

Service sector growth in the Seventh District

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Almost all of the net new jobs created in the United States since World War II have been in the service-producing industries. Growth of service sector jobs has been particularly important in Seventh District states. With increases in productivity, the number of manufacturing jobs has grown very little since World War II. Since 1979, as industries in our northern states have restructured, the number of manufacturing jobs in each of the Seventh Federal Reserve District states—Illinois, Indiana, Iowa, Michigan, and Wisconsin—has actually declined.

An increased recognition of the importance of the service-producing industries has been accompanied by several concerns. Service-producing industries may not generate a flow of income into a region from outside because services may be primarily produced and consumed within an area. Consequently their ability to promote growth in an area may be limited. Furthermore, some service sector jobs are low-paying, and the growing number of service jobs may mean that the quality of jobs and the level of incomes is declining. In addition, research on employment growth in the service-producing industries has been hampered by a weakness in government statistics, particularly on the rapidly growing information-processing services and on an apparent trend toward the use of independent companies for business services that had been previously performed in-house.

This article looks at the major service industries nationally and in Seventh District states and discusses some of the concerns that have accompanied the growth in employment in the service-producing industries.

What is the service sector?

The service sector is generally defined to include government services and the private service-producing industries. The major private service industries are transportation, communications, and public utilities; retail and wholesale trade; finance, insurance, and real

estate; and personal and business services. This article focuses primarily on these private service industries.

Government statistics on employment in the private service industries have generally been weak. The major source of long-run and current employment data for the service industries nationally and for states and metropolitan areas has been the Bureau of Labor Statistics (BLS). This source has been used primarily in this report for the analysis of long-run trends.

Unfortunately very little detail exists in the BLS data for the individual industries within the major groups of private service industries. Furthermore, data on some industries are available for some but not for other states and areas. So it is difficult to compare employment performance over time in the individual industries among the different states and areas.

More employment detail for the service industries is available in the County Business Patterns data (CBP) published by the Bureau of the Census. Data are published for the nation, states, and individual counties. The data, however, are available only annually and then with about a two-year lag. These data have been used in this article for the information presented on individual industries.

The industry detail in the CBP is classified by the Standard Industrial Classification system (SIC), which classifies establishments by the type of activity in which they are primarily engaged. The SIC system emphasizes manufacturing industries. Additional SIC codes are expected to recognize the growing importance of the service industries and, in particular, the new information-processing industries that are part of business services.

Additional information on certain of the service-producing industries is also available as part of the Economic Censuses which are conducted every five years by the Bureau of the Census (on the years ending in "2" and "7").

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These are published with about a two-year lag and include the Census of Service Industries, the Census of Retail Trade, and the Census of Wholesale Trade.

Importance of service industries

Manufacturing industries are generally considered the economic base of a region because they produce products which are sold outside the region and thereby generate a flow of income into the area. The service industries are considered secondary or support industries to manufacturing, that generate few or no "products" that are sold outside the region. Consequently most economic development efforts have been directed toward preserving and expanding the manufacturing economic base of an area rather than assisting the growth of service industries.

As the importance of the employment growth in the service industries was recognized, a limited amount of research has been devoted to the extent to which service industries sell services outside a local region and thereby generate a flow of income into the area. Identification of those industries that sell a significant amount of services outside a local area would make them candidates for possible economic development assistance.¹

The research shows that many local service firms serve not only local markets but national markets, and, in many cases, international markets. Limited data are available on the extent to which services produced within a region are sold nationally, but more comprehensive data are available on the extent to which services are a component of international trade.

Services make a major contribution to international trade. In 1986, exports of service-producing industries represented 39.8 percent of the dollar value of all United States exports. During the same period 26.0 percent of all imports were services. According to the Department of Commerce, major services involved in international trade include advertising, accounting, architecture and engineering, banking and financial services, education and training, employment services, health care, franchising, insurance, consulting of all kinds, leasing, transportation, computer services, and communications. A recent report by the Congressional Office of Technology Assessment,

however, suggests that service exports account for very few jobs in this country because U.S.-based service companies do more business overseas through foreign affiliates than they do through direct exporting.²

Research on interstate trade in services complements the findings of the role of services in international trade. Three studies, on the service economies of New England, Minnesota, and Washington, agreed that services are traded across state lines and that the jobs provided by these traded services are substantial.³ Furthermore, they found that the value added to the local economy from many of these service industries is equal to or greater than that of manufacturers. Beyers in his study of the State of Washington found that for all the surveyed services (excluding wholesale and retail trade), 39 percent of all sales revenue came from sales outside the state. In addition, he concluded that exports are increasing as a share of the sales of service businesses, that in his sample small firms were just as likely as large firms to have export sales, that most service exporting firms are young and had local startups, and that his results were likely to be duplicated in other metropolitan areas.

Long-run service sector growth

During the post-World War II period, manufacturing output has remained a relatively constant proportion of our gross domestic product, except for the fluctuations of business cycles. Since 1948, gross domestic product in constant dollars has grown at a compound annual rate of 3.2 percent. At the same time, manufacturing output has also grown at an annual rate of 3.2 percent. As a result, manufacturing output was 22 percent of gross domestic output in 1948 and also in 1985 (see Figure 1).

Service output, on the other hand, grew at an annual rate of 3.6 percent between 1948 and 1985. Consequently, it represented 67 percent of gross domestic output in 1985 compared to 58 percent in 1948. The increase in service sector output as a proportion of total output has come from declines in the proportion of output from the agriculture, mining, and construction sectors.

Although manufacturing output has been increasing at about the same rate as the gross domestic product, most of the increase has been

Figure 1a
 Services output has been increasing more rapidly than total or manufacturing output . . .

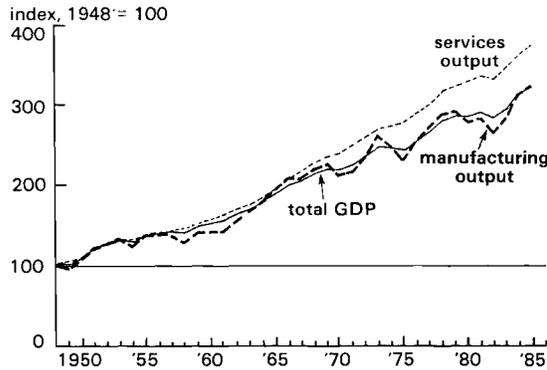
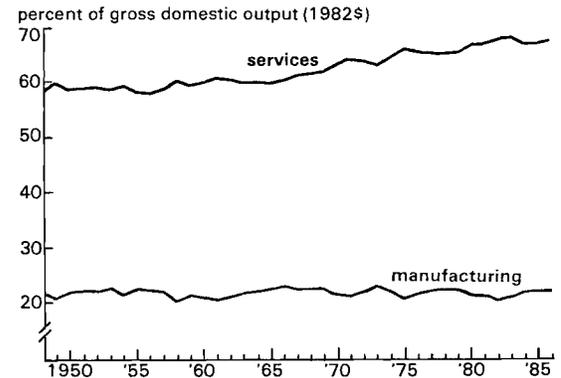


Figure 1b
 . . . thus services output has been increasing as a proportion of gross domestic output while manufacturing has remained constant



the result of increases in productivity. Manufacturing employment has increased only slightly in absolute terms during the 37-year period (see Figure 2). Only 3 million more people, including the self-employed, worked in manufacturing in 1985 than in 1948. Consequently, manufacturing employment represented 19 percent of total employment in 1985 compared to 27 percent in 1948.

The increase in services output has been the result of both increases in productivity and increases in employment. Between 1948 and 1985, while services output was increasing at an annual rate of 3.6 percent, employment increased at a rate of 2.4 percent. During this

period the number of jobs in the service industries more than doubled with an increase of 43 million jobs.

Services employment growth in the Seventh District

All of the net employment growth in the Seventh District since World War II has been in services. Employment in the goods-producing industries in the District, on the other hand, has actually declined over the same period.

Figure 2a
 Although manufacturing output has been increasing, manufacturing employment has increased only slightly . . .

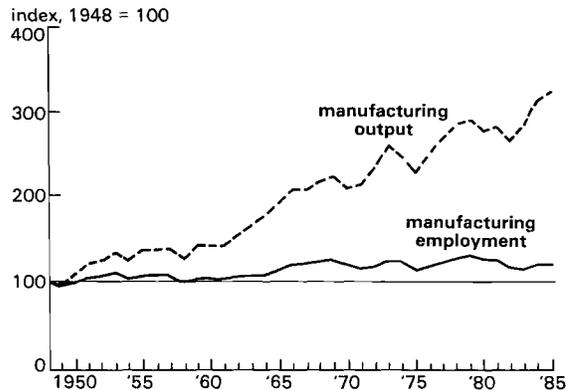


Figure 2b
 . . . both output and employment have been increasing faster in services than in manufacturing

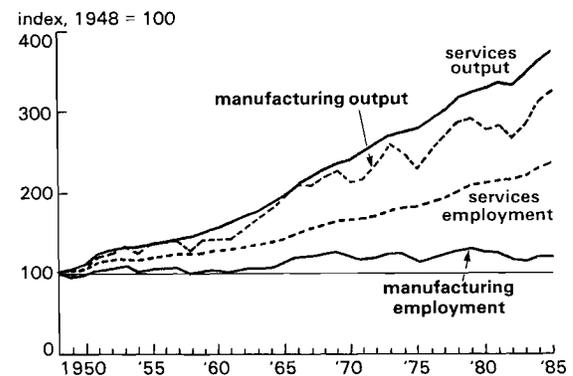
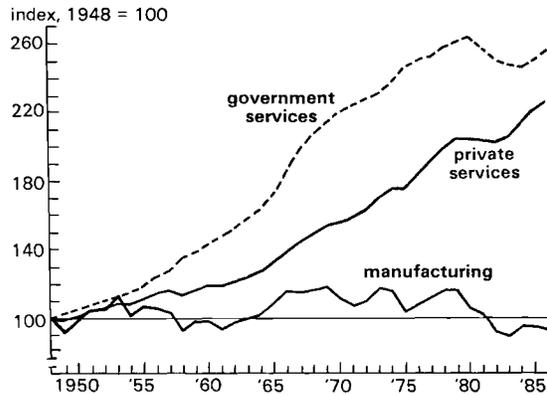


Figure 3
While Seventh District employment in private and government services has been increasing, manufacturing employment has declined since WWII

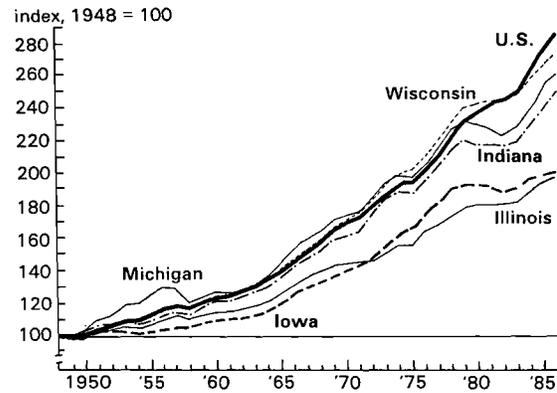


The losses in manufacturing employment in the Seventh District states have been particularly severe since 1979. All of the states have incurred net losses and the decline for the District as a whole was 776,000 jobs or 19.3 percent. The sharpest decline has been in Illinois with a loss of 346,000 manufacturing jobs or 27 percent. Iowa also incurred substantial losses as its serious problems in agriculture affected agriculture-related manufacturing employment.

As manufacturing employment has declined in District states, employment in both government and private services has been steadily increasing (see Figure 3). The result is that in 1986 there were 1.3 million more jobs in government services and 4.4 million more jobs in private services in District states than in 1948. Although employment growth in private services slowed following 1979 during the two recessionary periods of the early eighties, growth has resumed with the recovery since the trough at the end of 1982.

All of the District states have been beneficiaries of the employment growth in private services (see Figure 4). The fastest rate of growth has occurred in Wisconsin both over the long-run and since 1979, followed closely by the rates of growth in Michigan and Indiana. Illinois has scored the largest net gains in terms of the absolute number of jobs but, because of its larger base, has a smaller percentage gain. Growth in private services employment in Iowa

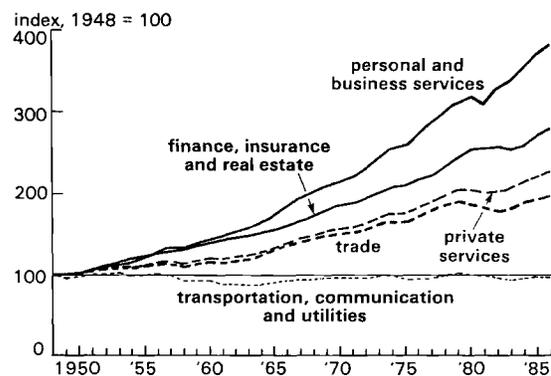
Figure 4
Among Seventh District states, Wisconsin has had the fastest rate of employment growth in private services



has been slow during the eighties largely because of its dependence on agriculture.

Growth has varied widely in the Seventh District among the major industries within the service-producing sector (see Figure 5). Personal and business services have shown the fastest growth with 2.2 million additional jobs, or half the service-producing jobs added during the post-World War II period. Employment in finance, insurance, and real estate has also shown good growth. Wholesale and retail trade, a large sector, has added 1.6 million jobs, about 38 percent of the net gain in private service employment. Overall employment in the

Figure 5
The most rapidly growing sector in private services employment in the Seventh District is personal and business services



transportation, communications, and utilities sector has declined slightly during the post-World War II period although individual industries have shown good growth.

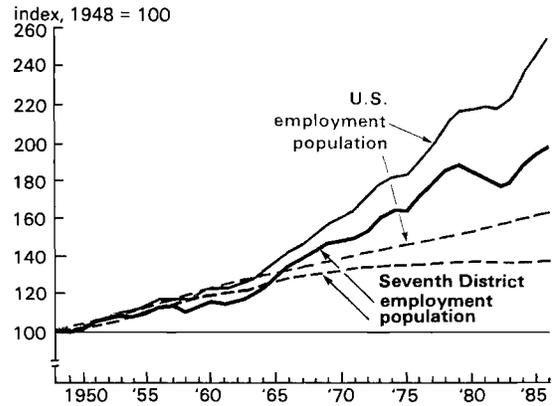
Employment growth in trade

Trade, including both wholesale and retail, is the largest of the service-producing sectors (see Figure 6). It currently represents 42 percent of private service employment or 3.3 million jobs in Seventh District states. About one-fourth of trade employment is wholesale and the other three-fourths retail, both nationally and in District states.

In the period since World War II, trade employment in Seventh District states has been growing more slowly than nationally (see Figure 7). During this time trade employment doubled in the District but increased just over two and a half times in the United States. The difference in growth rates has been most pronounced since 1979; trade employment is up just five percent in District states compared to 18 percent nationally.

Long-run trends in trade employment have been considered to be associated with

Figure 7
Trade employment has been growing more rapidly than population since the early sixties



population growth. This was true nationally and in the Seventh District until the early 1960s. Since that time trade employment has been growing more rapidly than population.

Variations from the predicted trend in trade employment based on population are more prevalent than might be expected. Such deviations appear to be caused by three factors,

Figure 6
Trade and personal and business services dominate the service-producing industries which are the largest source of employment in the Seventh District

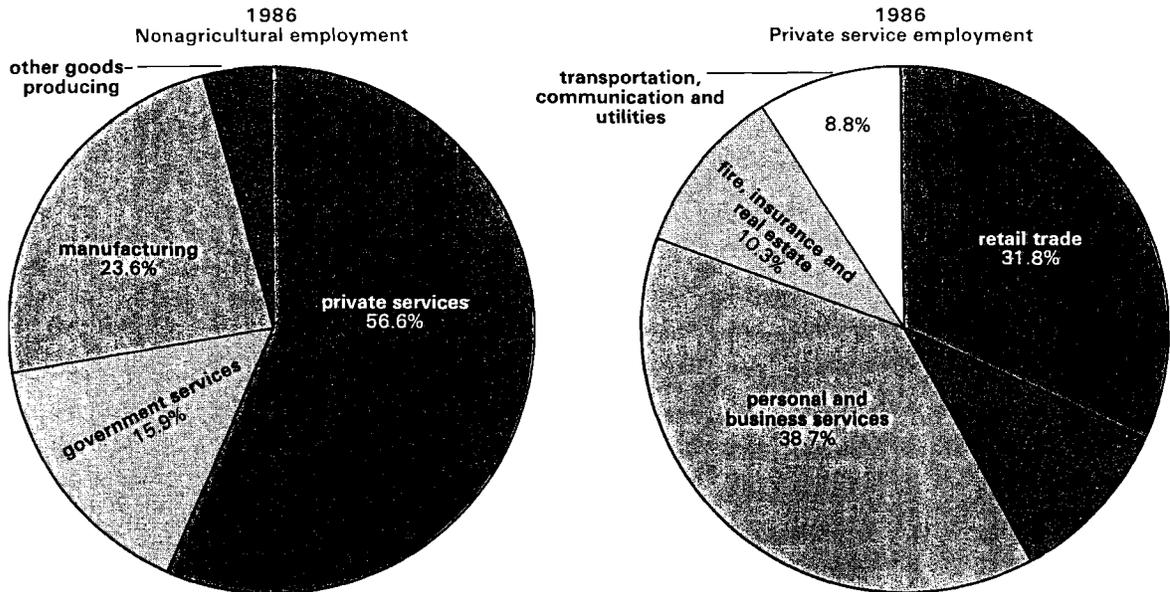
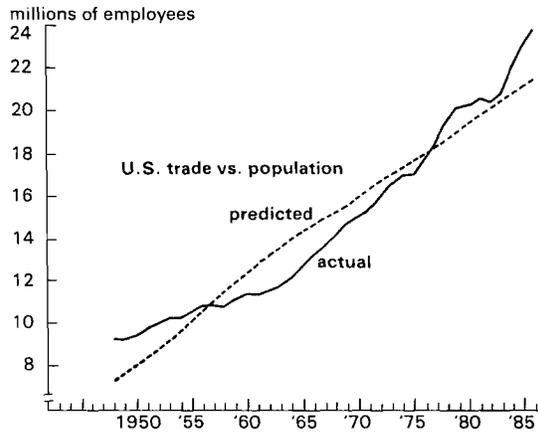


Figure 8
Variations from a predicted trend in national trade employment based on population are more prevalent than might be expected



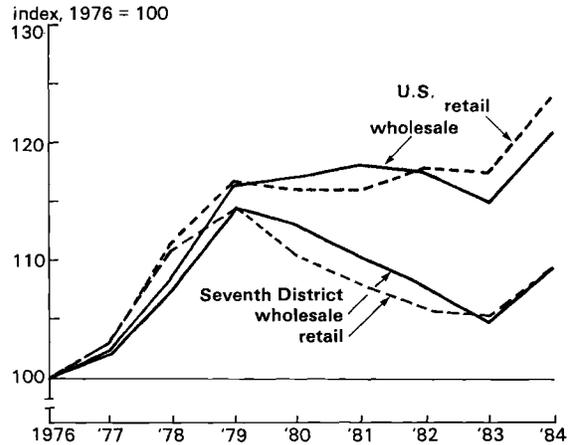
namely, the age distribution of the population, differential employment growth rates among the various wholesale and retail trade industries, and the effects of business cycles.

The long-run effects of the age distribution of the population on trade employment growth become evident when trade employment is predicted based on total population. According to Figure 8, trade employment was growing much more slowly than population would have predicted between 1948 and the early 1960s. This was during the baby boom when the proportion of the population under age 17 was increasing more rapidly than the remainder of the population. After the early 1960s, as birth rates declined and the baby boom matured, trade employment grew more rapidly than the increase in population would have predicted. This rate difference is continuing through the 1980s.

Differences in employment growth rates among the various wholesale and retail trade industries also contribute to the deviations from trend predicted by population growth. Since 1976 the growth rate for aggregate employment in the wholesale industries has been comparable to that for retail industries in Seventh District states and nationally (see Figure 9). But within the wholesale and retail industries, different employment patterns emerge.

Employment in wholesale durables trade reflects a much more cyclical pattern than that in wholesale nondurables (see Figure 10). In

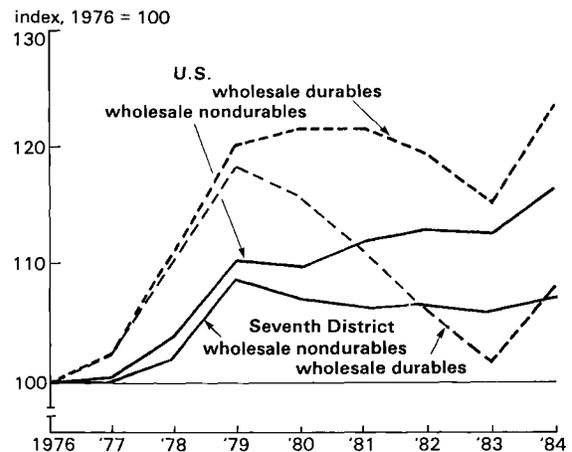
Figure 9
Employment growth in wholesale trade has been comparable to that in retail trade in the U.S. and in the Seventh District



the Seventh District, employment in wholesale durables reached a peak in 1979 before falling sharply with the recession to a yearly low in 1983 only slightly above the 1976 level. In 1984 it remained well below the 1979 peak. Employment in wholesale nondurables also reached a peak in 1979 and has remained relatively flat.

Nationally, the cyclical decline for wholesale durables trade employment was less

Figure 10
Employment in wholesale durables trade reflects a more cyclical pattern than that in wholesale nondurables trade



sharp and the recovery stronger. National employment in wholesale nondurables has continued to grow since 1979, although at a noticeably slower rate than earlier.

Machinery, equipment, and supplies is an important segment of wholesale durables trade employment. In 1984 it represented two-fifths of wholesale durables trade employment both in the Seventh District and nationally. Employment registered above average growth nationally and in all of the Seventh District states except Iowa between 1976 and 1984. In Iowa such employment declined four percent in response to the problems in agriculture and its effects on the sale of farm machinery.

Employment in motor vehicles and automotive equipment ranges from 13 percent in Illinois to 19 percent in Indiana and 20 percent in Michigan, compared to 15 percent nationally, of all wholesale durables trade employment. Employment growth in Seventh District states has been well above the national average in Michigan and Wisconsin but both Indiana and Iowa showed declines in employment between 1976 and 1984.

The most rapidly growing segment of wholesale durables trade employment has been electrical equipment. Employment growth has been more rapid nationally than in Seventh District states.

The largest proportion of the employment in wholesale nondurables trade is in groceries and related products. It currently represents one-third of wholesale nondurables trade employment both nationally and in Seventh District states. Employment growth has been above the overall rate for wholesale nondurables trade both nationally and in Seventh District states with the strongest growth in Iowa, Michigan, and Wisconsin.

Among the wholesale nondurables trade industries, the strongest rates of growth were in chemicals and allied products and in paper and paper products. This is true both nationally and in Seventh District states.

Trends in retail trade employment indicate the growth of food store sales and increased patronage of restaurants. Employment growth rates in both industries have been more rapid than the increase in population since 1976.

In retail trade, eating and drinking places are the most important source of employment. Currently, employment at eating and drinking

places is one-third of all retail trade employment nationally and about the same in Seventh District states. They also have the highest rate of employment growth of all retail trade industries. Between 1976 and 1984 the increase in employment at eating and drinking places in Seventh District states ranged from 21 percent in Illinois to 37 percent in Indiana compared to 47 percent nationally.

The second most important source of retail trade employment are food stores. Employment growth, the second highest rate in retail trade, was 29 percent in the United States compared to between three percent in Michigan and 21 percent in Iowa.

Employment growth in personal and business services

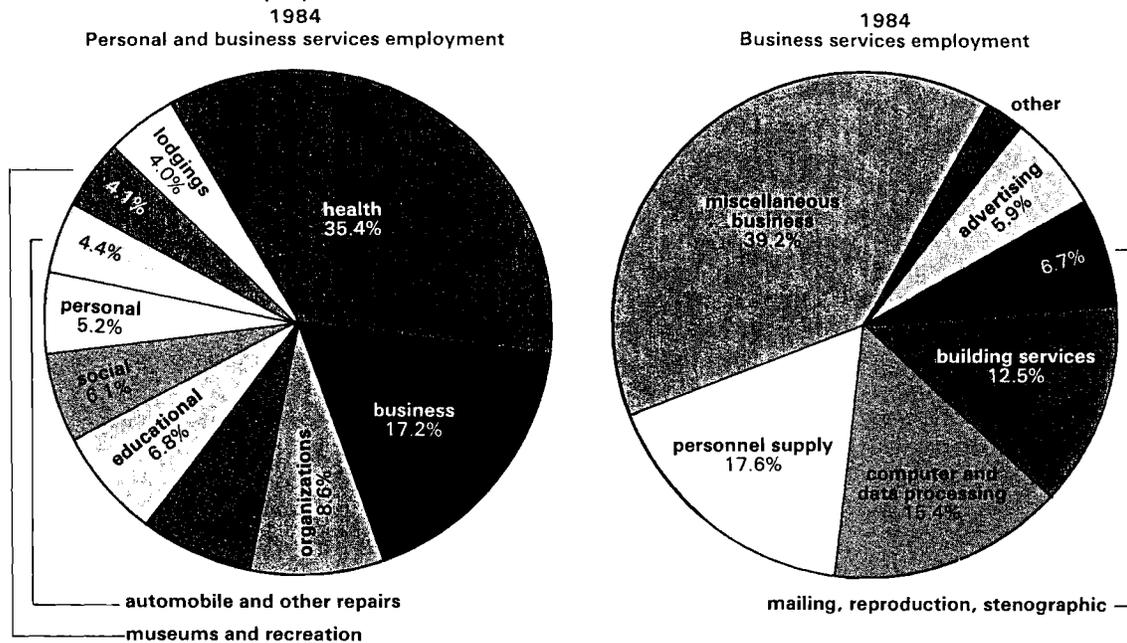
The personal and business services sector is the most rapidly growing of the service-producing sectors and is approaching the trade sector in size. Currently it represents 39 percent of private service employment in the Seventh District, or about 3.0 million jobs.

Characteristics of the individual industries vary widely within the category. Personal services are generally considered to include health and social services, educational services, personal care services, automotive services, miscellaneous repair services, and entertainment and recreation including motion pictures, commercial sports, and museums and botanical and zoological gardens. Business services include, in addition to general business services, legal, engineering, architectural, research, and accounting services, membership organizations, and hotel services. The differentiation between personal and business services is not precise and there is an obvious overlap between personal and business services in industries such as hotel, legal, and automotive services.

The largest proportion of the personal and business services employment in Seventh District states and nationally is in health services (see Figure 11). In 1986 health services employment represented one-third of all personal and business services employment in Seventh District states. It includes employment at hospitals, health professional offices, outpatient facilities, and nursing homes.

Growth in employment in the health care industries reflects the efforts to contain hospital care costs and the trend toward the provision

Figure 11
 Health services employment is one-third and business services one-sixth of all personal and business services employment in the Seventh District
 1984



of outpatient health care. Between 1976 and 1984 nationally and in all of the Seventh District states the rates of employment growth were higher at health professional offices, nursing and health-related personal care facilities, and outpatient care facilities than at hospitals. As a result, employment in these three industries in 1984 represented 46 percent of health services employment compared to 41 percent in 1976. At the same time, the proportion of health services employment at hospitals declined from 55 percent to 50 percent.

Employment in general business services is the most rapidly growing area of services employment (see Figure 12). It includes personnel supply services, building services, computer and data processing services, mailing, reproduction, stenographic services, and public relations and advertising.

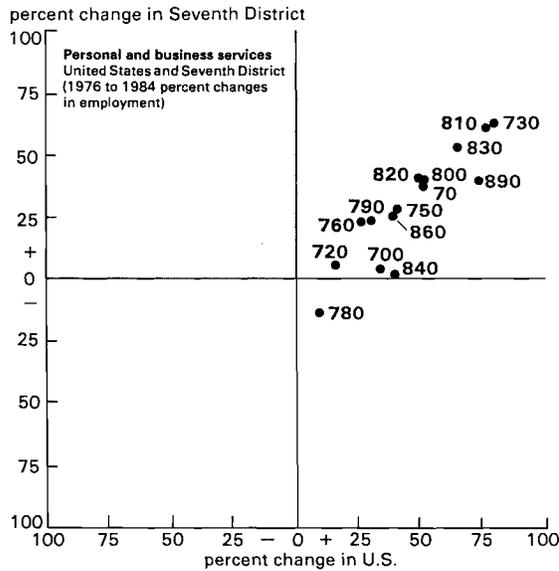
Some of the indicated increase in employment in these business services apparently represents the increased use of independent companies for the provision of services which were formerly performed by in-house employees. Although the employees may have been performing the same duties, for example, building cleaning services, when they were employed in-house, they would have been

classified according to the primary function of the establishment, e.g., manufacturing. When the same services are performed for the building by an independent contractor whose primary function is providing building services for clients, the employment is classified as building services employment. Unfortunately, data are not available to identify decreases in employment at establishments which actually represent the transfer of employment with similar duties from one classification of primary industry to another.

The largest contributor to the above average growth in employment in business services is a group of miscellaneous business services dominated by management, consulting, and public relations services, security services, and equipment rental and leasing services. The miscellaneous group contributed 30 percent of the net increase in overall employment in business services in Seventh District states between 1976 and 1984 and 40 percent nationally.

The most rapidly growing of these miscellaneous industries is equipment rental and leasing services followed by management, consulting, and public relations services.

Figure 12
Business services is the most rapidly growing area of services employment in the U.S. and Seventh District



- Legend—SIC Codes
- 70 Personal and business services
 - 700 Hotels and other lodging places
 - 720 Personal services
 - 730 Business services
 - 750 Auto repair, services, and garages
 - 760 Miscellaneous repair services
 - 780 Motion pictures
 - 790 Amusement, recreation services
 - 800 Health services
 - 810 Legal services
 - 820 Educational services
 - 830 Social services
 - 840 Museums, botanical, zoological gardens
 - 860 Membership organizations
 - 890 Miscellaneous services

One of the major contributors to the above average growth in employment in business services is personnel supply services. This includes temporary help supply services and employment agencies. One-fifth of the increase in jobs in business services in the District was in personnel supply services.

The growth in employment in personnel supply services is a specific instance where employment in an industry is no longer counted in the industry. No data are available on the extent to which the temporary help represent a reduction in employment in the specific industry where their services are utilized. But there is no doubt that to the extent that temporary help represents a replacement of permanent employees in an industry, employment

in the industry is undercounted in comparison to earlier data.

The most rapidly growing of the business service industries both nationally and in Seventh District states is computer and data processing services. It contributed 29 percent of the net increase in business services employment in the District and 17 percent nationally.

All of the Seventh District states enjoyed substantial rates of increase in employment in computer and data processing services, but the strongest rate of increase in employment was in Illinois. Employment in this industry increased almost six-fold in Illinois between 1976 and 1984 and the increase represented 47 percent of the net increase in business services employment in the state. Indiana also had an above national average rate of increase during this period.

Employment growth in finance, insurance, and real estate

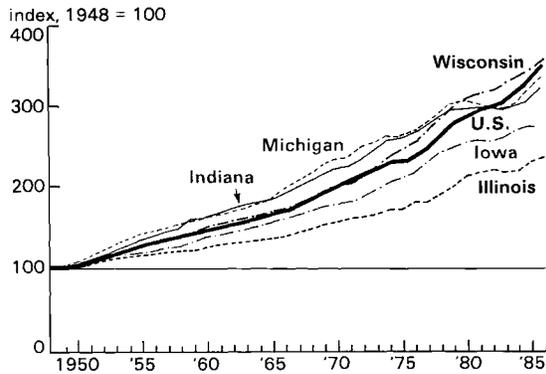
Finance, insurance, and real estate (F.I.R.E.) is the smallest of the service-producing sectors in Seventh District states. Currently, ten percent of private service employment or 798.5 thousand jobs are in this group in Seventh District states. Employment in the F.I.R.E group is approximately 48 percent in finance, 37 percent in insurance, and 15 percent in real estate.

Long-run trends in F.I.R.E. employment compared to the national average vary among the Seventh District states (see Figure 13). Since 1948 F.I.R.E. employment growth in Wisconsin has been consistently above the national average. Indiana and Michigan also showed a better performance than the United States until 1979 when employment reached a cyclical peak. Employment in these two states then declined slightly until 1983 before resuming growth. Both Iowa and Illinois have experienced growth rates below the national average over the long term, with Illinois showing a larger decline during the recession in the early eighties and a sharper increase than Iowa since then.

Differences in employment growth in the individual industries of the F.I.R.E. group have been the major source of the variations in performance among the Seventh District states.

In Wisconsin, both the finance and insurance sectors have contributed to the strength

Figure 13
Among Seventh District states, finance, insurance, and real estate employment growth in Wisconsin has been above the national average



in F.I.R.E. employment relative to the national average in the last decade. The finance sector includes primarily banking, other credit agencies such as savings and loan associations and credit unions, and securities and commodities investment services. The rates of employment growth at financial institutions between 1976 and 1984 were similar to that of the U.S. Only in the real estate industry was there very little increase in employment in Wisconsin.

Of particular importance in Wisconsin has been the employment growth in the insurance industry, especially at insurance carriers. The insurance industry contributed 44 percent of the net new F.I.R.E. jobs in Wisconsin between 1976 and 1984.

Employment growth in the insurance industry was also unusually strong in Iowa between 1976 and 1984. The major source of this strength was the increase in jobs at insurance carriers where employment rose 39 percent, or at a rate two and a half times the national average. Consequently, about one-half of the net new F.I.R.E. jobs in Iowa during this period were in the insurance industry.

The balance of the growth in F.I.R.E. employment in Iowa was primarily in the finance sector. The strongest growth was at financial institutions other than commercial banks, primarily savings and loan institutions and credit unions. Employment growth in real estate in Iowa was weak compared to the national average.

The recent growth in F.I.R.E. employment in Illinois has been dominated by growth

in the finance sector, primarily at financial institutions and in securities and commodities investment services. Between 1976 and 1984, about 72 percent of the net growth in F.I.R.E. jobs was in the finance sector. The balance was almost all in the insurance industry. Employment in real estate has fluctuated with the business cycle and in 1984 was only slightly above the 1976 level.

The strongest growth in employment at financial institutions in Illinois between 1976 and 1984 was in commercial banking and at savings and loan institutions. Employment in commercial banking increased 24 percent in Illinois during this period and employment at savings and loan associations increased 51 percent. This compares to national average increases of 26 percent and 76 percent, respectively.

Among the Seventh District states, Illinois is the most important in securities and commodities investment services. These services include the exchanges and the brokers and dealers in securities and commodities. Between 1976 and 1984 such employment increased 93 percent in the state compared to 92 percent nationally.

Employment growth in transportation, communications, and public utilities

Transportation, communications, and public utilities (T.C.U.) is the smallest of the four major private service sectors in Seventh District states. In 1986 it included 682.6 thousands jobs or about nine percent of private service employment.

Over the long run, T.C.U. employment growth in Seventh District states has not been comparable to the national average. Since the end of World War II, the nation's T.C.U. employment has increased by about 1.1 million or about 26 percent. During the same period in Seventh District states, T.C.U. employment has declined by about 15,000 jobs or about 2.2 percent. The poorer performance relative to the national average began about 1958 with employment subsequently falling more during recessionary periods and failing to recover at national rates during recovery periods. Some of the decline in District states is due to a transfer of employment from the private sector to government agencies, particularly in local transportation.

Although overall employment in the transportation, communications, and public utilities sector declined slightly over the long run, the experience in the Seventh District among individual industries has been mixed in recent years (see Figure 14).

The transportation industries are the largest segment of the T.C.U. sector, representing about half of the employment in the sector both nationally and in Seventh District states. The major groups of transportation industries are local and interurban passenger transit, trucking and warehousing, water transportation, air transportation, and transportation services. Five-eighths of the employment in transportation industries in Seventh District states is in trucking and warehousing and one-seventh in air transportation.

Among the Seventh District states, Illinois is clearly a transportation center. The proportions of employment in local and interurban

passenger transit, trucking and warehousing, air transportation, and transportation services are all above the national average. In Wisconsin, only the proportions of employment in local and interurban passenger transit and trucking and warehousing are above the national average, and in Indiana and Iowa, only employment in trucking and warehousing.

Of the transportation industries, trucking and warehousing has been an important source of employment growth nationally since 1976 but its contribution has varied among Seventh District states. Wisconsin is the only state where the overall rate of employment growth in trucking and warehousing has approached the national average. In Illinois and Michigan, employment in trucking and warehousing declined on balance.

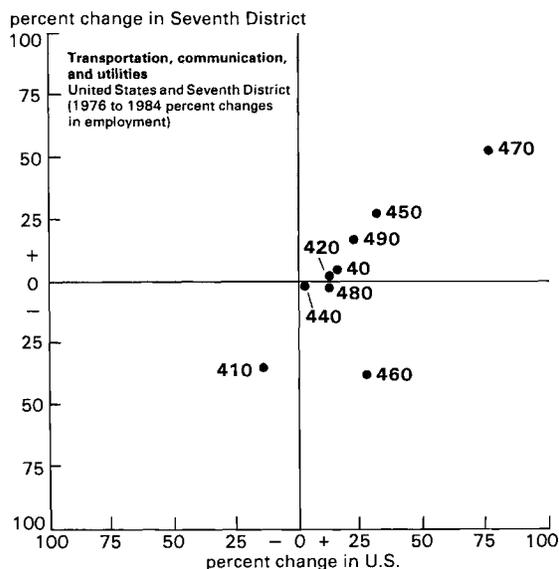
The continued expansion of air transportation has made this industry an important contributor to transportation and therefore service employment growth. Air transportation is particularly important in Illinois where its proportion of employment is 21 percent above the national average. Other states in the District have a relatively small proportion of their employment in air transportation but above average employment growth rates since 1976, particularly in Indiana and Wisconsin, are making air transportation an increasingly important source of employment in these states.

Transportation services has been the fastest growing industry in the transportation segment and represents about ten percent of all transportation employment. About two-thirds of transportation services employment is in the arrangement of transportation.

Private employment in local and interurban passenger transit declined about one-third in the aggregate in Seventh District states between 1976 and 1984. Currently it represents about 11 percent of total transportation employment. Although all of the states registered decreases, the sharpest loss was in Illinois where total employment decreased by one-half. It appears that much of the decrease was actually a shift in employment from the private to the government sector as the Regional Transportation Authority took over the provision of local transportation services in northeastern Illinois.

Another industry to register an employment decline both nationally and in the Seventh District was taxicabs. Again it appears

Figure 14
Recent Seventh District employment growth in transportation, communications, and utilities industries has been below the national average



- Legend—SIC Codes
- 40 Transportation, communications, and utilities
 - 410 Local and interurban passenger transit
 - 420 Trucking and warehousing
 - 440 Water transportation
 - 450 Transportation by air
 - 460 Pipelines except natural gas
 - 470 Transportation services
 - 480 Communications
 - 490 Electric, gas, and sanitary services

that this may be a result of the characteristics of the data. County Business Patterns data do not include the self-employed and when taxicab drivers lease cabs rather than work for the taxicab company they are considered self-employed and no longer included in the data.

Employment in the communications industries represents about one-fourth of the total employment in the T.C.U. sector both nationally and in Seventh District states. The communications industries include telephone and telegraph communications, radio and television broadcasting, and miscellaneous communications services. Although overall employment in the communications industries rose 14 percent nationally between 1976 and 1984, communications employment declined about two percent in Seventh District states.

Telephone communications dominates the communications industry as a source of employment although its importance has been declining, particularly in recent years. In 1984 employment in the telephone industry represented 72 percent of all employment in the communications industry both nationally and on average in Seventh District states. Above average decreases in employment in the telephone industry in Seventh District states were the major contributor to the failure of Seventh District states to register gains in employment in the communications industries comparable to the national average.

As employment in the telephone industry has declined, important gains in employment have been made recently in other forms of communications, particularly radio and television broadcasting. Currently, it accounts for about one-sixth of all communications employment both nationally and locally.

The category of communications employment with the highest rate of growth is a miscellaneous group of industries generally involving new technological developments. Nationally between 1976 and 1984, employment in this group rose to about three and a half times its level in 1976. Although data must be estimated because of disclosure problems, Seventh District states also registered high rates of growth in employment in this miscellaneous group, particularly Illinois.

The strongest growth in employment in the T.C.U. sector between 1976 and 1984 has been in the utilities industries. The utilities industries provide primarily electricity and gas

production and distribution, water supply, and sanitary services. All of the District states participated in the growth.

Although a small portion of employment in utilities, the fastest growth between 1976 and 1984 has been in the private provision of sanitary services. This appears to be related to increased environmental concerns and the expanded use of private contractors for the handling of waste.

Outlook for the service sector

Both long-term and recent trends in employment indicate that the service sector will continue to increase in importance in our economy. Seventh District states are participating in that employment growth.

With the increased recognition of the importance of the service sector to the economic growth of an area, more detailed industry data and research are needed. Particularly important is information on the potential contributions of the individual industries to an area's economic development.

Based on the available data, the contribution of the service industries to employment growth in the Seventh District may be ranked in the following order: personal services; retail trade; wholesale trade; transportation, communications, and utilities; business services; and finance, insurance, and real estate.

¹ Koepke, Dennis. *The Economic Development Potential of the Service Industries in Wisconsin*, Report RP-86-3, Wisconsin Department of Development, Madison, July 1986.

² U.S. Congress, Office of Technology Assessment. *International Competition in Services*, OTA-ITE-328 (Washington, DC: U.S. Government Printing Office, July 1987).

³ Ashton, David J. and Branch K. Sternal. *Business Services and New England's Export Base*, Federal Reserve Bank of Boston, Research Department Special Studies, March 1978; Reynolds, Paul D. and Steven West. *New Firms in Minnesota: Their Contributions to Employment and Exports, Their Start-Up Problems, and Current Status*, University of Minnesota Center for Urban and Regional Affairs, Minneapolis, June 1985; Beyers, W. B., et al. *The Service Economy: Export of Services in the Central Puget Sound Region*. Central Puget Sound Economic Development District, Seattle, 1985.