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The Boom in High-Tech Business Services A New Impetus to Economic Development in Texas

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Business services, also called producer services, are intermediate activities that provide inputs for the production of goods or other services, rather than directly serving final consumers. They enhance efficiency and add value at various stages of production processes, both upstream (e.g., research) and downstream (e.g., marketing) of actual physical production. Business service inputs may be either undertaken within firms or purchased from firms that specialize in the relevant activities.

Growth in the Business Services Sector

Since the 1970s, firms have increasingly used outside contractors to perform service functions. Several factors have induced both manufacturing and service firms to purchase business services externally. For example, knowledge or cost considerations limit some firms from developing sufficient expertise to provide a particular service. This is especially the case when technology changes rapidly or when demand is nonstandardized and unpredictable. Similarly, some firms seek to maintain a relatively small pool of human resources focused on the firms' core functions. Considerable increases in the nonwage costs of labor and in the protected employment status of workers provide an incentive to purchase labor services from external temporary employment agencies. Also, specialized business-service firms increasingly are able to achieve economies of scale, which makes it more efficient for other firms to purchase their services rather than perform them internally.

Defining Business Services

The official Standard Industrial Classification (SIC) system, even as revised in 1987, inconsistently distinguishes among the different markets for services. The system also lacks sufficient categories in which to classify many businesses according to their real functions in the economy. Some studies treat such activities as legal services, transportation, and finance, insurance, and real estate as business services. At the two-digit SIC level, however, evidence indicates that only business services (SIC 73) and engineering and management services (SIC 87) actually consist of activities that receive most of their revenue from other businesses rather than from final consumers.

For present purposes, high-tech service sectors are those defined by the U.S. Bureau of Labor Statistics. As noted in the box below, they include computer and data processing services (SIC 737), engineering and architectural services (SIC 871), research and testing services (SIC 873), management and public relations (SIC 874), and sectors not elsewhere classified (SIC 899). In each of these sectors the proportion of research and development employment is at least 50 percent higher than the average of all industries surveyed. The broader business services category includes SIC 73, SIC 87, and SIC 899.

Business Services Growth in Texas

Between 1988 and 1996, employment in business services in Texas grew much more rapidly than total employment, and employment in high-tech business services increased even more rapidly than that in other business services. It should be noted that it is difficult to make consistent annual comparisons between more recent years and years prior to 1988 when a revised SIC code system was introduced. Between 1988 and 1996, total nonagricultural employment grew at an average annual rate of 3 percent. The corresponding growth rate for employment in high-tech business services was 8.5 percent, while that for other business services was 8 percent. During the 1988—1993 period, the growth rate for high-tech business services exceeded that for other business services, but the 1993—1996 period shows a higher growth rate for other business services. In both periods the respective growth rates were much higher than that for total employment.

Business Services Growth in Texas MSAs

A great deal of international evidence indicates that business services, and particularly those of a high-tech nature, tend to be concentrated in large metropolitan areas. These areas offer greater access to highly qualified labor, research centers and universities, complementary business services, and large local markets, especially the corporate headquarters that have high demands for business services.

It is therefore not surprising that business services employment in Texas is largely concentrated in the five largest Metropolitan Statistical Areas (MSAs): Houston, Dallas and Fort Worth (consolidated in the present analysis), San Antonio, and Austin. In 1988, these five areas accounted for 63.5 percent of the state's nonagricultural employment, but they accounted for 80.5 percent of employment in business services and 84.8 percent of employment in high-tech business services. By 1996, the five MSAs claimed 64.6 percent of nonagricultural employment, 82.7 percent of business services employment, and 86.5 percent of employment in high-tech business services. Houston and Dallas-Fort Worth alone accounted for 69 percent of the state's high-technology business services employment in both 1988 and 1996.

Houston was the only area with a 1988—1996 growth rate in high-tech business services employment that was below the corresponding state growth rate: 7.1 percent versus 8.5 percent. This was largely the result of a pronounced decline in the growth rate between the 1988—1993 period, when Houston's 8.1 percent increase ranked second behind that of Austin, and the 1993—1996 period, when Houston's 3.9 percent growth rate ranked lowest among major MSAs and well below the state growth rate of 7 percent.

In contrast to Houston, the growth rate of employment in high-tech business services increased in each of the other areas between the 1988—1993 and 1993—1996 periods. Among all areas, Austin showed the highest rate of increase in both periods, at 9.5 percent and 14.1 percent, respectively. In addition, Austin was the only area where the 1996 employment in high-tech business services approached that of other business services. Also in 1996, Austin claimed the highest proportion of total nonagricultural employment accounted for by high-tech business services. In Austin it was 5 percent; in Dallas-Fort Worth, 4 percent; in Houston, 3 percent; and in San Antonio, 2.7 percent.

Conclusion

Adam Smith recognized long ago that productivity could be increased by specialization and division of labor within factories. More recently it has been recognized that this phenomenon can be observed on a broader scale, within the economy as a whole. The recent rapid growth of employment in business services, and especially high-tech business services, represents economy-wide increases in specialization and division of labor, and empirical evidence indicates that this has increased productivity and incomes, both in Texas and nationally.¹ However, the major beneficiaries have been larger metropolitan areas. The extent to which

other areas can become more integrated into this process remains to be seen.

Notes

1. N. Hansen, "Do Producer Services Induce Regional Economic Development?" *Journal of Regional Science*, Vol. 30, No. 4, 1990, pp. 465–76; and N. Hansen, "Producer Services, Productivity, and Metropolitan Income," *Review of Regional Studies*, Vol. 23, No. 3 1993, pp. 255–64.

Activities in High-Tech Services

SIC code	Activities
737	Computer programming
	System design
	Data preparation and processing
	Information retrieval
	Computer rental and leasing
	Computer maintenance and repair
871	Engineering services
	Architectural services
	Surveying services
873	Research, development, and testing services
	Physical and biological research testing lab
874	Management and management consulting services
	Public relations services
	Facilities support management services

Total Nonagricultural Employment and Business Services Employment

Texas and Largest Texas Metropolitan Areas, 1988—1996

	Employment <i>(in thousands)</i>			Average annual change <i>(percentage)</i>		
	1988	1993	1996	1988- 93	1993- 96	1988- 96
Texas						
Total	6,676	7,481	8,256	2.4	3.5	3.0
Business services	436	584	721	6.8	7.8	8.2
High tech	149	207	250	7.7	7.0	8.5
Other	287	377	471	5.0	8.3	8.0
Houston MSA						
Total	1,453	1,665	1,814	2.9	3.0	3.1
Business services	139	182	213	6.2	5.8	6.6
High tech	51	71	80	8.1	3.9	7.1
Other	88	111	133	5.2	6.6	6.4
Dallas-Fort Worth MSA						
Total	1,915	2,085	2,343	1.8	4.1	2.8
Business services	152	205	267	7.1	10.2	9.6
High tech	53	73	93	7.8	9.0	9.6
Other	99	132	174	6.7	10.6	9.5
San Antonio MSA						
Total	505	571	636	2.6	3.8	3.2
Business services	33	44	57	6.5	9.7	8.9
High tech	10	13	17	5.9	10.2	8.6
Other	23	31	40	7.0	9.6	9.2
Austin MSA						

Total	367	454	541	4.7	6.4	5.9
Business services	27	43	59	12.4	12.1	15.1
High tech	13	19	27	9.5	14.1	13.7
Other	14	24	32	14.3	11.1	16.1

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