment and electronics. These are all basic industries for the state that provide goods or services to markets elsewhere. Amusement and recreation services are also in this category due to the legalization of casino gaming in 1992 and 1993. Gaming can be considered a basic industry if its market area is wide enough to bring visitors from outside the state. General building contractors, which have been in large demand partly due to rebuilding following floods in the Red River Valley, are also part of the dynamic group. The mix of these industries helps to diversify the state's basic economic structure. Amusement and recreation services are less clearly basic industries for the state since its gaming establishments have small market areas that often do not extend outside the state, or even outside a region within the state. Construction is largely a local industry.

The composition of the state's growing industries is equally diverse. They include food products manufacturing, which is closely linked to the state's farm production, and hotels and lodging, which are linked, in part, to the gaming industry and tourism. Food products is a basic industry that ships its products to national and international markets. Hotels and lodging is partially a basic industry, to the extent that it serves travelers from outside the state. Banks and auto dealers are also components of the growing industries group and reflect the general expansion of the state's economy and its personal income growth, but they are not basic industries for the economy. Social services as an industry in this group reflects several things. First, there is growing demand for child day care, residential care and job training services. Second, the very high rates of poverty in some of the state's counties combined with its ongoing welfare-to-work programs require increased social services. Social services, however, is not a basic industry for the economy. Just over half of all payroll workers in the state are employed by North Dakota's stable industries. The stable industries are overwhelmingly those that support other activities but generally do not form a part of the basic economy that sells goods and services outside of the state. They include state and local government, health services, restaurants and various trade and transportation industries.

Industries classified as declining employ 21% of the workforce. Relative concentration of employment in these industries is falling and the level of employment is declining, or is rising only very slowly. More than one-third of employment in the declining group is accounted for by federal military or civilian employment. Yet there is a wide variety of other declining industries, including membership organizations, utilities, farm employment, communications, private education services, engineering and management services and oil and gas extraction. Many of these industries are basic to the economy, including federal employment, farm employment, oil and gas, and to a certain extent, engineering and management. The decline of these basic industries is an important factor in holding the state's economic performance to a moderate pace over the past decade. These industries are being replaced by some of the state's dynamic and growing industries, but not fast enough.

Business Competitiveness

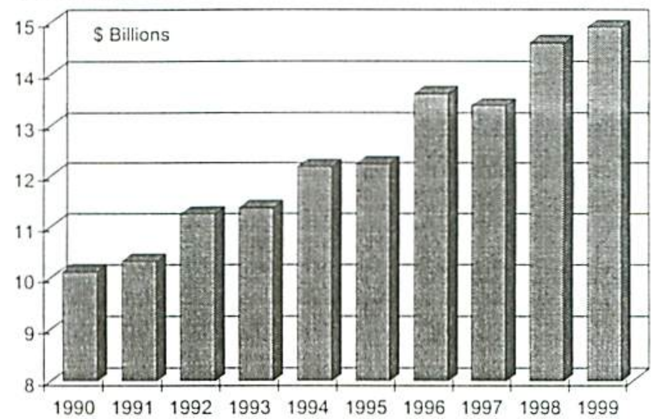
Business competitiveness in North Dakota gets a boost from its relatively low cost structure, but it suffers from more intangible factors. On the cost side, general business costs as measured by labor, taxes, energy and office rents are approximately 10% below the U.S. average in each of the state's three metropolitan areas – Bismarck, Fargo and Grand Forks. Low costs alone, however, have not allowed the state to attract the high-tech industries that are growing so rapidly elsewhere. The concentration of high-tech employment in all of North Dakota's eight regions remains well below the national average. Venture capital is practically nonexistent, and the state attracts direct foreign investment at a rate about half the national average. Innovation is moderate, at best, as measured by the number of patents issued to North Dakotans – approximately 10 per 100,000 residents annually versus 60 nationwide.

Demographic and Income Trends

Demographic trends do not provide additional support for the state. Population growth declined in each of the past three years at an increasing rate. In 1999, population fell by approximately 4,000 or 0.6%. This is still just half the rate of loss experienced in the late 1980s, but nonetheless reflects the very moderate pace of economic growth at present. Population growth has a strong correlation with employment growth.

While demographic and employment trends are weak, income growth remains healthy. Income in North Dakota is quite volatile from year to year given the large role that commodities play in the economy, but when averaged over the past ten years, the state's income growth has slightly outpaced the national average. This is true whether looking at total personal income (5.7% per year) or on a per capita basis (6.0% per year). Nonetheless, there remains a substantial income gap between North Dakota and the U.S. The state's per capita personal income is only 82% of the U.S. average.

Total Personal Income - North Dakota



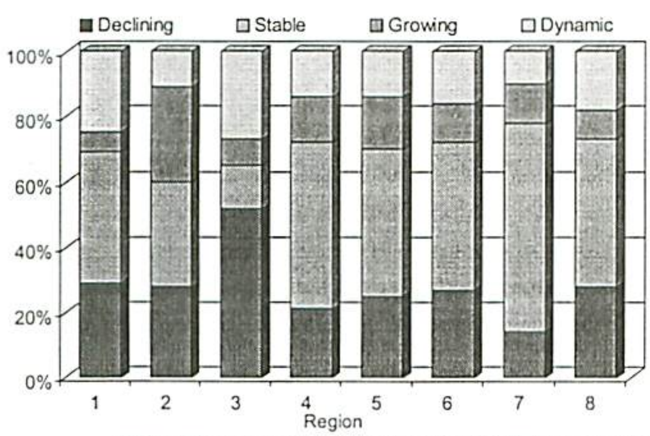
Source: Bureau of Economic Analysis

What differentiates North Dakota from the U.S. is its distribution of income and its low debt service burden. Households earning $20,000 or less make up nearly 50% of households in North Dakota versus closer to 40% nationwide. In effect, income is more equally distributed across income groups in North Dakota than in nearly every other state. Also North Dakota households carry less debt than in most states. In 1999, consumer and mortgage debt amounted to just 11% of income, versus approximately 13% nationwide. Personal bankruptcy filings fell slightly in 1999, although at a much slower pace than the national average. Household balance sheets, however, appear to be in good shape still. The number of bankruptcy filings per household is quite low, and the state's mortgage delinquency rate also is well below average.

Regional Distribution of Economic Performance and Industrial Structure

There are significant differences in the distribution of economic performance across the regions that comprise North Dakota. Its Regions 4, 5 and 7, which include the Grand Forks, Fargo and Bismarck metropolitan areas, comprise about two-thirds of the economy. Over the past decade, Regions 5 and 7 have been the fastest growing in terms of output, employment, labor force, and income. Region 4 generally follows as third for most of these measures. Region 3, which includes the Devils Lake area, is generally the poorest region. It has the highest rates of unemployment and poverty and the slowest rate of income growth. It has seen some rapid job growth recently, however, due to the introduction of gambling on Indian reservations.

Composition of Employment by Industry Group, 1998



Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, RFA

Each region has its own set of dynamic and growing industries. Their composition varies greatly, as does their impact on long-term economic growth. For example, regions 3, 4 and 8 have at least two manufacturing industries considered dynamic, helping to expand the basic components of their economies. Service industries that are basic in nature also form dynamic industries in several regions. Business services, which can include call centers and customer support centers, is a dynamic industry in Regions 1, 2, 3, 6, and 7. Amusement and recreation services, often related to tourism, is a dynamic industry in Regions 1, 3, and 7. The hotel and lodging industry is dynamic in Region 5. Insurance carriers is a dynamic industry forming part of the basic economy in Regions 5 and 7.

There are regions, however, in which their dynamic industries are not part of the basic economy and thus do not offer good long-term potential for growth, even though their concentration is high and their job growth has been rapid in recent years. For example, in Region 2, only one of its dynamic industries, amusement and recreation services, can be considered a basic industry. Regions 1 and 6 have just two dynamic industries that are basic. On the other hand, five of Region 7's six dynamic industries form part of the basic economy and there are also five such industries in Region 3.

Manufacturing plays a particularly important role in the development of North Dakota's economy. Seven different manufacturing industries appear as dynamic or growing industries in one or more of the state's regions. Moreover, only one manufacturing industry appears as a stable industry (printing and publishing in Region 2) and none appear as declining industries anywhere in the state. Manufacturing industries nearly always form a basic part of the economy as their products are generally shipped to many markets around the region and nation.

On the other hand, several industries appear as declining across a number of the state's regions. Federal military employment is a declining "industry" in six of the state's eight regions. Federal civilian employment is similarly declining in five regions. Federal employment is an important basic industry in the state as it represents a direct transfer of payroll from outside the state. Other declining sectors that form a basic part of several regional economies within the state include farm employment, oil and gas extraction and communications. Each of these represents the production of commodities or services that are shipped elsewhere, thus generating new income for the state. Employment in electric and gas utilities is also declining, but local utilities are not part of the basic economy.

Clearly, North Dakota's economy is in transition. Agriculture maintains an important role, but manufacturing is expanding as a basic component of the economy. Moreover, business services is also growing as a component of the state's basic economy. Tourism-related activities are also beginning to expand, although their market area is not particularly broad. All of these industries are helping to offset the shrinking payrolls earned from federal agencies and from commodity-producing industries.

Major Industries

Summary

This section focuses on industries that comprise much of North Dakota's economic base. They consist of agriculture, manufacturing, wholesale trade and distribution, mining, business services, tourism, federal government, health services, retail trade, engineering and management, finance, insurance and real estate, and information technology. The purpose of this section is to describe these industries in broad terms, to evaluate their employment and output performance over the past decade, and to illustrate how they fit into the state's economic structure. It should be noted that these industries are not all mutually exclusive. For example, tourism and information technology each include a number of industrial classifications that cross over various industry groups.

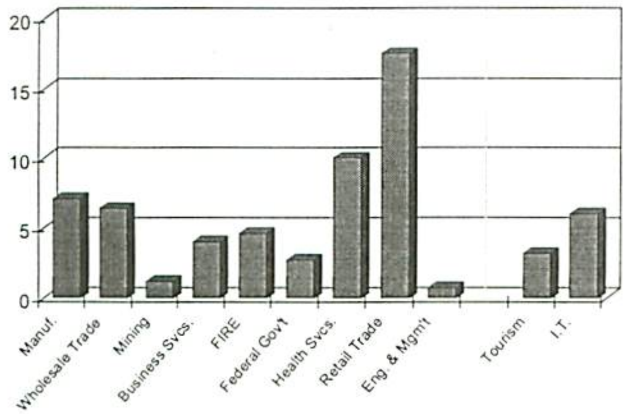
The export base of an economy includes those industries that bring new wealth to the economy through the export of goods and services to other states or countries, as well as through federal government transfers to the state. A state's export base indicates industries for which a state may have a comparative advantage. North Dakota's export base includes agriculture, manufacturing, wholesale trade, mining, business services and tourism. The state's agriculture is centered on wheat crops and cattle ranching. Strong growth in manufacturing has been driven by production of industrial machinery related to agriculture and construction, as well as agricultural processing. Wholesale trade is correspondingly centered on the state's chief manufactures. The mining industry in North Dakota is primarily engaged in oil exploration and extraction in the state's western regions.

Emerging export based industries in North Dakota are primarily service producing industries. One of the fastest growth areas in the past decade has been business services. The state's favorable cost of doing business and low labor costs have spurred the rapid expansion of telemarketing, data services, and customer service call centers throughout the state. Similarly, the decision by the state to permit casino gambling on Indian reservations has contributed to the expansion of amusement and recreation services in the tourism industry.

Other industries in the state's economic structure may account for a substantial share of employment and serve as support industries important for the daily operation of the economy, even if they do not generate new wealth through the export of goods and services. Often, these industries rank among the top employers in a state or metro area. They include health services, retail trade and engineering.

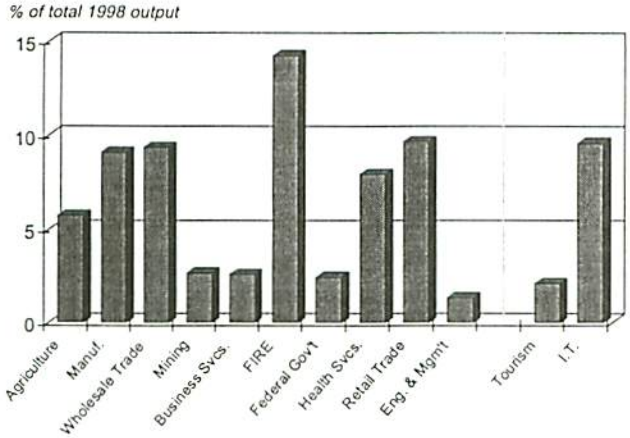
Employment in Major Industries

% of total 1998 employment



Output of Major Industries

% of total 1998 output



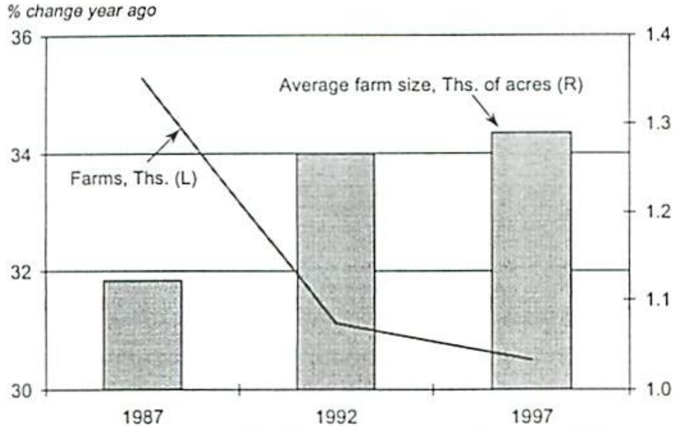
Note: All employment data are derived from the Bureau of Labor Statistics, the Bureau of Economic Analysis, the Bureau of the Census and RFA estimates. Total employment includes non-BLS sectors.

Agriculture

Agriculture marks an important difference between North Dakota and much of the rest of the nation. Agriculture's role in the state economy is five times as large as it is nationwide, with direct farm production (on a value-added basis) accounting for approximately 7.6% of total economic output versus 1.5% nationwide. When adding in farm-related industries such as food processing and the transportation and distribution of food products, this figure rises to nearly 13% of the economy versus less than 5% nationwide. Moreover, these figures have remained rather constant over the past 30 years. Thus, agriculture has expanded at about the same pace as the overall state economy.

Fewer, but Larger Farms

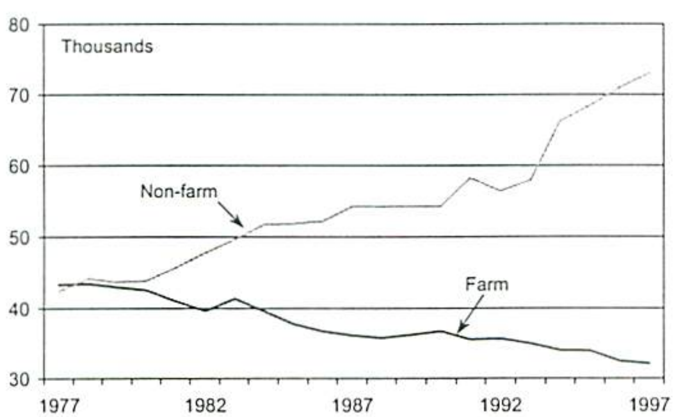
% change year ago



Source: U.S. Department of Agriculture, National Agricultural Statistics Service

The amount of North Dakota's land in farms has declined over the past decade but the decline has been slow according to the USDA's National Agriculture Statistics Service. The 1997 census of agriculture counted 39.4 million acres of farmland, down by just 2.4% from ten years earlier. The number of farms has declined more rapidly, however. The 30,504 farms in 1997 were down by nearly 14% over the ten-year period. Conversely, the average farm size rose by 13% to 1,290 acres in 1997 from 1,143 acres in 1987.

North Dakota Proprietors



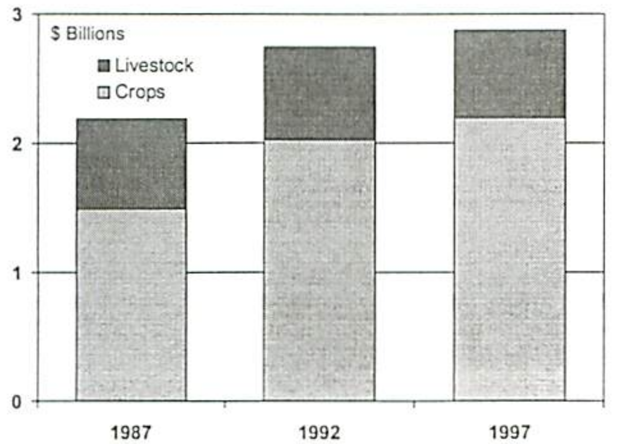
Source: Bureau of Economic Analysis

The ownership characteristics of North Dakota's farms are also changing, with 29,735 organized as sole proprietorships (families or individuals) and partnerships in 1997. This was down by over 14% from 1987. Farms organized as corporations or as others such as cooperatives, estates and trusts, or institutional, totaled 769 in 1997, which was up by 73% over the ten-year period. While North Dakota's farms are still overwhelmingly proprietorships or partnerships, corporate farms are gaining an increasingly larger share of the industry. These figures illustrate a shift toward larger farms that may lead toward economies of scale and greater productivity.

Farm proprietors play a large but diminishing role in North Dakota's entrepreneurship. Just over 30% of all business proprietors were farm proprietors as of 1997, the highest share of any state. Nationally, farm proprietors account for just 8% of the total. North Dakota's figure, however, is down from 60% in 1969 and nearly 50% in 1980.

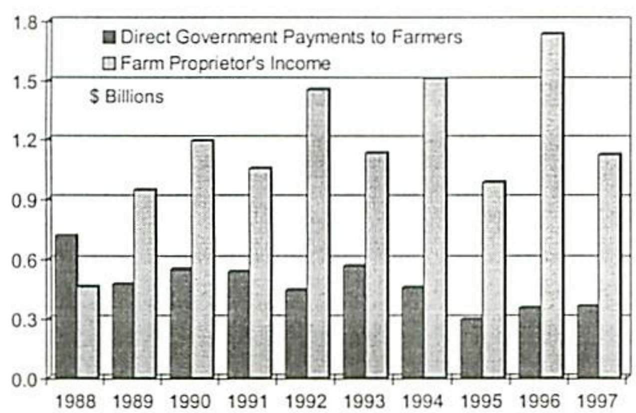
The census of agriculture reports total farm sales in North Dakota of $2.87 billion in 1997. Nearly two thirds of total farm sales come from grains. Nearly one-fourth derives from livestock and poultry. In 1997, net cash returns totaled

Market Value of Agricultural Products Sold



Source: U.S. Department of Agriculture, National Agricultural Statistics Service

Sources of Farm Income



Source: Bureau of Economic Analysis
Department of Agriculture, Economic Research Service

$399.8 million, averaging just $13,112 per farm. These figures were most likely less in 1998 and 1999 given the declines in commodity prices over this period. Government payments in 1997 amounted to an additional $265.5 million or an average of $10,979 per farm, illustrating the important role of government support in maintaining this basic industry within the North Dakota economy.

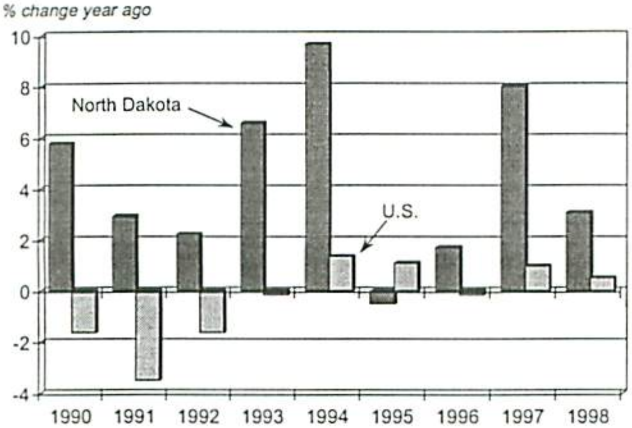
According to the U.S. Department of Agriculture, in 1997 the state ranked 14th nationally in terms of farm income from crops, but ranked seventh in government payments to farmers. The Federal Agricultural Improvement and Reform Act (FAIR-96) was designed to eliminate target prices in favor of diminishing transfer payments in order to ease farmers into a more free and competitive marketplace. Many of the state's farmers have already begun to feel the effects of the program as FAIR-96 payments have dropped substantially. In many cases, however, other types of support in the form of emergency farm bills are keeping some small farms afloat. As FAIR-96 draws to a close in 2002, many of North Dakota's farmers will continue to be adversely impacted by the decreased amount of support.

Weakness in international markets has exacerbated the loss of farm support payments. Weak global demand, particularly in major export markets in Asia, has kept commodity prices very low in recent years. Wheat prices were hit particularly hard, which hurt the western part of the state. Cattle prices, however, are recovering more quickly, which helps the southern regions of the state where cattle production is concentrated.

While there are approximately 30,000 farm proprietorships in the state, payroll employment in agriculture is very small. According to figures from the U.S. Commerce Department, there were only about 3,400 farm payroll jobs and another 2,000 working directly in agricultural services in North Dakota in 1998, and these figures have declined rapidly over the past decade. Indeed, the 1997 census of agriculture reports that hired farm labor and contract labor accounts for just 5.5% of farm production expenses, well below the 12.5% for fertilizer, 9.5% for interest expenses, 8.9% for seeds and 7.6% for petroleum products. Thus, agriculture in North Dakota is increasingly a capital-intensive endeavor. Of the 30,000 farm proprietorships in the state, approximately 20,000 are classified as "on farm operated". Moreover, nearly 23,000 farm operators state farming as their principal occupation.

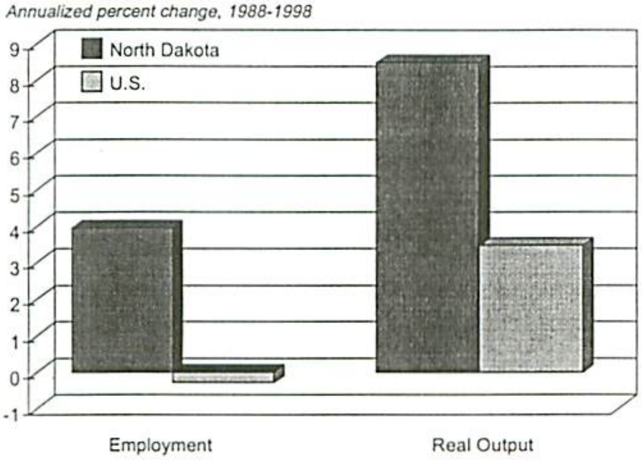
Manufacturing Employment

% change year ago



Manufacturing Growth

Annualized percent change, 1988-1998



Manufacturing

North Dakota's manufacturers have been experiencing dynamic growth throughout the decade. Manufacturing currently employs more than 24,000 people in the state. Employment growth has averaged nearly 4% per year over the past ten years, even as manufacturing employment has been declining nationwide. As such, the share of employment in manufacturing has increased over this period, from 6.5% to 7.5%, while declining nationally from 17% to 14%. Similarly, manufacturing output has grown much faster than the national average.

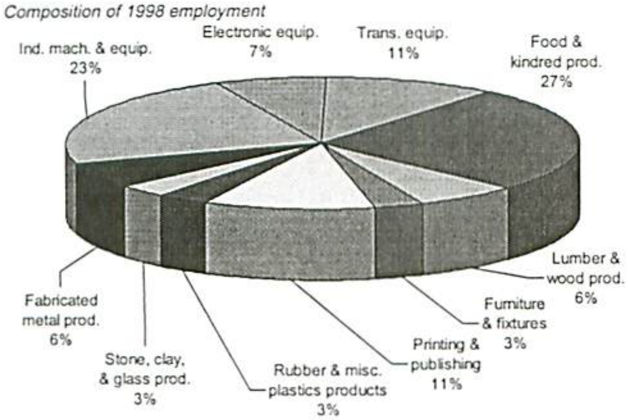
Such robust growth in manufacturing in the face of the lackluster national trend indicates that some industries are concentrating in North Dakota. This pattern suggests that the state has a comparative advantage in manufacturing production making it more attractive for firms to locate in the state. Indeed, North Dakota provides a favorable labor cost environment, as average hourly earnings for manufacturing are less than $12 in North Dakota, well below the national average of approximately $14. However, despite labor costs below the national average, average annual earnings in manufacturing are above the average for all industries within North Dakota, at more than $30,000 per year. Continued growth in manufacturing industries would, therefore, provide better-paying jobs for North Dakotans.

While overall manufacturing productivity of nearly $62,000 in output per worker in 1998 is 14% lower than the national average of $76,000 per worker, relative productivity of industrial machinery manufacturing sectors is much higher. Industrial machinery manufacturers produced nearly $102,000 per worker in 1998, more than 35% higher than the national average of $76,000. Furthermore, the state is gaining on the nation, with productivity growth averaging 5.3% over the ten-year period compared to 4% nationwide.

Expansion of manufacturing in the state has been centered on two sectors: agricultural processing and industrial equipment. Growth in these industries is closely tied to the state's large agricultural presence, and the volatility of farm production generates some risk to manufacturing growth. Manufacturing at some plants, such as at Case Corporation, is also tied directly to export markets. Yet export markets also are often related to global agricultural production. While global and local cycles can offset one another to

Manufacturing

Composition of 1998 employment



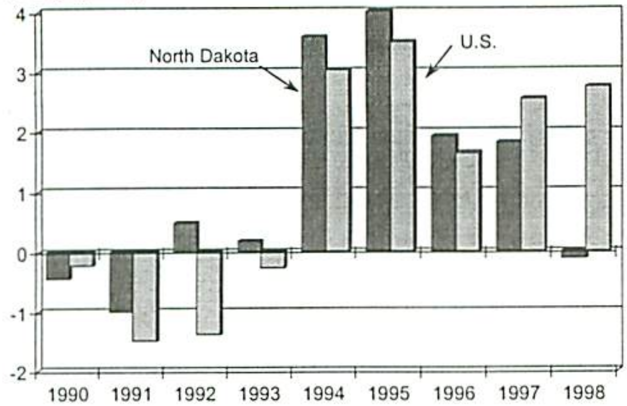
provide some stability, they can also move concurrently, as we have seen over the past three years.

The largest manufacturing industry, in terms of employment, is the production of food and kindred products, or food processing. Over 5,600 persons are employed in food processing, 20% more than in 1988. The industry contributes over $340 million in output to North Dakota's total gross product, a 2.3% share. Many new processing ventures in the state are organized as producer-owned cooperatives. Some examples include the Minn-Dak Farmers Cooperative in Wahpeton, employing 340, and the Dakota Growers Pasta Company in Carrington, which employs 275. Production at the state's food processing firms ranges from wheat products, such as pasta and flour, to the production of beet sugar.

Industrial machinery manufacturing is the next largest employer among the state's manufacturers, accounting for 5,200 jobs. However, this industry contributes $533 million in output, which has grown at an 18% annualized pace over the past ten years. Production is centered on construction and agricultural equipment, with Case Corporation and Bobcat Company as two of the state's major employers. Bobcat employs over 1,500 persons manufacturing construction machinery products. Case Corporation employs about 1,000 persons manufacturing tractors and other agricultural equipment. Industrial equipment is also one of North Dakota's chief exports, generating nearly $400 million in export sales, according to data from MISER. Furthermore, average annual earnings in this industry are nearly $40,000. Continued growth in this industry would provide high paying jobs for North Dakotans.

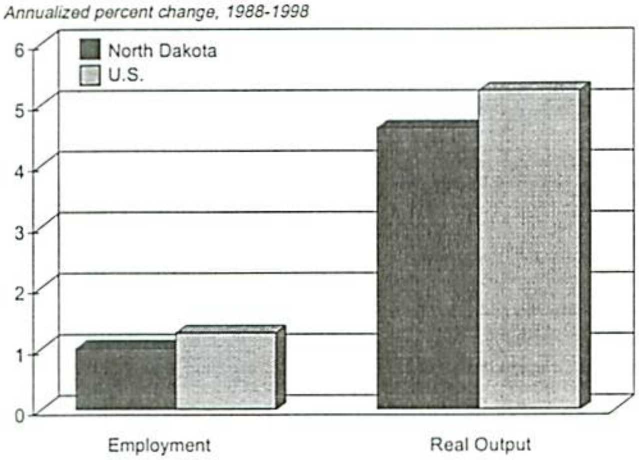
Wholesale Trade Employment

% change year ago



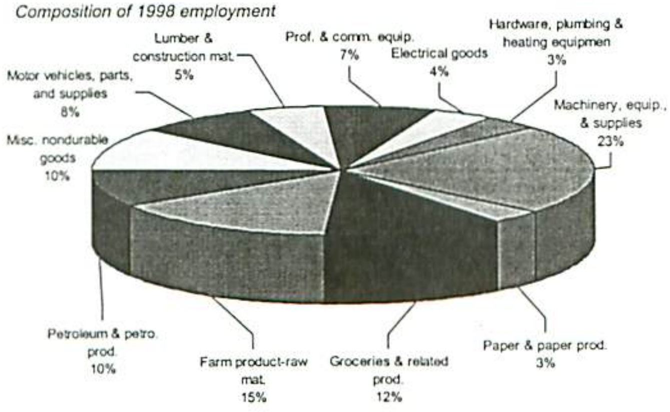
Wholesale Trade Growth

Annualized percent change, 1988-1998



Wholesale Trade

Composition of 1998 employment



Wholesale Trade and Distribution

Wholesale trade and distribution industries employ nearly 22,000 people in North Dakota, comprising more than 6% of total employment. Employment growth in the industry has been modest over the past ten years, growing at less than 1% per year on an annualized basis. This is slightly lower than the national growth rate, indicating that the industry is losing its concentration in the state. The industry's 1998 location quotient of 1.22 is down slightly from its 1.26 value ten years earlier. Employment growth was strongest during the middle of the decade, owing to the strong expansion of industrial machinery manufacturing in the state. Moreover, average annual earnings in the industry are significantly higher than the state average, as the average wholesale trade employee earns $34,000 per year.

One reason for the slower growth of wholesale trade and distribution is that productivity in the industry lags the nation. The average wholesale trade worker in North Dakota produced $70,000 in 1998, 25% less than the national average of $88,000. Moreover, the state is falling behind in terms of productivity growth. Productivity grew by an average of 3.5% per year over the ten-year period, somewhat slower than the national average of 3.9%.

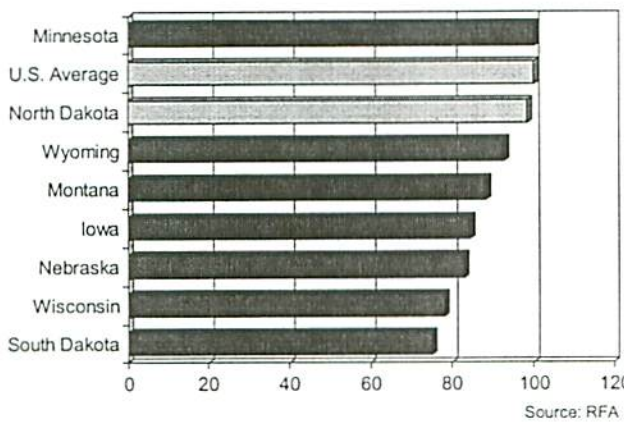
The industry contributes more than $1.5 billion to the state economy, comprising more than 9.3% of state output. Output growth for the decade is also in line with the national average, putting on a strong performance as higher value durable-goods trade has increased as a share of total wholesale trade. Wholesale trade and distribution is a stable industry in the state, and its high location quotient indicates that it contributes to the state's export base.

Wholesale trade in the state is closely tied to the other export base industries; manufacturing, agriculture, and mining. Agricultural processing activity in the state makes the trade of groceries and related products and raw farm products among the largest components of the industry, employing over 5,400 persons between them.

The distribution of durable goods, such as industrial machinery, generates 53% of industry output while accounting for 49% of employment in the wholesale trade industry. This component of wholesale trade generates about $350 million for the state economy.

Business Competitiveness and Quality of Life – North Dakota

Cost-of-Doing Business Index by Selected States



Summary

Differences in business competitiveness are an important determinant of the long-term potential for the state's economy. Competitiveness can arise from a low business cost environment that attracts businesses and investors. It can also arise from innovation that is inherent in the local economy and its workforce. Measures that help identify innovation include patents issued and venture capital that is attracted to the area. The presence of suitable infrastructure such as airports or roads also contributes to a state's competitive environment.

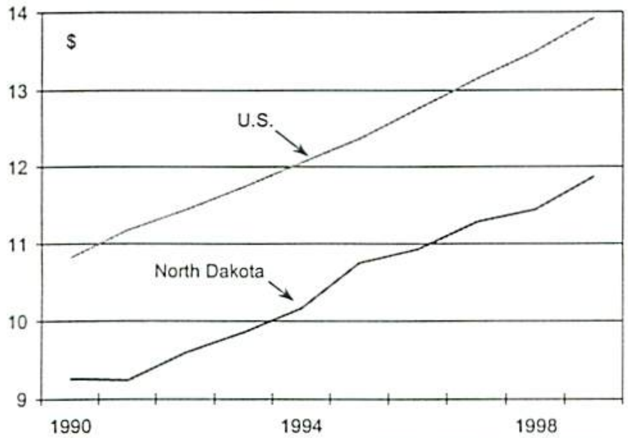
Quality of life is also an important factor in determining a state's growth potential. Migrants are generally attracted to an area for economic reasons, but quality of life factors also play a role in a household's decision on where to live. A strong educational system is a factor that improves the quality of life for families looking to relocate, and provides businesses with a high quality workforce. Furthermore, a high level of environmental quality and low crime rates also enhances an area's quality of life, and thus, its competitiveness.

North Dakota is competitive in most aspects of its business climate. It is a low-cost state as indicated by its cost of doing business index, which is 7% lower than the U.S. average. Furthermore, North Dakota's cost of doing business index is skewed upward almost solely by its high tax burden. Energy and labor costs are well below average. While costs are low relative to the U.S., some neighboring states are ranked even lower.

Housing costs provide North Dakota with another advantage. The median sales price of single-family housing is just 73% of the U.S. median. Thus, for residents moving into the state, houses are a real bargain. For North Dakota residents, however, affordability remains a problem. With income growth lagging over the past two years, affordability for North Dakota residents has deteriorated. While affordability was high early in the decade, it has been trending downward since the mid-1990s.

Aside from costs, North Dakota's reliance on volatile primary industries, such as agriculture and commodities, is a liability. As a result, job growth is very volatile. Furthermore, less than 1.5% of state employment is in high-tech industries, compared to nearly 4% nationally. Additionally, the state is not a research and development center, receiving comparatively low levels of patents and venture capital. Thus, North Dakota benefits less from high-tech and other industries that are driving the national economy.

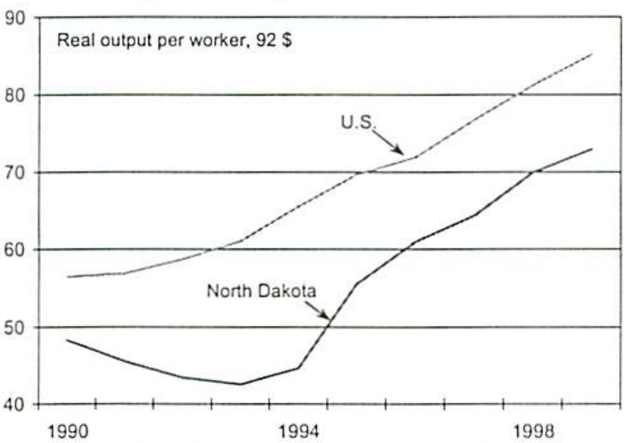
Average Hourly Earnings, Manufacturing



Source: Bureau of Labor Statistics

Note: Based on total wages and salaries paid to workers in manufacturing industries

Manufacturing Productivity



Source: Bureau of Labor Statistics, Bureau of Economic Analysis, Bureau of Census, RFA estimates

Average Hourly Earnings

Average hourly earnings in manufacturing in North Dakota are well below the national average. This cost advantage helps to drive growth in the state's manufacturing industries, particularly in industrial machinery and equipment. Average hourly earnings in North Dakota were $11.90 in 1999, about 15% less than the nationwide average of $13.90. This offers the state a comparative advantage over other high-wage Midwestern states. These rates are based only on hourly wages paid to manufacturing workers. Average hourly earnings have remained about 15% below the national average throughout the decade.

Rising productivity provides North Dakota's manufacturers further advantage. Manufacturing productivity in the state, as measured by output per worker, has been growing faster than the U.S. average since 1994. The challenge is to maintain the gain in productivity that has been achieved in recent years in order to protect the state's comparative advantage.

Business Costs

Aside from low manufacturing wages, North Dakota's general business costs are below average. The state's cost of doing business is approximately 7% below average, as measured by RFA's cost-of-doing-business index. The index value of 92.7 ranks it 35th among the states. This index includes three measures of business costs: state and local taxes; unit labor costs; and electric utility costs.[10] The labor cost component of North Dakota's index equals 91, below the national average of 100. Unit labor costs estimate the cost of labor based upon the industrial composition of the state economy and are thus the best comparison of labor costs across states that have different industrial compositions.

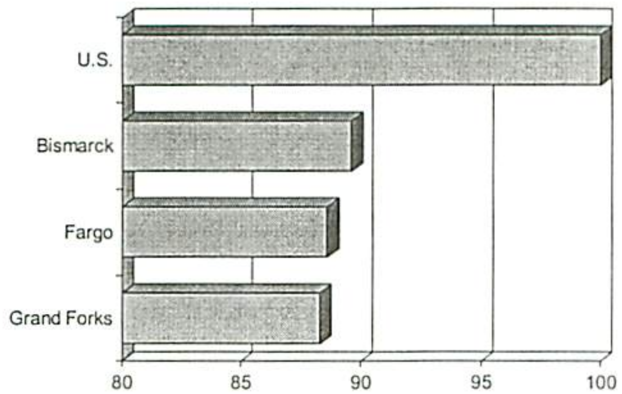
[10] Unit labor costs are based on 3-digit SIC industry classifications and are an average of BLS estimates for 1997 and RFA estimates for 1998 and 1999. The state and local tax burden is a measure of total taxes and fees as a percent of total personal income in each state. Business contributions to unemployment and workman's compensation programs are also included in the tax measure because they represent costs for labor hired. The energy index is measured by average cents per kilowatt-hour (Kwh) charged to commercial and industrial users. In the overall business cost index, tax burdens are given a 10% weight, energy costs are given a 15% weight and labor costs are given a 75% weight.

Index of Relative Business Costs North Dakota

	Overall Index	Labor Costs	Tax Burden	Energy Costs
Index	93	91	113	87
Rank	*35*	*36*	*9*	*32*

Indexes: U.S. = 100

Cost-of-Doing Business Index, ND Metro Areas



Source: RFA

Energy costs in the state are similarly low, at 13% below the national average.[11] It is North Dakota's tax burden, however, that skews business costs upward.[12] The state's tax burden is more than 13% higher than the national average, and is ranked 9th nationally. This is a result of state tax rates higher than average; the effective North Dakota state tax rate is 9.5%, compared to the U.S. average of 7.4%. In many states, higher than average state tax burdens are offset by lower-than-average local tax burdens. This is not the case in North Dakota. The state's disproportionately high share of state and local government employment may be one factor that contributes to this high tax burden. Compared with similar states in the Midwest, North Dakota's business costs are higher than average, although still below the national average.

Business costs within North Dakota's metro areas are also below the U.S. average. Each of the state's metro areas ranks among the lowest third of 317 metro areas. The business cost index for metro areas contains a fourth component, which compares office rental rates. Particularly advantageous are low unit labor costs and low office rents in each of the metro areas. Grand Forks has the lowest business costs of North Dakota's metro areas, with an index of 88%; office rents in the metro are among the lowest in the country, ranked 298. The state capital, Bismarck, has the highest business costs among state metro areas as a result of its high tax burden, which is ranked 23rd among all metro areas. Many of the metro areas with the lowest costs of doing business are located in nearby states, such as Iowa, Wyoming and South Dakota.

[11] Data for energy costs come from the Department of Energy's *Financial Statistics of Major Publicly Owned Electric Utilities and Financial Statistics of Major Privately Owned Electric Utilities* for 1988 through 1997.

[12] Data for state tax revenue come from the Bureau of Census and cover the 1989 to 1997 time period. Data used to create the effective local tax rate is available for the 1988 to 1995 period from *Facts & Figures on Government Finance*, a Tax Foundation publication.